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**Industry 4.0: companies worldwide are investing over $US 900 billion per year until 2020**

**Global study by PwC: companies expect Industry 4.0 to generate significant benefits in costs, efficiency and profits / more than half estimate ROI within two years / demand for IT specialists and data security are the biggest challenges**

**Frankfurt am Main, April 13 2016***.* Industrial companies from all sectors across the globe are getting down to business with Industry 4.0. The project’s implementation is in full swing all around the world: about one third of companies already rate their level of digitisation as high, and this value is expected to rise on average from 33% to 72% within the next five years. Industrial company’s leaders are digitising essential functions within their internal vertical value chain, as well as with their horizontal partners along the supply chain. In addition, they are enhancing their product portfolio with digital functionalities and introducing innovative, data based services. Companies worldwide want to invest approximately 5% of their digital revenue annually on digitisation. Based on the industry sectors surveyed, 5% of digital revenue corresponds to a total investment of $US 907 billion. A major focus of these investments will be on digital technologies like sensors or connectivity devices, and on software and applications like manufacturing execution systems. In addition, companies are investing in training employees and driving required organisational change. More than half of these companies (55%) assume they will amortise this expenditure within two years. These are the results of PwC’s global study “Industry 4.0: Building the digital enterprise” which surveyed over 2,000 companies from nine industry sectors in 26 countries.

In the course of this transition, the managers surveyed estimate a cost reduction of on average 3.6% per year and additional revenues of on average 2.9% annually. In absolute terms, this corresponds to $US 421 billion in cost savings and a simultaneous revenue increase of $US 493 billion. “Companies expect digitisation to deliver huge benefits and are investing correspondingly large amounts. Our study shows that this transition is taking place in all the countries surveyed in equal measure, not only in industrialised countries,” says Reinhard Geissbauer, Partner at Strategy&, part of the PwC network in Germany and Head of Industry 4.0. “Even if only half of the expectations associated with Industry 4.0 are fulfilled, it will fundamentally change the competitive environment in the coming five years.”

At the end of this transformation process, successful industrial companies will become truly digital enterprises, with physical products at the core, augmented by digital interfaces and data-based, innovative services. These digital enterprises will work together with customers and suppliers in industrial digital ecosystems.

**Data analytics is the driver for Industry 4.0**

Over 80% of companies expect data analytics will have a significant influence on their decision-making processes in five years’ time. “Preparing data professionally provides a valuable insight into the use of products and makes a long-term customer relationship possible,” says Jesper Vedso, Partner at PwC in Denmark and Global Industrial Products Industry 4.0 Champion “Data analytics enables products to develop further and companies to add to services and offers aligned precisely with the needs of the clients.”

**Lack of expertise: a barrier on the way to Industry 4.0**

The companies surveyed see the problems in implementing Industry 4.0 less in acquiring the necessary technology, but more in the lack of internal digital culture, vision and training, as well as in a lack of specialists. For example, almost 40% of the companies surveyed rely on the analytics expertise of individual employees, but do not have dedicated data analytics departments. “It is prudent to build up sound expertise in data analytics and digitisation in one’s own company. The use of individual experts in collecting and evaluating data is not sufficient to implement Industry 4.0 strategies successfully,” declares Reinhard Geissbauer. “To be able to use them as a basis for decision-making, companies require data pools, algorithms and actionable recommendations prepared professionally.”

The study outlines a further pre-requisite for successful digitisation in the provision of data security. “Digital ecosystems can only function if all participants can rely on the fact that their data will not fall into the wrong hands. This requires considerable efforts from companies, substantial investment in the security of their systems and clear standards for protecting their data,” says Reinhard Geissbauer.

Digitisation impacts horizontally and vertically along the value chain. This means that on the one hand, companies need to better integrate processes and digitise their data flow vertically, from product development and procurement all the way to manufacturing and transport logistics. On the other hand, it means horizontal networking with key suppliers, customers and other partners in the value chain, e.g. by using track and trace solutions to follow product flows. For companies this means creating complex digital solutions.

In addition, companies are developing new products and services with digital features, which span the entire product life cycle and therefore enable closer contact to end consumers. They also invest in digital services and create complete solutions for their customer’s relevant ecosystem, often in collaboration with value chain partners.

**The objectives of digitisation differ from country to country**

Although companies worldwide are pressing ahead with Industry 4.0, the study shows regional emphases in their objectives: corporate groups in Japan or Germany are using digitisation above all to increase their efficiency and product quality. In the United States, the tendency is emerging to develop new business models with the aid of digital offers and services, and to provide these products and services digitally as quickly as possible. Manufacturing companies in China are focusing on holding up better against international competitors by reducing costs. “Our study shows that the level of digital integration will be broadly comparable in the regions in five years, with some countries like Japan, Germany or the US at the forefront. Instead of dividing the regions, we expect Industry 4.0 to bind companies and countries together more tightly and therefore even promote globalisation,” declares Jesper Vedso.

**Notes:**

* For further information and the whole report, please go to: pwc.com/industry40

Methodology:

* Based on research conducted between November 2015 and January 2016 with over 2,000 senior executives from industrial products companies in 26 countries. The majority of participants were Chief Digital Officers or other senior executives with top-level responsibility in their company for Industry 4.0 strategy and activity. Results were weighted by country GDP to provide a balanced view in global results.

Defining Industry 4.0 – the fourth industrial revolution

* Industry 4.0 focuses on the end-to-end digitisation of all physical assets and processes as well as integration into digital ecosystems with value chain partners. Data & Analytics is a core capability for Industry 4.0. Industry 4.0 applications are fuelled by key enabling technologies.

**About PwC**

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