



HKS Co., Ltd.
May/22/2023

HKS to exhibit at Automotive Engineering Exposition 2023

Product technologies for a sustainable future, such as replaceable battery packs for EVs and battery degradation diagnostic equipment, will be presented at the Automotive Engineering Exposition 2023

HKS Co., Ltd. (Headquarters: Fujinomiya, Shizuoka; President: Daisuke Mizuguchi) is pleased to announce its participation in the Automotive Engineering Exposition 2023 YOKOHAMA and the Automotive Engineering Exposition 2023 ONLINE STAGE 1. The company will showcase a wide range of products, cutting-edge technologies, and its commitment to electrification for a sustainable future.



The Automotive Engineering Exposition 2023 YOKOHAMA will take place from May 24 (Wednesday) to May 26 (Friday). Once again, HKS will present the latest technologies and products during the event. Additionally, from May 17 (Wednesday) to June 7 (Wednesday), visitors will have the opportunity to access information through the Automotive Engineering Exposition 2023 ONLINE STAGE 1.

Our exhibition will feature IoT devices, EV batteries, turbogenerators, and advanced ICE technology. Here are the highlights of each offering:

1. IoT Devices: Experience our cutting-edge Internet of Things (IoT) devices designed to enhance automotive connectivity, safety, and convenience.
2. EV Batteries: Discover our state-of-the-art electric vehicle (EV) batteries, which deliver outstanding performance, range, and durability.
3. Turbogenerators: Learn about our advanced turbogenerators, combining efficiency and reliability to meet the power demands of modern automotive applications.
4. Advanced ICE Technology: Explore our innovative internal combustion engine (ICE) technology, designed to maximize performance while minimizing emissions.

01 IoT Connected System

- ① EV Battery Residual Performance Diagnostic System (BLDS)
 - Developed jointly with Toyo Systems Co.,
- ② 360° Camera Drive Recorder Solution with AI Analysis
- ③ MAMORU, a safety device for preventing left behind pick-up buses (interlocked with key removal).
(Key removal-linked system)



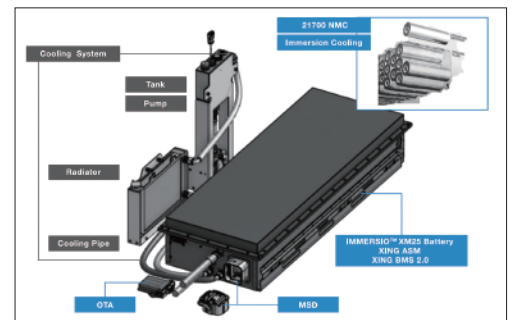
02 Replacement battery packs for EV trucks

The battery packs being developed are introduced as part of the 'Sector Coupling Demonstration Project for the Development of EVs with Interchangeable Batteries and the Use of Renewable Energy', commissioned by the Ministry of the Environment



03 Immersion-cooled batteries for EV

The immersion-cooled battery pack, being developed in cooperation with XING Mobility, Taiwan, is introduced. The battery cells are directly immersed in a non-conductive and non-flammable refrigerant, which enhances heat absorption for efficient rapid charging and discharging. Additionally, this design mitigates thermal stress on the cells during abnormal conditions, ensuring a safe and high-performance EV conversion system.



04 Turbogenerator

Introduction of engine high-efficiency equipment for converting exhaust energy into electrical energy for regenerative use.

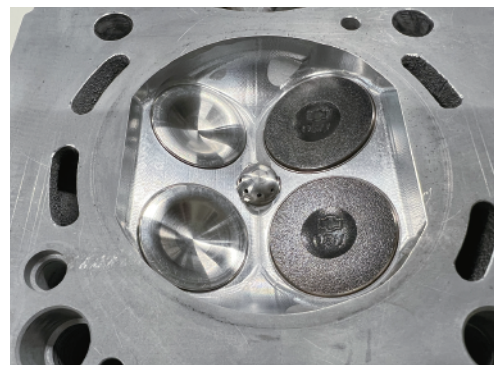


05 Advanced technology development (internal combustion engines)

HKS is developing more efficient internal combustion engines to help realize a decarbonized society, and the following are some of the advanced internal combustion engine technologies we are working on.

1. Pre-chamber combustion technology

Pre-chamber combustion technology enables rapid combustion and offers various methods to achieve higher efficiency, such as utilizing a high compression ratio, ultra lean combustion, and high EGR.



2. 3D camshafts (radial valves)

In the case of conventional camshafts used for oscillating followers, creating cam profiles for radial valves has been challenging. However, the HKS cam grinding machine (manufactured by EMAG) is capable of 5-axis grinding, allowing the creation of 3D cam profiles that cannot be reproduced by conventional cam grinding machines.



- ① Automotive Engineering Exposition 2023 Yokohama, organized by the Society of Automotive Engineers of Japan
Holding period: May 24 (Wednesday) to May 26 (Friday), 2023.
URL: <https://aee.expo-info.jsae.or.jp/en/>
- ② Automotive Engineering Exposition 2023 Online Stage 1, organized by the Society of Automotive Engineers of Japan
Holding period: May 17 (Wednesday) to June 7 (Wednesday), 2023.
URL: https://aee.online-mp.jsae.or.jp/technical_field/en/

For further information on this matter, please feel free to contact;

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