Press release

Driverless navigation to charge spots – thanks to Bosch and VW subsidiary Cariad

Testing commences for automated parking and charging

January 8, 2024
PI11775 BBM jck/af

- Bosch and Volkswagen subsidiary Cariad are testing driverless parking and charging based on automated valet parking.
- Automated parking service now includes automated charging of electric vehicles.
- Aim is to create additional benefit for automotive customers by combining automated parking and charging services.
- Automated charging will smooth the way to electromobility.

Stuttgart, Germany – Finding a parking space can be tiresome and time-consuming, especially in labyrinthine parking garages – and finding the vehicle again later is no different. The search for a free charge spot is a similar story. Together with the Volkswagen subsidiary Cariad, Bosch is now testing automated valet charging. This solution, which is based on Bosch's automated valet parking system, guides electric vehicles driverlessly to an unoccupied parking space furnished with a charge spot, where a charging robot recharges them automatically. Once recharging is complete, the vehicle maneuvers driverlessly to another parking space. Bosch and Cariad are now testing the necessary technology in two in-house parking garages in Germany: in Cariad's staff parking garage in Ingolstadt, the two companies are testing driverless parking with automated valet parking, while driverless charging with automated valet charging is being tested in Bosch's development parking garage in Ludwigsburg. And at CES 2024 in Las Vegas, Bosch is also currently showcasing the technology needed for automated charging.

Electromobility: automation to allay misgivings about range

Easy, straightforward charging is at the top of the wish list for electric car drivers. But their everyday experience tells a different story: long queues at charge spots, blocking fees for disconnecting the power cable too late, and manhandling

Robert Bosch GmbH
Postfach 10 60 50
70049 Stuttgart

E-mail Jennifer.Gass@de.bosch.com
Phone +49 711 811-42239
Twitter @JCKallweit

Corporate Department
Communications & Governmental Affairs
Executive Vice President: Prof. Christof Ehrhart
www.bosch-press.com

the cable. By addressing these challenges, automated valet charging greatly increases customer convenience when charging electric vehicles. What's more, the technology offers a range of advantages for automakers, charge spot operators, parking garage operators, and energy suppliers. And for the environment, electric vehicles mean a reduction in carbon emissions from road traffic.

"Automation plays a key role in the mobility revolution and the transition to electromobility. Our two services – automated valet parking and automated valet charging – make the mobility experience much smoother for users," says Manuel Maier, vice president of the cross-domain Level 4 parking product area at Bosch. "Making it straightforward to recharge electric vehicles allays people's misgivings about range, and is essential if electromobility is to find widespread acceptance. With this in mind, Bosch and Cariad can make parking and charging even more efficient and convenient."

Rolf Dubitzky, head of parking at Cariad, also sees great potential in this collaboration: "We're particularly pleased to be shaping the future of automated parking and charging together with Bosch. Our collaboration allows us to test the technologies at an early stage of vehicle development, so that the end product is reliable and offers customers the best possible user experience."

Charging service: the automated route to even more convenience
The infrastructure guides the vehicle to the parking space, where a robot opens the charging flap and automatically inserts the charging cable, removing it again once the vehicle battery is fully charged. The car then drives back to a regular parking space, freeing up the charge spot for the next electric vehicle with a low battery. All this makes it possible for several vehicles to be recharged and parked without human interaction. This increases the efficiency of the charging infrastructure, optimizes the use of charge spots, and saves customers the bother of long waits at the charge spot.

Automated valet parking is the world's first driverless SAE Level 4 parking service, and has been in operation in the P6 parking garage at Stuttgart airport for about a year now. Bosch has also started to equip other parking garages throughout Germany with the infrastructure technology.

Press photo(s): #93c8c5de, #23556bfc, #8a1b7132, #5931f439, #5d5eed56, #acb09009, #0aba972e

Bosch at CES 2024:

- **PRESS CONFERENCE: Monday, January 8, 2024,** from 9:00 to 9:45 a.m. (PST) with Dr. Tanja Rückert, member of the board of management of Robert Bosch GmbH, and Mike Mansuetti, president of Bosch in North America, in Ballroom Banyan ABCD, Mandalay Bay Hotel, Las Vegas, **South Convention Center, Level 3,** as well as **livestreamed** on the Bosch Media Service.
- **BOOTH: January 9 – 12, 2024**, in the Central Hall, booth #17207.
- **FOLLOW** the Bosch CES 2024 highlights on X: **#BoschCES.**

- **PANELS WITH BOSCH EXPERTS, Thursday, January 11, 2024:**
  "Elevate Your Space: Enhancing your Home with Smart Appliances", 15:00 p.m. (local time), Venetian Hotel, Lando 4302, session with Goncalo Costa, Vice President of Climate and Wellbeing North America.
  "Our Newest Cyber Threat is AI and AI is Our Biggest Defense", 14:00 p.m. (local time), Las Vegas Convention Center West / N258, session with Dr. Zico Kolter, Chief Scientist of AI at Bosch.
  "Future of Care: How Other Industries Shape Health", 11:00 a.m. (local time), Las Vegas Convention Center / North Wing, session with Dr. Stefan Finkbeiner, General Manager at Bosch Sensortec.

Contact person for press inquiries:
Jennifer Gass
Phone: +49 711 811 42239
Twitter: @JCKallweit

Mobility is the largest Bosch Group business sector. In 2022, its sales came to 52.6 billion euros, or just under 60 percent of total group sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility business sector pursues a vision of mobility that is safe, sustainable, and exciting. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are injection technology and powertrain peripherals for internal-combustion engines,
diverse solutions for powertrain electrification, vehicle safety systems, driver-assistance and automated functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, repair-shop concepts, and technology and services
for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 421,000 associates worldwide (as of December 31, 2022). The company generated sales of 88.2 billion euros in 2022. Its operations are divided into four business sectors: Mobility, 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 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 136 locations across the globe, Bosch employs some 85,500 associates in research and development, of which nearly 44,000 are software engineers.

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