

# Prague high voltage inverter research and development





## Overview

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Who develops high voltage inverter systems for electric vehicles?

The vehicle manufacturers and automotive tier 1 suppliers develop inverter systems for electric vehicles. Discussions were held with their design and research teams during direct meetings to understand future developments. Through these discussions, along with our own research, there are some clear high voltage inverter trends in the EV market. 3.

What is high voltage laboratory?

High Voltage Laboratory was established in 1953 as a part of EGU (The Electrotechnical Institute). Since it was founded, the laboratory has played an important role in the development of the Czech power engineering industry and the electric power distribution and transmission systems.

How can a high voltage inverter improve EV performance?

A better approach is to increase efficiency and decrease weight which extends the range of the EV and potentially reduces vehicle cost and running expenses. A significant contributor to achieving this is the inclusion of enhanced control, high voltage inverter modules in the vehicle. \* Corresponding author.

Will Hitachi energy expand its high-voltage factory in Brno?

Image for illustration purposes. Czech Republic, Brno: Hitachi Energy is investing over 1.1 billion CZK (approximately \$47 million) to expand its high-voltage products factory in Brno, Czech Republic. Set to be completed by the end of 2025, the expansion will increase the factory's production capacity by over 40% and create up to 200 new jobs.



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### Trends in High Voltage Inverter Systems

Jan 1, 2023 · The solution is to move to model-based design software development. Model-based software design uses high level modelling tools, like MATLAB and Simulink to develop the ...

### CTP invests EUR57m in Hitachi Energy's Brno project in Czech ...

Feb 19, 2025 · European industrial developer CTP has announced a EUR57m (\$59.7m) investment in a new project for Hitachi Energy at CTPark Brno in the Czech Republic. The project focuses ...

### CVVOZE Power Laboratories - Výzkumné ...

Future development In the future, the CVVOZEPowerLab research infrastructure will focus on improvement of the accuracy of measuring ...

### Hitachi Energy boosts high-voltage operations in Czech ...

Dec 4, 2024 · Hitachi Energy is investing over 1.1 billion CZK (approximately \$47 million USD) to expand its High Voltage Products factory in Brno, Czech Republic, marking a significant step ...

### Laboratory of Power Electronics and Electrical Drives

Ing. Martin Bejvl, Ph.D. is currently a researcher with the Department of Electrical Engineering and Electrophysics. He received the PhD. degree in Electrical Engineering from the Czech ...

### FEKT VUT

The group studies the behavior of electric arcs to implement the findings within the in-house research and development of switching and protective devices for low- and high-voltage ...

### CVVOZE Power Laboratories - Výzkumné infrastruktury

Future development In the future, the CVVOZEPowerLab research infrastructure will focus on improvement of the accuracy of measuring equipment and extension of the possible ...

### Hitachi Energy invests in GIS and GIL in the ...

Dec 5, 2024 · Hitachi Energy is investing over 1.1 billion CZK (approximately \$47 million) to expand its high-voltage products factory in Brno, Czech ...

### Hitachi Energy invests in GIS and GIL in the Czech Republic

Dec 5, 2024 · Hitachi Energy is investing over 1.1 billion CZK (approximately \$47 million) to expand its high-voltage products factory in Brno, Czech Republic.

### High voltage engineering

Dec 2, 2025 · The laboratory collaborates on projects aimed at the diagnosis and development



of insulation systems of high-voltage equipment in the ...

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#### About us

About EGU HV Laboratory is a fully independent, accredited and internationally recognized High Voltage Testing House not related to any of manufacturing companies involved in power ...

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#### High voltage engineering

Dec 2, 2025 · The laboratory collaborates on projects aimed at the diagnosis and development of insulation systems of high-voltage equipment in the field of voltage testing according to ...

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#### HITACHI INVESTS 47M IN HIGH VOLTAGE FACTORY EXPANSION IN CZECH ...

High voltage 220V inverter A 220V high voltage inverter typically has an input voltage range of more than 100V and can output voltages ranging from 220V to 480V. These inverters are ...

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