



reduce to the maximum.

THE IMPORTANCE OF INDUSTRY 4.0 IN B2B RELATIONS

Today leaders of businesses meet the words like „Industry 4.0“, „digital revolution“, „robot age“ and „smart technology“ everyday. We try to clarify what economic and technological changes these expressions reflect, what are their meanings and what is the impact on businesses of these often coined terms. Whether it is called the fourth industrial revolution, Industry 4.0 or the industrial internet, the progression from the digital revolution driven by the development of the Internet is finally arriving.

According to the definition of General Electric the “industrial internet” is “the integration of complex physical machinery and devices with networked sensors and software, used to predict, control and plan for better business and societal outcomes”.

Key Drivers of Industry 4.0:

The Internet of Things (IoT)	Artificial Intelligence (AI)
The IoT has been made possible by integrating sensors into devices. This is not new – sensors have been around for many years. What is new is that the price of sensors are dropping steeply and thanks to all the cheap sensors and increased processing capabilities devices can now exchange vast amounts of information with one another and work together to perform a task without human intervention (such as parking a car).	Artificial Intelligence deals with the construction and study of systems that can learn from data, rather than follow only programmed instructions. AI and machine learning will mark the way Big Data is handled. The industrial internet cannot succeed without AI, and the IoT needs strong computer intelligence that can extract value from enormous amounts of information in order to learn with each action.
Robotics	3D printing
Robots have been around for a long time, but today they are cheap enough to be accessible for organizations and some individuals. The IoT, in addition, enables robots to collect huge amounts of data from multiple sensors that communicate with one another, analyze that data and do things that were not feasible some years ago, like flying a drone to a customer’s house.	Vast improvements and a dramatic drop in costs have meant that 3D printing has become a viable alternative to traditional manufacturing. A key advantage is the improved quality and durability achieved by manufacturing entire parts as one item. This is having a huge impact on traditional value chains by shortening and simplifying the manufacturing process.



reduce to the maximum.

Leading sectors:

Transport

- In 2016 GE Aviation announced that it was introducing “the first 3D-printed parts in an aircraft engine platform”. With the new technology parts are becoming stronger and more reliable as they are manufactured in one piece.
- Tesla gathers all of the information flowing in through their car’s sensors in order to find out potential failures before they happen.

Healthcare

- Integrated devices can communicate with one another to track patient details, and orthopedic manufacturers are using 3D printers to produce orthopedic implants.
- Other companies like Intermountain are using Big Data to analyse hospital supply flows and to spot unnecessary purchases and expensive products that could be substituted.

Energy

- By applying sophisticated analytics on sensory data gathered from hundreds of industrial wind turbines, information can be used to prevent potential problems, increase efficacy and reduce costs.
- In the mining industry where safety is the most important factor, Marathon Petroleum equips miners with devices which can detect gases and transmit data about employees and their environment by a wireless network.

Industry 4.0 devices driving the transformation usually **cannot be classified under one single driver** because they are a mixture of many and most of them rely on other key drivers as well. Industry 4.0 is no longer the future. Some organizations are already transforming their processes to adapt to the new digital reality that the industrial internet is bringing with it.

The **most important implications for businesses** are caused by the different combinations of the Key Drivers as they:

- blur the lines between sectors and industries
- shorten and simplify traditional value chains
- make companies more responsive to changes
- make companies deal with knowledge that falls outside their traditional core competences.