FULLY INTEGRATED PRODUCTION/VALUE-CREATION NETWORKS

Application for the manufacturing industry - Complete factory integration of supplier, production and customer

SUMMARY

All relevant workflows and manufacturing processes in production are digitally controlled and monitored in real time. The existing production planning was replaced with digital order management from a new ERP. Units that used to be completely analog have been digitally linked since 2011. This includes sales, HR planning, machining and other units.

CURRENT SITUATION

Production planning used to be done with pegboards and paper orders with barcodes. When the project first began in 2007, there were no existing technologies or external support to draw on. The changes to workflows and general organizational changes were approached on the basis of existing problems. The general aim is always to increase productivity, improve employee satisfaction, and reduce errors.

PROJECT DESCRIPTION

Autonomous production control based on all available data – such as delivery date, machine utilization, workforce, days of sickness and vacation, resources and stock levels – was implemented with a specially developed MES system and an improved ERP system. The digital control and administration of the production units, for example for second-by-second feedback on machine and production states, can achieve significant productivity and cost gains.

REFERENCES

www.vision-laser.de

SOLUTION

Integrating everything in MES and ERP systems means:
- The full networking of all production units involved in the production process
- Dashboards are provided for all staff showing up-to-date utilization and production states
- Use of mobile computers (tablets, smart watches, etc.)
- No more outdated revision levels due to printed drawings
- Supplier and customer interfaces are open and support system networking across the entire chain
- Digital knowledge management for central administration and control of the exchange of information and knowledge

CONTACT

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INDUSTRY 4.0 FEATURES

The full networking of all the resources involved in production requires the integration of all personnel and improves the company’s quality and competitiveness.

STANDARDIZATION APPROACHES

Interoperability with production systems throughout the value chain requires semantic information models and standardized interfaces for all participants.