Cigref Strategic Orientation Report
The age of reason... what's next?

Cigref launched a new strategic approach this year, based on a method of prospective reasoning to enlighten its thinking. This Strategic Orientation Report is the outcome of this annual reflection, steered by a Strategic Orientation Council made up of Cigref members and qualified personalities, under the mandate of the Cigref Board.

This report is intended to give the reader an overview of the main topics to be tackled by Cigref in the coming years, with assumed positions and points of view. The objective is to enable the collective intelligence work of Cigref to be structured on this foundation.

This first edition therefore addresses five key themes, called "transformation fields", in the form of prospective analysis. Each field is thus explored through the prism of structural trends, which shape its evolutions in depth and over the long term, new phenomena likely to significantly change the situation in the field under study within the next 5 to 10 years (so-called "emerging trends"), major uncertainties that remain at the date of writing of this report, and finally events with a low probability but with a high impact if they occur, wild cards.

The 5 fields identified detail the technological evolutions and new applications of digital technology in society and organisations, with regard to the opportunities and concerns raised by the environmental challenges to be addressed, the growing cyber-threats, the new geopolitical challenges, the acceleration and modification of market expectations, the complex strategies of solution providers, and the new ways of working. The importance of resilience is a common thread running through all these elements. Faced with this incredible complexity, companies need to improve their ability to anticipate risks and adapt to these changes, which sometimes occur simultaneously.

FIELD 1 - "TECHNOLOGICAL CHALLENGES AND NEW APPLICATIONS"

While the development of technologies and their implementation in organisations often takes a long time, the Covid-19 crisis has highlighted the maturity of a good number of organisations. Most of them have been able to adapt quickly to the new requirements to ensure business continuity in a context of generalised lockdown, by mobilising, for example, cloud computing technologies, which have already been gradually adopted in recent years.

However, even before the Covid-19 crisis, digital technology had already introduced an acceleration of action and decision-making processes, as well as development and transformation dynamics in organisations. The evolution of certain key technologies such as artificial intelligence, 5G network and the Internet of Things should make it possible to accelerate and automate even more certain actions to meet the new challenges in industry 4.0, science and the medical sector in the next 5 to 7 years. Quantum computing, still under development for a few years, should slowly but progressively impact many fields, in particular data analysis and information security.

Despite the obvious values of digital technologies, there are still questions about their future development and usages. The questions of acceptability and explicability of the technologies, applications and choices made, will be increasingly crucial in order to build trust in cyberspace and to develop a digital world for the benefit of our society.

FIELD 2 - "TECHNOLOGY AND ENVIRONMENT"

A growing number of observations and opinions are being made about the impossibility of decoupling environmental and societal issues from technological and digital questions. The purpose of technological

progress as it is understood by most people today is to improve performance, which increases the possibilities of usage, but which necessarily has an impact on energy consumption.

It is possible that the volume of digital activity may in fact increase faster than the energy efficiency of the technologies. Despite this, digital technologies will also be one of the key solutions for speeding up the ecological transition, being an innovation driver capable of optimising our needs in terms of consumption of natural and energy resources.

FIELD 3 - "CYBER RISKS AND GEOPOLITICAL CHALLENGES"

The current context of increasing number and intensity of cyber-attacks is endangering the whole society and all its actors. Cybercriminals are becoming more professional and industrialised, due to the democratisation of digital tools and the relative impunity of cyberattackers, who sometimes even take advantage of the complicity of certain States. Whether they are of a criminal or geopolitical nature, the attacks that companies may suffer have more and more serious consequences as the scope of digital use expands. The ability of organisations to protect themselves from these threats and, ultimately, to work in degraded conditions when necessary, is a great challenge.

The geopolitical stakes, aggravated in particular by the trade and technological war between the United States and China, are thus a potential destabilising factor. Companies are being called upon to increasingly take part in the political agendas of States.

FIELD 4 - "DIGITAL PROVIDERS AND SERVICES"

Digital technology has a global impact on companies' business models, but also on the relationships between players in the digital ecosystem, between service providers and users, between incumbents and new entrants. The importance of services based on data and their use is increasing the power of international players such as the Big Tech companies, which have acquired a strong influence on companies and users, sometimes to the point of calling into question the capacity of States to limit or control their operations.

The Chinese tech giants (BATX), for their part, are gradually positioning themselves as new players likely to change the postures of all the stakeholders in Europe, for example, in infrastructures, particularly in 5G. The evolution of the interplay of players will have fundamental consequences on tools, services and, overall, on the place and role of each of the public and private players in the future.

FIELD 5 - "NEW WAYS OF WORKING AND EMPLOYEES COMMITMENT"

Now at the heart of the work organisation within companies and administrations, digital technology shapes everyone's working environment, particularly in the context of the health crisis. The teleworking practices deployed massively during the Covid-19 crisis constitute a vast social experiment in the relationship to work and its organisation in the digital age. Remote working and the increased use of collaborative tools and mobile applications that are accessible everywhere at all times, contribute to blurring the boundaries between private, professional and public life. Individuals use them as both workers, consumers and citizens. This can lead to new health risks (isolation, information overload, depression, burn-out...) that need to be taken into account.

With already a diversification of employees' expectations and changes in behaviours according to life stages, we can reflect on the impact of the health crisis and its social repercussions on the new links between companies and their employees, but also between employees and their activity, with some concerns in terms of human resources management, if the criteria of profitability and productivity were to prevail over the economic and social stability of all. The new ways of organising work that are emerging could incorporate the changes brought about by digital technology and teleworking, but could also rely on informal collectives and the interdisciplinarity necessary for innovation.