

Press release

Brose equips new e-bike system with innovative cyber protection

Berlin (February 26, 2024). Brose and CYRES Consulting are redefining cyber safety in the e-bike sector. The two companies have worked closely together to develop a robust and advanced concept that effectively protects Brose's 48-volt system, which will be released in 2024, from computer-based threats.

The Berlin-based company is implementing the protection as standard and at no additional cost in each of its complete 48-volt systems. The technology uses modern, cryptographic methods for communication between the individual components, the new Drive³ Peak drive, the battery and the control unit. This approach makes it easy to integrate replacement parts.

"E-bikes are also increasingly exposed to hacking attempts and other cyber attacks. That's why the cyber security of our systems plays a central role for us," explains Florian Sack, Head of System Architecture at Brose E-Bike: "The robust and intelligent concept blocks unauthorized interventions and modifications. This minimizes the susceptibility to malfunctions – and therefore also the worries of bike manufacturers and dealers."

The new cyber defense primarily prevents tuning of the drive via the software, which is a major safety problem with e-bikes. It also shields the communication between the individual system components and thus significantly improves stability. In addition, the use of third-party service tools is blocked to prevent damage caused by improper repair attempts.

Brose approached CYRES Consulting to implement such comprehensive functions for good reason. The Munich-based company is one of the leading international consulting firms for the implementation of cyber security in the automotive sector. The aim was to transfer these high standards to a customized concept for the new e-bike system. Around six months of development finally produced the innovative solution, which can easily keep up with the complex requirements for cyber security in motor vehicles.

Vishwajeet Jadhav, Systems Engineer at Brose E-Bike, praises the smooth collaboration: "We really like the way our colleagues at CYRES Consulting are supporting us in this ambitious project – both professionally and personally. We are particularly satisfied with the quality and speed of the results."

Jan-Peter von Hunnius, Associate Partner & Head of CYRES Consulting Austria: "The extraordinary foresight that Brose E-Bike shows with regard to

Brose drive technology
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cyber security issues is remarkable. Ensuring cyber security is not seen as an obstacle here, but as a driver. This has greatly enriched our work as consultants. The results achieved, for example in the secure handling of data and the handling of threat scenarios, illustrate how important future-oriented development work is today."

About Brose Drive Technology

Brose e-bike systems offer the right solution for every application – whether in city, trekking or mountain bikes. The family-owned company has transferred its decades of experience as a supplier of electric motors for the automotive industry to the bicycle. At the e-bike competence center in Berlin, more than 140 employees develop and produce drives that are used in models from over 30 manufacturers worldwide. Together with specially developed displays, battery and the Brose app, the drives form a perfectly coordinated system, enabling a particularly harmonious riding experience.

About CYRES Consulting

Today, CYRES Consulting is one of the world's leading consulting companies for the implementation of cyber security in engineering and development, primarily in the automotive industry. The interdisciplinary team of experts today consists of more than 50 employees worldwide as well as a top-class network of cooperation partners and freelance consultants. In addition to the headquarters of CYRES Consulting in Munich, further locations and offices are currently being established – from Riga in Latvia to Graz in Austria and Bangalore in India. Clients in the consulting business today include global pioneers in the digitalization of the vehicle industry: well-known technology providers, leading N-tier suppliers and renowned OEMs. At the same time, the CYRES Academy has established itself as the world's most comprehensive learning database for applied cyber security in the automotive industry.

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The new 48-volt system from Brose E-Bike. The Drive³ Peak motor will be launched on the market in summer, with control units and battery to follow (Image rights: Brose)

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