

I4PRODUCTION

International model factory for Industrie 4.0



SUMMARY

The aim is to develop and simulate an internationally networked production process map for Industrie 4.0 based on three networked model factories in three countries (Germany, Austria and Switzerland). In a joint, standardized automation concept, the networked model factory will produce a cyber-physical system (CPS) in the form of a model car that can be assembled in a wide range of variants by the customer or designed on an individual basis.

Electronic components are produced at NTB in Buchs, while the production of mechanical components and the customer-specific design take place at the University of Applied Sciences in Vorarlberg and also at NTB. The bought-in parts undergo timely final assembly on the production line at the University of Applied Sciences (HTWG) in Constance.

SOLUTION

The findings of the research project highlight what action companies need to take in order to make their manufacturing future-proof, efficient and productive and to meet the demands of Industrie 4.0.

The digital process chain serves on the one hand to teach young students and professionals how to develop new process flows and business models and, on the other hand, to raise awareness among representatives of regional SMEs regarding the opportunities and risks arising and to provide them with scientific support and encouragement.

INDUSTRIE 4.0 – FEATURES

Modular use of networking, smart actuator and sensor technology, and Big Data as the basis. Reprogramming is performed in the factory via modularization and networking, not by starting from scratch.

The business ecosystem serves as the customer's entry portal for agile development, which enables new business models to be used.

PARTNERS



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STANDARDIZATION APPROACHES

Use of open automation systems with standard components, and expansion into a standardized, digital production process chain that permits data to be exchanged between locations in a corresponding scope and volume.

Use of transmission protocols that meet the pull standard of the material and energy processes in the automaton system. Integration into future industry protocols based on RAMI 4.0 architecture is desirable.