

# 4 WEEKS



Staff Magazine | October 2011

IMPRINT: Publisher and proprietor: AVL List GMBH, Hans-List-Platz 1, A-8020 Graz, tel. 0043-316-787-0. Editorial, layout & production: Scoop next level marketing.



**Richard  
Tamba**

› p. 8

## International

AVL Technology Leader at  
Testing Expo China

› p. 3

## Outside

AVL and Cummins Tread  
New Paths Together

› p. 5

## Affiliates

From Turin to Mongolia  
by Motorcycle

› p. 8

## It's All About Powertrain Diversity

FORWARD-LOOKING CONCEPTS and lively discussions at the Engine & Environment conference.



The lectures given at the 23<sup>rd</sup> AVL Conference “Engine & Environment” were as diverse as they were interesting with this year’s central theme being “Powertrain Diversity”. The prevailing opinion among the experts attending the event was that the range of different drive systems would continue to grow even further. With intelligent and forward-looking concepts, however, it would indeed be possible to master the entailed challenge. One of the conference highlights was the panel discussion (photo) in which the expert audience took an active part.

›Page 2

## Alpbach: Research is Fun

Junior Alpbach and the Ö1 Kinderuni (“kid’s university”, a program broadcast on radio station Ö1) have already become firm fixtures of the Alpbach Technology Forum; the event uses fascinating experiments to give children and youths a clearer understanding of scientific topics. This year, youths eager to learn more were able to explore the ele-



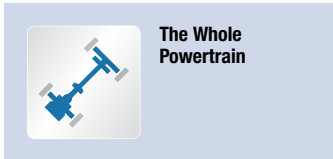
Children and youths were keen to explore the element of water.

ment of water and had the opportunity to discuss scientific matters with Nobel Prize winners such as Jean-Marie Lehn and Kurt Wüthrich. Kathryn List, EFA Vice President and Initiator of Junior Alpbach, was deeply impressed by the children’s scientific curiosity. □

The next issue of 4WEEKS  
is due out on 31 Oct. 2011

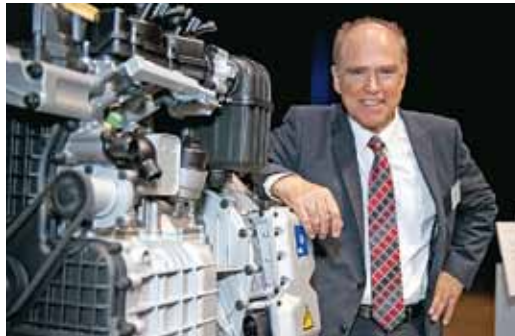
# Engine & Environment: Focus on Powertrain Diversity

**WITH MORE THAN 300 PARTICIPANTS FROM 20 COUNTRIES** this year's 23<sup>rd</sup> AVL Conference "Engine & Environment" was once again a great success.



“Mastering Powertrain Diversity” was the title of this year’s international AVL conference held in Graz. More than 300 experts from 20 countries took the opportunity to learn about the topic in as many as 18 presentations and take part in the discussions.

The conference’s main theme was the question whether and how it would be possible to cope with the ever-increasing range of technology concepts and models while keeping cost and effort at reasonable levels. The automotive industry’s intensive search for new powertrain concepts low in consumption and emissions is not being made any easier by the ever stricter regulatory conditions and the growing cost pressure. In the course of the lectures, the international experts presented a large number of innovative solution approaches. PSA Peugeot Citroën, for example, presented the market launch of the world’s first diesel hybrid that also offers all-wheel drive comfort with its electric rear axle. The presentations given by Chery Automobile and Tata Motors gave a fascinating insight into the development of the Chinese and Indian car market. There was also lively discussion on the topic of electromobility: Audi, for example, presented its e-gas project, with which it will



Top left: CEO Helmut List with the new modular AVL e-Fusion powertrain system. Bottom left: Presentation of the latest developments and e-vehicles. Featured: Audi A1 e-tron with range extender. On the right: Christian Chapelle, Vice President Powertrain & Chassis Engineering PSA, presents the low-CO<sub>2</sub> vehicle strategy of Peugeot-Citroen.



be participating in offshore wind turbines to generate renewable energy.

AVL’s presentation of its new e-Fusion drive concept met with great enthusiasm among the expert audience. Helfried Sorger, Executive Chief Engineer Design, Simulation and Mechanical Development, presented a fascinating, animated computer sequence that demonstrated the seamlessly integrated modular construction of the e-Fusion drive and the diverse configuration options it offers. On the second conference day, another paper was dedicated to the e-Fusion transmission with 7-gear dual clutch.

Franz Lückler, the new CEO of the Styrian automotive cluster, pointed out how important all the new powertrain solutions presented at the conference were for the entire automotive supplier industry in Styria: “The innovative solutions presented by experts from all over the world provide key orientation to all of Styria’s automotive industry suppliers represented by ACstyria.”

In his closing statement, Robert Fischer, CEO of Engineering und Technik Antriebsysteme, said that the conference was the perfect venue for sharing ideas and international networking. Finally, the head of the conference expressed his thanks to all participants and those who were involved in the perfect organization of the 23<sup>rd</sup> “Engine & Environment” conference. □

## Quotation

“The powertrain diversity is expected to continue to grow in the future.”

CEO Helmut List

# AVL Technology Leader at the Testing Expo 2011

**WIDE-RANGING EXPERTISE** in all current topics was exhibited by AVL at this year's Automotive Testing Expo in Shanghai.



**Customer Orientation & Efficiency**

Our “mixed” team of Chinese and Styrian employees at this year's Expo (Sep. 14-16) experienced a high number of exhibitors (178) with 40 companies taking part for the first time. Besides the local companies, all of AVL's major competitors were also represented. The exhibition at the Shanghai Everbright Convention & Exhibition Center took place against the backdrop of China's continued economic boom which has also given a powerful boost to the automotive industry.

The topics AVL showcased this year were once again bull's eye: The AVL booth presented to visitors its strong expertise in the current topics of battery development, vehicle electrification and the related testing. At the same time, AVL displayed the latest indicating and consumption measurement equipment. With the seven products belonging to the AVL COMPACT™ line, which had their premiere in the Chinese market, ITS has complemented its product spectrum by adding technologies for basic applications for combustion engine testing: Besides the COMPACT™ test bed automation system, the now complete consumption measurement engineering series (measuring system, conditioning unit and chiller), the



AVL's state-of-the-art exhibition booth displaying new developments in all of the current fields turned out to be a genuine crowd puller.

new COMPACT™ blow-by system and the COMPACT™ versions of SANTORIN and CRETA were introduced to an interested audience. Chinese customers are finally also able to accomplish their basic testing tasks with reduced effort, high reproducibility and precision using robust, cost-efficient AVL solutions in the usual high quality.

Worth particular mention were the two very well attended AVL seminars on the topics: “AVL Integrated

Testing Solutions for Powertrain Electrification” and “AVL COMPACT™-Line”, “Facility Engineering” and “Customer Service”, each of which lasted two and a half hours and provided around 100 attendees with detailed information on AVL's products and services. Comparing AVL's seminars with others conducted by its competitors demonstrated strikingly the competitive edge AVL has over its rivals when it comes to concrete solutions being successfully implemented in practice.



The AVL seminars were very popular with experts of the trade and demonstrated AVL's technological lead. Pictured here: the well attended AVL COMPACT™ seminar.

## Brazil Sends Strong Signal



**Global Execution and Support**

On the initiative of AVL, the “1st Brazil Virtual Powertrain Conference” recently took place in Sao Paulo, on August 24-25. 130 participants, among them decision-makers from Mahle, Volvo, Petrobras, MWM, GM and others, made sure that the conference was a great success. They benefited from an outstandingly appealing program with international and Brazilian



Gotthard Rainer and Georg Steiner with Dr. Tadeu Cavalcante Cordeiro de Melo, Petrobras

lecturers who delivered a detailed presentation of the current state of simulation applications in Brazil. Talks with existing and prospective AVL customers showed that Brazil offers some great opportunities for AVL. Georg Steiner from AVL SA: “The conference offered some superb opportunities to expand networks, make new contacts and meet existing customers to discuss their development processes and the related challenges and build a connection to the ITS products.” For more information on this conference series (Pune on October 19/20, Shanghai on March 7/8 2012), please visit [www.virtualpowertrain.org](http://www.virtualpowertrain.org). □



## AVL DriCon – Exact Reproducibility of Test Procedures and Drive Maneuvers



Integrated and Open Development Platform

Displaying reproducible test procedures is one of the major challenges when it comes to processing development tasks in the vehicle. The critical factor in this respect is the human being who, being the driver, adds variability to the process, which complicates the assessment of results as well as the objective interpretation of the development process considerably. AVL DriCon solves this problem – testing procedures and predefined drive maneuvers are able to be run with precise



Rainer Vögl, FTL Vehicle Testing and PM DriCon: “As a result of the successful demo projects carried out by PTE, we’ve already received the first customer orders.”

reproducibility. The benefit of employing DriCon compared to mechanical robot systems is that instead of moving the accelerator pedal the vehicle is controlled directly by providing the electrical signals in relation to load requirements. In the case of automatic transmission systems, it is also possible to have selected gears. Intervention is performed deliberately by physical sensor simulation and not by

writing directly to the ECU. This is crucial to ensure flexible application throughout all development stages – from the prototype all the way to the series-production vehicle. The procedure additionally ensures that all the necessary safety standards are met in applications with different kinds of environments (test track, chassis dyno). Alongside increased reproducibility, emphasis is also placed on improved efficiency in the development process. DriCon makes processing driveability evaluations using AVL Drive much more efficient and forms a core component in the ACT tool chain (Automated Calibration for Transmission), which reduces time

and effort for transmission calibration by up to 25 percent. There are already signs of market success; Rainer Vögl, FTL Vehicle Testing and PM DriCon: “As a result of the successful demo projects carried out by PTE, the first customer orders of DriCon systems have already arrived. In the context of PIKT, the pooling of core expertise between ITS and PTE has proved highly productive. The employed hardware components, for example, come from AVL MOVE and, with regard to software, the AVL real-time platform Cobra ensures that the DriCon algorithms are sent to other AVL software platforms in the best way possible.”

## Switching to SharePoint



Customer Orientation & Efficiency

In the course of changing over to Office 2010 on all AVL terminals, AVL Desktop ([desktop.avl.com](http://desktop.avl.com)) will be upgraded to SharePoint 2010 to ensure best possible compatibility between all the employed tools. As a particular advantage, its seamless integration in Office 2010 offers a high degree of consistency in work processes involving document creation and in relation to data and information management.

Using SharePoint 2010 now gives employees added

and enhanced possibilities to cooperate and share their knowledge. Information is managed very efficiently in a so-called “life cycle”, in other words, from the moment they are created to their revision (with version control) and archiving. SharePoint 2010 furthermore offers a multitude of new usability enhancing features. Its Social Media features (e.g. “following”, “tagging”, “rating”) can also be used for a wide range of applications at AVL.

For all the latest details about the release change, please see the SharePoint information page on the AVL Desktop: [desktop.avl.com/sps2010](http://desktop.avl.com/sps2010). □

## Staff Suggestions

Kurt Klumaier, Expert Team DGS, set his sights on the accelerator pedal for this month’s staff suggestion: By producing a variably adjustable stop for the vehicle’s accelerator pedal, it becomes possible to simulate defined load reversals and accelerator pedal values during driveability applications in a manner which is both reproducible and accurate. This way, grid points can be driven with great precision and the accelerator pedal values are prevented from being readjusted by mistake during the measurement. This raises the quality of driving behavior applications and leads to significant time savings thanks to reduced incorrect measurements. These pedal



Kurt Klumaier submitted the staff suggestion for the month October.

stops can also be employed in driveability assessments with AVL Drive and in transmission applications (reaching the exact gear shift points and starting from rest with a defined accelerator pedal). The accelerator pedal stops have already been employed in customer projects at German and Japanese premium manufacturers. Savings per year amount to EUR 10,000; Kurt Klumaier will be awarded a bonus of EUR 1,005.

# R&D Tech Center for Cummins in Pune

**IN A NEW TECH CENTER IN INDIA** Cummins and AVL tread new paths together.



Global Execution and Support

Over the next three years, Cummins, the world's largest producer of diesel engines, will be investing 350 million US dollars in India – to be more precise, in the area of Pune. Cummins India (CTIL) is all set to build a totally new tech center at its current location in Pune. After concentrating on the independent development of the individual business units (BU) over the last decades, Cummins is now taking entirely new paths within the Group:

For the very first time in the over 90-year-old company's history, Cummins is combining the engineering groups of the four business units – Engine Business, Components, Power Generation and Distribution – under a single roof. By taking this approach, Cummins is pursuing a crucial innovative strategy.

## New development process

To be able to achieve the goal, John Wall, CTO of Cummins Inc., contracted AVL to redesign the development process together with Cummins. This novel situation involves the implementation of a wide-ranging “efficiency project” together

with Cummins, which, for the first time, will bring together AST, ITS and PTE experts in a single team to meet the needs at the new tech center in Pune. This project has taken the partnership between Cummins and AVL to a new level. Given the hard work accomplished by the global AVL Cummins account team, AVL has now become “full facilitator” for Cummins and has achieved level 4 of the account management embedding process. On top of that, the project has led to a further strengthening of the cooperation between AVL and Cummins. □

## Global BU-M Meeting



Global Execution and Support

This time, the BU-M Management Board got together in southern Styria to get ready for the end of the year and the beginning of a new one. Intensive discussions were held on the planned product portfolio, while marketing and sales activity measures were coordinated. All participants agreed that next year's chal-



S. Roeck presents his 2012 US strategy to the BU-M Management Board.

# Global Service Program

**THINK GLOBAL, ACT LOCAL** is the motto of UMICORE and AVL.



Global Execution and Support

The highest level of quality, this and no less, is what UMICORE, a leading manufacturer of catalysts, is committed to providing, not only when it comes to its own services and products but also to those of its suppliers. As a result, the reliability of the AVL emissions measuring equipment must satisfy the highest possible requirements in development centers around the globe. To this end, a global



UMICORE employee with AVL emission measuring equipment

service program is being implemented between the two companies that covers all aspects involved in ensuring system availability as well as staff training aided

by Web-based training. The coordination of cooperative talks at a global level and the involvement of the local teams are crucial to the project's success. □

lenge would be to stabilize the ITS equipment and SW tool business at a high level – after all, sales over the last 20 years increased by almost 50 percent. The emerging markets in China, India and South America have contributed to this growth just as much as the established markets in Europe and the US have. In their speech, Kai Voigt and Michael Blickle pointed out how important it was for AVL to think globally and reduce complexity. The global BU-M meeting ended with a dinner with CEO Helmut List during which discussions revolved around the competition situation. After three intensive days, BU-M Manager Michael Mühlögger concluded: “Our team is optimally prepared for the challenges of 2012.” □

## Safety First at AVL Germany

In the course of customer requirements, the ISO 27001 certificate (ISMS – Information Security Management System) was added to the ISO 9001 quality management system currently already in place at AVL Germany. Due to the demands customers placed on the PTE area relating to information protection in development, ISMS according to ISO 27001, which was introduced at AVL Graz last year, was extended to AVL Germany which is now the first affiliate to be certified to this standard. Gerhard Haß, the ISMS Manager in charge at AVL Germany, told 4WEEKS: “The most important thing is to make all employees aware of information security and to make sure that each one of us supports

the entire management system. Very soon, the existing training measures on how to handle sensitive information will be extended, and existing processes along with data protection measures will be reviewed and, where required, improved. This not only promotes security in our own company but also gives our customers confidence in AVL’s way of handling their specific and highly confidential information.”

The road to certification was a challenge because the standards are very high. Thanks to the efforts of all the staff involved and the support given by the colleagues from Graz, the task was able to be implemented successfully in the shortest of time. □

## New AVL Management Development Program

The Management Development Program “MDP Advanced” is scheduled to start in November 2011. In several respects, the program is intended as a contribution to the implementation of strategic AVL goals. 24 participants from ten countries and all divisions will be strengthening the global AVL network through intensive collaborative efforts. By taking part in a selection of courses covering subjects from an MBA of the Open University of London, participants will be provided with the theoretical background. Alongside these courses on Leadership, Finance, Customer Relations Management and others, workshops, conducted by our consultant of many years, Reg Butterfield, will be held to work out how these topics relate to AVL. The Business

Management will control the program’s thematic orientation by defining AVL-specific projects. Furthermore, by the wide-ranging employment of e-learning instruments such as distance-learning using Web tutorials, e-books on iPad and the provision of professional training portals another of the AVL management’s strategy objectives will be implemented.

Stephan M. Baron and Bernhard Posch from Human Resources who devised the program together with Mr Butterfield regard the AVL MDP Advanced Program with all its elements as utterly unique and know of no other major company that has a program which is even remotely as ambitious as AVL in combining theoretic and practical components in a modern learning environment. □

## Starting out in Working Life

**THIRD-YEAR APPRENTICES AGAIN SUPPORT NEWCOMERS** to help them settle in smoothly.



These new apprentices started their training at AVL on September 1.

Once again, on September 1, 27 new apprentices (four of which have joined Piezocryst), 12 commercial and another 15 apprentices in the trades met-

al, electrical and automotive engineering started their vocational training at AVL. After receiving the usual initial introduction on Newcomer Day and being

welcomed by the respective vocational training representatives, the apprentices were once again each allotted a personal coach (an experienced third-year ap-

prentice) to assist and advise them through their entire introductory phase as part of the integration program “Apprentices coach apprentices” (LcL).

At a two-day workshop, the first- and third-year apprentices had a chance to get to know each other better while they fulfilled specific tasks revolving mainly around topics such as personality and communication. Christoph Urthaler, Apprentice Training: “Our goal is to introduce newcomers into all company processes as fast as we can and make their start into working life as smooth as possible.”

Currently the AVL-Piezocryst training network has 94 apprentices receiving training (82 AVL List GmbH, 12 Piezocryst), of which 34 are in commercial trades and 60 in technical trades. □

## India Shows Interest

This year's ITS M seminar on "Direct Injection – from Gasoline LD to Diesel HD Vehicle", which took place at three locations – Chennai, Pune and Delhi – met with great interest. In the presence of 300 participants, all of AVL's expertise, from PTE development trends to ITS product solution applications, was presented and discussed in detail with the Indian expert audience. Mukul Ghanekar, CTO of AVL India, summed it up like this: "India is clearly in the fast lane when it comes to drive and vehicle development – the enthusiasm this event is generating makes this very clear." □



Mr Muralitharan, Director Powertrain Engineering at Ashok Leyland, talking to Rudolf Gande (PTE, on the left) and Michael Mühlögger (ITS, on the right).

## October

### WHAT'S ON?

#### International

- ▶ **SAE Brazil**  
Oct. 4-6, 2011
- ▶ **16th Asia Pacific Automotive Engineering Conference, Chennai**  
Oct. 6-8, 2011
- ▶ **Aachen Colloquium**  
Oct. 10-12, 2011
- ▶ **eCarTec Munich**  
Oct. 18-19, 2011
- ▶ **VPC India, Pune**  
Oct. 19-20, 2011
- ▶ **Automobilforum Graz**  
Oct. 20-21, 2011
- ▶ **Testing Expo North America, Novi, Michigan**  
Oct. 25-27, 2011

## Combining Job and Passion

**AFTER CROSSING AMERICA FROM NORTH TO SOUTH IN 2010** the destination Gianni Reinaudo chose this year was Ulan Bator in Mongolia.



On the road: Gianni Reinaudo and his Moto Guzzi Stelvio complete with AVL measuring equipment.

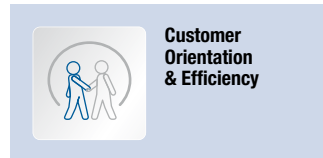
From the top of Alaska all the way to the southernmost tip of the American continent – this was the route motorcyclist Gianni Reinado, Affiliate Business Manager for BU M at AVL Italy, chose for his holiday in 2010. Reinado: "When I told a Piaggio employee – Piaggio is a customer of AVL – what I wanted to do,

he said: "You're going to do this trip on one of our motorcycles, a Moto Guzzi Stelvio." Also having been told about the passionate biker's plans, his boss at AVL Italy said that he had better take AVL testing equipment with him. After that, the Moto Guzzi was taken to Graz where it was also equipped with IndiMicro and the PLU

consumption measurement device, so that data could be recorded all along the route. You can read more about this America trip in the Travel Diary at [www.avl.com/roadtest](http://www.avl.com/roadtest). Gianni Reinaudo chose a very special destination for this year's motorcycle expedition too: Ulan Bator in Mongolia. From his home town Turin, the route took him more than 20,000 km across Russia and Siberia all the way to Mongolia. Frequently under most challenging conditions, he eventually reached his destination. Once again, with a Piaggio motorcycle equipped with AVL measuring devices. "It's a combination that has simply proven its worth!" Reinaudo said after returning home safely from his journey. □

## eSpares Order for GM

**AVL SERVICE PORTFOLIO** completed for Rüsselsheim.



Customer  
Orientation  
& Efficiency

Recently concluded eSpares and HW CARE contract closes the last gaps in Services at GM Rüsselsheim. Apart from that, various service level agreements, SW CARE, operating and application support are already well established at the GM locations Turin and Rüsselsheim. In particular, the agreement concluded with GM Europe specifying that the Rüsselsheim location will in future be placing its orders straight from the AVL eSpares™ Webshop was only

possible thanks to intensive customer negotiations and flexibility on the part of GCS. This assignment, along with the positive feedback from GM Rüsselsheim, supports the goal of extending the service business to include the other European GM locations that are currently still under construction. Jörg Müller (TSS Service Germany), Christofer Krausgrill (RBM Service Europe) and Stefan Petritsch (GSM Service Graz) pointed out the "excellent collaboration between affiliates as well as Sales and Service divisions which is essential to success." The service business with GM Europe has increased continuously since 2009. In 2010 the so far highest service volume was achieved. □

## Entrepreneur of the Year



Richard Tamba at the Engineering Excellence Awards Ceremony in Sydney.

Richard Tamba, Senior Vice President for Passenger Car Transmissions at AVL and Founder of the AVL affiliate NTC Powertrain, recently received the Entrepreneur of the Year Award from the Sydney Division of Engineers Australia. He was recognized for the starting of a small Australian-based Engineering Business which grew in the international market with offices in the UK and USA and for promoting engineering at all levels from schools to universities. □