Press release

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2020 financial statements: business year better than expected
Bosch believes AIoT, electrification, and green hydrogen are the way forward

- Bosch CEO Denner: “Bosch came through the first year of the coronavirus pandemic well.”
- In powertrains, electromobility is becoming the future core business.
- Bosch CFO Asenkerschbaumer: “With a good first quarter, Bosch has made a successful start to 2021.”
- AIoT: sales target of 8 million connectivity-enabled devices for the home.
- Fuel cells: from 2021 to 2024, Bosch plans to invest one billion euros in this technology.
- Business year 2020: sales of 71.5 billion euros, result 2.0 billion euros.

Renningen and Stuttgart, Germany – Bosch, the supplier of technology and services, is combining the internet of things (IoT) with artificial intelligence (AI) and believes electromobility will allow it to develop new business opportunities on the back of the profound technological and ecological changes currently occurring. “Bosch came through the first year of the coronavirus pandemic well,” said Dr. Volkmar Denner, the chairman of the board of management of Robert Bosch GmbH, at the press conference to present the company’s 2020 annual report. “We are one of the winners in the transition to electromobility, and we are significantly expanding our software business by tying in artificial intelligence.”

In powertrain technology, electromobility is establishing itself as Bosch’s core business. Denner reported that the company is making heavy upfront investments in this area – a further 700 million euros this year alone. Up to now, its upfront investments in electromobility total five billion euros. Currently, Bosch sales revenue from electrical powertrain components is growing twice as fast as the market, at almost 40 percent. The aim is to increase annual sales fivefold to a total of some five billion euros by 2025 and to break even one year earlier.

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“Electromobility has long since ceased to be a bet on the future. Our upfront investments are now beginning to pay off,” the Bosch CEO said at an online press conference. Overall, Bosch had acquired orders worth over 20 billion euros by the end of 2020.

In the first three months of this year, Bosch Group sales climbed 17.0 percent year on year. “With a good first quarter, Bosch has made a successful start to 2021,” said Prof. Stefan Asenkerschbaumer, the CFO and deputy chairman of the Bosch board of management. He expressed confidence for 2021, but expects it to be another challenging year. For the current reporting period, sales are expected to increase roughly 6 percent year on year, while the margin from operations is set to improve slightly to around 3 percent – or around 4 percent without restructuring costs. However, this depends on the effects of the semiconductor bottlenecks, which are difficult to assess. “The year 2021 will be an important milestone on our path to regaining our target margin of around 7 percent in the next two to three years,” Asenkerschbaumer said. The encouraging 2020 business year – despite the pandemic – with an operating result (EBIT from operations, adjusted for the effects of purchase-price allocations for Automotive Steering and BSH Hausgeräte) of 2.0 billion euros provides Bosch with a sound footing on which to continue to invest in areas of future importance. With sales amounting to 71.5 billion euros, research and development spending remained essentially unchanged at 5.9 billion euros, and EBIT margin from operations reached 2.8 percent. Adjusted for restructuring expenses, which additionally burdened result in 2020, the figure was 4.7 percent.

Connectivity megatrend: customers becoming integral to development

Bosch aims to leverage the competitive advantage it derives from its wealth of experience in combining connectivity (the internet of things, IoT) and artificial intelligence (AI) to generate future business and become a leading AIoT company. Bosch foresees that AI-enabled products will generate sales worth billions of euros over the next few years. Sales of connectivity-enabled devices for the home are expected to double: from four million last year to around eight million units in 2021. In addition, Bosch wants to use AI to evaluate data relating to how its customers use its products, and in this way to provide software updates that create new functions and services for those customers. “Connecting things leads to knowledge about how things are used,” Denner said. “This lets us continuously improve our products, keep them up to date, and provide our customers with more benefits.” In the field of video security, for example, video analysis based on neural networks opens up new possibilities. To this end, Bosch is integrating detectors both into new cameras and into an AI box that can be connected to installed devices. The first application is a traffic detector that will initially be able to detect and locate vehicles precisely in busy traffic

situations, even under difficult lighting conditions. The more data that flows into the customer application, the more AI will be able to do, including accurate accident detection, the company says.

Electrification megatrend: new opportunities in several business areas

Global efforts to combat climate change are boosting electrification and green hydrogen. Denner believes electrification opens up new opportunities in several business areas: “Electrification requires solutions not only for electric driving in cars, but also for electric heating in buildings.” In electromobility, the key drivers of change are falling battery costs and emissions standards designed to meet climate action targets. In building technology, especially in heating and air-conditioning, the use of heat pumps and renewables is playing a growing role.

In heating systems, for instance, Bosch is growing much faster than the market with solutions based on electricity. Sales of heat pumps grew by more than 20 percent in 2020; Denner expects them to triple by 2025. The company also anticipates that the refurbishment of residential buildings called for under the European Green Deal will provide a strong stimulus to growth. With this in mind, Bosch wants to leverage its “investment clout, large-scale production capability, and commercialization expertise.” In the case of the company’s particularly efficient and quiet air-to-water heat pumps alone, unit sales almost doubled in Germany in 2020.

Hydrogen megatrend: fuel-cell market worth billions

Bosch is also focusing on a growth market for the hydrogen megatrend: the company believes the market for green hydrogen in the EU will be worth almost 40 billion euros by 2030 – with annual growth rates of 65 percent. Fuel cells convert hydrogen into electricity, and Bosch is developing both stationary and mobile fuel-cell solutions. From 2021 to 2024, Bosch plans to invest one billion euros in fuel-cell technology. “Bosch is already H_2-ready,” Denner said. The plan is to put 100 stationary fuel-cell plants into operation this year. They will supply electricity to users such as data centers, industrial manufacturers, and residential areas. One stationary solid-oxide fuel cell, located in the center of Bamberg, Germany, was brought into operation at the end of March 2021 together with Stadtwerke Bamberg, the city’s public utilities.

Bosch estimates that the market for mobile fuel-cell components will be worth around 18 billion euros by the end of the decade. Denner believes Bosch is in a good position here: “We have what it takes to be a leader in this market as well.” Bosch recently entered into a joint venture with China’s Qingling Motor Group to produce fuel-cell powertrains. A test fleet of 70 trucks is set to be on the roads before the end of this year.

Denner: EU plans may threaten carbon neutrality

Denner does not believe that the EU's initial plans for the Euro 7 emissions standard make sense; however, he expressed his satisfaction that the debate was now showing signs of movement and becoming more objective. He explained why: "Climate action is not about the end of the internal-combustion engine. It's about the end of fossil fuels. And while electromobility and green charging power make road transport carbon neutral, so do renewable fuels." The Bosch CEO reminded his audience that climate-neutral mobility is almost as ambitious a goal as flying to the moon was in the 1960s. But instead of just setting the big goal of "first man on the moon" and leaving it up to engineers to decide how to achieve it, as U.S. President Kennedy did at the time, the European Commission is doing things the other way around. "This is a surefire way to cut off alternative paths to climate action," Denner said. "If society truly wants climate action, it is essential that we do not play technological approaches off against each other. Instead, we must combine them."

CO_2 reduction at Bosch: along the entire value chain

Bosch is pressing ahead with its own climate action targets as planned: Now that the climate-neutral status of the Bosch Group, with its more than 400 locations worldwide, has been certified, Bosch is giving concrete shape to its plans for what is known as Scope 3. By 2030, it aims to reduce carbon emissions by 15 percent from their 2018 level along its entire value chain, from suppliers to customers – a reduction of 67 million metric tons of carbon dioxide emissions. "Our efforts are sure to drive our product portfolio in the direction of energy efficiency or even technology change. In the future, a supplier's or logistics provider's carbon footprint will be one of the criteria for awarding new procurement contracts," Denner said. "In terms of mitigating global warming, this will pay off."

Outlook for 2021: despite confidence, the year remains challenging

Bosch expects the global economy to grow by just under 4 percent this year, after a contraction of around 3.8 percent last year. "Even though we've made a confident start to 2021, the pandemic continues to pose significant risks," Asenkerschbaumer said. The CFO added that Bosch is particularly aware of market bottlenecks in the automotive sector, especially for semiconductors, which are in great demand. The company is doing everything in its power to support its customers in this tense situation. However, an improvement in the short term is not to be expected, and the situation may also impact business developments in the current year. In the long run, Asenkerschbaumer believes it is necessary to make all supply chains in the automotive industry less prone to disruption. Moreover, aligning its mobility business with areas of future

importance such as electromobility, automated driving, and future electronics architectures calls for enormous upfront investments. “In this profound transformation, 2021 will be both a very important and a challenging year for us.”

Business year 2020: coronavirus pandemic overcome

In 2020, Bosch Group sales amounted to 71.5 billion euros. As a result of the pandemic, sales were 6.4 percent below their previous-year level (4.3 percent after adjusting for exchange-rate effects). The company generated earnings from operations before interest and taxes (EBIT from operations, adjusted for the effects of purchase-price allocations for Automotive Steering and BSH Hausgeräte) of 2.0 billion euros. The EBIT margin from operations came to 2.8 percent. “Improved sales in the second half of the year, as well as significant cost savings, helped cushion the impact of the pandemic,” Asenkerschbaumer said. The equity ratio remained at a high level of 44 percent, while free cash flow reached a record level of 5.1 billion euros. The CFO sees the company in a satisfactory liquidity situation: “Bosch continues to enjoy a healthy financial structure, and this will allow it to focus on areas of future importance.”

Business year 2020: development by business sector

The Bosch Group’s broad diversification was vindicated once again in 2020, balancing out different business developments. In the **Mobility Solutions** business sector, sales developed better than the market. At 42.1 billion euros, sales were down 10 percent year on year. However, worldwide automotive production fell 16 percent over the same period. After adjusting for exchange-rate effects, sales fell 8.2 percent. The EBIT margin from operations was minus 1.3 percent, with the refocusing of the business also having an impact. In the **Industrial Technology** business sector, sales reached 5.1 billion euros. With the market already in decline before the coronavirus pandemic, sales tumbled by 17 percent[1], or by 15 percent after adjusting for exchange-rate effects. At 4.7 percent, the EBIT margin was lower than in the previous year. In the **Consumer Goods** business sector, demand for household appliances and power tools increased significantly during the pandemic. Sales grew by 5.1 percent to 18.7 billion euros. After adjusting for exchange-rate effects, sales growth was 8.4 percent. The margin from operations was an outstanding 11.5 percent. Sales in the **Energy and Building Technology** business sector fell by 2.7 percent, or by 0.8 percent after adjusting for exchange-rate effects. The EBIT margin was 4.6 percent, from sales of 5.5 billion euros.

[1] Compared with a previous-year figure that has been adjusted for the effect of the divestment of the packaging machinery business.

Business year 2020: development by region[1]

In **Europe**, sales for the year were 38.0 billion euros. This was 5.1 percent down on the previous year, or an exchange-rate adjusted 3.7 percent. In **North America**, sales totaled 10.7 billion euros, representing a 15.5 percent fall. After adjusting for exchange-rate effects, the fall was 12.8 percent. In **South America**, exchange-rate effects had a particularly pronounced impact on sales. At 1.1 billion euros, overall sales were 22.3 percent down on the previous year; however, the fall was just 0.2 percent after adjusting for exchange-rate effects. In **Asia Pacific** including other regions, the early and strong market recovery in China cushioned the effects of the coronavirus pandemic. At 21.7 billion euros, overall sales fell by just a slight 2.6 percent year on year, or by just 0.7 percent after adjusting for exchange-rate effects.

Associates: change also offers opportunities

Denner admitted that Bosch's transformation will cost jobs on the one hand, but added that it will also open up new prospects for associates on the other. At its core plants, Bosch is taking skills from the development and production of gasoline and diesel systems and applying them to new technologies such as fuel cells. "We have already filled more than half our electromobility-related jobs with associates from the combustion-engine business," the Bosch CEO said. In addition, a company-wide placement platform has been created in order to quickly get specialists into positions in areas of future importance. In its digital qualification programs as well, Bosch is making progress: since the beginning of 2020, the company's in-house learning portal has been accessed more than 400,000 times. In 2020, more than a third of the training catalog was available online; by 2023, this figure is expected to rise to half.

As of December 31, 2020, the Bosch Group employed some 395,000 associates worldwide. That is around 3,100 fewer people than in the previous year – a drop of around 1 percent. Headcount decreased primarily in Asia Pacific. In Germany, the number of associates remained largely constant at 131,800. Worldwide, the number of researchers and engineers increased by around 600 to around 73,200. The number of software developers also grew by more than 10 percent to around 34,000.

Press photos: #b0e19216, #1846737, #546138, #3071028, #3219330, #1360999, #694554, #988758, #4114a408, #3ac79231, #d748d45c, #e1ee35c9, #3071028, #1852121, #eb185c84

Info charts: #f2e856e5, #9be3ac9e, #302eca63, #1856551, #1856553

[1] Compared with a previous-year figure that has been adjusted for the effect of the divestment of the packaging machinery business.

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 395,000 associates worldwide (as of December 31, 2020). The company generated sales of 71.5 billion euros in 2020. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 129 locations across the globe, Bosch employs some 73,000 associates in research and development, of which nearly 34,000 are software engineers.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The remaining shares are held by Robert Bosch GmbH and by a corporation owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, https://twitter.com/BoschPress

Bosch key data for the business year 2020

Figures in billions of euros	2020	2019	Year-on-year change nominal	Year-on-year change (exchange rate-adjusted)
Total sales revenue[1]	**71.5**	**76.4**	-6.4 %	(-4.3 %)
– percentage generated outside Germany	79	80		
Sales revenue of business sectors[1]				
Mobility Solutions	42.1	46.8	-10.0 %	(-8.2 %)
Industrial Technology	5.1	6.2	-17.0 %	(-15.0 %)
Consumer Goods	18.7	17.8	5.1 %	(8.4 %)
Energy and Building Technology	5.5	5.6	-2.7 %	(-0.8 %)
Sales revenue in major regions[1]				
Europe	38.0	40.0	-5.1 %	(-3.7 %)
– of which Germany	14.8	15.3	-3.5 %	
North America (including Mexico)	10.7	12.7	-15.5 %	-12.8 %
South America	1.1	1.4	-22.3%	(-0.2%)
Asia Pacific (including other regions)	21.7	22.3	-2.6 %	(-0.7 %)
EBIT from operations[2]	**2.0**	**3.3**		-1.3
as a percentage of sales revenue	2.8	4.2		-
Research and development cost	**5.9**	**6.1**		-0.2
as a percentage of sales revenue	8.2	7.8		-
Capital expenditure	**3.3**	**5.0**		-1.7
as a percentage of sales revenue	4.6	6.4		-
Depreciation of property, plant, and equipment	3.3	3.4		-0.1
Equity	**40.2**	**41.1**		-0.9
Equity ratio (%)	44	47		-

Figures in millions of euros	2020	2019	Year-on-year change
Dividend of Robert Bosch GmbH	67	119	-52

[1] 2019 adjusted for the effect of the divestment of the packaging machinery business.
[2] Adjusted for the effects of purchase-price allocations for Automotive Steering and BSH Hausgeräte.

Headcount (Dec. 31, 2020)	**2020**	**2019**	**Year-on-year change**
Bosch Group	**395,034**	**398,150**	-3,116
Europe	243,124	242,506	618
– of which Germany	131,827	132,661	-834
Americas	44,675	43,927	748
Asia Pacific (including other regions)	107,235	111,717	-4,482
Associates in research and development (Dec. 31, 2020)	**2020**	**2019**	**Year-on-year change**
Bosch Group	**73,172**	**72,617**	555
Europe	41,713	41,639	74
– of which Germany	31,017	31,339	-322
Americas	3,364	3,242	122
Asia Pacific (including other regions)	28,095	27,736	359