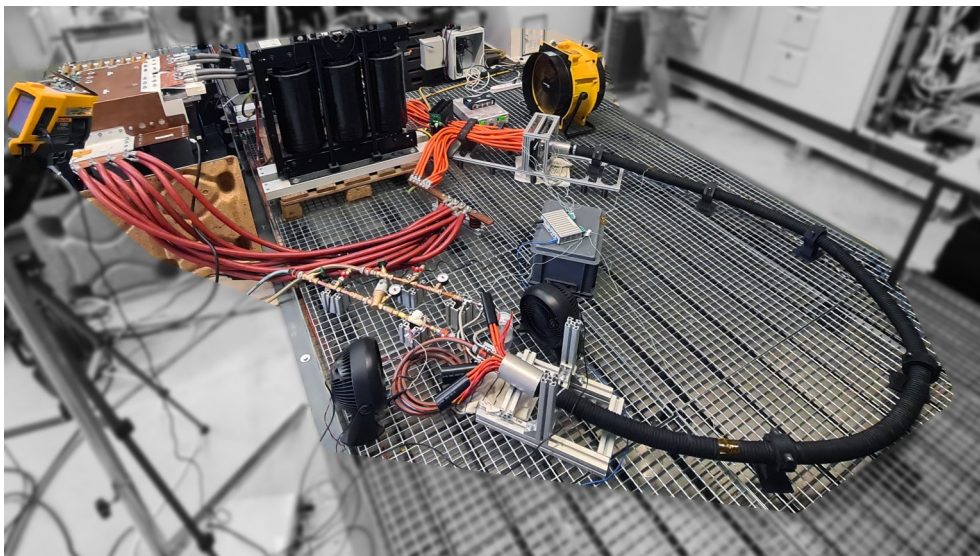


**PRESS ANNOUNCEMENT****PAXOS HIGH PERFORMANCE CHARGING  
PLUG PERMANENTLY TRANSMITS 5MW  
CHARGING POWER**

Supported by:

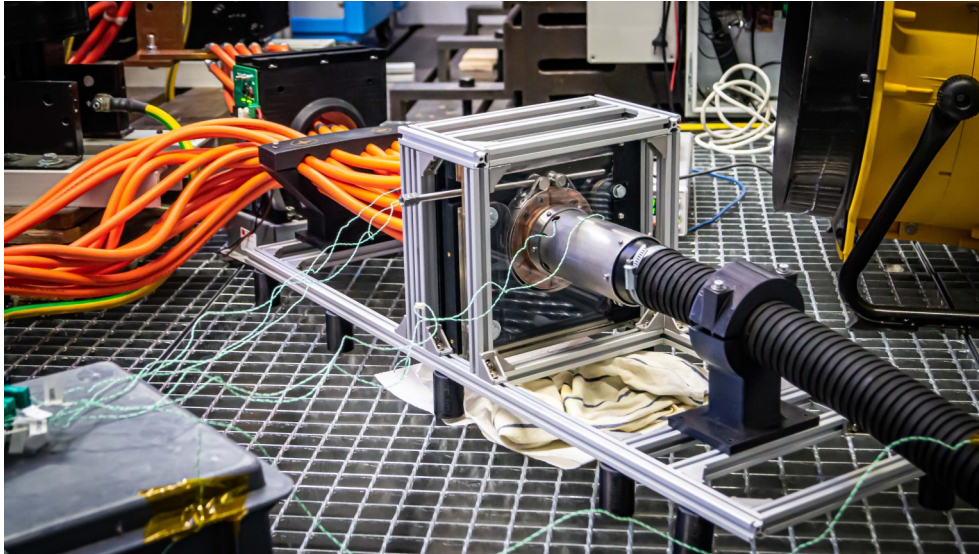
Federal Ministry  
for Economic Affairs  
and Climate Actionon the basis of a decision  
by the German Bundestag**LANGENFELD, 14.09.2022**

The second series of tests at the Institute for Power Generation and Storage Systems (PGS) at RWTH Aachen University confirmed that the high performance charging system from paXos has the potential to revolutionize the charging infrastructure and to drive the expansion of electromobility across all sectors. At a duty cycle of 100%, a sustained charging power of 5MW could be transferred and attested. The external dimensions of the charging plug remain below those of the current market standard and the flexible charging cable ensures comfortable handling.



**Figure 1:** Experimental setup at RWTH Aachen University (Photo: paXos)

As part of the current test series, the complete overall system, consisting of the charging plug “Cool-Load Megawatt”, the charging socket and a 4m long, liquid-cooled charging cable, could be extensively tested. Due to the patented, active cooling of the charging system, the temperatures on the cable and housing surface remained constantly below 25°C even at this enormously high charging power.



**Figure 2:** Sensor-monitored charging plug in charging socket (Photo: paXos)

At the same time, the extraordinary efficiency of the high performance charging system was confirmed, as the total system losses, both electrical and thermal, amounted to just 0.2%. Finally, this allows a very high cooling capacity to be transferred to the vehicle to cool the battery if required.



**Figure 3:** Charging Plug „Cool-Load Megawatt“ (Photo: paXos)

The radial design of the paXos charging plug allows further scaling of the plug diameter, so that significantly higher charging powers are to be tested in the next series of trials. Currently, a standard scaling up to 12MW is planned, although the development team has already envisaged scaling up to 40MW as part of special designs for special applications.

With the high performance charging system from paXos, the milestones of the future of electromobility for cars, commercial vehicles, ships, aircraft, etc. can be realized with a single connector design. Traditional systems are limited in transmission power, so a novel system like this is absolutely necessary for the charging of the future. At present and

in the foreseeable future, no other such compact charging system in the world is capable of permanently transmitting more than 1MW of charging power.

The charging plug „Cool-Load Megawatt“ is the solution for the still **missing link** between energy supply, shortest charging times and a robust, stable connection. Due to the increasing worldwide necessity and an enormous demand, pilot projects have already been decided. They will be realized step by step with development partners and end customers in the next two years. The first use case is expected to go live as early as 2023.

## ABOUT THE PROJECT IDEAL

In the IDEAL project (Innovative DC Technology for Sustainable Integration of Modern Charging Infrastructure for Electromobility), new types of DC-based charging solutions for electromobility are being researched. The grid connection will no longer be via alternating current, but via direct current, and the feed-in points for the local direct current grid will be distributed at grid interconnection points, such as substations or local grid stations.

The project will develop a high-power charging pole, a medium-power urban charging pole, and a high-power charging plug. Testing of the components will be carried out in a hardware-in-the-loop environment, creating both a test environment and market-ready products.

In addition to paXos and the PGS, the Chair of Controlling and the Chair of Energy System Economics at RWTH Aachen University as well as the companies elaxon GmbH and Siemens AG Technology Research in Energy and Electronics are involved in the joint research project as further partners.

The project is funded by the German Federal Ministry of Economics and Climate Protection (BMWK).

## ABOUT PAXOS

[www.paXos.gmbh](http://www.paXos.gmbh)

paXos Consulting & Engineering GmbH & Co. KG, based in Langenfeld (Rhineland), develops highly efficient and innovative solutions in the field of renewable energies and alternative drives. Since its foundation in 2015, more than 20 patents have already been filed. These include various solar systems for buildings, vehicles and industrial applications as well as concepts for charging columns, a wheel hub motor and a high performance charging plug with cooled cable. The think tank paXos covers the entire value chain in the field of



development, from the development of the initial idea, through functional prototypes, to industrializability. All innovations are developed under the premise of sustainability, social responsibility, general benefit and securing Germany as a business location.

The paXos management team has more than 20 years of expertise in the field of international development projects in the areas of engineering, consulting and project management and supports its customers throughout the entire development process up to the start of production.