



TECHNOLOGIES AND
APPLICATION SCENARIOS
THAT HAVE PROVEN
THEMSELVES ON THE
ROAD TO THE
INTELLIGENT FACTORY.

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BEST PRACTICES OF THE INDUSTRY 4.0



DIGITAL SHOP FLOOR MANAGEMENT

How can the performance of an automotive group be improved? First of all, the status quo with regard to workflows and processes must be determined. It quickly became apparent that there are some duplications in communication. In order to create a central collection point for the transfer of information, ROI-EFESO convinced the automotive group to set up an IoT platform. By means of a uniform reporting system their suitability for practical application was demonstrated promptly.

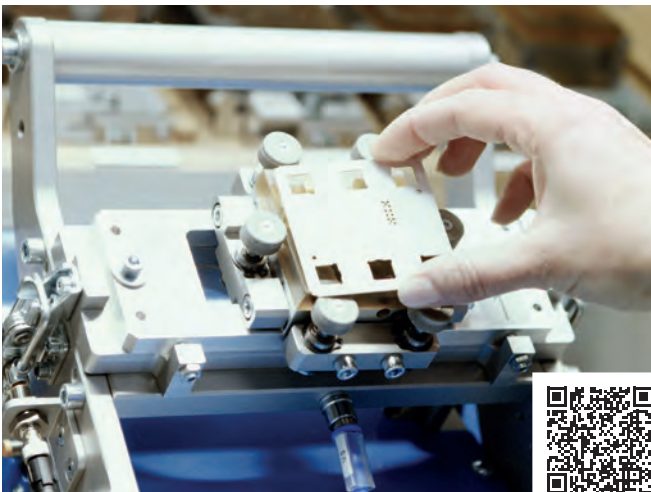
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SMART FACTORY PLANNING

What are the potentials of a pharmaceutical and life science company for digitisation? ROI-EFESO first established the status quo with its Smart Factory Scan by identifying the relevant factors for digitisation. Then ROI-EFESO developed development scenarios and location strategies, which were then analysed in more detail in a next step. Finally, the project team classified the main topics according to specific structuring criteria.

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FACTORY OF THE FUTURE

For the factory of the future, individual production means increased flexibility and short changeover times for different products. ROI-EFESO first took stock of the situation to see which elements should be prioritised. Three areas represent the foundation of the factory of the future: A machine park and a production layout should be checked for physical layout. The flow of information is to be checked to see which information is to be recorded at all. And finally, the question of the optimal production system of the future should be asked.

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TRANSFORMATION THROUGH SMART PRODUCTS DEVELOPMENT

How can a series developer reconcile his smart products with a disruption? ROI-EFESO took on this task and set up a core team, an Ideation Team and a few bridge builders in its change process. The clash of these working cultures meant a merging of competencies to create valid prototypes. Once these prototypes have been developed, the team is dissolved. This combination of teams not only adds value to product development, but also helps to break down silo mentalities.

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DIGITAL PROCESS TWIN

A digital twin can help for a better understanding of a production plant, for example. ROI-EFESO was given the task of reducing the reject rate of the high number of variants. It was therefore necessary to find out which process parameters could influence performance and the quality result. Based on a collected database, a model was developed in a cloud application. This “Digital Process Twin” monitored the physical process in real time and allowed early intervention based on critical process parameters.



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AGILE METHODS IN SOFTWARE DEVELOPMENT

Agile methods are also used by an energy supply company. The primary aim is to make the R&D team more agile. ROI-EFESO first analysed the status quo of its units and processes in the R&D area. Then the appropriate transformation methods were selected and implemented. From these steps, ROI-EFESO drew a best-practice process map for the R&D department.



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ELECTROMOBILITY: NEW MANUFACTURING PROCESSES

The automotive industry needs new approaches to autonomous driving. Because this brings with it completely new functionalities and communication channels. ROI-EFESO examined the processes and procedures by providing a new concept in terms of anticipatory production and quality. The use of a Digital Process Twin also made it possible to carry out the first successful verifications.



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END-TO-END DIGITISATION

When a company is very broadly based and each brand has its own sales channels, a uniform end-to-end process must be designed. ROI-EFESO relied on two teams - one was responsible for the back-end integration of the IT and ERP systems. The other was responsible for setting up a digital channel. Thanks to the company's strong affinity with digital tools, ROI-EFESO was able to restructure processes across all sales channels and for all brands.



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