

# IoT solutions



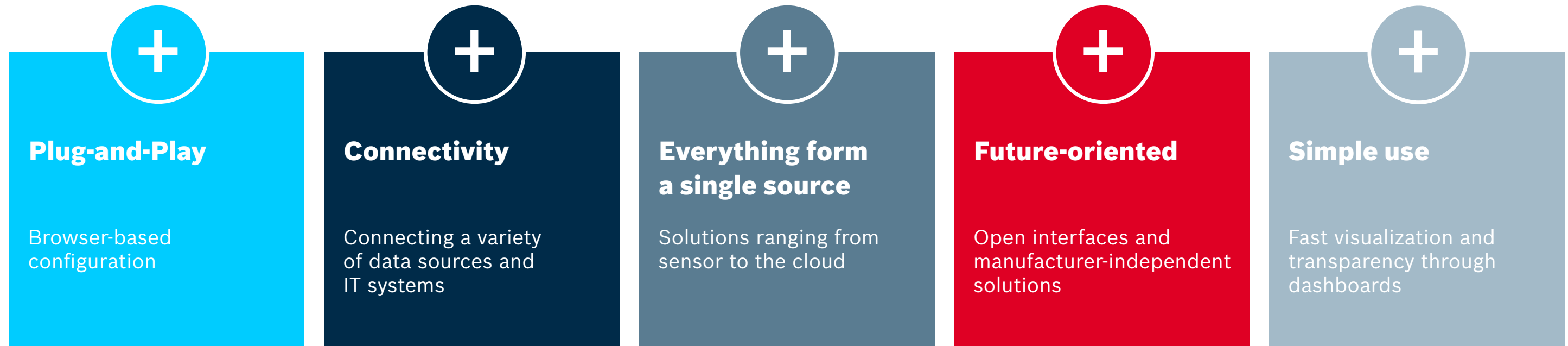
From Sensor to  
intelligent Edge  
to Cloud

# IoT solutions

## Fast and flexible connection to Industry 4.0

Many plants and machines have not yet arrived in the digital age. They first need to be connected in order to be able to make use of the benefits of the Industrial IoT (Industry 4.0).

For this we offer a scalable IoT offer. An important component is the IoT Gateway software, which can be used for both new and existing machines.



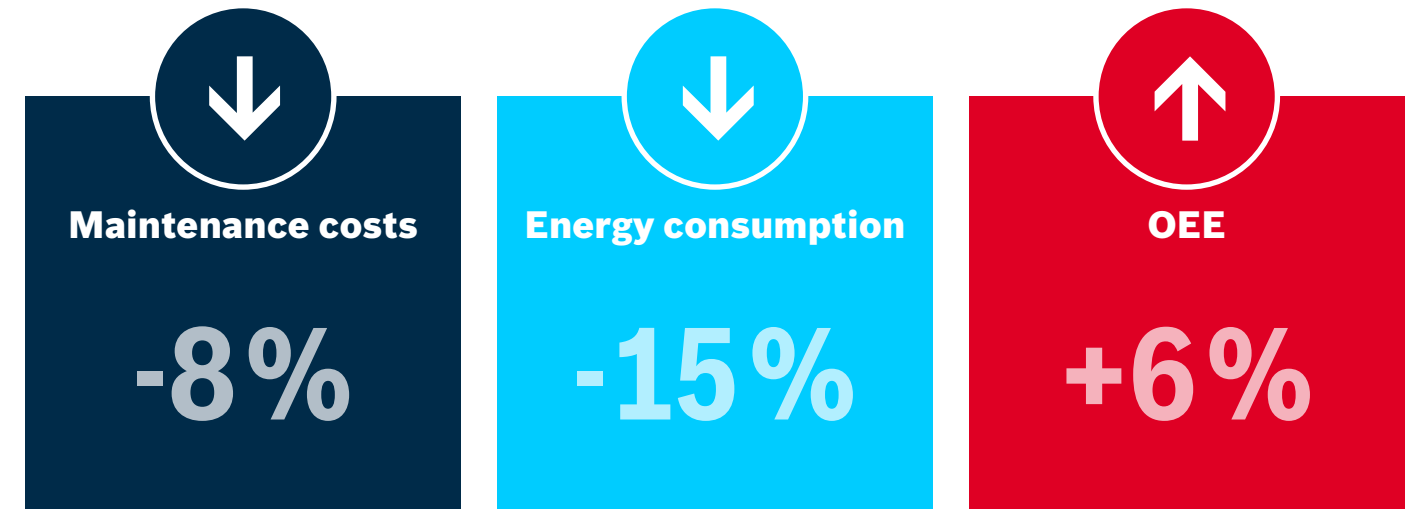
# IoT solutions

## Digitalization motor painting with the IoT Gateway

Not all systems and machines in motor production are connected and are therefore not yet **IoT-ready**. But that is the necessary condition to be able to utilize the advantages of Industry 4.0. For this purpose, a wide variety of **sensors**, such as temperature, pressure and compressed air consumption are connected to the IoT Gateway to forward data to several IT systems.

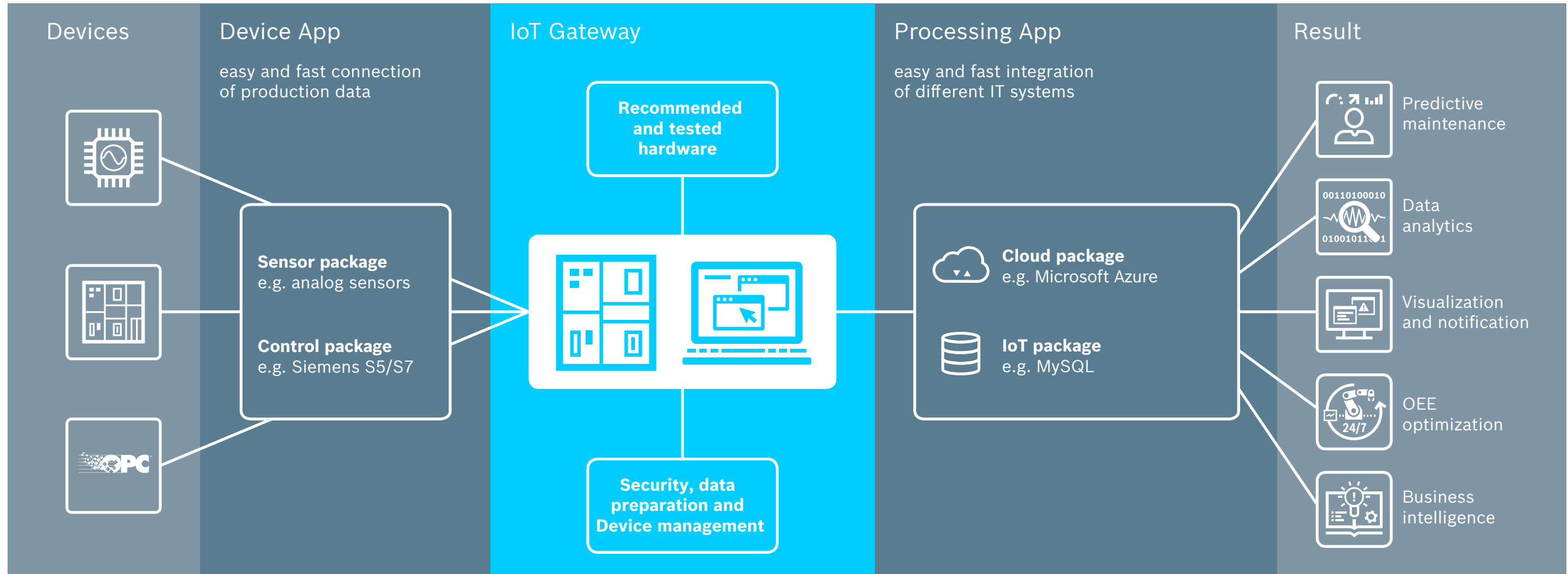
In order to improve the **quality** of the motors, all production parameters are stored individually in the MES system. In case of quality problems, the historical production parameters can be accessed directly, thus guaranteeing traceability. In addition, different cloud platforms and databases were connected to implement targeted **condition monitoring**.

A major advantage has been the **flexibility** of the gateway, which makes it possible to integrate a large number of systems in the shortest possible time. It was thus possible to ensure **fast, simple and future-proof** connectivity without having to intervene in the production infrastructure.



# IoT solutions

## IoT Gateway – Networking new and existing machines



# IoT solutions

## Demand-oriented hardware selection

For the efficient and cost-effective integration of IoT solutions Bosch Rexroth offers the right hardware – from sensors to high-performance IPCs.

Beside our Box PCs, which are perfect for the IoT Gateway Software, we offer a completely pre-configured solution to start directly with Industry 4.0 launch – the IoT Rack.

### IoT Rack

- ▶ Simple, fast and reliable data acquisition in production
- ▶ For new and existing machines
- ▶ Extensive interfaces
- ▶ IP65 protection class and CE certification



# IoT solutions

## Demand-oriented hardware selection

We offer various industrial PCs for demanding applications. The range includes IPC solutions in a wide variety of performance levels and form factors, which are used in machines and systems of all kinds. The IoT Gateway software can be easily and fast installed on the IPCs.



### Box PCs

- ▶ Ideal for Ethernet-based communication
- ▶ Compact and consistent design
- ▶ Flexible, robust, easy to connect





# IoT solutions

## Demand-oriented hardware selection

Operators want to gain insight into production and be able to evaluate machine data quickly, easily and economically.

IoT sensors support this by recording various machine data such as temperature, acceleration, vibration and other environmental influences.



### CISS

- ▶ Simple equipment of new and existing machines
- ▶ Acquisition of eight measured values per sensor
- ▶ Software tools for download

### SCD

- ▶ Simple equipment of new and existing machines
- ▶ Acquisition of four measured values per sensor
- ▶ App for data visualization



# IoT solutions

## IoT Insights

IoT Insights bundles all essential building blocks for data acquisition and further processing: sensors, hardware, gateway and visualization connection.

### Components

- ▶ Hardware: IoT Rack incl. Gateway, sensors and I/O modules
- ▶ Software: IoT Gateway Software, IoT Insights Dashboard

### Benefits

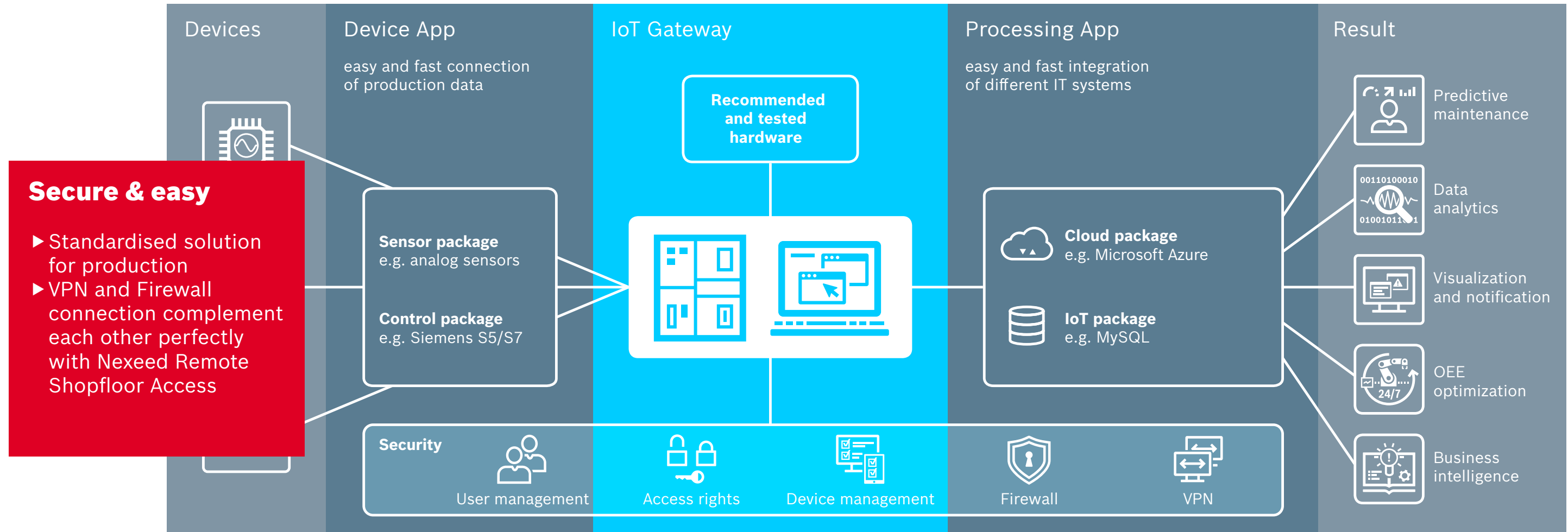
- ▶ Display of production data, combined with organizational data
- ▶ No programming necessary
- ▶ Turnkey solution
- ▶ Local database





# IoT solutions

## IoT Gateway Software – IT Security functions



# IoT solutions

## Nexeed Transparency Kit

The Nexeed Transparency Kit helps manufacturers better understand production lines, shorten response times, resolve problems faster and increase productivity.

### Heatmap

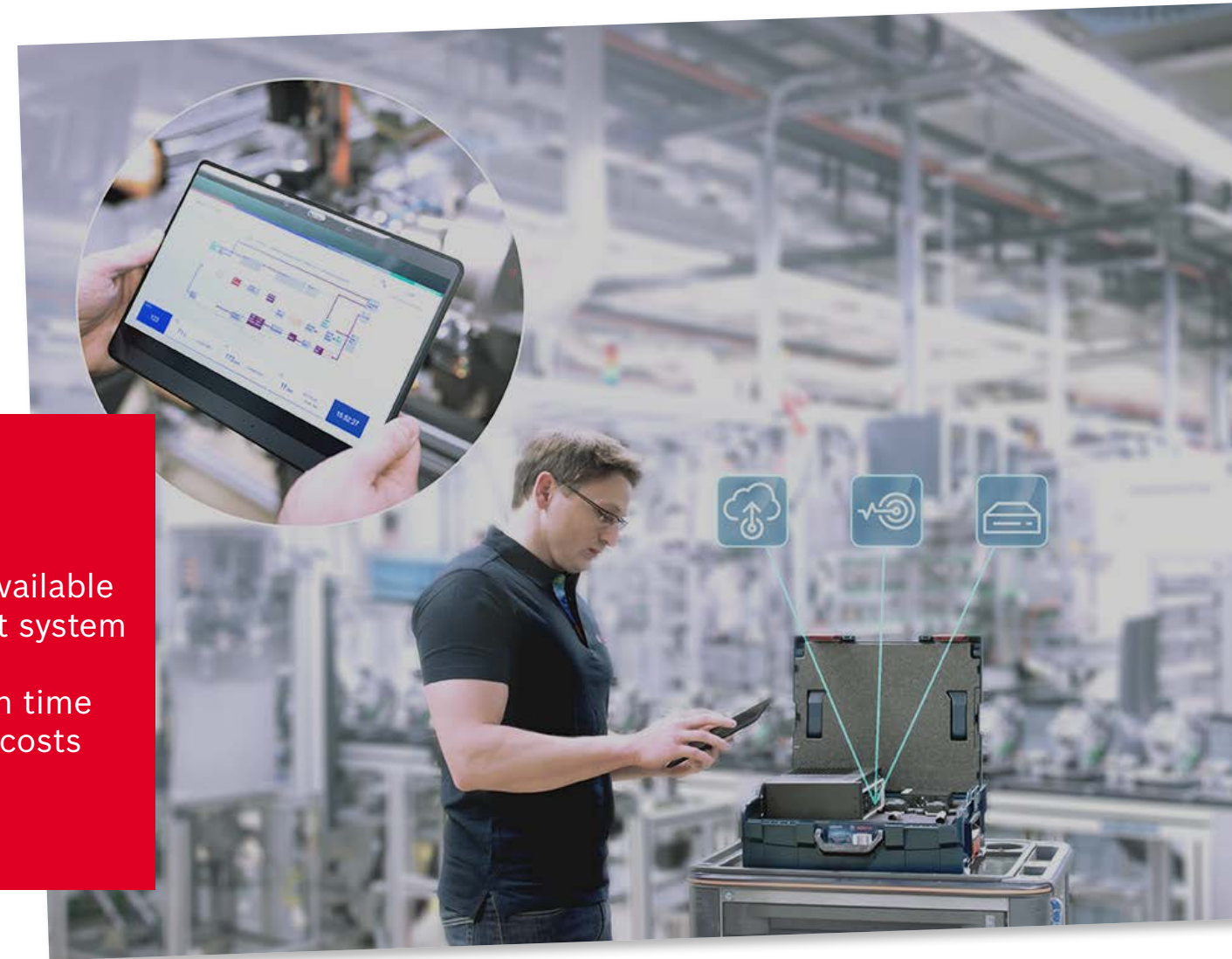
visualizes the material flow and shows bottlenecks and the condition of the production lines

### Condition Monitoring

monitors machine-relevant parameters to identify sources of error

### Benefits

- ▶ Out-of-the-box available and independent system
- ▶ Easy to retrofit
- ▶ Short installation time
- ▶ Low investment costs



# IoT solutions

## Nexeed Production Performance Manager

At the Bosch Homburg plant, the IoT Gateway software was used to create a test bench for hydraulic valves networked. In addition, the Nexeed Production Performance Manager is installed, which stores and analyzes the data in the cloud.



Systematic and sustainable optimization of production



Captures and harmonizes real-time production and machine data from different sources



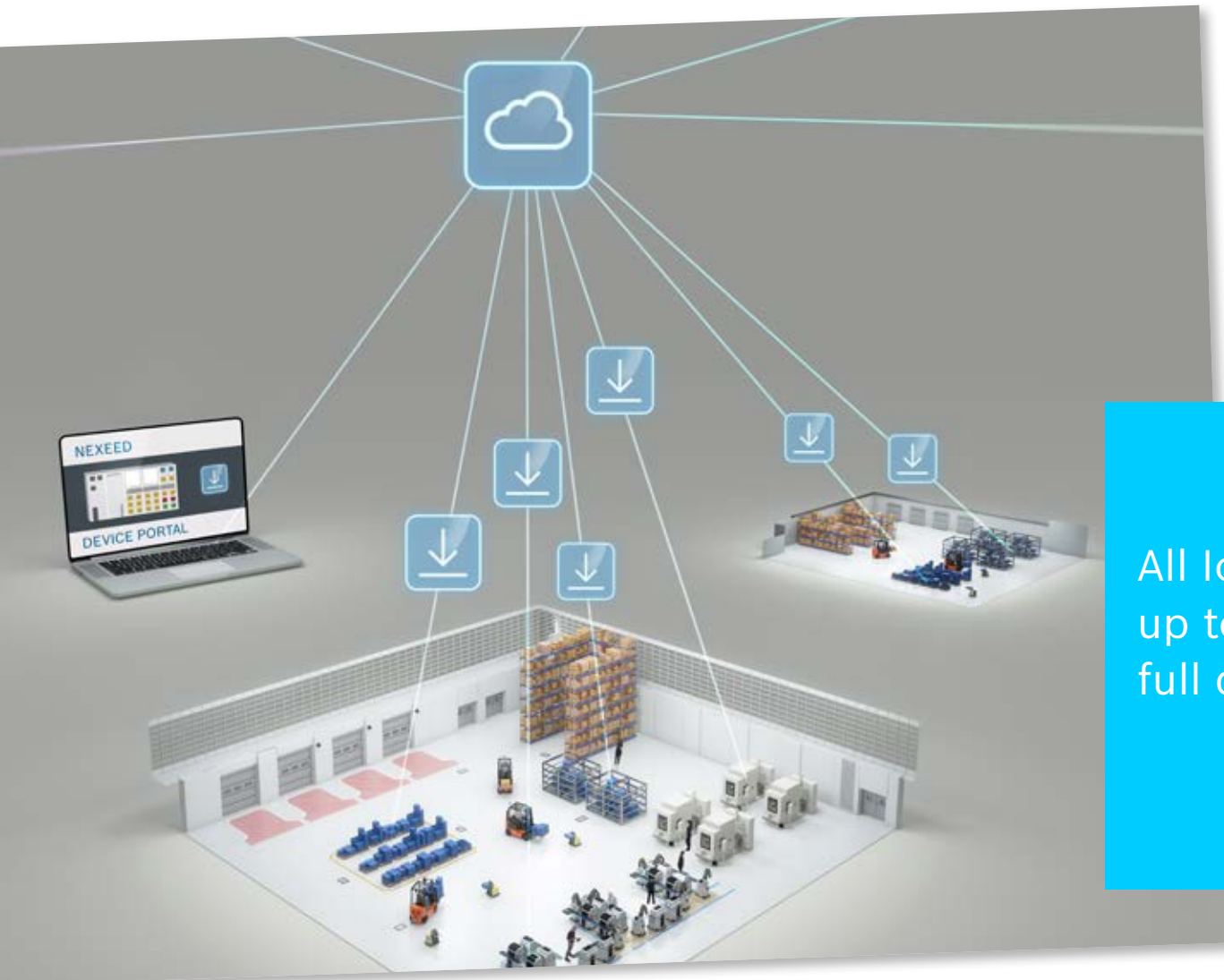
Low costs and increased efficiency through optimized digital processes





# IoT solutions

## Nexeed Device Portal



Bosch Rexroth and Bosch Connected Industry additionally offer the Nexeed Device Portal, which supports the digital management of IoT devices along the entire life cycle. Even remote access in the case of a standstill as well as the installation of updates and new functions on local IoT devices is very easy with the Nexeed Device Portal.



All IoT devices  
up to date and  
full data control



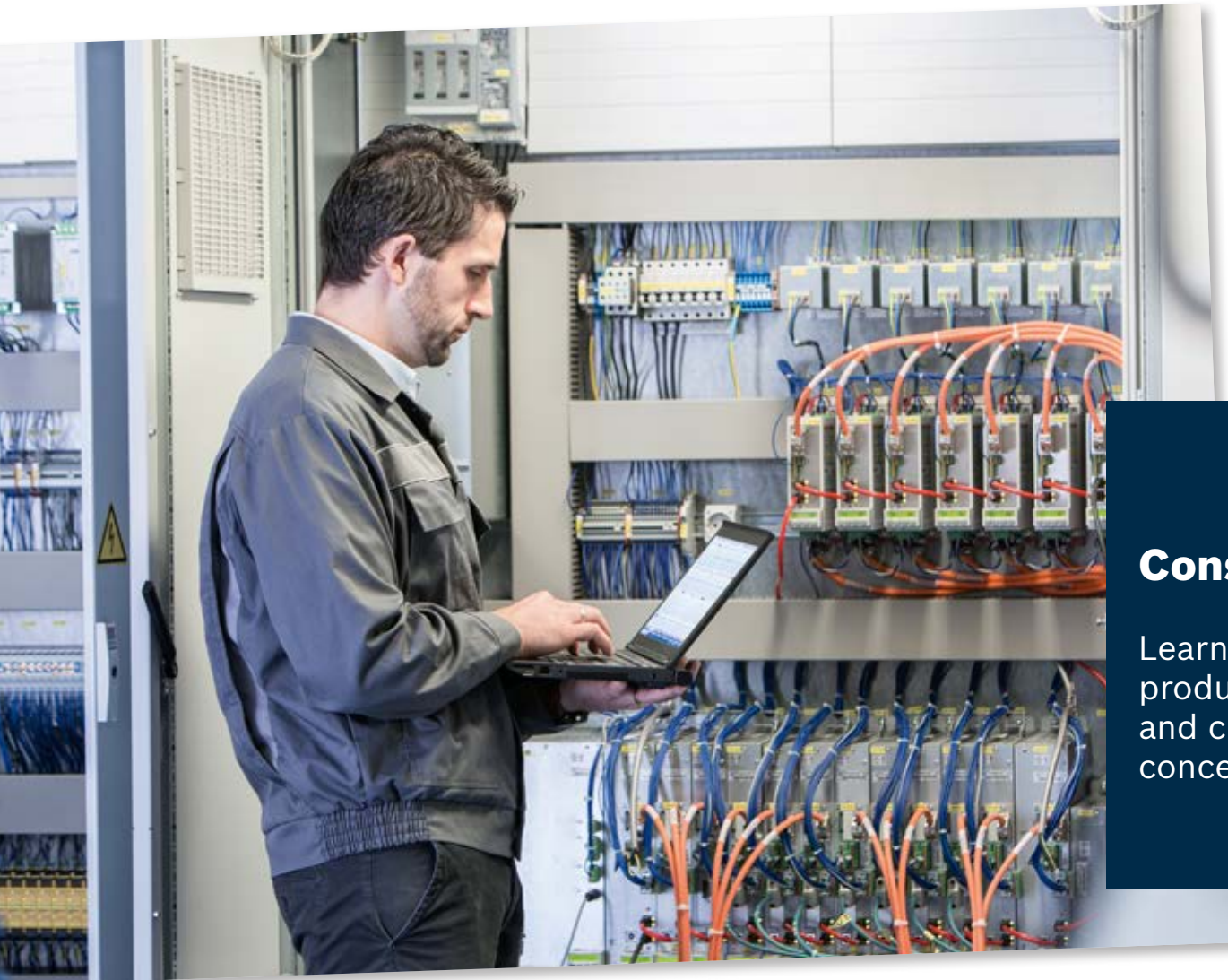
Remote access  
and transparent  
status overview



Reduced downtime  
due to fast  
reaction time

# IoT solutions

## Implementation of your solution



We support you with an individual package of additional services for implementing your solution!

+

### Consulting

Learn more about your production processes and create an individual concept together with us

+

### Training

Extensive training for the Industrial Internet of Things

+

### Service

Modernization of existing machines with regard to Industry 4.0 concepts



# IoT solutions

## Glad to be here for you!

### More information

[www.boschrexroth.com/gateway](http://www.boschrexroth.com/gateway)

### Questions?

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Service availability

**Worldwide**

More than  
200 service center



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