

# DATA-DRIVEN WORKFLOWS IN MAINTENANCE

LEVERAGING POTENTIALS IN PLANT MAINTENANCE THROUGH PROCESS EXCELLENCE





**“IF YOU FAIL TO PREPARE,  
PREPARE TO FAIL.”**

BENJAMIN FRANKLIN

## BECOME MORE RESILIENT, EFFECTIVE AND ECONOMIC

Companies in the process industry find themselves under continuously increasing cost pressure in a volatile and highly regulated environment with complex processes and machines to operate and maintain. To overcome those challenges while becoming more resilient, effective and economical, companies need to optimize their processes utilizing asset data and leveraging digital solutions. This will ensure reliable and safe production and help companies in the industry to achieve their business objectives.


At Capgemini Invent, we have developed a data-driven approach that delivers long-lasting value. We screen value drivers, identify process inefficiencies and eliminate them permanently. Data-driven insights ensure that factual findings deliver maximum organizational acceptance.

On the following pages, we would like to present some of our ideas and look forward to speaking about their application in your organization.

Thank you in advance for your time and consideration.

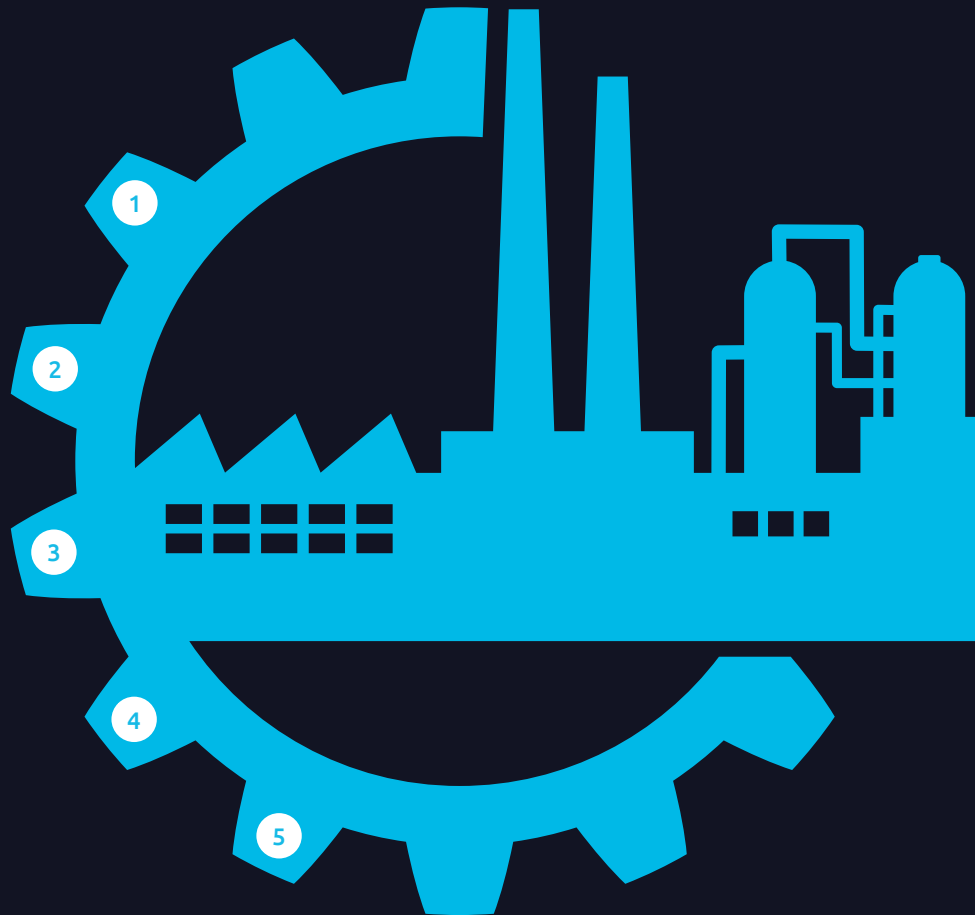


**Thomas Both**  
Global Lead Process  
Mining & Analytics



**Dr. Björn Heidrich**  
Head of Asset Lifecycle  
Management

# CURRENT CHALLENGES IN THE AREA OF MAINTENANCE SHOW HIGH POTENTIAL FOR IMPROVEMENTS



## Key challenges of Maintenance

- 1 Demand for cost efficiency combined with a lack of cost transparency
- 2 Complex stakeholder landscape and increasing share of outsourced Maintenance activities
- 3 Limited spare parts inventory management and transparency
- 4 No interruption of production and short Maintenance execution times
- 5 Lack of process transparency and non-compliance with standards

#### COMPLETION RATE

Up to **85 %**

... uncompletion rate of  
Maintenance requests

#### MAINTENANCE COSTS

Up to **46 %**

... of all Maintenance costs are caused  
by repairs

#### BREAKDOWNS

Up to **12 %**

... of malfunction reports are related to  
breakdowns

#### DATA MANIPULATION

Up to **12 %**

... of Maintenance requests indicate  
subsequent data manipulation

#### ASSET CRITICALITY

Up to **74 %**

... of Maintenance requests  
for high critical assets are  
malfunction reports

#### SPARE PARTS

Up to **51 %**

... increased Maintenance  
throughput time for  
non-stock spare parts

# ASSET MANAGEMENT PROCESSES SIGNIFICANTLY AFFECT THE MAINTENANCE BUSINESS OBJECTIVES

Ensuring the health and safety of employees as well as compliance with environmental requirements is the main objective of any company in the process industry.

However, companies must operate their assets economically, ensure continuous production and deliver products with the highest quality. Therefore, the reliable and safe operation of machines and equipment must be ensured while reducing downtime for Maintenance, costs and optimizing the use of capital.

In order to meet these goals, processes across the complex stakeholder landscape must be aligned to act quickly and efficiently. In addition to processes for planning, scheduling and the execution of maintenance activities further processes are required to manage spare parts, select the right maintenance strategy, as well as to continuously maintain asset data throughout the asset's lifecycle. All processes are highly interdependent and strongly interwoven. Only a good interaction of the processes can ensure the flow of information between many different stakeholders.

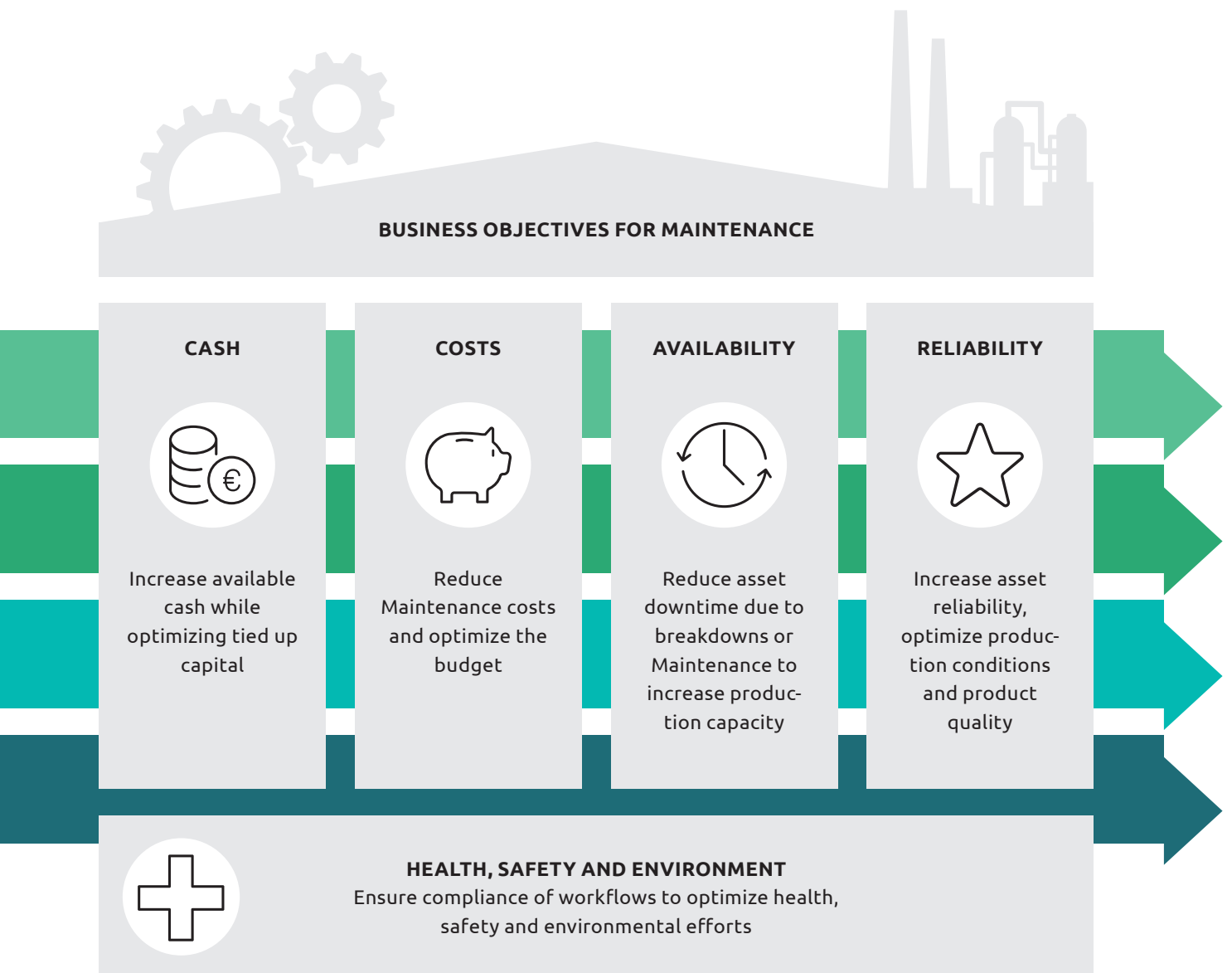
Since the processes have grown historically with its companies and production plants, the process landscape offers great potential for optimization, which can be fully exploited through digitization but is often difficult to identify due to the complexity.

MAINTENANCE PLANNING,  
SCHEDULING AND EXECUTION

ASSET STRATEGY

ASSET LIFECYCLE MANAGEMENT

SPARE PART MANAGEMENT

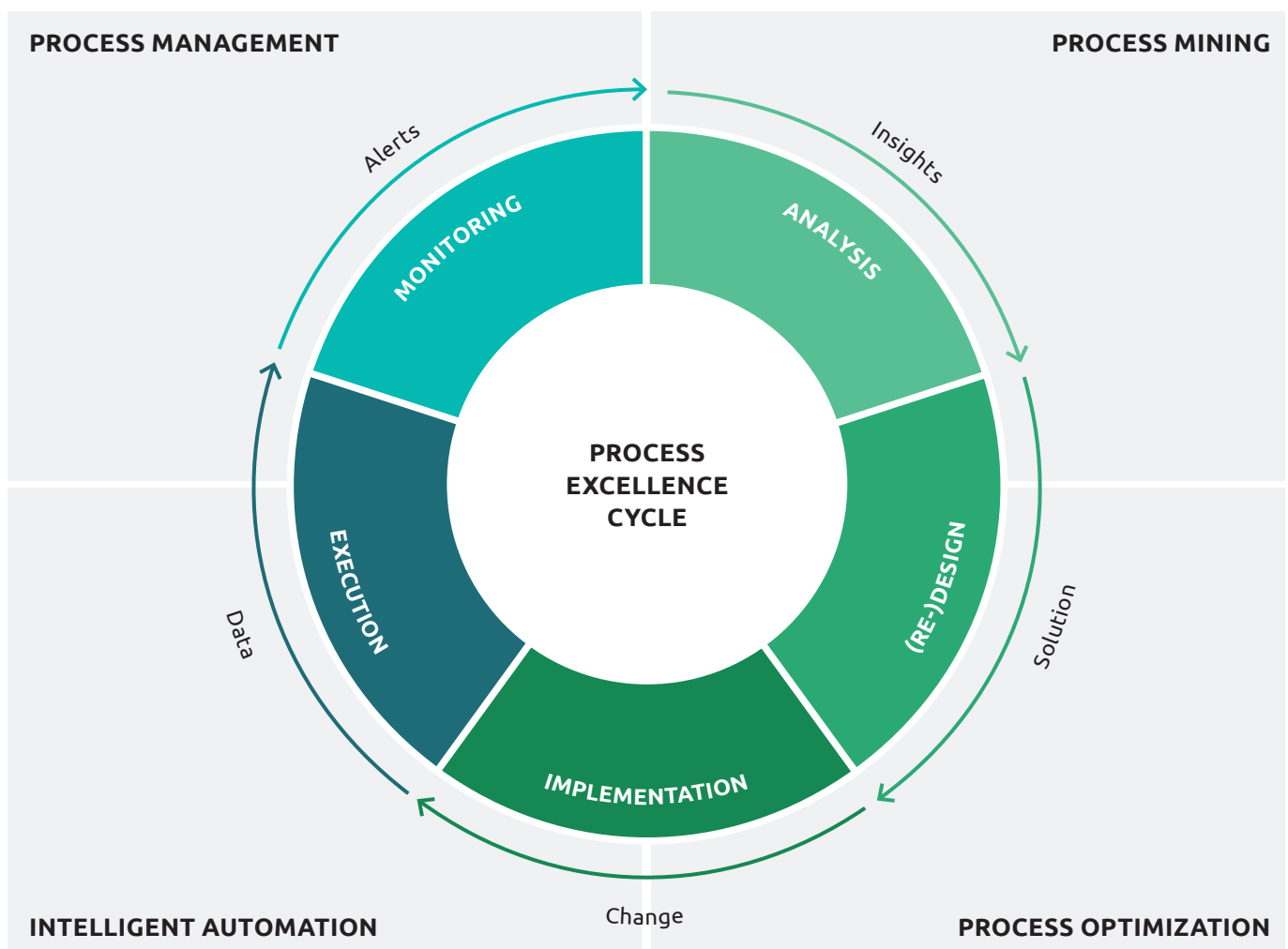


# THE EXECUTION OF THE PROCESS EXCELLENCE CYCLE ENABLES THE ACHIEVEMENT OF SUSTAINABLE PROCESS IMPROVEMENTS

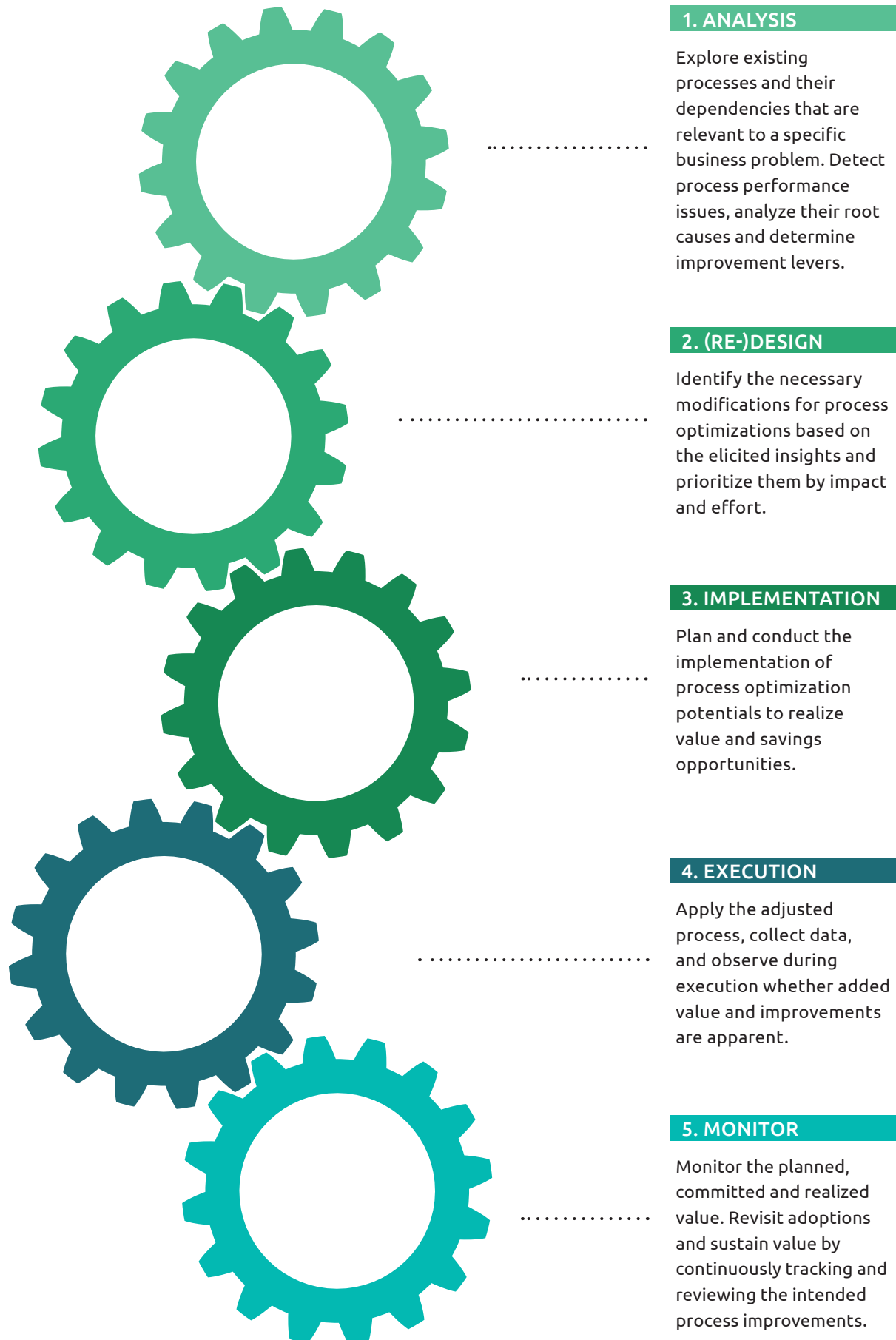
Process Excellence is a proven concept that aims to increase efficiency in business processes and focuses on value creation.

Process Excellence offers a result-oriented and organization-developing approach that enables processes to be raised to a new level after only a short period of time. It is not just a primitive modification of the process, but an attempt to

change the way people work and behave in an organization. It is about solving problems and managing change, performance and workplace culture to align with overall business objectives.





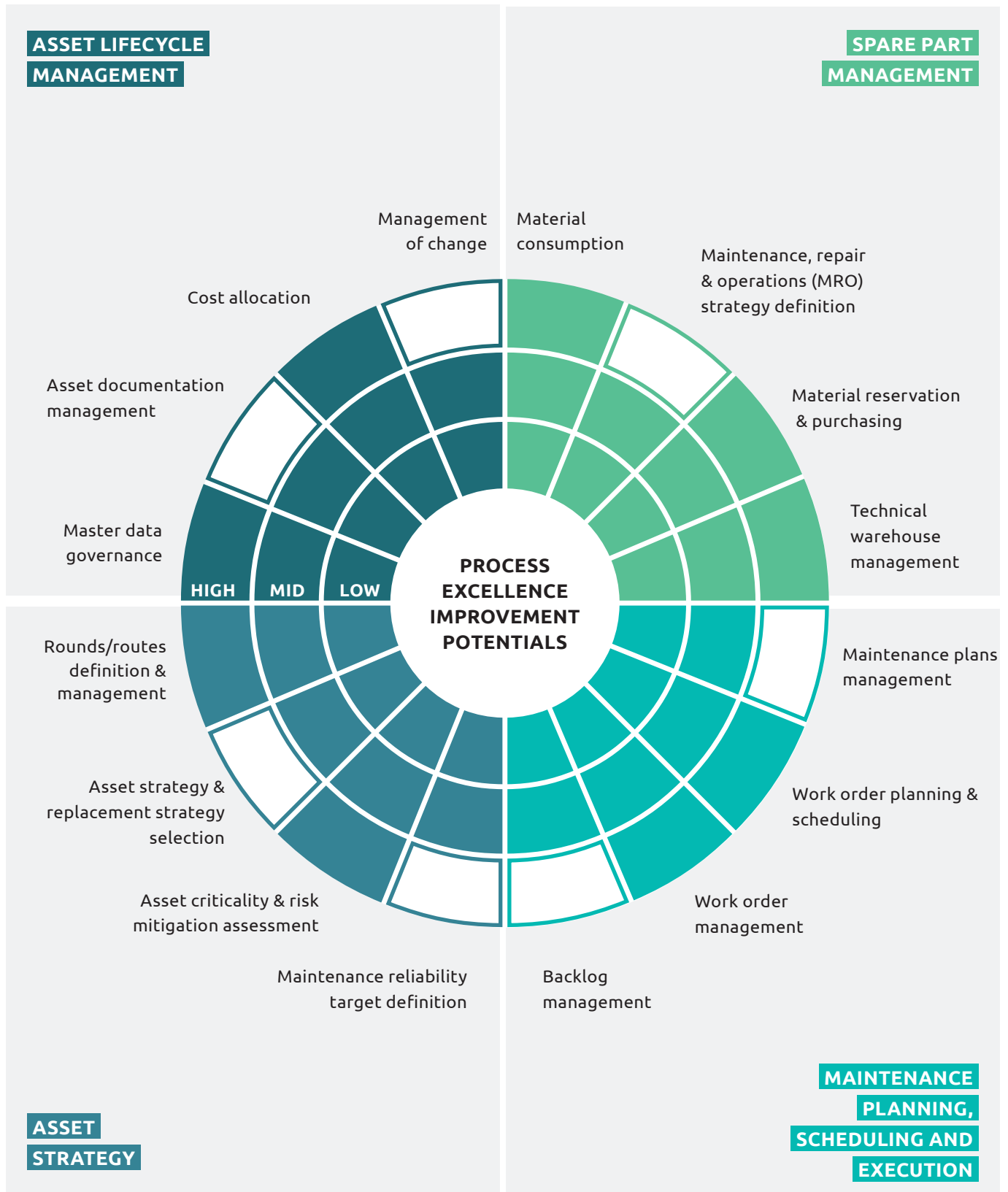


# PROCESS EXCELLENCE UNCOVERS IMPROVEMENTS ALONG THE ENTIRE ASSET MANAGEMENT PROCESS

## Achieving Process Excellence is a challenge in itself

Process Excellence is suitable along all major asset management processes. Whether support processes or customized core processes. The application of the approach to standard processes is usually less complex than for highly customized processes where specific expertise may be required. The choice of suitable processes which can be addressed using the approach depends not only on the selected focus and scope, but also on the availability of resources and the expected business value.

Throughout the process landscape of Spare Part Management, Maintenance Planning, Scheduling and Execution, Asset Lifecycle Management as well as Asset Strategy, Capgemini Invent identifies multiple subprocesses with high potential for improvement to make processes more resilient, effective and economic. As an experienced partner, Capgemini Invent is keen to boost your Plant Maintenance process to a new level.



# IDENTIFIED VALUE IMPACT FROM OUR PREVIOUS PROJECTS

## PROCESS VARIANCE



Up to **23 %**

... reduction of process variations

## PROCESSING TIME



Up to **16 %**

... processing time decrease for reactive Maintenance requests

## COSTS



Up to **45 %**

... increase in planned cost accuracy

## SCHEDULE ADHERENCE



Up to **28 %**

... increase in schedule adherence for reactive Maintenance requests

## CAPACITY PLANNING



Up to **32 %**

... improved capacity planning for required work hours

# INVENT, DESIGN AND DELIVER OPERATIONAL EXCELLENCE AT SCALE

As your end-to-end partner, we combine all capabilities from strategy to operational implementation

## ... with joint project track record

We have a strong footprint in business strategy, digital transformation, customer centricity and understand the importance of Maintenance in today's process industry.

## Established partner

We have been successfully delivering projects for you in the past years and therefore know your business and your current challenges in the area of Maintenance.

## Customer-centric approach

In our proven strategic approaches, we put the end-customer at the center and accelerate your sustainable business growth with our proven E2E digital capabilities.

## Maximum velocity

Speed is key in the digital area. With our E2E competence we will leverage our strategy expertise and implementation capabilities to support you in achieving quick results.

## A strong family of brands

Capgemini

Capgemini invent

Capgemini engineering

sogeti  
Part of Capgemini

2022 WORLD'S MOST  
ETHICAL COMPANIES™  
WWW.ETHISPHERE.COM  
10-TIME HONOREE

TOP 3  
CONSULTANCY  
WORLDWIDE

50+  
COUNTRIES

FOUNDED  
1967  
BY SERGE  
KAMPF

360,000+  
TALENTED  
EMPLOYEES  
AROUND THE WORLD

120+  
NATIONS

60+  
OFFICES

NET ZERO  
BUSINESS  
BY  
2030

>56  
STUDIOS



# LET'S TALK ABOUT MAINTENANCE



**Dr. Björn Heidrich**

Director  
Head of Asset Lifecycle Management

Phone: +49 151 1889 7095  
E-Mail: [bjoern.heidrich@capgemini.com](mailto:bjoern.heidrich@capgemini.com)



**Thomas Both**

Director  
Global Lead Process Mining & Analytics

Phone: +49 151 1889 7899  
E-Mail: [thomas.both@capgemini.com](mailto:thomas.both@capgemini.com)

Authors: Dr. Björn Heidrich, Thomas Both,  
Leon Bongers and Tobias Lehmann



**TAKE YOUR  
MAINTENANCE  
TO THE NEXT  
LEVEL WITH OUR  
DATA ANALYSES**

## About Capgemini Invent

As the digital innovation, design and transformation brand of the Capgemini Group, Capgemini Invent enables CxOs to envision and shape the future of their businesses. Located in more than 36 offices and 37 creative studios around the world, it comprises a 10,000+ strong team of strategists, data scientists, product and experience designers, brand experts and technologists who develop new digital services, products, experiences and business models for sustainable growth.

Capgemini Invent is an integral part of Capgemini, a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2022 global revenues of €22 billion.

Get the Future You Want | [www.capgemini.com/invent](https://www.capgemini.com/invent)

This presentation contains information that may be privileged or confidential and is the property of the Capgemini Group.

Copyright © 2023 Capgemini. All rights reserved.