

IPG Automotive Bundles Its Hardware Portfolio Into New Product Line Xpack

Xpack RTS and Enhanced RTPC set new standards for high-performance HIL testing

Karlsruhe, October 21, 2025 – IPG Automotive launches new product line Xpack, combining the company's entire hardware portfolio. Existing solutions – including the former Xpack4, which going forward will be marketed as the Xpack Real-time System (Xpack RTS) – as well as future developments will now fall under one umbrella. The objective is to offer customers clear orientation, simple integration, and a future-proof basis for a wide range of hardware-in-the-loop (HIL) applications.

Xpack serves as the common foundation for a variety of high-performance hardware modules and components. The product line combines proven quality with innovative technology, enabling efficient, high-speed testing in HIL contexts and precise validation of complex vehicle systems.

As its first new addition, IPG Automotive launches Xpack RTS, as further development of the established Xpack4 system. This modular real-time simulation platform is perfectly suited for HIL applications across all key development domains. Its flexible architecture combines a large number of available CPU cores with a newly developed backplane based on CompactPCI Serial. Integrating it into CarMaker enables efficient testing of complex vehicle systems.

Complementing the Xpack product line, IPG Automotive unveils the Enhanced Real-time PC (Enhanced RTPC) – an innovative platform built on modern server technology. Twelve CPU cores and efficient parallelization ensure outstanding performance for complex model calculations. The Enhanced RTPC can be connected directly to the Xpack RTS via an adapter bridge, combining maximum computing power with precise IO interfaces. The system's high data bandwidth, support for PCIe-based modules and compatibility with commonly used communication standards such as Automotive Ethernet, alongside integrated security features such as MACsec, ensure it is future-proof for the development of software-defined vehicles (SDVs).

“With Xpack, we are offering our customers a high-speed platform that seamlessly integrates both existing and new hardware solutions. Through the refinement of the Xpack RTS and the introduction of the Enhanced RTPC, we are combining the advantages of

precise IO interfaces with high computing power – enabling efficient and reliable HIL testing,” says Florian Weindel, Product Manager Hardware at IPG Automotive.

In addition to the Xpack RTS and the Enhanced RTPC, the Xpack product line includes other well established hardware solutions from IPG Automotive, such as: SensInject for the time-synchronous injection of raw sensor data; SensCompute for reliable calculation of various sensor data; the Fail Safe Tester for simulating electrical faults; and dedicated HIL racks.

Xpack represents a modular and scalable product line that can be flexibly adapted to meet individual requirements – forming a powerful foundation for testing and simulation across all key domains of automotive development.

Further information at: [Hardware | IPG Automotive](#)

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Images



HIL system from Xpack product line: The modular platform Xpack combines powerful hardware with precise real-time simulation for efficient and reliable HIL testing.

Image: IPG Automotive

About IPG Automotive GmbH

As a global leader in virtual test driving technology, IPG Automotive develops innovative simulation solutions for vehicle development. Designed for seamless use, the software and hardware products can be applied throughout the entire development process, from proof-of-concept to validation and release. The company's virtual prototyping technology facilitates the automotive systems engineering approach, allowing users to develop, test and validate new systems in a virtual whole vehicle.

IPG Automotive is an expert in the field of virtual development methods for the application areas of Autonomous Vehicles, ADAS, Powertrain, and Vehicle Dynamics, committed to providing support to master the growing complexity in these domains. Together with its international clients and partners, the company is pioneering simulation technology that is increasing the efficiency of development processes.

By taking real test driving into the virtual world as a complement to on-road testing, IPG Automotive contributes significantly to technical progress and shares in shaping the mobility of tomorrow with regard to comfort, safety, economic efficiency, and environmental friendliness.

In addition to the company headquarters in Karlsruhe, Germany, IPG Automotive provides innovative development services to its customers and partners at the Germany-based offices in Braunschweig, Frankfurt, Ingolstadt, Munich, and Stuttgart as well as in China, France, India, Japan, Korea, Sweden, the UK, and the USA.

Further information at: www.ipg-automotive.com/en

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