

Five errors in the implementation of Industry 4.0

How to be ready for
the digitalization roll-out



impact to go

Executive summary

Industry 4.0 consists of applying digital tools to profoundly transform operational and business models throughout the value chain. This digitization is already enabling leading companies in many sectors to make major and sustainable improvements to the efficiency and flexibility of their operations.

However, there are five common mistakes in the implementation of Industry 4.0 that prevent this opportunity from being fully exploited:

- Lack of strategic direction
- Incorrect technological assessment
- Lack of forecasting and measurement of impacts
- Failure to aim for short term results
- Failure to plan for operation and deployment of solutions

In order to tackle this transformation in an agile and effective manner and overcome the barriers that arise in the implementation of Industry 4.0, Minsait has its own differentiated methodology, as well as extensive consulting capabilities (strategic, business and technological), technological assets and proprietary best-in-class products which enable the implementation of end-to-end digital solutions tailored to each client.

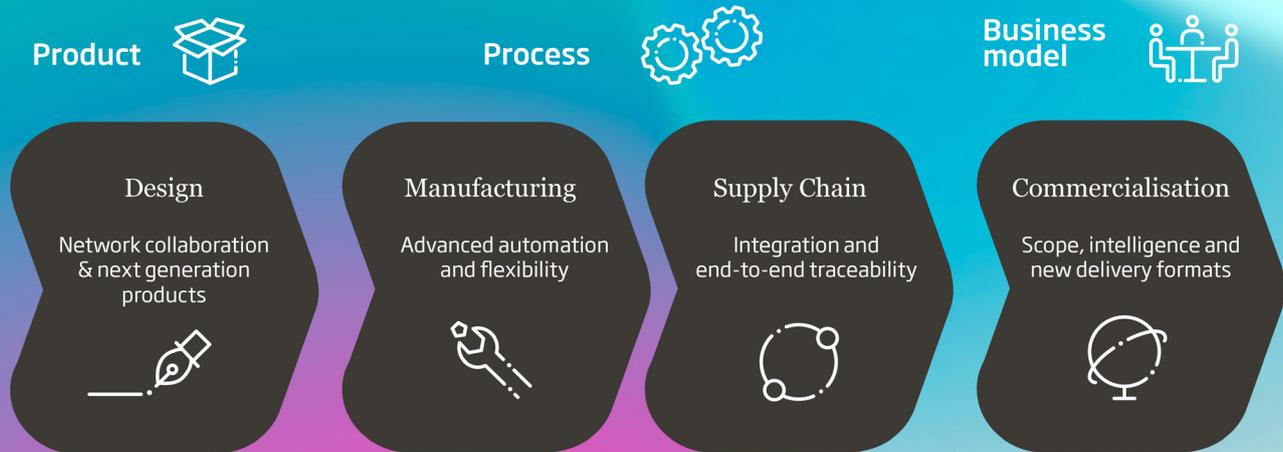
01 Industry 4.0: An opportunity for profound operational improvement

The digital revolution is a profound technological revolution that is impacting all sectors and businesses. In its industrial aspect, the digital revolution is what makes it possible to define the concept of Industry 4.0.

Industry 4.0 consists of applying digital tools to instigate a profound transformation in operations and business models: in the conception and design of products (ideation and agile prototyping); in manufacturing (increase in efficiency and flexibility); in the supply chain (improvement in end to end precision and efficiency) and in the commercialization (digitalization of the point of sale and adapted omnicanal distribution).

Industry 4.0 offers an enormous opportunity to generate value for all stakeholders: the economic potential at global level is estimated to be in the range of 1.2-3.7 billion dollars up till 2025.

Minsait Vision of Industry Concept 4.0



This digitization is already enabling leading companies in many sectors to make major and sustainable improvements to the efficiency and flexibility of their operations. For example, in three of its plants, BMW has deployed a new generation of autonomous trains for the supply of material to the production lines, improving reliability, flexibility, efficiency and costs.

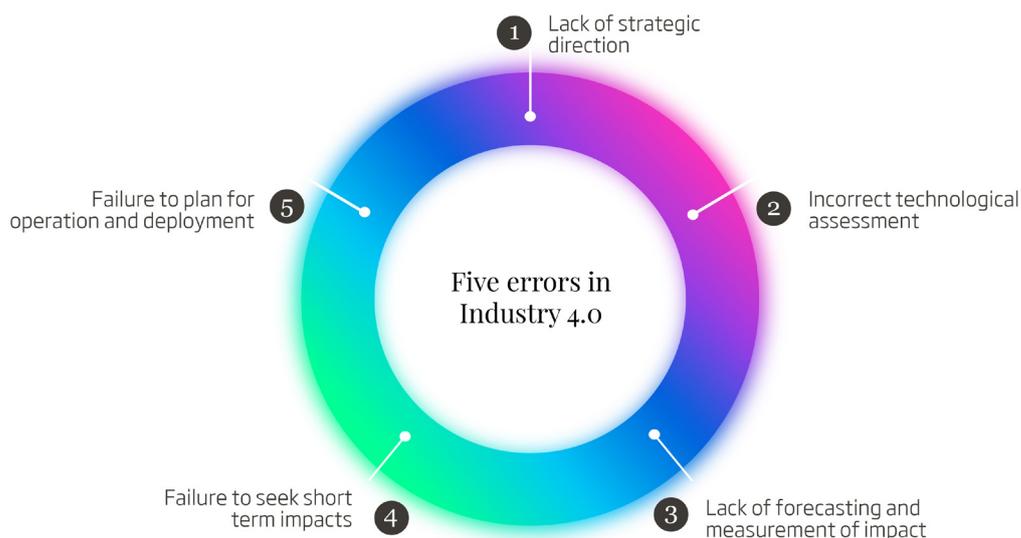
For its part, Minsait is collaborating with a Tier 1 firm to automate and improve the quality control of part painting, by means of an advanced image recognition solution, ensuring 100% accuracy and estimated cost savings of over 15%.

There is a general consensus in the market and companies about the value of this opportunity. However, there are five common mistakes in the implementation of Industry 4.0 that prevent the opportunity from being fully exploited, and companies need to bear these in mind in order to achieve an agile and efficient roll-out.

02 Five errors in the implementation of Industry 4.0

Based on Minsait's experience in digital transformation and the roll-out of Industry 4.0 concept in its clients, there are five common mistakes that leading companies need to be aware of.

Industry 4.0 consists of applying digital tools to make a profound transformation of operations and business models: in the conception and design of products (ideation and agile prototyping); in manufacturing (increased efficiency and flexibility); in the supply chain (improved accuracy and end-to-end efficiency) and in marketing (digitization of the point of sale and an adapted omnichannel approach).



Lack of strategic direction

The first step in tackling the transformation towards Industry 4.0 is to propose a digital strategy. A failure to adequately consider this definition brings with it several errors right from the start:

- Proposals for digital initiatives that are not aligned with the business strategy and/or not necessarily focused on the areas of maximum value generation.
- Proposals for isolated technological projects which lack functional and architectural coherence.
- A failure to see the importance of the figure of the internal sponsor, an indispensable actor in deployment of the digital strategy and in the promotion of the company's transformation projects.

Lack of forecasting and measurement of impact

As mentioned above, digital transformation projects must be oriented to generate an impact on the business, in terms of higher revenues, lower cost, better service, etc. This means that before Industry 4.0 projects are tackled, their impact must be quantified and, subsequently, their effectiveness must be measured. In this regard, the most common errors are:

- Failure to make a quantitative estimate of the impact to be generated by the digital project in the business before validating and initiating a digital transformation project.
- Failure to set out a Business Case that takes into account the impact generated, the complete costs (acquisition, start-up and operation) and the sustainability of the improvement.
- Failure to regularly measure the impact finally generated, to compare it with the initial estimates and to make the decisions that are necessary.

Incorrect technological assessment

Technology is a fundamental element in digital transformation and it is therefore common to find various errors in this area:

- Selection of inadequate technologies: tools and solutions that are not mature (not reliable), uneconomic, not architecturally scalable or difficult to exploit and operate with pre-existing internal capabilities.
- Definition of digital transformation projects from a fundamentally technological perspective, pushing the generation and measurement of impacts on the business into the background.
- Definition and deployment of all transformation projects by one single actor (internal or external). Working from the starting point of an overall strategic and technological proposal, it is necessary to identify an ecosystem of specialized partners who will provide support to the companies in the technological projects in which they have most experience and training.

Failure to seek short term impacts

Digital transformation is an opportunity subject to uncertainties over its effective outcome. That is why it is necessary to demonstrate to all the actors (organization, workers, shareholders, customers, partners, etc.) that the digital initiatives have a real and visible result in the short term. In this regard, the following errors are often observed:

- Unrealistic proposals for project scope: Industry 4.0 projects must have tangible results in the short term, and for that reason reduced and limited scopes must be defined in order to allow a tangible impact to be created in a few weeks.
- Deployment of traditional and linear development methodologies (requirements, gap analysis, programming, user testing, entry into production, etc.): this approach usually involves long development periods, low interaction with the end customer and risk of non-fulfilment of expectations.

Failure to plan for operation and deployment

In order to implement a digital solution that ensures relevant and sustainable improvements over time, it is essential to anticipate the operational and deployment model of the solution from the beginning.

In this regard, the following errors are common:

- Failure to initially define a technical architecture for the final solution: the lack of consideration of this aspect at the beginning of the project usually implies inefficiencies in the final operation, lack of scalability, lack of modularity and difficulty (cost) in its functional evolution.
- Lack of consideration given to the necessary internal staff training and the adaptation of the organizational structure for the effective operation of the digital solution.
- Failure to forecast an operating costs model or to consider possible operational alternatives and deployment by external players, which may involve operational simplification, cost savings and scalability.



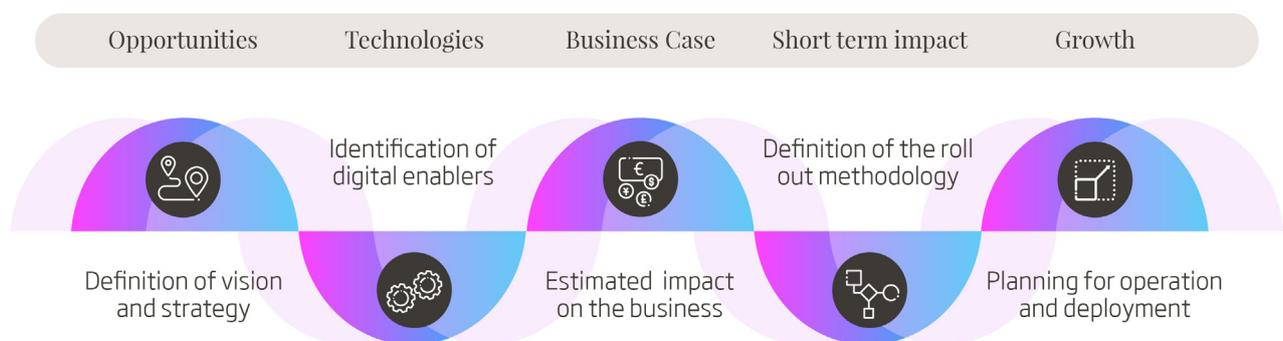
03 Minsait's response for agile implementation of Industry 4.0

In order to avoid these common mistakes and ensure an agile, efficient and secure deployment of Industry 4.0, Minsait has its own methodology, which is deployed in five stages:

- Opportunities. Definition of vision and digital strategy, assessing the potential of digitization at each stage of the company's value chain to identify Industry 4.0 opportunities and projects.
- Technology. Selection of the most suitable digital enablers, based on the evaluation of the company's digital maturity, the selection of mature, economic and secure technologies and the evaluation of the company's capabilities to operate them.
- Business case. Quantitative estimation of impacts and cost/benefit of the deployment of solutions, also providing for the regular control of expected results in the business.
- Short term Impact. Deployment of agile methodologies (including value tests, continuous iterations ...) to obtain short-term results and ensure their adjustment to initial expectations.
- Growth. Forecast from the beginning of the operational model and deployment of the solutions from a technical, functional, economic and organizational perspective.

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Minsait Methodology for the deployment of Industry 4.0



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Minsait is the Indra business unit that responds to the challenges which digital transformation poses for companies and institutions. Indra is one of the leading global consulting and technology companies and the technology partner for the key businesses of its clients around the world.

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