

BILFINGER

now!



we care

BCAP, our digital standard, put to real-world tests

we can

Why one industry is burning old tires – and how to do it better

we create

GETTING SMART

Networking to achieve more: Intelligent solutions for tomorrow's maintenance



SMART MAINTENANCE

SEEING WHAT'S AHEAD

Tomorrow's smart factories will need intelligent maintenance. Today, Bilfinger already couples tried-and-tested maintenance expertise with capabilities in digital innovation – to turn opportunities into added value



DIGITAL EXPERTISE READY FOR THE TRANSFORMATION

How our solutions are changing maintenance



At many companies, maintenance is still viewed as a cost factor and a tool to be used in emergencies. It is usually employed reactively or preventively in cycles, i.e. machines and devices are serviced either when they are defective or at regular intervals. In the future, however, predictive maintenance will gain more and more traction.

Reactive and preventive maintenance do not require much data. When a machine is down, it is noticed immediately, and employees' experience or manufacturers' indications are enough for most preventive maintenance measures. But for predictive maintenance, you need to

MEASURABLE BENEFITS

Smart maintenance resulting from a successful digitalization strategy unlocks a wealth of opportunities.



OEE Improvement



Reduced costs



Better safety



Optimized knowledge transfer

Preserving expert knowledge: Bilfinger's Industrial Tube makes it easy to produce videos using a smartphone and smartglasses.

capture real-time data for all the components and evaluate it with programs that use artificial intelligence. So predictive maintenance is a core element of smart – meaning learning-oriented and self-regulating – maintenance.

SMART ANALYSIS

With the proven Bilfinger Maintenance Concept (BMC), our customers get a modular maintenance model that is built on decades of experience. It lets them boost the efficiency of their plants while optimizing maintenance costs at the same time. Thanks to Bilfinger Connected Asset Performance (BCAP), we can also capture the data generated in industrial plants and gather it on a cloud-based platform. Linking and analyzing this data yields new and better information about managing and operating these plants. The benefits include faster, more reliable prediction of potential disruptions. At the same time, the effectiveness of the entire plant gets a significant boost.

By linking BMC and BCAP, we are lifting maintenance to a new level overall and taking a giant step towards smart maintenance. The goal: to deliver the best value added for our customers.

Title illustration: Jochen Stuhmann;
Photos: Bilfinger

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3 questions for...
Franz Braun,
CDO

Franz Braun is Chief Digital Officer of Bilfinger and Managing Director of Bilfinger Digital Next GmbH in Heidelberg, a company that develops innovative solutions for the process industry.

How do BMC and BCAP complement each other?

BMC is our world-class modular Bilfinger Maintenance Concept. It is a huge boon to our customers, helping them increase the availability of their plants and cut costs. With Bilfinger Connected Asset Performance (BCAP), we also put the various data available in a plant into a cloud to analyze and link it.

What's the benefit of linking BMC with BCAP?

BCAP enriches BMC with digital solutions. By analyzing the data collected with BCAP and adding elements of artificial intelligence such as machine learning, we make functions like predictive maintenance possible.

How do our customers benefit from using BMC and BCAP together?

Linking our BMC and BCAP concepts can help improve overall equipment effectiveness (OEE) and takes BMC to a new level. We can not only boost the level of plant availability but also improve productivity and quality, so we have two more factors to leverage in helping our customers enhance efficiency.

BCAP

PROGRESS THROUGH NETWORKING

By collecting and analyzing data as well as developing optimization algorithms, BCAP paves the way to improved efficiency

Especially for operators of medium-sized industrial plants, our modular digitalization solution dubbed Bilfinger Connected Asset Performance (BCAP) offers a simple and secure way to harness digitalization. The heart of the solution is a cloud-based platform where all the data from an industrial plant's engineering, operations and maintenance areas is collected.

For instance, this includes data from production planning as well as from sensors that continually monitor the condition of individual components. Linking and analyzing this data delivers new and improved insights into managing and operating industrial plants. This makes it possible to identify potential disruptions earlier and more reliably as well as reduce unplanned downtime. At the same time, the effectiveness of the entire plant gets a significant boost.

RAPID AMORTIZATION

Digitalization projects start with a digital maturity assessment that determines the company's current level of and potential for digitalization. This acts as the springboard to developing a strategy and specific projects aimed at leveraging potential in the form of pre-defined software and services from the BCAP solutions store or bespoke applications. Since the time investment is only a few months, it is not long before customers benefit from the added value.

Additionally, BCAP offers a wealth of soft benefits, such as identifying blind spots in order to initiate necessary strategy adjustments. Processes run more smoothly and reliably. Last but not least, a compelling digitalization concept reflects positively on a company's image and helps position it as an attractive employer.

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Illustration: Jochen Stuhmann; Photo: Bilfinger



One-stop shop: BCAP offers consulting services, networking, data capture and analysis as well as predictive maintenance.

NEW DIGITAL PARTNER

Bilfinger and deep-tech start-up Akselos have signed a memorandum of understanding with a view to implementing Akselos' digital twin technology in the offshore and processing industries. The software facilitates the near-real-time assessment of an asset's integrity status. That allows potential failures to be predicted before they occur.

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How Bilfinger harnesses BCAP



Preventing downtime by predicting faults

CUSTOMER
Bilfinger Maintenance, market leader for industrial services in Germany

CHALLENGE
Continual improvements to plants' availability levels while simultaneously reducing costs

SOLUTION
BMC Analytics Package: automatic bad-actor analyses as well as asset condition monitoring by BCAP

BENEFITS
Increased availability levels

How we increase our customers' efficiency



Increasing productivity through digitalization

CUSTOMER
Münzing, a manufacturer of additives for paints and varnishes, adhesives and other products

CHALLENGE
Increasing productivity while maintaining quality standards and staffing levels

SOLUTION
Optimizing processes by integrating new sensors and introducing machine learning programs

BENEFITS
Increasing productivity by 10 percent



Stabilizing the production process with the help of a virtual sensor

CUSTOMER
Almatis, manufacturer of specialty products based on alumina

CHALLENGE
Ensuring constant moisture levels in a section of the plant without a physical sensor

SOLUTION
An AI-based virtual sensor ensures constant moisture levels even between measuring intervals

BENEFITS
Reducing energy consumption by four percent, increasing overall equipment effectiveness (OEE) by three percent

THE BILFINGER MOMENT

NEW ENERGY FROM OLD TIRES

Reducing emissions in the cement industry with innovative technology

CHALLENGE Burning tires is a cheap source of energy. A dirty deal? Bilfinger shows that there is another way

Cement production is very energy-intensive, and the manufacturers of this indispensable building material aim to use the cheapest energy sources possible. Traditionally, these have included old tires. But burning the tires directly in the cement kilns produces a variety of environmentally harmful emissions and is barely feasible now due to stricter legal standards and the more advanced technology of the kilns.



The cement industry is no longer permitted to burn whole tires. With PRTI's technology, energy can still be extracted from this inexpensive source.

VALUABLE FEEDSTOCK

The US-based firm PRTI has a patented technology that employs thermal processes to turn car tires into valuable raw materials and energy sources such as carbon, oil and steel. Cement producers can use the fuels generated in this process to operate their kilns while meeting the legal standards. In addition, the process helps repurpose millions of tires that are newly produced each year but are rejected in quality control – up to 10% of total tire production – and use them as an inexpensive energy source.

Bilfinger is supporting PRTI in bringing this technology to Europe. The engineering experts at Bilfinger Tebodin have redesigned and adapted the process to meet the strict European standards for occupational

safety and environmental protection. Bilfinger's key contributions included developing process control configurations to continuously monitor and control crucial parameters such as temperature and oxygen levels as well as to minimize the risk of loss of primary containment. And the Bilfinger team also suggested design changes to increase the overall equipment effectiveness (OEE) of PRTI's plants.

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Bilfinger Tebodin's engineering expertise helped us to redesign the technology to meet the strictest Dutch standards, thereby making it accessible to customers in Europe.

KEES ONSTEIN, CEO, PRTI EUROPE

IN BRIEF



UAE | MIDDLE EAST

BILFINGER AT ADIPEC

ADIPEC, the International Petroleum Exhibition and Conference, was staged in Abu Dhabi from November 11–14, 2019. The Bilfinger Middle East regional division and Bilfinger Digital Next stepped out at the international oil and gas industry get-together. Click on "Learn more" to watch a video about the corporate units' showcase at the event.

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UK | NORTHWEST EUROPE

TOP WOMAN IN ENGINEERING



Jane Atkinson, Executive Director of Engineering and Automation at Bilfinger UK, has been named the UK's most influential woman in engineering. A jury comprising members of the Financial Times and Inclusive Boards recruitment agency placed Atkinson at the top of their list.

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NETHERLANDS | CONTINENTAL EUROPE

DIVING RIGHT IN

The Nieuwe Maas is a key inland shipping route in the Rotterdam economic zone. When the waterway needed to be dredged, six pipelines had to be removed first. For this project, Shell called on Bilfinger Tebodin's engineering expertise.



SEEN IN...

Dorsten, North Rhine-Westphalia, Germany: Although reminiscent of a work by packaging artist Christo, this is in fact the 46-meter-tall headframe on the premises of the Fürst Leopold mine. To enclose the tower, Bilfinger arnholdt used 5,627 planks and 1,559 uprights, adding up to a total length of 5,172 meters. The tarpaulin covers an area of 3,962 square meters.

Photos: iStockphoto (2), Bilfinger, Stefano Laura/BILD

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