





Shaping Tomorrow:

Digitalization and Artificial Intelligence
in Industry and Operations



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Purpose & Objectives

It is safe to claim that we have entered the era of a new Industrial Revolution. Digital technology, particularly through Artificial Intelligence (AI), is transforming the world in an accelerated manner. Just as steam power fuelled the first Industrial Revolution, electricity the second, and information technology the third, we are now living a period that might signal the transition from the fourth to the fifth Industrial Revolution, marked by mass usage of sophisticated data models, machine learning, AI, advanced robotics, blockchain technology, among others.

This new phase isn't exclusively tied to the advance of machinery and automation: it's about redefining the very fabric of our society, economy and everyday life. Different studies claim that AI and digital innovations are already revolutionizing diverse sectors, including, naturally, the industry.

This report aims to illustrate how some of Portugal's leading companies are addressing this issue within the areas of the industrial and operational sector. Specifically, we seek to understand what steps are being taken and how these companies are defining and implementing a vision to capture the value of this new revolution. Throughout this report, we address the impact that digitalisation and AI are already having on three major dimensions: 1) industrial operations and processes; 2) innovation; 3) people.

We invited companies from different segments to share their experiences and to explore how they are already reaping the results of implementing digital and AI tools and practices. We would like to give special thanks to the guests who have contributed with a valuable set of ideas and perspectives.



Carlos van Zeller
(Altri COO)



Luis Delgado
(Bondalti Board Member)



Miguel Gil Mata
(Sonae Capital
Industrials CEO)



Miguel Pinto
(Continental Advanced
Antenna Managing Director)



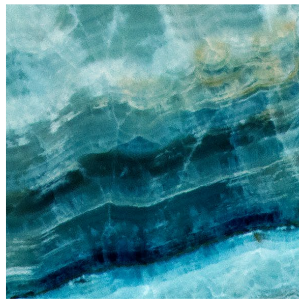
Nuno Fitas Mendes
(REN Portgás CEO)



Paulo Sousa
(Colep Packaging CEO)



Ângelo Ramalho
(Former Efacec CEO)



Highlights & Key Ideas

1. Impact on Operations and Industrial Processes

For **Carlos Van Zeller (Altri COO)** “The application of digital tools and AI in industrial processes is a genuine cash highway for organisations”, which is why Altri presents three clear examples of how they have been leveraging these technologies. From the production point of view, he mentions the efficiency gains obtained through the implementation of avatars that allow operators to be transformed into digital operators, guaranteeing a balance between technology and human intervention. Improvements are also evident in handling large volumes of data, with particular emphasis on time savings and human effort in tasks related to sorting and segmenting information. In terms of fraud detection, AI has also played a crucial role, particularly in identifying and monitoring anomalies, signalling to leaders’ actions that need to be taken in real time. **Nuno Fitas Mendes (REN Portgás CEO)**, also highlights the “increasing role of AI in detecting fraud in the gas sector”.

Miguel Gil Mata (Sonae Capital Industrials CEO), reinforces the importance of having leadership aligned around a culture of innovation, stating that “the organisation's strategic planning cycle must include reflections on digitalisation and AI, ensuring that these topics are permanently on our agenda and that people are encouraged to think outside the box”. SC Industrials recently launched the “Digital Factories” project, which reflects the efforts made to modernise and optimise industrial processes, namely through the in-depth sensing and digitisation of all industrial process parameters. The results of this technological advancement have been considerable and are already reflected in several of the holding's companies.

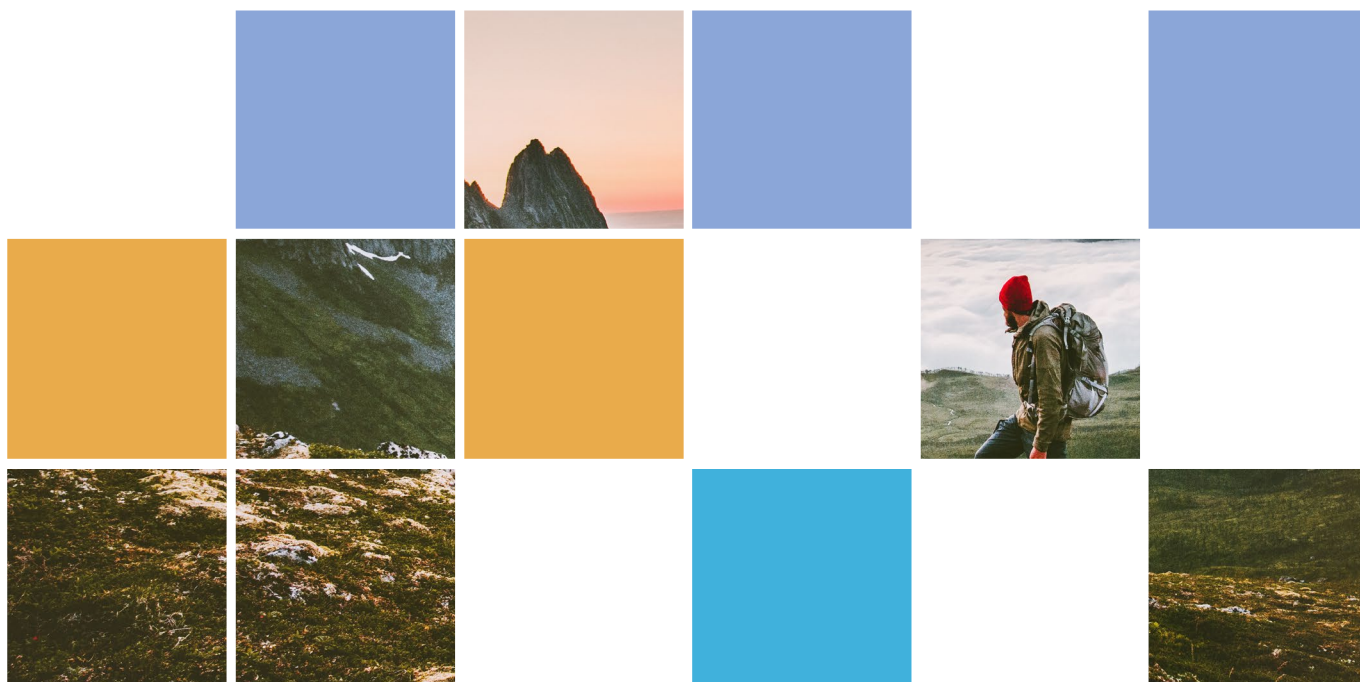
Luís Delgado (Bondalti Board Member) reiterates that ‘the chemical industry is highly digital in the sense that the product, which is not visible, requires tighter control. As such, investing in process control systems has been a given for the company, and digitalisation is something that is present, but with the clear purpose of ensuring predictability, stability, safety and final product quality’. Thus, for Bondalti, the importance of being able to guarantee predictability in its manufacturing process is a key aspect and, despite operating in a fairly traditional sector, it is continuously challenged to increase its digital maturity.

Given that this is a quite standard area in terms of the generated impact, the truth is that more traditional companies, with more legacy processes and technology, face challenges when it comes to integrating digital tools and AI. In this regard, **Ângelo Ramalho (Former Efacec CEO)** mentions that “despite the efforts already made, there is still a large margin for progress in the area of digital and AI”, suggesting the ever-increasing importance of capturing more value from the countless amounts of data that are produced throughout the manufacturing process.

Efacec is in a phase of digital transformation, recognising the need to accelerate its progress in this area, in order to remain competitive in the market in which it operates. Although it is aware that it still has limited digital maturity, it sees this scenario as an opportunity for growth, as do many other organisations facing similar challenges.

Key Ideas:

- Leaders in Portugal are aware of the positive impact of digitalisation and AI on the productivity and competitiveness of companies, recognising their strategic importance for the future of national industries.
- Boards and Executive Committees should be promoters and drivers of digital transformation, integrating it into strategic planning and promoting experimentation of use cases to ensure its effectiveness and alignment with the company's objectives.
- Despite initial efforts to adopt digitalisation and AI, companies are at different stages of maturity, which requires a differentiated approach when implementing technologies.
- Given the yet limited investment capacity of several companies, it is critical to prioritise mature use cases that offer proven returns, allowing for a safer and more efficient adoption of new technologies.



2. Impact on Innovation

The importance of partnerships and the involvement of leaders in the process of innovation and continuous development was an aspect that was mentioned across the board in this debate.

For **Paulo Sousa (Colep Packaging CEO)**, "times of crisis allow us to be more disruptive and therefore to innovate. Nevertheless, it is much more difficult for companies that are stable, in a process of steady growth, with profitability and delivering, to have the motivation to change". Among the companies represented, both SC Industrials and Colep Packaging emphasise the importance of exposing employees to success stories, carrying out continuous training and creating moments for reflection on the application of new technologies.

In order to implement a culture of learning and innovation, Altri has managed to ensure significant progress in its digital maturity through partnerships and training, such as courses on artificial intelligence and the implementation of digital systems for optimisation of industrial processes. The importance of fostering intellectual curiosity and continuous learning is highlighted, challenging leaders to be 'Champions' of change management and to train their teams in new methodologies, guaranteeing the spread of knowledge throughout the organisation.

In this regard, **Nuno Fitas Mendes**, also sees that the more junior layers of the organisation can "take on a role as challengers and promoters of disruption" and can contribute by benchmarking and breaking down certain orthodoxies. Even so, companies must be "willing to allocate resources to the subject of AI".

Miguel Pinto (Continental Advanced Antenna Managing Director) guarantees that "the use of AI has had a huge impact on innovation and product development".

For the Continental Group, the development of intellectual property and patents is key to the success of its business, as the market is undergoing rapid change, not only in terms of direct competition, but also from companies with integrated business models (such as Tesla or BYD). Facing this scenario, **Miguel Pinto** emphasises that "digitalisation and AI are creating opportunities, but also requiring significant investment for companies to remain competitive".

Key Ideas:

- Digitalisation and AI can profoundly transform both product development and business models, although the degree of impact varies between different industries.
- Even successful companies must foster a sense of urgency to follow and integrate digital and AI trends.
- The entire organisation, including the younger generations, should be involved in driving innovation and ensuring a sufficiently comprehensive transformation across the different layers of the organisation.

3. Impact on People

The need to reskill different roles in the organisation, with a special focus on the bottom and middle management, has emerged as one of the most important topics concerning the impact of digital and AI on people. At this level, a shift in behaviours and the development of new skills is increasingly demanded, so that people can maintain their relevance within the organisation.

Paulo Sousa stresses that “when we consider the function of a line operator, whose job is to produce 100,000 or 200,000 cans in one shift, that line operator is going to have to be re-trained as his job is no longer to produce cans, but to observe, control and improve this process. The digital transformation is felt in the smallest details, but in the end, it makes a difference”.

Also on this subject, **Carlos Van Zeller** says that “companies are considering allowing factory operators to work remotely, with physical support only in cases of need, to adapt to employee expectations and increase operational flexibility”. Unlike other sectors of activity, the issue of flexible working has been more sensitive in industrial operations, which poses challenges in terms of attracting a new generation of employees who value a better work-life balance.

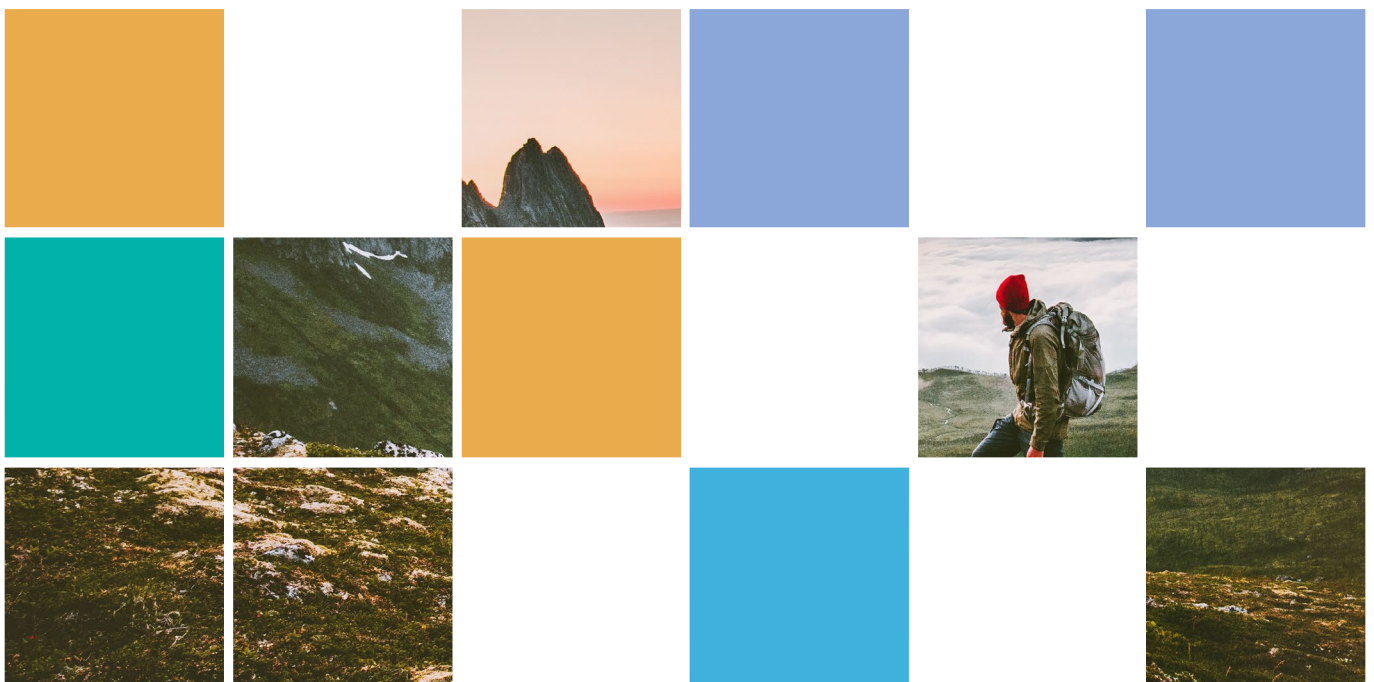
Still on the topic of people, **Nuno Fitas Mendes** points to the potential of “optimising workforce management in a company that has around 400,000 customers and 6,000 km of distribution network. With greater speed, we can activate the best team to solve the customer’s problem”. Regarding the work of operators in energy supervision and dispatch centres, there has been progress in the use of AI tools, although “the operator will continue to have to evolve towards a role of control and giving the right instructions”.

Key Ideas:

- The introduction of digital and AI is transforming roles within organisations, demanding comprehensive reskilling at the bottom and middle management levels. This process is crucial to ensure that employees can keep up with the new technological demands while remaining efficient and aligned with the company's emerging needs.
- Beyond adopting new technologies, digital transformation requires a profound cultural change within organisations. It's not just about acquiring new technical skills, but also about developing a mindset of innovation, collaboration and continuous learning, where flexibility and the ability to adapt are valued. As a result, employees become active agents in implementing a digital strategy, contributing more incisively to the company's sustainable growth.
- There is a tendency for jobs to require more ‘control’ than just ‘execution’ and for this to happen, the development of analytical and problem-solving skills is becoming more relevant.

Main Takeaways

- 1** The impact of digitalisation and AI is inevitable in the three dimensions discussed in this document: opportunities are created, but it is also necessary to be aware of possible threats and take action.
- 2** Leadership must allocate time to focus on this issue, acting as drivers of change by creating the necessary conditions for organisations to incorporate a disruptive mindset.
Being relatively new and fast-changing areas, it is important to integrate external knowledge; leaders must recognise that there may still be a lack of expertise and should, therefore, build on partnerships with consulting firms, recruit competencies that do not yet exist in the organisation and benchmark against other organisational realities
- 3** The process of adoption is a continuous journey in which companies will have to make smart choices to maximise their return on investment; for smaller companies, this may mean opting to be a fast follower rather than a disruptor.
- 4** Change management is also made through the implementation of new tools and the consequent change in work processes, which implies the ability to involve and influence all of the organisation's stakeholders, from the bottom to the top.
- 5** The development of new competences through Strategic Workforce Planning enables organisations to ensure they have the right people for the right jobs at the right time.



Odgers Berndtson

How can Odgers Berndtson help organizations to manage disruption?

Odgers Berndtson is a trusted advisor in talent and leadership development in strengthening high-performance organisations. Our holistic approach focuses on aligning the strategic challenges of the Organisation with the priorities of the Leaders, based on three areas:

— Odgers Berndtson —

SUPPORT ORGANIZATIONS IN EXECUTIVE SEARCH

Reflect on the existing competences and the missing competences in the organisation

Designing and/or redefining profiles, with a focus on digital and AI areas and the necessary competences

Recruit profiles with specific knowledge of Digital, AI, Data, Machine Learning, etc.

CONSTITUTE ADVISORY BOARDS

Define the composition of the Board, according to criteria of diversity of experience, technical knowledge, competences, etc.

Conduct a global search to find profiles capable of challenging and bring new perspectives

Select the profiles with the best degree of differentiation, fit with the organisational culture and future challenges

DEVELOP THE BEST LEADERSHIP AND TALENT STRATEGIES

Redefine or adapt HR processes to manage the organisation's engagement levels and keep employees' focus on performance

Implement agile ways of working that maintain the efficiency and productivity levels of the organisation

Reinvent or adapt the organisation through cross-functional teams, agile structures and functions



A multidisciplinary team with extensive knowledge of Executive Search, Organisational Consulting and Human Resources, with over 25 years of experience operating in the market. We have in-depth local and global knowledge of the various business sectors in which our clients operate, developing solutions tailored to the context of each business, with an impact on results and people.



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