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Digital hydraulics service saves money

Manuela Kessler | 30.05.2022 | Lohr am Main / Germany | PI 022/22

CytroConnect Solutions is a range of tiered digital services which aims to minimize unplanned downtimes as well as maintenance and other resulting costs in recycling

- Monitor scrap shears, shredders and presses effectively
- Three tiered service packages for different requirements
- Preventing downtimes: Real-time monitoring with data-based analyses



Tiered services: CytroConnect Solutions minimize maintenance costs and hydraulic breakdowns with the help of cutting-edge IoT technology and many years of hydraulic expertise. (Image source: Bosch Rexroth AG)

The CytroConnect Solutions service packages from Bosch Rexroth help recycling companies to avoid high downtime costs or even contractual penalties. The tailored packages comprising real-time monitoring, data-based analyses and complementary spare parts management help to maintain the availability of hydraulic systems such as scrap shears, shredders and presses. At the same time, the intelligent combination of cutting-edge IoT technology and hydraulic expertise minimizes maintenance effort and extends the operating life of machines.

Reusing raw materials is an established practice in industry. As part of the supply chain, however, it leads to considerable time pressure and requires continuous availability of shredders, scrap shears and presses.

If hydraulically driven recycling machines such as shredders, scrap shears or presses fail, companies can face contractual penalties. And if HGVs, trains or ships have to wait to be loaded, the resulting costs can quickly reach five or six-figure sums. An acute lack of specialist staff and having to look after a number of different sites at once cause unnecessary delays in maintenance. On top of all this, recycling companies waste materials and money if they replace hydraulic parts which are still working perfectly at set intervals as a precautionary measure. With three service packages – CytroConnect Monitor, Maintain and Predict – Bosch Rexroth is helping to counter all these economic disadvantages and financial risks.

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Flat rate to prevent downtimes for a fixed monthly price

With CytroConnect Predict, system operators can maximize the availability and operating life of components. Using predictive analyses and detailed status reports, the experts at Rexroth make recommendations regarding maintenance early on so that the relevant components can be replaced according to plan. Users' previous maintenance effort can thus be reduced by up to 50 percent. Complementary services such as a complete spare parts management system with guaranteed delivery within 24 hours further optimize availability. The service fees can usually be amortized within a year. Depending on the application, however, they may be recovered simply by avoiding a single downtime. This is illustrated by the following real-life example:

Thanks to predictive analyses and the predictive maintenance of scrap shears, an international company with over 100 different recycling yards can permanently avoid high downtime costs. Each downtime costs around €600, and contractual penalties of up to €100,000 per day were incurred if ships loaded with steel balls were unable to set off on time. Wear affecting the shears is detected early on on the basis of pressure peaks and torques on the electric motors. As a result, the operator can now replace tools as planned. This eases the burden on maintenance staff spread across the various sites, while troubleshooting, maintenance, planning and the procurement of spare parts require less time.

Monitoring also saves electricity because the system avoids operation with increased energy consumption.

In another use case, a recycling company avoids unplanned downtimes and the resulting costs by carrying out predictive analyses on waste shredders. As a result, the shredded waste can once again be supplied to a cement works for use as fuel on time. In the past, breakdowns affecting hydraulic pumps and electric motors regularly led to penalties and additional costs for temporarily storing the delivered waste. The burden on the maintenance department which was already suffering from a lack of specialist staff has now been permanently reduced.

In addition to the all-inclusive CytroConnect Predict service, Bosch Rexroth also offers the basic CytroConnect Monitor package which allows real-time monitoring only with access to historical data from the past 24 hours. Bosch Rexroth recommends the CytroConnect Maintain package as an introduction to rule and data-based analyses. The service package monitors the condition of components in the background using predefined rules, issues warnings about damage via push message and supports continuous optimization of applications with regular performance and usage reports.

All three service packages already include the necessary dashboards and sensors. Recycling companies benefit quickly and easily from intelligent and sustainable downtime protection.

Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components,

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customized system solutions and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, more than 31,000 associates generated sales revenue of around 6.2 billion euros in 2021.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

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