



PressRelease

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Process Optimization and Reliability

BAUDIS IoT: an intelligent system for predictive maintenance and process optimization

In the context of its Industry 4.0 solution, the drive and automation specialist Baumüller has developed a tool that can be operated via the cloud or local predictive maintenance or that can be used to determine potential for process optimization.

The task of BAUDIS IoT is to collect, analyze and communicate data. The software either runs as an integrated version e.g. on an industrial PC or on the retrofittable BAUDIS IoT box. The interface of choice for transmitting data to the cloud at Baumüller is OPA UA, but other interfaces can be chosen.

BAUDIS IoT is designed for two application scenarios: one for reducing downtimes from unplanned service cases and one for optimizing process and machine utilization. Data is recorded by local sensors e.g. on the drive or also via access on other electrical or mechanical components.

Optimizing Processes

Relationships in the production process can be detected and evaluated through the continuous acquisition of data. This makes it possible, for example, to determine reasons for idle times and thus to improve the machine utilization. Data from several production lines, even globally, can be compared and thus standardizations can be made possible. All data can be prepared for communication to different user levels, from management to machine operator, customized in terms of representation and scope.

Improving Service

The second major strength of BAUDIS IoT is that service can be planned. Due to the continuous collection of data from the process or the drive system BAUDIS IoT enables an early warning regarding possible problems, such as bearing damage. In this way, maintenance intervals and service capacities can be planned in the long term and unexpected failures can be avoided. By monitoring data, such as regarding vibrations and machine utilization, the wear reserve of the monitored components can be largely completely utilized.

In the Cloud or Locally

All data recorded via sensors or directly in the drive can be collected, analyzed and stored directly by the operator, or for example can be transmitted through the cloud to the service provider or the company headquarters. The algorithms on which the data analysis is based can be constantly updated in the cloud.

Advantages

BAUDIS IoT is therefore ideal for both greenfield and brownfield systems. The system is either based on software on an industrial PC or the BAUDIS IoT box, which is a retrofittable hardware component. The system can be used independently of the manufacturer of the automation components and the sensors. When analyzing the data through the cloud, the latest algorithms are always available and the system constantly becomes more intelligent.



Figure 1: With BAUDIS IoT, machines and systems can be monitored and analyzed remotely or locally, thereby reducing unexpected downtimes and identifying potential for process optimization



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Baumüller is one of the leading manufacturers of innovative automation and electric drive systems. At six manufacturing locations and over 40 subsidiaries spread all over the world, 1,850 employees plan, develop, produce and install intelligent system solutions for mechanical engineering and e-mobility; from operation and visualization tools to Motion Control software as per PLCopen, from software modules to controllers, also including converters, electric drives and the whole service range for ready to use automation solutions. The areas service, installations, fitting, and relocation add to the wide range of Baumüller's services. In the mechanical engineering industry, Baumüller is one of the leading partners for automation solutions worldwide.

Press Contact:

Susanne Reinhard

T: +49 (0) 911 5432 – 549

E: susanne.reinhard@baumueller.de

Stefanie Lauterbach

T: +49 (0) 911 5432 – 319

E: stefanie.lauterbach@baumueller.de

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