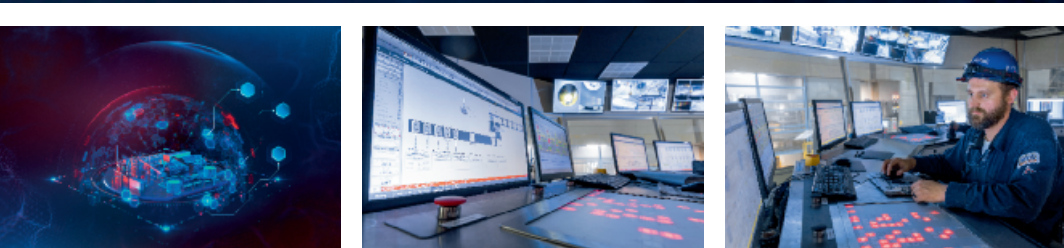
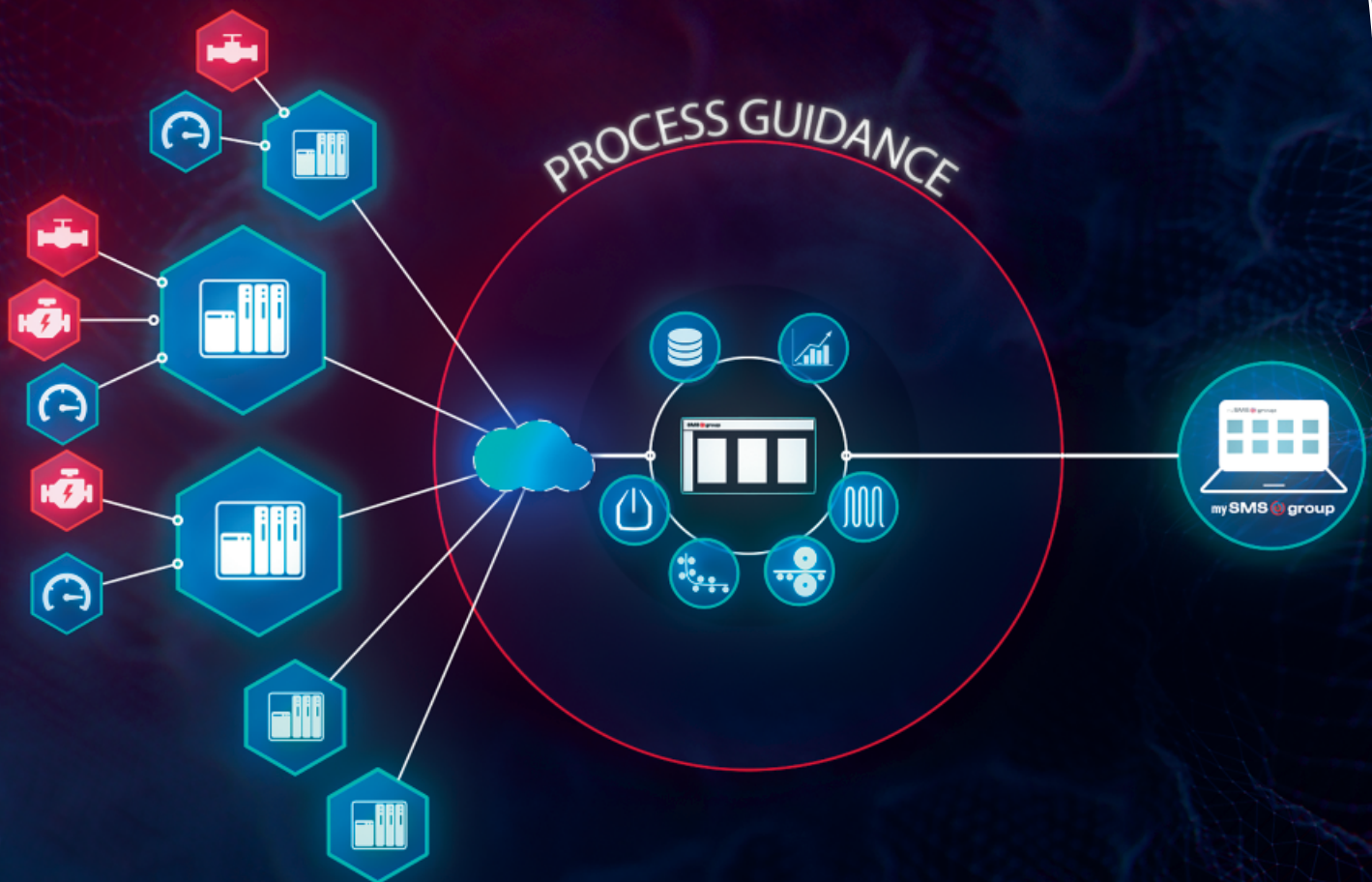


X-Pact[®] Process Guidance

A new standard of the plant automation



The challenge

Production processes in the steel industry have been becoming increasingly challenging, the reasons being the growing flexibility in production, the ever smaller batch sizes that are possible as a result of this flexibility and the increasingly wider production mixes.

Besides these factors, the continuing further development of automation technology is an indispensable requirement to stay competitive and to support the staff in production with the latest available automation solutions.

It is becoming more and more important to have systems capable of providing support in case of out-of-the -normal scenarios. Such support has to be designed in a way that every operator, no matter how experienced he may be, will be able to handle such extraordinary situations, even if they occur extremely seldom.

The SMS group solution

With X-Pact® Process Guidance SMS group sets a new standard in plant automation and ensures an intelligently interconnecting and systematically cross-linking knowledge and data. Each application works with the same database to avoid redundancies in the automation levels.

The real-time information hub supports all common Industrie 4.0 communication standards for digital products and makes it possible to connect new sensors in virtually no time or conveniently transfer validated process data between authorized systems, also from third parties.

In the course of this X-Pact® Process Guidance ensures the same look and feel for the whole digital environment across all products.

Even more, X-Pact® Process Guidance comes with a wide range of virtualization features, which support the creation of redundancies to increase plant availability and provides independence from the system hardware.

Key features

- Future-proof modular automation concept
- Private cloud based technology stack, conform with Industry 4.0
- Seamless merging of automation levels – No break in operation

- Intelligent, process-oriented operational guidance
- Uniform system platform and universal interfaces for the whole digital environment
- Component-oriented system extendable by adding further modules and applications
- Process optimization system can be incorporated
- Compatible to Software as Service (SaaS)

Operation and visualization are based on the X-Pact® Vision concept, which always places the operator in the focus of interaction. X-Pact® Vision also provides a multitude of tools, such as Breadcrumbs, Wizards or context-sensitive help tools.

Specific dialogs have been developed for specific categories of users, for example line operators, metallurgists, maintenance personnel, production managers, etc., while focusing on their individual context of activities.

Operator	X-Pact® Process Guidance visualizes the complete process and all relevant information, as well as controls in the common X-Pact Vision HMI. Additionally all process relevant data of the actual or past production are visualized.
Production	X-Pact® Process Guidance informs at any time about the progress of the process. This is done intuitively via progress bars. This representation is supplemented by an intuitive process guidance, the "Process Slider".
Maintenance	X-Pact® Process Guidance gives the operator at any time the overview about the status of all systems. In case of a fault command buttons will lead the operator straight to the fault. So he can directly inform the maintenance staff to maintain the system.
Technological	X-Pact® Process Guidance makes it possible to develop individual process and model parameters. For these specific dialogs were developed depending on the process stage to support the technicians in their daily activities.
Management	X-Pact® Process Guidance delivers tailor-made production reports and cockpits. These help the management to achieve the necessary transparency of individually defined KPIs.

Examples of general X-Pact® Process Guidance modules



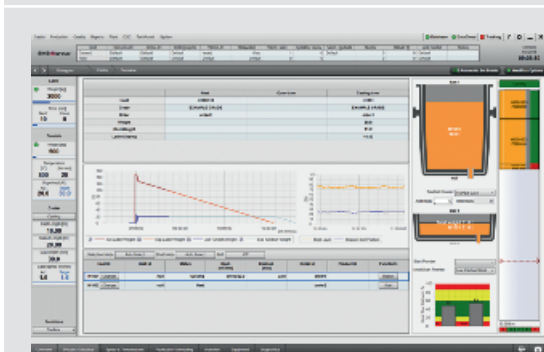
Tracking module

This module displays the current status of the plant. Which product is being produced, in which quality and under which conditions?



Reporting module

This module captures all data necessary to produce detailed reports. As well as the acquisition of data, the editing of data is another key feature of this module. Data editing is aligned to the system visualization. Additionally, prepared PDF files are provided for data editing purposes.



Example Casting Machine

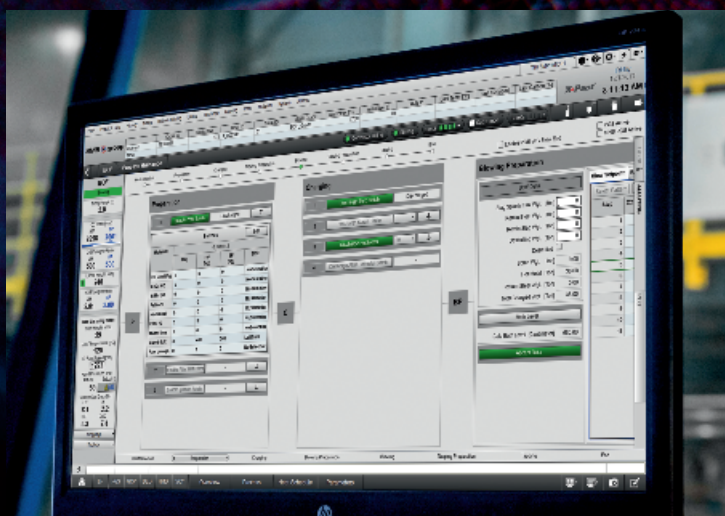
In this case, the Main Module tracks the material flow and transformation (molten metal, strand, slab) and guides the operator along the entire casting process (from the preparation (set-up) of the machine down to the end of the sequence (discharging)). In doing so, it generates a twin of the product-related tracking data in the data cloud.

Special feature: Process slider

The Process Slider is the plant operator's central HMI unit. This unique operating screen provides intelligent, process-oriented and situation-specific operator guidance.

The process is chronologically displayed from left to right. When the system is in a process phase, the sequence of steps within this phase is worked off one after the other from the top to the bottom.

This guidance ensures that the operator receives only information needed for a particular process step. Besides the main sequence path, the operator is also provided with a full list of out-of-the-normal scenarios commonly associated with each individual process step.



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