



IT Job Profiles Nomenclature

2025 version



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SUMMARY

Since 1991, Cigref has maintained a classification of existing job profiles within the IT departments of Cigref member companies. This tool does not set out what IT roles “should” be or what they “will” be, but rather what they are today within these organisations. It therefore offers consensus-based descriptions of job profiles based on the reference frameworks currently in use within companies.

The Cigref 2025 Classification comprises 52 job profile descriptions, each presented in the form of a fact sheet including a title, a remit, the activities required to fulfil this remit, a few KPIs and deliverables linked to the job profile, the career path, and trends and factors driving change. Like its predecessors, it also incorporates the digital skills from the European standard “e-Competence Frameworks for Information and Communication Technology Professionals in All Sectors of Activity”, [NF EN 16234-1-FR](#), across all job profiles.

For this new 2025 version, Cigref offers an [Excel spreadsheet](#) for human resources management (developing and nurturing internal talent, training, recruiting and onboarding new talent) that enables a matrix-based, visual approach, organised both by job role and by digital skills. Indeed, this spreadsheet allows users to **visualise the digital skills** required by the

“ICT e-Skills Framework” required for each **role in the Cigref classification**, or conversely, to see the various digital skills required for a given role. The IT role classification is thus summarised in a single Excel tab within this file.

This year, the Cigref Working Group **has created two new job profiles** to complement the “**application lifecycle**” family.

- **DevOps**, which gives rise to a new sheet “3.6. DevOps”;
- The **UX Designer**, which has resulted in a new job description: “3.7. UX Designer”.

The Working Group also decided to remove the following two job profiles:

- “**IT Marketing Manager**”;
- “**Chief Digital Officer**”.

The role of “IT Marketing Manager” has virtually ceased to exist as such within the organisations represented in the working group. Its various responsibilities – such as customer relations, developing service offerings for business departments, managing user satisfaction, and communicating the Digital Department’s activities – have been distributed across several departments or assigned to the CIOs. Indeed, many CIOs now bear responsibility for digital strategy. In some organisations, communication is managed by a department rather than an individual. Nevertheless, where this role is retained, its primary function remains to communicate on digital transformation to business departments.

Participants also agree that the role of Chief Digital Officer (CDO) is more of a cross-functional role than a standalone position. The responsibilities of this role are now divided between the business departments and the digital department.

As a result, business units are playing an increasingly significant role in shaping the digital strategy and roadmap, as well as in structuring the range of digital services and products aimed at end customers.

Conversely, the digital department generally retains responsibility for products and services aimed at the organisation's internal customers.

EVOLUTION OF THE CIGREF CLASSIFICATION SYSTEM THROUGH THE VERSIONS

Since 1991, Cigref has regularly published a Nomenclature of “job-role¹” profiles for information systems.

This tool is the result of the **sharing of experiences between human resources directors** from the IT departments of Cigref member companies, formalised into a common description of information systems job profiles.

This collaborative effort, which is regularly updated, also enables us to track developments within IT departments. As these developments reflect changes in the organisations to which they belong, the Classification provides unique insight into the evolution of IT departments.

A TOOL THAT REFLECTS THE REALITY OF IT ROLES AT A VERY EARLY STAGE

The first version, developed in 1991, proposed four families of job profiles derived from traditional corporate IT:

- Information systems consultancy;
- Research and development;
- Production and operations;
- In-house technical support.

In the 1990s and 2000s, the IT department opened up to new roles and became more professional in its management. In 1995, the Classification System introduced two new categories of roles:

- User support and assistance, which reflect the growing importance that IT departments are placing on the user and the business;
- The administration and management of the IT department, which reflects the desire to subject IT management to the same management constraints as the rest of the organisation.

TAKING TECHNOLOGICAL AND STRATEGIC DEVELOPMENTS INTO ACCOUNT

In 2000, IT in large companies underwent significant technological, strategic and organisational changes. IT departments evolved into information systems departments. These changes are reflected in the 2001 and 2002 classifications:

- By providing an overview of career opportunities and a Cigref opinion on the development of each job profile;
- Through the emergence of numerous roles such as:
 - The SVP support technician, confirming the growing focus on users within organisations;
 - Tool/system/network and telecoms administrators and database administrators;
 - The ERP configurator who confirms the deployment of software packages;

¹ The term has evolved and in this document we will refer to roles or job profiles

- The information systems security manager, following the consideration of security issues identified in the year 2000.

The rise of websites and the internet led to the emergence in 2001 of the roles of web designer/developer, which disappeared in 2002.

IT department management expanded in 2001 with the introduction of the roles of IT operations manager and IT unit manager.

In 2002, as the urbanisation of information systems became essential, the role of IS architect evolved into that of information systems architect.

At this time, many organisations within the IT ecosystem—including Cigref member companies, organisational and skills management consultancies, and training providers—adopted this Nomenclature, drew heavily on it, or referred to it.

FROM A “JOB-BASED” APPROACH TO A “COMPETENCY-BASED” APPROACH

By 2005, all Cigref member companies had an operational reference framework for information systems job profiles. But the focus then shifted: it was no longer about “jobs” but

“skills”. This was reflected in the human resources policies of major groups which, to take account of phenomena such as changes in IT budgets, technologies, contractor management, the “papy-boom” or workplace mobility, implemented ambitious skills management plans within their IT departments.

In 2005, Cigref therefore completely overhauled the skills grids in its Classification and began planning the development of a new tool: an IT skills framework, to complement the Classification of IT Roles.

CIGREF’S PARTICIPATION IN EUROPEAN INITIATIVES

At the same time, at European level, CEN/ISSS (European Committee for Standardisation/Information Society Standardisation System), with the support of the European Commission (EC), established an international steering committee in 2004 called the “ICT-Skills Workshop” to define and implement an action plan aimed at promoting the IT profession within the European Union. In 2005, this committee issued a call for participation in initiatives to develop an international IT skills framework (e-Competence Framework or e-CF).

Cigref then focused its thinking on skills at European level and, with the support of the HR working group, joined the team of experts working on the definition and implementation of the e-Competence Framework.

In 2008, this team of European experts produced an initial prototype version of this tool. In light of the results, Cigref decided to replace the Cigref skills described in the job profiles with those of the e-CF, as soon as this framework became operational.

A LAYERED REPRESENTATION OF BUSINESS FUNCTIONS USING THE “SERVICE” MODEL

In 2009, IT departments began to be recognised within companies as sources of value creation, and their appeal grew. They became increasingly professionalised and contributed to the company's business. This evolution of the IT department led to changes in models and organisations, notably the shift to a service-oriented approach, which has a significant impact on the organisation of business functions.

Whilst four years ago the organisation of the IT department's functions presented a largely “technical” view of the information system, by 2009 the reality within organisations had changed. The IT department's functions have gradually been reorganised, moving from a silo-based approach that emphasised the technical nature of the roles, to a layered approach that organises functions in relation to the company's business processes, reinforcing the idea that IT departments are, from a holistic perspective, linked to the business and the company's strategy, and that their role is no longer purely technical.

In 2009, the Nomenclature therefore evolved towards a new grouping of job profiles around the following main families:

1. Steering, organisation and management of information system developments;
2. Project management;
3. Application lifecycle;
4. Provision and maintenance of infrastructure to ensure it remains in operational condition;
5. User support and assistance;
6. Methodology, quality and safety support;
7. Operational management.

This development is raising the profile of IT departments, adding value and making them more attractive.

THE DEPLOYMENT OF EUROPEAN SKILLS IN JOB ROLES

The 2009 version of the Cigref Classification also paves the way for the replacement of the skills defined by Cigref with the European e-CF skills: the “historical” Cigref skills are removed from the job profile descriptions and placed in an appendix to assist with the transition.

Work on the European e-Competence Framework continued until 2010, with the Cigref HR working group remaining actively involved. The first version (v1.0) was finalised in spring 2010, and Cigref mapped the competences described in e-CF v1.0 to the roles in the Cigref Classification.

In 2011, at the request of numerous companies operating internationally, the Cigref Classification was translated into English. This 2011 version also benefited from the update to the e-CF, which was finalised as version 2.0.

Between 2012 and 2014, processes related to digital transformation began to be implemented across all organisations. However, generally speaking, for existing roles within the IT department, whilst the roles themselves have changed little, the profiles have changed primarily due to the new skills required

to perform the roles. And it is these skills that are the main criteria for recruitment or training. The 2014 Cigref Classification has therefore been revised to update and redistribute the skills for each job profile, based on the European e-Competence Framework v3.0², and thus align with the new requirements.

This 2014 version of the Cigref Classification has also benefited from an update on trends and career paths. The emergence of new, data-related profiles

THE EMERGENCE OF NEW PROFILES WITH DATA

In 2015, all IT-related functions are potentially affected by digital transformation. Cloud computing and big data are the key drivers of these developments. The cross-functional nature of digital transformation, coupled with new cloud service models, necessitates a comprehensive rethink of the company's IT architectures, both to remain agile in response to the needs of business departments and to integrate hybrid solutions that enhance the company's performance.

The 2015 edition will therefore focus on three job profiles directly linked to this evolution: the enterprise architect, the data analyst, who works closely with the IT department, and the data scientist, who works closely with business departments. This update highlights two new developments that are significant enough to warrant mention:

1. The enterprise architect role had existed in companies for around ten years, but Cigref members were unable to agree on a common definition of its responsibilities and skills, which were very often similar to those of the Enterprise Architect. It was indeed the new architectural models linked to the cloud and data usage in particular, and more generally the digital transformation process, that enabled a consensus definition.
2. Usually, the emergence of a profession follows a familiar path that can take several years:
 - Initially, responding to a need for specific skills;
 - Then, translating these skills into specific activities;
 - In a third stage, a role emerges that brings these activities together;
 - Ultimately, this leads to the creation of a new role.

For the roles of data analyst and data scientist, the rapid pace of digital transformation within organisations has led to an almost immediate consensus on the definition of these two job profiles.

THE EMERGENCE OF MANY NEW ROLES

In 2016, Cigref cannot help but observe that digital technology is changing the world, transforming business models and reshaping management practices. The organisation of work increasingly relies on trust, a shared sense of purpose and collaboration between individuals. Working conditions must be rethought with a focus on well-being at work, with the central issue being time management, and the equally important issue of integrating and retaining the younger generations.

² <http://www.ecompetences.eu/>

The Cigref member companies are therefore focusing their attention on the new professions that are emerging, and on the profiles and skills they will need in the future to remain viable. This review, which will last two years and is described in the report “Collaborateur 20203”, will reveal many new roles that can now be found in the 2018 version of the Nomenclature:

- Data-related roles: data analyst, data scientist, data engineer, chief data officer, data privacy officer (DPO);
- In the field of agility: agile coach, scrum master, product owner;
- Security-related roles: IS auditor, cybersecurity expert, CISO (updated);
- And in supplier management: IT buyer, contract manager (updated), vendor manager, software asset manager (SAM);
- Finally, roles related to business transformation: Chief Digital Officer (CDO), IT marketing manager and Green IT manager.

Naturally, their emergence will also have a significant impact on the structure of the Classification, which will be expanded to cover nine job categories (initially seven):

1. Organisation and management of information system developments;
2. Project management;
3. Application lifecycle;
4. Provision and maintenance of infrastructure in operational condition;
5. Support and assistance;
6. Security;
7. Operational management;
8. Data;
9. Supplier relations.

EN-16234: THE EUROPEAN STANDARD ON DIGITAL SKILLS PUBLISHED IN 2019

In February 2016, version 3.0 of the European Digital Competence Framework (e-CF) officially became the European standard EN-16234:2016. This reinforces the quality and credibility of the Cigref Classification, as all job profiles within the Cigref Classification incorporate the competencies of e-CF v3.0, and therefore of standard EN-16234:2016. At this time, many HR and IT recruitment consultancies began contacting Cigref to find out more about this tool, which their clients wanted them to use as a basis for their services.

In 2019, an update to EN-16234:2019 was published. Once again, Cigref participated in its development as part of the team of European experts. This new version updates numerous competencies, adds further ones (there are now 41 competencies) and introduces the concept of “cross-cutting aspects”, which describe cross-cutting elements that apply to all the competences in the European framework. These cross-cutting elements complement the descriptions of the competences and provide additional descriptors, the importance of which varies for each competence, ranging from the need for awareness to proactive engagement. These “transversal aspects” cover seven areas:

1. Accessibility;
2. Ethics;

³ <https://www.Cigref.fr/wp/wp-content/uploads/2016/10/CIGREF-Collaborateur-2020.pdf>

3. Legal issues related to ICT;
4. Privacy;
5. Security;
6. Sustainable development;
7. Usability.

2021: A MAJOR UPDATE ON SO-CALLED EMERGING PROFESSIONS FOR AN “INTERIM”

Between 2018 and 2021, all roles – and particularly those that emerged in 2016 – continued to evolve and become more clearly defined. This 2021 version therefore incorporates changes that are often significant, particularly in roles related to data and agility. The enterprise architect role has also been completely revised, highlighting the importance of new cloud and service architectures in an increasingly agile world.

This new version nevertheless incorporates the changes made over the last two years to a number of profiles. There are no new profiles compared to the 2018 version.

On another note, for intellectual property reasons, Cigref has been unable to incorporate the EN-16234:2019 standard into its French version (NF EN 16234-1-FR) within the job profiles of the 2021 version of the Nomenclature. To avoid having obsolete skills (dating from 2016) in the job profiles and lacking the necessary authorisations to use the new skills descriptions from the NF EN 16234-1-FR standard, Cigref decided to publish an interim version in 2021 without the European skills.2022: a full version with digital competencies added to the profiles of the 2021 version

2022: A FULL VERSION WITH THE ADDITION OF DIGITAL SKILLS TO THE 2021 VERSION'S PROFILES

As the necessary approvals were obtained during 2021, this new version 2022 rev 4 is therefore the 2021 Classification supplemented with the European qualifications derived from standard NF EN 16234-1-FR.

2024: CONSENSUS REACHED ON THE DEFINITIONS OF SOME NEW OCCUPATIONS, WHILE OTHERS REMAIN CONTROVERSIAL

When Cigref surveyed its members in autumn 2023 to find out which roles could achieve consensus on their descriptions, three roles were identified:

- The Product Manager;
- The Data Architect;
- And the DevOps.

The first, the Product Manager, emerged from the evolution of agile methodologies and their impact on the role of the Product Owner, whose responsibilities have gradually expanded. Some of these responsibilities have thus been transferred to this new role. The Product Manager is responsible for

defining and steering a product/service, or a set of products/services (which may be grouped into product lines), in line with the company's IT systems and strategic objectives. Operating primarily within an agile environment, the Product Manager can nevertheless manage and steer traditional projects. This role gives rise to a new profile: "2.8. Product Manager".

In light of the Product Manager's remit, the role of Product Owner has changed, resulting in a revision of the skills listed in the Cigref Classification. The profile for this role, "2.6. Product Owner", has been updated.

The second role, that of the Data Architect, has emerged from the growing maturity of data management within organisations, which is reflected, amongst other things, in the structuring of data architectures in line with business strategies. The Data Architect is, in a sense, an Enterprise Architect but with a very strong focus on data. Indeed, their primary role is to define the data architecture in line with business needs, taking into account the IT architecture, data governance rules and, more broadly, the standards and common practices defined within their organisation. They oversee its implementation within the IS and ensure its compliance, performance, sustainability, alignment with business needs, and the optimisation of the data lifecycle. This role gives rise to a new entry: "8.6. Data Architect".

Finally, "DevOps" is becoming increasingly prevalent within IT organisations. Working on a DevOps role proved challenging for participants in the Cigref Working Group and sparked numerous discussions. Indeed, everyone agrees that the concept involves, when developing a product or service, taking into account and integrating issues related to its deployment and operation right from the design and development phases. However, according to the organisations represented in the Working Group, the translation into operational terms can vary. Indeed, some have supplemented existing roles with DevOps skills, others have created a new role as such, and finally, several organisations consider that DevOps is a function that can be covered by adapting the processes and activities of IT roles. As the concept itself is still in the process of being formalised and there is disagreement over its HR interpretation, DevOps has therefore not given rise to a new role description.

2025: SOME JOBS WITH WELL-ESTABLISHED DEFINITIONS, OTHERS ON THE VERGE OF DISAPPEARING, AND AN EXCEL SPREADSHEET ENABLING A MATRIX-BASED APPROACH BY JOB OR BY SKILL

- The job descriptions for **DevOps** and **UX Designer** are now agreed upon and have been added to the "**3. APPLICATION LIFECYCLE**" category.

These two roles are described in detail in the two new job profiles: "3.6. DevOps" and "3.7. UX Designer".

- Two job profiles have **been removed**: "**IT Marketing Manager**" and "**Chief Digital Officer**".

The role of "IT Marketing Manager" virtually no longer exists as such within the organisations represented in the working group. Its various responsibilities, such as customer relations, the development of service offerings for business departments, user satisfaction management, and communication regarding the digital department's activities have been spread across several

departments or assigned to CIOs. Indeed, many CIOs now bear responsibility for digital strategy. In some organisations, communication is handled by a department rather than an individual. Nevertheless, where this role is retained, the primary remit of this position remains to communicate the digital transformation to business departments.

Participants agree that the **role** of “Chief Digital Officer” (CDO) is more of a **function** than a specific job profile; and this role spans several business departments that use digital tools not always managed by the IT department. The CDO still exists in many companies and remains central to the digital transformation itself. They work on the digital strategy and roadmap, in a broader sense than the scope of the company’s IT department alone. Their responsibilities are often spread across several business units. The CDO helps to structure the company’s digital services and products (focused on end customers), but when these products are aimed at internal customers, the structure of the offerings is often managed by the digital department.

Another new feature is that Cigref offers an [Excel spreadsheet](#) for human resources management (developing and nurturing internal talent, training, recruiting and onboarding new staff) that enables a matrix-based, visual approach, organised both by job role and by digital skills. Indeed, this file allows users to **view the digital skills** from the “ICT e-Skills Framework” required for each **role in the Cigref classification**, or conversely, to see, for a given role, the various digital skills required. Thus, the IT role classification is summarised in a single Excel tab within this file.

THE NOMENCLATURE'S ORGANISATION

Cigref's Nomenclature of IT Job Profiles summarises the main "missions", "activities and tasks" for the key roles of information systems in large French companies. It also provides information on the typical career path (backgrounds and previous experience) and trends in the job profile.

NINE CATEGORIES OF JOB PROFILES

The job profiles in the nomenclature are organised into nine (9) categories:

1. **Steering, organising and managing changes to the information system**

This category includes the roles which are generally related to the structural and functional consistency of the information system(s).

Most of these professions work with the business units in line with the company's strategic orientations and ambitions.

2. **Project management**

This category includes roles that manage, monitor and coordinate development, deployment, IT infrastructure or methods, risks, etc.

These professions organise work and manage resources and communication.

3. **Application life cycle**

This category includes roles related to the design, development and technical- and application-led implementation of projects.

These professions do not intervene in the organisation of the information system but in the bricks implemented to integrate, design and maintain IT solutions.

4. **Provision of infrastructures and maintenance in operational condition**

This category includes professions related to the study, design, development, integration and operation of infrastructures.

It also includes jobs related to IT support within the IT department.

5. **Support and assistance**

This category covers user-facing roles that provide assistance and support.

6. **Security**

This category includes jobs related to the definition, expertise, audit, implementation and control of information system security and cybersecurity.

7. **Operational management**

This category includes jobs with hierarchical responsibility in terms of human resources, budget, decision or scope.

8. Data

This category groups together professions linked to the data management cycle.

9. Supplier relations

This category includes jobs related to supplier relations in the areas of purchasing, contract management and licence management.

HOW JOB PROFILES ARE STRUCTURED

Each category therefore groups together a set of job profiles. These job profiles are generic and are structured as follows:

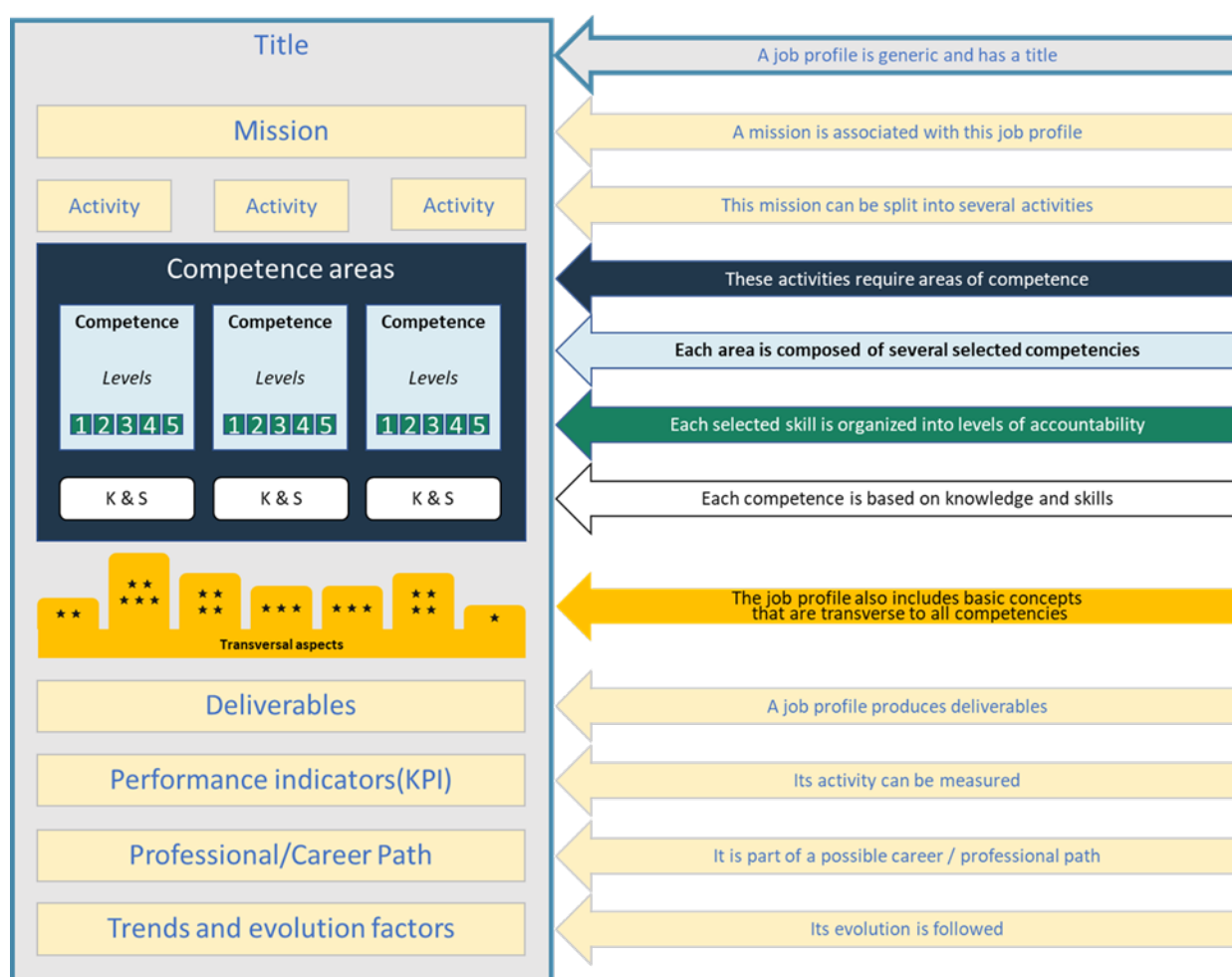


Figure 1 : How Cigref structures job profiles

For each Cigref job profile, a framework is applied:

Cigref's job profile is determined by a specific job title or designation, commonly used in most companies.

It consists of two parts:

An operational part with:

- The mission of the job, which summarises the main attributions and purpose of this job as it should be taken into account by those who hold the role.
- The list of significant activities and tasks as they are encountered in most organisations to perform this role given the mission described.
- A list of no more than 10⁴ significant competences to perform the activities described. These competences are classified by broad areas and given by level.
 - These competences are based on a set of knowledge and skills.
 - They share a cross-cutting set of essential background knowledge, the level of awareness of which may vary.
- Examples of typical deliverables that those in the role need to produce.
- Examples of indicators needed to measure business performance.

An informational part with:

- The career path that provides access to this role.
- Trends and factors of change for the role.

POINTS OF ATTENTION

Transversal aspects

With regard to the transversal aspects, the standard NF EN 16234-1 indicates that for each competence, the seven basic notions must be taken into account in terms of awareness, to exercise the competency. But the standard does not specify the level of awareness. Cigref members have therefore chosen:

- To apply these basic concepts to all the competences of a role (and not competence by competence)
- To identify a level of awareness from 1 to 5 stars.

It is obvious that for a profile that is an expert in one of these seven basic concepts (e.g. security for the cybersecurity expert) the "awareness" will be maximum (five stars).

Three levels of competence have been added to the NF 16234-1 standard

When assigning the competences to the different job profiles, there seemed to be three competences described in the European standard that did not have the appropriate levels for the profile. Given the importance of these two competences for these profiles, we decided to keep them but create a more suitable level:

- For competence *A.1. Information systems and strategic business alignment*, level 3 has been added and reads as follows: "Mobilises expert knowledge to identify and define long-term IT solutions."
- For competence *D.2. Development of an ICT quality strategy*, level 3 has been added and reads as follows: "Leverages the specific knowledge of each team member to enable the application of external standards and best practices."

⁴ In the 2018 version, this list was not limited. In order to ensure a balance between profiles, Cigref members decided to limit it to 10 significant skills

- For competence *E.9. Information Systems Governance*, level 3 has been added and reads as follows: "Contributes to the IS governance strategy by communicating, disseminating and evaluating relevant processes across the ICT infrastructure".

The job descriptions may seem incomplete, and some jobs may be missing

This tool is built by consensus: the profiles, activities, competences, deliverables and KPIs are therefore elements that make sense and can be found in the job descriptions of Cigref member companies. But this list is not exhaustive: anything that did not reflect a consensus was removed. Certain jobs, activities and competences are no doubt missing.

The Cigref Nomenclature should therefore not be used as a normative framework but as an aid for building your own. You should therefore add to it and adapt it to your business reality, if necessary.

Summary tables

To give you an overview, all the competences of each profile have been grouped together in a summary table, without their definition but with the level required. This table is followed by an assessment of the level of awareness required for the seven basic transversal concepts.

The detailed list of competences required for the profile with the full description and level follows this summary.

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

MAIN CHANGES COMPARED TO THE 2022 VERSION

In the chapter 'Evolution of the Cigref nomenclature from one version to the next':

Addition of a section entitled '2024: NEW PROFESSIONS ARE DEFINED BY CONSENSUS, OTHERS BY DISSENTING VOICES'.

In the '2. project management' category:

Addition of a new job profile '2.8. Product Manager'

Modification of the job profile '2.6. Product Owner'

- Modification of skill levels:
 - A.4. Product/Service planning - level 4 -> 3
 - D11. Needs Identification - level 5 -> 3
- Addition of competency:
 - A.10. User experience - level 3
- Removal of competency:
 - E.1. Forecast Development
- Modification of cross-cutting notion:
 - T5 Security: ★★ -> ★★★

In the '8. Data' family:

Addition of a new Job Profile '8.6. Data Architect'

1. STEERING, ORGANISING AND MANAGING CHANGES TO THE INFORMATION SYSTEM

This category includes the roles which are generally related to the structural and functional consistency of the information system(s). Most of these roles work with the business units to fulfil the company's strategic goals and ambitions.

It covers the following roles:

1.1. INFORMATION SYSTEMS CONSULTANT	17
1.2. FUNCTIONAL ARCHITECT	22
1.3. BUSINESS INFORMATION SYSTEM MANAGER.....	27
1.4. APPLICATIONS MANAGER	32
1.5. INTERNAL CUSTOMER MANAGER.....	37
1.6. ENTERPRISE ARCHITECT	41
1.7. GREEN IT MANAGER	46

Navigation

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1.1. INFORMATION SYSTEMS CONSULTANT

MISSION

The Information Systems Consultant anticipates and brings new projects to fruition by raising awareness of the contribution to be made by technologies and providing a prospective analysis of business processes.

He assists the project owner in defining the requirements and solutions to be implemented, with a view to achieving better integration into the company's information system.

ACTIVITIES AND TASKS

Information systems consultancy

- Provides advice on optimising the use of existing tools and systems.
- Keeps Executive and Business Unit management informed about, and raises their awareness of, technologies and the contributions that can be made by information technologies.

Assistance to the business units or project owner

- Issues requirements and recommendations for the development and implementation of a project or solution.
- Participates in the definition of general project specifications.
- Checks the consistency of the functional and application architecture and the changes made to it.
- Participates in the assessment and choice of a software package.
- Assists business units or the project owner with the development of service-based IT.
- Makes management-related recommendations as part of providing support for a project.
- Participates in the design of a support plan.

DELIVERABLES

- Opportunity memo/emergence sheet (used to establish whether it is advisable to launch the project).
- Scoping memo.
- Preliminary study file.
- General specifications.

PERFORMANCE INDICATORS

Within a reasonable time:

- The number of requests submitted by the business units.
- The number of answers provided to the questions asked by the business units.

PROFESSIONAL BACKGROUND

5 years' higher education and more than 10 years of a variety of project-type experiences in the business-unit or IT side, or junior consultancy experience in the digital marketplace and the company's business domain. Good knowledge of the company's businesses and how it uses the information system is therefore necessary.

TRENDS AND FACTORS IN CHANGE

This role lies at the intersection between Business Project Manager and IT Project Manager, and thus IT tends to attract professionals with dual competences (business and IT expertise) who are capable of meeting the needs related to the rapid change in information systems.

It can develop into roles which interface with Business Unit management, such as Enterprise Architect and Business Information System Manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	3	A.3. Business Plan Development	4
A.6. Application Design	1	A.9. Innovating	4
D.11. Needs Identification	5	E.3. Risk Management	2
E.4. Relationship Management	3	E.5. Process Improvement	3
E.7. Business Change Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★ ★★	★ ★★	★ ★★	★ ★★	★★ ★★	★★ ★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 3
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Mobilises expert knowledge to identify and define long-term IT solutions.
A. PLAN	A.3. Business Plan Development	Level 4
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.
A. PLAN	A.6. Application Design	Level 1
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Contributes to the design and general functional specification and interfaces.

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.

E. MANAGE	E.7. Business Change Management	Level 3
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Evaluates change requirements and exploits specialist skills to identify possible methods and standards that can be deployed.

1.2. FUNCTIONAL ARCHITECT

MISSION

The Functional Architect ensures that the development of the whole information system is consistent with the company's objectives, functional domain and internal and external constraints such as risks, costs, and lead times, making the best use of state-of-the-art possibilities in relation to the technical architecture.

ACTIVITIES AND TASKS

Design of the information system (IS)

- Manages (constructs, updates and develops) the map for the information system or sub-set of it for which they are responsible.
- Ensures that the map for the IS consistently matches the strategic plan.
- Specifies and validates the standards and frameworks for the IS functional architecture.
- Proposes scenarios to modify and simplify the information system, taking into account management decision issues, changes in the offer, changes in needs, organizational constraints, etc.

Ensuring information system consistency

- Evaluates the relevance and consistency of projects regarding the target architecture and existing systems through opportunity studies, definition of needs, and choice of architecture for the functional system, among others.

Communications

- Uses advisory and communication initiatives to promote the information system map among business unit management and the executive management.
- Works in direct and permanent partnership with the Business Unit Managers and the managers of the IS's functional and technical domains.

DELIVERABLES

- Map of the information system.
- Information system evolution plans and scenarios.
- Opportunity studies.

PERFORMANCE INDICATORS

- Measurements of the information system's agility and responsiveness following modification (the lead time for integrating functional modifications to the IS following business unit requests).

PROFESSIONAL BACKGROUND

5 years of higher education in design engineering, with either a minimum of 10 years in project management and successful implementation of systems in several functional areas, or a graduate from a specialized functional architecture course.

TRENDS AND FACTORS IN CHANGE

This role tracks the complexity and rapidity of systems' development, both on a functional and organisational level.

It requires the ability to integrate increasingly interdependent external information (SaaS, cloud computing, software suites, convergence platforms, etc.) into the information system.

It also requires a good understanding of security issues and a good command of the risk of losing the integrity of the information system (IS) in a context of accelerating changes in techniques, competition and organisations.

Increasingly, this role must be able to constantly adjust to the ever more frequent regulatory, legal and functional changes.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	4	A.5. Architecture Design	4
A.7. Technology Trend Monitoring	4	A.9. Innovating	4
D.11. Needs Identification	5	E.4. Relationship Management	3
E.5. Process Improvement	3	E.7. Business Change Management	3
E.8. Information Security Management	2	E.9. Information Systems Governance	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★ ★★	★★★ ★★★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions.
A. PLAN	A.5. Architecture Design	Level 4
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Acts with wide ranging accountability to define the strategy to implement ICT technology compliant with business need. Takes account of the current technology platform, obsolescent equipment and latest technological innovations.
A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
D. ENABLE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. MANAGE	E.7. Business Change Management	Level 3
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Evaluates change requirements and exploits specialist skills to identify possible methods and standards that can be deployed.

E. MANAGE	E.8. Information Security Management	Level 2
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.
E. MANAGE	E.9. Information Systems Governance	Level 3
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Contributes to the IS governance strategy by communicating, disseminating and evaluating relevant processes across the ICT infrastructure.

1.3. BUSINESS INFORMATION SYSTEM MANAGER

MISSION

The Business Information System Manager manages the business information system's alignment with the strategic direction and business processes.

He suggests development scenarios for the information system which are consistent with the specified goals and processes.

He guarantees that the business' information system remains efficient, relevant, and consistent as a whole..

ACTIVITIES AND TASKS

Strategic leadership

- Identifies opportunities and contributes to the optimisation of business processes, data, applications and associated systems.
- Participates in the management of the IS' performance, especially in economic terms.
- Uses advisory and communication initiatives to promote the information system map as a tool to help with decision-making and performance management.
- Anticipates changes and their business impact on the IS, and vice versa.
- Is responsible for managing the budget for the development of information technologies for their sector.

Administration of the SI

- Formalises, consolidates and drives the development of the general information system map, based on:
 - The functional models of the business unit.
 - Business process architectures.
 - Frameworks for basic and shared information for the business unit.
 - The functional architecture of the IS (existing/target).
- Participates in the administration of the information system with regard to the frameworks, rules, approaches, methodologies, business objects and tools.

Project quality and management

- Evaluates the consistency of individual projects and overall portfolios with the existing or target information system.
- Consolidates discrepancies in terms of time, cost or quality.
- Leverages all the knowledge about the business unit's information system:
 - Ensures the quality of project management.
 - Manages the mapping of the competencies required for the development of the IS.

DELIVERABLES

- All scheduled acceptance test reports.
- Project portfolio monitoring.

PERFORMANCE INDICATORS

- Number of requests for development or corrections.
- Level of customer satisfaction.
- Level of systems availability.
- Compliance with budgets.

PROFESSIONAL BACKGROUND

5 years of higher education in computer science with at least 10 years of management experience in one or more areas of the company and having managed IT projects either as a business or IT project manager.

They should have both business unit and IT competencies needed for expertise in their area.

TRENDS AND FACTORS IN CHANGE

This role tracks the complexity and rapidity of systems' evolution, both on a functional and technical level.

It requires the ability to integrate increasingly interdependent external information (SaaS, cloud computing, software suites, convergence platforms, etc.) into the IS.

Increasingly oriented towards improving the quality of relationships between the business units, the IT project manager and the business project manager (where one exists).

This role is also involved in developing functional architecture procedures in managing the IS.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	4	A.3. Business Plan Development	4
D.9. Personnel Development	4	D.11. Needs Identification	5
E.2. Project and Portfolio Management	4	E.3. Risk Management	3
E.4. Relationship Management	4	E.5. Process Improvement	3
E.6. ICT Quality Management	2	E.9. Information Systems Governance	5

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
	★★ ★★	★★ ★★	★★ ★★	★★ ★★	★★ ★★	
★						★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions.
A. PLAN	A.3. Business Plan Development	Level 4
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.

D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.2. Project and Portfolio Management	Level 4
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Manages complex projects or programmes, including interaction with others. Influences project strategy by proposing new or alternative solutions and balancing effectiveness and efficiency. Is empowered to revise rules and choose standards. Takes overall responsibility for project outcomes, including finance and resource management and works beyond project boundary.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.

E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. MANAGE	E.6. ICT Quality Management	Level 2
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Communicates and monitors application of the organisation's quality policy.
E. MANAGE	E.9. Information Systems Governance	Level 5
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Defines and aligns the IS governance strategy incorporating it into the organisation's corporate governance strategy. Adapts the IS governance strategy to take into account new significant events arising from legal, economic, political, business, technological or environmental issues.

1.4. APPLICATIONS MANAGER

MISSION

The Applications Manager improves performance, contributes to operations and participates in the management and development of the Business Unit's information system.

He ensures that the business information system is consistent with the strategies, operating modes and processes specified within the business unit.

ACTIVITIES AND TASKS

Designing the evolution of the information system

- Represents the business units or business project managers in the systems' day-to-day life.
- Participates in the development of rules for operating and using the information system.
- Contributes to the construction and use of the IS and its development:
 - By suggesting improvements.
 - By participating in the management of ideas and proposals.
 - By participating in projects to adapt and develop the IS.
 - By participating in operational acceptance phases.

Implementation of the information system

- Performs day-to-day management actions and processes for all aspects of the existing information system such as assistance, incident management, quality of service, contracts, satisfaction, and training.
- Actively participates in the development of how the information system is used.
- In line with the business unit's strategy, contributes to process and information system development. Starting from the expression of requirements, pays particular attention to the operability of all aspects of the future system (acceptance report, acceptance, costs, performance, user experience, functional consistency).

Quality of the information system (performance, consistency, cost, deadlines, etc.)

- Coordinates and manages the network of stakeholders implicated in the operation of the business unit's IS.
- Ensures that the overall quality of operation and performance of the business unit's information system is maintained through appropriate actions (or through applications for which they are responsible).
- Complies with the rules for operation and use of the IS in compliance with business unit and company standards and specified service level agreements.
- Holds responsibility for the documentation (scoping memos, specifications, procedure guides, etc.) of the applications for which they are responsible.

- Holds responsibility for monitoring and applying the rules of use of applications for which they are responsible.
- Participates in controlling the operating costs for the information system.

DELIVERABLES

- Monitoring development of application systems.
- Performance indicators for the application(s).
- Application documentation.

PERFORMANCE INDICATORS

- Number of requests for development or corrections.
- Level of customer satisfaction.
- Level of systems availability and performance.

PROFESSIONAL BACKGROUND

Between 3 and 5 years of higher education, depending on scope with extensive IS experience and functional and operational familiarity with the business unit and sector.

TRENDS AND FACTORS IN CHANGE

This multi-skilled role, core in the IS, works hand in hand with most operational stakeholders to ensure that data flows smoothly between the business processes.

Although fairly stable until now, this role is increasingly concerned with contractual aspects, particularly in SaaS-related processes, whose developments will have an impact on the business unit.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.6. Application Design	2	B.3. Testing	4
B.5. Documentation Production	3	C.1. User Support	3
C.2. Change Support	3	C.3. Service Delivery	2
C.4. Problem Management	4	D.11. Needs Identification	3
E.3. Risk Management	2	E.6. ICT Quality Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★ ★★	★	★	★	★★ ★★	★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.6. Application Design	Level 2
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Organises the overall planning of the design of the application.
B. BUILD	B.3. Testing	Level 4
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance,	Exploits wide ranging specialist knowledge to create a process for the entire testing activity, including the establishment of internal standard of practices. Provides expert

	reliability or compatibility. Produces documents and reports to evidence certification requirements.	guidance and advice to the testing team.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
C. RUN	C.1. User Support	Level 3
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Manages the support process and is accountable for agreed SLA. Plans resource allocation to meet defined service level. Acts creatively, and applies continuous service improvement. Manages the support function budget.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.

C. RUN	C.4. Problem Management	Level 4
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Provides leadership and is accountable for the entire problem management process. Schedules and ensures well trained human resources, tools, and diagnostic equipment are available to meet emergency incidents. Has depth of expertise to anticipate critical component failure and make provision for recovery with minimum downtime. Constructs escalation processes to ensure that appropriate resources can be applied to each incident.
D. ENABLE	D.11. Needs Identification	Level 3
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Establishes relationships with customers and helps them clarify their needs.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.

1.5. INTERNAL CUSTOMER MANAGER

MISSION

The Internal Customer Manager coordinates the contractual relationship with the IT department and represents the customer (management, business project manager, user) in dealings with the various sections of the IT department and external suppliers.

He unites and coordinates relationships between customers and the IT Department. Highlights any ways in which these relationships are not functioning correctly, and proposes improvements to information system stakeholders.

ACTIVITIES AND TASKS

Informing business unit "clients"

- Listens to the business units, informs and advises them on possible services and training, and takes their needs into account.
- Helps to raise user awareness about security issues such as backups and viruses.

Analysing and monitoring quality of service

- Measures indicators and the quality of service for the IT department in order to measure users' satisfaction with the IS.
- Analyses discrepancies between reality and service level agreements (including costs and performance) and makes requests for action aimed at improving quality of services.

Contractualisation of the IT-business unit/customer-supplier relationship

- Develops and updates service proposals, quotes (quality, timelines, costs) and service agreements or contracts (service provided, quality factors, IT Dept structure, customer organisation and role).
- Organises and prepares monthly operating reviews.
- Prepares assessments and reports on the activities and services provided to the business units in terms of contractual, economic technical and image aspects.

Managing "customer" issues

- Takes charge of the "customer" issue until it is resolved.
- Makes appropriate use of the relevant centres of competence.

DELIVERABLES

- New projects or areas for improvement.

- Produces SLAs (Service Level Agreements) to establish the service contract with the business unit (the customer) and reports on it (see ITIL description).

PERFORMANCE INDICATORS

- Measurement of responsiveness to customer requests.
- "Revenue".

PROFESSIONAL BACKGROUND

3 years' higher education and at least 10 years of experience in the field of information technology, or 5 years' general higher education but with significant experience in the company and a strong understanding of its functional areas.

TRENDS AND FACTORS IN CHANGE

Interesting career progression for IT specialists who want to move away from purely technical work. This profile also allows you to progress to managerial or sales and marketing functions.

The content of this profile is changing due to:

- The increasing technical complexity and diversification of digital offerings.
- The desire of customers to control costs, deadlines and quality of services and to understand incidents and their consequences.
- The need to make IT operational staff understand business issues and the impacts of a degraded service.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	3	D.5. Sales Development	3
D.8. Contract Management	3	D.10. Information and Knowledge Management	3
D.11. Needs Identification	5	E.4. Relationship Management	4
E.6. ICT Quality Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★★	★	★	★★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 3
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Ensures the content of the SLA.
D. ENABLE	D.5. Sales Development	Level 3
	Establishes a systematic process for the sales and marketing of the organisation's products and services, including value-added resellers (VARs) if appropriate; including understanding of customer needs, sales forecasting, prospect evaluation and negotiation tactics. Develops technical proposals to meet customer solution requirements and offer competitive bids aligned with the organisation's capacity to deliver.	Acts creatively to develop proposals incorporating complex solutions. Customises solutions in a complex technical and legal environment ensuring the feasibility, legal and technical validity of the customer offer.
D. ENABLE	D.8. Contract Management	Level 3
	Provides and negotiates contract in accordance with organisational processes. Ensures that contract and deliverables are provided on time, meet quality standards, and conform to compliance requirements. Addresses non-compliance, escalates significant issues, drives recovery plans and if necessary, amends contracts. Maintains budget integrity. Assesses and addresses supplier compliance to legal, health and safety and security standards. Establishes and maintains supplier relationships and regular communication.	Evaluates contract performance by monitoring performance indicators. Assures performance of the complete supply chain. Influences the terms of contract renewal.
D. ENABLE	D.10. Information and Knowledge Management	Level 3
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Analyses business processes and associated information requirements to enable effective information sharing. Supports the target community to critically assess knowledge and information.

D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.

1.6. ENTERPRISE ARCHITECT

MISSION

This role has aspects in both IT and business.

The Enterprise Architect ensures that IT productions are optimised and consistent and drives IT transformation projects as well as design and requirements.

He ensures consistency in chosen projects in terms of assessment, design and implementation. Also ensures that chosen projects integrate together in a consistent, efficient and sustainable way, and ensures that the IS's architecture respects company standards, especially in risk control and security.

He plans, defines and steers changes to the overall IT architecture to meet business units' needs consistent with the company's strategy.

He promotes innovation to the IS's existing architecture to all company stakeholders.

ACTIVITIES AND TASKS

Strategy

- Contributes to the development of the IS strategic plan.
- Contributes to the selection of new solutions which address the company's needs, in line with the recommendations and solutions in place and with the IS strategy more globally.
- Monitors technological developments on the market and promotes appropriate innovative solutions for the company.

IS design

- Creates and maintains the IS architectural standards and principles, steers the appropriate documentation and updates the company's system of reference.
- Using business units' strategies and requirements:
 - Analysis the impact of new solutions on the IS.
 - Proposes changes to the various business products and services.
 - Proposes changes to the IS architecture, taking into account the different service models.
- Drafts recommendations to safely integrate new IT solutions into the company to ensure that its information system remains consistent and effective.

Continuous improvement

- Promotes the guidelines related to IS architecture.
- Facilitates the transfer of knowledge, experience and best practice within the teams responsible for the IS architecture.

Knowledge management

- Communicates and shares architectural principles and IS standards and innovation with communities of IS architects.

DELIVERABLES

- The enterprise architecture framework (standards, maps, processes, vocabulary).

PERFORMANCE INDICATORS

- Measurement of the overall performance of the IS architecture (agility, user satisfaction, innovation, maintainability, security, quality of service, cost, etc.).
- Number of exceptions to standards and architectural principles.
- Number of people trained in the architecture framework.
- Number of people certified on certain elements of the architecture framework.
- Contributions to changes in time-to-market.

PROFESSIONAL BACKGROUND

Can come from any function or sector, but requires a very good knowledge of the company's business units and at least 10 years' experience in architecture and systems planning.

TRENDS AND FACTORS IN CHANGE

This profile is rather rare, and its skills make it an important player in the company's digital transformation. This role is often seen in the second half of a career.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	5	A.3. Business Plan Development	5
A.5. Architecture Design	5	A.7. Technology Trend Monitoring	5
A.9. Innovating	4	D.2. ICT Quality Strategy Development	4
D.11. Needs Identification	5	E.4. Relationship Management	4
E.5. Process Improvement	3	E.9. Information Systems Governance	5

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★ ★★	★	★★ ★★	★★ ★★★	★★ ★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 5
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides IS strategic leadership to reach consensus and commitment from the management team of the enterprise.
	A.3. Business Plan Development	Level 5
A. PLAN	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Applies strategic thinking and organisational leadership to exploit the capability of Information Technology to improve or transform the business.
A. PLAN	A.5. Architecture Design	Level 5
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Provides strategic leadership for implementing the digital enterprise strategy. Applies strategic thinking to discover and recognize new patterns in data sets and new ICT systems, to achieve business benefits.

A. PLAN	A.7. Technology Trend Monitoring	Level 5
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Plans and leads an organisational structure and support system for systematic technology watch. Advises and influences strategic decisions envisioning and articulating future ICT solutions.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.

E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. MANAGE	E.9. Information Systems Governance	Level 5
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Defines and aligns the IS governance strategy incorporating it into the organisation's corporate governance strategy. Adapts the IS governance strategy to take into account new significant events arising from legal, economic, political, business, technological or environmental issues.

1.7. GREEN IT MANAGER

MISSION

The Green IT Manager understands IT from the perspective of environmental, social and economic issues in order to build an (eco)responsible information system and help the company move towards more sustainable models using digital technology.

He produces, applies and develops the company's sustainable development strategy (corporate social responsibility - CSR) in terms of the information system in partnership with the Chief Information Officer (CIO), the Sustainable Development Officer (SDO) and the company's Executive Committee.

He drives and manages the company's Green IT strategy.

ACTIVITIES AND TASKS

Definition of the Green IT strategy

- Clarifies the Green IT scope within their organisation and links it to the CSR policy.
- Analyses the impact of the information system (IS) on the environment and identifies the performance indicators to be tracked and published.
- Defines the company's Green IT strategy in line with priorities.
- Implements the strategy via concrete action plans, and where necessary enacts them via a Green IT charter.
- Specifies, validates and implements the Green IT standards and frameworks used by the company (with the IT Dept and all of the company departments).

Project management

- Manages the implementation, and ensures the consistency, of Green IT projects in consultation with internal (IT Dept, DAF, DDD, DHA) and external stakeholders (service providers and partners).
- Leads and advises a network of engaged employees to promote a move towards a more responsible IS (Responsible Digital Technology initiative).
- Suggests technical, corporate and environmental innovations to improve the performance of the IS and help the company to move towards more responsible economic models.
- Oversees project tracking using dashboards based on quantified indicators and objectives.
- Takes part in certain technical phases of projects which require specific Green IT expertise (e.g. design of applications, green tests, user support, etc.).

Communication, awareness issues

- Uses advisory, awareness and communication initiatives to promote the Green IT philosophy to the various different internal and external stakeholders (customers, partners, shareholders, the various departments concerned).
- Leverages the actions carried out using the most appropriate methods.

Intelligence and benchmarking

- Implements an economic intelligence strategy specific to Green IT with the intention of identifying business opportunities and managing risks amid a changing regulatory environment.
- Obtains intelligence on changing standards and regulations, and distributes this information to affected staff.
- Gathers and shares best practice and compares methods to industry practices to ensure continuous improvement.
- Uses the benefits of information technology to affect environmental change (reduction in GHGs, resource consumption, etc.).

DELIVERABLES

- Strategy, policy (action plan) and Responsible Digital Charter.
- Green IT communication plan.
- Green IT dashboard.
- Green IT best practice frameworks.
- Software eco-design framework.
- Responsible procurement guide and eco-labels.
- Eco-friendly guide.
- Responsible Digital paragraph in the CSR report.

PERFORMANCE INDICATORS

- Measures the economic, environmental and social impact of actions undertaken, both overall and on a per-project basis.
- Year-on-year monitoring, per user and per year, scope 2 and 3 (for the manufacturing and use stages of the life cycle):
 - kWh.
 - Liters of water.
 - kg CO2 equiv. Carbon footprint.

PROFESSIONAL BACKGROUND

5 years of higher education in computer science + training in sustainable development and/or responsible digital technology, with a minimum of 10 years in a number of operational information system and project supervision roles.

A strong sensitivity to environmental and social issues is required, and experience in communication is a plus.

TRENDS AND FACTORS IN CHANGE

This is a recent role profile, and is emerging in very large companies and authorities (over 2,000 staff) and in the subsidiaries of these companies.

This role calls for very strong technical expertise in all areas of the information system and a strong network of relationships within operational teams, since the goal is to incorporate Green IT thinking into developing usages and behaviours.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.3. Business Plan Development	4	A.7. Technology Trend Monitoring	4
A.8. Sustainability Management	4	A.9. Innovating	4
D.2. ICT Quality Strategy Development	5	D.3. Education and Training Provision	2
D.10. Information and Knowledge Management	5	D.11. Needs Identification	4
E.3. Risk Management	4	E.5. Process Improvement	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★ ★★	★★ ★★	★ ★★	★ ★★	★ ★★	★★ ★★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A.3. Business Plan Development	Level 4
A. PLAN Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.8. Sustainability Management	Level 4
	Estimates the impact of ICT solutions in terms of eco responsibilities, including energy consumption, waste treatment and environmental policy. Analyses the prospects and impacts in social and financial sustainability of ICT projects, developments, services and operations. Advises business and ICT stakeholders on sustainable options that are consistent with the business strategy. Applies an ICT purchasing and sales policy which fulfills eco-responsibilities.	Defines the strategy of sustainable IS development and digital services. Provides input into the business strategy to ensure that sustainability is considered and incorporated.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 5
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Provides strategic leadership to embed ICT quality (i.e. metrics and continuous improvement) into the culture of the organisation.
D. ENABLE	D.3. Education and Training Provision	Level 2
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Organises the identification of training needs; collates organisation requirements, identifies, selects and prepares schedule of training interventions.

D. ENABLE	D.10. Information and Knowledge Management	Level 5
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Provides strategic direction for the alignment of the information and knowledge strategy with the organisational strategy.
D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.3. Risk Management	Level 4
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Provides leadership to define and make applicable a policy for risk management by considering all the possible constraints, including technical, economic and political issues. Delegates assignments.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.

2. PROJECT MANAGEMENT

This category includes roles which manage, track and co-ordinate projects relating to IT development, deployment, infrastructure and methods, risks, etc. These roles organize work actions and manage resources and communication.

It covers the following roles:

2.1. HEAD OF PROJECT.....	52
2.2. BUSINESS PROJECT MANAGER	57
2.3. IT PROJECT MANAGER	62
2.4. AGILE COACH.....	67
2.5. SCRUM MASTER	71
2.6. PRODUCT OWNER.....	75
2.7. IS PROJECT MANAGEMENT OFFICER (PMO)	79
2.8. PRODUCT MANAGER	84

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

2.1. HEAD OF PROJECT

MISSION

The Head of Project assumes the ultimate responsibility for all aspects of the project(s) (strategic, commercial, financial, human, legal, organisational, technical, etc.).

He manages the entire project or projects in all their complexity (multiple stakeholders, often with divergent interests, etc.).

He provides assurances regarding strategic issues for the project to the business unit, company or third parties.

ACTIVITIES AND TASKS

Project management

- Ensures the relevance and timeliness of the progress of the project(s).
- Is responsible for all important decisions.
- Approves the final acceptance of the project(s).

Communication / coordination

- Takes necessary actions to bring the project(s) to a successful conclusion.
- Manages and coordinates communication with teams and the various bodies.
- Prepares and leads the change management process.

Resource management

- Leads, optimises and takes responsibility for all project resources (human, budget, customers, final decision).
- Is responsible for the financial management of the project(s) as well as for all defined requirements (quality, costs, deadlines, etc.).

DELIVERABLES

- Organisation of managed project(s).
- Management reports on project alignment.

PERFORMANCE INDICATORS

- Quality/cost/deadline indicators.

PROFESSIONAL BACKGROUND

5 years of higher education, in engineering and more than 10 years as a manager in positions requiring a global vision in terms of organisation, strategy, stakes, etc. Experience in managing complex operational projects is essential.

TRENDS AND FACTORS IN CHANGE

Because they are increasingly responsible for the coherence of IT's response to the business units, the "IT" project director is increasingly evolving into a Business Project Director that includes IT projects or batches.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	4	A.3. Business Plan Development	4
A.4. Product/ Service Planning	4	D.2. ICT Quality Strategy Development	3
D.9. Personnel Development	4	D.10. Information and Knowledge Management	4
E.2. Project and Portfolio Management	4	E.3. Risk Management	4
E.4. Relationship Management	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★ +★★	★★ ★★	★★	★★ ★★	★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions.
A. PLAN	A.3. Business Plan Development	Level 4
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.
A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 3
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Leverages the specific knowledge of each team member to enable the application of external standards and best practices.

D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E. MANAGE	E.2. Project and Portfolio Management	Level 4
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Manages complex projects or programmes, including interaction with others. Influences project strategy by proposing new or alternative solutions and balancing effectiveness and efficiency. Is empowered to revise rules and choose standards. Takes overall responsibility for project outcomes, including finance and resource management and works beyond project boundary.
E. MANAGE	E.3. Risk Management	Level 4
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Provides leadership to define and make applicable a policy for risk management by considering all the possible constraints, including technical, economic and political issues. Delegates assignments.

E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.

2.2. BUSINESS PROJECT MANAGER

MISSION

The Business Project Manager defines, implements and leads a project with the aim of obtaining an optimal result in compliance with the requirements of the business units, formulated and approved by or for the sponsor with regard to quality, performance, cost, timescale and security.

ACTIVITIES AND TASKS

Responsibility for the functional content of the project

- Defines the business requirements, draws up general functional specifications and drafts accurate technical specifications.
- Works in conjunction with the IT project manager to select a solution (software suite, development, etc.).
- Provides for the resources to be mobilise (human, technical, financial, etc.).
- Defines and supervises the production of prototypes and functional tests.

Project leadership

- Organises, coordinates and leads the business project management team.
- Mediates in the event of any differences between the team and other stakeholders.
- Supervises project progress.
- coordinates, summarises and ensures the quality of issued approvals.
- Circulates and disseminates information with the business units.
- Takes responsibility for all events occurring as part of the project.

Preparation, deployment of the project, and implementation of user support actions

- Defines the target user group.
- At the earliest opportunity, defines the teaching method and resources used to train users.
- Implements training and support for users, according to their needs.
- Defines the user support medium.
- Defines the modalities for handling change requests.

Ensures the best quality/cost/timescale ratio

- Performs acceptance of completed projects and evaluates their compliance with the project specifications.
- Ensures that deadlines and costs are met.
- During the project, approaches the sponsor to suggest any necessary modifications to objectives (quality, cost, timescale) related to completion constraints or changes in environment.
- Defines and manages the project progress schedule.
- Decides on the choices to be made according to risk and results.

- Sets up all the indicators required to track and manage the project, especially those on performance, costs and deadlines.

DELIVERABLES

- requirements specification
- General specifications.
- Acceptance reports.

PERFORMANCE INDICATORS

- Notification of discrepancies in quality, performance, cost and timescale as noted in acceptance reports.

PROFESSIONAL BACKGROUND

3 years' higher education with experience, or 5 years' higher education without experience. The Business Project Manager representing IS users is not a data processing specialist.

TRENDS AND FACTORS IN CHANGE

Increasingly supports accelerated development of digital technology and the associated requirements for responsiveness. Must be open to new project management methods (Scrum, Agile methods, etc.).

When assigned to an experienced manager, this profile can lead to higher positions, such as Head of Projects, or to operational positions in the business unit for which they are running the project.

As the roles of IT Project Manager and Business Project Manager converge and Agile methods expand within companies, the latter are increasingly becoming business unit project managers. With the right training, they can move into Agile roles such as Product Owner.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.3. Business Plan Development	3	A.4. Product/ Service Planning	4
A.6. Application Design	1	D.2. ICT Quality Strategy Development	4
D.3. Education and Training Provision	2	D.9. Personnel Development	3
D.10. Information and Knowledge Management	4	D.11. Needs Identification	4
E.2. Project and Portfolio Management	3	E.7. Business Change Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★ ★	★★ ★★	★ ★★	★ ★★	★ ★★	★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.3. Business Plan Development	Level 3
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Exploits specialist knowledge to provide analysis of market environment etc.
A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.

A. PLAN	A.6. Application Design	Level 1
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Contributes to the design and general functional specification and interfaces.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.
D. ENABLE	D.3. Education and Training Provision	Level 2
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Organises the identification of training needs; collates organisation requirements, identifies, selects and prepares schedule of training interventions.
D. ENABLE	D.9. Personnel Development	Level 3
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Monitors and addresses the development needs of individuals and teams.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.

D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.2. Project and Portfolio Management	Level 3
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Accounts for own and others' activities, working within the project boundary, making choices and giving instructions, optimising activities and resources. Manages and supervises relationships within the team; plans and establishes team objectives and outputs and documents results.
E. MANAGE	E.7. Business Change Management	Level 3
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Evaluates change requirements and exploits specialist skills to identify possible methods and standards that can be deployed.

2.3. IT PROJECT MANAGER

MISSION

The IT Project Manager defines, implements and manages an IT project from its design stages through to acceptance, with the aim of achieving an optimum result which complies with requirements formulated by the Business Project Manager or the Business Unit customer in terms of quality, performance, cost, timescale and security.

ACTIVITIES AND TASKS

Responsibility for the technical content of the project

- Specifies the technical design and drafts detailed technical specifications.
- Participates in the choice of software suites in conjunction with the Business Project Manager.
- Participates in the implementation of specific developments or integrations.
- Participates in the performance of specific development/integration tasks.

Project leadership in the field

- Organises, coordinates and leads the entire IT project team.
- Mediates in the event of any differences between the team and other stakeholders.
- Supervises project progress.
- Coordinates, summarises and ensures the quality of issued approvals.
- Ensures the circulation and distribution of information regarding IT project management.
- Manages relationships with the supplier(s), from signature of the contract to final approval of the project.

Technical deployment of the project and implementation of user support actions

- Deploys the new application or service.
- Organises maintenance.
- Participates in user training.
- Organises user support.

Ensures the best quality/cost/timescale ratio

- Ensures compliance with the requirements specification.
- Ensures that deadlines and costs are met.
- During the project, suggests possible modifications of objectives (quality, costs, deadlines), completion constraints, or environment changes to the business unit or project owner.

DELIVERABLES

- Detailed functional specifications for the project.
- Acceptance reports.

PERFORMANCE INDICATORS

- Notification of discrepancies in quality, performance, cost and timescale as noted in acceptance reports.

PROFESSIONAL BACKGROUND

3 years' higher education with experience, or 5 years' higher education without experience. In the case of a project which relates mainly to information systems, the IT Project Manager generally comes from the information systems management team.

TRENDS AND FACTORS IN CHANGE

Increasingly supports accelerated development of digital technology and the associated requirements for responsiveness. Must be open to new project management methods (Scrum, Agile methods, etc.).

When assigned to an experienced manager, this profile can lead to higher positions, such as Head of Projects, or to operational positions in the business unit for which they are running the project.

As the roles of IT Project Manager and Business Project Manager converge and Agile methods expand within companies, IT project managers are increasingly becoming representatives of the IT department to business units and, as for business project managers, with the right training, they can move into Agile roles such as Product Owner.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	4	A.4. Product/ Service Planning	4
A.6. Application Design	2	B.1. Application Development	3
B.3. Testing	3	C.2. Change Support	3
D.4. Purchasing	3	D.9. Personnel Development	3
E.2. Project and Portfolio Management	3	E.4. Relationship Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★ ★★	★ ★★	★★ ★★	★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
A. PLAN	A.6. Application Design	Level 2
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Organises the overall planning of the design of the application.
B. BUILD	B.1. Application Development	Level 3
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates	Acts creatively to develop applications and to select appropriate technical options. Accounts for others

	product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions.
B. BUILD	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
D. ENABLE	D.4. Purchasing	Level 3
	Applies a consistent procurement procedure, including deployment of the following sub processes: specification requirements; supplier identification; proposal analysis; evaluation of the energy efficiency and environmental compliance of products; suppliers and their processes; contract negotiation; supplier selection and contract placement. Ensures that the entire purchasing process is fit for purpose, compliant to legal requirements and adds value to the organisation.	Exploits specialist knowledge to deploy the purchasing process, ensuring positive commercial relationships with suppliers. Selects suppliers, products and services by evaluating performance, cost, timeliness and quality. Decides contract placement and complies with organisational policies.

D. ENABLE	D.9. Personnel Development	Level 3
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Monitors and addresses the development needs of individuals and teams.
E. MANAGE	E.2. Project and Portfolio Management	Level 3
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Accounts for own and others' activities, working within the project boundary, making choices and giving instructions, optimising activities and resources. Manages and supervises relationships within the team; plans and establishes team objectives and outputs and documents results.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.

2.4. AGILE COACH

MISSION

The Agile Coach promotes Agile methods, ensures they are put into practice, and adapts them to the organisation.

He ensures that agile teams learn to function independently.

Regarding methodology, he also advises the organisation on how to find the most suitable practices for the situation.

ACTIVITIES AND TASKS

Manages the Agile practices framework

- Defines practices and ensures they are implemented.
- Modifies them in accordance with team feedback and the state of the art.

Coaching and training

- Supports agile teams with appropriate methods and tools for the situation.
- Prepares Agile training courses, develops and updates the Agile training range in collaboration with the training department:
 - Generic training sessions with the aim of raising awareness.
 - Expert level training for all Agile team roles.
- Raises awareness and trains all stakeholders by organising, coordinating and running all Agile training courses within the organisation.

Helps to form Agile project teams

- Makes proposals to the members of the project team during the scoping phase.
- In order to ensure that the value objectives set by the business unit are achieved, they actively participate in the Agile project's scoping phase by offering a full range of experience in order to build a team that offers the best fit for the needs and constraints of the Agile project with regard to the level of experience and competences required.

DELIVERABLES

- Facilitation session.
 - Best practices.
 - Process for the method.
- Specifies measurement and performance indicators for this method.
- Provides feedback.

PERFORMANCE INDICATORS

- Number of projects or teams coached.
- Level of maturity of teams on self-assessed criteria.
- Coached teams' gained independence.
- Coached individuals' level of satisfaction.

PROFESSIONAL BACKGROUND

Regardless of their initial training, Agile coaches must first master several Agile methods (both theoretically and practically) as well as continuous integration and test-driven development (TDD).

Agile coaches must therefore have several years of cross-cutting experience in Agile and methods or as a product owner and Agile trainer.

They must also have a full command of the Agile manifesto and have successful experience managing projects of all sizes.

Their experience should lend them a great ability to convince their audiences of the benefits of using Agile methods. They should also be a good teacher and diplomat to be able to converse with IT managers and the business units.

Their background will have given them knowledge of the techniques used in software development and continuous integration. This will help them to understand, converse with and integrate into develop teams and adapt to their environment.

TRENDS AND FACTORS IN CHANGE

As a result of their special role as a cross-functional operations manager in the company, Agile coaches may work with entities outside the IT Department.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.9. Innovating	4	D.3. Education and Training Provision	3
D.9. Personnel Development	3	D.10. Information and Knowledge Management	4
D.11. Needs Identification	5	E.2. Project and Portfolio Management	3
E.5. Process Improvement	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★ ★★	★★	★ ★★	★★	★ ★★	★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.3. Education and Training Provision	Level 3
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Acts creatively to analyse skills gaps; elaborates specific requirements and identifies potential sources for training provision. Has specialist knowledge of the training market and establishes a feedback mechanism to assess the quality of training provision.
D. ENABLE	D.9. Personnel Development	Level 3
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Monitors and addresses the development needs of individuals and teams.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.

D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.2. Project and Portfolio Management	Level 3
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Accounts for own and others' activities, working within the project boundary, making choices and giving instructions, optimising activities and resources. Manages and supervises relationships within the team; plans and establishes team objectives and outputs and documents results.
E. MANAGE	E.5. Process Improvement	Level 4
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Provides leadership and authorises implementation of innovations and improvements that will enhance competitiveness or efficiency. Demonstrates to senior management the business advantage of potential changes.

2.5. SCRUM MASTER

MISSION

Servant-leader of the Scrum teams, the Scrum Master ensures that the Scrum method has been understood and implemented and that the Scrum teams adhere to Scrum theory, practices and rules.

Assists parties from outside the team in interacting with the DevSecOps team.

He helps all stakeholders to adapt their interactions with the Scrum team to maximise the value their team creates.

He ensures the continuous improvement of Scrum teams in how they work (creativity, quality of co-operation), demonstrating empathy, co-operation, transparency, courage and humility.

ACTIVITIES AND TASKS

- Coaches and trains team members on the practices, principles and values of Agile and "Agile at Scale".
- Helps to track and perform Agile activities (stories, enabler, etc.).
- Helps to understand product planning in an empirical context.
- Assists and advises the Project Owner in qualifying needs. It also ensures that the Product Owner has built up and manages the backlog correctly.
- Ensures team coordination with the Project Owner and stakeholders.
- Leads and/or participates in Scrum ceremonies.
- Helps the development team (Dev Team) to self-organise and develop its multi-disciplinary skills.
- Maximises the value created by the development team.
- Identifies and manages the risks of the development team.
- Identifies and assists in removing barriers to carrying out activities.
- Defines, implements and tracks performance indicators such as velocity, predictability, product delivery, user satisfaction, level of stakeholder engagement, and service quality.
- Collaborates with other Scrum Masters to improve the effectiveness of Scrum within the organisation.

DELIVERABLES

Prepared the following ceremonies:

- Sprints.
- Sprint reviews.
- Sprint planning.
- Retrospectives.
- The "done" (equivalent to an incremental acceptance test).

PERFORMANCE INDICATORS

There is no indicator specific to this role.

PROFESSIONAL BACKGROUND

They must have previous experience in leading and/or managing a team. Experience as a developer/designer may be an asset.

Above all, they must be fully conversant in Agile methods, both in theory and in practice, especially the Agile manifesto.

Past experience has also given them a familiarity with other Agile practices, such as eXtreme Programming, Kanban, Continuous Integration and Test-Driven Development (TDD), as well as "scaled" Agility models such as SAFe (Scaled Agile Framework), LeSS (Large Scale Scrum), NEXUS, etc.

Trends and factors in change.

TRENDS AND FACTORS IN CHANGE

Scrum Masters can move into the Agile Coach role.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.4. Product/ Service Planning	4	A.9. Innovating	4
B.3. Testing	2	D.9. Personnel Development	3
E.2. Project and Portfolio Management	3	E.5. Process Improvement	4
E.6. ICT Quality Management	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★★	★★	★★	★★	★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
D. ENABLE	D.9. Personnel Development	Level 3
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Monitors and addresses the development needs of individuals and teams.

E. MANAGE	E.2. Project and Portfolio Management	Level 3
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Accounts for own and others' activities, working within the project boundary, making choices and giving instructions, optimising activities and resources. Manages and supervises relationships within the team; plans and establishes team objectives and outputs and documents results.
E. MANAGE	E.5. Process Improvement	Level 4
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Provides leadership and authorises implementation of innovations and improvements that will enhance competitiveness or efficiency. Demonstrates to senior management the business advantage of potential changes.
E. MANAGE	E.6. ICT Quality Management	Level 2
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Communicates and monitors application of the organisation's quality policy.

2.6. PRODUCT OWNER

MISSION

The Product Owners is responsible for building a business vision for the IT product to be produced and share it with the Agile development teams. He ensures that the right business direction is taken, with priorities following a criteria of business value, and that the quality of each agile cycle's deliverables is in line with business unit expectations.

He promotes communication and collaboration to maximise the product's added value for users.

He takes responsibility for the product backlog.

ACTIVITIES AND TASKS

Acts as the point person for the business vision within Agile teams

- Works with business units to elaborate the vision for the product.
- Shares this vision with the Agile development teams.
- Develops the strategy to prepare for upcoming versions.

Prioritises by business value

- Identifies the expected features and requirements.
- Prioritises all user stories in the product backlog.
- Maintains the product backlog, continuously seeking to maximise business value for users.

Explains the business need to Agile teams

- Shares their vision with the Agile team, prioritising direct interaction over formalities.
- Breaks down each feature into user stories that can be implemented in a single iteration.
- Sets the acceptance criteria essential to Agile teams' understanding of the need.
- Integrates and tracks fulfilment of non-functional requirements (NFRs), such as accessibility, IT security, CSR and GDPR, from the design stage.
- Responds to development teams' requests for clarification on the user stories in development.
- Contributes to Agile meetings with the development teams and the Scrum Master.

Accepts the business elements produced by the Agile team

- Carries out or organises the performance of user/business unit tests.
- Collects user feedback for the development teams.
- Analyses usage to suggest product changes to the business units.

Produces reports

Communicates on the product's progress to IT management and business users.

DELIVERABLES

- The main deliverable is the product delivered in accordance with the customer's specifications.

PERFORMANCE INDICATORS

- Respect for sprints.
- Velocity of deliveries.

PROFESSIONAL BACKGROUND

Business Unit and Business Project Manager experience.

TRENDS AND FACTORS IN CHANGE

They may move on to project management, management of a business unit or a position as Product Manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.4. Product/ Service Planning	4	B.3. Testing	3
B.5. Documentation Production	3	D.11. Needs Identification	5
E.1. Forecast Development	4	E.2. Project and Portfolio Management	3
E.4. Relationship Management	4	E.7. Business Change Management	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★★	★★	★★	★★★	★★	★★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
B. BUILD	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.

E. MANAGE	E.1. Forecast Development	Level 4
	Interprets market needs and evaluates market acceptance of products or services. Assesses the organisation's potential to meet future production and quality requirements. Applies relevant metrics to enable accurate decision making in support of production, marketing, sales and distribution functions.	Acts with wide ranging accountability for the production of a long-term forecast. Understands the global marketplace, identifying and evaluating relevant inputs from the broader business, political and social context.
E. MANAGE	E.2. Project and Portfolio Management	Level 3
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Accounts for own and others' activities, working within the project boundary, making choices and giving instructions, optimising activities and resources. Manages and supervises relationships within the team; plans and establishes team objectives and outputs and documents results.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.7. Business Change Management	Level 4
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Provides leadership to plan, manage and implement significant ICT led business change.

2.7. IS PROJECT MANAGEMENT OFFICER (PMO)

MISSION

The IS Project Management Officer (PMO) monitors the operational running and reporting for activity in a specific domain (strategic, project portfolio, programs, operational activities, etc.).

He manages forecast resource allocation schedules, work progress and project budgets. Notifies project managers in the event of discrepancies against forecasts.

He intervenes either directly in projects or on behalf of a department to track a cross-cutting project portfolio.

ACTIVITIES AND TASKS

Scheduling

- Contributes to developing the project portfolio, giving consideration to the constraints and dependencies of the various resources in terms of costs, lead times and competencies to reach the desired level of quality.

Tracks activities and resources

- Checks the progress of the project/programme according to the defined requirements (quality, cost, deadline, etc.) and its fulfilment of commitments.
- Verifies that best practices and methodologies are applied.
- Carries out risk analyses.

Steers the project/programme plan

- Assesses the current and projected capacity for resources and tasks and makes suggestions on how to optimise and reallocate them.
- Suggests adjustments and re-scheduling if necessary.

Budget monitoring and reports

- Monitors and updates the budget.
- Tracks allocated resources against the forecasts (used, remaining, scheduled).
- Produces the reports required dashboards and for steering to the relevant departments.

Governance

- Facilitates the process of developing master plans and translates them into a roadmap.

DELIVERABLES

- A business plan of activity.
- Activity and project roadmaps.
- Progress monitoring and indicator dashboard.
- Operational planning.
- Workload and resource planning.
- Risk analysis of the activity and projects/programmes.
- Minutes of the decision-making bodies.

PERFORMANCE INDICATORS

- Project measurement: Planned vs. achieved.
- Cost and budget compliance.
- Quality of facilitation with stakeholders (satisfaction index).
- Compliance with the holding of committees and the minutes associated with these committees.

PROFESSIONAL BACKGROUND

Should be a manager capable of dialoguing with a variety of people from a range of fields, with a good knowledge of their field (is often promoted from inside the company). Can be a project, unit or domain/sector manager.

TRENDS AND FACTORS IN CHANGE

With a background in operations, will progress towards responsibilities related to support functions.

With the rise in SaaS, which will direct the company towards external projects, there may be less need of PMOs for internal projects.

Change management, expanding scopes and controlling complexity are becoming key to this role. Project-managing PMOs are tending to disappear in favour of PMOs that manage widescale programmes. This is especially true since digital transformation projects entail significant projects with cross-cutting components and work that exceeds the IS.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.3. Business Plan Development	4	A.4. Product/ Service Planning	4
C.2. Change Support	3	D.10. Information and Knowledge Management	4
E.2. Project and Portfolio Management	4	E.3. Risk Management	3
E.4. Relationship Management	4	E.6. ICT Quality Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★ ★★	★★	★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.3. Business Plan Development	Level 4
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.
A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient	Ensures the integrity of the system by controlling the

	control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E. MANAGE	E.2. Project and Portfolio Management	Level 4
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Manages complex projects or programmes, including interaction with others. Influences project strategy by proposing new or alternative solutions and balancing effectiveness and efficiency. Is empowered to revise rules and choose standards. Takes overall responsibility for project outcomes, including finance and resource management and works beyond project boundary.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different	Provides leadership in complex multi-stakeholder relationships authorising investments when needed.

	contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.

2.8. PRODUCT MANAGER

MISSION

The Product Manager defines and manages a product/service or set of products/services (which may be grouped into product lines) in line with the IS and the strategic objectives of the organisation.

Mainly active in the agile world, they can also lead and manage traditional projects.

ACTIVITIES AND TASKS

- He identifies customers' priority needs, designs, and assumes the product/service vision to match them and defines the overall roadmap, which he ensures is kept up to date.
- He is responsible for defining the scope and value of functionalities throughout the product lifecycle.
- He designs, builds, and supports the value assessment/measurement KPI for the product/service lines for which he is responsible.
- He ensures that the development of the product(s)/service(s) is consistent with the company's strategy.
- He coordinates and federates the product or service teams and stakeholders (including technology partners) with ad hoc governance and reporting.
- He plays an active role in comitology at the level of his products and solutions.

DELIVERABLES

- The product plan/roadmap and its progress.
- Performance and usage metrics.

PERFORMANCE INDICATORS

- - Customer satisfaction levels.
- - Time to market.
- - The level of adoption and use of the product/service.
- - Compliance of the value measured with the expected value.

PROFESSIONAL BACKGROUND

At least 5 years' experience with a good knowledge of the business.

Often coming from a position as IT *Project Manager*, *Product Owner* or *Business Analyst*, they can also come from business departments but with an advanced IT project management culture.

The Product Manager may consider moving up to Project Director, Head of Product or RTE (Release Train Engineer).

TRENDS AND FACTORS IN CHANGE

Product/service marketing is increasingly developed to the detriment of technical aspects. Its approach can incorporate more and more aspects linked to commercial practices.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	4	A.4. Product/ Service Planning	4
A.7. Technology Trend Monitoring	3	A.10. User Experience	3
D.11. Needs Identification	4	E.1. Forecast Development	4
E.3. Risk Management	2	E.6. ICT Quality Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★	★★	★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions.

A. PLAN	A.4. Product/ Service Planning	Level 4
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Provides leadership and takes responsibility for, developing and maintaining overall plans.
C. RUN	A.7. Technology Trend Monitoring	Level 3
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Detects signs of change to provide supervision and analysis of current and trend-setting ICT technological developments. Establishes relationships with relevant communities.
D. ENABLE	A.10. User Experience	Level 3
	Appreciates and applies the foundational principles of human-computer-interaction to create digital products and services that are intuitive, easy to use, safe and efficient. Understands users needs and goals, applies understanding of user behaviour to develop alternative options and functions, of the digital product, to create a seamless user experience.	Establishes and cultivates relationships with customers and users to understand their tasks, needs and goals. Uses specialist methods to obtain a wide range of significant user engagement.
E. MANAGE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.1. Forecast Development	Level 4
	Interprets market needs and evaluates market acceptance of products or services. Assesses the organisation's potential to meet future production and quality requirements. Applies relevant metrics to enable accurate decision making in support of production, marketing, sales and distribution functions.	Acts with wide ranging accountability for the production of a long-term forecast. Understands the global marketplace, identifying and evaluating relevant inputs from the

		broader business, political and social context.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.

3. APPLICATION LIFE CYCLE

This family includes roles related to the design, development and technical/application-led delivery of projects. These roles do not intervene in the organisation of the information system but in the bricks implemented to integrate, design and maintain IT solutions.

It covers the following roles:

3.1. APPLICATION DOMAIN MANAGER	89
3.2. PROGRAMMER	94
3.3. TEST MANAGER	98
3.4. APPLICATION INTEGRATOR	101
3.5. SOFTWARE CONFIGURATION OFFICER.....	106
3.6. DEVOPS.....	111
3.7. UX DESIGNER.....	116

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

3.1. APPLICATION DOMAIN MANAGER

MISSION

The Application Domain Manager performs and coordinates upgrade, corrective and applications maintenance activities for the system for which he is responsible.

He provides Level 2 support and advice in compliance with all aspects of the service agreement, such as quality and security.

He also maintains the functional and technical knowledge needed to sustain the application.

ACTIVITIES AND TASKS

Software configuration

- Provides support and advice on how to use of the applications system under his responsibility.
- Monitors and ensures the operating quality and performance of the applications for which he is responsible.
- Coordinates corrective, preventive and evolutionary maintenance.

Quality and configuration management

- Applies standards, methods and tools.
- Provides the application mapping used in the systems planning framework.
- Identifies and updates the document repository of the application system for which they are responsible.
- Ensures the permanence of knowledge for maintenance solutions.

Communications

- Serves as the IT department's point person for its application's users.
- Is the point person for IT production for his application.

DELIVERABLES

- Up-to-date application software configuration management.

PERFORMANCE INDICATORS

- Incident resolution time.
- Application availability.
- Timeframe for delivering changes.

PROFESSIONAL BACKGROUND

2-3 years' technical higher education with 5 years' experience or engineering school with experience in managing IT applications.

TRENDS AND FACTORS IN CHANGE

The move towards service models (especially SaaS) will drive change in this role, leading to increasing service agreement management work.

Those in this role will tend to move towards application architecture or contract management (in the sense of "services").

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	3	A.4. Product/ Service Planning	2
B.2. Component Integration	3	B.3. Testing	3
B.4. Solution Deployment	3	B.5. Documentation Production	3
C.1. User Support	2	C.2. Change Support	3
C.4. Problem Management	3	E.4. Relationship Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★★	★★	★	★★	★★★	★★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 3
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Ensures the content of the SLA.

A. PLAN	A.4. Product/ Service Planning	Level 2
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Systematically documents standard and simple elements of a product.
B. BUILD	B.2. Component Integration	Level 3
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Accounts for own and others actions in the integration process. Complies with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability.
B. BUILD	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
B. BUILD	B.4. Solution Deployment	Level 3
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Accounts for own and others actions for solution provision and initiates comprehensive communication with stakeholders. Exploits specialist knowledge to influence solution construction providing advice and guidance.

B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies

		failing component, selects alternatives such as repair, replace or reconfigure.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.

3.2. PROGRAMMER

MISSION

At the business unit's request, the Programmer analyses, configures and codes new application software components to comply with the requested changes, standards and procedures.

ACTIVITIES AND TASKS

Analysis

- Contributes to the definition of general specifications.
- Performs technical analysis and detailed studies.
- Adapts and configures application software packages (ERP).
- Creates prototype.

Qualification

- Develops test cases for unit integration tests.
- Performs unit tests.
- Identifies and resolves malfunctions.

Development

- Creates modules (software objects and components).
- Assembles the components.
- Writes documentation.

Maintenance

- Is responsible for corrective maintenance.
- Is responsible for ongoing maintenance.
- Administers reusable software components and updates the nomenclature of these components.

DELIVERABLES

- Code documented according to the company's rules and guidelines.

PERFORMANCE INDICATORS

- Number of corrections in the acceptance phase.
- Performance of the components developed (via benchmarks).

- Respect for deadlines when making changes.
- Number of regressions.

PROFESSIONAL BACKGROUND

2-3 years' technical or engineering higher education.

TRENDS AND FACTORS IN CHANGE

This role has already integrated changes in software suite configuration. It is moving towards the fast development linked with the mobile Internet, with portable, multi-channel applications on technologies related to the connected objects.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.6. Application Design	1	A.10. User Experience	2
B.1. Application Development	3	B.2. Component Integration	2
B.3. Testing	2	B.4. Solution Deployment	1
B.5. Documentation Production	2	B.6. ICT Systems Engineering	3
E.3. Risk Management	2	E.6. ICT Quality Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★ ★★	★	★	★ ★★	★★ ★★	★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.6. Application Design	Level 1
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and	Contributes to the design and general functional specification and interfaces.

	quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	
A. PLAN	A.10. User Experience	Level 2
	Appreciates and applies the foundational principles of human-computer-interaction to create digital products and services that are intuitive, easy to use, safe and efficient. Understands users needs and goals, applies understanding of user behaviour to develop alternative options and functions, of the digital product, to create a seamless user experience.	Applies digital interfaces options (web, mobile, IoT) and guidelines to achieve usability for all.
B. BUILD	B.1. Application Development	Level 3
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions.
B. BUILD	B.2. Component Integration	Level 2
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.

B. BUILD	B.4. Solution Deployment	Level 1
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Removes or installs components under guidance and in accordance with detailed instructions.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
B. BUILD	B.6. ICT Systems Engineering	Level 3
	Builds the required networks/network connections, components and interfaces. Follows a systematic methodology to analyse and engineer infrastructure platforms or solutions for cloud, IoT and other technologies to meet business and technical requirements. Builds system structure models and conducts system behaviour to integrate physical devices, networks, hardware and/or software components. Ensures information security, data protection and energy efficiency. Performs tests to ensure requirements are met.	Ensures interoperability of the system components. Exploits wide ranging specialist knowledge to create a digital infrastructure that will satisfy the system constraints and meet the customer's expectations.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.6. ICT Quality Management	Level 2
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Communicates and monitors application of the organisation's quality policy.

3.3. TEST MANAGER

MISSION

The test Manager ensures that the products delivered comply with the needs as specified.

This applies to existing systems, upgrades, bug fixes, and new products.

ACTIVITIES AND TASKS

May lead a team. Carries out the following steps in coordination with the project manager.

Organises tests

- Plans the various testing tasks, taking into account human resource, material and environmental constraints.

Designs tests

- Checks the receipt of deliverables required to design the test plan.
- Drafts the functional qualification plans with the relevant stakeholders (key users, project manager etc.).
- Drafts the installation, operation and integration test plans according to the analysis or operation file.
- Prepares and updates test configurations in accordance with the installation process.

Performs the tests

- Implements test monitoring tools.
- Coordinates the execution of tests and the follow-up of anomalies.
- Reports to the project manager.
- Draws up the qualification form.
- Organises commissioning procedures, reviews, archiving.
- Updates test masters (sample configurations).

DELIVERABLES

- Acceptance reports.

PERFORMANCE INDICATORS

- Respect for the schedule.
- Respect for the workload.

- Production incident rate.

PROFESSIONAL BACKGROUND

2-3 years' technical higher education or starting engineer.

TRENDS AND FACTORS IN CHANGE

Given their good knowledge of the applications, test managers can progress towards design roles to do application analysis or, if they come from the business units, to business project manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.2. Component Integration	2	B.3. Testing	3
B.5. Documentation Production	2	E.8. Information Security Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★	★	★	★★	★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.2. Component Integration	Level 2
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.

B. BUILD	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
E. MANAGE	E.8. Information Security Management	Level 2
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.

3.4. APPLICATION INTEGRATOR

MISSION

Working within the project team, the Application Integrator participates in choosing the various IS components, such as software packages, databases, and specific developments.

He ensures that they are assembled in compliance with the company's information systems functional architecture plan and the architecture selected for the project.

He ensures the overall consistency of inter-application flows, data integrity and security.

ACTIVITIES AND TASKS

The Applications Integrator plays a role in implementing new or existing applications.

Identifies and selects project techniques

- Under the responsibility of the IT Project Manager, specifies the information system's functional and technical architecture for the application scope for which they are responsible.
- Uses existing objects from the information systems map where possible.

Receives, approves and assembles these components

- Assembles and integrates the various components.
- Can carry out pre-operating tests and acceptance procedures.

Specifies interfaces and potential changes to components for their integration

- Modifies or creates new components where relevant.
- Configures and creates interfaces.

Delivers the system to the production systems integrator

- Works with the business project manager to develop tutorial software.
- Documents the delivered system.
- Delivers the solution to the production systems integrator.

DELIVERABLES

- An operable and documented application system.

PERFORMANCE INDICATORS

- Success rate of non-regression and load tests.
- Production incident rate.

PROFESSIONAL BACKGROUND

3-5 years' higher education with design and development experience. Preferably from a technical background (design, development), they must have a diversified experience of the different technologies they will have to implement.

TRENDS AND FACTORS IN CHANGE

This role seems to have a long-term future with a need for software suite-style components in projects. This is especially true with SaaS and cloud commuting offerings, given the complexity and profusion of technologies and components that need to be mastered.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.4. Product/ Service Planning	2	A.5. Architecture Design	3
A.6. Application Design	3	B.2. Component Integration	4
B.3. Testing	2	B.4. Solution Deployment	2
B.5. Documentation Production	2	B.6. ICT Systems Engineering	3
E.3. Risk Management	2	E.6. ICT Quality Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.4. Product/ Service Planning	Level 2
	Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages services portfolio and change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products in accordance with current legislation.	Systematically documents standard and simple elements of a product.
A. PLAN	A.5. Architecture Design	Level 3
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Exploits specialist knowledge to define relevant ICT technology and specifications to be deployed in the construction of multiple ICT projects, applications or infrastructure improvements.
A. PLAN	A.6. Application Design	Level 3
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Accounts for own and others actions in ensuring that the application is correctly integrated within a complex environment and complies with user/customer needs.
B. BUILD	B.2. Component Integration	Level 4
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests	Exploits wide ranging specialist knowledge to create a process for the entire integration cycle, including the establishment of internal standards of

	system capacity and performance and documentation of successful integration.	practice. Provides leadership to marshal and assign resources for programs of integration.
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
B. BUILD	B.6. ICT Systems Engineering	Level 3
	Builds the required networks/network connections, components and interfaces. Follows a systematic methodology to analyse and engineer infrastructure platforms or solutions for cloud, IoT and other technologies to meet business and technical requirements. Builds system structure models and conducts system behaviour to integrate physical devices, networks, hardware and/or software components. Ensures information security, data	Ensures interoperability of the system components. Exploits wide ranging specialist knowledge to create a digital infrastructure that will satisfy the system

	protection and energy efficiency. Performs tests to ensure requirements are met.	constraints and meet the customer's expectations.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.6. ICT Quality Management	Level 2
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Communicates and monitors application of the organisation's quality policy.

3.5. SOFTWARE CONFIGURATION OFFICER

MISSION

The Software Configuration Officer analyses software package(s) at the business unit's request, advising it on how to best use it. Assists and provides expertise on their relevant software module and the related modelling processes.

He prototypes and configures the new software components to fulfil the desired changes, in respect of standards and procedures

ACTIVITIES AND TASKS

Analysis

- Works with functional expert and data administrator to create prototypes
- Explains discrepancies between the need as expressed and the software suite's standard
- Performs a functional needs analysis and identifies the interfaces with the related products in the company's information system.

Development

- Adapts and sets up the elements of the software suite
- Models the processes according to the methodology of the chosen software package
- Participates in interface creation
- Drafts documentation
- Helps to author user training materials

Qualification and testing

- Develops test cases for unit and integration tests.
- Tests in-house developments and solutions provided by publishers.
- Identifies and deals with malfunctions.

Maintenance

- Carries out corrective and ongoing maintenance using the publisher's tools and resources.
- Tracks product changes and interventions in a knowledge base.

DELIVERABLES

- Software package in operation.

PERFORMANCE INDICATORS

- Level of user satisfaction.
- Respect for deadline.

PROFESSIONAL BACKGROUND

2-3 years' higher education or user roles that progress into IT, or with an initial experience in development or project of a similar nature.

TRENDS AND FACTORS IN CHANGE

Takes into account standards related to service-oriented and cloud-computing architectures.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.6. Application Design	1	A.10. User Experience	2
B.1. Application Development	3	B.2. Component Integration	2
B.3. Testing	2	B.4. Solution Deployment	2
B.5. Documentation Production	2	B.6. ICT Systems Engineering	3
D.11. Needs Identification	4	E.3. Risk Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★	★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.6. Application Design	Level 1
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Contributes to the design and general functional specification and interfaces.
A. PLAN	A.10. User Experience	Level 2
	Appreciates and applies the foundational principles of human-computer-interaction to create digital products and services that are intuitive, easy to use, safe and efficient. Understands users needs and goals, applies understanding of user behaviour to develop alternative options and functions, of the digital product, to create a seamless user experience.	Applies digital interfaces options (web, mobile, IoT) and guidelines to achieve usability for all.
B. BUILD	B.1. Application Development	Level 3
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions.
B. BUILD	B.2. Component Integration	Level 2
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.

B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
B. BUILD	B.6. ICT Systems Engineering	Level 3
	Builds the required networks/network connections, components and interfaces. Follows a systematic methodology to analyse and engineer infrastructure platforms or solutions for cloud, IoT and other technologies to meet business and technical requirements. Builds system structure models and conducts system behaviour to integrate physical devices, networks, hardware and/or software components. Ensures information security, data protection and energy efficiency. Performs tests to ensure requirements are met.	Ensures interoperability of the system components. Exploits wide ranging specialist knowledge to create a digital infrastructure that will satisfy the system constraints and meet the customer's expectations.

D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.

3.6. DEVOPS

MISSION

DevOps plays a crucial role in the lifecycle of an IT product or service. By collaborating with development, operations and infrastructure teams, it ensures the smooth running of processes across the entire chain, from software development to operations, whilst incorporating security considerations. It contributes to improvements in the development, deployment and maintenance of IT products or services by identifying areas for optimisation and implementing appropriate automation.

ACTIVITIES AND TASKS

Promoting DevOps practices within the organisation

- Ensure that development teams take infrastructure and operational requirements into account. Support development teams in integrating solutions into consistent, stable and high-performance environments.
- Participate in agile practices within your area of expertise. Facilitate communication and collaboration between teams to ensure the smooth running and reliability of development and operational processes. Drive maturity audits as part of a continuous improvement strategy (roadmap).

Processes and tools

- Develop, automate and integrate processes, and implement tools to accelerate software development, testing, integration, deployment and maintenance.
- Implement and maintain CI/CD⁵ pipelines, continuous integration practices and configuration management to ensure development consistency and operational readiness in production.

Industrialisation

- Manage the industrialisation requirements of development and test environments using Infrastructure as Code (IaC) tools.
- Implement containers and orchestration.
- Provide technical expertise and support to the IT product teams to help them resolve issues.

Tools

- Monitor and optimise, using monitoring tools, the availability, performance and security of IT applications or products and infrastructure.
- Integrate tools and implement practices that ensure security at every stage: development, testing, integration, deployment and software maintenance.

⁵ CI/CD: Continuous Integration/Continuous Delivery or Continuous Deployment is a software development practice made possible by automation. Frequent and reliable updates accelerate release cycles through continuous code delivery.

Monitoring and documentation

- Ensure that documentation relating to the software development process is kept up to date.
- Monitor innovations and keep abreast of developments in standards and best practices within the field.

DELIVERABLES

- CI/CD (Continuous Integration/Continuous Deployment) pipeline providing test and maintenance automation scripts and offering containerisation and orchestration tools.
- Monitoring and alerting dashboard for the software chain of IT products and services, including a security script and scan as well as performance analysis. This dashboard, made available to project and operations teams, helps increase the predictability of system events.
- Technical documentation of the software chain, including best practices and procedures for integration, deployment and monitoring.

PERFORMANCE INDICATORS

- Percentage of deployments causing incidents.
- Quality level of the code delivered.
- Lead time for changes: this refers to the time elapsed between the commit⁶ of code and its actual deployment into production. A short cycle is indeed a sign of an efficient CI/CD pipeline.
- Mean Time to Recovery (MTTR): the average time taken to restore service following an incident.

PROFESSIONAL BACKGROUND

- Two to three years of higher education (BTS or DUT/BUT) in IT, with a few years' experience, or a graduate of an engineering school or a Master's degree.
- Following an early career as a developer (software, backend, etc.), systems and network administrator, application integrator, or production support engineer.
- Depending on their level of seniority, a DevOps professional may then be eligible for a role as a Site Reliability Engineering (SRE) expert, technical architect, or Tech Lead, or for a management position.

TRENDS AND DRIVERS OF CHANGE

This sector has already embraced the adoption of the cloud, multi-cloud (the coordinated use of several clouds of the same type, whether public or private, depending on needs and use cases) and

⁶ A commit is an operation which, once all stages of build, testing, security scans and deployment have been completed, sends the latest changes to the source code to the repository, thereby integrating them into the main branch of the repository

hybrid cloud (the simultaneous and coordinated use of public and private cloud resources, both internal and external).

It is evolving to optimise the software chain in order to contribute to cost-efficiency objectives. It is beginning to integrate AI architectures and is making AI models available via APIs.

More generally, DevOps plays a central role in the integration process.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (BASED ON STANDARD NF EN 16234-1-FR)

B.4. Application Design	1	C.4. User Experience	2
C.3. Application Development	3	E.3. Component Integration	2
E.7. Testing	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★	★★	★★	★★ ★★	★ ★★	★ ★★

DETAIL OF CORE COMPETENCES (BASED ON STANDARD NF EN 16234-1-FR)

B.BUILD	B.4. Solution Deployment	Level 3
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Accounts for own and others actions for solution provision and initiates comprehensive communication with stakeholders. Exploits specialist knowledge to influence solution construction providing advice and guidance. ⁷
C.RUN	C.3. Service Delivery	Level 3
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Plans the schedule of operational tasks. Manages costs and budget according to the internal procedures and external constraints. Identifies the optimum number of people required to resource the operational management of the IS infrastructure. ⁸
B. BUILD	E.7. Business Change Management	Level 3
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Evaluates change requirements and exploits specialist skills to identify possible methods and standards that can be deployed. ⁹

⁷ The "solution deployment" competency covers the "planning and automation of deployment processes". The DevOps engineer is the expert who ensures the reliability and speed of CI/CD pipelines. They advise development teams on best practices to make their applications "deployable".

⁸ The "service delivery" competency is the key competency for Infrastructure as Code (IaC) and platform management (Kubernetes, Cloud). It ensures the availability, performance and scalability of services in production. It advises on architectural choices and resource optimisation (FinOps).

⁹ As an agent of transformation, DevOps is not merely a technical role; it is a culture. The DevOps engineer ensures the implementation of new working methods (Development/Operations collaboration). They advise and support teams in adopting these changes to accelerate the application lifecycle.

C: RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure. ¹⁰
E: MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment. ¹¹

¹⁰ Reliability and resilience. In the event of an incident, the DevOps engineer must be proficient in diagnostic techniques for complex systems. They work independently to identify root causes (root cause analysis) and implement sustainable solutions, rather than merely temporary fixes.

¹¹ The DevOps engineer demonstrates proficiency in 'identifying and managing risks' by integrating security analysis tools into pipelines to identify vulnerabilities (risks) as early as possible, and by automating checks to mitigate them.

3.7. UX DESIGNER

MISSION

The UX Designer aims to optimise the user experience by ensuring a product that is intuitive, attractive, effective and accessible to all. They contribute to the development of the design framework common to all solutions and ensure its implementation. They act in an advisory capacity and make proposals regarding the content, design and interface architecture of digital products and services. They provide expert input throughout the entire product lifecycle.

ACTIVITIES AND TASKS

- Gather and analyse user needs, and understand user expectations, behaviours and usage patterns. Identify the associated business challenges and technical constraints. The UX Designer may be required to collaborate with the Product Owner on understanding and defining user needs.
- Design and model the IT product or service: the UX Designer develops the design and contributes to proposals to structure the initial stages of the project. They adhere to the existing brand guidelines without being the designer. They define the content and functionality of the user journey without being responsible for the functional design.
- Ensuring the integration of best practices as well as eco-design and accessibility standards.
- Conducting usability, accessibility and ergonomics tests across the entire user journey and continuously proposing improvements or recommendations.
- Support users in managing change.
- Raise awareness among design teams regarding usability issues and technical constraints.
- Actively monitor and track innovations related to the use of digital products and services.

DELIVERABLES

- User *personas*.
- Mock-ups and wireframes: diagrams illustrating the structure and functionality of the application or IT product.
- Prototypes.
- User journey flows.
- Test reports: usability and accessibility evaluations.
- UX specifications or recommendations: usability (rather than functional) guidelines to be taken into account, including design guidelines.

PERFORMANCE INDICATORS

- Compliance rate with accessibility standards (RGAA audit score).
- User satisfaction rate:
 - Customer satisfaction (CSAT);
 - Net Promoter Score (NPS);
 - Perceived Usability Scale (SUS), which measures users' perception of a product or service based on three factors: effectiveness, efficiency and satisfaction with the interaction.
- Percentage of journeys not completed by the user.
- Conversion rate before and after optimisation, task success rate, number of user errors.
- Solution productivity: time measured per journey.
- Interface EcoIndex score, average energy consumption per page, estimated (gCO₂e).

PROFESSIONAL BACKGROUND

Two or three years of higher education. A specialisation in design, ergonomics or cognitive psychology is sometimes required.

A Web Designer can progress in their career by becoming a UX Designer. A UX Designer can become a Lead UX, Product Designer, Head of Design ...

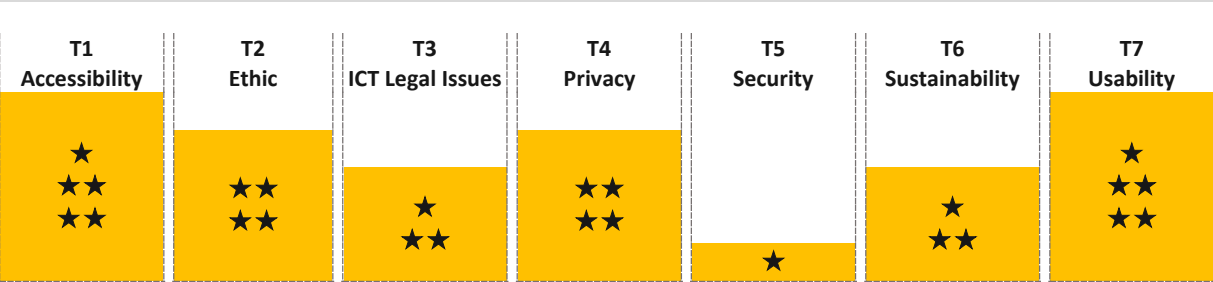
TRENDS AND FACTORS IN CHANGE

UX designers are beginning to rethink the user experience in light of the agentification of AI. Gradually, they will need to incorporate ethical, environmental and economic considerations into their designs.

This profession is therefore likely to evolve towards a role more focused on UX/UI design.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (BASED ON STANDARD NF EN 16234-1-FR)

A.10. User Experience	4	B.3. Testing	3
D.11. Needs Identification	4	A.1. Information Systems and Business Strategy Alignment	4
B.1. Application Development	3	E.4. Relationship Management	3



DETAIL OF CORE COMPETENCES (BASED ON STANDARD NF EN 16234-1-FR)

A. PLAN	A.10. User Experience	Level 4
	Appreciates and applies the foundational principles of human-computer-interaction to create digital products and services that are intuitive, easy to use, safe and efficient. Understands users needs and goals, applies understanding of user behaviour to develop alternative options and functions, of the digital product, to create a seamless user experience.	Provides expert guidance to ensure continuous improvement and establish a successful omni-channel user experience. ¹²
D. ENABLE	D.11. Needs identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier. ¹³
B. BUILD	B.1. Application Development	Level 3
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions. ¹⁴

¹² Ensuring and advising form the core of the UX Designer's role. They must be able to provide "expert advice" to ensure continuous improvement and deliver a successful user experience.

¹³ Providing assurance and advice with a focus on accessibility and usability. This skill specifically includes "identifying usability and accessibility requirements". The UX Designer is the expert who ensures these fundamental requirements are taken into account and advises on their correct implementation.

¹⁴ The UX Designer does not merely apply a method; they ensure that the design meets the requirements and objectives. They advise teams on the best approaches to interaction and architecture. They are responsible for the functional design (wireframes, prototypes).

A. PLAN	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail. ¹⁵
A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions. ¹⁶
E. MANAGE	E.4. Relationship Management	Level 2
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships. ¹⁷

¹⁵ 4 The UX Designer does not merely apply a method; they ensure that the design meets the requirements and objectives. They advise teams on the best approaches to interaction and architecture. They are responsible for the functional design (wireframes, prototypes).(15) The UX Designer manages the entire user testing process: they plan and carry out tests independently, analyse the results and make recommendations. They do not require supervision to carry out this crucial activity.

¹⁶ Driving business alignment reflects the ability to "understand stakeholders' needs". The UX Designer excels at this by conducting user research to ensure that the digital solution is fully aligned with the business strategy and the actual expectations on the ground.

¹⁷ The success of the UX Designer depends on their ability to interact with developers, Product Owners and business stakeholders. Given their pivotal role, they must be skilled in communication, negotiation and teaching to bring different viewpoints together and defend the user's interests.

D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.

4. PROVISION OF INFRASTRUCTURES AND MAINTENANCE IN OPERATIONAL CONDITION

This category includes roles related to the study, design, development, integration and operation of infrastructures. It also includes roles related to internal IT support within the IS Department.

It covers the following roles:

4.1. BACKOFFICE TECHNICIAN	123
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4.4. NETWORK-TELECOM/TOOLS/SYSTEMS ADMINISTRATOR	135
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Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

4.1. BACKOFFICE TECHNICIAN

MISSION

The Backoffice Technician is responsible for the day-to-day management of (off-network) operations in accordance with schedules and expected quality standards. They monitor the running of production centre's logical and physical IT equipment in accordance with frameworks for standards, operating methods and security procedures.

ACTIVITIES AND TASKS

Operations

- Carries out IT work and passes on production results in compliance with schedules and the expected quality standards.
- Oversees printing.
- Monitors how site resources are operating.
- Monitors the operation of production systems and tools.
- Monitors the operation of applications.
- Inspects the management and quality of results.

Incident and security management

- Manages operating incidents (diagnoses, actions taken, alerts).
- Carries out application maintenance for frontline troubleshooting.
- Informs users.
- Monitors any action taken.
- Participates in ensuring that IT sites are physically secure.

Maintenance of production conditions

- Ensures that data is physically protected in terms of backup and archiving
- Manages magnetic media (disks, robots, automata).
- Manages the necessary hardware resources.

DELIVERABLES

- Operations monitoring reports.

PERFORMANCE INDICATORS

- Compliance with service level agreements (SLAs).

PROFESSIONAL BACKGROUND

2 years' higher education (first position possible) or technician level experience (with internal training).

TRENDS AND FACTORS IN CHANGE

Staff numbers in this role are being reduced due to cloud computing (reduction in the number of operating centres), the use of subcontracting and outsourcing of resources.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

C.1. User Support	1	C.2. Change Support	2
C.3. Service Delivery	1	C.4. Problem Management	2
C.5. Systems Management	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

C. RUN	C.1. User Support	Level 1
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Performs basic systems operations.
C. RUN	C.2. Change Support	Level 2
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and	During change, acts systematically to respond to day by day operational needs and react to them, avoiding service disruptions

	adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	and maintaining coherence to SLA and information security requirements.
C. RUN	C.3. Service Delivery	Level 1
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Acts under guidance to record and track reliability data.
C. RUN	C.4. Problem Management	Level 2
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution.
C. RUN	C.5. Systems Management	Level 2
	Monitors and controls the IT services and their underlying physical systems and hardware. Manages the hardware, applications, networks, servers, virtual resources and other technical systems. Ensures up-to-date administration of resources, users and authentications. Manages devices in bring-your-own (BYOD) organisation, enabling user productivity and flexibility, preventing data loss, and enhancing data security.	Systematically manages day by day operational needs across the IT system, avoiding service disruptions according to service and information security strategy.

4.2. DESKTOP TECHNICIAN

MISSION

During software deployment projects, The Desktop Technician installs IT and/or telephony equipment (hardware and software) associated with the workstation, and ensures that it is fully operational. When requested by users, he maintains this hardware (remotely or on-site) and deal with incidents.

ACTIVITIES AND TASKS

Installation, testing and acceptance

- Carries out initial installation of IT and/or telephony equipment (applications, personal computing hardware, telephony hardware and accessories).
- Installs updates.
- Deploys software remotely according to a deployment plan.
- Performs tests and user acceptance of IT and/or telephony equipment.

Operations

- Deals remotely with incidents relating to personal computers, networks, messaging or telephony services.
- Manages incident operations.
- Diagnoses and deals with incidents.
- Manages the IT equipment connected to the network.

Maintenance, administration and security

- Monitors equipment changes over time.
- Administers messaging services on the client side of the workstation (connections, operations).
- Defines data for remote distribution (targets, profiles, dependencies, etc.) and maintenance.
- Checks that equipment is compliant with frameworks.

Support

- Provides handover support for users of installed equipment and software.

DELIVERABLES

- An operational workstation.
- Incident closure form.

PERFORMANCE INDICATORS

- Customer satisfaction level.

PROFESSIONAL BACKGROUND

Mainly 2 years' higher education, or A-level equivalent for positions without responsibility.

TRENDS AND FACTORS IN CHANGE

To industrialise maintenance processes, call centres are set up to enable technicians to carry out diagnoses, provide frontline support, or even escalation procedures or on-site action.

The role, which is increasingly subject to technological changes and requires regular training, will also develop with the introduction of new equipment (laptops, mobility tools, etc.), the increasing complexity of installations, procedures and testing and causes of incidents (interconnections, increasing numbers of external devices, etc.).

The role will require increasingly high levels of customer service skills.

However, the role is declining as predicted, given virtualisation that results in a centralises handovers off-site, the ability to sub-contract this service, and increasingly standardised tools with less variety and fewer models and specific packages.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.2. Component Integration	2	B.3. Testing	1
B.4. Solution Deployment	2	B.5. Documentation Production	2
C.1. User Support	2	C.2. Change Support	3
C.3. Service Delivery	1	C.4. Problem Management	2
E.4. Relationship Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★★★	★★★	★★★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.2. Component Integration	Level 2
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.
B. BUILD	B.3. Testing	Level 1
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Performs simple tests in strict compliance with detailed instructions.
B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.

C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.3. Service Delivery	Level 1
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Acts under guidance to record and track reliability data.
C. RUN	C.4. Problem Management	Level 2
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.

4.3. NETWORK AND TELECOM TECHNICIAN

MISSION

The Network and Telecom Technician ensures that the networks and telecoms under his responsibility are available and function smoothly.

he works to prevent network and telecoms malfunctions and contribute to the smooth operations of the information system.

ACTIVITIES AND TASKS

Installation and testing

- Installs the active parts of the connection equipment (hubs, bridges, routers), IT equipment (connected workstations and servers) and network software.
- Adheres to hardware and software installation and connection procedures, etc.
- Installs updates.
- Tests network equipment.

Operations

- Manages incident operations.
- Deals with incidents on the IT or telephony networks.
- Monitors resources (hubs, network printers, servers, connected workstations, etc.).

Administration and security

- Implements security, backup and measurement tools.
- Checks compliance with security procedures for access to technical premises and reports any anomalies.
- Manages and maintains the technical infrastructure (routers, hubs, concentrators, wiring, etc.) for servers and mainframes.
- Monitors equipment changes over time.
- Operates and administers the network in their scope.
- Checks that equipment is compliant with frameworks.

DELIVERABLES

- Network equipment for which they are responsible.
- Incident closure form.

PERFORMANCE INDICATORS

- Compliance with SLAs.

PROFESSIONAL BACKGROUND

2 years' higher education, specialised in networks and telecoms.

Can be a first position.

TRENDS AND FACTORS IN CHANGE

The role of network and telecom technician is evolving alongside new, digital hardware, increasingly complex setups, procedures, tests, and incident causes (interconnections, the proliferation of peripherals, etc.), collaborative applications for audio and video conferences, in particular, and changes to networks.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.2. Component Integration	2	B.3. Testing	1
B.4. Solution Deployment	1	B.5. Documentation Production	2
C.1. User Support	2	C.2. Change Support	3
C.3. Service Delivery	2	C.4. Problem Management	3
E.8. Information Security Management	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.2. Component Integration	Level 2
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.
B. BUILD	B.3. Testing	Level 1
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Performs simple tests in strict compliance with detailed instructions.
B. BUILD	B.4. Solution Deployment	Level 1
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Removes or installs components under guidance and in accordance with detailed instructions.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.

C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business

		impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
E. MANAGE	E.8. Information Security Management	Level 2
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.

4.4. NETWORK-TELECOM/TOOLS/SYSTEMS ADMINISTRATOR

MISSION

The Network-Telecom/Tools/Systems Administrator installs, commission, administer and operate the IT resources of one or more IT sites.

He helps IT systems to function correctly by maintaining the various tools and/or system software infrastructures and/or communications infrastructures (local, extended, voice, image, centralised architecture, client-server, web, mobile), with quality, productivity, and security as objectives.

ACTIVITIES AND TASKS

Administration

- Is responsible for the optimal performance of the tools, systems or networks under his responsibility.
- Implements tools to ensure data consistency.
- Has a global and up-to-date vision of information systems and a good knowledge of the company.
- Carries out a permanent inventory and manages the various components of the various networks.
- Monitors and analyses performance, implements measures to improve the tool's quality or productivity.
- Elaborates rules for using the tool in accordance with the company's standards and service contracts. Documents, promotes and monitors their implementation.
- Organises and optimises the resources within his scope.

Operations

- Approves the installation and integration of new tools (systems, or networks and telecoms) in the production environment.
- Assigns profiles to manage access rights to servers and applications.
- Handles internal reports of incidents and anomalies, from diagnosing the incident and identifying, formulating, and follow-up on its resolution.

Support

- Participates in ensuring the quality of corrective maintenance.
- Proposes improvements to optimise existing resources and how they are organised.
- Transfers skills, provides technical assistance in procedures to the operations teams. May contribute to their training.

Maintenance and safety

- Manages access to IS resources (in general).

- Manages hardware, software and system upgrades and maintenance.
- Manages performance (alert thresholds and fine-tunes products and resources in the scope).

Studies

- Carries out studies to find hardware, tools and software for recommendation and installation.
- Performs intelligence on the technology for the various aspects of the system and communication infrastructures (hardware, software, architecture, protocol, transfer method).

DELIVERABLES

- Technical, documented map of tools and IT and telecoms systems.

PERFORMANCE INDICATORS

- Technical incident rate for administered tools.
- Ability to respond to anomalies.

PROFESSIONAL BACKGROUND

2-4 years' higher education with 3-5 years' experience in a production, operations or support environment.

Possible move for a Backoffice Technician.

TRENDS AND FACTORS IN CHANGE

The increasing interconnection of platforms and the proliferation of system and network tools in the production environment require an increasing number of administrator positions whose skills differ from those of the technician or operations controller.

Employees in this role can move into a role as programmer.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.2. Component Integration	3	B.3. Testing	2
B.4. Solution Deployment	2	B.5. Documentation Production	2
C.1. User Support	2	C.2. Change Support	3
C.3. Service Delivery	2	C.4. Problem Management	3
D.10. Information and Knowledge Management	3	E.3. Risk Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★★ ★★	★★ ★★★	★★ ★★★	★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.2. Component Integration	Level 3
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Accounts for own and others actions in the integration process. Complies with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability.
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.

B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.

C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
D. ENABLE	D.10. Information and Knowledge Management	Level 3
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Analyses business processes and associated information requirements to enable effective information sharing. Supports the target community to critically assess knowledge and information.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.

4.5. DATABASE ADMINISTRATOR

MISSION

The Database Administrator manages and administers the company's data management systems, ensuring consistency, quality and security.

He participates in defining and implementing the company's chosen databases and software packages.

ACTIVITIES AND TASKS

Administration

- Chooses how to implement the databases.
- Creates the databases in conjunction with the relevant system administrators and project managers.
- Implements database management software. Adapts, administers and maintains them.
- Sets up and manages data servers (administration, automation, procedural development, security and access authorisation, optimisation of data processing and queries, etc.).
- Upon request by departments or operations, creates specific tools to aid operations.

Operations

- Ensures the integrity of existing databases by securing hardware (backup procedures, data recovery, logging, post-incident restarts, etc.) and electronic information (confidentiality, access).
- Implements monitoring tools.
- Configures database parameters for optimal usage.

Support

- Provides user assistance (training, technical queries, etc.).
- Provides Level 2 technical support for all databases.
- Acts as a technical coordinator between project managers and developers' technical support teams.

Research and inspections

- Ensures a technological watch on the DBMS and software packages used by the company.
- Monitors and inspects upgrades to existing databases and software packages selected by the company.
- For technical issues, tests and validates all software applications and packages.
- Defines the standards and norms for using and operating DBMS.

DELIVERABLES

- Databases with reasonable access times.
- Documentation database structures and operating and production procedures.

PERFORMANCE INDICATORS

- Production incident rate.
- Response time to requests.

PROFESSIONAL BACKGROUND

2-4 years' higher education with 3-5 years' experience in developing and implementing applications.

TRENDS AND FACTORS IN CHANGE

May move into integrator and qualification roles.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.1. Application Development	3	B.2. Component Integration	3
B.3. Testing	2	B.4. Solution Deployment	2
B.5. Documentation Production	2	C.1. User Support	2
C.2. Change Support	2	C.3. Service Delivery	2
C.4. Problem Management	3	E.3. Risk Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★★	★★	★★★★	★★★★	★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.1. Application Development	Level 3
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions.
B. BUILD	B.2. Component Integration	Level 3
	Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Accounts for own and others actions in the integration process. Complies with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability.
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.

	recording all relevant information, including equipment addressees, configuration and performance data.	
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 2
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	During change, acts systematically to respond to day-by-day operational needs and react to them, avoiding service disruptions and maintaining coherence to SLA and information security requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.

C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.

4.6. PRODUCTION SYSTEMS INTEGRATOR

MISSION

At the request of the Business Project Manager and under the guidance of the Head of IT Operations, the Production Systems Integrator integrates and releases the software or hardware solution delivered by the Applications Integrator into the production environment.

ACTIVITIES AND TASKS

The operations integrator helps into operation new applications or to deliver new versions of these applications.

Integrating software into production environments

- Initiates acceptance tests, industrialisation and release into production in coordination with the IT Project Manager.

Managing upgrades (updating released software)

- Manages changes to applications in production.
- Monitors production quality (performance, incidents) in accordance with the service contract.

Software implementation on servers

- Checks operability solutions and whether can run on the servers.
- Confirms whether releases and systems integration are possible.
- Implements remote monitoring tools where applicable.

Integration of new applications and updates

- Acts as a production specialist to support projects in certain areas of activity.
- Schedules and monitors integration work in the relevant area in relation to the research.
- Organises and implements the IT quality assurance plan.

DELIVERABLES

- Applications in service.
- Documentation on processing systems and incident recovery.

PERFORMANCE INDICATORS

- Rate of production incidents.

PROFESSIONAL BACKGROUND

4 years' higher education with 3-5 years' experience.

TRENDS AND FACTORS IN CHANGE

The proliferation of new technologies has meant that the production systems integrator needs to keep their technical know-how up to date.

Can move into roles in administration, application management or IT project manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.2. Component Integration	3	B.3. Testing	2
B.4. Solution Deployment	2	B.5. Documentation Production	2
C.2. Change Support	3	C.3. Service Delivery	2
C.4. Problem Management	3	E.3. Risk Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★	★★★	★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B.2. Component Integration	Level 3
B. BUILD Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.	Accounts for own and others actions in the integration process. Complies with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability.

B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
B. BUILD	B.4. Solution Deployment	Level 2
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Acts systematically to build or deconstruct system elements. Identifies failing components and establishes root cause failures. Provides support to less experienced colleagues.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential	Systematically analyses performance data and communicates findings to

	service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.

4.7. OPERATION CONTROLLER

MISSION

The Operation Controller continuously monitors all IT resources and their operational management.

He ensures that service level agreements and processing quality are maintained in accordance with the quality and security assurance plan.

ACTIVITIES AND TASKS

Analysis of messages received by the control unit

- Assesses incidents in the event of a problem on the network or servers, or if a user alert is received.

Monitoring

- Carries out start-up, shut-down and constant monitoring of resources in line with day-to-day work schedules.
- Sends out alerts and takes action when incidents occur.
- Initiates recovery actions or tools (manual recovery, resource reconfiguration, copying files, backup operations, etc.)

Potential alerts for higher-level intervention

- Restarts work after problem resolution.
- Inputs information into the incident database.
- Keeps steering documentation up-to-date.

Maintenance of production conditions

- Ensures that physical resources (disks, robots, automata, etc.) and logical resources (software, disk space, power, etc.) are always available.

DELIVERABLES

- Operations monitoring reports.

PERFORMANCE INDICATORS

- Compliance with service level agreements (SLAs).

PROFESSIONAL BACKGROUND

2 years' higher education in computer science.

Entry-level position offering an insight into the diversity of the IS for future development.

TRENDS AND FACTORS IN CHANGE

The virtualization of monitoring and control procedures has led to the concentration of general management systems, with a focus on server monitoring activity.

Expanded time zones as a result of the internationalization of information systems.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.5. Documentation Production	1	C.3. Service Delivery	2
C.4. Problem Management	2	C.5. Systems Management	1

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★★	★★ ★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.5. Documentation Production	Level 1
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Performs basic systems operations.

C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.
C. RUN	C.4. Problem Management	Level 2
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution.
C. RUN	C.5. Systems Management	Level 1
	Monitors and controls the IT services and their underlying physical systems and hardware. Manages the hardware, applications, networks, servers, virtual resources and other technical systems. Ensures up-to-date administration of resources, users and authentications. Manages devices in bring-your-own (BYOD) organisation, enabling user productivity and flexibility, preventing data loss, and enhancing data security.	Performs basic systems operations.

4.8. OPERATING SYSTEMS/TELECOMS NETWORK EXPERT

MISSION

The Operating Systems/Telecoms Network Expert provides advice, assistance, information, training and alerts. Can take direct action on all or part of a project that falls within their area of expertise.

He performs a technology watch and participates in the overall design and development of the technical architecture as well as in the qualification of computer platforms.

ACTIVITIES AND TASKS

Participation in research and development work

- Carries out research to specify systems according to needs.
- Involved in the selection of suppliers.

Team support

- Assists and advises on the implementation of technical solutions.
- Pinpoints causes of malfunctions and suggests corrections and alternative solutions.
- Informs teams of technical developments to the system.
- Trains teams to use new systems.

Forward planning

- performs technology watch.
- Proposes solutions to improve system performance.

Implementation and upgrades

- Is the acknowledged point of contact for experts in other fields.
- Specifies rules for the proper management of operating systems / telecom networks.
- Qualifies systems from a technical and functional standpoint.
- Checks that standards are applied (IT security, quality, etc.).
- Certifies developed components and applications.

Outside interaction

- Takes part in conferences, forums, working groups.
- Teaches and publishes.

DELIVERABLES

- Information and recommendation for systems or networks under his responsibility.

PERFORMANCE INDICATORS

- Number of recommendations adopted.
- Number of requests for assistance with projects.

PROFESSIONAL BACKGROUND

5 years' higher education with at least 5 years' experience.

TRENDS AND FACTORS IN CHANGE

Depending on the organisation, the roles of expert and administrator can sometimes be held interchangeably.

May progress to architect, CISO or project manager roles.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.5. Architecture Design	3	A.7. Technology Trend Monitoring	3
B.3. Testing	4	B.4. Solution Deployment	3
B.5. Documentation Production	3	D.3. Education and Training Provision	2
E.3. Risk Management	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★	★	★★	★★★	★★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.5. Architecture Design	Level 3
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Exploits specialist knowledge to define relevant ICT technology and specifications to be deployed in the construction of multiple ICT projects, applications or infrastructure improvements.
A. PLAN	A.7. Technology Trend Monitoring	Level 3
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Detects signs of change to provide supervision and analysis of current and trend-setting ICT technological developments. Establishes relationships with relevant communities.
B. BUILD	B.3. Testing	Level 4
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits wide ranging specialist knowledge to create a process for the entire testing activity, including the establishment of internal standard of practices. Provides expert guidance and advice to the testing team.
B. BUILD	B.4. Solution Deployment	Level 3
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational	Accounts for own and others actions for solution provision and initiates comprehensive communication with stakeholders. Exploits specialist knowledge to influence solution

	solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	construction providing advice and guidance.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
D. ENABLE	D.3. Education and Training Provision	Level 2
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Organises the identification of training needs; collates organisation requirements, identifies, selects and prepares schedule of training interventions.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.

4.9. TECHNICAL ARCHITECT

MISSION

The Technical Architect defines all or part of the information system's technical architecture.

He ensures that the entire IT system is consistent and sustainable by making full use of options available within the industry as part of the company's functional architecture plan.

ACTIVITIES AND TASKS

Design

- Defines the technical architecture of the information system(s).
- Checks and analyses the technical impact of new solutions and whether they fit in with existing architecture.

Administration

- Defines and manages the IS reference framework in terms of tools, procedures, standards, vocabulary, security, etc.
- Defines and manages technical standards.

Recommendations

- For all new projects and technologies, takes part in assessing the impact on existing or planned infrastructure.
- Recommends technical solutions to ensure this change is consistent.

Council

- Advises Functional Architects on using and implementing IT and telecommunication tools.
- Organises the selection of technological intelligence.

Communications

- Works as a team with the functional architect.
- Promotes technical architecture to IT staff.

DELIVERABLES

- Definition of operational technical architecture.
- Architecture reference framework (technical map of information system(s)).
- Information and recommendation memos.

PERFORMANCE INDICATORS

- Measurement of the agility and responsiveness of the technical infrastructure to a given change (lead time and cost of a technical change).

PROFESSIONAL BACKGROUND

5 years' higher education in multidisciplinary engineering with at least 5 years' experience. (Operations, development, project management).

TRENDS AND FACTORS IN CHANGE

This role is growing due to the greater number of use cases that require increasingly stressed and complex infrastructures. This increased complexity and the speed of system changes, both technical and functional, will require knowing how to integrate outside elements (SaaS, cloud computing, software suites, convergence platforms, etc.) into the information system. They will also need to control the risk posed by a loss of IS integrity in a context of faster changes in techniques, competition, and organisation.

Can move into roles as CISO, functional architect and project manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.5. Architecture Design	4	A.7. Technology Trend Monitoring	4
A.9. Innovating	4	B.5. Documentation Production	3
B.6. ICT Systems Engineering	4	C.2. Change Support	3
C.4. Problem Management	3	D.1. Information Security Strategy Development	4
E.5. Process Improvement	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★★	★★★	★★★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.5. Architecture Design	Level 4
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Acts with wide ranging accountability to define the strategy to implement ICT technology compliant with business need. Takes account of the current technology platform, obsolescent equipment and latest technological innovations.
A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
B. BUILD	B.6. ICT Systems Engineering	Level 4
	Builds the required networks/network connections, components and interfaces. Follows a systematic methodology to analyse and engineer infrastructure platforms or solutions for cloud, IoT and other technologies to meet business and technical requirements. Builds system structure models and conducts system behaviour to integrate physical devices, networks, hardware and/or software components. Ensures information security, data protection and energy efficiency. Performs tests to ensure requirements are met.	Handles complexity by developing standard procedures and architectures in support of cohesive product development. Establishes a set of system requirements that will guide the design of the digital infrastructure.

		Identifies which system requirements and which functions should be allocated to which elements of the system and/or layers of the infrastructure.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.

D. ENABLE	D.1. Information Security Strategy Development	Level 4
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Exploits depth of expertise and leverages external standards and best practices.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.

5. SUPPORT AND ASSISTANCE

This category covers user-facing roles that provide assistance and support.

It covers the following roles:

5.1. USER LIAISON OFFICER.....	162
5.2. HELP DESK TECHNICIAN	166
5.3. QUALITY/TOOLS AND METHODS EXPERT	170

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
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- There is also a **link to go back to the first page of the profile**.

5.1. USER LIAISON OFFICER

MISSION

The User Liaison Officer acts as a contact for business units to offer end users support in using software, both during releases and on an ongoing bases, helping to overcome any difficulties they may encounter. Informs project participants of change requests and bugs.

At the junction of the IT department (IT project manager) and the client (management, business project management, users), he works directly with the users. Rather specialised in a business unit or a process, helping end users to make the most of their software tools. He helps manage change.

ACTIVITIES AND TASKS

Anticipation and change management

When installing new office or business software:

- Helps plan and carry out training.
- Assists users.
- Capitalises on feedback.

End-user support and advice

On an ongoing basis:

- Advises users.
- Identifies users in difficulty.
- Identifies and passes on desired functional improvements.
- Offers frontline support during incidents, drawing on the necessary resources (internal or external).

Verifying application quality and performance within his scope

- Inspects and monitors files before they are forwarded to the business unit.
- Provides quality and consistent responses to users.
- Carries out qualitative and quantitative analyses of actions taken within his scope.

DELIVERABLES

- Software upgrade proposals.
- Training suggestions.

PERFORMANCE INDICATORS

- Rate of incidents handled within the deadlines.
- Level of user satisfaction with the support provided.

PROFESSIONAL BACKGROUND

At least 2 years' higher education, either an experienced user interested in technology or a developer looking for distance from these technologies in a move towards how they are used.

TRENDS AND FACTORS IN CHANGE

Role often exists or well identified for "business" software, often more informal for "office" software.

ITIL-type certifications increasingly allow this role to intervene in complex issues (moving from incident management to problem management).

Can move into roles as platform integrator or application manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.4. Solution Deployment	3	C.1. User Support	2
C.2. Change Support	3	C.3. Service Delivery	2
D.3. Education and Training Provision	2	D.10. Information and Knowledge Management	3
D.11. Needs Identification	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★	★	★	★★★	★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.4. Solution Deployment	Level 3
	Following predefined general standards of practice carries out planned necessary interventions to implement solutions and services, including installing, securing, upgrading or decommissioning. Configures hardware, software or network to ensure interoperability of system components and debugs any resultant faults, incompatibilities or losses (damage). Engages additional specialist resources if required, such as third-party network providers. Formally hands over fully operational solution to user ICT management, and completes documentation recording all relevant information, including equipment addressees, configuration and performance data.	Accounts for own and others actions for solution provision and initiates comprehensive communication with stakeholders. Exploits specialist knowledge to influence solution construction providing advice and guidance.
C. RUN	C.1. User Support	Level 2
	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents. Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 3
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	Ensures the integrity of the system by controlling the application of functional updates, software or hardware additions and maintenance activities. Complies with budget requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to

	tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	improve service reliability. Tracks reliability data against SLA.
D. ENABLE	D.3. Education and Training Provision	Level 2
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Organises the identification of training needs; collates organisation requirements, identifies, selects and prepares schedule of training interventions.
D. ENABLE	D.10. Information and Knowledge Management	Level 3
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Analyses business processes and associated information requirements to enable effective information sharing. Supports the target community to critically assess knowledge and information.
D. ENABLE	D.11. Needs Identification	Level 3
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Establishes relationships with customers and helps them clarify their needs.

5.2. HELP DESK TECHNICIAN

MISSION

The Help Desk Technician ensures that incidents (failures to deliver usual service) or problems flagged by users are recorded. Deals with these incidents by assigning sufficient resources to provide a solution.

He provides frontline support to resolve incidents which impede quality or continuity of service.

Unlike the User Liaison Officers, he deals with all kinds of incidents and is not always present among users.

ACTIVITIES AND TASKS

Reception of user queries following malfunctions

- Takes calls from users.
- Records reported incidents or operational anomalies.
- Produces a preliminary diagnosis and definition.

Resolution or initiation of corresponding support actions

- Deals first-level incidents or anomalies: diagnosis, identification, information, resolution, formulation.
- Where necessary, transfers user calls to the appropriate units.
- Alerts superiors to any "abnormal" incident.

Incident monitoring

- Follows up with user calls.
- Operates the incident database: reminders, consolidation, trend analysis.
- Sends requests for substantive preventive action.

DELIVERABLES

- Incidents recorded in the incident database.
- Remedial actions recorded in the database.

PERFORMANCE INDICATORS

- Rate of frontline incidents solved within the allotted timeframe.
- Number of adopted recommendations for preventive actions.

PROFESSIONAL BACKGROUND

2 years' higher education. Can be a first position.

TRENDS AND FACTORS IN CHANGE

Combination of multi-service assistance roles (IT, real-estate logistics, etc.) and increasingly attached to general services.

May move into a user liaison officer role.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

C.1. User Support	2	C.2. Change Support	2
C.3. Service Delivery	2	C.4. Problem Management	2
C.5. Systems Management	2	E.4. Relationship Management	3
E.8. Information Security Management	2		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★★	★	★★★	★★★	★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

	C.1. User Support	Level 2
C. RUN	Responds to user requests and issues, recording relevant information. Assures resolution or escalates incidents and optimises system performance in accordance with predefined service level agreements (SLAs). Understands how to monitor solution outcome and resultant customer satisfaction.	Systematically interprets user problems and identifies solutions and possible side effects. Uses experience to address user problems and interrogates database for potential solutions. Escalates complex or unresolved incidents.

		Records and tracks issues from outset to conclusion.
C. RUN	C.2. Change Support	Level 2
	Evaluates, implements and guides the evolution of an ICT solution evaluating changes and their impact. Ensures efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Minimises service disruption as a consequence of changes and adheres to defined service level agreement (SLA). Ensures consideration and compliance with information security procedures.	During change, acts systematically to respond to day by day operational needs and react to them, avoiding service disruptions and maintaining coherence to SLA and information security requirements.
C. RUN	C.3. Service Delivery	Level 2
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Systematically analyses performance data and communicates findings to senior experts. Escalates potential service level failures and security risks, recommends actions to improve service reliability. Tracks reliability data against SLA.
C. RUN	C.4. Problem Management	Level 2
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution.
C. RUN	C.5. Systems Management	Level 2
	Monitors and controls the IT services and their underlying physical systems and hardware. Manages the hardware, applications, networks, servers, virtual resources and other technical systems. Ensures up-to-date administration of resources, users and authentications. Manages devices in bring-your-own (BYOD) organisation, enabling user productivity and flexibility, preventing data loss, and enhancing data security.	Systematically manages day by day operational needs across the IT system, avoiding service disruptions according to service and information security strategy.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate

	needs, concerns or complaints are understood and addressed in accordance with organisational policy.	awareness of the benefits of a multidisciplinary approach.
	E.8. Information Security Management	Level 2
E. MANAGE	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.

5.3. QUALITY/TOOLS AND METHODS EXPERT

MISSION

The Quality/Tools and Methods Expert provides assurances for his field of expertise, and can take direct action on some or all of a project. As an expert in his field, provides advice, support, information, training and alerts regarding risks.

He monitors technological developments in his field and proposes any changes that are considered necessary.

He is the acknowledged representative for external experts (suppliers, partners, etc.).

ACTIVITIES AND TASKS

Advises and supports teams

- Offers advice and assistance in selecting and using methods.
- Provides information on changes and developments.
- Trains in new technologies and systems.
- Participates in studies and development & conducts ad hoc studies.

Implementation of changes and certifications

- Defines and manages standards, methods, tools and reference frameworks.
- Implements and checks the application of standards, methods and tools.
- Certifies developed components and applications.

Outside interaction

- Performs technology watch and prospective assessment
- Takes part in conferences, forums, working groups.
- Teaches, publishes.
-

DELIVERABLES

- Expert reports.
- Reference frameworks for area of expertise.

PERFORMANCE INDICATORS

- Number of requests for assistance with projects.

PROFESSIONAL BACKGROUND

5 years' higher education with at least 4-5 years' of experience.

TRENDS AND FACTORS IN CHANGE

This role is expanding with needs linked into internal control and risk management.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	A.9. Innovating	4
B.5. Documentation Production	3	D.1. Information Security Strategy Development	4
D.2. ICT Quality Strategy Development	4	D.3. Education and Training Provision	2
D.10. Information and Knowledge Management	4	E.3. Risk Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★★★	★	★★	★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
D. ENABLE	D.1. Information Security Strategy Development	Level 4
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Exploits depth of expertise and leverages external standards and best practices.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.
D. ENABLE	D.3. Education and Training Provision	Level 2
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a	Organises the identification of training needs; collates organisation requirements, identifies, selects and

	feedback process and implements continuous improvement. Adapts training plans to address changing demand.	prepares schedule of training interventions.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.

6. SECURITY

This category includes jobs related to the definition, expertise, audit, implementation and control of information system security and cybersecurity.

It covers the following roles:

6.1. CYBERSECURITY EXPERT	175
6.2. IS SECURITY (ISS) AUDITOR.....	180
6.3. CHIEF INFORMATION SECURITY OFFICER (CISO)	184

Navigation

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6.1. CYBERSECURITY EXPERT

MISSION

The Cybersecurity Expert specifies and implements technical security systems for all or part of the projects for which they are responsible, in accordance with IT and information security policy and legal requirements.

As an expert in his field, he fulfils a monitoring role (especially technological), and provides advice, support, information, training and alerts regarding risks..

ACTIVITIES AND TASKS

Strategy

- Contributes to the drafting of IS security policies.
- Participates in the drafting and monitoring of IT security standards.
- Identifies, proposes and implements the technical tools and solutions required for the application of the ISSP (Information Systems Security Policy).

Implementation

- Produces and maintains a map of threats.
- Identifies activities and implements IS protection tools and techniques to fight against cybercrime.
- Identifies and industrialises the treatment of security flaws.
- Analyses incident reports and alerts.
- They may also be required to verify the following:
 - BCP (Business Continuity Plan).
 - DRP (Disaster Recovery Plan).
 - ITCP (IT Continuity Plan).
 - ITRP (IT Recovery Plan).
 - DLP (Data Loss Prevention - measures to protect against data loss/theft).

Advices and supports teams

- Supports, advises and informs project teams in selecting, using and changing security methods, solutions and standards. Also helps to frame the security aspect of projects.
- Trains users and technical and operational staff in new technologies and systems, ensuring that security measures are properly applied.
- Participates in studies and development & conducts ad hoc studies.

Implementation of changes and certifications

- Defines, implements and verifies the application of security standards, methods, tools and guidelines.

- Proposes corrective actions to remedy IT security malfunctions.
- Certifies developed applications and components with regard to regulations (e.g. GDPR for data protection).

Outside interaction and technology monitoring

- Performs technology watch in security and cybersecurity.
- Participates in conferences, forums, and study groups to understand how to optimise security rules and scenarios to ensure IT security.
- Is the agreed point of contact for external experts (suppliers, partners, etc.).

DELIVERABLES

- Expert reports.
- Threat maps.
- Reference frameworks for IT security.

PERFORMANCE INDICATORS

- Robustness: system unavailability rate.
- Trend in attacks by severity level.
- Number of flaws detected.
- Percentage of attacks thwarted and time between attack and response.
- Measurement of the impact caused by an attack: system unavailability rate.

PROFESSIONAL BACKGROUND

2-3 years' technical higher education with 10 years' experience, or 5 years' higher education, with 4-5 years' experience. For this type of position, IT (cyber) security certifications are a plus.

TRENDS AND FACTORS IN CHANGE

This role is expanding with needs related to internal control, risk managing and cybersecurity prevention.

The IS Security Expert profile may, if necessary, be complemented by a speciality such as:

- Defensive information technology (DIT),
- Cybercrime prevention and management,
- Cybercrisis management.
- Penetration tests,
- Cryptology,
- Vulnerabilities & malicious code,

- Digital investigation & intrusion detection,
- Analysis in intrusion detection and incident handling,
- Direction of SOC.
- etc.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	A.9. Innovating	5
B.5. Documentation Production	3	C.4. Problem Management	3
D.10. Information and Knowledge Management	4	D.11. Needs Identification	4
E.3. Risk Management	3	E.5. Process Improvement	3
E.8. Information Security Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★ ★★	★★ ★★	★★ ★★★	★★ ★★★	★ ★★	★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.9. Innovating	Level 5
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Provides strategic leadership for the introduction of new concepts. Guides

		innovation approaches and leads the cultural change to innovation.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands	Integrates and synthesizes information from internal and external sources to

	appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	provide useful knowledge for the organisation.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. MANAGE	E.8. Information Security Management	Level 3
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Evaluates security management measures and indicators and decides if compliant to information security policy. Investigates and instigates remedial measures to address any security breaches.

6.2. IS SECURITY (ISS) AUDITOR

MISSION

The Is Security Auditor carries out security inspections and audits of the information systems to assess vulnerabilities and identify the measures to take to strengthen security.

He can perform different levels of audits depending on their scope of activity (penetration tests, code audit, configuration review, etc.).

He identifies vulnerabilities and proposes corrective actions.

He verifies technical, operational, regulatory and legal compliance.

ACTIVITIES AND TASKS

Risk analysis

- Manages the carrying out local inspections (interviews, audits, penetration tests, architecture analyses).
- Produces safety and compliance dashboards.

Research and recommendations

- Produces reports incorporating an analysis of the vulnerabilities encountered and technical and organisational recommendations.
- Drafts data sheets on technical or more general ISS areas.

Tool design

- Develops tools used for audits.
- Identifies new ways to detect flaws.

Audit and control

- Checks that procedures are followed correctly.
- Verify organisational security, the BRP/BCP and DLP (Data Loss Prevention) plans, compliance with the requirements of a standard (e.g., PCI DSS) or a reference framework.
- Performs configuration audits and code audits.

Intelligence

- Actively carries out targeted intelligence to learn of new threats, technologies, standards and regulatory frameworks.

DELIVERABLES

- Audit reports.
- Makes recommendations following audit results.

PERFORMANCE INDICATORS

- Rate of implementation of recommendations.
- Follow-up of non-conformities (progress, closure of incidents, etc.).

PROFESSIONAL BACKGROUND

5 years' higher education, ISS specialisation. Certification (ISO 27001, etc.) is a plus.

TRENDS AND FACTORS IN CHANGE

The implementation of new regulatory requirements for compliance with standards and practices and regular information system security audits will create a significant requirement for specialised auditors.

Moreover, the increase in the threat further emphasises the central role that IS protection must play.

In addition to this specific role, this function can also be found in other roles like CISO and CERTs, or in other departments, depending on the organisation. It may or may not be a part of IT.

While focused on "cyber-protection", it can evolve into the "cyber-defence" area.

Those in this role can move into a CISO or ISS expert role.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	B.3. Testing	3
B.5. Documentation Production	2	D.1. Information Security Strategy Development	4
E.3. Risk Management	3	E.5. Process Improvement	3
E.8. Information Security Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★	★★	★★★	★★★	★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
B. BUILD	B.3. Testing	Level 3
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Exploits specialist knowledge to supervise complex testing programs. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.

D. ENABLE	D.1. Information Security Strategy Development	Level 4
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Exploits depth of expertise and leverages external standards and best practices.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. MANAGE	E.8. Information Security Management	Level 3
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Evaluates security management measures and indicators and decides if compliant to information security policy. Investigates and instigates remedial measures to address any security breaches.

6.3. CHIEF INFORMATION SECURITY OFFICER (CISO)

MISSION

The main mission of the Chief Information Security Office is to ensure that the IS security policy is properly applied.

He also provides advice, assistance, information, training and alerts and recommends global actions to take on the information system within their scope to ensure the IS's integrity and continuity.

ACTIVITIES AND TASKS

Raising awareness and providing training on security issues

- Informs operational and business unit management and raises awareness.
- Promotes the IT security charter to all users.

Protection

- Applies the IS security policy:
 - Defines security objectives and requirements regarding the company's IS within their scope.
 - Defines and implements IS security procedures within their scope.
- May propose a Security Assurance Plan (SAP) to describe the security arrangements for a service which may be annexed to a contract.
- Assesses resources and makes recommendations:
 - Makes a technical validation of security tools.
 - Defines security norms and standards.
 - Defines and coordinates continuous improvement projects on security processes and tools.
 - Ensures that security is including in the project definitions within their scope. May lead the corresponding bodies.
 - Anticipates and proposes changes within their area of responsibility and capitalises on all feedback (including security incidents, etc.).
- Audits and controls:
 - Plans and manages audits (compliance, technical, regulatory, etc.).
 - Suggest recommendations and a risk reduction plan.
 - Checks to ensure that teams apply the IS security principles and rules.
 - Audits the vulnerability of the company's IS within their scope.
 - Alerts crisis units in the event of IS security incidents.
- Intelligence.
 - Follows up on regulatory and technical developments in their field.

- Looks out for any changes needed to ensure the IS software and hardware remains secure.

Risk analysis

- Assesses risks, threats and consequences.
- Studies security resources and how to use them effectively.
- Establishes the prevention plan.
- Takes technical and/or organisational measures to monitor and assess security and react to attacks.

Resilience

- Takes immediate protective measures in the event of an incident.
- Prepares and implements an IT continuity plan, as part of the Business Continuity Plan (BCP).
- Prepares and implements an IT recovery plan, as part of the Business Recovery Plan (BRP).

Remediation

- Carries out the necessary analyses to understand a problem.
- Implements the necessary measures to solve a problem.

DELIVERABLES

- Results of internal security audits.
- Results of audits required by legislation.
- IS security reporting and dashboards.
- Incident logs.

PERFORMANCE INDICATORS

- Number of security checks.
- Measurements of user take-up of the IS security policy: number of people trained in the security policy.

PROFESSIONAL BACKGROUND

5 years' engineering or equivalent higher education in computer science and network security with at least 5 years' experience in IT, security or telecoms.

Possible career moves for a security expert.

TRENDS AND FACTORS IN CHANGE

Can move into a role as IT security or Cybersecurity Director or as an Enterprise Architect. Can also move into a role as a Business Unit Manager.

Understands and considers security as part of Agile projects.

Works very closely with the company's risk management and quality and compliance departments.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	A.9. Innovating	4
D.1. Information Security Strategy Development	5	D.9. Personnel Development	4
D.10. Information and Knowledge Management	4	E.3. Risk Management	4
E.4. Relationship Management	4	E.5. Process Improvement	4
E.8. Information Security Management	4	E.9. Information Systems Governance	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★★ ★★	★★ ★★★	★★ ★★★	★ ★★	★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.

D. ENABLE	D.1. Information Security Strategy Development	Level 5
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Provides strategic leadership to embed information security into the culture of the organisation.
D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E. MANAGE	E.3. Risk Management	Level 4
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Provides leadership to define and make applicable a policy for risk management by considering all the possible constraints, including technical, economic and political issues. Delegates assignments.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of

	needs, concerns or complaints are understood and addressed in accordance with organisational policy.	a multidisciplinary approach.
E. MANAGE	E.5. Process Improvement	Level 4
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Provides leadership and authorises implementation of innovations and improvements that will enhance competitiveness or efficiency. Demonstrates to senior management the business advantage of potential changes.
E. MANAGE	E.8. Information Security Management	Level 4
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Provides leadership for the integrity, confidentiality and availability of data stored on information systems and complies with all legal requirements.
E. MANAGE	E.9. Information Systems Governance	Level 4
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Provides leadership for IS governance strategy by communicating, propagating and controlling relevant processes across the entire ICT infrastructure.

7. OPERATIONAL MANAGEMENT

This category includes jobs with hierarchical responsibility in terms of human resources, budget, decision or scope.

It covers the following roles:

7.1. CHIEF INFORMATION OFFICER (CIO)	190
7.2. IT ENTITY MANAGER	195
7.3. HEAD OF TELECOMS	200
7.4. HEAD OF OPERATIONS	205
7.5. HEAD OF RESEARCH & DEVELOPMENT	210

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

7.1. CHIEF INFORMATION OFFICER (CIO)

MISSION

The Chief Information Officer ensures the information system's alignment with company strategy, and is responsible for the design, implementation and operational maintenance of the information system, along with its security and quality. To this end, he is responsible for marketing the IS and the IT Department, both within the company and externally.

He sets and approves the major changes to the company's IT. He anticipates the necessary changes according to the company's strategy and control costs.

He determines investments to make the desired technological leaps. He ensures the information system is effective and manages risks.

ACTIVITIES AND TASKS

Definition, supervision and implementation of IT policy

- Sets the company's strategic direction for IT.
- Advises and defines the company's IT policy.
- Monitors all IT activities.
- Allocates the IT department's resources (research, resources, budget, investments, etc.).

Promotes quality in relationships with internal partners

- Organises, leads and monitors consultations and exchanges between general management and the information system managers.
- Ensures the quality of the customer-supplier relationship.
- Defines and ensures compliance with service contracts.

Defines and implements a "make or buy" policy

- Negotiates, controls and monitors sub-contracting agreements and their implementation.
- Analyses the market, evaluates subcontracting offers and makes proposals to general management.
- Analyses performance and monitors sub-contractor quality.

Internal communications, motivation and coordination of IT department staff

- Defines and supervises the general management and organisation of the IT department.
- Manages and arbitrates among multidisciplinary projects involving geographically dispersed participants.
- Implements change management actions for IT staff.

Supervision of relationships with external service providers and partners

- Manages relationships with IT partners.

- Monitors relations with external partner organisations.

Ensures IT security

- Defines and implements the IT risk management policy.
- Ensures the reliability, confidentiality and integrity of information systems.

DELIVERABLES

- The company's information system.

PERFORMANCE INDICATORS

- Project ROI.
- Cost-effectiveness of the information system.

PROFESSIONAL BACKGROUND

5 years' of higher education, high-level manager.

Management of large structures in a national and international context.

IT or management of large, company-wide projects.

TRENDS AND FACTORS IN CHANGE

Very dependent on company strategies and organisational model.

Definition and implementation of a "Make or Buy" policy, and the impact of that policy on strategic workforce planning in the IT department.

Taking into account the agility of the information system and the increasing demands of users..

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	5	A.2. Service Level Management	4
A.3. Business Plan Development	5	A.8. Sustainability Management	4
A.9. Innovating	5	D.11. Needs Identification	5
E.4. Relationship Management	4	E.7. Business Change Management	5
E.9. Information Systems Governance	5		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★★ ★★	★★ ★★★	★★ ★★★	★★ ★★★	★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 5
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides IS strategic leadership to reach consensus and commitment from the management team of the enterprise.
A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
A. PLAN	A.3. Business Plan Development	Level 5
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as	Applies strategic thinking and organisational

	return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	leadership to exploit the capability of Information Technology to improve or transform the business.
A. PLAN	A.8. Sustainability Management	Level 4
	Estimates the impact of ICT solutions in terms of eco responsibilities, including energy consumption, waste treatment and environmental policy. Analyses the prospects and impacts in social and financial sustainability of ICT projects, developments, services and operations. Advises business and ICT stakeholders on sustainable options that are consistent with the business strategy. Applies an ICT purchasing and sales policy which fulfills eco-responsibilities.	Defines the strategy of sustainable IS development and digital services. Provides input into the business strategy to ensure that sustainability is considered and incorporated.
A. PLAN	A.9. Innovating	Level 5
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Provides strategic leadership for the introduction of new concepts. Guides innovation approaches and leads the cultural change to innovation.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.

E. MANAGE	E.7. Business Change Management	Level 5
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Motivates and inspires the organisation to champion change and optimise the benefits.
E. MANAGE	E.9. Information Systems Governance	Level 5
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Defines and aligns the IS governance strategy incorporating it into the organisation's corporate governance strategy. Adapts the IS governance strategy to take into account new significant events arising from legal, economic, political, business, technological or environmental issues.

7.2. IT ENTITY MANAGER

MISSION

The IT Entity Manager directs, coordinates and manages an IT entity to meet objectives set within the context of the strategy defined for that entity.

He suggests major developments to the IS within the scope of the strategy set by the CIO.

He plays a role in defining and implementing a "Make or Buy" policy.

He is responsible for ensuring that IT services are produced to the required quality and security levels, at optimum cost.

ACTIVITIES AND TASKS

Management, coordination

- Coordinates, manages and leads the staff in his unit.
- Distributes the workload, by volume and schedule, according to the forecasted evolution of the workforce and skills of the entity.
- Directs, organises, schedules and monitors the activities of the entity.

Scheduling, organisation, management

- Produces and monitors the workload schedule.
- Negotiates the entity's objectives and resources.
- Leads the financial management (recurrent and project) while complying with budgetary procedures.
- Ensures projects and applications are consistent within their scope of responsibility with those of other areas.
- Establishes and monitors dashboards.
- Analyses and proposes solutions to continuously improve their entity's productivity.

Quality, security

- Manages the implementation and compliance with IT quality assurance and security procedures and processes.

Communications

- Communicates with the entity's client business units and business project management.
- Communicates within the entity (corporate communication, communication on IT developments, etc.).

DELIVERABLES

- A set of services that respects deadlines, quality, and customer satisfaction criteria (users inside or outside the company).
- Competencies within the entity meet the expected level of service.

PERFORMANCE INDICATORS

- Compliance with deadlines and budgets.
- Growth in the entity's competences.

PROFESSIONAL BACKGROUND

5 years' higher education with 5-10 years' experience in IT or in the business unit. And at least one experience in team management.

TRENDS AND FACTORS IN CHANGE

This job requires you to be as close as possible to developments, expectations and business unit issues and to anticipate the impact of technological developments.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	4	A.9. Innovating	4
D.9. Personnel Development	4	D.10. Information and Knowledge Management	4
E.2. Project and Portfolio Management	4	E.3. Risk Management	3
E.4. Relationship Management	3	E.6. ICT Quality Management	4
E.7. Business Change Management	4	E.9. Information Systems Governance	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★	★★★	★★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E.:	E.2. Project and Portfolio Management	Level 4
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies.	Manages complex projects or programmes, including interaction with others.

	Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Influences project strategy by proposing new or alternative solutions and balancing effectiveness and efficiency. Is empowered to revise rules and choose standards. Takes overall responsibility for project outcomes, including finance and resource management and works beyond project boundary.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.
E. MANAGE	E.6. ICT Quality Management	Level 4
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Assesses and estimates the degree to which quality requirements have been met and provides leadership for quality policy implementation. Provides cross functional leadership for setting and exceeding quality standards.
E. MANAGE	E.7. Business Change Management	Level 4
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and	Provides leadership to plan, manage and implement significant ICT led business change.

	process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	
	E.9. Information Systems Governance	Level 4
E. MANAGE	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Provides leadership for IS governance strategy by communicating, propagating and controlling relevant processes across the entire ICT infrastructure.

7.3. HEAD OF TELECOMS

MISSION

The head of Telecoms defines and implements the company's network and telecoms strategy within the framework of the IT master plan.

His scope covers data and voice services.

He implements the company's security policy in their field.

ACTIVITIES AND TASKS

Management, coordination

- Coordinates, manages and leads the staff in his unit.
- Distributes the workload, by volume and schedule, according to the forecasted evolution of the workforce and competences of the entity.
- Directs, organises, schedules and monitors the activities of the entity.

Scheduling, organisation, management

- Produces and monitors the workload schedule.
- Negotiates the entity's objectives and resources.
- Leads the financial management (recurrent and project) while complying with budgetary procedures.
- Ensures projects and applications are consistent within their scope of responsibility with those of other areas.
- Establishes and monitors dashboards.
- Analyses and proposes solutions to continuously improve their entity's productivity.

Definition and design of telecoms architecture

- Defines telecoms and networks architecture requirements and choices.
- Approves decisions and their compatibility with the IT architecture and technological standards of the group and its partners.

Service continuity

- Is responsible for the operation and administration of networks and value-added services.
- Establishes a dashboard on network service quality.
- Provides support and assistance in using voice and data communication services.
- Is in charge of applying security policies and making use of security logs.

Monitoring, forecasting and consulting

- Advises and assists the project teams of the IT department or the operational divisions.
- Directs and organises technology watch.

- Tracks new offerings and new entrants.
- Monitors pricing regulations.

Tendering and purchasing of telecom services

- Defines the specifications (scope, services, etc.).
- Carries out the evaluation of tenders.
- Selects and monitors equipment, services, operators and external parties.
- Is responsible for purchasing, negotiation and contracting with the purchasing, legal and finance departments.

Business/IT project management relations

- Is in charge of defining requirements.
- Sets and guarantees the service level of voice and data networks.
- Is responsible for the general coordination and consistency of telecoms and networks projects.

Audits and management control

- Is in charge of optimising and controlling telecoms costs.
- Controls operators' quality of service.
- Produces dashboards.
- Inspects and approves the telecoms and networks budget.

DELIVERABLES

- An operational and efficient network and telecoms architecture.

PERFORMANCE INDICATORS

- User satisfaction rates, especially in mobile or remote working situations.
- Number of incidents reported.

PROFESSIONAL BACKGROUND

5 years' higher education with 4-5 years' experience.

TRENDS AND FACTORS IN CHANGE

They face a number of challenges:

- Economic: competition and solution lead-times.
- Technical (including security) and technological (5G, Wi-Fi 6, etc.).
- Changing roles in a fast-moving technological environment.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	4	A.5. Architecture Design	3
A.7. Technology Trend Monitoring	4	A.9. Innovating	4
C.3. Service Delivery	3	D.9. Personnel Development	4
D.10. Information and Knowledge Management	4	E.2. Project and Portfolio Management	4
E.4. Relationship Management	4	E.7. Business Change Management	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★	★★★	★★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
A. PLAN	A.5. Architecture Design	Level 3
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Exploits specialist knowledge to define relevant ICT technology and specifications to be deployed in the construction of multiple ICT projects, applications or infrastructure improvements.

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
C. RUN	C.3. Service Delivery	Level 3
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Plans the schedule of operational tasks. Manages costs and budget according to the internal procedures and external constraints. Identifies the optimum number of people required to resource the operational management of the IS infrastructure.
D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.

E. MANAGE	E.2. Project and Portfolio Management	Level 4
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Manages complex projects or programmes, including interaction with others. Influences project strategy by proposing new or alternative solutions and balancing effectiveness and efficiency. Is empowered to revise rules and choose standards. Takes overall responsibility for project outcomes, including finance and resource management and works beyond project boundary.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.7. Business Change Management	Level 4
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Provides leadership to plan, manage and implement significant ICT led business change.

7.4. HEAD OF OPERATIONS

MISSION

The Head of operation manages all the operations and production resources of his entity's activity; He is responsible for the level of service quality and safety provided in accordance with users' expectations.

He leads and coordinates the activities of the various sectors of an operations centre to ensure production units operate in an optimal manner (scheduling, organisation, deadlines, standards, etc.).

ACTIVITIES AND TASKS

Management, coordination

- Coordinates, manages and leads the staff in their unit.
- Distributes the workload, by volume and schedule, according to the forecasted evolution of the workforce and competences of the entity.
- Directs, organises, schedules and monitors the activities of the entity.

Scheduling, organisation, management

- Produces and monitors the workload schedule.
- Negotiates the entity's objectives and resources.
- Leads the financial management (recurrent and project) while complying with budgetary procedures.
- Ensures projects and applications are consistent within their scope of responsibility with those of other areas.
- Establishes and monitors dashboards.
- Analyses and proposes solutions to continuously improve their entity's productivity.

IT production, maintenance

- Supervises the entire production process: steering, system engineering and operations. Also maintenance of hardware, operating software and basic software, and optimises IT resources.

Quality, security

- Checks the reliability of the system, the security of the data; if necessary, defines contingency plans.
- Implements emergency and safeguard plans.
- Coordinates computer processing in the best conditions of quality, deadlines and costs.

Communications

- Organises information in the event of disruption, disseminates the information needed to fulfil this role.

Resource management

- Makes proposals from a technical, economic and budgetary point of view, to:
- Ensure that the means of production are maintained at an adequate technical level.
- Anticipate technological developments and how they will impact the size of the production environment (e.g. integration of new equipment, fleet management).
- Monitors service contracts.

DELIVERABLES

- An operational and efficient production IT system.

PERFORMANCE INDICATORS

- User satisfaction rate (functional compliance).
- Number of incidents reported.

PROFESSIONAL BACKGROUND

5 years' higher education with 5-10 years of experience in the IT field.

TRENDS AND FACTORS IN CHANGE

This role must take into account the increasing demands of the business units in the customer-supplier relationship (service contracts).

Industrialisation of IT operations (increasingly fine-tuned integration into process-type approaches).

Anticipation of the impact of technological developments (SaaS, cloud computing, etc.).

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	4	C.3. Service Delivery	3
D.9. Personnel Development	4	D.10. Information and Knowledge Management	4
E.3. Risk Management	3	E.4. Relationship Management	4
E.6. ICT Quality Management	3	E.8. Information Security Management	3
E.9. Information Systems Governance	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★ ★★	★★ ★★	★★ ★★★	★★ ★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
C. RUN	C.3. Service Delivery	Level 3
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Plans the schedule of operational tasks. Manages costs and budget according to the internal procedures and external constraints. Identifies the optimum number of people required to resource the operational management of the IS infrastructure.

D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.

E. MANAGE	E.8. Information Security Management	Level 3
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Evaluates security management measures and indicators and decides if compliant to information security policy. Investigates and instigates remedial measures to address any security breaches.
E. MANAGE	E.9. Information Systems Governance	Level 4
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Provides leadership for IS governance strategy by communicating, propagating and controlling relevant processes across the entire ICT infrastructure.

7.5. HEAD OF RESEARCH & DEVELOPMENT

MISSION

The head of Research & development leads research and development activities that contribute to the evolution and maintenance of the IS.

He works primarily in relation to the company's business processes.

ACTIVITIES AND TASKS

Management, coordination

- Coordinates, manages and leads the staff in his unit.
- Distributes the workload, by volume and schedule, according to the forecasted evolution of the workforce and skills of the entity.
- Directs, organises, schedules and monitors the activities of the entity.

Scheduling, organisation, management

- Produces and monitors the workload schedule.
- Negotiates the entity's objectives and resources.
- Leads the financial management (recurrent and project) while complying with budgetary procedures.
- Ensures projects and applications are consistent within his scope of responsibility with those of other areas.
- Establishes and monitors dashboards.
- Analyses and proposes solutions to continuously improve his entity's productivity.

Integration and automation of business processes

- Conducts research and development work for all new company projects (not to be confused with the integration phase).
- Proposes functional, technical and organisational initiatives to optimise the business processes of user entities or structures.
- Defines service level agreements (SLAs) associated with the business processes that commit the IT department to the business units.

IS strategy

- Participates in decisions related to IS strategy, changes in application and technical architectures, software choices, as well as the organisation of the IT department and projects.

Planning, organisation and management

- Leads the organisational and operational coordination with its partners.

Supplier relations

- Maintains a thorough understanding of supplier relations, particularly with software publishers, service companies and consultancies involved in large systems implementation projects.

DELIVERABLES

- Application solutions with their corresponding maintenance.

PERFORMANCE INDICATORS

- Compliance with the SLAs defined at the outset.

PROFESSIONAL BACKGROUND

5 years' higher education with a good knowledge of information systems, business challenges, software publishers and the market.

Experience in managing large projects is essential.

TRENDS AND FACTORS IN CHANGE

Integration into a business unit.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	4	A.3. Business Plan Development	4
A.5. Architecture Design	4	A.9. Innovating	4
D.9. Personnel Development	4	D.11. Needs Identification	5
E.2. Project and Portfolio Management	5	E.4. Relationship Management	4
E.7. Business Change Management	4	E.9. Information Systems Governance	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★ ★★	★ ★★	★★ ★★	★★ ★★★	★★ ★★★	★★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 4
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides leadership for the construction and implementation of long term innovative IS solutions.
	A.3. Business Plan Development	Level 4
A. PLAN	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Provides leadership for the creation of an information system strategy that meets the requirements of the business (e.g. distributed, mobility-based) and includes risks and opportunities.
A. PLAN	A.5. Architecture Design	Level 4
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Acts with wide ranging accountability to define the strategy to implement ICT technology compliant with business need. Takes account of the current technology platform, obsolescent equipment and latest technological innovations.

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
D. ENABLE	D.9. Personnel Development	Level 4
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Takes proactive leadership in the development of processes to address the development needs of individuals, teams and the entire workforce.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.2. Project and Portfolio Management	Level 5
	Implements plans for a program of change. Plans, directs and manages a single or portfolio of ICT projects or services to ensure co-ordination and management of interdependencies. Orchestrates projects to develop or implement new, internal or externally defined processes to meet identified business needs. Defines activities, responsibilities, critical milestones, resources, skills need, interfaces and budget, optimises costs and time utilisation, minimises waste and strives for high quality. Develops contingency plans to address potential implementation issues. Delivers project on time, on budget and in accordance with original requirements taking into account changing circumstances. Creates and maintains documents to facilitate monitoring of project progress.	Provides strategic leadership for extensive interrelated programmes of work to ensure that Information Technology is a change enabling agent and delivers benefit in line with overall business strategic aims. Applies extensive business and technological mastery to conceive and bring innovative ideas to fruition.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of

	needs, concerns or complaints are understood and addressed in accordance with organisational policy.	a multidisciplinary approach.
E. MANAGE	E.7. Business Change Management	Level 4
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Provides leadership to plan, manage and implement significant ICT led business change.
E. MANAGE	E.9. Information Systems Governance	Level 4
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Provides leadership for IS governance strategy by communicating, propagating and controlling relevant processes across the entire ICT infrastructure.

8. DATA

This category groups together professions linked to the data management cycle.

It covers the following roles:

8.1. DATA SCIENTIST	216
8.2. DATA ANALYST	220
8.3. CHIEF DATA OFFICER.....	224
8.4. DATA ENGINEER	229
8.5. DATA PROTECTION OFFICER (DPO)	234
8.5. DATA ARCHITECT	238

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

8.1. DATA SCIENTIST

MISSION

Can report to either IT or the business units, the Data Scientist exploits, analyses and evaluates the wealth of structured and un-structured data to devise scenarios to understand and anticipate future operational or business opportunities for the company.

ACTIVITIES AND TASKS

- Combines their advanced technical and scientific skills with business unit knowledge essential to deriving value from data lakes.
- Works on targeted business scopes (use cases) to explore and exploit data flows from the data lake or other sources (in this case they evaluate the quality and richness of the data, analyse it and present the results to integrate them into the business's target information system).
- Obtains the right data, finds relevant sources of data, makes recommendations on the data to consolidate, modify, retrieve, outsource and internalise.
- Integrates his work by industrialising their productions into the data lake's technological chain and/or integrating them into the business unit's information system.
- Develops statistical and/or machine learning models.
- Compares and evaluates different models or calculation methods and anticipates the advantages and disadvantages in a business environment.

MONITORS NEW RESEARCH & INNOVATION TO INTRODUCE NEW APPROACHES TO DATA ANALYSIS AND MODELLING.DELIVERABLES

- Predictive scenarios.

PERFORMANCE INDICATORS

- Accuracy and added value of predictions.

PROFESSIONAL BACKGROUND

5 years' higher education from an engineering or business school or a school specialising in statistics.

Mastery of data mining and statistical techniques, with a strong interest in database technologies and tools and business know-how in the sector the analysed data is to be used (e.g. marketing, finance).

TRENDS AND FACTORS IN CHANGE

An important player in the company's strategy and digital transformation. This is a new and rapidly growing digital profession.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	A.9. Innovating	4
D.7. Data Science and Analytics	4	D.10. Information and Knowledge Management	4
D.11. Needs Identification	5	E.1. Forecast Development	3
E.6. ICT Quality Management	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★★ ★★	★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.

D. ENABLE	D.7. Data Science and Analytics	Level 4
	Uses and applies data analytic techniques such as data mining, machine learning, prescriptive and predictive analytics to apply data insight to address the organisation's challenges and opportunities. Identifies, extracts and integrates heterogeneous data from a wide range of sources respecting ethical aspects and guaranteeing compliance with data privacy regulations. Assesses existing data and identifies new data requirements including social networks and open data for organisational benefit.	Interprets data analysis results. Performs proper data business analysis. Delivers insight into the organisations data requirements, plan, design, develop and recommend new data sources. Creates new models and algorithms for data driving the strategy. Organizes, synthesizes and translates information to facilitate decision-making.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.
D. ENABLE	D.11. Needs Identification	Level 5
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Provides leadership in support of the customers' strategic decisions. Helps customer to envisage new ICT solutions, fosters partnerships and creates value propositions.
E. MANAGE	E.1. Forecast Development	Level 3
	Interprets market needs and evaluates market acceptance of products or services. Assesses the organisation's potential to meet future production and quality requirements. Applies relevant metrics to enable accurate decision making in support of production, marketing, sales and distribution functions.	Exploits skills to provide short-term forecast using market inputs and assessing the organisation's production and selling capabilities.

E. MANAGE	E.6. ICT Quality Management	Level 4
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Assesses and estimates the degree to which quality requirements have been met and provides leadership for quality policy implementation. Provides cross functional leadership for setting and exceeding quality standards.

8.2. DATA ANALYST

MISSION

Assigned to the IT department, a business unit, or a transversal data unit, The Data Analysts set up IT tools and statistical techniques and methods to effectively organise, summarise and translate business data.

Produces and is responsible for the performance indicators that enable decision-making. Activities and tasks.

ACTIVITIES AND TASKS

- Provides analytical support for exploring and analysing complex sets of business data in order to provide concrete indicators.
- Identified the most interesting data according to business units' requirements.
- Determines how to generate indicators for the business units.
- Designs dashboards to display the various data as indicators.

DELIVERABLES

- Presents business activity as:
 - performance indicators.
 - dashboards Presentation session.

PERFORMANCE INDICATORS

- The extent to which the created dashboards are shared (the more they circulate, the greater the value).
- Measurement of the impact on business decisions.
- The timeframe for making the indicators available.

PROFESSIONAL BACKGROUND

5 years' higher education or engineering school, coming from a variety of sectors but with a specialisation in data analysis and processing.

TRENDS AND FACTORS IN CHANGE

The profession is still new, and the populations are small.

In the data field, data analysts could move into a data scientist role, but the step up is quite big due to the differences in competencies.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.9. Innovating	4	B.1. Application Development	2
B.3. Testing	2	B.5. Documentation Production	3
D.7. Data Science and Analytics	3	D.10. Information and Knowledge Management	4
D.11. Needs Identification	3	E.1. Forecast Development	3
E.4. Relationship Management	3		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★★	★	★★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.9. Innovating	Level 4
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Applies independent thinking and technology awareness to lead the integration of disparate concepts for the provision of unique solutions.
B. BUILD	B.1. Application Development	Level 2
	Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates	Systematically develops and validates applications.

	product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.	
B. BUILD	B.3. Testing	Level 2
	Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
B. BUILD	B.5. Documentation Production	Level 3
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Adapts the level of detail to meet the needs of the targeted population.
D. ENABLE	D.7. Data Science and Analytics	Level 3
	Uses and applies data analytic techniques such as data mining, machine learning, prescriptive and predictive analytics to apply data insight to address the organisation's challenges and opportunities. Identifies, extracts and integrates heterogeneous data from a wide range of sources respecting ethical aspects and guaranteeing compliance with data privacy regulations. Assesses existing data and identifies new data requirements including social networks and open data for organisational benefit.	Designs and creates data analysis tools to support the organisations data lifecycle. Verifies data veracity. Processes data and visualises the data analysis results to the given domain.
D. ENABLE	D.10. Information and Knowledge Management	Level 4
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Integrates and synthesizes information from internal and external sources to provide useful knowledge for the organisation.

D. ÉNERGIE	D.11. Needs Identification	Level 3
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Establishes relationships with customers and helps them clarify their needs.
E. ÉNERGIE	E.1. Forecast Development	Level 3
	Interprets market needs and evaluates market acceptance of products or services. Assesses the organisation's potential to meet future production and quality requirements. Applies relevant metrics to enable accurate decision making in support of production, marketing, sales and distribution functions.	Acts with wide ranging accountability for the production of a long-term forecast. Understands the global marketplace, identifying and evaluating relevant inputs from the broader business, political and social context.
E. MANAGE	E.4. Relationship Management	Level 3
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Manages simple multi-stakeholder, multi-disciplinary relationships.

8.3. CHIEF DATA OFFICER

MISSION

The Chief Data Officer is a director responsible for the company's data. Who he reports to depends on the organisation and governance of the company.

His role is general and transversal, consisting in ensuring the company's strategy in deriving value from its data assets is applied. Responsible for optimising the use of data in terms of quality and consistency.

Works in synergy with the CISO for data security, the DPO for issues related to personal data, and with the managers of the data teams.

He also works closely with everyone in the organisation to create profit and value. This role can therefore be carried out in various areas, such as strategy, legal, marketing, innovation, IT, operational efficiency and information asset management.

ACTIVITIES AND TASKS

Governance

- Develops the overall policy for cross-functional data governance to ensure that it is effective and trusted:
 - Scope of data to be controlled.
 - Tools, norms, standards and processes.
 - Principles of data management and reliability.
 - Implements and verifies the change management strategy.

Steering

- Deploys and steers the general data governance policy.
- Ensures that all players in the data value chain provide the resources needed to serve the company's transformation ambitions.
- Ensures data is under control throughout its life cycle, and organises the transversality, pooling and sharing of data within the company to, for example, promote the improvement of knowledge (customer, product, ecosystem) and the performance of internal processes.

Communications

- Communicates and "evangelises" the business units and the company data for its transformation (data-driven approach).

DELIVERABLES

- A data governance policy.

- Audit reports on the implementation of the data policy.
- A data community organisation.

PERFORMANCE INDICATORS

- Number of projects/programmes launched around data (capacity to evangelise).
- Conclusions of the audit report on the application of the data policy.

PROFESSIONAL BACKGROUND

5-6 years' higher education in engineering, business, management, marketing, statistics with several years of professional experience in cross-functional positions.

TRENDS AND FACTORS IN CHANGE

Progression to positions with a strong leadership dimension.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.1. Information Systems and Business Strategy Alignment	5	A.9. Innovating	5
D.1. Information Security Strategy Development	4	D.2. ICT Quality Strategy Development	5
D.10. Information and Knowledge Management	5	E.1. Forecast Development	4
E.4. Relationship Management	4	E.7. Business Change Management	5
E.9. Information Systems Governance	5		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★★	★★	★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.1. Information Systems and Business Strategy Alignment	Level 5
	Anticipates long term business requirements, influences improvement of the organisation's process efficiency and effectiveness. Determines the IS model and enterprise architecture maintaining consistency with organisational policy and ensuring a secure environment. Recognises potential risks and business requirements to assure resilience in the alignment of systems and services to the business strategy. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.	Provides IS strategic leadership to reach consensus and commitment from the management team of the enterprise.
A. PLAN	A.9. Innovating	Level 5
	Devises creative solutions for the provision of new concepts, ideas, products or services. Deploys novel and open thinking to envision exploitation of technological advances to address business/ society needs or research direction.	Provides strategic leadership for the introduction of new concepts. Guides innovation approaches and leads the cultural change to innovation.
D. ENABLE	D.1. Information Security Strategy Development	Level 4
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Exploits depth of expertise and leverages external standards and best practices.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 5
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Provides strategic leadership to embed ICT quality (i.e. metrics and continuous improvement) into the culture of the organisation.

D. ENABLE	D.10. Information and Knowledge Management	Level 5
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Provides strategic direction for the alignment of the information and knowledge strategy with the organisational strategy.
E. MANAGE	E.1. Forecast Development	Level 4
	Interprets market needs and evaluates market acceptance of products or services. Assesses the organisation's potential to meet future production and quality requirements. Applies relevant metrics to enable accurate decision making in support of production, marketing, sales and distribution functions.	Acts with wide ranging accountability for the production of a long-term forecast. Understands the global marketplace, identifying and evaluating relevant inputs from the broader business, political and social context.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.
E. MANAGE	E.7. Business Change Management	Level 5
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Motivates and inspires the organisation to champion change and optimise the benefits.

E. MANAGE	E.9. Information Systems Governance	Level 5
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Defines and aligns the IS governance strategy incorporating it into the organisation's corporate governance strategy. Adapts the IS governance strategy to take into account new significant events arising from legal, economic, political, business, technological or environmental issues.

8.4. DATA ENGINEER

MISSION

The Data Engineer develops, builds and maintains data infrastructures from a system and security point of view.

He collects, stores and uses data flows that meet the company's needs. He is responsible for access to quality data sources that feed into the Data Lake and facilitates their exploitation by the Data Science teams.

He also defines the metadata structure.

ACTIVITIES AND TASKS

Data infrastructure

- Maps and documents data sources.
- Maintains the various data infrastructures and applications released in production.
- Devises solutions for processing large volumes of data flows in complete security.
- Structure the databases (semantics, format, etc.).
- Contributes to the management of data repositories.

Data integration

- Securely captures and stores the structured and unstructured data produced in the company's various applications or from outside the company.
- Oversees and integrates various kinds of data from multiple sources. Verifies the quality and security of the data entering the data lake.
- Cleans the data (eliminates duplicates, etc.) and approves it for downstream use.

Community management

- Coordinates the technical community that implements the systems planned or needed to apply the company's data policy.

Technology intelligence

- Keeps abreast of technologies related to data handling and identifies usable solutions.
- Proposes changes to existing infrastructure and data solutions.

DELIVERABLES

- Architecture report (or technical framework) for the data processing solutions (platforms).
- A data lake adapted to the current and future needs of the company.
- A data map.

- Elements to ensure the quality of the data.

PERFORMANCE INDICATORS

- Volume and richness of the data lake.
- Speed with which data is made available.
- Quality of the data.
- Rejection rate (the lower the better).

PROFESSIONAL BACKGROUND

2-3 years' higher education in computer science, 5 years' education as a developer or in statistics and mathematics. Engineering school or master's degree specialising in data science.

Must be proficient in Scala, Python, Kafka, Spark, Hadoop with optional proficiency in data analysis, artificial intelligence or fundamental data science methods.

TRENDS AND FACTORS IN CHANGE

Moves into the role of data scientist (see profile 8.1 of Cigref's nomenclature).

Technical expertise on data.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.5. Architecture Design	3	A.7. Technology Trend Monitoring	3
B.6. ICT Systems Engineering	3	C.3. Service Delivery	3
C.4. Problem Management	3	D.7. Data Science and Analytics	2
D.10. Information and Knowledge Management	3	E.3. Risk Management	2
E.6. ICT Quality Management	3	E.8. Information Security Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★	★	★★	★★	★★	★★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.5. Architecture Design	Level 3
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Exploits specialist knowledge to define relevant ICT technology and specifications to be deployed in the construction of multiple ICT projects, applications or infrastructure improvements.
A. PLAN	A.7. Technology Trend Monitoring	Level 3
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Detects signs of change to provide supervision and analysis of current and trend-setting ICT technological developments. Establishes relationships with relevant communities.
B. BUILD	B.6. ICT Systems Engineering	Level 3
	Builds the required networks/network connections, components and interfaces. Follows a systematic methodology to analyse and engineer infrastructure platforms or solutions for cloud, IoT and other technologies to meet business and technical requirements. Builds system structure models and conducts system behaviour to integrate physical devices, networks, hardware and/or software components. Ensures information security, data protection and energy efficiency. Performs tests to ensure requirements are met.	Ensures interoperability of the system components. Exploits wide ranging specialist knowledge to create a digital infrastructure that will satisfy the system constraints and meet the customer's expectations.
C. RUN	C.3. Service Delivery	Level 3
	Ensures service delivery in accordance with established service level agreements (SLA's). Takes proactive action to ensure stable and secure applications and ICT infrastructure to avoid potential service disruptions, attending to capacity planning and to information security. Updates operational document library and logs all service incidents. Maintains monitoring and management tools (i.e. scripts, procedures). Maintains IS services. Manages all aspects of service availability.	Plans the schedule of operational tasks. Manages costs and budget according to the internal procedures and external constraints. Identifies the optimum number of people required to resource the operational

		management of the IS infrastructure.
C. RUN	C.4. Problem Management	Level 3
	Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
D. ENABLE	D.7. Data Science and Analytics	Level 2
	Uses and applies data analytic techniques such as data mining, machine learning, prescriptive and predictive analytics to apply data insight to address the organisation's challenges and opportunities. Identifies, extracts and integrates heterogeneous data from a wide range of sources respecting ethical aspects and guaranteeing compliance with data privacy regulations. Assesses existing data and identifies new data requirements including social networks and open data for organisational benefit.	Searches and collects data. Prepares data from multiple sources and formats for analysis.
D. ENABLE	D.10. Information and Knowledge Management	Level 3
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Analyses business processes and associated information requirements to enable effective information sharing. Supports the target community to critically assess knowledge and information.
E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions;

		audits ICT processes and environment.
E. MANAGE	E.6. ICT Quality Management	Level 3
	Implements ICT quality policy to maintain and enhance service and product provision. Plans and defines indicators to manage quality with respect to ICT strategy. Reviews quality measures and recommends enhancements to influence continuous quality improvement.	Evaluates quality management indicators and processes based on ICT quality policy and proposes remedial action. Ensures data quality processes.
E. MANAGE	E.8. Information Security Management	Level 3
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Evaluates security management measures and indicators and decides if compliant to information security policy. Investigates and instigates remedial measures to address any security breaches.

8.5. DATA PROTECTION OFFICER (DPO)

MISSION

The DPO is the person responsible for data protection within an organisation. He is appointed in accordance with current regulations. He is independent and does not receive instructions from his employer.

The DPO is the company's point of contact with the supervisory authority (the CNIL). In carrying out his tasks, he takes into consideration the risks relating to the nature, scope, purposes and context of the processing operations carried out in their company, within the scope for which he has been appointed.

The role can appear in a variety of areas, such as strategy, legal, marketing, innovation, IT, operational efficiency and information asset management. At a minimum, he works alongside the Chief Data Officer and the IT department.

ACTIVITIES AND TASKS

The activities and tasks of the DPO follow Articles 37 to 39 of the General Data Protection Regulation (GDPR).

Information

- Informs and advises the company, managers and operational teams on their obligations under the regulations and provisions in force concerning the protection of personal data.

Compliance monitoring

- Ensures that appropriate measures are implemented to demonstrate that the company's processing of personal data complies with the regulations.
- Ensures that the principle of "Privacy by Design" is applied in all projects involving the processing of personal data.
- Leads the production and implementation of policies, guidelines, procedures and enforcement rules for GDPR.
- Ensures that the register of personal data processing is kept and updated.
- In general, they are responsible for monitoring regulatory developments in the field of personal data protection.

Privacy Impact Assessments

- Carries out data impact and risk analyses.
- Provides advice on data protection impact assessments.
- Checks that Privacy Impact Assessments (PIAs) are carried out in compliance with regulations.

Advice and support to teams, training

- Ensures data subjects' requests in regards to their rights are processed correctly.
- Advises and trains IT staff on compliance with the regulations in force.
- Advises the business units on the data processes and procedures to implement at all stages to protect the privacy of customer and employee data. Ensures data security rules are respected.

DELIVERABLES

- Audit plan.
- Guidelines on the regulation application policy.
- Recommendations on how to manage personal data following a CNIL intervention.

PERFORMANCE INDICATORS

- Number of appeals.
- Audit completion rate.

PROFESSIONAL BACKGROUND

The DPO can come from any position, as long as the person has a very good knowledge of the company's issues and its organisation.

TRENDS AND FACTORS IN CHANGE

Consulting, auditing, legal and possibly CSR are fields into which a DPO can move.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

B.5. Documentation Production	2	D.1. Information Security Strategy Development	4
D.3. Education and Training Provision	3	D.10. Information and Knowledge Management	3
E.3. Risk Management	3	E.8. Information Security Management	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★★ ★★	★★ ★★★	★★ ★★★	★ ★★	★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

B. BUILD	B.5. Documentation Production	Level 2
	Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.	Ensures that documentation is complete, correct and provided in a suitable place and format.
D. ENABLE	D.1. Information Security Strategy Development	Level 4
	Defines and makes applicable a formal organisational strategy, scope and culture to maintain safety and security of information from external and internal threats. Analyses the business and technology strategy alongside trends in the threat landscape to anticipate potential vulnerabilities and risk mitigation requirements. Tracks legal, regulatory and social expectations involving the security of services and sensitive data. Provides the foundation for Information Security Management, including role identification and accountability. Uses defined standards to create objectives for information integrity, availability, and data privacy.	Exploits depth of expertise and leverages external standards and best practices.
D. ENABLE	D.3. Education and Training Provision	Level 3
	Defines and implements ICT training policy to address organisational skill needs and gaps. Incorporates these onto internal employee development plans as a tool for enabling career development. Structures, organises and schedules training programs and evaluates training quality through a feedback process and implements continuous improvement. Adapts training plans to address changing demand.	Acts creatively to analyse skills gaps; elaborates specific requirements and identifies potential sources for training provision. Has specialist knowledge of the training market and establishes a feedback mechanism to assess the quality of training provision.

D. ENABLE	D.10. Information and Knowledge Management	Level 3
	Identifies information and knowledge relevant to the organisation and develops processes and structures to manage it. Creates information structure to enable the exploitation, optimisation and sharing of information. Understands appropriate tools to be deployed to create, extract, maintain, renew and propagate business knowledge in order to capitalise from the information asset.	Analyses business processes and associated information requirements to enable effective information sharing. Supports the target community to critically assess knowledge and information.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.
E. MANAGE	E.8. Information Security Management	Level 4
	Manages information and systems security policy accounting for technical, human, organisational and other relevant threats, in line with the IT and business strategy and reflecting the risk culture of the organisation. Deploys and manages the operational and specialist (for e.g. forensics, threat intelligence and intrusion detection) resources needed to ensure the capacity to manage security incidents, and makes recommendations for the continuous improvement of security policy and strategy.	Provides leadership for the integrity, confidentiality and availability of data stored on information systems and complies with all legal requirements.

8.5. DATA ARCHITECT

MISSION

The Data Architect differs from the Enterprise Architect in that he has a very strong Data 'coloration':

- He defines the Data *architecture* for his or her perimeter, based on business needs, taking account of IS architecture, Data governance rules and, more generally, the standards and common ground defined at the level of his or her organisation.
- On the *Data* side, he defines the norms and standards in terms of availability, integrity, confidentiality and traceability, with the aim of maximising the value that the organisation derives from this data.

He manages the implementation of the Data architecture principles in the IS and guarantees its compliance, performance, durability, suitability to business needs and optimisation of the data lifecycle.

He proposes changes if required. He recommends and validates data modelling principles to ensure that they are adapted to sustainable use. It also organises the management of Data repositories and facilitates their maintenance.

ACTIVITIES AND TASKS

- Strategy:
 - Contributes to the development of the Data strategy aligned with the business strategy and consistent with the Enterprise Architect's roadmap.
 - Contributes to the technological choices that support the data lifecycle.
 - In view of the rapidly evolving context, keeps a constant and active technological watch on innovative solutions, particularly in the field of Data and AI.
- Defines the rules, norms and standards for data storage and processing.
- Coordinates the Data teams and ensures their governance.
- Ensures the consistency of the Data model throughout the project lifecycle, through a 'high-level' vision.
- Meets the regulatory requirements relating to Data.

DELIVERABLES

- Data architecture repository (norms, standards, mappings, processes, vocabularies).
- Data Architecture Recommendations.
- Enterprise data model.

PERFORMANCE INDICATORS

- Standards compliance.
- Ability to add value to data.
- Compliance with AICT objectives (Availability, Integrity, Confidentiality, Traceability).

PROFESSIONAL BACKGROUND

Business and project management experience.

TRENDS AND FACTORS IN CHANGE

The data architect often comes from a data (business analyst, data analyst, or data engineer) or architecture (solution architect) background. He may go on to become an enterprise architect, chief data officer, or business IS manager.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.5 Architecture Design	5	A.6. Application Design	2
D.2. ICT Quality Strategy Development	4	E.3. Risk Management	4
E.5. Process Improvement	3	E.7. Business Change Management	3
E.9. Information Systems Governance	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★	★★ ★★★	★★ ★★★	★★ ★★★	★★ ★★	★★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLANIFIER	A.5. Architecture Design	Level 5
	Specifies, refines, updates and makes available a formal approach to implement solutions and services, necessary to develop and operate the IS architecture, taking into account the requirements from business, management and data and information infrastructure. Identifies change requirements and the components involved: hardware, software, applications, processes, services, information and technology platform. Takes into account interoperability, reversibility, scalability, usability, accessibility and security, including the need to account for the development and management of vulnerability within existing and emerging technologies. Maintains alignment between business evolution and technology developments and services to ensure capacity of IT solutions according to SLA.	Provides strategic leadership for implementing the digital enterprise strategy. Applies strategic thinking to discover and recognize new patterns in data sets and new ICT systems, to achieve business benefits.
B. DÉVELOPPER	A.6. Application Design	Level 2
	Analyses, specifies, updates and makes available a model to implement applications in accordance with IS policy and user/customer needs. Selects appropriate technical options for application design, optimising the balance between cost and quality. Designs data structures and builds system structure models according to analysis results through modelling languages. Ensures that all aspects take account of interoperability, usability, accessibility and security. Identifies a common reference framework to validate the models with representative users, based upon development models (e.g. iterative approach).	Organises the overall planning of the design of the application.
B. DÉVELOPPER	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.
D. FACILITER	E.3. Risk Management	Level 4
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Provides leadership to define and make applicable a policy for risk management by considering all the possible constraints, including

		technical, economic and political issues. Delegates assignments.
E. GÉRER	E.5. Process Improvement	Level 3
	Measures effectiveness of existing or new ICT process approaches (Waterfall, Agile, DevOps etc.). Designs and implements process or technology changes supporting the organization through a continuous learning process. Assesses and addresses risks involved in process change.	Exploits specialist knowledge to research existing ICT processes and solutions in order to define possible innovations. Makes recommendations with supporting evidence.
E. GÉRER	E.7. Business Change Management	Level 3
	Assesses the implications of digital transformation, potential digital disruption and change. Defines the requirements and quantifies the business benefits. Manages change taking into account structural and cultural issues. Maintains business and process continuity throughout change, monitoring the impact, taking any required remedial action and refining approach.	Evaluates change requirements and exploits specialist skills to identify possible methods and standards that can be deployed.
E. GÉRER	E.9. Information Systems Governance	Level 4
	Defines, deploys and controls the management of information systems and services and data in line with the business imperatives. Takes into account all internal and external parameters such as legislation and industry standard compliance to influence risk management and resource deployment to achieve balanced business benefit.	Provides leadership for IS governance strategy by communicating, propagating and controlling relevant processes across the entire ICT infrastructure.

9. SUPPLIER RELATIONS

This category includes jobs related to supplier relations in the areas of purchasing, contract management and licence management.

It covers the following roles:

9.1. CONTRACT MANAGER.....	243
9.2. IT BUYER.....	247
9.3. SOFTWARE ASSET MANAGER (SAM).....	251
9.4. VENDOR MANAGER	256

Navigation

To make it easier to navigate between the profiles, in this document you will find:

- A **general summary** to access the different parts, categories and profiles.
- A **summary for each category** of profiles to access the various profiles in the category.
- At the bottom of each page there is a **link that takes you back to the general summary**.
- At the top of each profile's pages, there is a **link to go back to the summary of that profile's category**.
- There is also a **link to go back to the first page of the profile**.

9.1. CONTRACT MANAGER

MISSION

At the crossroads of the legal, financial and operational fields, the Contract Manager optimises the IT department's purchasing programme by:

- Ensuring contracts are fair and competitive.
- Monitoring operations with suppliers (publishers, service providers).
- As well as the efficiency of the IT outsourcing policy.

He defines and implements the performance strategy for contracts with regard to their life cycle; sets up and monitors indicators for contractual activity.

His scope of action includes (excluding licences managed by the SAM) technical or intellectual IT services (publishers, manufacturers, distributors, consultants, etc.), application or technical subcontracting, third-party application maintenance and facilities management.

ACTIVITIES AND TASKS

Strategy

- Helps implement sourcing and purchasing processes for IT services and monitors their application and efficiency.
- Assesses opportunities (economic, organisational, political) to improve contract performance.

Contract Management

- Participate in the life cycle of IT contracts (establishment, amendments, (re)negotiations, termination).
- Helps draft contracts and assists buyers in drawing up specifications.
- Contributes to and participates in negotiations and tenders with internal or external partners.
- Organises and facilitates contractual committees with major suppliers.
- Manages contractual, financial and risk-related obligations.
- Ensures that the contracts are executed properly and that the reference framework is respected (QAP, BCP, safety plan, accessibility, etc.).
- Leads the technical specifications in conjunction with internal partners during the contract development phase.
- Populates and consolidates dashboards.
- Alerts management to any discrepancies and proposes areas for improvement.

Advice and analysis

- In conjunction with all stakeholders, analyses and qualifies the needs that arise from the projects.

- Monitors technological developments in the tools that could improve their performance and optimise their work.

DELIVERABLES

- Indicators and dashboards.

PERFORMANCE INDICATORS

- Number of amendments signed.
- Number of disputes.
- Number of crisis management events managed.
- Maintain finances.

PROFESSIONAL BACKGROUND

5 years' experience with 5-10 years' experience.

People with a legal or purchasing background, or from an IT background but with experience in contract management.

TRENDS AND FACTORS IN CHANGE

Increasingly strong search for agility in contracts for easier and faster adaptation to the real business.

This business profile exists within the IT department but is defined based on the Group Purchasing function.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.8. Sustainability Management	3
D.8. Contract Management	4
E.4. Relationship Management	4

D.4. Purchasing	3
E.3. Risk Management	2

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★ ★	★★ ★★	★★ ★★★	★★ ★★	★★ ★★	★★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.8. Sustainability Management	Level 3
	Estimates the impact of ICT solutions in terms of eco responsibilities, including energy consumption, waste treatment and environmental policy. Analyses the prospects and impacts in social and financial sustainability of ICT projects, developments, services and operations. Advises business and ICT stakeholders on sustainable options that are consistent with the business strategy. Applies an ICT purchasing and sales policy which fulfills eco-responsibilities.	Promotes awareness, training and commitment for the deployment of sustainable development and applies the necessary tools for implementing this approach.
D. ENABLE	D.4. Purchasing	Level 3
	Applies a consistent procurement procedure, including deployment of the following sub processes: specification requirements; supplier identification; proposal analysis; evaluation of the energy efficiency and environmental compliance of products; suppliers and their processes; contract negotiation; supplier selection and contract placement. Ensures that the entire purchasing process is fit for purpose, compliant to legal requirements and adds value to the organisation.	Exploits specialist knowledge to deploy the purchasing process, ensuring positive commercial relationships with suppliers. Selects suppliers, products and services by evaluating performance, cost, timeliness and quality. Decides contract placement and complies with organisational policies.
D. ENABLE	D.8. Contract Management	Level 4
	Provides and negotiates contract in accordance with organisational processes. Ensures that contract and deliverables are provided on time, meet quality standards, and conform to compliance requirements. Addresses non-compliance, escalates significant issues, drives recovery plans and if necessary, amends contracts. Maintains budget integrity. Assesses and addresses supplier compliance to legal, health and safety and security standards. Establishes and maintains supplier relationships and regular communication.	Provides leadership for contract compliance and is the final escalation point for issue resolution.

E. MANAGE	E.3. Risk Management	Level 2
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Understands and applies the principles of risk management and investigates ICT solutions to mitigate identified risks.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.

9.2. IT BUYER

MISSION

The IT Buyer ensures that the contracts signed with publishers, manufacturers and IT service providers are competitive and fair. He also ensures that the purchasing process is respected and that customer-supplier relations are balanced.

In this capacity, he negotiates prices, terms and conditions and contracts for IT goods and services acquired or contracted by the company. He manages and leads economic and commercial relations with suppliers, and supports and advises their internal customers.

He monitors the market, regulations and technology in the interests of the company and its internal customers.

ACTIVITIES AND TASKS

Contract Management

- Analyses and reviews contracts within their scope and analyses supplier risks.
- Negotiates contracts in conjunction with the technical experts of the IT / Digital Department and the Legal Department.
- Communicates and monitors the implementation of agreements with internal customers and users.
- Informs management of key contracts, deadlines and associated risks.

Purchasing process

- In conjunction with operational teams, prepares and builds consultations (RFI, RFP, RFQ).
- Sources and identifies service providers.
- Prepares and facilitates consultations and presentations.
- Builds analysis grids and evaluates technical, functional and commercial offers.
- Leads the negotiations (by mutual agreement or in the framework of consultations).
- Participates in the decision-making and selection process of suppliers and in contracting.

Steering, performance and spend management

- Management of supplier relations: analyses reports, reviews contracts and expenses, holds meetings to follow up with key suppliers.
- Analyses spending for their category: collects and analyses spending by supplier and by category, produces analyses and summaries.
- Performs regular monitoring of purchasing performance: produces key indicators.
- Participates in or leads market and supplier risk analyses.
- Monitors market, technological and regulatory developments.
- Performs benchmarks.

DELIVERABLES

- Consultation documents (RFI, RFP, RFQ).
- Analyses and summary documents: risk studies, market analyses, supplier audits, selection memos, etc.
- Performance indicators.

PERFORMANCE INDICATORS

- Amount under management: work in progress, expenses managed by category, by supplier.
- Savings made: avoided costs, reduced/optimised budgets, reductions in expenses visible in the profit and loss account.
- Supplier panel: changes in the number of suppliers.
- Simplification: reduction of the number of contracts, invoices, transactions.

PROFESSIONAL BACKGROUND

Initial training: 2-5 years' higher education.

University courses: economics, management, science, finance or engineering; or business or engineering school.

Additional training: Masters in Purchasing.

Experience as a buyer (other categories), computer engineer, project manager, lawyer, management controller.

TRENDS AND FACTORS IN CHANGE

The role is seeing greater professionalisation to reflect the technicity and variety of contract solutions and business models of IT and digital service providers, with buyers' increasingly specialising: software buyer, hardware buyer, telecoms buyer, etc.

Strong growth in activity and stakes, resulting in increasing exposure of IT buyers internally (strategic category). Better acceptance of the function by the IT teams.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

D.4. Purchasing	3	D.8. Contract Management	4
D.11. Needs Identification	4	A.7. Technology Trend Monitoring	4

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★★ ★★★	★★ ★★	★★ ★★	★★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

D. ENABLE	D.4. Purchasing	Level 3
	Applies a consistent procurement procedure, including deployment of the following sub processes: specification requirements; supplier identification; proposal analysis; evaluation of the energy efficiency and environmental compliance of products; suppliers and their processes; contract negotiation; supplier selection and contract placement. Ensures that the entire purchasing process is fit for purpose, compliant to legal requirements and adds value to the organisation.	Exploits specialist knowledge to deploy the purchasing process, ensuring positive commercial relationships with suppliers. Selects suppliers, products and services by evaluating performance, cost, timeliness and quality. Decides contract placement and complies with organisational policies.
D. ENABLE	D.8. Contract Management	Level 4
	Provides and negotiates contract in accordance with organisational processes. Ensures that contract and deliverables are provided on time, meet quality standards, and conform to compliance requirements. Addresses non-compliance, escalates significant issues, drives recovery plans and if necessary, amends contracts. Maintains budget integrity. Assesses and addresses supplier compliance to legal, health and safety and security standards. Establishes and maintains supplier relationships and regular communication.	Provides leadership for contract compliance and is the final escalation point for issue resolution.
D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides expert guidance to the customer by proposing solutions and supplier.

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.

9.3. SOFTWARE ASSET MANAGER (SAM)

MISSION

The Software Asset Manager ensures that the organisation's software installation is compliant to reduce the risks from publisher audits.

He optimises the use and costs of licences, maintenance and cloud computing services.

He provides expertise and support to the IT, purchasing and legal departments in their technical and commercial relationships with software publishers.

ACTIVITIES AND TASKS

Software compliance

- Plans and coordinates software inventories within the organisation (inventory and analysis of contracts, licences, maintenances, and subscriptions, inventories of software deployments, use cases and projects that impact requirements).
- Maintains the licence management data repository.
- Manages publisher audits from the outset.
- Collects, verifies and centralises inventory data.
- Compliance analysis: verifies that installations and use cases comply with the acquired rights and contracts (based on a library of contracts provided by the purchasing department) and publishers' licensing rules.
- Evaluates discrepancies and assigns values to risks.
- Proposes action plans in conjunction with the IT and procurement teams to reduce risks and restore compliance where necessary.

Optimisation

- Optimises software purchases by avoiding redundancies, ensuring needs are met, and minimising financial risk. Updates licence assignments.
- Steers optimisations alongside IT and purchasing.
- Identifies technical, commercial and contractual levers (cf. contract library) to control or reduce software requirements and/or costs.
- Assesses the savings brought by these optimisations as well as the costs and impacts of implementation.

Demand management

- Assists project managers and buyers in estimating and optimising acquisition costs and informs them of how to count licences and calculate associated costs.

Supplier negotiation and management

- Acts as an advisor and facilitator in negotiations with publishers. Supports the purchasing department in managing suppliers.

Organisation and governance

- Implements SAM processes and interfaces with existing IT and purchasing processes.
- Coordinates the company's internal SAM initiatives.
- In mature organisations, selects, releases and maintains a SAM software solution.

DELIVERABLES

- SAM optimisation strategy roadmap.
- Briefing memos, Contract summaries, publisher rules.
- Inventories, analyses, risk management and compliance assessments, amounts of savings and/or penalties avoided.

PERFORMANCE INDICATORS

- Identified risks of non-compliance.
- Savings made (cash, cost avoidance).
- Coverage rate (%) of licences under SAM control.

PROFESSIONAL BACKGROUND

IT knowledge and fluency in English are essential, with skills and interest in data analysis, IT and contracts.

Previous jobs related to auditing, purchasing, quality and consulting in IT.

TRENDS AND FACTORS IN CHANGE

The role is becoming increasingly complex due to the proliferation and accumulation of rules, the increase in licensing methods (perpetual licences, services, cloud computing, etc.) and an increase in publisher audits.

The share devoted to analysing complex data (data science) is increasing.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.7. Technology Trend Monitoring	4	D.2. ICT Quality Strategy Development	4
D.4. Purchasing	3	D.5. Sales Development	2
D.8. Contract Management	4	D.9. Personnel Development	2
D.11. Needs Identification	4	E.3. Risk Management	3

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★ ★★	★★ ★★★	★★ ★★	★★ ★★	★★ ★★	★★ ★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.7. Technology Trend Monitoring	Level 4
	Investigates latest ICT technological developments to establish understanding of evolving technologies. Encourages and explores internal and external sources (including e.g. research activities, patents, start-up activities, digital communities) for innovative ideas and opportunities. Devises innovative solutions for the adoption or integration of existing or new technology and/or ideas into existing products, applications or services or for the creation of new ones.	Validates new and emerging technologies, coupled with expert understanding of the business, to envision and articulate solutions for the future. Creates the organisation wide trend monitoring processes.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.

D. ENABLE	D.4. Purchasing	Level 3
	Applies a consistent procurement procedure, including deployment of the following sub processes: specification requirements; supplier identification; proposal analysis; evaluation of the energy efficiency and environmental compliance of products; suppliers and their processes; contract negotiation; supplier selection and contract placement. Ensures that the entire purchasing process is fit for purpose, compliant to legal requirements and adds value to the organisation.	Exploits specialist knowledge to deploy the purchasing process, ensuring positive commercial relationships with suppliers. Selects suppliers, products and services by evaluating performance, cost, timeliness and quality. Decides contract placement and complies with organisational policies.
D. ENABLE	D.5. Sales Development	Level 2
	Establishes a systematic process for the sales and marketing of the organisation's products and services, including value-added resellers (VARs) if appropriate; including understanding of customer needs, sales forecasting, prospect evaluation and negotiation tactics. Develops technical proposals to meet customer solution requirements and offer competitive bids aligned with the organisation's capacity to deliver.	Collaborates in the development of proposals compliant with business capacity and customer requirements.
D. ENABLE	D.8. Contract Management	Level 4
	Provides and negotiates contract in accordance with organisational processes. Ensures that contract and deliverables are provided on time, meet quality standards, and conform to compliance requirements. Addresses non-compliance, escalates significant issues, drives recovery plans and if necessary, amends contracts. Maintains budget integrity. Assesses and addresses supplier compliance to legal, health and safety and security standards. Establishes and maintains supplier relationships and regular communication.	Provides leadership for contract compliance and is the final escalation point for issue resolution.
D. ENABLE	D.9. Personnel Development	Level 2
	Diagnoses individual and group competence, identifying skill needs and skill gaps. Reviews training and development options and selects appropriate methodology taking into account the individual, project and business requirements. Coaches and/ or mentors individuals and teams to address learning needs.	Briefs/ trains individuals and groups, holds courses of instruction.
D. ENABLE	D.11. Needs Identification	Level 4
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user	Exploits wide ranging specialist knowledge of the customers' business to offer possible solutions to business needs. Provides

	centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	expert guidance to the customer by proposing solutions and supplier.
E. MANAGE	E.3. Risk Management	Level 3
	Implements the management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assesses risk to the organisation's business, including web, cloud and mobile resources. Documents potential risk and containment plans.	Decides on appropriate actions required to adapt security and address risk exposure. Evaluates, manages and ensures validation of exceptions; audits ICT processes and environment.

9.4. VENDOR MANAGER

MISSION

The role of Vendor Manager reflects organisations' transition to "buying" instead of "making". His mission is to steer relationships with IT outsourcers and suppliers, who carry increasing weight within organisations.

This role exists at the intersection of purchasing, management control/finance and the technology units in the IT department (whether expertise or service-delivery oriented). It seeks to fulfil three main objectives:

- Develop relationships with suppliers by establishing rules for governance, ensuring shared communication on each of the organisations, and acting as a mediator and facilitatory between participants.
- Serving as a point of contact on operational clauses to make the contractual relationship operational: changes to the service catalogue, supporting non-standard requests and negotiating them with suppliers, communicating on prices and contractual indicators, etc.
- Manage the administrative and financial relationship with suppliers by organising the steering committees for services, monitoring technical and financial performance and compliance with service commitments, negotiating any penalties alongside purchasing before the legal department is involved.

ACTIVITIES AND TASKS

Tracks activities and resources

- Defines and implements tools and methodologies for monitoring and benchmarking each supplier's performance.
- Defines and implements contract monitoring and licence management tools and methodologies.
- Analyses usage and anticipates business units' needs to adapt future purchases and anticipate discussions with suppliers.

Communication and change management

- Proactively monitors usage, alerts users to unsuitable usage and makes the necessary adjustments with suppliers.
- Communicates with IT and business unit teams.
- Is "customer oriented".
- Can manage potential conflicts with suppliers.

DELIVERABLES

- Memos on the evolution of suppliers and markets, based on continuous watch.
- Supplier monitoring report (overview of suppliers, their strategies and business with the company, past, present and future).
- Supplier reviews.
- Balance scorecard.
- Supplier ranking.

PERFORMANCE INDICATORS

- Supplier satisfaction survey.
- Coverage rate of strategic suppliers.
- Balance scorecard indicators.

PROFESSIONAL BACKGROUND

5 years' higher education in engineering or business with a focus on IT/digital.

MBA or Executive MBA or any other qualification in the field of purchasing and supplier management is a plus.

TRENDS AND FACTORS IN CHANGE

There is the potential for the role to be linked with contract managers or purchasing governance.

This new function, which requires both technical skills to understand the content of the services provided and steering and management skills, complemented by good interpersonal/diplomatic skills, opens up real HR prospects for project leaders, managers, software asset managers and service management staff.

SUMMARY OF COMPETENCES AND TRANSVERSAL ASPECTS (FROM EN 16234:2019)

A.2. Service Level Management	4	A.3. Business Plan Development	3
D.2. ICT Quality Strategy Development	4	D.4. Purchasing	3
D.8. Contract Management	3	D.11. Needs Identification	3
E.4. Relationship Management	4		

T1 Accessibility	T2 Ethic	T3 ICT Legal Issues	T4 Privacy	T5 Security	T6 Sustainability	T7 Usability
★★	★★	★★ ★★★	★ ★★	★★ ★★	★★	★★

DETAIL OF CORE COMPETENCES (FROM EN 16234:2019)

A. PLAN	A.2. Service Level Management	Level 4
	Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.	Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.
A. PLAN	A.3. Business Plan Development	Level 3
	Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business risk and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.	Exploits specialist knowledge to provide analysis of market environment etc.
D. ENABLE	D.2. ICT Quality Strategy Development	Level 4
	Defines, improves and refines a formal strategy to satisfy customer expectations and improve business performance (balance between cost and risks). Identifies critical processes influencing service delivery and product performance for definition in the ICT quality management system. Uses defined standards to formulate objectives for service management, product, data and process quality. Identifies ICT quality management accountability.	Exploits wide ranging specialist knowledge to leverage and authorise the application of external standards and best practices.
D. ENABLE	D.4. Purchasing	Level 3
	Applies a consistent procurement procedure, including deployment of the following sub processes: specification requirements; supplier identification; proposal analysis; evaluation of the energy efficiency and environmental compliance of products; suppliers and their processes; contract negotiation; supplier selection and contract placement. Ensures	Exploits specialist knowledge to deploy the purchasing process, ensuring positive commercial relationships with suppliers. Selects suppliers, products and

	that the entire purchasing process is fit for purpose, compliant to legal requirements and adds value to the organisation.	services by evaluating performance, cost, timeliness and quality. Decides contract placement and complies with organisational policies.
D. ENABLE	D.8. Contract Management	Level 3
	Provides and negotiates contract in accordance with organisational processes. Ensures that contract and deliverables are provided on time, meet quality standards, and conform to compliance requirements. Addresses non-compliance, escalates significant issues, drives recovery plans and if necessary, amends contracts. Maintains budget integrity. Assesses and addresses supplier compliance to legal, health and safety and security standards. Establishes and maintains supplier relationships and regular communication.	Evaluates contract performance by monitoring performance indicators. Assures performance of the complete supply chain. Influences the terms of contract renewal.
D. ENABLE	D.11. Needs Identification	Level 3
	Actively listens to internal/ external customers, articulates and clarifies their needs. Manages the relationship with all stakeholders to ensure that solutions and services are in line with business requirements. Proposes different solutions (e.g. make-or-buy), by performing contextual analysis in support of user centered system design. Advises the customer on appropriate solution choices. Acts as an advocate engaging in the implementation or configuration process of the chosen solution.	Establishes relationships with customers and helps them clarify their needs.
E. MANAGE	E.4. Relationship Management	Level 4
	Develops positive business relationships in a diverse stakeholder environment facilitating multi-disciplinary team collaboration. Maintains regular communication with colleagues, customers, partners and suppliers, displaying empathy with their different contexts and perspectives. Ensures that different stakeholder needs, concerns or complaints are understood and addressed in accordance with organisational policy.	Provides leadership in complex multi-stakeholder relationships authorising investments when needed. Disseminates corporate awareness of the benefits of a multidisciplinary approach.



Cigref is a network of major French companies and public administrations whose mission is to develop its members' ability to integrate and master digital technologies. Through the quality of its thinking and the representativeness of its members, Cigref is a unifying force in the digital society. Cigref was founded in 1970 under the French law of 1901, and does not engage in any profit-making activities. To achieve its mission, Cigref relies on three core businesses that make it unique.

Membership

Cigref embodies the collective voice of France's leading companies and government agencies on digital issues. Its members share their experience of technology use within working groups, to help identify best practices.

Intelligence

Cigref participates in collective reflection on the economic and societal challenges of information technologies. Founded nearly 50 years ago, Cigref is one of the oldest digital associations in France, and draws its legitimacy from both its history and its mastery of technical subjects, the foundation of skills and know-how that underpin the digital world.

Influence

Cigref promotes and respects the legitimate interests of its member companies. As an independent forum for exchange and production between practitioners and players, it is a benchmark recognized by its entire ecosystem.

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