27th SUPERCHARGING CONFERENCE 2023

26th / 27th SEPTEMBER IN DRESDEN



Announcement

27th SUPERCHARGING CONFERENCE 2023

New: hydrogen engines, charging systems for fuel cells, Methanol and Ammonia engines

The 27^{m} SUPERCHARGING CONFERENCE on September $26^{\text{m}}/27^{\text{m}}$ 2022 in Dresden provides a forum to experts from all over the world. The latest developments in supercharger techniques will be presented by OEMs and suppliers. The conference will be held as a hybrid event: interested parties can participate in the face-to-face event or virtually via live stream.

The aim of the supercharging is the increase of the brake mean effective pressure. The engine power increase had to prove a significant reduction of the specific fuel consumption. In order to improve the delayed boost pressure while the high load demand increases, new solutions have been developed. Especially with regard to vehicle engines, nowadays downsizing (less cylinder, lower total displacement) makes a high demand on the dynamic behavior. Solutions are: smaller exhaust gas turbochargers, the variable turbine geometry or sequential turbocharging as well as multi-stage charging. In addition to these thermodynamic systems, other sources of energy have been used in order to make boost pressure temporarily available: kinetic energy with the help of a mechanical charge or electrical energy with the help of an additional electric charge. The exhaust gas recirculation provides an important contribution to reduce the NO_v-emission. In addition to the recirculated exhaust gas the engine needs to be supplied with enough fresh air. Thus, a significant increase of the boost pressure is required. Studies on Real Driving Emission (RDE) show that high dynamic load demands increase the NO, and particle emission, supercharging can reduce them.

New requirements are posed by hydrogen engines with increased boost pressure demand in lean-burn operation, as well as by the fuel cell.

The optimization of the supercharging for internal combustion engines requires a precise knowledge of the whole system behavior. Simulation models help to predict the operational behavior very well. The 3D calculation is an important tool for the optimization of air and exhaust path. Nowadays the control of these systems is also done by real-time models. At the high dynamic engine test bench the whole system is tested and the model-based control is optimized by additional structures.

The 27th SUPERCHARGING CONFERENCE on September 26th / 21th 2023 in Dresden focuses on recent results and development methods. Speakers will be engine developing engineers, manufacturers of supercharging systems and of other important components. The engines that will be discussed at the conference offer a wide range, from car engines up to the slow-speed two-stroke marine engine.

This conference offers an excellent exchange of knowledge and experience for everyone working on the development of supercharged powertrains.

The conference will be held in German and English supported by simultaneous translation from German into English language.

Main focus subjects

- New supercharged diesel-, gasoline- and gas engines
- New: Hydrogen engines
- Methanol and Ammonia engines
- Innovative (electric) supercharging conceptions and components
- New: Charging systems for fuel cells
- Numerical simulation methods
- Charging to reduce exhaust emissions
- Complete system performance; control strategies
- Development methods and tools for components and for complete

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Conference Chairman

Prof. Dr.-Ing. H. Zellbeck Technische Universität Dresden

E-mail: info@aufladetechnische-konferenz.de Homepage: <u>https://aufladetechnische-konferenz.de</u>

Conference Location

Hilton Dresden An der Frauenekirche 5, 01067 Dresden, Germany

Registration

S-GET EVENT & SERVICE GmbH Sachsenallee 28 01723 Kesselsdorf, Germany

| Telefon: | +49 35204-793030 |
|----------|------------------|
| Fax: | +49 35204-793029 |
| E-Mail: | service@s-get.de |

The **registration form** at <u>https://aufladetechnische-konferenz.de</u> contains further information and the general terms and conditions.

| Participation Fee | onsite | virtual participation |
|--------------------|---------|-----------------------|
| Regular attendance | € 1,695 | € 1,200,- |
| University members | € 1,200 | € 950,- |

All prices plus 19 % VAT!

The conference fee includes the participation in the conference, the conference documents as well as for the participants on site the catering during the coffee and lunch breaks and the evening event.

Participation is free of charge for speakers.

Associated Exhibition

An associated exhibition runs alongside the conference where interested companies will have the opportunity to present their products, processes and services on the subject and to explain them through personal consultation. Further information can be obtained from the conference management or at our website https://aufladetechnische-konferenz.de.

Hotel Reservation

Please have a look at our conference website for booking infomation: <u>https://aufladetechnische-konferenz.de.</u>

