



PLUG AND MONITOR

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INDUSTRY COCKPIT – FIT FOR CUSTOMIZED PROCESSES AND PRODUCTS

Customized production today is no longer restricted to the implementation of special product features or to manufacturing single parts. Customer demands are increasingly making it necessary to adapt processes within companies to the customers' individual requirements or to supplement them with additional processes. Such process adjustments start with administrative procedures such as approval tasks and continue through additional inspection processes to individual shipping, acceptance and invoicing arrangements. All of this in conjunction with a product that the contractor will perhaps only produce once in this way.

To meet these demands, companies require a flexible process network that can be quickly adapted when necessary. The model-based »Industry Cockpit« places a tool at the disposal of companies with which such process networks may be reliably monitored and controlled. All those involved – from managers to workers – can

in this way be supplied with clear information tailored to the tasks that is processed in real-time and focuses on those aspects of production that are relevant to them.

System description

Production has become increasingly dynamic over recent years – not only as a consequence of shorter innovation and change cycles but also because companies have started to focus more on customer requirements. They are not only determining the appearance and properties of the final products with increasing frequency but also the routes taken to arrive at them.

Companies can only meet such demands if they have organized themselves in flexible process networks. The model-based Industry Cockpit was developed within the framework of the MetamoFAB (metamorphosis into intelligent and networked

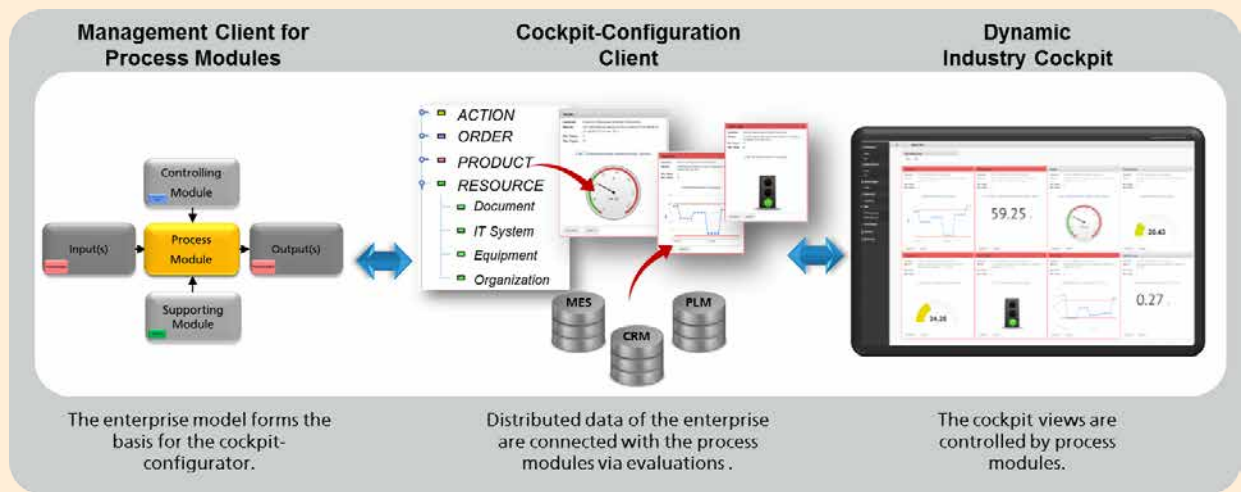
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factories) project with the intention of helping companies reliably control and monitor highly dynamic processes. It maps the structures of intelligent and networked production and uses business models to link people, products, machines and information systems.

The Industry Cockpit brings together all the information and processes available within a company so that it becomes possible for them to be accurately monitored and easily tracked. The Cockpit delivers a precise overview of the plant's overall situation at all times – of both the processes and the condition of the manufacturing equipment. It produces an additional benefit in that this solution turns each member of staff into »process controllers« for their specific areas of responsibility. When employees make changes to processes for which they are responsible, the cockpit will adapt all the processes affected by these modifications and in this way facilitate the transparent communication and presentation of the tasks ahead.

The system doesn't only significantly increase flexibility within companies. It also sets new standards in regard to cooperation because it strongly encourages collaboration between the various disciplines – so that employees can remain within their disciplines and do what they do best while, at the same time, they are enabled to see what effects their decisions are having on others. Thus, process responsibility can be lived. Real-time data from different systems (e.g. MES or CRM) is consistently mapped. And: the business data that is required for decision-making can be collated indepen-

dently of the location and therefore across company and supply-chain boundaries in a hierarchical fashion. An assistance system helps users configure the individual views they need to ensure their ability to make decisions – which further enhances collaboration because cooperation between company departments that are these days often separated is supported on the basis of models. Innovative visualization methods with which the joint process transparency and structuring are simplified are employed here.

Application potentials of the model-based cockpit configuration

- Customer-related process changes may be tracked for individual products – documentation at the touch of a button
- Shorter response times to individual customer demands – no programming, just configuring
- Standardized product instead of individual programming – plug and monitor
- Role-based dashboards – everyone gets the information that is relevant to them
- Merging of mixed data in real-time – process models enable an overview of the entire corporate structure
- Ad-hoc creation of customized process reports – turns everyone into process controllers

Potentials for the route to Industrie 4.0

- Helping businesses gradually shift to intelligent and networked production
- Reduction of data quantities through model-based filtering and processing

- Supporting employees in analysis and decision-making in complex manufacturing industries

Partner

The Industry Cockpit is being set up in cooperation with Pickert & Partner GmbH. This company develops and maintains a consistent and comprehensive standard software for production management (MES), quality management (CAQ) and traceability (tracking). RQM software (Real-time. Quality. Manufacturing.) integrates, supports and ensures almost all production-proximate flows and processes across the entire value-adding chain in real-time. The result of this cooperation is a solution that makes it possible to tackle Industrie 4.0 in a realistic and application-based manner and thus to secure a competitive lead.

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