The essentials: IoT@Bosch
Intro: How Bosch sees the connected world
The essentials: IoT@Bosch

What is the Internet of Things?

- All over the world, billions of objects are already interacting and sharing information, such as cars and smartphones. Things are increasingly becoming an active part of the internet.

- How is this possible? Every “thing” in the world can transmit data to the web and communicate with every other “thing” in order to perform a variety of tasks for its owner.

- On the internet of things (IoT), the physical and virtual worlds are fused.
Why is the IoT so significant for business?

- The IoT is growing rapidly worldwide. For business, this means momentous changes and huge opportunities.
- According to the Gartner research institute, some 6 billion objects worldwide are already connected. By 2020, this number is expected to exceed 20 billion.
- As early as 2020, the IoT market will be worth some 250 billion dollars.
The essentials: IoT@Bosch

When it comes to the IoT, what are the goals of Bosch?

- To consecutively make its products web-enabled, also with the help of cloud computing
- To use connected products and solutions to take its traditional business forward
- To open up new business opportunities, especially in services
What is the motivation behind Bosch’s IoT activities?

In various areas, Bosch is extending its acknowledged expertise as a manufacturer and provider of solutions in order to make everyday life easier. *Invented for life*
Why are sensors so important?

- Bosch uses sensors to teach things how to feel
- Bosch is the world’s leading supplier of MEMS sensors (4 million a day)
- **Sensors** and **software** are the basis for a multitude of new **services**, such as connected parking in the mobility sector
- This is why we at Bosch often speak about the **3 S’s** of the IoT
End-to-end IoT solutions
The components needed

Devices

- Devices
- Backend (Cloud or on-premise)

Gateways (if needed)

- Out of the box support of most common communication protocols
- Data & management protocols

Backend

- Bosch IoT Connectors
- Remote Manager
- Bosch IoT Suite
- ProSyst Connectors
- ProSyst mPRM
- ProSyst Gateway Software
- Bosch IoT Cloud
- SAP Leonardo
- Amazon Web Services
Bosch in the Internet of Things
Connected World: New Business Chances

Moobility

Energy

City

Manufacturing

Home & building

Agriculture

Others

Solution & service provider

Bosch IoT Cloud

Bosch IoT Suite

Technology provider

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Filtration leader Mann+Hummel deploys IoT solution on AWS with Bosch IoT Suite services and uses the Bosch IoT Remote Manager to securely connect and manage their filtration systems in the field.
Customer case: Mann+Hummel
Managing 3G-enabled M2M devices

Bosch IoT Remote Manager

Software Repository

AWS IoT

Amazon EC2

Amazon RDS

ProSyst Gateway Agent

Software Management

Gateway w/Gemalto M2M Module

MANN+ HUMMEL

ProSyst

Gateway Agent

App

Microsoft Azure

Telemetry

2G/3G

Software Repository

App

App

App
“Internet of Oysters”: The Yield, an Australian AgTech business, helps oyster farmers reduce the risk of unnecessary harvest closures caused by weather.
Smart Oyster Harvesting

Conventional oyster harvesting

If harvested at the wrong time, oysters can be dangerous to eat

Regulators conservatively control harvesting via coarse rainfall data

BETTER DECISIONS  BETTER HARVESTING  BETTER YIELD

The Yield & Bosch innovation project

Measure Water Salinity  ProSyst IoT  Harvesting Regulator & Growers

BENEFITS

• Improve scheduling of harvesting operations by predicting closures
• Extended harvest periods so more oysters make it to the market
The Track & Trace Testbed
First European testbed for the Industrial Internet Consortium

The testbed explores
- Asset management applications
- Quality control applications
- Work management applications
- Increasing overall manufacturing efficiency and cost savings

Testbed partners
- **Bosch**: leader, software, industrial tools, solution design
- **Cisco**: indoor localization
- **Tech Mahindra**: application development
Factory integration at multiple levels

Testbed in action: Aircraft construction

Tools send information about their position as well as measuring data to a central database. Software is then used to analyze this data. This analysis helps ensure manufacturing quality.

Depending on the specific location of each tool, the appropriate program for the task at hand is automatically deployed on the tool.

Source: Bosch
THANK YOU