



Bosch focuses on climate-neutral and connected technology in North America

2021 sales in North America increased to \$13.5 billion

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Farmington Hills, Mich. – In the 2021 business year, Bosch achieved sales growth in North America despite continued global economic challenges. The provider of technology and services achieved sales of \$13.5 billion (11.4 billion euros) for the North American region, registering steady growth of 5 percent over 2020.

“While we face headwinds related to the COVID-19 pandemic, supply chain disruption, raw materials cost increases and more, our team in North America continues to rise to meet those challenges and support growth and recovery of the business here in the region,” said Mike Mansuetti, president of Bosch in North America.

In 2022, Bosch will invest \$664 million (561 million euros) in capital expenditures across its broad portfolio in North America. This includes \$420 million (355 million euros) specifically for Mobility Solutions. At the core of the company’s investments in the region are a continued its focus on climate-neutral technology and the hydrogen economy.

“We are all in for the hydrogen economy,” Mansueti said. “Our hydrogen portfolio is expansive across multiple domains in a way no other company can match. This cross-domain knowledge will enable Bosch to lead when it comes to driving hydrogen as a climate-neutral solution. And we are committed to local production of hydrogen solutions in the North American region in the coming years.”

All in for the hydrogen economy

Bosch is investing heavily to support the development of hydrogen as an energy source. This includes investments in the mobile fuel cell, where the company will produce both the fuel cell stack as well as balance of plant components to support customers. Globally, Bosch has once again increased its capital expenditure for mobile fuel cells, to more than \$1 billion USD between 2021 and 2024.

In the interest of effective climate action, Bosch is also entering the components business for hydrogen electrolysis. The company announced plans to invest nearly \$600 million in this new [area of business](#) by the end of the decade – half of it by the time of market launch, which is planned for 2025. Bosch is branching out into the development of components for electrolyzers, which use electrolysis to split water into hydrogen and oxygen. Ideally, the electricity for this purpose is generated from renewable sources such as wind or photovoltaic power, in which case the result is known as “green hydrogen.” Bosch is supplying the stack – the core of the hydrogen electrolysis system – which combines with power electronics, sensors, and a control unit to create a smart module.

In the United States, Bosch is evaluating where its electrolyzer technology can help to bring clean hydrogen to the market. Of particular interest are opportunities created by the U.S. Department of Energy (DOE) \$9.5 billion Clean Hydrogen Initiative, which is based on the bi-partisan Infrastructure Investment and Jobs Act. Recently announced DOE Regional Clean Hydrogen Hubs provide a potential opportunity to accelerate hydrogen availability in the U.S.

The decentralized fuel cell is also a strategic focus area for Bosch. The Bosch Solid Oxide Fuel Cell (SOFC) energy supply system can use both renewable fuels (hydrogen from wind or sun, for example) and conventional fuels (biomethane or natural gas) to generate electricity and heat. The technology can be used in residential urban areas, commercial buildings, industrial plants, and data centers. It achieves an overall efficiency of over 85 percent at the beginning of life.

Enabling electrification – for the powertrain and beyond

In addition to the mobile fuel cell, Bosch continues to advance electrification with solutions for battery-electric vehicles as well. The company continues to ramp toward electrification production at its Charleston, S.C., facility.

“Here in the North American region and the United States in particular, our customers are aggressively growing their electrification offerings,” said Paul Thomas, executive vice president of Mobility Solutions, Americas for Bosch. “At Bosch we are helping our customers achieve their electromobility goals. No other supplier offers as many electromobility solutions across the entire value stream as Bosch does.”

A key technical task is to keep the powertrain, including the battery, at the right temperature and to provide the necessary climate comfort in the passenger compartment. Intelligent thermal management alone can increase the electric driving range by 25 percent. To this end, Bosch has developed a pre-integrated solution: the flexible thermal unit, or FTU. With the FTU, Bosch is tapping into a market that it expects will reach a volume of more than \$4 billion globally by the end of the decade.

Beyond the powertrain, Bosch is making electrification a reality with solutions for electric vehicles in the areas of steering and braking.

“When it comes to vehicle control, our portfolio is uniquely positioned to support the needs of the U.S. market,” Thomas said. “For areas like braking and steering – including by wire and conventional solutions – our solutions fit well with electric trucks and SUVs.”

The value of being connected

Across its entire business, Bosch is reaping the benefits of connectivity and the Internet of Things (IoT). As of the beginning of 2022, the company announced all its electronics product classes were connectable.

“Connectivity enables us to deliver in new ways on our ‘Invented for life’ promise,” Mansuetti said. “We are demonstrating in many different areas the value of connectivity to our customers through new data-driven updates and development.”

In the area of mobility, Bosch’s braking portfolio is now IoT-ready. This enables both data-driven development for automakers and Bosch as well as data-driven service enablement for fleet owners and end consumers. Through continuous development enabled by data, specifications can be further defined and virtual

updates sent to the system. For fleet owners and consumers, this benefit unlocks the ability to monitor component health information across braking systems, tires and other chassis components.

“Ultimately, in addition to development benefits, leveraging data like this will help us to better understand the built environment, providing insights around road roughness, road friction, pothole detection – heat maps for extreme braking events,” said Mohammed Abraham, regional president of Chassis Systems Control for Bosch in North America. “When we leverage the power of the connected vehicle, every wheel on the road is transformed into a mapping tool for public infrastructure which can ultimately aid in the design of safer streets.”

Beyond mobility, global sales of connected power tools, household appliances, and heating systems alone have grown by 50 percent within one year – from four million units in 2020 to more than six million in 2021.

The Dremel® brand, part of the Bosch Power Tools portfolio, unveiled [the world's first brushless smart rotary tool](#) in late 2021. The Dremel 8260 was a project led out of North America. Introducing connectivity to a rotary tool allows users to understand the rotary tool's performance, including: sending alerts when battery life is low and when the tool is overloading/stalling, providing tips on how to resolve these issues and displaying the amount of usage time left on the tool in minutes. In addition, the app has an interactive material guide that offers detailed accessory information and includes the recommended accessory speed in RPM for each material.

In the Bosch Thermotechnology business, the team in North America [combines digital transformation and IoT with a passion for sustainability](#) to deliver connected solutions to the market. The IDS Premium Connected, an IoT advancement in air-source heat pumps pioneered in North America, provides an interactive IoT platform for contractors and homeowners. It enables remote monitoring where contractors and homeowners can monitor data for a heat pump even without a communicating thermostat. It also enables the Bosch EasyAir app, which provides homeowners the ability to monitor their energy usage and receive critical alerts while contractors can easily access the information they need to conduct on-site installation, troubleshooting and warranty registration.

Connected to local communities; more than 5 million students reached through Bosch Community Fund grants

Bosch is also staying close to the communities where it operates. The Bosch Community Fund, the corporate foundation for Bosch in North America, is celebrating 10 years of giving in 2022. Since its founding, the Bosch Community Fund has reached approximately 5.3 million students and 58,500 teachers in 39 site communities across the region via 2,130 grants representing approximately \$37 million. Nearly 200,000 students and more than 4,000 teachers across North America were positively impacted in 2021 alone by the Fund's investments.

The Bosch Community Fund focuses on STEM education, environmental sustainability, eco+STEM and disaster response. Its grants aim to provide access to under-represented and underserved audiences; encourage students through project-based and hands-on learning; strengthen workforce development and career transitions; and engage people in environmental sustainability and stewardship.

Positive development across all business sectors in North American region

All four business sectors reported sales increases in North America in 2021 from a year earlier. The Mobility Solutions business sector was in line with overall results at a five percent increase as it delivered \$7.9 billion in sales. Consumer Goods increased sales to nearly \$3.5 billion, representing nearly a nearly 20 percent increase in 2021. This comes after the Consumer Goods area had already defied trends by posting a 12 percent sales increase in 2020. Industrial Technology as well as Energy and Building Technology also both increased sales nearly 20 percent, posting just over \$1 billion in sales in each respective sector.

Headcount was up slightly to nearly 35,500 associates across the North American region. In the United States alone, the company aims to hire more than 500 software engineers in 2022 as it continues to win new business and develop new business models driven by software. The company also graduated the first cohort from its inaugural IoT apprentice program, which started in 2020 and teaches the fundamentals of software engineering. All five of the participants in the first round of the program came from a non-software background. They completed their training in 2021 and all are now employed within Bosch full-time in software-focused roles.

Bosch Group: outlook for 2022 and strategic course

In 2021, Bosch achieved significant growth in sales and result despite a difficult environment. In the first quarter of 2022, the sales revenue of the supplier of technology and services rose 5.2 percent. For the year as a whole, Bosch expects sales to grow more than 6 percent, and to achieve an EBIT margin in the range of 3 to 4 percent – and this despite the likelihood of considerable burdens, especially due to rising costs for energy, raw materials, and logistics.

“The successful outcome of the 2021 business year bolsters our confidence as we tackle the challenging environment of the current year,” said [Dr. Stefan Hartung](#), chairman of the board of management of Robert Bosch GmbH. One of the considerable uncertainties is the war in Ukraine and all its implications.

In his view, the current situation highlights the pressure on policymakers and society to become less dependent on fossil fuels and to vigorously pursue the development of new sources of energy. For this reason, he said, the Bosch Group is systematically continuing its efforts to mitigate global warming, despite the challenging economic environment. In addition, Hartung announced Bosch will be investing some three billion euros (\$3.5 billion USD) over three years in climate-neutral technology such as electrification and hydrogen.

The Bosch chairman announced that, over the next three years, the company will be investing another ten billion euros (\$11.8 billions USD) in digitally transforming its business.

“Digitalization also has a special role to play in sustainability – and our solutions start from this premise,” Hartung said. This year alone, moreover, Bosch plans to take on 10,000 new software engineers worldwide.

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About Bosch

Having established a regional presence in 1906 in North America, the Bosch Group employs nearly 35,500 associates in more than 100 locations, as of December 31, 2021. In 2021, Bosch generated consolidated sales of \$13.5 billion in the U.S., Canada and Mexico. For more information, visit www.bosch.us, www.bosch.ca and www.bosch.mx.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. 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 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, [www.twitter.com/BoschPresse](https://twitter.com/BoschPresse).

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