



BOSCH

EMV in der Automobiltechnik

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EMV in der Automobiltechnik

- ▶ **Einführung (Bosch – ein Unternehmen stellt sich vor)**
- ▶ 1 Grundlagen der elektromagnetischen Verträglichkeit (EMV) in der Automobiltechnik
- ▶ 2 EMV-Anforderungsanalyse und Design
- ▶ 3 EMV-Integration
- ▶ 4 EMV-Prüfverfahren in der Automobiltechnik
- ▶ 5 EMV-Simulation
- ▶ Literatur



BOSCH – EIN UNTERNEHMEN STELLT SICH VOR

BOSCH – CORPORATE PRESENTATION

Bosch – Corporate presentation

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“Invented for life”
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Bosch – Technology to enhance quality of life



Bosch – Corporate presentation

Technology to enhance quality of life



Bosch is one of the world's leading international providers of technology and services

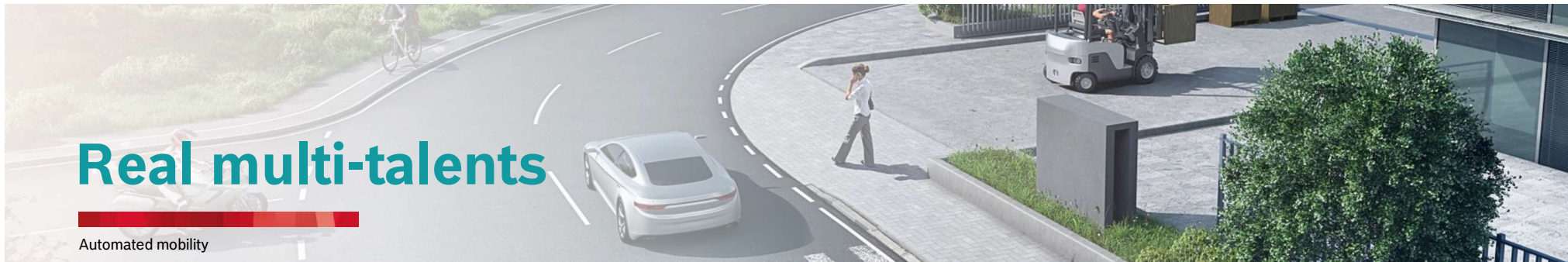
125 Engineering locations worldwide, in a single network

Over the past years, Bosch has invested several **billion euros** in research and development

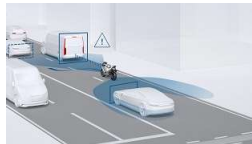
Our objective:
To develop innovative, useful, and exciting products and solutions to enhance quality of life – technology that is
“Invented for life”

Bosch – technology to enhance quality of life

Driver assistance systems as an example



Bosch is developing an ever-increasing range of driver assistance systems which protect all road users.



- ▶ Bosch is constantly extending its comprehensive portfolio of safety systems for cars into other market segments such as two-wheelers, trucks and even rail vehicles and forklifts.
- ▶ Bosch also attributes a particular focus to protect pedestrians and cyclists who are at most risk in traffic.
- ▶ Thanks to the consistent technical advancement of its driver assistance systems, Bosch also creates the technical basis for automated driving in the future.
- ▶ Bosch is a one-stop supplier for all technologies for driver assistance systems, from individual components to complete systems.

more safety

for all traffic participants and vehicle classes,
in road traffic, in logistics depots and in warehouses

less stress

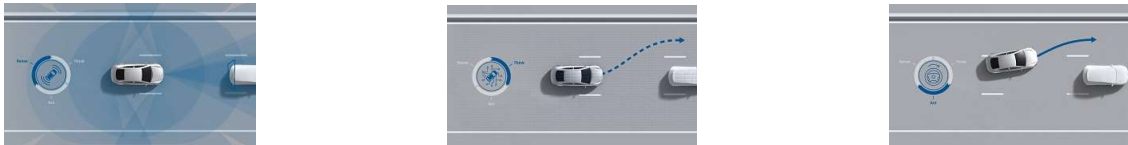
thanks to effective driver support in complex
and monotonous driving situations

Bosch – technology to enhance quality of life

Automated driving as an example



Key technologies for sensors, software, artificial intelligence, powertrain, steering and braking.



- ▶ Be safer on the road: Automated vehicles never tire and can perceive critical situations much sooner and avoid them better than a human being.
- ▶ Arrive more relaxed: In automated mode, drivers can use the time gained to relax, work, communicate or be entertained.
- ▶ Drive more efficiently: Automated vehicles can cover distances in a much more coordinated manner and thus save fuel.
- ▶ Improved flow of traffic: Automated vehicles can drive close to vehicles in front, thereby optimally utilizing the capacity of busy roads.

Bosch, innovative leadership

in all key areas of automated driving

Portfolio with Sense, think, act

covers all of the requisite technologies
in a highly-developed combination of hardware and software

Bosch – technology to enhance quality of life

Electric powertrain systems at all levels as an example



A driver of innovation, Bosch is developing electric powertrain systems at all levels.



- ▶ Thanks to their scalability, the powertrain systems are easy to integrate and can be used flexibly in many vehicle classes.
- ▶ Reduced development times and faster market entries, especially for manufacturers with a start-up background.
- ▶ Broadest portfolio on the market for passenger cars, two-wheelers and commercial vehicles.
- ▶ Bosch is driving electromobility forward beyond vehicles themselves and is connecting the charging infrastructure.

more than
30 production projects

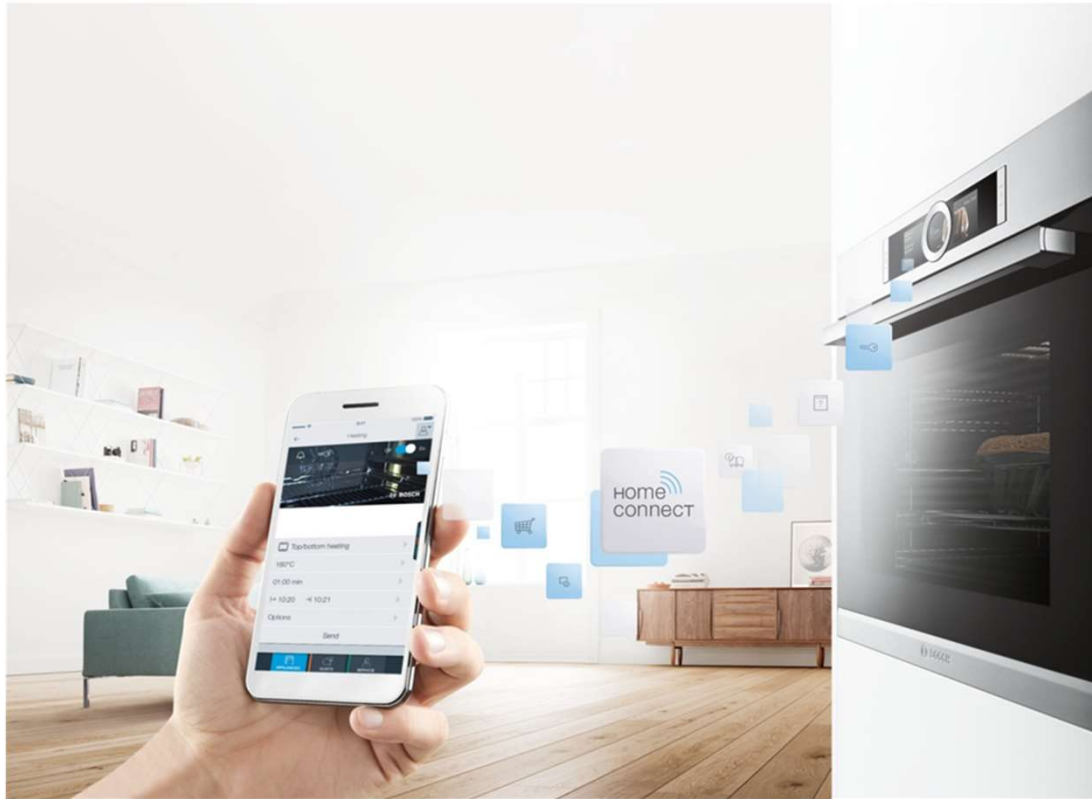
for electromobility are already realized around the globe

find almost
20,000 charge spots

in 5 countries with the Bosch Charging App

Bosch – technology to enhance quality of life

Home appliances – Series 8 ovens as an example



Home appliances for everyone who wants to achieve perfect results easily.

The ovens with PerfectBake Sensor take care of the entire baking process automatically and signal when the cake is perfectly done.

Connectivity for selected models: “With WLAN technology, they can be controlled conveniently using an app on mobile devices such as tablet PCs or smartphones”.

Bosch – technology to enhance quality of life

Power tools as an example



Slotted, cross-headed and Torx – in letters I-X-O – with a name inspired by these three screw types, the IXO set out to conquer the world more than 15 years ago. Today it is the world's most popular power tool – around 18 million units have been sold so far. The cult status is owed to its uniqueness right down to the packaging.

The IXO is small, light, convenient – and powerful thanks to lithium-ion battery technology.

THE BOSCH BRAND

The Bosch Brand

Brand core – setting the direction for everything we do



The Bosch Brand

Brand personality

The empowering partner who is ...

Passionately
committed

A partner who is genuinely interested in customers' needs, understands those needs, and enthusiastically sets about satisfying them.

Inspirational

A partner who empowers its customers by thinking ahead and forging new paths.

Engagingly
capable

A partner whose comprehensive experience and expertise win over its customers.

Trustworthy

A partner who has a clear sense of values and is true to its word, even in difficult times. A partner you can depend on.

The Bosch brand

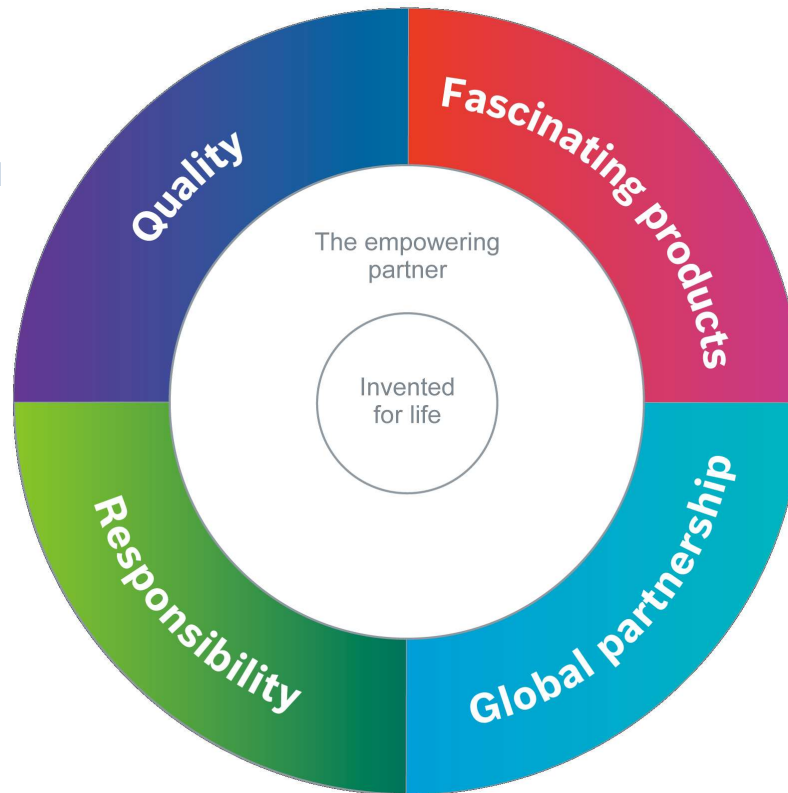
Our brand promises

Quality

Bosch quality stands for **convincing reliability** and **tangible excellence**. Products and services that **perfectly fulfill customer requirements**, combined with our comprehensive support, assure people that they have made the right choice when they opt for Bosch.

Responsibility

Bosch stands for **values-based, responsible business practices**. Our processes and products **conserve resources** and contribute over the long term to a **better quality of life**.



Fascinating products

Thanks to its innovative strength, Bosch sparks enthusiasm with **surprisingly simple** solutions in an **aesthetic, functional design**. We dynamically market our tangibly superior products, delighting our stakeholders.

Global partnership

Bosch's global presence means we are **close to our stakeholders** and markets worldwide. Easy access and close, uncomplicated collaboration make Bosch a **preferred partner**.


Bosch – a global network



Bosch – Corporate presentation

A global network



 **402,800***
Bosch associates
make these solutions
possible

 **60***
countries –
440 regional
subsidiaries

Four business sectors



Mobility
Solutions



Industrial
Technology



Energy & Building
Technology



Consumer
Goods

✓ Including sales and service partners, Bosch's global manufacturing and sales network covers nearly every country in the world.

* As of 12.19
Preliminary, rounded figures based on internal accounting

Bosch – a global network

Four business sectors



Mobility Solutions



Industrial Technology



Energy & Building
Technology



Consumer Goods

Four business sectors

Key figures 2019*

Bosch Group

€ 77.9 billion euros
Sales revenue

 402,800
associates



Mobility Solutions

- ▶ One of the world's leading providers of mobility solutions



Industrial Technology

- ▶ Leading in drive and control technology, packaging, and process technology



Energy and Building Technology

- ▶ One of the leading manufacturers of security and communication technology
- ▶ Leading manufacturer of energy-efficient heating products and hot-water solutions



Consumer Goods

- ▶ Leading supplier of power tools and accessories
- ▶ Leading supplier of household appliances



* As of 12.19
Preliminary, rounded figures based on internal accounting

Bosch

Market and figures for 2019*

Bosch Group

€ 77.9 billion euros
Sales revenue



402,800
associates



243
manufacturing sites

Europe



52%



245,900



129

Asia Pacific¹



29%



112,200



75

Americas



19%



44,700



39



Share of sales



Associates



Manufacturing sites

* As of 12.19

¹ Including other countries

Preliminary, rounded figures based on internal accounting



THANK YOU!