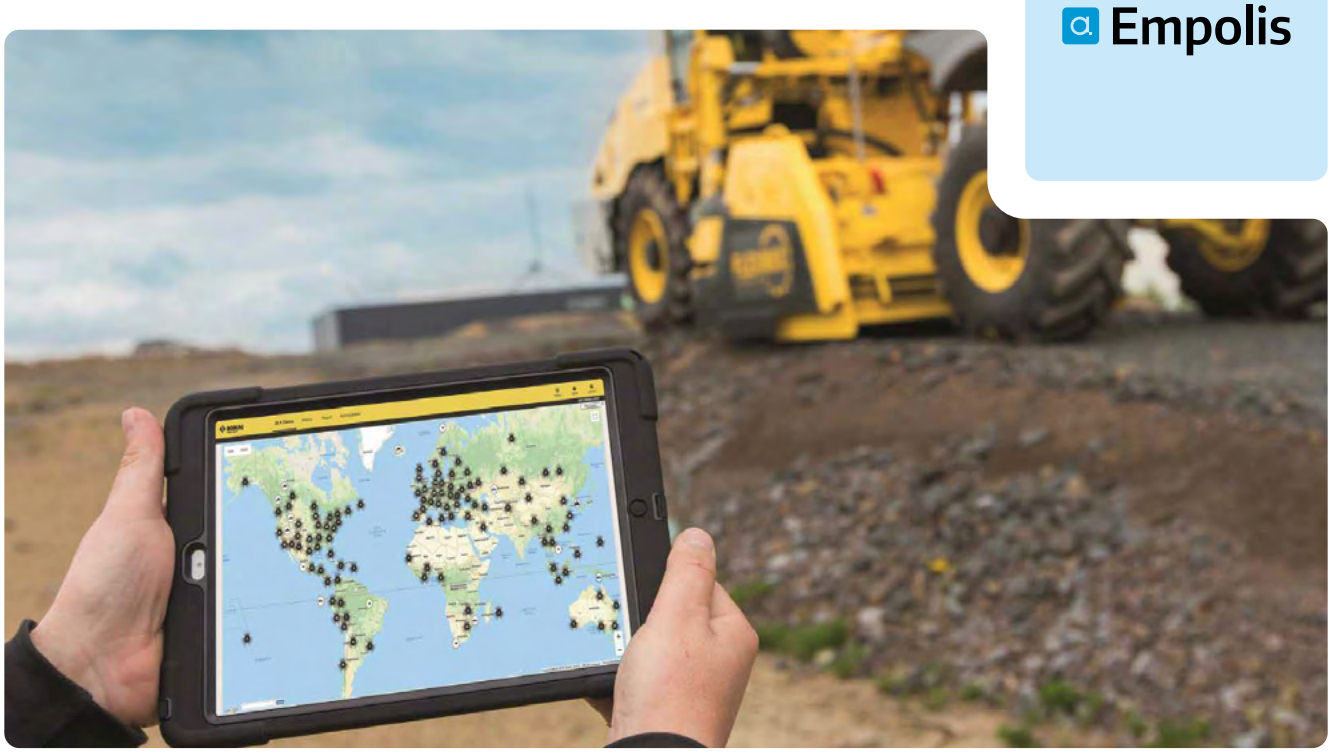
Case Study

BOMAG

Empolis



No standstill on the construction site

How BOMAG uses an AI-based service platform to provide important information everywhere and proactively support users.

With more than 2,500 employees worldwide, BOMAG GmbH is the global market leader in compaction technology and manufactures machines for compacting soil, asphalt, and waste. Milling machines, road pavers, and machines for soil stabilization and ground improvement round out the product range.

Service priority: minimal downtime and maximum uptime: machines run anytime, anywhere.

Customer satisfaction and the reliability of its own machines are of paramount importance to BOMAG GmbH. BOMAG's own organization and its more than 400 partners worldwide are therefore working hard to keep downtime and stoppages to a minimum and avoid costly delays on construction sites.

It is therefore important that machine operators or service personnel receive the right information as quickly as possible in order to prevent breakdowns or get machines back up and running. This challenge is made more difficult by the increasing complexity of the machines and the constantly growing product portfolio.

It is becoming increasingly difficult for individual service technicians, who usually work autonomously, to keep track of all machines and possible solutions. In addition, urgently needed service information is often unavailable due to poor network coverage.

In order to provide all service technicians and users with the information they need to resolve service issues anytime, anywhere, BOMAG set itself the goal of digitizing expert service knowledge and making it available centrally.

Case Study
BOMAG

All information in one place: The BOMAG Information Platform (BIP)

This is where Empolis came into play, an AI-based SaaS software developed in Germany that is dedicated to digitization and increasing efficiency in customer service. The holistic solution provides information centrally and immediately so that service employees can resolve issues more quickly. This simultaneously reduces process costs and significantly increases service quality.

The result of the collaboration between BOMAG and Empolis is the BOMAG Information Platform (BIP) with an accompanying field service app that provides all service employees, workshops, and operators worldwide with up-to-date information at any time and in the right place. The BIP has become the central component of BOMAG's customer service. .

In the event of a problem, service employees and machine operators can use the Field Service App to scan a dynamically generated QR code that appears on the machine display with their smartphone. In addition to the error information, other machine data, such as type and real-time data, is provided, which is then analyzed using the underlying artificial intelligence. Every service employee receives the appropriate error description or step-by-step instructions in a matter of seconds to resolve the problem quickly and safely. This minimizes downtime and prevents costly delays on construction sites.

At the same time, the analysis of requests allows conclusions to be drawn about machine usage.

By using the Field Service App and easy access via scanning with the app, end users and service technicians can easily help themselves. As a result, the number of support requests has been significantly reduced.

Since the information needed to solve problems can be quickly shared and made available on the BIP, the first-time fix rate and customer satisfaction have also improved. This enables BOMAG to leverage the full potential of its employees, knowledge, and artificial intelligence to generate new digital products and services.

The next step is to connect additional data sources to the BIP in order to further expand the single source of truth approach.

Case Study
BOMAG

In addition, knowledge gaps will be extracted from tickets, emails, and chats using AI, revised, and made available in the BIP. Integration into the existing ticket system to display context-based information and thus further increase usage is another milestone on the roadmap to the perfect knowledge base.

Full AI power: The game changer in knowledge management

The combination of symbolic and subsymbolic AI opens up new possibilities for information and knowledge management at BOMAG. Empolis not only brings together data from a wide variety of systems within the company in a knowledge hub, but also intelligently links it in a knowledge model. This enables service employees, partners, and customers to find the information they need quickly and easily. The search also supports synonyms, fuzzy search terms, and typos. With the help of decision trees, users can also be guided step-by-step to the right solution to a problem.

Such knowledge models also provide the ideal basis for the use of generative AI, such as ChatGPT. BOMAG is currently working with Empolis to evaluate how generative AI and large language models can optimize the work of those involved and further improve the user experience. These exciting approaches will soon enter the test phase.

„Thanks to artificial intelligence, GDP is the central point where all information relating to BOMAG product services converges. Whereas information used to have to be gathered from various sources, it can now be found in one place and is available anytime, anywhere."

Dietmar Metz, Head of Smart Services and Knowledge Management, BOMAG GmbH

FACTS & FIGURES

Company size:	approx. 2.500 employees
Scope of application:	Aftersales Service
Number of users:	+6.000
Number of documents/ data objects/ information objects:	+51.000
Languages:	33
Countries:	97

AI technologies and capabilities used: Case-based reasoning, semantic search, graph-based knowledge representation, reasoning, abstraction

Data sources:	Technical documentation, service documents
Data quantity:	0,6 terabyte
Model integration:	integration of SaaS application
Learning style:	Explainable AI
Learning method:	Semantic search, statstical methods

Case Study
BOMAG

About BOMAG

BOMAG is the global market leader in compaction technology. The company has been part of the FAYAT GROUP since 2005. BOMAG manufactures machines for soil compaction, asphalt and stabilizers/recyclers, milling machines, and pavers.

BOMAG compaction equipment is used in a wide range of areas, from gardening and landscaping to road construction and heavy dam construction. In addition, BOMAG offers special solutions not only for use in landfills of all sizes, but also for recycling damaged asphalt pavements and soil stabilization.

BOMAG is a global leader in the measurement, documentation, and control of compaction work during and after the compaction process. BOMAG machines meet a wide range of requirements thanks to the many available equipment options and the worldwide deployment of compaction experts.