

Dear Readers,

As already mentioned in the previous quarterly, the team of the Dream Factory is currently focussing on “**Industrie 4.0**”.

Industrie 4.0 stands for the intelligent networking of products and processes along the supply chain. Through this intelligent networking, products and equipment are able to process information, release initiatives independently, and support people in their decisions and dealings by means of mobile devices.

We would like to tell you about the awarding of the Green Controlling Prize 2014 before dedicating ourselves to the subject of Industrie 4.0. The prize originated from the work done by the Dream Factory pertaining to green controlling. Subsequently, we will address the economic potentials of Industrie 4.0. We will also deal with the challenges regarding the implementation of Industrie 4.0, thereby paying particular attention to the role the controller plays in overcoming the existing challenges.

We wish you an interesting read, a merry Christmas and a happy New Year!

Best regards,

Siegfried Gänßlen
Chairman of the ICV board

Prof. Dr. Heimo Losbichler
Deputy Chairman of the ICV board

Prof. Dr. Dr. h.c. mult. Péter Horváth
Head of the ICV Dream Factory

Dr. Uwe Michel
Head of the ICV Dream Factory

Suggested reading

In their book, “**The Second Machine Age**”, Erik Brynjolfsson and Andrew McAfee describe the ramifications of the so-called digital revolution, while analysing the profound changes through the use of information and communication technologies. With the aid of diverse examples, they not only explain the effects of intelligent interconnectedness in the industry, they also illustrate how communicating devices or voice recognition systems enrich the lives of people outside of their daily work life.



The thematic focal point in the November 2014 edition of the Harvard Business Review is “**The Internet of Everything**”.



In his article, Harvard professor Michael E. Porter outlines, among other things, how automation and constant internet access have changed the economic world. Beginning with intelligent and interconnected products, Porter describes why companies must adjust to new industry structures and codes of competition, as well as why they have to reconsider their supply chains and internal tasks.

12. Controlling Competence Stuttgart (CCS) | The awarding of the Green Controlling Prize

On 27 November 2014, the Péter Horváth Foundation's Green Controlling Prize in the sum of 10,000 Euros was awarded at the Controlling Competence Stuttgart (CCS) regional event. The Green Controlling Prize originated from the work done by the Dream Factory on the topic of "Green Controlling", and honours innovative and effective "green" controlling solutions that aim to realise environmentally-based strategies, programmes and projects. This time, two corporations were awarded the prize for their controlling solutions: STABILO International GmbH and Takata AG.

STABILO International GmbH: Controlling as a business partner for sustainable corporate management

STABILO International GmbH is one of the leading manufacturers of writing instruments in Europe, and part of the Schwan-STABILO group of companies.

STABILO's green controlling solution is comprised of three fundamental task fields:

- The support of further development of the in-house sustainability programme
- The creation of transparency regarding programme results and reporting these
- Process-integrated supervision of the sustainability programme

In doing so, economic, ecological and social figures are considered in order to determine and increase sustainability performance. The introduction of the sustainability programme's success is evident in a variety of sectors; for example, the introduction of international environmental management standard ISO 14001 is in effect at all production sites.

Takata AG: Maximise innovation to minimise environmental impact

Takata AG is one of the world's leading manufacturers of automotive passenger protection systems (steering wheels, airbags, seatbelts, child safety seats and electronic components).

Takata's green controlling solution is also comprised of three elements:

- Green KPI's: Expansion of the classic KPI system with newly developed figures and increased detailing
- Green management by objectives: Expansion of the target-setting system for managers in regards to new categories, as well as their linkage to the KPI reporting system.
- Green projects: Support and prioritisation of projects, which do not burden the environment, save energy or that avoid environmental risks

From an economic and ecological standpoint, the positive effects in regard to energy costs in particular can be highlighted. Despite a 10% increase in production volume, cost savings of 19% were achieved.



The awarding of the Green Controlling Prize 2014 (from left to right):

Dr. Dan Tulvan (Director Manufacturing, Arad/Romania), **Jürgen Volk** (Manager Controlling Steering Wheel EMEA), **Jörg Henry Dinkat** (Director Controlling Global Steering Wheel & FI/CO Office EMEA) – all from Takata; **Prof. Dr. Dr. h.c. mult. Péter Horváth** (Founder of the foundation and chairman of the jury), **Angelika Henkel** (Manager Controlling, Stabilo International), **Martin Reim** (Director Schwanhäuser Industrie Holding), **Lucian Lusca** (Manager General Service, Takata Arad/Romania), **Siegfried Gänßlen** (Chairman of the ICV board)

Industrie 4.0 | Economic potential through intelligent networking

Industrie 4.0 stands for the intelligent networking of products and processes along the supply chain. This leads to more efficient processes for the purpose of smarter production, as well as for increased use by customers through the availability of smart products and services. In a joint study, the Federal Association for Information, Technology, Telecommunications and New Media e.V. (BITKOM) and the Fraunhofer Institute for Industrial Engineering and Organisation (IAO) have predicted the economic potential of Industrie 4.0. An annual increase of 1.7% gross value added through Industrie 4.0 is forecast for the industries that were taken into consideration. This is equivalent to an increase of approx. 79 billion Euros in Germany by 2025 (cf. Bauer et al. 2014, page 36).

Chemical industry

The high degree of automation is defining for the chemical industry. In addition to improved networking, an increase in the process quality is expected through the implementation of Industrie 4.0. This can be ascribed to the use of operational, status and environmental data for real-time process monitoring.

Automotive construction and parts

The automotive industry benefits primarily as an operator of the technologies related to Industrie 4.0. This is in reference to production and logistics, in particular. It is possible to increase road safety, improve spare parts management or simplify maintenance through the use of these technologies in automobiles.

Plant construction and engineering

The implementation of Industrie 4.0 in plant construction and engineering has an impact both on the performance and on the range of services. In regards to performance, in-house production processes are able to be streamlined. Through smart products and their corresponding services, a new range of services is created.

Electrical equipment

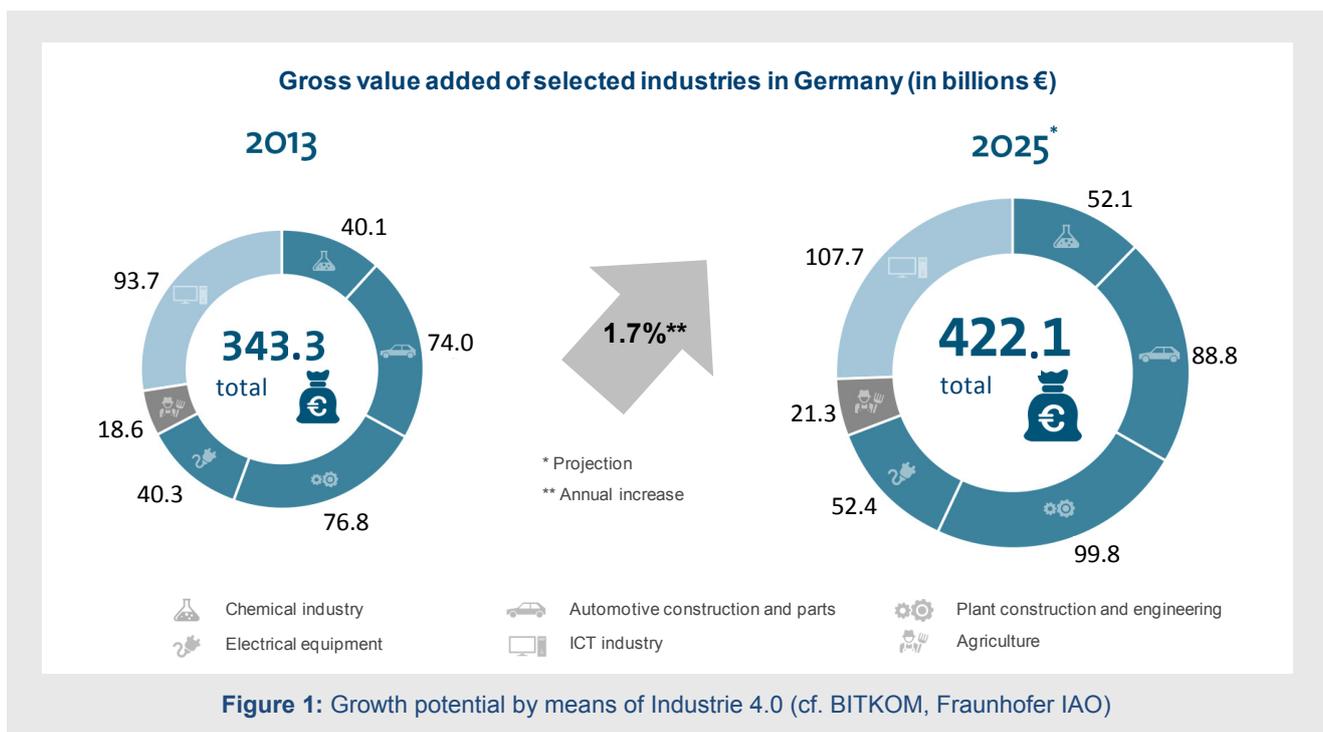
The increasing transparency of suppliers all the way to the in-house production offers an enormous potential for the configurability of production processes spread out across the globe in regards to electrical equipment. The technological equipment required can be built into more and more objects (production facilities or machinery).

Information and communication technology (ICT)

The ICT sector plays a decisive role for Industrie 4.0. By means of hard- and software components, man-machine interaction or machines that are able to communicate can be put into practice. Complementary to the hard and software components are relevant services such as Cloud Computing and Big Data applications.

Agriculture

Industrie 4.0 also leads to improved processes in agriculture. For example, machine idle time during the harvest season can be reduced through preventative measures to avoid faults. Additionally, the tilled soil can be protected through improved coordination of the agricultural machinery, and harvest logistics can be optimised with due regard to a variety of influencing factors.



Implementation challenges concerning Industrie 4.0 | Controlling approaches

The implementation of Industrie 4.0 is associated with a variety of obstacles. From the technological perspective, the missing standardisations for cross-company networking, the expandable broadband infrastructure in the industrial field of application or the outstanding questions concerning data protection and data security, among others, should be mentioned (cf. Kagermann et al. 2013). In a poll conducted by PricewaterhouseCoopers (PwC), 235 business representatives from different sectors were asked about both technological and non-technological challenges. Challenges that could be managed with the help of the controller were also named (cf. Figure 2).

The controller as the business conscience

Almost half of the participants questioned in the study indicated that uncertain economic use and high investments are ranked among the most important challenges pertaining to the implementation of Industrie 4.0. For many corporations, the Industrie 4.0 technologies and the associated opportunities under discussion at the moment are new.

In this case, the controller is asked to ensure the required transparency in regards to the various potentials. Starting with possible use cases, these potentials need to be quantified, investment appraisals need to be undertaken and investment decisions need to be secured. Moreover, the potentials in regard to the realisation of new business models must be considered.

The controller as a business partner

The lack of prioritisations or support by top management was mentioned as a challenge by 18% of the participants questioned in the study. In order to implement Industrie 4.0, it is necessary for top management to be aware of the significance of this issue and to treat it with high priority. This is the foundation for the development of a corporate vision and a roadmap for Industrie 4.0.

In this case, the role of the controller as a business partner is required to define a company-specific strategy for Industrie 4.0, as well as to counsel diverse corporate departments when making strategic decisions.

Challenges for the successful implementation of Industrie 4.0
Selection of the top 2 reasons (in percentages)

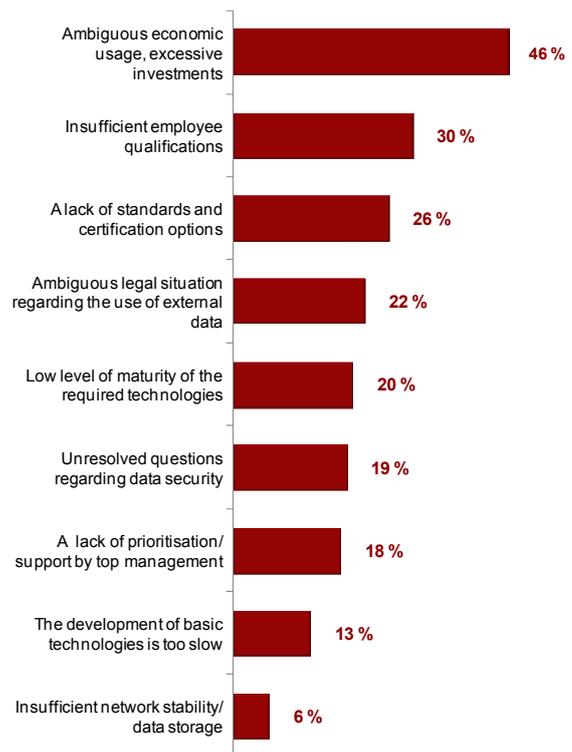


Figure 2: Challenges for the successful implementation of Industrie 4.0 (cf. PwC 2014, p. 36)

References

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