



Smart Factory on the way in Future

Industry 4.0: In order to investigate into the fact and how a future factory will perform and for the time being in the whole of Germany many so-called model factories must come into existence. These should before all facilitate the growth of smaller factories in industry 4.0.

Without smart factory the idea of industry 4.0 would be absolutely meaningless – says Detlef Zühlke, director and manager Innovative Factory System at the German Research Centre for the Artificial Intelligence (DFKI) in Kaiserslautern. The smart factory KL established in the year 2005 is the first model factory in Germany which is engaged with the future vision of production. In a network at present of 40 partners from industry and research the smart factory KL works with innovative concept of technologies and solution models for the transformation into industry 4.0. Being supported by the coworkers of the future factory: the undertakings in the model factory can in Kaiserslautern test with different demonstrators their ideas and techniques for the factory of future.

Initiatives increase all over Germany

Specially small and medium firms must very closely come to an understanding with the theme industry 4.0 in order to establish specially for them appropriate solutions as said by Zühlke. This does not automatically drag at high costs along with but requires as a rule digitization of the processes, as we also experience in our working private life, as explained by the

scientist. In view of the technological changes, the undertakings are placed in big challenge to evaluate the innovations for themselves and of it optimally.

In the meantime there are several future model factories as also research initiatives about the realization of industry 4.0 in Germany. Side by side with factories in Aachen, Darmstadt and Munich further regional model factories come into existence in Lemgo and in Stuttgart in the year 2016.

Also the research factory in Lemgo offers the undertakings the possibility of the bearing capacity of newer arrangements for the factory as for example to verify the transformation capacity, resource efficiency as also technologies for the user-friendly man-machine interaction on the practical fitness as said by Jürgen Jasperneite, Manager of the Fraunhofer-application centre and initiator of projects. The scientists in East Westphalia work since 2005 on the technologies with which undertakings can already realize the intelligent factories of future in partial domain. In the middle of April 2016 the research factory was to be commissioned officially. It is situated near the demonstrators as also real production and IT environment. Small and medium range undertakings have here to optimize in the future also the possibility with the help of pilot lines. Their production systems and courses and train the personnel. The undertakings under region around Stuttgart must have

patience till the end of 2016 until also they can use a research factory in their vicinity. In last October 2015 the foundation stone was laid for a factory building on the research campus ARENA 2036 of the University of Stuttgart. Till December 2016 over 100 scientists from various disciplines and institutions can do research. The people of Stuttgart have focused the automobile production of future. Thomas Banernhansel, manager of Fraunhofer IPA as also director of research factory “smart factory” says so.

The innovations of the plan are manifold as said by IPA manager. They consist of after all in their exploration and trial of a basic new concept for the vehicle production without belt and cycle and without assembly. With that we connect typical light construction processes with new type of robot. Prerequisite for an autonomous production is that a permanent up-to-date complete and automatically generated digital copy of production be ready, as it were a digital shade. All workers and factory medium are tied together into which the data flow out of a 3-D authentic space of time indoor recording

system and object recognition. With that it would be as for example in future possible to plan all factory processes and to control and coordinate the logistic and more over through the visualization of recorded data to inspect the real factory virtually and to document the same three dimensionally.

As the western country has the vision of future smart factory matching with industry 4.0, our country India should also venture to cope with the concept in establishing new factories, or for products made in India as also ensure for the products in make in India programme. Research institutions in collaboration with existing advanced factories should be set up if not yet done and be so equipped as to train the newer factories with the objective of achieving the goal of smart factory in conformity with industry 4.0

Anil Kumar Ghosh

Editor-in-Chief

Source: VDI Nachrichten, 8 April 2016, Nr 14
