



Program

9th AVL International Commercial Powertrain Conference

May 10th - 11th 2017, Messe Congress Graz, Austria

Organized by AVL in cooperation with 

FOREWORD



We invite you to join us at the 9th AVL International Commercial Powertrain Conference - ICPC, a platform to discuss potential synergies between truck, agricultural and construction equipment OEMs, organized by AVL in cooperation with SAE International. The conference will address the challenges the industry faces now, and, even more so, in future: CO₂ reduction and sustainable means of transportation in view of the fast changing competitive environment.

Keynotes from a top management point of view will highlight the current and future situation setting the scene for the conference. Experts from the three powertrain industries will tell us what lies ahead in powertrain development and what can still be achieved with combustion engines and transmissions to reduce CO₂. Further CO₂ reduction potential can be found in a system approach including the specific application workload. Electrification seems to offer the ultimate solution, but poses also a challenge to engineers, considering the current development status of batteries and charging infrastructure.

After the presentations from a truck, agricultural and construction equipment point of view, a joint discussion will show the potential synergies and use of technologies in other powertrain applications. Meeting experts from other areas of the industry will spark new ideas which will eventually lead to better products.

We are once again looking forward to an exciting event, an opportunity to meet and network with many representatives of the leading companies of the three powertrain industries including their strong supplier base. ICPC is known for interesting discussions both in the conference and the social events.

Two handwritten signatures in black ink. The signature on the left is 'Helmut List' and the signature on the right is 'Marko Dekena'.

Prof. Dr. h.c. Helmut List
Chairman and CEO

Dr. Marko Dekena
Executive Vice President

GENERAL INFORMATION

Conference Office: AVL List GmbH,
Hans-List-Platz 1, A-8020 Graz,
Tel.: +43 (316) 787 927,
Telefax: +43 (316) 231123 4490,
E-Mail: event@avl.com

Conference Venue: Messe Congress Graz,
Messeplatz 1, 8010 Graz, Austria

Registration: In the Messe Congress Graz on Wednesday,
May 10th, 2017

Conference Fee: € 1.490,- plus VAT, Students € 120,- plus VAT
Free of charge for members of the press.
Fees include proceedings, two lunches and snacks,
social evening events.

Conference Language: English (no simultaneous translation)

Proceedings: The proceedings of the conference will be
handed out to the attendees on USB stick.

Hotel Reservation: Please see the reservation form attached.

Arrival: By plane: Graz-Thalerhof, by train: Graz Main Station,
by car: See map of Graz (page 9)

Welcome Reception:
Tuesday, May 9th, 2017, 17:00 at AVL headquarters –
a good opportunity to meet speakers and participants before
the conference and to visit the AVL facilities (guided tours).
Shuttle bus service to conference hotels.

Social Evening: Wednesday, May 10th, 2017, 19:30
Dinner and wine in the cellar of Seggau Castle.
Shuttle bus service. Please bring warm clothes.

CONFERENCE PROGRAM – WEDNESDAY, MAY 10TH, 2017

09:00 - 09:15	Welcome to the ICPC Dr. Marko Dekena, Executive Vice President, AVL List GmbH
09:15 - 09:30	SAE Welcome Doug Patton, CTO of DENSO International America, Inc. and 2017 SAE President, SAE International
09:30 - 09:50	Coffee break

KEYNOTES

09:50 - 10:20	Trucks Driving into the Future: Cleaner, Safer and Even More Efficient Ron Borsboom, Chief Engineer and Member of the Board of Management, DAF Trucks NV
10:20 - 10:50	Challenges and Potentials in the Future Construction Machinery Industry - an OEM Viewpoint Dr.-Ing. Wolfgang Burget, Managing Director R&D, Liebherr-EMtec GmbH
10:50 - 11:20	Future Challenges for Engine Manufacturers in View of Future Emissions Legislation Wayne Eckerle, Vice President Corporate Research & Technology, Cummins Inc.
11:20 - 11:50	Higher, Faster, Smarter: Agriculture technology Yesterday and Tomorrow Dr. Hagen Adam, Managing Director and Business Field manager Off Road, AVL Tractor Engineering Germany GmbH
11:50 - 12:10	Panel discussion
12:10 - 13:40	Lunch break

POWERTRAIN DEVELOPMENT: WHAT LIES AHEAD

13:40 - 14:10	Impact of GHG – Phase II & Ultra Low NO_x on the Base Powertrain Lukas Walter, Vice President Commercial Powertrain Systems, AVL List GmbH
14:10 - 14:40	Cost-Efficient R&D Strategies to meet Future Portfolio Challenges Tobias Winter, Head of Simulation Department, Motorenfabrik Hatz Dr.-Ing. Simon Thierfelder, Head of Engine Development, Motorenfabrik Hatz
14:40 - 15:10	China's Changing Construction Equipment Industry Andreas Gräf, Principal, A.T. Kearney GmbH
15:10 - 15:30	Discussion
15:30 - 15:50	Coffee break

CO₂ REDUCTION: CONVENTIONAL POWERTRAIN WITH COMBUSTION ENGINES

15:50 - 16:20	Potential and Challenges of HPDI David Mumford, Senior Director, HPDI Product Management, Westport Inc.
16:20 - 16:50	EKoTech - a Holistic Approach to Reduce CO₂ Emissions of Agricultural Machinery in Process Chains Prof. Dr. Ludger Frerichs, Director of the Institute of Mobile Machines and Commercial Vehicles, TU Braunschweig
16:50 - 17:20	CVT Transmission: A Platform Technology for On- and Off-Road Hauling Applications Chris Thorne, Chief Technical Officer - Heavy-Duty Vehicles, Energy Technology Institute
17:20 - 17:40	Discussion
17:40	End of day 1 and shuttle transfer to Seggau Castle
19:30	AVL Social Evening at Seggau Castle

CONFERENCE PROGRAM – THURSDAY, MAY 11TH, 2017

CO₂ REDUCTION: WORKING PROCESS

09:00 - 09:30	The Truck of the Future: “Autonomous and Connected Driving at Daimler Trucks” Dr. Christian Ballarin, Senior Manager Advanced Engineering System Applications, Daimler Trucks Martin Zeilinger
09:30 - 10:00	Automation and Robotics – The Trend Towards Cyber Physical Systems in Agriculture Business Prof. Thomas Herlitzius, Chair of Professorship Agricultural Systems and Technology, TU Dresden
10:00 - 10:30	Assistance Systems on Hydraulic Excavators and CO₂ Reduction – Is There Any Correlation? Werner Seifried, Managing Director, Liebherr Hydraulikbagger GmbH
10:30 - 10:50	Discussion
10:50 - 11:10	Coffee break



The banner features a dark background with a blue geometric network pattern on the left. A tablet and a smartphone are shown, both displaying the AVL Event App interface. The AVL logo is in the top right corner. The text 'Meet AVL's Event App' is prominently displayed, followed by 'Download and join it!'. Below this, a 'GET THE APP!' section includes a QR code and a 'DOWNLOAD NOW' button. At the bottom, logos for Google Play, the App Store, and Windows Phone are visible.

AVL

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CO₂ REDUCTION: OUTLOOK

11:10 - 11:40	Future Powertrain for Zero Emission Commercial Vehicles Takashi Sasaki, General Manager of Advanced E-Vehicle Development Div., Hino Motors Ltd.
11:40 - 12:10	Electrification of Agricultural Machinery from the Perspective of an Implement Manufacturer Dr. Florian Rahe, Head of Sensorics and Mechatronics Dr. Rainer Resch, AMAZONEN-Werke H. Dreyer GmbH & Co. KG
12:10 - 12:40	CO₂ Reduction on a Construction Site Dr. Ulrich Fass, Program Leader Energy Conversion, Emerging Technologies Jenny Elfsberg, Volvo CE AB
12:40 - 13:10	Powertrain Solutions for Electrified Trucks and Buses Heimo Schreier, Senior Product Manager; Martin Ackerl, Roger Perthen, Wenzel Pochazka, AVL List GmbH
13:10 - 13:30	Discussion
13:30 - 13:40	Farewell Dr. Marko Dekena, Executive Vice President, AVL List GmbH
13:40 - 15:00	Lunch
15:00	End of conference

Subject to change without notice



THE BEAUTY OF GRAZ

Graz is indeed a striking beauty, to the point of rendering one sleepless. Confidently, the city presents itself both with new, fascinating landmarks and historic monuments, among them entire districts such as the old city centre, honored and protected as a UNESCO World Cultural Heritage Site, or the designation City of Design.

The city's 'lifeline' is the broad river Mur, providing a relaxed atmosphere to the rhythm of flowing water. But above Graz is a melting pot of cultures. Musicians, writers, architects and designers have set the tone in this city for centuries and thus it has been named the European Cultural Capital of 2003.

So how do you go about exploring this impressive cultural heritage site? The answer is simple, at your leisure. Most of its many sights are located within easy reach of elegant coffee houses, fine restaurants, colorful country markets and trendy

bars. Graz can be discovered and rediscovered time and time again. The city oozes with a noble flair, for example in the arcaded courtyard of the Landhaushof, a masterpiece of the Italian Renaissance.

Have no second thoughts about visiting the attractions: Eggenberg Palace, the Museum of Contemporary Art (Kunsthaus), the Island in the Mur, the Schlossberg, the Opera are just a few examples. The 'compulsory' tourist program in Graz is pure pleasure.

Hotel:

- ① Hotel Daniel
- ② Hotel Weitzer
- ③ Schlossberghotel
- ④ Hotel Erzherzog Johann
- ⑤ Mercure Graz City
- ⑥ Hotel Bokan
- ⑦ Hotel Europa
- ⑧ Hotel Ibis
- ⑨ Wohlfühlhotel Novapark

Taxi:

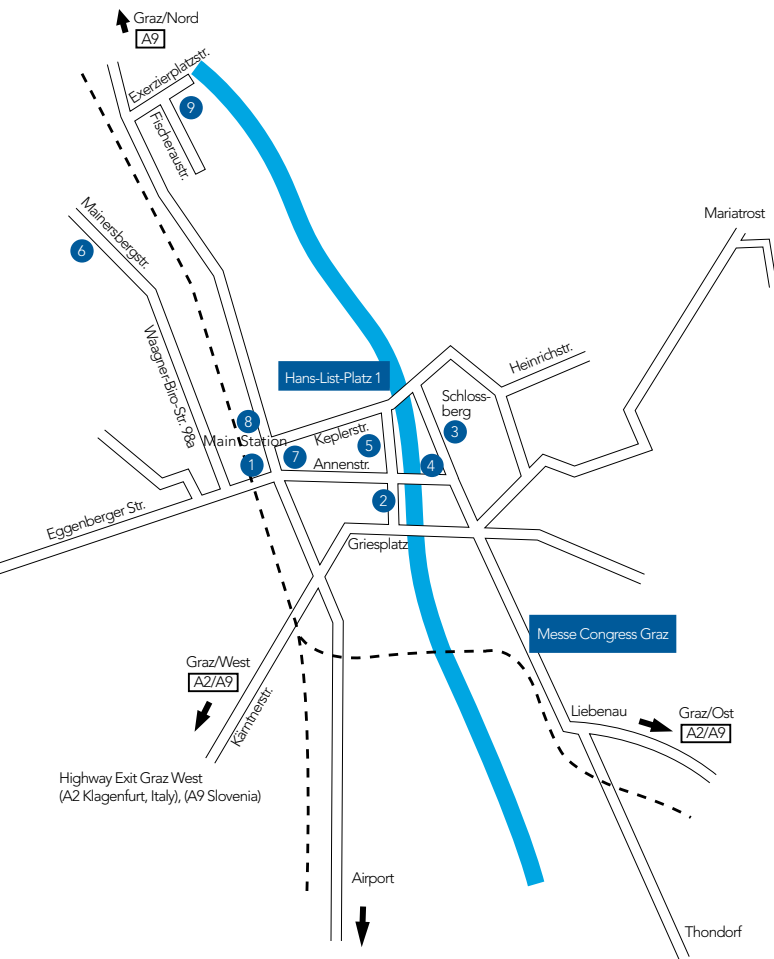
Phone: +43 (316) 28 01

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Photos: Copyright Graz Tourismus -
Hans Wiesenhofer

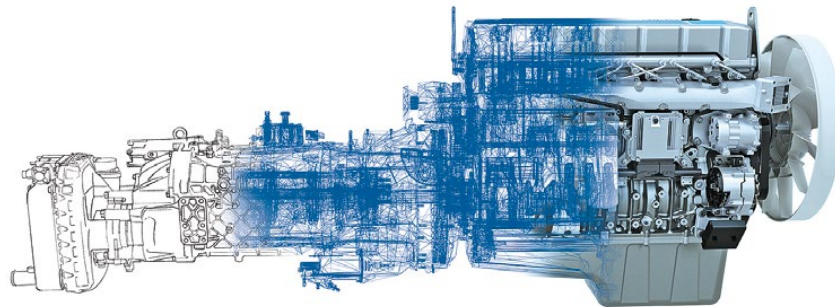
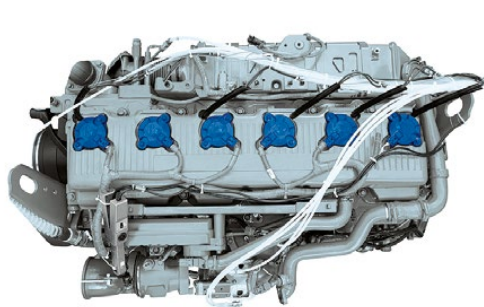
Highway Exit Graz North (A9 Salzburg, Linz, Germany)



ABOUT AVL

AVL is the world's largest independent company specialized in the design and development of powertrain systems (engines, transmissions, electric motors, batteries, control systems) for passenger cars, heavy duty vehicles and industrial applications, as well as powertrain test instrumentation and test systems. The activities of the Powertrain Engineering Division activities embrace all functions from concept definition all the way to production development. Supported by comprehensive in-house research, AVL's engineering specialists design and develop powertrains of all types and sizes for a world-wide clientele and carry out application-specific system integration to achieve optimum solutions.

With wide-ranging production engineering experience, including the planning of engine and transmission manufacturing facilities, plus cutting edge application and reliability engineering capabilities, AVL is fully equipped to provide its customers



with mature solutions ready for series production. The AVL Application Centre with its nearby test track has been added to the facilities in Graz to satisfy the increasing demands for top-quality engine and transmission calibration.

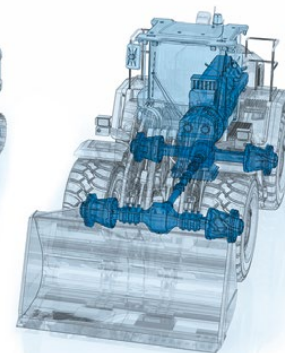
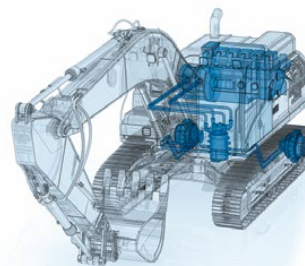
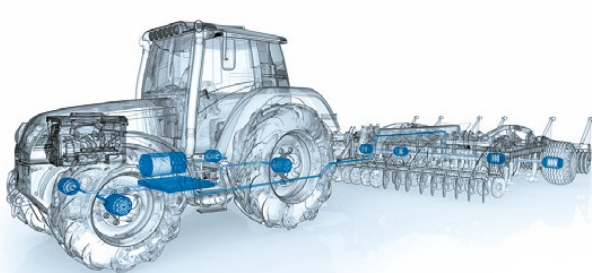
All of AVL's software and methodology development capabilities for engine and powertrain simulation are concentrated in its "software house," Advanced Simulation Technologies. The AVL-designed software tools represent state-of-the-art technology based on years of experience in engine and drivetrain development. These tools are not only used in-house, but also by leading engine and vehicle manufacturers across the world.

AVL provides its customers with instrumentation technology and test systems for the entire product development process right up to mass production. AVL's product range covers all test requirements for engines, drivetrains and vehicles. AVL is a manufacturer and system integrator of complete test bed systems, delivering

technologically superior tools for specific tasks, which can be individually adapted to the needs of different groups of users.

The intelligent, modular organization of the product range ensures optimum flexibility, from professional single-user applications to fully integrated systems designed to maximize productivity.

In its role as a general contractor, AVL assumes responsibility for testbeds, technology and buildings. The range of services covers consultancy, technology development and concept planning, detailed planning, global procurement, component supply, building, installation, commissioning and project management. Complementary skills and close interdisciplinary cooperation between its divisions are the key to AVL's unique problem solving potential. This is illustrated, for example, by the joint development of unique methodologies and software tools to assist the increasingly complex task of calibrating electronically controlled powertrains.



ABOUT AVL COMMERCIAL POWERTRAIN SYSTEMS

The business unit Commercial Powertrain Systems within AVL has three main business areas and product groups: Powertrains for commercial vehicles (light, medium and heavy duty trucks and buses), agricultural tractors and construction equipment.

Building on its long tradition of designing and developing powertrains for the strictly regulated and competitive market for trucks and buses, AVL also provides services for non-road applications.

AVL designs and develops the complete powertrain including engines powered by Diesel or alternative fuels and all kinds of transmissions and axles to meet the requirements of the particular application, either on-road or non-road. Solutions and services for electrified powertrains are an essential part of AVL's

commercial vehicle portfolio ranging from electrified auxiliaries up to solutions for zero-emission driving.

AVL is strongly aware of and prepared for new challenges arising from future stringent emission and CO₂ reduction legislation for commercial on- and off-road vehicles. AVL's focus lies on innovative and tailored solutions for all potential upcoming scenarios. For the agricultural industry, AVL designs and develops complete vehicles and all the major components of agricultural tractors.

ICPC Sponsors:



FOR FURTHER INFORMATION PLEASE CONTACT:

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