

DATA-DRIVEN WORKFLOWS IN MAINTENANCE

LEVERAGING POTENTIALS IN PLANT MAINTENANCE THROUGH PROCESS EXCELLENCE

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



**“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

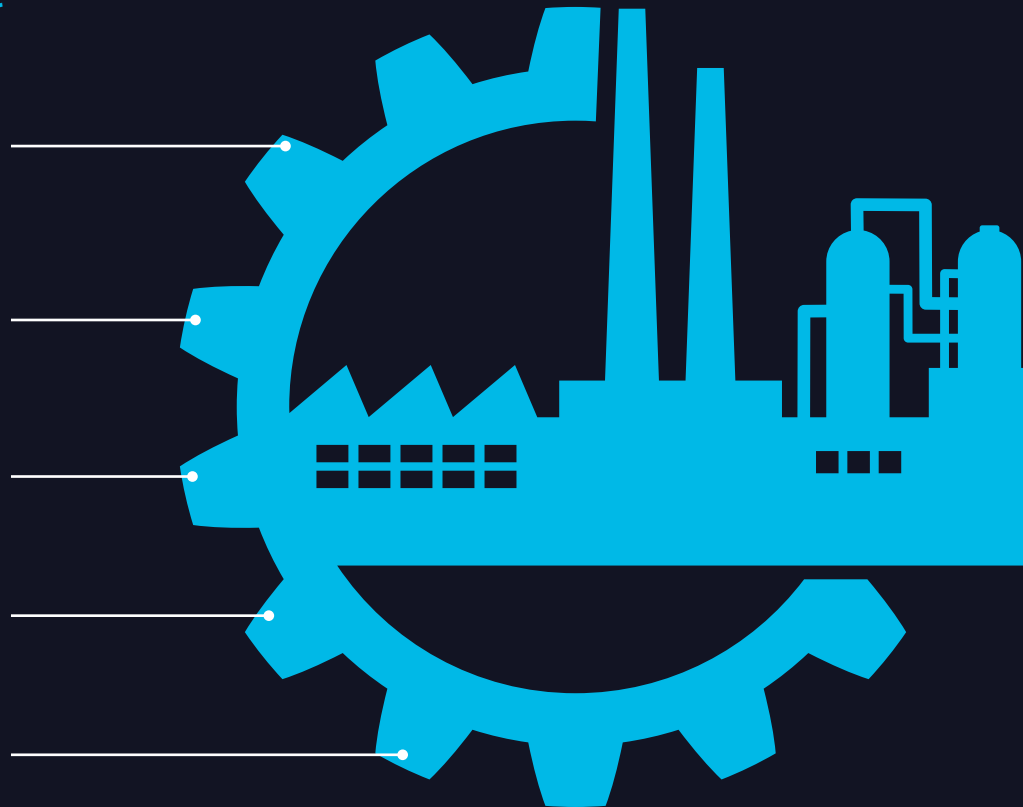


Dr. Björn Heidrich
Head of Asset Lifecycle
Management

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

ASSET CRITICALITY

Up to **74 %**

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

DATA MANIPULATION

Up to **12 %**

... of Maintenance requests indicate subsequent data manipulation

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.



BUSINESS OBJECTIVES FOR MAINTENANCE


**MAINTENANCE PLANNING,
SCHEDULING AND EXECUTION**

ASSET STRATEGY

ASSET LIFECYCLE MANAGEMENT

SPARE PART MANAGEMENT

CASH




Increase available cash while optimizing tied up capital

COSTS



Reduce Maintenance costs and optimize the budget

AVAILABILITY



Reduce asset downtime due to breakdowns or Maintenance to increase production capacity

RELIABILITY



Increase asset reliability, optimize production conditions and product quality

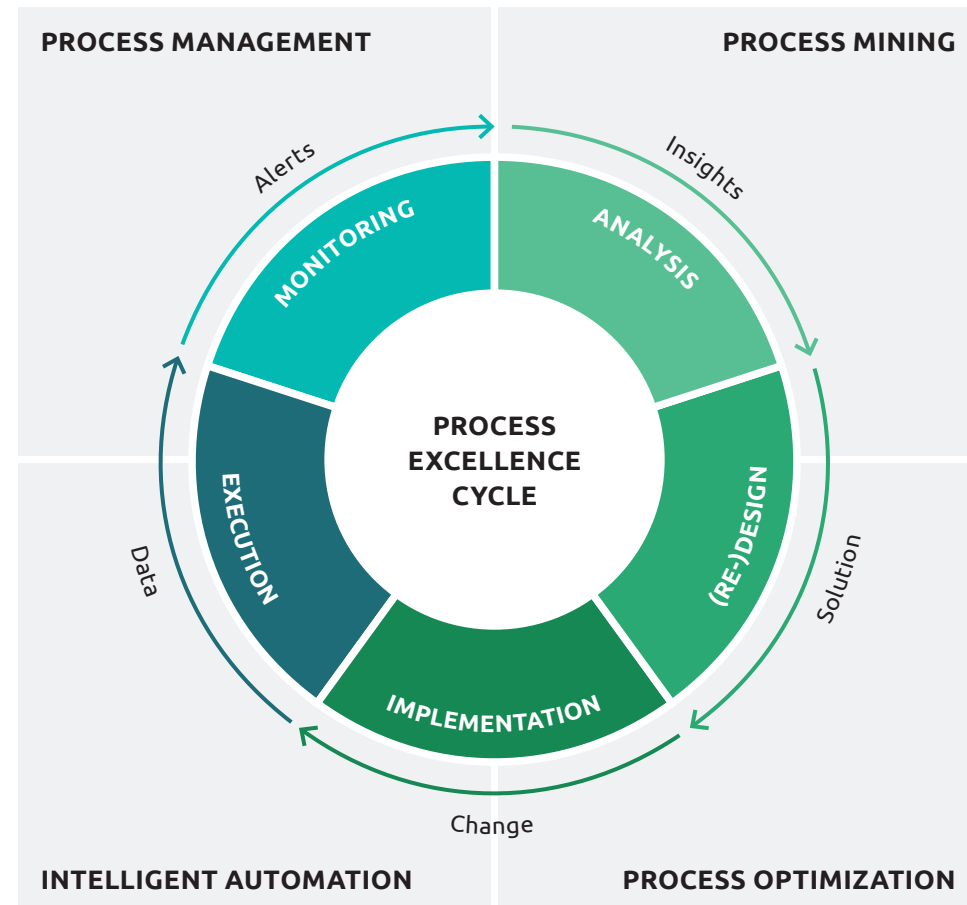


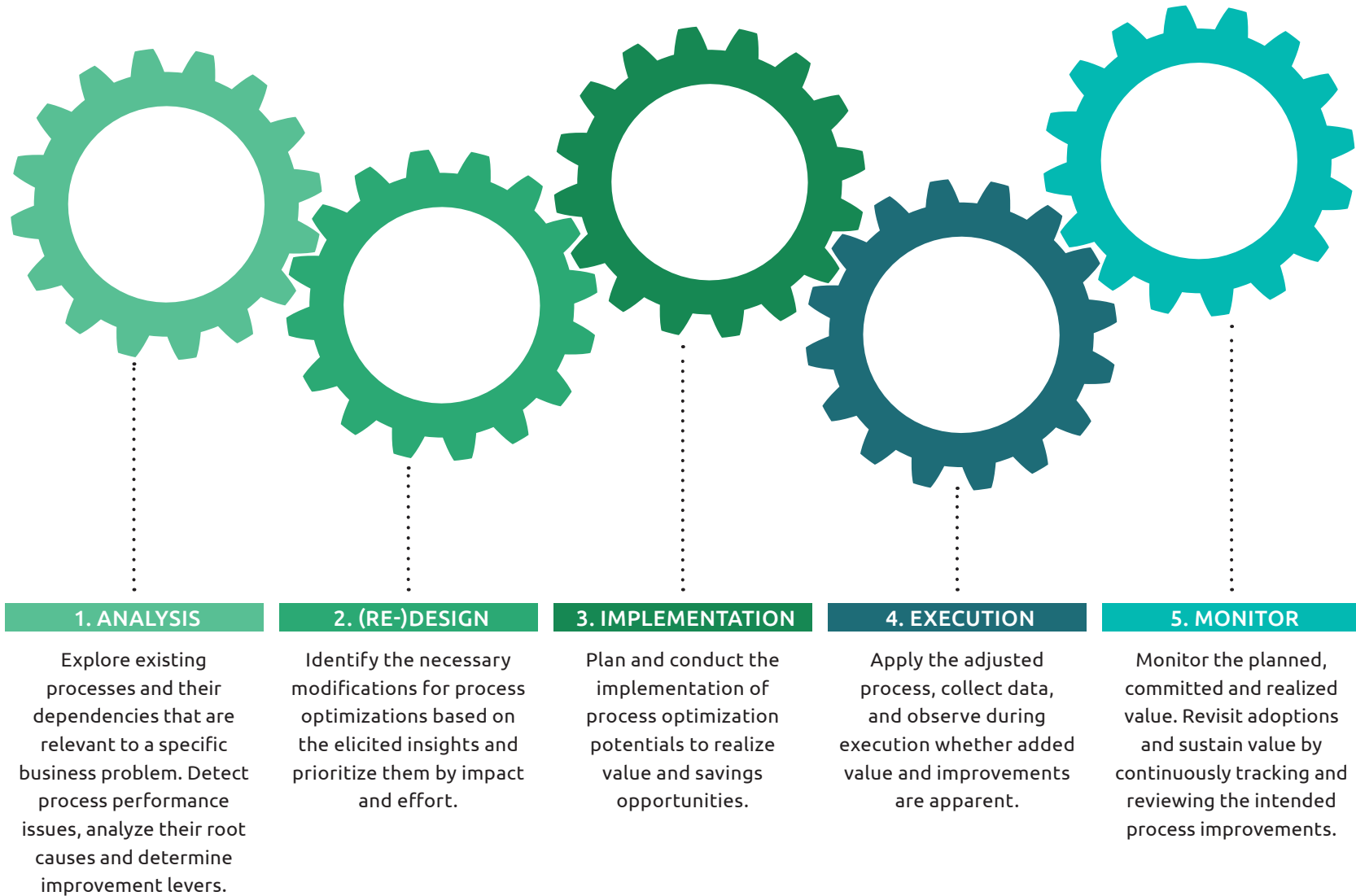
HEALTH, SAFETY AND ENVIRONMENT
Ensure compliance of workflows to optimize health, safety and environmental efforts

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.



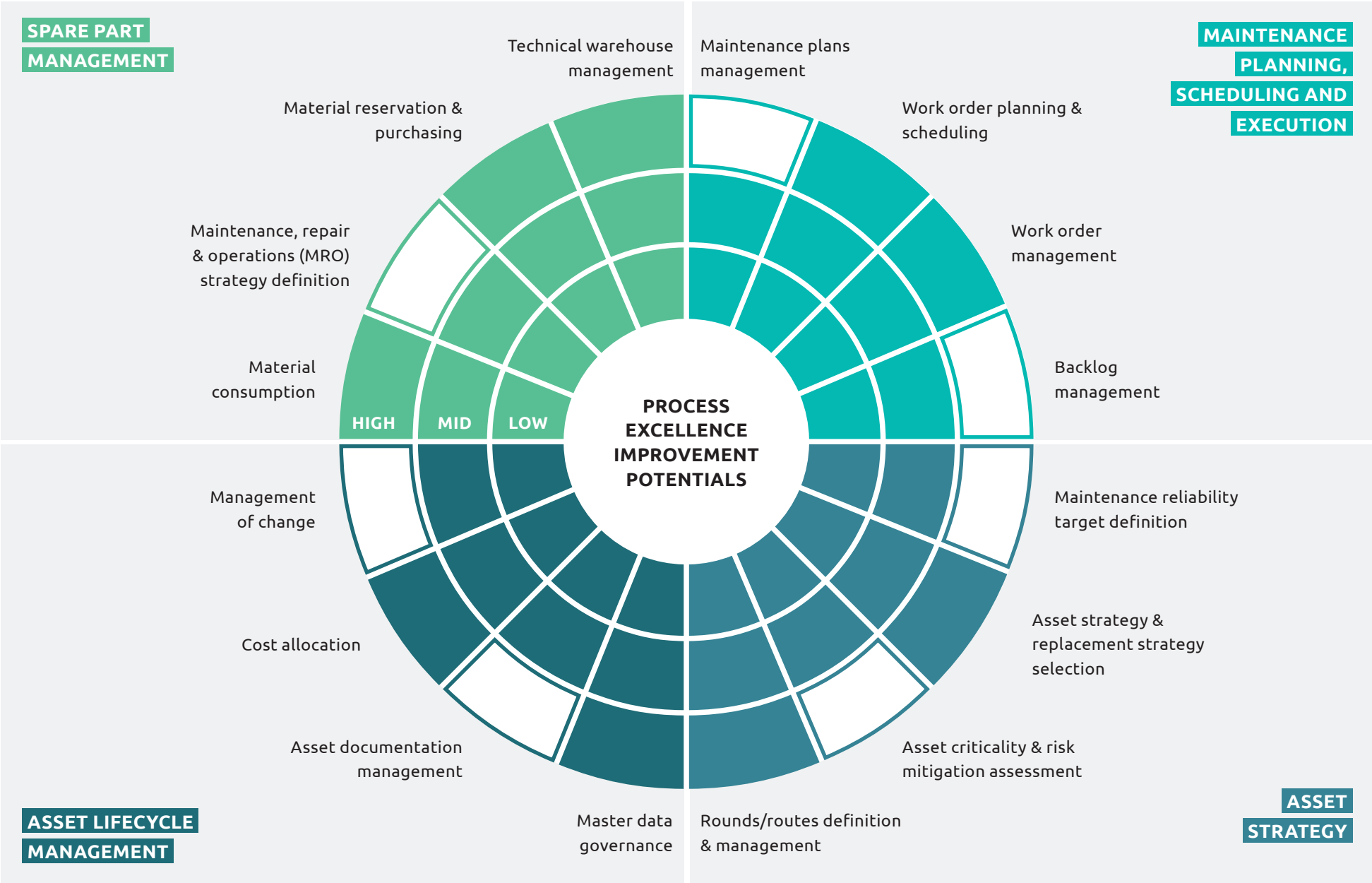


PROCESS EXCELLENCE UNCOVERS IMPROVEMENTS ALONG THE ENTIRE ASSET MANAGEMENT PROCESS

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 sub-processes 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



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1967
BY SERGE
KAMPF

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EMPLOYEES AROUND
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WORLDWIDE

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NATIONS

50+
COUNTRIES

60+
OFFICES

>40
STUDIOS

NET ZERO
BUSINESS BY
2030

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




Thomas Both

Director
Global Lead Process Mining & Analytics

Phone: +49 151 1889 7899
E-Mail: thomas.both@capgemini.com

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



A hand is shown holding a glowing blue digital interface. The interface features various icons including gears, a person, and a bed, along with circuitry and data lines. The background is dark blue with a glowing blue line that curves around the text.

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

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