

## Semiconductor production at Bosch

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- **Current portfolio**

Bosch manufactures and sells electronic components for vehicles and for consumer electronics. These include application-specific integrated circuits (ASICs), power semiconductors and microelectro-mechanical systems (MEMS) such as acceleration, pressure, yaw-rate, magnetic field, mass-flow and environmental sensors.
- **Manufacturing sites**

Reutlingen (150-mm and 200-mm technology)

Dresden (300-mm technology)
- **Patents**

Bosch holds more than 1,000 patents and patent applications for MEMS technology as well as more than 500 in the field of semiconductor technology.
- **Market**

The requirements after semiconductor chips (ASICs, power semiconductors and MEMS) will further increase. The reason is about a rise of the proportion of semiconductors in electronic devices and car applications, e.g. connected and automated driving or the electro mobility. Microelectronics can be seen as technological key sector.

## Expertise in innovation and technology

- **Invented for life**

For more than 60 years Bosch has been developing and manufacturing microelectronic components and systems. In 1958 the first semiconductor product a “Variode” was produced in Stuttgart-Feuerbach. Semi-conductors (integrated circuits) have been manufactured at the wafer fab in Reutlingen since 1970.
- **Know-How in semiconductor’s business**

Microelectronics: Bosch is making key business Technologies accessible and is inventing innovative production measures. The company developed the microfabrication technique called “Bosch Prozess” in 1994 where new semiconductors can be manufactured.
- **Sensor technology**

Since 1995 Bosch has been producing more than 15 billion MEMS and is now the world market leader in this field.
- **“Deutscher Zukunftspreis 2008“**

Award winning invention of a new procedure for the surface micromechanics.
- **First Alot-plant in Dresden**

In 2021 Bosch opened one of the most modern wafer fab in the world: a highly automated and intelligent plant, with fully connected machines and embedded processes combined with artificial intelligence methods.

- New innovation in series  
At the end of 2021: start of production of Silicon carbide (SiC) semiconductors which are used in the power electronics of electric cars reaching more range and faster charging stops.
- Vertical synergies  
Bosch is one of the leading suppliers in the automotive industry with an own sector for semiconductors.

## Investments

- Capital expenditure  
In its wafer fabs in Reutlingen and Dresden alone, Bosch has invested more than 2.5 billion euros since 200-millimeter technology was introduced in 2010. On top of this, billions of euros have been invested in developing microelectronics.
- 2021  
The wafer fab Dresden is the biggest single Investment of the company's history with about one billion euros of investment. Till 2023 in Reutlingen: more than 150 million euros will be invested for new cleanroom surface areas in existing buildings and 150 new jobs in the fields of semiconductor development will be raised.
- 2022  
More cleanroom surface areas for meeting the demand of chips: more than 400 million euros for the expansion in Dresden, Reutlingen, Penang.

- 2023 Expansion of the existing cleanroom surface area in Dresden for more than 250 million euros.
- Till end of 2025 State-of-the-art manufacturing: more than 250 million euros will be invested for a new element, the total amount of the cleanroom surface area will raise up to 44,000 m<sup>2</sup>.