

AVL



Program

8th AVL International Commercial Powertrain Conference

May 20th - 21st 2015, Helmut-List-Halle, Graz, Austria

Organized by AVL in cooperation with



FOREWORD



We invite you to join us at the 8th AVL International Commercial Powertrain Conference - ICPC, a platform to discuss potential synergies between truck, agricultural and construction equipment OEM's. To avoid "re-inventing the wheel", experts and managers both in OEM and supplier companies need to look over the fence, to learn from best practice examples in other areas of the powertrain industry.

Keynotes from a top management standpoint highlight the current and future situation setting the scene. Leading experts from the three powertrain industries will then tell us about the latest achievements in research and development: Fuel alternatives reducing the dependence from fossil energy sources, new drivetrains improving the operating efficiency, electronic systems exchanging data between vehicles and machines. The cost implications of the inherent increase in complexity are discussed in the closing session.

After the presentations from a truck, agricultural and construction equipment viewpoint, the joint discussions will show

potential synergies and use of technologies in other powertrain applications of the three industries. Meeting experts from other industry areas should spark new ideas which will eventually lead to new and even more innovative products. You will certainly appreciate our service to facilitate networking – apply for it at the front desk.

ICPC is organized by AVL in co-operation with SAE International. We are looking forward again to an exciting event, meeting many representatives of the leading companies of the three powertrain industries including their strong supplier base, for interesting discussions both in the conference and the social events.

Two handwritten signatures in black ink. The first signature is 'Helmut List' and the second is 'Marko Dekena'. Both are written in a cursive, professional style.

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: Helmut-List-Halle,
Waagner-Biro-Straße 98a, A-8020 Graz

Registration: In the Helmut-List-Halle on Wednesday,
May 20th, 2015

Conference Fee: € 1.450,- plus VAT,
Students € 120,- plus VAT
Free of charge for members of the press.
Fees include proceedings, 2 lunches and snacks,
social evening events.

Conference Language: English (no simultaneous translation)

Proceedings: The proceedings of the conference will be handed out to attendees both in printed version and on USB stick. Additional copies are available through the SAE global database (<http://books.sae.org>, search for AVL)

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 19th, 2015, 5:00 p.m. 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 20th, 2015, 7:00 pm
Barbecue at Seifenfabrik Graz. Shuttle bus service.

CONFERENCE PROGRAM – WEDNESDAY, MAY 20TH, 2015

8:30 am	Welcome to ICPC Dr. Marko Dekena, Executive Vice President, AVL List GmbH
8:45 am	ICPC: Joining three industries sharing the same powertrain technologies Jonathan Walker, Automotive Journalist

KEYNOTES

9:15 am	CO₂ challenges for future HD propulsion Torbjörn Holmström, Executive Vice President, Volvo Group Trucks Technology Staffan Lundgren; Volvo Group Trucks Technology
9:45 am	Coffee Break
10:15 am	The Business Scenario and Technologies for the Agricultural Market Dr. Satoshi Iida, Managing Executive Officer, Kubota Corporation
10:45 am	Off-Road Mobile Machinery Fuel Efficiency: A Total Fuel Systems Perspective Dr. M. Lou Balmer-Millar, Director of Research, Caterpillar, Inc. Eric Fluga, Randy Peterson, Caterpillar, Inc.
11:15 am	Panel Discussion
11:45 am	Lunch Break

ALTERNATIVE FUELS

1:45 pm	Efficiency potential of gas engines for commercial vehicles Dr.-Ing. Hans-Otto Herrmann, Director, Daimler AG Dr.-Ing. Marko Weirich, Dipl.-Ing. Heinz Jost Oelschlegel, Daimler AG
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2:15 pm	Alternative fuels for off-road applications Dr. Dirk Bergmann, General Manager, FPT Motorenforschung, CNH Industrial
2:45 pm	DME as alternative to Diesel for Commercial Vehicles Dr. Masaaki Kato, Chief Engineer, Denso Corporation Takamasa Yokota, Denso Corporation Jost Weber, DENSO Automotive Deutschland Denis Gill, AVL List GmbH Mitsuru Konno, Ibaraki University
3:15 pm	Discussion
3:45 pm	Coffee Break

ALTERNATIVE DRIVETRAIN

4:15 pm	Smart modularization: The key for successful e-Mobility with heavy trucks and busses Nils-Gunnar Vågstedt, Head of Hybrid System Development, Scania CV AB
4:45 pm	Electrification in farming Gerhard Stempfer, Lead Engineer Electrification, AVL List GmbH
5:15 pm	Driveline solutions for improved efficiency in Articulated Haulers Gunnar Stein, Global Director Driveline Systems, Volvo Construction Equipment Jan Dersjö, Erik Ljungars, Mikael Vesterberg, Volvo Construction Equipment
5:45 pm	Discussion
6:15 pm	End of Day 1
7:00 pm	Social Evening

CONFERENCE PROGRAM – THURSDAY, MAY 21ST, 2015

CONNECTED DRIVING

9:00 am	Auxiliaries on demand with predictive controls Lukas Walter, Vice President Commercial Powertrain Systems, AVL List GmbH
9:30 am	Constant Evolution with Precision Farming Cristiano Paim Buss, R&D Director, Stara S/A
10:00 am	Connected machinery Martin Frank, Research Engineer, Volvo Construction Equipment Germany
10:30 am	Discussion
11:00 am	Coffee Break

EFFICIENCY

11:30 am	Waste Heat Recovery on On-Highway Vehicles: from Concept to Industrialization Peter Kraehenbuehl, Leader Technology Engineering, FPT Motorenforschung AG Fabio Cococchetta - FPT, Motorenforschung AG Ivan Calaon - Iveco, Helmut Altendorfer - AVL List GmbH
12:00 pm	Efficiency of Processes and Machines in Agriculture and Construction Prof. Ludger Frerichs, Director, Institute of Mobile Machines and Commercial Vehicles, TU Braunschweig
12:30 pm	Discussion
1:00 pm	Lunch Break

COST VS. COMPLEXITY

2:30 pm	Scale, Net-scale and Skills – three competing concepts to achieve competitiveness in the CV industry Dr. Albert Neumann, Managing Director, Strategy Engineers GmbH & Co. KG
3:00 pm	Challenges of Stage 5 Kari Aaltonen, R&D Director, AGCO Power
3:30 pm	Low volumes and high complexity - How to strike the right balance Peter Oesterberg, Vice President Technology Platforms, Volvo Construction Equipment Alan Berger, Volvo Construction Equipment
4:00 pm	Discussion
4:30 pm	Farewell Dr. Marko Dekena, Executive Vice President, AVL List GmbH
4:45 pm	End of Conference



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 (Kunsthau), 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:

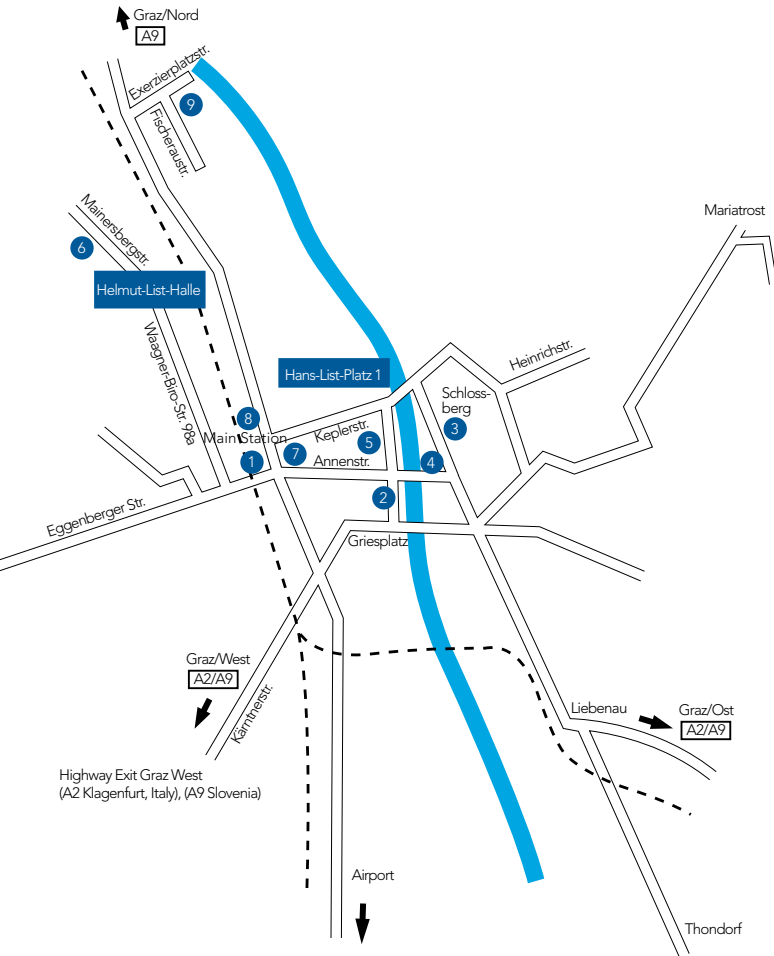
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Photos: Copyright Graz Tourismus - Hans Wiesenhofer

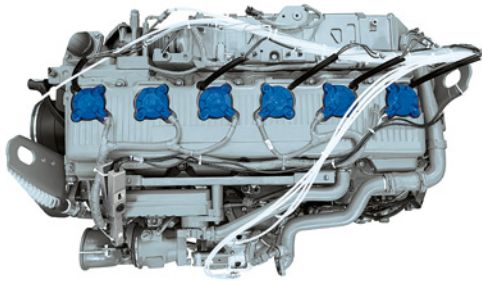
Highway Exit Graz North (A9 Salzburg, Linz, Germany)



ABOUT AVL

AVL is the world's largest privately owned and 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.

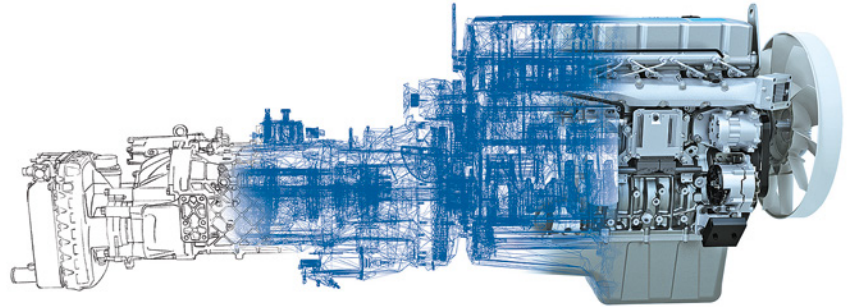
With wide-ranging production engineering experience, including the planning of engine and transmission manufacturing facilities, plus cutting edge application and reliability engineering capabilities, AVL is fully equipped to provide its customers



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.

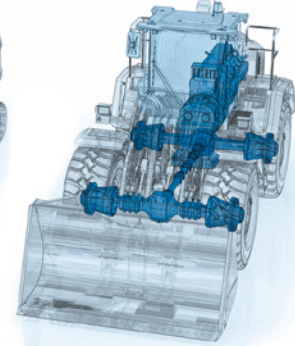
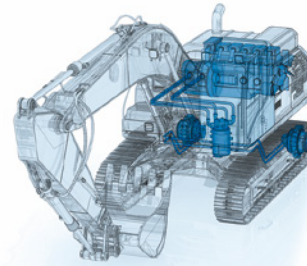
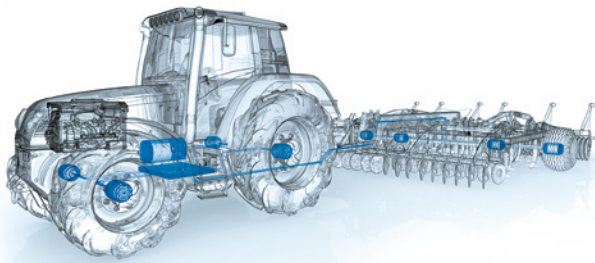
AVL provides its customers with instrumentation technology and test systems for the entire product development process right up to mass production. AVL's product range covers all test requirements for engines, drivetrains and vehicles. AVL is a manufacturer and system integrator of complete test bed 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 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 engines for the strictly regulated and competitive commercial vehicle market, AVL also satisfies the needs evolving from the challenges facing non-road powertrains as stringent exhaust emission and noise regulations are continuously tightened.

AVL designs and develops the complete powertrain including all kinds of engines, heavy duty transmissions, both manual and automated with electronic vehicle control, with splitters and range groups to match the requirements of the particular

application, whether on-road or non-road. Hybrid powertrains, already established in passenger cars, are being developed for light and medium duty trucks and buses.

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

AVL has also entered the area of factory planning, both on a standalone basis and in conjunction with development projects.



FOR FURTHER INFORMATION PLEASE CONTACT:

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