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Risk management & Covid-19: what does the future of safety look like?

Do both the Covid-19 crisis and the ongoing digital transformation illustrate the same trends for safety in the future? Who will be the key players? In which industries? And what will be the challenges in 2030–2040?

René Amalberti, Director of Foncsi and a member of the Academy of Technologies shares his thoughts based on the Icsi webinar that was held on March 4, 2021.

Are the Covid-19 crisis and the digital transformation indicators of the same trends for safety in the future?

No. Rather, they illustrate two possible paths for future safety, which share many similarities that have little in common.

1st path: systemic resilience

This is the historical legacy of the scientific literature created in the 1990s by the highly reliable organizations (HRO) movement, followed by the resilience engineering movement. This vision of safety is based on the idea that human and

organizational skills must remain key. And this idea is based on two essential points:

- margins must be a part of the system because they make it possible to manage the unexpected
- questioning whether there might be any surprises must be part of the daily routine; a totally deterministic attitude is not possible.

This resilience has been put to the test in managing the Covid-19 crisis, and is particularly well illustrated by the health system. If you ask hospital staff if they should be following the planned procedures, they will tell you that they cannot because they are inappropriate during the crisis. Instead, they use their intelligence and know-how to adapt to circumstances.

Typically, in the industry, everything that is programmed, algorithmic, or predictable explodes when there is a major crisis like Covid-19. Safety then focuses on **managing the unexpected** and degraded situations become standard.

This resilience movement makes it possible to **manage exceptional situations** where everything that was planned in advance proves to be inadequate, and to have the capacity to face the unexpected. But it is also

necessary to accept that the demonstration of safety gains is much more difficult in standard cases.

2nd path: the digital revolution

The digital revolution started about 5 years ago, and will continue into 2030–2040. We already live in an algorithmic world, where everything can be predicted with deterministic tools. This **vision controls the system**, which is kept within its defined boundaries, and is very likely to considerably limit any opportunities for operators and managers at all levels to be autonomous and adapt.

Moreover, there is a **need to demonstrate safety** not only in the industry, but also in society, notably in order to reassure local residents. This need could lead to the **total domination of digital safety** and feed the capacity to **produce indicators** that demonstrate – with respect to what is foreseen and known – an extraordinary level of safety, if only on paper. Nevertheless, even digital safety is exposed to the very significant, but very rare risks that society must face.

This is combined with a second phenomenon of **corporate disintegration**. Over time, businesses have expunged everything that is not central to the industrial process: they

have set up subsidiaries, and put them in competition with each other. There is an ongoing process of creating networks of companies, both external and internal. And when you have the power of digital safety at your service, you will be tempted to produce more indicators—and more ad hoc solutions.

We will therefore have both a fragmented industry and fragmented safety, which will clearly be very demonstrable, but will have to face **very significant homogenization challenges**. If each company has a different digital solution, we will also need a **global vision**.

If we look ahead to 2030–2040, what does the operator of the future look like?

In 2030–2040, we will face major challenges that will shape the way we look at the operator of the future.

First, we will have **3 generations of workers** who will have to operate alongside each other: a generation that continues to work because their retirement date has been postponed, an intermediate generation, and a millennial generation. Those who were born in the digital era will have very different hopes and expectations compared to their more experienced colleagues. Some countries have already made the move: Japan has voted to set the current retirement age to 70, moving to 75 in 2025.

A key question is the impact on careers. The older generation will clearly be the senior managers of tomorrow, and will have their own ideas about their level of autonomy or recognition of their expertise. One idea that has been put forward is to move this older generation out of management and give them other roles, such as training, leaving space for the generations that follow to develop. But this is a challenge, as the younger generation does not necessarily recognize the skills of the older generation. In Japan, they are thinking about training

the older generation to become trainers of their younger colleagues.

The second challenge is that in France, as elsewhere in Europe, we are missing out on what Asia is already doing well: **retraining older employees in digital skills**. In France, the professional development system is broken: we are not training enough young engineers to meet our future digital safety needs. Slowly but surely, we will find ourselves in a situation where there is a lack of skills, and a generational gap in companies. There can be no doubt that this will lead to contractualization and external training.

2030 is nearly here. We are at a key moment in time, where we will have to **take a new turn and prepare to adapt the company**. When our backs are to the wall, sometime between 2025 and 2030, we will have to move ahead quickly, and it will be painful. We need to consider the Asian model, even if the European and French responses may be different.

For the European Commission, the technological professions, their future and their availability in terms of career management in 2030–2040 is a priority. It is also a recurring topic in discussions at Davos, a key topic regarding how the company of the future will be organized, the role of managers, careers, and skills. Our current systems, which were developed in the years 2000–2010, are probably unsuited to making this leap, unlike the younger systems that are found in Asia or Africa. This is a big challenge.



For more information

>> Follow the “Risk Management & Covid-19” campaign

Icsi is examining the Covid-19 crisis from the angle of the “health crisis and major risk management”. It has launched a new program based on 3 axes: an observatory, discussion about the future, and an international perspective.

[Explore the Risk Management & Covid-19 section of our website.](#)