Progress Software Development GmbH, Brixen, Italy / Frankfurt, Germany

Precast industry: Increase in efficiency and quality through integrated software solutions

Comprehensive and integrated software solutions are essential in a modern precast plant for the smooth running of production and business processes. Entirely in keeping with the "Industry 4.0" concept, all sections can be networked and universal transparency ensured with industry-specific ERP systems. The ERP system from Progress Software Development (PSD), the Progress Group's newest subsidiary, supports precast companies in the planning and control of all production and business processes. Specially developed "by the industry – for the industry", it is used successfully all over the world.

Modern ERP systems are capable of planning and controlling all business and production processes – including in the precast industry. They therefore make a major contribution to the optimum coordination of all processes, from sales, costing, project management, production and assembly planning to logistics, materials management, controlling and human resources. Together with modern plants and machines, it is thus possible to put the concept of "Industry 4.0" into practice, at whose heart lie intelligent production, networking and transparency.

Progress Group: focused strongly on software development

The Progress Group, whose subsidiaries have been successful in the industry for decades, recognised the importance of automation and industry-specific software solutions very early on. Software development for individual machines or plants has been in focus for decades. Several years ago a total solution for all the production processes in precast plants was developed in ebos®, an MES system (Manufacturing

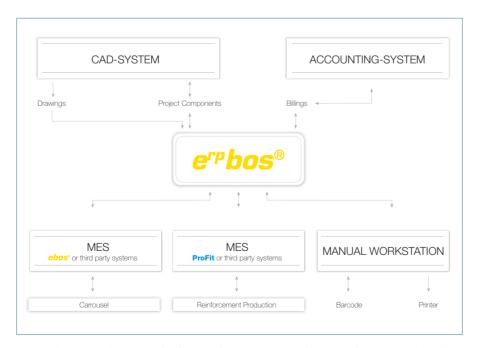
Execution System) that is already used with success in dozens of plants worldwide. ProFit, an MES system especially for reinforcement producers, has established itself alongside that. The Progress Group has completed its software portfolio with the introduction of the industry-specific ERP system e^{rp}bos[®].

Strengthening of the software sector with group's own software company

In order to push the software sector more strongly, the Progress Group has founded a software company of its own within the group. Progress Software Development (PSD) is the seventh subsidiary to be active in the precast industry. In addition to machine and plant construction as the first pillar and the group's own precast concrete element production as the second, the software development will thus strengthen the group as the third pillar. Last but not least, the Progress Group is underlining its claim to be a full-range supplier to the industry with the founding: everything is covered, from carrousel plants, machines for reinforcement production and mould systems to production plants for prestressed elements and the company's own MES and ERP systems.

Know-how "by the industry – for the industry"

The many years of industry know-how are an important foundation stone for the software development at PSD. Thanks to the experience of the affiliated mechanical engineering companies - Ebawe Anlagen-



Comprehensive and integrated software solutions are essential in a modern precast plant for the smooth running of production and business processes. The Progress Group's ERP and MES systems were specially developed for the industry by its subsidiary Progress Software Development (PSD).

Enhanced Durability for Precast Concrete Structures





Electron Microscope Images are the property and copyright of Xypex Chemical Corporation







Xypex Crystallization (Initiated)



Xypex Crystallization (Mature)

Buried precast concrete products are susceptible to water infiltration and concrete deterioration. Manholes and septic tanks are especially vulnerable to sulfate and acid attack caused by microbial induced corrosion. Xypex Admix provides a unique solution to these problems. When added to the concrete mix, it provides integral waterproofing as well as increased acid resistance and sulfate protection. When you select Xypex you've chosen the best — more than 40 years of independent testing and still *No Equal*.





The PSD development team elaborates software solutions for the reinforcement and precast industries in Brixen (picture shows the headquarters with its own precast plant) and in Frankfurt am Main.

technik, Progress Maschinen & Automation, Echo Precast Engineering, Tecnocom and Ultra-Span - the team of developers at the Brixen and Frankfurt locations is able to come up with solutions that are designed to suit the specific needs and requirements precisely. Potential problem points are known to the developers and priorities are correctly set. "We benefit strongly here from the know-how of the entire group of companies", says Andreas Messner, MES Senior Developer at PSD, putting it more precisely.

The direct link with practice is reinforced still further by the group's own precast plant. Not only are machines and plants from the Progress Group in use here, but also software from PSD. The practical experience generated by this is ploughed directly into further development. "That helps us to understand and know the production flow precisely – we know how it must run", Messner continues.

State-of-the-art ERP system for the precast industry

The e^{rp}bos ERP system was developed on the basis of the practical experience of all the companies in the Progress Group in collaboration with the ERP specialists Softbauware and is intended to be used for the planning and control of all business and production processes in precast companies. The ERP system ensures that the entire process chain from sales to planning and from production to billing is perfectly integrated. The many e^{rp}bos modules support the smooth running of these processes. In addition to the classic ERP functions, DMS (Document Management System), CRM (Customer Relationship Management) and BI (Business Intelligence, analysis platform) are combined into a single system. DMS is used for the standardised storage of documents, CRM represents a central customer file with associated app and BI, as an analysis platform, generates condensed and department-spanning information. "With all of its functions and interfaces, e^{rp}bos has the best credentials for actually bringing the 'Industry 4.0' concept into the precast industry", emphasises Sirio Sperandio, ERP Software Developer at PSD.

Integration of BIM systems

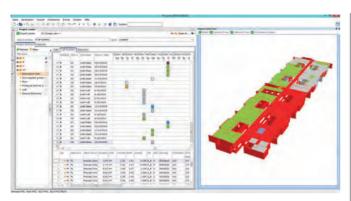
Thanks to open interfaces, isolated applications are avoided and integration in an existing structure is facilitated. "The inter-



In order to guarantee optimum customer support, part of PSD was located in the Progress Group office in "The Squaire" at Frankfurt Airport. Customers not just in Germany, but all over the world can thus be reached easily and quickly.

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PRECAST CONCRETE ELEMENTS



In the e^mbos[®] ERP system, important data and information can be directly associated with the building model via the integration of BIM systems.

face problems with which many companies are confronted are thus eliminated", explains Andreas Messner. Via the integration of BIM systems (Building Information Modelling), production and delivery dates or project and material costs, for example, can be directly associated with the building model. "This is indispensable for a transparent overview", Sirio Sperandio adds. Time and cost factors can thus be kept permanently under control and discrepancies detected immediately. Last but not least, an intuitive user interface provides for pleasant, uncomplicated and fast work.

Successful implementation worldwide

The success with which ProFit, ebos and e¹⁷bos have been accepted worldwide is proof of the large requirement for industry-specific software solutions. In the precast industry, increasing competition and high customer requirements demand the shortest possible delivery times, competitively priced, high quality products and good customer management.

At the same time, standard software systems are hardly suitable for the industry: "The precast industry is very specific and does not have the same requirements as other branches of industry", says Andreas Messner, putting it more precisely. It is therefore all the more important to incorporate industry-specific know-how into the software development. Sperandio adds: "The difference between e^{rp}bos and other ERP systems is that our entire know-how – from mechanical engineering and the production of precast concrete elements to the software development itself – has been combined in a single solution." As a company that is deeply rooted in the precast industry, PSD supports smooth process flows, consistency, control and traceability with its software products – and those are all factors that affect success on the precast market.

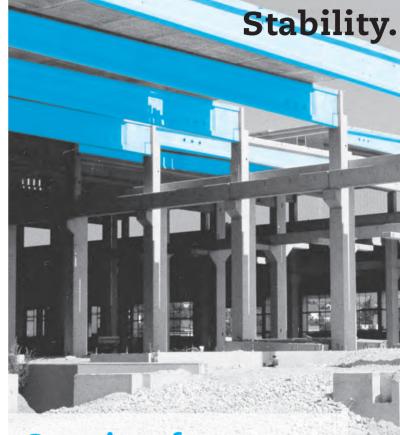
FURTHER INFORMATION



PROGRESS GROUP

Progress Software Development GmbH
Julius-Durst-Straße 100, 39042 Brixen, Italy
T +39 0472 979 900, F +39 0472 979 999
info@progress-psd.com, www.progress-psd.com





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- Anchor grips
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- Strand pushing and cutting equipment
- Automatic prestressing machines for railway sleepers
- Prestressing equipment for bridge construction (prestressing cables and stay cables)

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