FISITA World Automotive Summit provides fascinating insights into the future of personal mobility

FISITA’s third annual World Automotive Summit took place in Mainz, Germany from 17–18 November, and brought leaders from the automotive industry together with influential players from governments, NGOs and academia to ask:

*How can we shape personal mobility for the megacity?*

Eva Molnar, Transport Director of the UN Economic Commission for Europe, told participants that the Commission sees ITS technologies as key to keeping Europe’s cities moving. She argued that there were hard and fast limits to ‘transportation growth in the old way’, and urged automotive manufacturers to work more closely with policymakers to overcome the current financial and regulatory barriers to widespread ITS deployment and to establish international standards.

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Urban mobility expert, Prof. Jeff Kenworthy, gave an enlightening presentation on his work on global megacity cluster analysis, with important insights and recommendations for urban planners as well as the automotive industry.

‘We appear to be at the beginning of the recession that will lead into the new long wave business cycle. Mobility in megacities will need to adapt to the sustainability basis of this new long wave business cycle. The traditional car industry will do best by adapting its business model to support and to be a major player in this larger transition to ecologically regenerative megacities.

This will mean finding new business niches and new ideas that help megacities manage their mobility needs using a combination of advanced forms of new cars, (increasingly collectively deployed and managed), advanced public transport systems and superb conditions for walking, cycling, as well as new forms of bicycle mobility … overall: much cleverer, cleaner and more comfortable mobility systems’.}

FISITA World Automotive Summit provides fascinating insights into the future of personal mobility

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Videos and presentations are available at www.fisita-summit.com
FISITA Joins United Nations Road Safety Collaboration

Established in 2004, the UNRSC acts as coordinator on road safety issues across the United Nations system and holds biannual meetings to discuss global road safety issues.

The UNRSC is the coordinating body for the UN’s Decade of Action for Road Safety, launched in April this year. Members include national governments, intergovernmental organisations including the development banks, and NGOs concerned with promoting road safety and improving roads and infrastructure.

Speaking at the meeting, FISITA Chief Executive, Ian Dickie, said: ‘We believe we can make a useful contribution to supporting the more detailed planning and execution of the Decade of Action, specifically the Safer Vehicles pillar.

And by becoming involved in the UNRSC, we can help to raise the consciousness of engineers and executives concerning the true picture with respect to road safety, especially in low income countries. The challenges around infrastructure development, capacity building, behavioural change – all this work needs to be better understood and appreciated by the men and women whose job is the creation of safer vehicles.’

KSAE to host leading international conference on vehicle control


AVEC is a biennial meeting aimed at promoting and sharing the latest innovations in the field of automotive control. The theme of AVEC ’12 will be ‘Convergence of the Humanities, Vehicle Control, and Information Technology’. Along with the conference, an exhibition will be held for the first time with invited auto companies demonstrating their state-of-the-art IT-convergence technologies and products.

Extended abstracts on any aspect of advanced vehicle control technologies are invited until the deadline of 15 January 2012.

**AVEC ‘12 key dates**

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Find out more at: [http://avec12.ksae.org](http://avec12.ksae.org)
The Romanian University of Pitesti hosted their 10th International Automotive Congress in November. The congress lasted for 3 days and over 129 technical papers were presented in 25 technical sessions. The Congress attracted some 280 delegates including 46 from overseas. The final day featured 5 special seminars and a student forum.

One of these seminars focussed on the effective education of automotive graduates and explored ways of increasing international collaboration between industry, governments and academia. It was chaired by Prof. John Fieldhouse, formerly of the University of Huddersfield and contributors included Radu Mavrodin, Head of Human Resources – Renault Romania, Prof. Fieldhouse himself and a joint presentation from Adrian Clenci, Associate Professor and Head of Automotive and Transport Department, and Viorel Nicolae, Dean of the Faculty of Mechanics and Technology from the University of Pitesti.

The academic delegates were unanimous in expressing their desire for greater industrial participation and guidance in the development of automotive engineering courses, course content and the use of industrial standard hardware. The apparent lack of communication between governments and industry in providing guidance for educational institutions was a cause for concern and frustration amongst academics. The Government Agency for Education Standards explained their role in the education process and maintained that Government had responsibility for setting standards - but there appeared to be little consultation with industry regarding future needs and the current approach lacked a global perspective.

Radu Mavrodin’s response was reassuring and his description of Renault’s positive contribution to the Romanian automotive industry and its people over the last 12 years reflected his understanding of the problems. He explained that Renault contributes to the Romanian economy through its EUR 2.7 billion in exports, has direct responsibility for 17,600 employees, and purchases EUR 1.3 billion worth of components and services from a network of 800 suppliers which in turn employs a further 130,000 employees. In addition, he said that Renault had invested in 5 million hours of training over the same period to increase employee competencies and had employed over 1,650 engineers over the last 4 years. He observed that the new recruits required an investment of around 550 hours per person in training to make them autonomous.

The academics expressed a strong desire for industry to be more prescriptive when specifying their educational needs and made the point that young engineers need to be exposed to ‘hands-on’ activities. It was suggested that industry should endeavour to supply material ‘surplus to requirements’ to academic institutions for teaching and learning purposes although it was appreciated that in the present economic climate such contributions could be difficult. Increased collaboration through research was also desirable, but lack of hardware often hindered this cooperation. Radu responded well to the suggestion that there needed to be a change in the ‘mindset’ of both industry and academia towards research/teaching collaboration, with research facilities being progressively based in universities. He said he would consult with colleagues regarding the viability of such proposals. There was overwhelming agreement that there was a great need for graduates to have increased exposure to industry – initially through internships, later through the use of realistic in-house research/teaching facilities and finally through increased research collaboration and knowledge transfer.

The desires were very clear but there was no apparent connection between the three main players – industry, government and academia. The consensus was to continue dialogue with all involved, to work towards the shared objectives expressed, and to expand these to include an international perspective.
The SAE 2012 World Congress theme, ‘Get Connected’, represents the new and diverse connections that will drive significant advancements in the auto industry of tomorrow.

Taking place from 24–26 April in Detroit, Michigan, the Congress will give delegates the opportunity to explore new automotive technology through both technical sessions and the Innovators Only Exhibition. This year’s theme symbolises literal connections, such as those between vehicles, infrastructure, the Internet, and the nation’s electrical grid, and also demonstrates the most fundamental of connections; the connections and relationships between engineers who are developing the next generation vehicle technology.

For more information visit: http://www.sae.org/congress/

When did you first become interested in automotive engineering?
First of all I was interested in automobiles. Not the speed or the appearance of an automobile, but for me it was interesting to understand how it worked! When I graduated from school I decided to study engineering. Now I am interested in automatic systems that help to prevent collisions.

What ambitions do you have for LAIS?
Science and industry in Lithuania work quite separately. My colleagues and I in LAIS are trying to find common points for science and industry to work together. I hope that this will lead to better opportunities and will be more interesting for young people so they will choose engineering as their profession.

What is the most important challenge faced by LAIS?
The LAIS needs to co-operate more with other organisations to benefit the entire transport system.

What do you like about working in Lithuania?
Lithuania is a small country and if you are working in an area for some time then you know quite well the different companies that are working in that same area. So it is interesting to track the challenges which the companies are facing and how they are solving them. To watch how companies are growing.

What do you do when you are not working at LAIS?
If I am not working at LAIS then I am working at my university. And if I am not working then I enjoy reading books, going on walking trips or sailing kayaks in Lithuania’s rivers. In general I like to spend time in nature and I also enjoy nature photography.

If you could drive any car in the world, what would it be?
Not a big or powerful car. It should meet my needs and be safe for all road users.
On 11 March 2011 Japan was rocked by a major earthquake and tsunami that struck the north-east of the country. Although the nation’s automotive businesses made a tremendous recovery from the challenges of the disaster, many people in the devastated areas who lost their families, houses, and jobs are still forced to live in suffering and hardship.

JSAE decided to send a team from its highly successful Kids Engineer programme, consisting of volunteers from several automotive-related companies to the affected areas in order to cheer up the school kids. From September to November 2011, with support from the local communities and schools, the team visited 3 areas where a total of 280 kids from 12 schools enjoyed the Kids Engineer’s hands-on object creation experience programmes.

The team was made up of volunteers from Aisin Seiki, Calsonic Kansei, Honda, HORIBA, Jatco, Mitsubishi Motors, Nissan, SolidWorks, Toyota, and Yamaha.

Recognising commitment to FISITA
Nominate a colleague today!

Now is the time to nominate a fellow FISITA member for the 2012 FISITA Recognition of Service Awards.

The award recognises individuals who have made an outstanding contribution towards FISITA’s work and the advancement of its goals. Nominations can be made by any member of a FISITA Society.

The deadline for the receipt of your nominations is 1 February 2012.

Further information, including nomination forms and a list of past recipients, can be found in the Members Area at: www.fisita.com/membership/membersarea

or by contacting Kelly Williams:
Tel: +44 (0) 20 7299 6631
email: k.williams@fisita.com
E-VECTOORC
– an exciting new project in electromobility

Dr. Valentin Ivanov, DSc PhD MechEng
Ilmenau University of Technology

A number of industrial and research organisations, working actively in FISITA Member Societies, have joined their knowledge and efforts to start a new project within the framework of the European Green Cars Initiative.

The project E-VECTOORC (Electric-Vehicle Control of Individual Wheel Torque for On- and Off-Road Conditions) aims to develop and integrate a number of automotive control systems such as Anti-lock Braking Control, Torque Vectoring, Electronic Stability Program, and Advanced Driver Assistance for fully electric vehicles with individually-controlled in-board motor drives at each wheel. The technical content addresses a wide range of electromobility concepts, from small city cars to sport utility vehicles.

The kernel of the experimental activities will be a highly versatile vehicle demonstrator that can represent drivetrain architectures with 2, 3 or 4 electric motors. Being a public-private partnership project, E-VECTOORC will develop a number of technologies for electric vehicle control systems ready for immediate industrial implementation after the project conclusion.

The E-VECTOORC consortium represents several FISITA member countries: UK (University of Surrey, Jaguar Cars, Land Rover), Germany (Ilmenau University of Technology, TRW Automotive Lucas Varity), Belgium (Flanders’ Drive, Inverto), Spain (Fundacion CIDAUT, Aragon Technology Centre), Czech Republic (Škoda Auto) and Austria (Virtual Vehicle Competence Centre). It is expected that intermediate and final results of this project will be presented on a number of coming events under the patronage of FISITA.

More information: www.e-vectoorc.eu

Yunirabu (UniLab)

Yunirabu (a name coined from University and Laboratory) is a unique elementary school science experiment sponsored by the Institute for Science and Engineering at Waseda University, Japan.

Held for the first time in 1988 and now organised annually, the programme aims to raise children’s awareness of elementary science and technology, whilst also exposing them to the ideas of university study and the wider college community. Initially the Yunirabu concentrated on school children in the university’s immediate neighbourhood of Shinjuku, but today it has grown to a much larger scale event with 20,000 participants from all over Japan. The programme is an excellent example of how universities can play a role in planting the seeds of enthusiasm for careers in science and technology.

For more information visit: http://www.f.waseda.jp/jin.kusaka/index.html
STA conference focusses on efficient lightweight structures

New and lighter materials are becoming a matter of great importance as the automotive industry responds to society’s demands for ever more green mobility.

In order to achieve this, engineers are developing and implementing new solutions, materials and technologies aimed at lightening vehicles while keeping up safety requirements.

STA is going to hold a new conference Efficient Lightweight Structure Solutions in Barcelona from the 31 January to 1 February 2012, in order to focus on all these interesting developments with expert engineers specializing in the field.

AEA creates new Young Automotive Engineer Award

The Brazilian Automotive Engineering Association, Associação Brasileira de Engenharia Automotiva (AEA) has launched a new award called ‘AEA Award for the Young Automotive Engineer’.

The announcement was made during the last SIMEA – International Automotive Engineering Symposium which took place from 21–22 September 2011, in Sao Paulo, Brazil. The objective of the award is to motivate engineering students to choose the automotive sector for their career and in so doing, to eventually address the strong demand for professional engineers within the Brazilian automotive industry.

In the first year, the award will be open to engineers graduating in 2011 from 9 different universities and faculties from the São Paulo State. The plan is to then gradually extend the award to engineering schools throughout Brazil.

The selection criteria will take into account the student’s grades and their graduation project, which must be related to automotive technology. Each participating school can propose up to 3 candidates. Coordination of the award is the responsibility of two AEA Directors: Ronaldo Salvagni (Professor at Polytechnic School of Engineering – University of São Paulo) and Marcos Clemente (MAHLE Metal Leve).

The winning student from each school will receive free participation in the events and courses promoted by AEA throughout 2012. The award organisation committee, in partnership with award sponsors, is also considering supporting the winners to participate in international automotive events during 2012 as part of the prize.

More information:
www.aea.org.br

Prof. David Crolla

It is with great sadness that FISITA announces the death of its former Vice President, Prof. Dave Crolla who died suddenly on 4 September.

He is survived by his wife, Stephanie and daughters Rachel and Rebecca and will be greatly missed by colleagues and friends throughout the world.
FISITA has issued the programme for a major new conference on braking technologies to be held for the first time in Dresden, Germany from 16–18 April next year.

Following an overwhelming response to the call for papers earlier this year, EuroBrake 2012 will feature more than 110 technical presentations from specialists working in industry and universities. Sessions include Brake System Design, Mechatronics, Friction Materials, Advanced Rotor Technologies, Interface Dynamics, NVH, Thermodynamics, Recuperation and Energy Saving to name but a few.

The accompanying exhibition brings together 40 of the world’s top suppliers of components, materials, testing, measurement and consulting services to the braking industry.

FISITA Chief Executive, Ian Dickie said, ‘we are delighted with the response from industry to EuroBrake so far. Engineers working in this area face a variety of challenges around utilisation of new materials, environmental concerns, weight reduction of braking components and in particular demand for complex systems integration in future hybrid and EV applications. We want to make EuroBrake a focussed and stimulating meeting where these and other issues can be discussed and greater global cooperation can be realised.’

EuroBrake 2012 is sponsored by industry leaders:

- Continental AG
- ANSYS
- Honeywell
- Link Engineering
- STAC
- Teijin
- Trelleborg

The deadline for submitting your abstract to the FISITA 2012 World Automotive Congress has been extended until 31 December to give you more time to prepare your submission.

More than 700 experts worldwide have already submitted abstracts. Don’t miss out on the chance to present YOUR latest technical achievements to the most global conference in the automotive world.

Log on to the web site and upload your abstract today!
www.fisita2012.com
By John Lowe  
FISITA Education Committee

Readers of InsideTrack will have learned about a range of much-loved historic cars belonging to FISITA members around the world through the regular I love my car feature. And ever more are being found and rescued. Early vehicles attract great interest and can encourage recognition of the advances for today’s and tomorrow’s automotive technologies. This awareness can inspire young people towards careers in Science, Technology, Engineering and Mathematics (STEM). FISITA’s efforts to encourage young people and foster STEM careers start with exploiting the natural interest young people have in the technological world around them. Historic vehicles certainly play their part in this.

But rebuilding and maintaining ‘heritage engineering’, especially historic vehicles, is no easy option. Costs are far higher than today’s vehicles, despite helpful tax regimes in some countries. For many, replacement parts are hard to come by. More importantly, the professional skills needed to produce or restore replacement parts or to carry out routine maintenance are in short supply.

A recent survey by the UK-based Federation of British Historic Vehicle Clubs (FBHVC) found that, whilst its specialist make member organisations did not report critical concerns about current skills levels, individuals within those bodies saw things differently. Typically, owners carried out a great deal of the work themselves – partly driven by a lack of affordable professional help. Many specialist restoration and maintenance companies reported that they were able to hire skilled professionals but their workforces were ageing alarmingly. What emerges is that an acute shortage of technologically skilled professionals lies just a few years ahead. Although the situation varies widely internationally, it is most acute in the advanced economies of those countries which have a history of automotive industry – an almost exact line-up with FISITA membership and its efforts to foster STEM interest in young people.

FHBVC’s response has been exemplary. It is extending its survey work internationally via FIVA (Federation Internationale Vehicules Anciens) and has backed the work already begun elsewhere to generate occupational standards which underpin vocational qualifications and skills. Assembled as needed, such standards define the competencies necessary for professionals to practice the skills which colleges and training organisations need to deliver.

Standards, with embedded theoretical knowledge and understanding, are the bedrock of qualifications, the vital proof for employment of an individual’s technological ability. Illustratively, in the UK, a training scheme under the crisp title of ‘Industrial, Maritime, Aviation and Transport Technology’ (IMATT) was established and delivers a successful bursary-supported training scheme. Funding issues mean that IMATT will finish at the end of 2012 unless its development can be extended. The FBHVC group is considering how this might be achieved but recognises that the interest is international – not just the UK.

It is notable that the FBHVC and IMATT initiatives overlap strongly with ‘World Skills’ (previously ‘Skills Olympics’) whose biannual event took place in London (5–8 October 2011) and which will be held next in Leipzig and Madrid. This important event allows teams and individuals in selected disciplines to compete for their countries and the automotive skills sector was one of the largest components of the London event. Around 150,000 young people visited the show demonstrating that they were keen to consider careers which demanded skills, training and qualifications. What a great thing if we could influence these same young people to choose STEM-linked careers. FISITA’s Education Committee may have opportunities here, ahead of the November 2012 Beijing Congress, and perhaps in conjunction with the 2013 World Skills event.

Readers who share the view that protection of our historic vehicle inheritance is important, particularly recognising its educational influence, can help. The FBHVC welcomes wider collaboration and this can open the door to international funding to help the work.

Offers to work together with FISITA member societies, or individuals, especially in preparing the case to fund further research and the building of standards and qualifications, can be lodged with:

Kelly Williams at FISITA  
k.williams@fisita.com

or direct to:

Tony Davies, Director for Trade Liaison, FBHVC  
tonydavies10@btinternet.com
After 25 years working for VDI – the association of German engineers, Dr. Ludwig Vollrath will go into retirement at the end of this year. Dr. Vollrath started his career at the VDI in the Technical Division of Materials Engineering. In 2004 he became secretary of the VDI-Society Automotive and Traffic Systems Technologies.

One of his major achievements in this time has been the establishment of the Formula Student competition in Germany, which has become one of the biggest Formula Student events worldwide.

He was also involved in several FISITA projects and organised the FISITA Congress 2008 in Munich. His withdrawal from active management means that he is now free to be VDI’s ambassador to the international automotive engineering community. For this he has taken on a number of functions including FISITA Vice President Europe.

Dr. Vollrath will hand over his responsibilities to Dipl.-Ing. Harald Nobis. Harald Nobis studied Mechanical Engineering at the RWTH Aachen and finished his studies with a thesis at the Ford Werke AG Cologne in 1998. He started his career in the R&D Center at Ford Werke AG Cologne working within the simulation and vehicle integration department. After 5 years he moved to Continental Reifen Deutschland GmbH in Hanover, working for the NVH-department. In 2007 he started working at the Continental test track, Contidrom, as a subjective test driver. In this position he was responsible for tyre testing for press-customers and replacement market.

After 10 years at Continental he joined the VDI in September 2011. His first responsibilities as Secretary, besides Formula Student Germany, will be the organisation of the EAECE Congress 2013 in Dresden and the restructuring the Technical Divisions of the VDI-Society Automotive and Traffic Systems Technologies.

SAE India hosted the biennial APAC conference in Chennai for the first time from 6–8 October this year to widespread international praise.

650 delegates enjoyed 140 technical papers in 6 parallel sessions, presented by experts from throughout the Asia Pacific region and beyond. An impressive commercial exhibition featuring 56 companies complimented the technical programme.

The Best Paper award was presented to Kihyun Baek, Hyunwoo Choi, Gisong Bae, Minsoo Woo of the R&D Division, Hyundai & Kia Co. for their paper: Study on Regeneration Strategies of Cordierite- DPF applied to a Diesel Vehicle.

The award for Best Indian Paper on Safe & Smart Mobility went to: Arghya Sardar and Sajid Mubashir from TIFAC for their presentation Plug-in Hybrid Bus for Public Transport - Benefits and Impacts.

“Under the banner of APAC 16, we aim not only to exchange ideas and thoughts but chart an action plan that will help the entire mobility industry to grow in a more sustainable and responsible way”

R. Sreshasayee
Executive Vice Chairman
Ashok Leyland
Patron, APAC 16

More information:
www.vdi.de/fvt
What is she?
She is a BMW 502 V8, built in 1963 in ‘alpine-white’ with a red leather interior. When she was made she was not only the top-of-the-line car of BMW but one of the most prestigious luxury sedans anywhere. Nevertheless, BMW did not make enough profit because of low sales and high production costs. The price in 1963 was more than 4 times the price of a VW Beetle.

Where did you find her?
We bought her from two young enthusiasts who spent two years carrying out a ‘frame-off’ restoration in the early 90s, but then did not use her and were ready to sell.

Is she rare?
About 23,000 cars have been built from 1952 to 1964, so she is not really rare. But it is not easy to find a well maintained example.

When did you acquire her?
We bought her in 1995 and since that time we accumulated more than 37,000 km.

What do you love most about her?
We love the prestige and luxury of the ride, especially on long journeys. Also the appearance, with all the chrome decoration, which is typical for the decades after World War II.

What annoys you most about her?
Compared to today’s cars, even a luxury vehicle like this is rather noisy so that cruising between 80 to 100 kph is the best option (although the top speed is 165 kph). The fuel consumption of 13 to 17 litres per km is not great. However, that is not much more than my wife’s first VW Beetle consumed in 1973.

Has she ever let you down?
We had only one break down over the years and that was a heavy engine oil leakage. We had to cancel a journey to Sweden and put her on a rescue truck.

What’s your pet name for her?
Her pet name is ‘white giant’. This seems to be a little rude but her dimensions are rather gigantic as compared to many standard cars of that time like VW Beetle or Austin Mini.

What’s the best thing that ever happened to you in it?
Once in a while we drive young couples to church for weddings. Our white car with its red interior is perfect for that. The best thing that can happen is the hug from the bride to say ‘thank you for the lift to church’.

The BMW 501/502-Series was used by the Munich administration as a police car. The radio call sign for the police cars was ‘ISAR Nr. xxx’ (Isar is the river in Munich). In the 1960s there was a series on TV titled ‘ISAR 12’ which was and still is very popular in Bavaria. At oldtimer events we are often asked whether we are ‘ISAR 12’. But our answer is: ‘The police cars ‘ISAR 12’ were dark green with white fenders. Our white car is ‘ISAR 13’ for under-cover investigation!’

VDI’s Detlef Frank and his stunning BMW 502
In October 2011, for the first time ever, the German Formula Student team ‘TUfast’, from the Technical University of Munich, travelled to Asia with board members from Formula Student Germany (FSG) to become the first ever international team to take part in the two year old event ‘Formula Student China’ (FS China).

More information: www.formulastudent.de

The competition was held at a go-kart track at the Shanghai International Circuit where a total of 37 teams competed against each other with the hope of becoming the winner of FS China.

Despite limitations in language and the requirement of translators, TUfast were very strong in all events. They won five of the eight individual events (Design Report, Acceleration, Skidpad, Autocross and Endurance) and came out with a very respectable 2nd place overall. The winning team was the team from Beijing Institute of Technology.

TUfast were greeted in China by their partner university, Tonji University. The FS Team from Tonji University were kind enough to offer support and to allow TUfast the use of their facility. Dr. Ludwig Vollrath (FISITA Vice President Europe) and Tim Hannig (FSG) helped to organise this collaboration. Dr. Vollrath announced upon return, ‘Whilst attending the event, we were able to discuss with the Officials of FS China and can confirm that a Chinese Team will attend Formula Student Germany 2012’. He also said that next year, the FS China Officials will allow for 4 international teams to take part in the competition in Shanghai.

The transport of the car to China was made possible thanks to the support from sponsors of FSG (Continental, Autodesk, Tognum, Audi, Daimler, Mahle, ZF, VW, IAV, Bosch, Dekra, Harting, MAN and VDI).