



EMPOLIS SERVICE DIAGNOSTICS

Value-added Services with Smart Machine Data Analysis

EMPOLIS
INFORMATION MANAGEMENT

Everyday scenarios in service.....	3
Challenges in day-to-day operations.....	4
Empolis Service Diagnostics.....	5
Areas of application.....	5
Industries.....	6
Introduction and implementation.....	6
Your benefits.....	7
A glance under the hood.....	7
Contact.....	8

EVERYDAY SCENARIOS IN SERVICE

"Our devices are used all over the world – in the most remote areas."

"I don't have data scientists in my department!"

"What do I do with all the data?"

"My top experts can't be everywhere at the same time!"

"Our regional subsidiaries are constantly calling us with questions concerning known issues and distract our experts from doing their primary tasks."

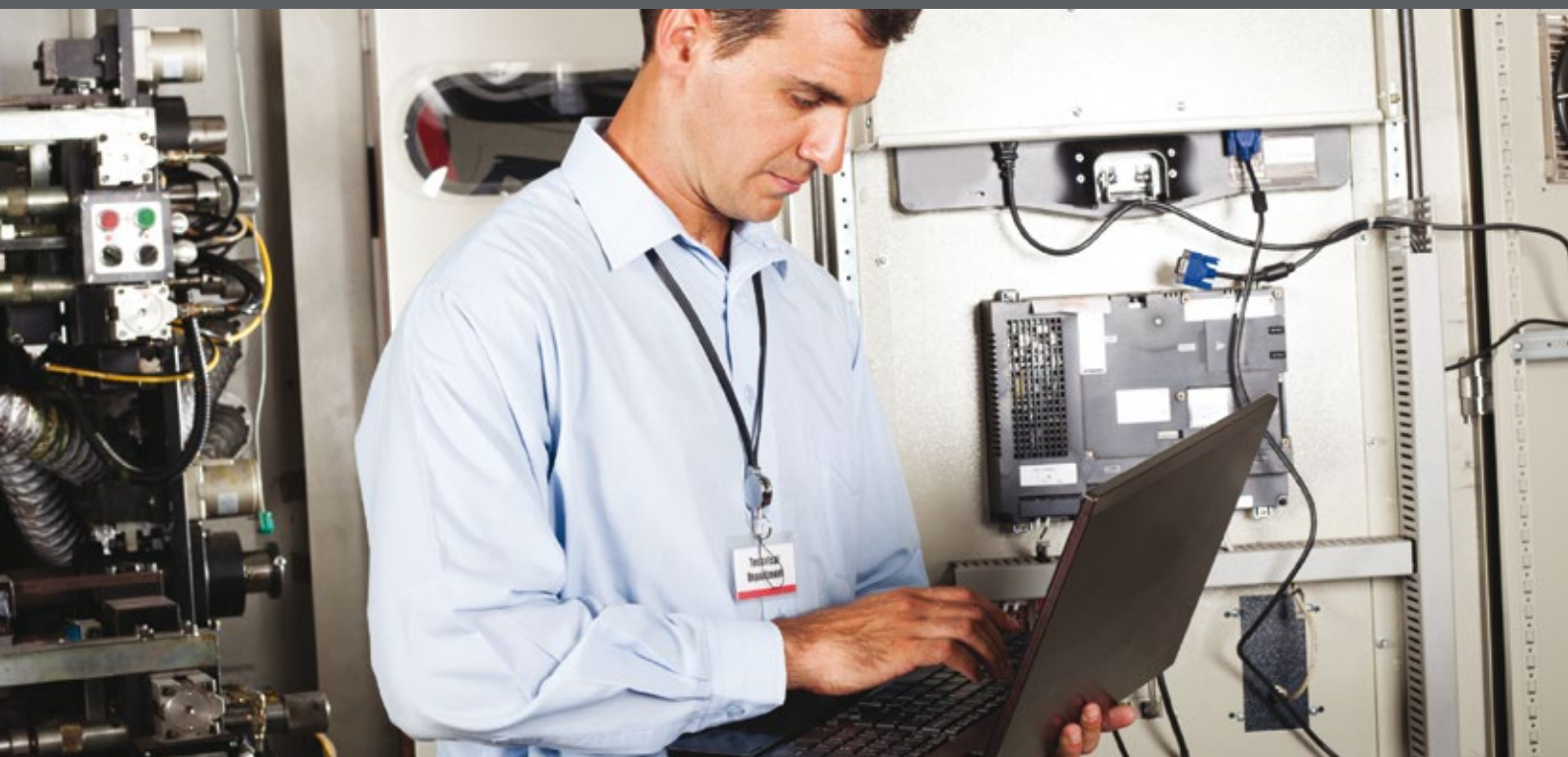
"Our facilities operate very reliably – and then suddenly fail. Why?"

"What can I do to ensure faster repair in the event of breakdowns?"

"How can I anticipate breakdowns and avoid them?"

"Sometimes our machines run for 20 years without any problems. In the case of an incident or downtime, the engineer with the necessary know-how may be on vacation or already retired."

"We had a similar situation in a plant in Spain before, didn't we? Why are we solving this problem again from scratch?"



CHALLENGES IN DAY-TO-DAY OPERATIONS

Industry 4.0 and digitalization in all areas of production create enormous challenges for service: The amount of networked facilities is growing, as is the complexity of processes and interactions; product life cycles are getting increasingly shorter, and failures result in enormous costs. At the same time, opportunities for new service offerings or business models arise. These require innovative and intelligent technologies, in order to be able to handle the tasks at hand, with the highest level of quality and efficiency.

EMPOLIS SERVICE DIAGNOSTICS

The Empolis Service Diagnostics application facilitates the intelligent analysis of large volumes of machine and process data, such as that provided by sensors and event logs. This means that fault causes are identified systematically, typical problem situations are identified, and impending malfunctions are avoided. Furthermore, the data supports the optimization of system operations to increase productivity and operating life. Service processes are supported optimally through intelligent analysis and fusion of all relevant contents, uncovering hidden potential. Thanks to seamless integration with the other components of the award-winning Empolis Smart Service® platform, service processes can be comprehensively improved.

In the independent vendor comparison “I4.0/IoT Vendor Benchmark”, by analyst Experton Group, Empolis was honored with the acclaimed title of “Rising Star Germany 2016” in the “Industrial Big Data Analytics” category.

I4.0 / IoT
Rising Star Germany

EXPERTON
GROUP

2016

INDUSTRIES



INTRODUCTION AND IMPLEMENTATION



AREAS OF APPLICATION

FOR REMOTE MONITORING

Intelligent data analysis and visualization technologies facilitate the processing of very large data volumes for user-oriented display. Irrelevant contents are hidden, the relevant indicators and fault causes are highlighted. Appropriate interaction concepts support users on various devices, be it PC, tablet, smartphone or special devices, e.g. diagnostic devices.

FOR MORE EFFICIENT REPAIRS

The intelligent analysis of machine and process data allows automated and guided root-cause analysis, i.e. quick detection of the real causes of the malfunctions observed. The service engineer is guided purposefully to the cause of the problem and can then remedy the malfunction directly.

FOR MALFUNCTION PREVENTION

Through continuous monitoring of data streams virtually in real time, trends can be established early and indicators pointing to impending problems can be detected. Thanks to Predictive Analytics, impending malfunctions and breakdowns can therefore be anticipated and avoided. Innovative Big Data solutions ensure that data volumes of virtually any size can be processed and analyzed cost-efficiently.

FOR OPTIMIZING SERVICE PROCESSES

Monitoring a number of different facilities and devices facilitates the analysis of typical fault patterns as well as the detection of weak points. Trends and dependencies between components, configurations, and fault frequencies or geographic idiosyncrasies are determined and conveyed to the service manager in interactive dashboards.

YOUR BENEFITS

	Increase in FIRST-CALL FIX RATE through targeted problem analysis		Increase in SERVICE QUALITY through standardized processes
	COST REDUCTION through optimization of service visits		Faster REPAIRS and shorter downtimes through identification of root causes
	REMOTE SERVICE for plant monitoring in absence of service engineer on site		Higher level of AVAILABILITY through predictive maintenance
	Detection of WEAK POINTS for continuous improvement		Greater REVENUE through higher level of availability and reduction in downtimes

A GLANCE UNDER THE HOOD

DATA ANALYSIS

- Innovative processes for the analysis of machine data to detect anomalies in industrial applications
- Automated detection of malfunctions through sequential pattern analysis
- Optimized processes for the analysis of measuring values and time series data
- Automated learning of correlations from training data
- Recognition of trends and Predictive Analytics
- Use of reference cases in case-based reasoning
- Interactive visualizations for analyzing data without IT know-how

BIG DATA PLATFORM

- Highly scalable, failsafe platform for processing very large data volumes
- Seamless integration with other components of Empolis Smart Service® for accessing relevant service knowledge

A GLANCE UNDER THE HOOD

INTEGRATION AND OPERATION

Our software is available to you as a classic on-premise solution as well as a Software as a Service solution with the following benefits:

- no costs involved with installation, operation and maintenance,
- fast startup,
- high scalability,
- the highest possible level of security and reliability for your data through operation in German data centers,
- seamless integration with other components of Empolis Smart Service® for accessing relevant service knowledge,
- Available as Empolis Smart Service® for Salesforce on AppExchange.



Our small industrial LEGO® simulation illustrates the way Empolis Service Diagnostics functions. You are welcome to see the simulation in our Bielefeld office or on our YouTube channel:
<https://www.youtube.com/user/EmpolisSoftware>.



EMPOLIS

INFORMATION MANAGEMENT

Empolis provides solutions that enable companies and organizations to analyze, interpret and automatically process the rapidly growing amount of structured and unstructured data. They utilize their knowledge capital to improve enterprise-critical business processes enabling decision-makers, employees and customers to reliably receive precise and relevant information, situation-appropriate and task-relevant, for faster and better decisions.

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