



BILFINGER

Press release

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Process automation: Bilfinger to install demonstration and testing facility for Industry 4.0

Realistic test conditions form a basic prerequisite for the successful development of Industry 4.0 applications for the process industry. Yet, developers frequently do not have access to this crucial process data. This situation is to be redressed with a new testing facility in Frankfurt am Main, which Bilfinger will be installing and subsequently operating for Interessengemeinschaft Regelwerke Technik (IGR) e.V. Bilfinger Maintenance, the German national company responsible for industrial maintenance, will be utilizing its roughly 20 years of experience to set up testing facilities for fieldbus systems. The purpose of the project is to step up digitalization of the process industry. An alliance of some 30 companies in the chemical and pharmaceutical industry and its service providers, IGR promotes the further development of technical skills in planning, approving, installing, operating, servicing and disposing of the technology used at process and energy plants.

The process and diagnostic data for all operating and fault conditions must be available if innovative processes are to be developed. To date, development plans have frequently failed as plant operators were not keen to disclose their data. For this reason, Industry 4.0 applications will be tested under real conditions and process and diagnostic data generated for cloud applications.

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Bilfinger is a leading international industrial services provider. The Group enhances the efficiency of assets, ensures a high level of availability and reduces maintenance costs. The portfolio covers the entire value chain from consulting, engineering, manufacturing, assembly, maintenance, plant expansion as well as turnarounds and also includes environmental technologies and digital applications. The company delivers its services in two business segments: Engineering & Technologies as well as Maintenance, Modifications & Operations. Bilfinger is primarily active in the regions Continental Europe, Northwest Europe, North America and the Middle East. Process industry customers come from sectors that include chemicals & petrochem, energy & utilities, oil & gas, pharma & biopharma, metallurgy and cement. With its 37,000 employees, Bilfinger upholds the highest standards of safety and quality and generates an annual output volume of about €4 billion.



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Realistic test conditions for complex processes

One of the main applications includes the verification of hardware and software designs for recording measurements during the process and the suitability of Internet security concepts for transmitting data to the cloud and the development of software tools in the cloud under realistic conditions. Participating companies can use the facility without any complications or complex approval processes.

Bilfinger is designing the facility to ensure that test assemblies and processes can be modified flexibly to meet different requirements. With its capabilities in the maintenance of fieldbus equipment, Bilfinger is able to integrate the testing and simulation systems in such a way that realistic error conditions are achieved and can be reproduced. This applies to both unwanted operating conditions in the process and to technical disruptions in the equipment such as those caused by aging effects.

The demonstration and testing equipment is primarily composed of:

- the process part comprising two automated containers,
- measuring equipment that transfers data in parallel to the automation system (machine diagnostics) in accordance with the NAMUR Open Architecture (NOA) model,
- Internet connectivity via a leased line as well as various firewalls and other security precautions
- one or more cloud-based systems

The testing is expected to produce specific results for recording measurements and storing them in the cloud, e.g. on machine diagnostics, as well as standardized concepts for consistency and IT security. The first goal has already been achieved, namely the integration of measuring equipment via WirelessHART and other connections via a leased Internet line to a cloud system operated by Bilfinger staff and the testing laboratories for E/I&C and analysis technology in Frankfurt am Main.



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The second goal is to be reached this summer with the operation of the process testing facility. This will provide a testing facility for digitalization components and the development of software tools together with demonstration and training equipment.

A milestone in the digital strategy for the future

“Digitalization poses a major challenge but also a major opportunity for the process industry and its service partners,” says Gerald Pilotto, Executive President Bilfinger Maintenance, Modifications & Operations (MMO) Continental Europe. “Practice-oriented collaboration with our customers offers an optimum basis for developing our expertise at a high level and, in this way, for safeguarding and expanding the strong position of the European process industry.”

Bilfinger attaches strategic importance to digitalization and appointed Franz Xaver Braun to the position of Chief Digital Officer in March 2017. In May, a pilot project was commenced in collaboration with Münzing Chemie for which Bilfinger has developed a new MMO platform. This platform is being used to combine data from engineering, process control and sensory systems with maintenance information for evaluation in the cloud.



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Captions

Picture 1: The Frankfurt-Hoechst site of Bilfinger Maintenance

Pictures 2 and 3: Views of the test laboratory of Bilfinger Maintenance

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