



STARTING POINT INDUSTRY 4.0

DIGITAL VALUE CREATION WITH SICK

Industry 4.0

SICK
Sensor Intelligence.



INDUSTRY 4.0 IS HERE

Industry 4.0 is already here, and it is making its way into all kinds of industrial processes with unstoppable force. For this reason, SICK is collaborating with renowned partners at the Demofactory Aachen on the RWTH Aachen University Campus in Germany. The primary goal is to demonstrate how the concept of the connected value chain, and thus, Industry 4.0, can be applied to small, medium, and large enterprises. At the Demofactory Aachen, Industry 4.0 is already a tangible reality that everyone can experience.

Practical use cases show how easy it is to take the first steps toward the connected production facilities of the future. Industry 4.0 does not require fully automated production plants or robotic installations found in large-scale automotive manufacturing facilities. It can be applied to all types of companies. The factory in Aachen also demonstrates how intelligent sensors are being used to develop the first practical applications of Industry 4.0.

With the help of the experts from SICK, the researchers in Aachen are crossing the threshold into a connected world of production and logistics. The sensor manufacturer is the starting point for Industry 4.0 applications and is an expert partner for the development of tailored concepts. Welcome!



DEMOFACTORY PROVIDES A STARTING POINT

In its original sense, the term “factory” refers to an industrial manufacturing facility. But like the concept of the “think factory,” most of the products of the demonstration factory in Aachen are not tangible objects. Rather than producing large volumes of products, this factory is used to illustrate the future opportunities offered by Industry 4.0 at an understandable level.

The use cases from SICK show exemplarily what is already feasible at certain points in an industrial production process. The Demofactory provides a very direct indication of how a partially manual, partially automated production facility can be gradually turned into an Industry 4.0 application through the addition of smart sensor technology and its data usage.

The abstract concept becomes a tangible reality. At the Demofactory, Industry 4.0 does not start with an autonomous robotic line. Instead, the first step is to look at the potential of the customer's own possibilities: What can I do now and how do I make sure I start off on the right track?

SICK works closely with its customers in this regard. We start by asking where the customer is at the moment in terms of development and what the next steps might be. The use cases are a practical way of getting started and they provide food for thought when it comes to identifying individual requirements in brainstorming sessions. This analysis may only be a first step, but it opens the door to more substantial developments.



SICK use cases at the Demofactory

These examples give an idea of what a complete Industry 4.0 production facility would look like. Sensor technology from SICK covers the entire industrial value chain, from material procurement through production to the finished product, its marketing, and sale. This means that real added value can be generated in a short space of time.

The screenshot displays the SICK Vision Mobile application interface. At the top, the title 'Intelligent Material Storage' is visible on the left, and the SICK logo is on the right. Below the title bar, there are three main panels:

- Open Panel:** Shows 'Bay: 05|08' and '5x' items. A small icon of a bay is visible in the top left corner.
- Current bay Panel:** Shows 'Bay: 04|03' and '3x' items. Below this, it says 'Nuts' and 'To be serviced'. A large green circle with a white checkmark and the word 'Done' is overlaid on the bottom right of this panel.
- Done Panel:** Shows 'Bay: 04|01' and '2x' items. A small icon of a bay is visible in the top left corner.

At the top left, there are navigation elements: 'Employee1', 'Axis_front', and 'Rack 04-02'.

TAKING THE FIRST STEPS

The Demofactory Aachen shows that remodeling processes in line with Industry 4.0 is not such a difficult task. Customers can very quickly benefit from demonstrable advantages in a number of areas.

Fundamental improvements brought about by introducing Industry 4.0 applications in production:

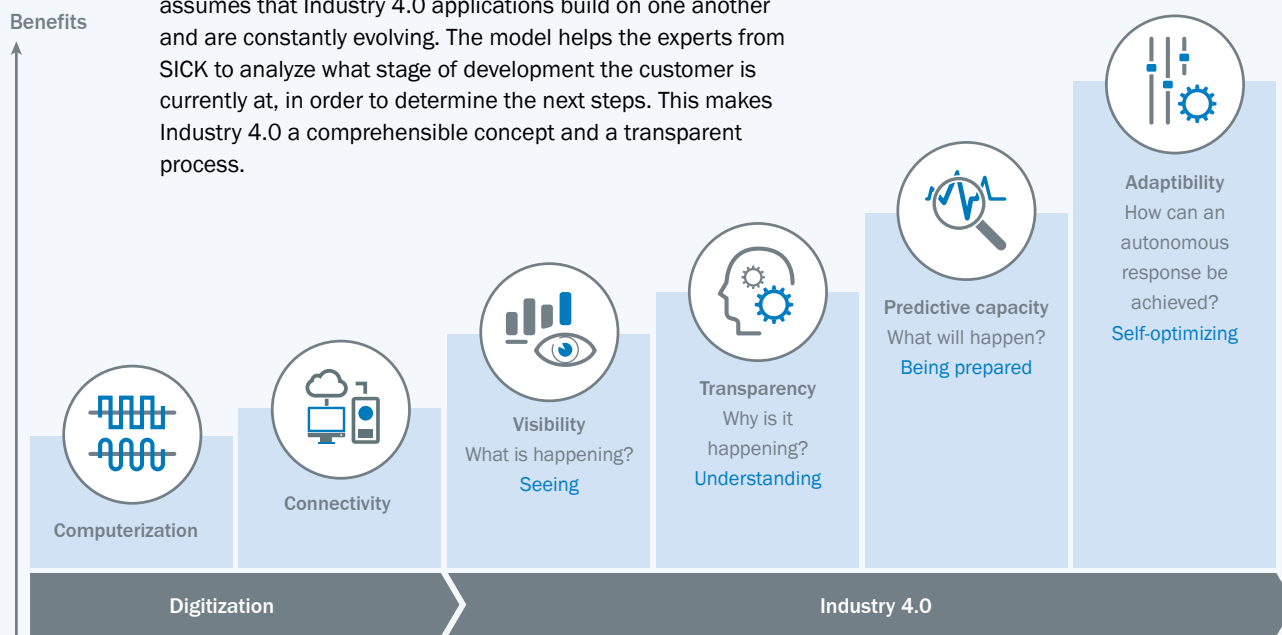
- Increase in production
- Cost savings through efficient use of materials
- More efficient use of personnel

Positive effects of Industry 4.0 applications in the longer term:

- Monitoring of the entire process chain
- Flexible setup (lot size 1)
- Reduction in unplanned downtimes (predictive maintenance)
- Consistent quality assurance
- Forecasting ability thanks to data analysis
- Safety in human-robot collaborations

Warm-up with the maturity model

The demand analysis for the customer is based on the maturity model developed by acatech, the German Academy of Science and Engineering. The model comprises a number of stages and assumes that Industry 4.0 applications build on one another and are constantly evolving. The model helps the experts from SICK to analyze what stage of development the customer is currently at, in order to determine the next steps. This makes Industry 4.0 a comprehensible concept and a transparent process.



Based on the acatech Industrie 4.0 Maturity Index

WORKSHOPS ON THE SHOP FLOOR

SICK organizes regular warm-up workshops at the Demofactory Aachen. These events primarily take place in the large workshop hall and give visitors an initial idea of what Industry 4.0 applications might mean for them personally. The present and the future come together here to form the first concrete steps. And mere theory becomes reality.

The modular workshop concept is constantly being expanded in order to provide ever-greater insights into the fascinating world of Industry 4.0.

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Workshop hall and foyer of
the Demofactory

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com