

WHITEPAPER

Digitalisation in Industry: How to Get Started and Avoid Falling Behind

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1. Introduction

Global industrial companies are at a crossroads, facing critical challenges such as sustainability pressures, stringent regulations, and an ageing workforce. Rapid advancements in operating conditions further complicate this landscape, creating an unprecedented and demanding environment.

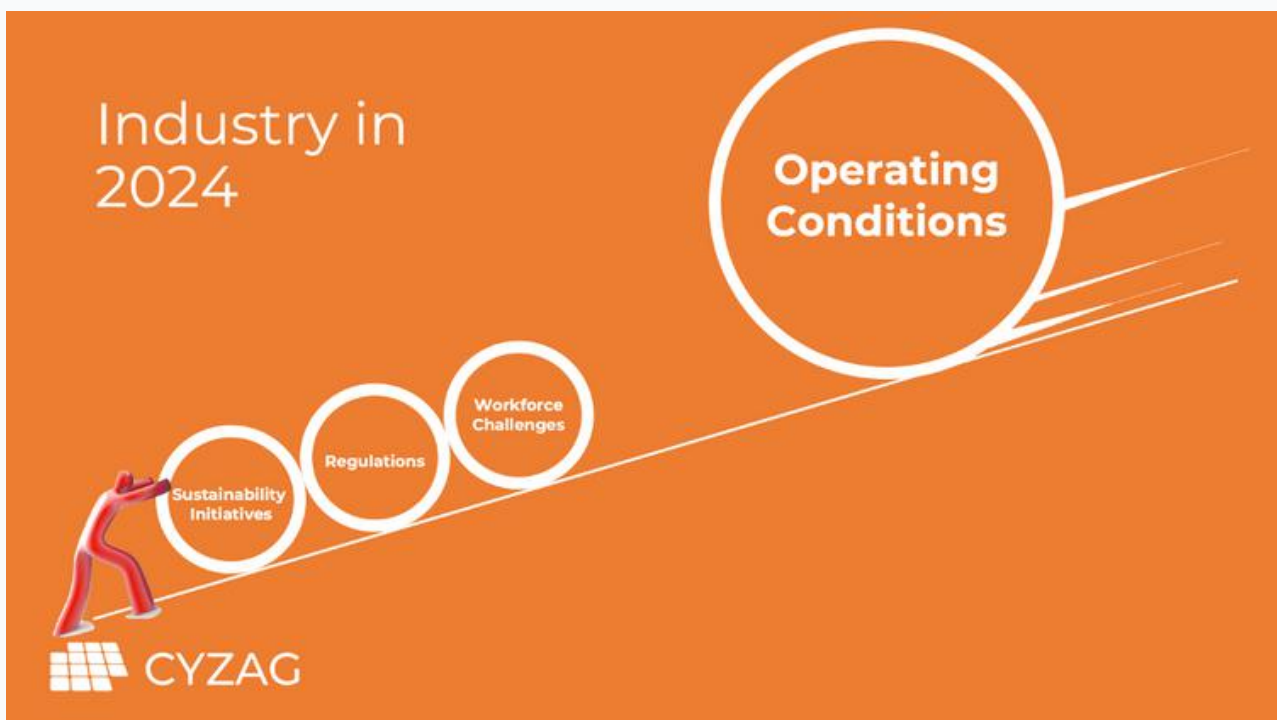


Image 1: Challenges industry faces in 2024.

So, how do we make significant changes to stay competitive in this industry? The key lies with our people.



Image 2: A quote from Kearney Consulting highlights that 72% of the value generated in manufacturing today comes from our workforce. .

According to a [Gallup](#) study, companies with engaged workers achieve 23% higher profits than those without. Moreover, [Kearney Consulting](#) highlights that 72% of the value generated in manufacturing today comes from our workforce.

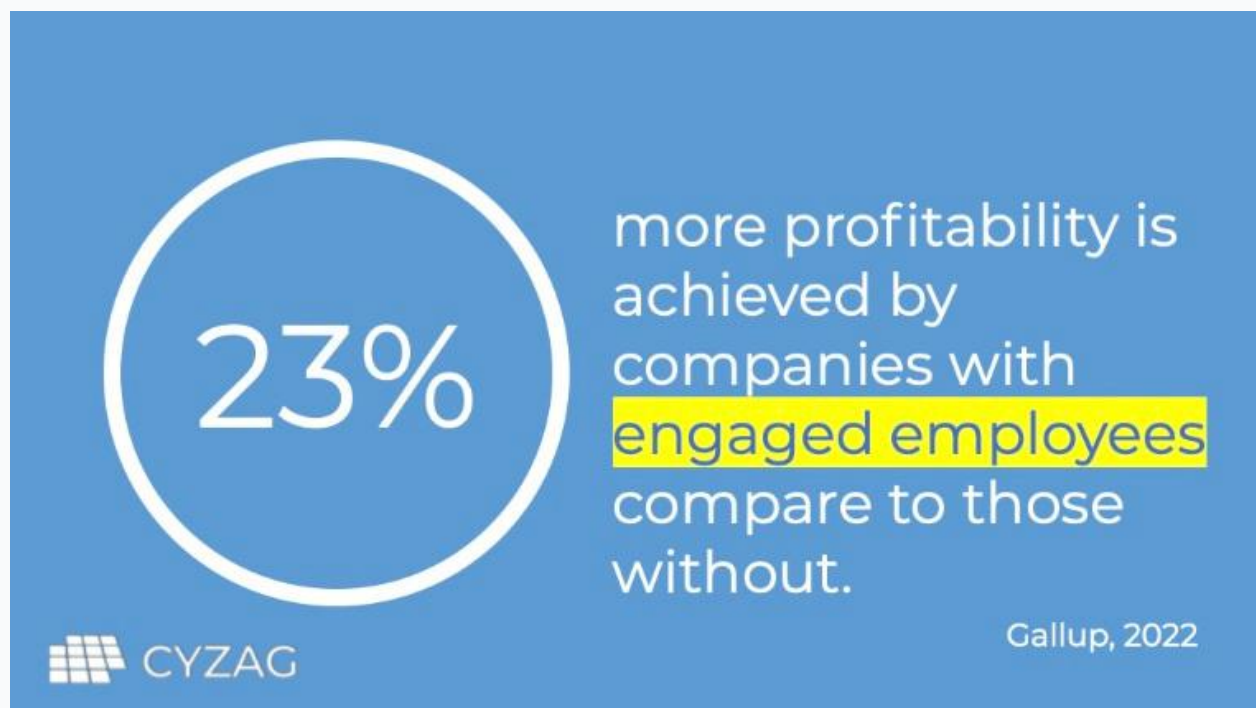


Image 3: A quote from a Gallup study that suggests companies with engaged workers achieve 23% higher profits than those without.

Engaging and empowering our employees to maximise their contribution is crucial. This empowerment goes beyond simply running plants safely and under control; it involves enabling our workforce to drive transformative changes in their daily routines. One of the main avenues for achieving this is through digitalisation.

Furthermore, recent data underscores the growing importance of digitalisation. According to an [EY DigiChem survey](#), the impact of digitalisation on companies has been substantial. The survey asked companies about the impact of digitalisation over the past three years and their expectations for the next three years.

The survey reveals that in the past three years, 33% of companies experienced revolutionary changes due to digitalisation, while 10% reported disruptive changes. Looking ahead, expectations are even higher: 35% of companies anticipate revolutionary changes, and 30% foresee disruptive impacts in the next three years. This indicates a clear trend towards increasing digital integration and transformation within the industry.

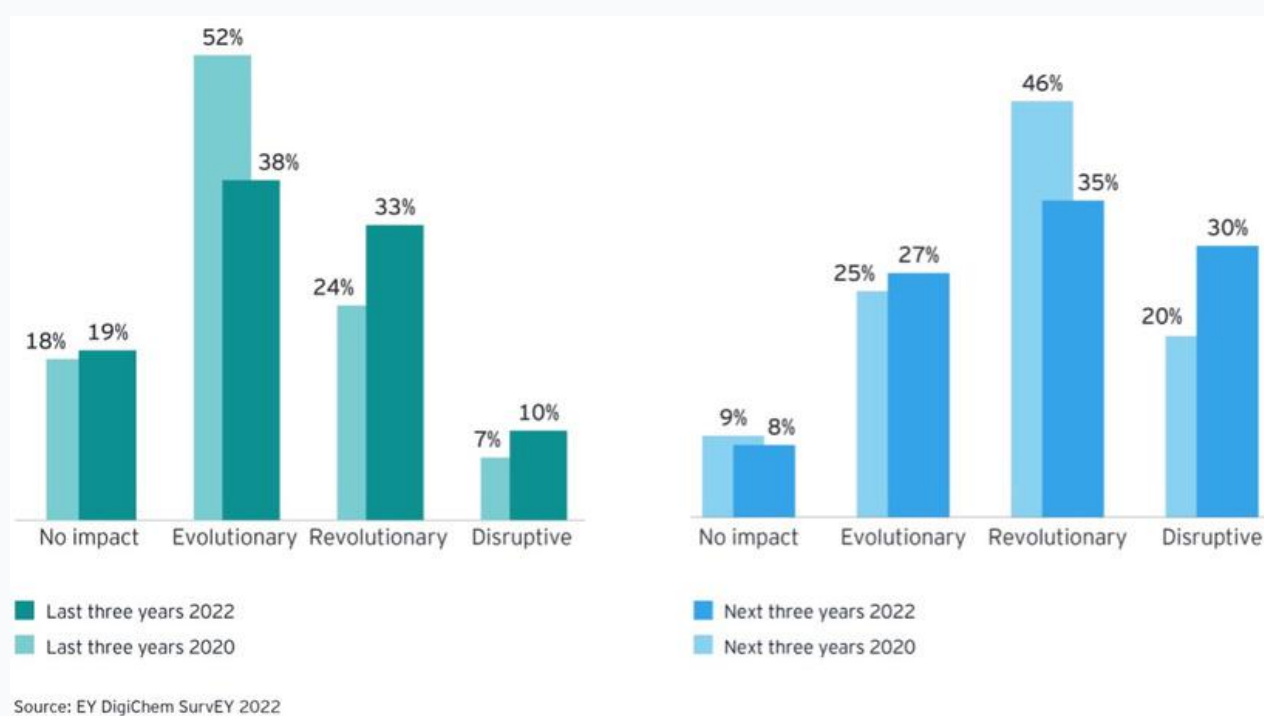


Image 4: The EY DigiChem survey showing the impact of digitalisation over the past three years and their expectations for the next three years.

Thus, the question is no longer whether to digitise but how to do so effectively. This whitepaper, "**Digitalisation in Industry: How to Get Started and Avoid Falling Behind,**" will explore multiple aspects of digitalisation and its practical application, helping professionals in industrial companies put plans into practice.

This whitepaper will discuss:

- **Why you need to digitalise:** Understanding the compelling reasons behind digitalisation.
- **What you need to do first:** Identifying initial steps and prerequisites.
- **Where you are on the digitalisation roadmap:** Assessing your current position and readiness.
- **Engaging your team:** Strategies for engaging and empowering your workforce.
- **The step-by-step technical process for achieving a digitised plant:** Detailed guidance on implementing digital technologies.
- **The financial aspects and challenges related to this process:** Evaluating costs, benefits, and overcoming potential obstacles.

Additionally, this whitepaper offers case studies to provide actionable solutions and inspire your company's successful digitalisation journey.

2. Why Digitalisation is Important for your Company

Before delving into the steps for beginning your digitalisation journey, we have identified seven crucial advantages that digitalising industrial organisations can bring across multiple dimensions of their operations.

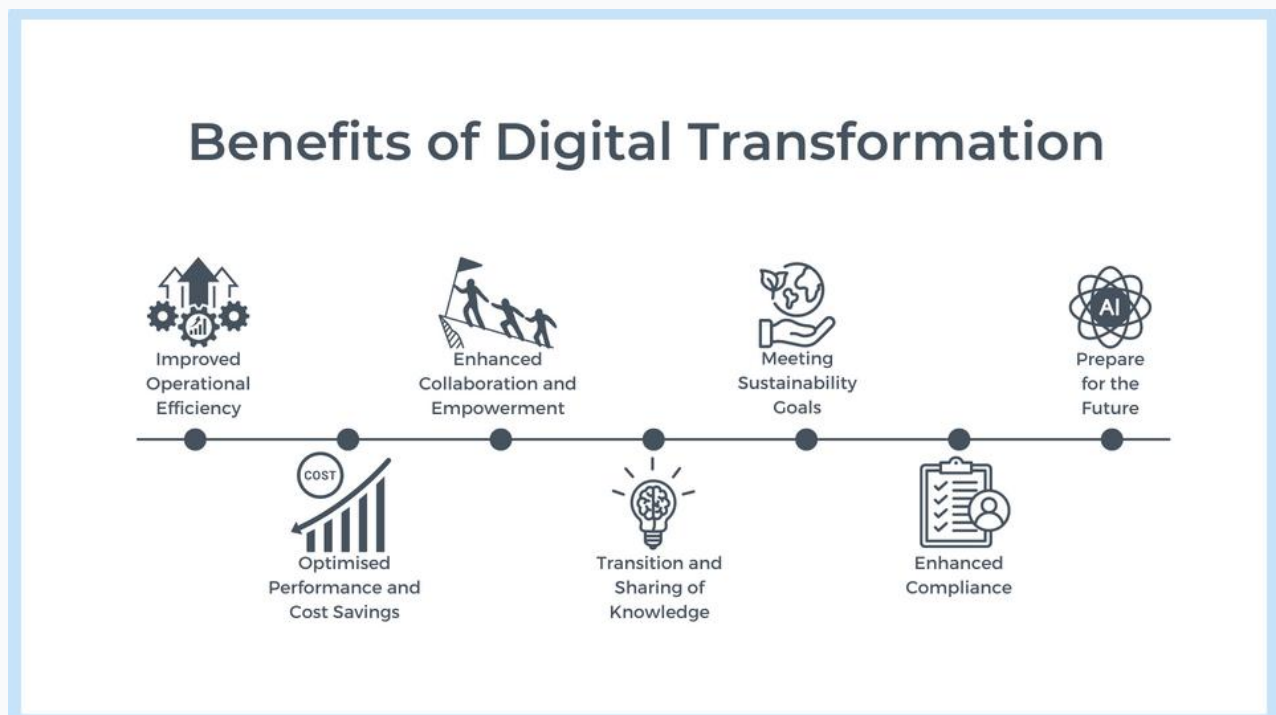


Image 5: The 7 key benefits of digital transformation outlined in this whitepaper below.

1. Improved Operational Efficiency: Streamlining work processes and [breaking down information silos](#) removes various kinds of waste and enhance operational efficiency. It also improves the efficiency and effectiveness of management practices in the manufacturing environment, freeing up leaders to handle more strategic tasks.

2. Optimised Performance and Cost Savings: Accelerating the use of real-time process analytics leads to boosted performance and cost savings. These improvements are usually related to increasing [overall equipment effectiveness \(OEE\)](#), minimising the usage of raw materials, energy and water, and decreasing waste generation.

3. Enhanced Collaboration and Empowerment: Unifying operations, having one transparent and single source of truth and valuing frontline staff knowledge empowers workers and improves engagement, nurturing a continuous improvement environment. Engagement is difficult to measure but is a powerful driver of sustainable and profitable operations.

4. Transition and Sharing of Knowledge: Ensuring continuity and reducing risks associated with an ageing workforce and the lack of ready-to-start personnel.



5. Meeting Sustainability Goals: Transparent, accessible, and verifiable sustainability data bridges the gap between sustainability aspirations and actions. It also improves environmental performance by minimising raw materials, energy and water usage, and waste generation.

6. Enhanced Compliance: Automating compliance checks and maintaining records effortlessly achieves higher levels of compliance.

7. Prepare for the Future: While [AI \(artificial intelligence\)](#) is not yet fully integrated into industrial organisations, its success depends on having robust data. Without comprehensive data, AI cannot provide meaningful insights. By implementing digitalisation now, you ensure your data infrastructure is ready for future AI applications, which will significantly enhance industry performance.

3. Initial Steps to Digitalisation

To start digitalising your plant, define your digitalisation objectives and understand your starting point. This should be done with the involvement of other stakeholders.

Consider who the end-users are and how they will benefit from the new digital tools. Understanding stakeholders, their pain points, and the rules they must comply with is essential for making the digitalisation process successful and smooth.

Let's examine these needs in detail.

3.1 Define Your Digitalisation Objectives

Clear objectives are crucial for successful digitalisation.

Whether you want to improve operational efficiency, boost the use of process analytics, reduce downtime, reduce cost, enhance safety, or set a proper continuous improvement environment, defining what you want to achieve will guide your digitalisation strategy.

These objectives should align with your overall business goals and be specific, measurable, achievable, relevant, and time-bound (SMART). If the objectives become too complex, a gradual approach can reduce complexity and identify relevant sub-initiatives.

3.2 Understand Your Starting Point – High-Level View

To navigate a successful transformation journey, you must understand your current position and establish a clear roadmap. To facilitate this evaluation, Cyzag has developed a comprehensive assessment focused on your organisation's digitalisation readiness, particularly in manufacturing. This evaluation considers two critical dimensions for achieving efficiency and benefits: Work Process Maturity and Digitalisation Maturity.



Each dimension is measured on a scale from 1 to 5, with 1 representing the lowest level of maturity and 5 the highest. The Cyzag Digitalisation Readiness Matrix, shown below, illustrates the different levels of maturity.

Work Process Maturity	Digitalisation Maturity				
	Initial	Basic	Defined	Advanced	Optimised
Ad-hoc	1	2	3	4	5
Basic	2	4	6	8	10
Standardised	3	6	9	12	15
Managed	4	8	12	16	20
Optimised	5	10	15	20	25

Matrix Legend:

Work Process Maturity	Digitalisation Maturity	Assessment Score
1- Ad-hoc	1- Initial	Initial Stage
2- Basic	2- Basic	Developing Stage
3- Standardised	3- Defined	Intermediate Stage
4- Managed	4- Advanced	Advanced Stage
5- Optimised	5- Optimised	Optimised Stage

Image 6: The Cyzag Digitalisation Maturity scale.

By performing the self-assessment, you will understand your current starting point and prioritise efforts to improve both dimensions. Additionally, you will receive recommendations for progressing towards a more digital and efficient operation. To perform your assessment, please visit: [The Cyzag Digitalisation Maturity Assessment](#).

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