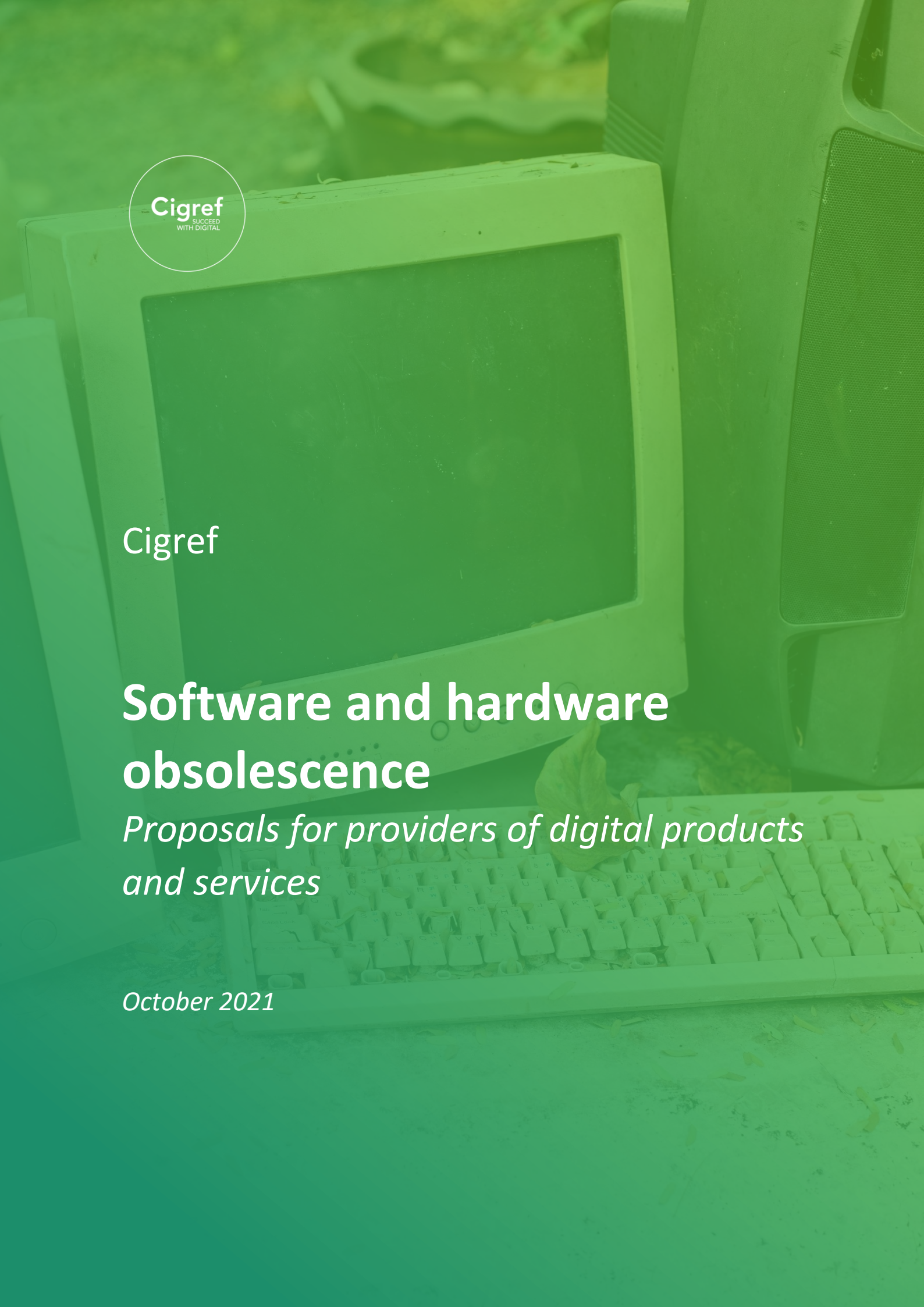

Cigref

Software and hardware obsolescence

Proposals for providers of digital products and services

October 2021

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EDITORIAL

Obsolescence, n.

- The state of being out of date
- Depreciation of a device or equipment before it wears out physically.

The definition of obsolescence highlights the loss of usage value, and therefore of economic value, before it has physically worn out. For our companies, digital technology is a lever for growth; a tool that serves our businesses. The economic value of digital technology is well established. The current awareness of the environmental impact of digital technology prompts questions concerning this loss of value, some of which results from the (overly) frequent renewal of hardware and software. It is our responsibility to factor in the environmental cost of equipment and to promote the environmental benefit of keeping this equipment longer!

Within Cigref member organisations, hardware or software obsolescence is a very common occurrence, and may be forced by the termination of security or support updates. The intrinsic interdependence between software obsolescence and hardware obsolescence is a major problem. Renewing equipment or updating software requires time, money and skills – and provides benefits that are not always quantifiable.

As part of this taskforce, comprising the member organisations of Cigref, we invited the DINUM and MTE government bodies to explain the different regulations and how they could help us in the fight against obsolescence. We also spoke with the Fairphone company and the HOP (Halting Programmed Obsolescence) association to provide further insight for our examination. My thanks to them for their detailed and enthusiastic help!

The subject of obsolescence is a complex subject which cannot be exclusively dealt with by user companies. Obsolescence must be considered at a communal level, by user companies and by digital suppliers (publishers and manufacturers).

We, as user companies, must question our practices and our choices. And we also want our suppliers to tackle the subject of obsolescence so that their proposals are able to meet the challenges of a subject that is a regulatory topic of central importance.

We are aware of the difficulty in striking a balance between digital innovation and reducing environmental impacts. We therefore need to work together to build sustainable digital technology.

I would like to thank all the participants of the taskforce that I have had the pleasure of leading, with the assistance of Flora Fischer.

Olivia Bertout, Digital CSR Leader, Adeo, Head of Taskforce

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- **Agnes Crepet**, Head of Software Longevity & IT at **FAIRPHONE**

This document was edited by Flora FISCHER, Project Lead at Cigref, with the contribution of the managers and participants responsible for the work.

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SUMMARY

Companies are increasingly faced with software and hardware obsolescence, which penalises them in terms of security, cost control, limitation of environmental impacts and preservation of resources. Following on from Cigref's work on digital sobriety, a taskforce met to deal with this issue of obsolescence in more detail.

What are the keys to working with partners to extend the lifespan of hardware and software while ensuring the security of information systems?

The research carried out by this taskforce resulted in two interdependent deliverables:

1. **Internal recommendations to user companies** with action areas intended in particular for the Purchasing departments and the IT Department;
2. Commitment proposals **intended for providers of digital products and services**, providing a shared platform for study with organisations who use digital technology to fight against the phenomenon of software and hardware obsolescence.

Each of these two deliverables is accompanied by a summary sheet on the state and evolution of **regulations concerning the fight against the obsolescence of digital products and services**.

In this document, user organisations define the expectations they have of their partners who supply digital products and services to enable them to work on defining a common framework for engagement. The proposals relate to key subjects such as: limiting the effects of software – hardware interdependence; extending the duration of technical support and security updates; software modularity (both in terms of version upgrades and user settings); and finally, the development of recovery, repairability and recycling services. These proposals should be considered as a common working platform with suppliers and manufacturers, given that they are intended to be used by organisations in their calls for tenders or their specifications for digital purchases.

Proposals to limit the effects of software and hardware obsolescence for suppliers of digital products and services

1 INTRODUCTORY STATEMENT

1.1 BACKGROUND

We, as corporate users of digital technology, wish to work with our supplier partners to **build and maintain a sustainable and responsible digital environment**. In France, this desire is accompanied by the recent development of a regulatory framework in which the environmental impact of digital technology is increasingly being taken into account:

- The 8 November, 2019 **law on energy and the climate**, committing organisations to becoming carbon neutral by 2050,
- The 20 February, 2020 **anti-waste law for a circular economy**, including the availability and recycling of spare parts, the repairability index, and the obligation to provide information about digital services' energy consumption.
- The **Chaize bill** aiming to fight against software obsolescence, voted for in the Senate on 12 January 2021 and on June 10 in the National Assembly.

Within the framework of **Green Pact for Europe**, the new European Commission has adopted a new action plan for the circular economy over the next 5 years, incorporating:

- A European repairability index;
- A "right to repair" extended to all electronic devices by 2021 (spare parts, universal chargers, etc.);
- Measures to incentivise eco-design;
- Finally, the European Parliament is demonstrating its desire to establish measures to promote sustainable production and consumption patterns, by voting on 25 November 2020 for the David Cormand report, "Towards a more sustainable single market for business and consumers".

These recent French laws and European measures provide a common framework for driving in-depth change in practices concerning software and hardware obsolescence issues.

1.2 A SHARED COMMITMENT FRAMEWORK

We, as user companies, call on our suppliers to be **proactive in implementing these regulations**, and also to work today on **new proposals to preserve resources and limit global warming**, going beyond legislative compliance. Changes in practices must be made, e.g. to limit the phenomena of hardware or software obsolescence.

For the software part and the hardware part alike, the problems faced by organisations are many and varied, ranging from the **economic** impact associated with software updates (enriched service offers), to the **security** and **environmental** challenges associated with obsolescence caused by these updates. The three major constraints identified by the members of Cigref as being the main causes of changes in infrastructure and equipment are:

- **Security updates** that are offered for limited periods of time and their inseparability from so-called "comfort" updates;
- The **end of support services** from publishers or manufacturers after a certain period;
- **The interdependence of software and hardware obsolescence**, where the frequency of equipment renewal is dependent on **software updates.**

User organisations, suppliers and manufacturers must work together and establish common principles for understanding and improving the occurrence of these issues.

1.3 USE AND END PURPOSE OF THESE PROPOSALS

From a practical point of view, these proposals are intended to:

- **Be included and used in calls for tender and specifications** by user organisations when purchasing digital materials and services;
- Provide a shared work platform for **defining a commitment framework for manufacturers, publishers and suppliers** to adopt with organisations using digital technology.

The large member organisations of Cigref offer their supplier partners of digital products and solutions an undertaking to follow at least the principles set out below.

2 PRINCIPLES

2.1 TO LIMIT THE EFFECTS OF SOFTWARE – HARDWARE INTERDEPENDENCE

Today, many devices are replaced prematurely for reasons of operating system obsolescence or software version upgrades. Cigref member organisations indicate that they lack clear advance information from publishers on the consequences of these updates and versions. In order to improve and limit the effects of interdependence between software and hardware, Cigref member organisations call on **manufacturers** to:

- Implement **good eco-design practices** that make it possible to limit the consumption of material resources;
- Provide **benefit-risk impact studies** on software-hardware interdependence (balance between the need for functionalities and technological development) by integrating a forward-looking dimension;
- Starting from the call for tenders phase, **inform customers of the lifespan of the equipment** (art. 27 of the AGEC law);
- **Specify hardware requirements** (required RAM, CPU, architectures) for installation and major version upgrades.

They also call on **publishers** to:

- Limit the hardware requirements (RAM, CPU) for software upgrades;
- Starting from the tender phase, **notify customers when software or hardware updates are available** (art. 27 of the AGEC law);
- Promote **modular version upgrades** by separating functional, security, corrective and legislative versions (RGAA, GDPR);
- Present a **modular features** mechanism for the software;
- **Offer native automation solutions** to facilitate migrations (while limiting the number of releases per year to the strict minimum).

2.2 TO ENSURE SECURITY IN A TIMELY MANNER

Cybersecurity is one of the key strategic challenges for organisations that are seeing an **increase in increasingly sophisticated attacks** against them. Updates to security patches for a disparate range of IT assets in terms of versions, or with versions that are no longer supported, expose organisations to unnecessary risks. The effort must be a shared one, combining safety and care for the environment. This is why user organisations call on their suppliers to make the following commitments:

- **Ensure the security of applications and equipment over time**, in particular by making security updates available, beyond the end of software updates, for a minimum period of 2 years for computers, and 5 years for smartphones as proposed in the **draft European Ecodesign regulation**;
- **Extend the duration of technical support;**
- **Share the roadmap of safety features** well **ahead of time** for issues that can be anticipated;
- **Separate evolutionary updates from security updates.** To be fully effective, this measure must be accompanied by the possibility of reversibility for strictly evolutionary updates.

2.3 TO INCREASE THE INDEPENDENCE OF USERS IN THEIR WORK ENVIRONMENT

Publishers are called upon to:

- Encourage greater **user autonomy** in configuring, optimising or uninstalling software or applications that are not essential for their individual use;
- Allow users who have installed an update to **revert to previous versions** of software provided during the purchase of the asset (art. 10, Chaize bill) without hindering the smooth operation or security of the applications;
- **Limit energy consumption** and **greenhouse gas emissions** in collaborative tools and software;
- **Reduce data volume** to a level required for applications' basic functionality while maintaining the quality of user experience.

Cigref member organisations call on publishers and manufacturers to:

- **Inform users** on good practices for extending the life of their equipment. This can take the form of alerts visible directly on devices during their use.

2.4 TO OFFER TAKE-BACK, REPAIRABILITY AND RECYCLING SERVICES

According to the "Global E-Waste Monitor 2020" study, the volume of electronic waste continues to grow year after year. In Europe, IT and telecommunications equipment accounted for 14% of electronic waste in 2020. However, only a tiny portion of the electronic components of computer equipment are recyclable. The preferred route is therefore to keep the equipment in service as long as possible.

Given that companies remain liable until the final recovery of the waste (article L541-2 of the Environmental Code), **it is in manufacturers' interest to offer solutions for the recovery, reuse or recycling of equipment** reaching the end of its life. When waste is intended to enter a recycling process, the issue of ensuring its traceability through approved channels and trusted third parties is also crucial in order to avoid any transfer of pollution.

We call on equipment manufacturers and suppliers to:

- Improve their **take-back and recovery policies for IT equipment** reaching the end of its life;
- Enhance **transparency** over the lifespan of the goods (thus making it possible to streamline the reuse of equipment), e.g. by integrating a usage meter in the equipment;
- Develop a traceability system to ensure **that the recycling chain is respected and truly virtuous;**
- Specify **the equipment repairability index** (art. 16 of the AGEC law) and plan for the implementation of **the durability index** covering the reliability and robustness of the equipment (applicable from 01.01.2024);
- **Provide spare parts** for equipment mentioned in article 19 of the AGEC law, for a minimum of 5 years;
- Increase the duration of the **conformity guarantee** for digital hardware products from 2 to 5 years (art. 11 Chaize bill);
- **Incorporate ecodesign practices by default** (limit flows and storage, streamlined configuration management, etc.);
- Commit to a **minimum service life** when selling their hardware equipment;
- **Display a recyclability rate** that enables an assessment of the level of reuse of equipment components;
- **State a minimum carbon environmental footprint**, ideally in a comprehensive and multi-criteria way[1];
- Promote the use of a **single tool for assessing GHG emissions**.

Through these proposals, digital user organisations are specifying what they expect from their partners who are suppliers and manufacturers of digital products and services, and wish to work towards defining a framework for common engagement, through **practical and proactive actions to reduce the phenomena of software and hardware obsolescence.**

[1] https://www.ademe.fr/expertises/consommer-autrement/passer-a-laction/faire-levaluation-environnementale

APPENDICES

Status and evolution of regulations in the fight against software and hardware obsolescence

This appendix gives the main references to existing or pending French legal texts concerning the fight against software and hardware obsolescence. The current evolution of legislation must be seized upon as an opportunity to change behaviour and practices today. Certain bills, including the Chaize bill, were undergoing review at the time of publication of this document. It is therefore important to note the publication date of this deliverable (October 2021) and refer later to the final published text.

1. IDENTIFICATION OF OBSOLESCENCE

1.1. Environmental Code

Although not explicitly mentioned, the theme of planned obsolescence already underpins art. L. 110-1-1 of the Environmental Code through the concept of the **circular economy**, with its "aim of achieving a neutral ecological footprint within the framework of respect for planetary limits and transcending a linear economic model consisting of extracting, manufacturing, consuming and throwing away, calling for a sober and responsible consumption of natural resources and primary raw materials." This article stipulates the need for an **"extension of products' life cycles."**

1.2. Consumer Code

Planned obsolescence was defined in 2015 in Article L213-4-1 of the Consumer Code via "all the techniques by which a producer aims to deliberately reduce the lifespan of a product in order to increase its replacement rate." **Planned obsolescence is punishable by two years' imprisonment and a fine of €300,000**.

The current problem is that it is still difficult to identify the offence of planned obsolescence. One of the goals of parliamentarians today is to make it easier to incorporate into court decisions (indeed, article 6 of the Chaize bill wishes to make the identification of the offence of obsolescence more effective).

2. RECENT MECHANISMS

2.1. Law of 10 February 2020 relating to the fight against waste and the circular economy, known as the "AGEC Law"

The AGEC law includes several provisions aimed at extending the lifespan of products:

- **Article 16**: the first flagship provision concerns **the repairability index (RI):**
  - Since 1st January 2021, a repairability index (a score out of 10) has been mandatory for 5 electrical and electronic products, including smartphones and laptops, to inform consumers about the extent to which the products can be repaired.
  - As of 1st January 2024, the durability index will replace or supplement the repairability index, and will focus on the reliability and robustness of equipment.
- **Article 19 & article 22**: these two articles introduce new requirements concerning the **extension of the lifespan of digital equipment:**
  - Art. 19: Obligation to provide spare parts for 5 years for certain equipment, including small computer and telecommunications equipment, screens and monitors.
  - Art. 22: Extension of the legal guarantee of conformity by 6 months for devices that have been repaired under the legal guarantee of conformity (for a minimum initial period of 2 years for digital products).
- **Article 27**: this article focuses on the **fight against software obsolescence**:
  - Manufacturers and sellers of goods incorporating digital elements shall provide information on the period of time during which updates to the software supplied at the time of purchase of the goods remain compatible with the normal use of the device.
  - Delivery of a government report to Parliament on the lifespan of digital and connected devices, on software obsolescence and on options for extending the lifespan of the equipment concerned.
- **Article 55**: from 1st January 2021, public administrations, when making their purchases, must favour the use of software whose design makes it possible to limit the energy consumption associated with their use.
- **Article 58**: from 1st January 2021, buyers from the State and local authorities must acquire goods resulting from re-use or reuse or containing recycled materials, in proportions set at between 20% and 100%, depending on the type of product.

Some of the themes of the AGEC law are included in the Senate bill known as the "Chaize" bill.

2.2. Provisions of the "Chaize" bill aimed at combating planned obsolescence

This is a bill passed in the Senate on 12 January 2021 and adopted at first reading on June 10 in the National Assembly with modifications. This is the first bill to focus exclusively on the environmental impacts of digital technology. As the articles have not been finalised at the time of writing this deliverable, only a summary of the main areas of this Chaize bill is provided below. It is advisable to follow changes in its stages until the law is enacted.

The various chapters of this bill include several notable provisions:

1. The provision on **the awareness** of digital users of its environmental impact: this is, for example, a question of modifying the Education Code by making training in ecodesign of digital services and digital sobriety compulsory in engineering courses (art. 2).
2. The second provision on the **restriction of renewals of IT equipment**: among other things, this is a question of integrating software obsolescence into the definition of planned obsolescence as defined in article L213-4-1 of the Consumer Code (art. 7), but also of giving consumers the ability to refuse software updates or to uninstall them if they are having a negative impact on their access to the digital service (art. 10).
3. The third provision on the **promotion of ecologically virtuous digital practices**; e.g. by promoting the declaration of design techniques in the CSR declarations of companies providing digital content (art. 17), by defining a general ecodesign framework (art. 16), or by obliging telecommunications operators to publish key ecodesign indicators for their digital products and services (art. 23).
4. The fourth provision concerns the **reduction in energy consumption of data centres and networks** by requiring data centre owners and network operators to subscribe to commitments to reduce their environmental impacts (art. 21).

With this bill, certain articles of the Environmental Code, the Consumer Code and the Intellectual Property Code have been amended through the integration of a digital component[2].

[2] http://www.senat.fr/tableau-historique/ppl20-027.html

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Achieving digital success to help promote the economic growth and competitiveness of its members, who are major French corporations and public administrations, and users of digital solutions and services

Cigref is a network of major French corporations and public administrations set up in order to develop its members' ability to acquire and master digital technology. It is a unifying player in the digital society, thanks to its high-quality thinking and the extent to which it represents its members. Cigref is a not-for-profit body in accordance with the French law of 1901, created in 1970.
To achieve its mission, Cigref counts on three business units, which make it unique.

Belonging
Cigref speaks with one voice on behalf of major French corporations and public administrations on the subject of digital technology. Its members share their experiences of the use of technology in working groups in order to elicit best practices.

Intelligence
Cigref takes part in group discussions of the economic and societal issues raised by information technologies. Founded nearly 50 years ago, making it one of the oldest digital associations in France, it draws its legitimacy from both its history and its understanding of technical topics, giving it a solid platform of skills and know-how, the foundation stones of digital technology.

Influence
Cigref ensures that its member organisations' legitimate interests are known and respected. As an independent forum in which practitioners and actors can discuss and create, it is a benchmark recognised by its whole ecosystem.

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