HORIBA CONCEPT Europe 2015
Science and practical application go hand in hand at the 4th edition of CONCEPT (Conference for Combustion, Emissions, Particulates and Testing)

Brake test system GIANT Evo
The latest solution by HORIBA

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Interview with Prof. Dr.-Ing. Günther Prokop, Chair of Automotive Engineering at the Dresden University of Technology, and Prof. Dr. Marcus Rieker, Director Academic Affairs at HORIBA.

What is the Conference for Combustion, Emissions, Particulates and Testing all about?

The 4th Annual CONCEPT Conference will discuss scientific topics with customers and other interested persons. We intend to focus on the scientific nature of these topics and the transfer of know-how. For us, feedback from industry is very important and we are eager to learn. Speakers from the USA, Germany and the whole of Europe will underline the international orientation of the conference.

What keynote speeches will be featured?

Brendan Shaffer, Senior Scientist at the University of California, Irvine, and Technology Manager of Advanced Power and Energy Program (APEP), will discuss how to put renewable technologies, including electricity and hydrogen, onto the road as well as the necessary infrastructure and suitable methods of measurement. Prof. Dr.-Ing. Bernhard Bäker, the Chair of Automotive Mechatronics at Dresden University of Technology, will report on the interesting topic of “Flying Cars Will Follow Later – Mechatronic Vehicle Tests in 2020”. The third keynote speech, entitled “Disruptive Technologies for Travel - An Automotive Perspective” will be presented by Chris Reeves, Commercial Manager - Intelligent Mobility & Future Transport Technologies at MIRA Ltd. It will cover two important trends in industry: the constantly increasing degree of automation and the rapid expansion of vehicle connectivity.

The event is being jointly organized by HORIBA and the Dresden University of Technology. What is the background for this collaboration?

The scientific approach itself suggests cooperation between the manufacturer and a notable university. In addition, HORIBA and the Dresden University of Technology have been working together closely for a year now. For example, in the development of test rigs. Joint realization by the two partners was therefore a logical step.

Why should we not miss CONCEPT 2015?

The conference will offer a wide range of topics, including some that reach beyond day-to-day business. The opportunity to network on an international scale is also quite important. Last but not least, everyone knows that Dresden is a beautiful city.
Brake test system GIANT Evo
The latest solution by HORIBA

The continuous improvement and development of brake systems makes a significant contribution to road safety. In this regard, reliable test devices are important components in research and development. HORIBA has had more than 90 years of experience in the production of brake test benches that fulfill this goal and are themselves constantly being expanded and improved. On the basis of this skill set, HORIBA has just introduced the newest product line addition: GIANT Evo. The name itself is derived from the word "evolution" to meet the current and emerging demands of the market.

Applications
This new test system is suitable for small and compact cars, midsize SUVs and large limousines. It is designed to meet the requirements of the automotive mass market in particular. GIANT Evo has a modular design, is easy to transport, and quick to install. Customers can choose between four powerful alternatives.

GIANT Evo Performance is the most compact test bench of all. It is optimized for performance tests and allows the functional testing of brake systems. GIANT Evo Universal is a test system for performance testing and basic NVH analysis of the brakes. Numerous add-ons mean it can be extended at any time. GIANT Evo NVH is the largest test bench of the GIANT Evo family and is suitable for basic noise investigations as well as sophisticated NVH analyses. GIANT Evo NVH Pure is designed to be housed in a custom environment.

World premiere dates
The product family was first presented at the World premiere dates of the Automotive Testing Expo China in Shanghai. Applications of this kind and has expanded its portfolio of on-board measurement systems consistently over the past few years. The latest product in this field, the OBS-ONE, is a comprehensive system for example for the air-conditioning system, are usually not measured at all.

HORIBA on the Road
Portable Emission Measurement System OBS-ONE

The new Euro 6 exhaust regulations for passenger cars, with tightened standards and measurement parameters for diesel vehicles in particular, have been in force since September 1st, 2014. Now diesel vehicles are not allowed to produce more than 80 milligrams of nitrous oxides per kilometer. Against this background, car manufacturers must take measurements inside the engine and work on efficient exhaust aftertreatment. Legislative authorities in Europe and America have announced even stricter requirements for 2017, which will focus on emissions occurring under real driving conditions and commonly known as Real Driving Emissions (RDE).

New European Driving Cycle (NEDC)
Manufacturers are currently providing evidence that their vehicles meet the requirements by means of a standardized method called the New European Driving Cycle (NEDC) which requires testing to be conducted under sterile laboratory conditions. The problem is that this method is based on an average profile and often does not correspond with the actual use of a vehicle. Short-distance driving and city traffic are not adequately taken into account. Speeds of over 120 km/h and additional fuel consumption, for example for the air-conditioning system, are usually not measured at all.

The PEMS approach
The discrepancies between average laboratory results and actual emissions are now to be addressed using Portable Emissions Measurement Systems (PEMS). HORIBA offers solutions of this kind and has expanded its portfolio of on-board measurement systems consistently over the past few years. The latest product in this field, the OBS-ONE, is a comprehensive system.

Further information:
http://www.horiba.com/automotive-test-systems/products/mechatronic-systems/brake-test-systems/

Further information:
Review and outlook: The market in 2014 and 2015

Five questions for Markus Bode, HORIBA ATS regional segment leader and Sales Director Europe

The financial year 2014 is now officially closed. What were the main developments?

The business was very encouraging for us. In Europe, we faced a remarkable willingness to invest, especially in Scandinavia, Benelux, and Southern Europe. The MCT (Mechatronics) segment, which is of great importance for the German location, benefited most from the steady momentum in China.

What topics will you, and the industry, focus on in 2015?

We supply systems, functionalities and solutions by customers to continually optimize resources and increase efficiency. Resource optimization and increased efficiency are the key words, regardless of the business segment. This applies equally for MCT (Mechatronics), EMS (Emission Measurement Systems) and TAS (Test Automation Systems).

HORIBA is positioning itself as a provider of world-class products, but also as a comprehensive solution provider. Can you explain this?

We are a company that fully supports its customers as an expert for specific applications. Whether we are talking about the World Harmonized Light Test Procedure (WLTP), noise, vibration or real driving emissions – HORIBA will provide solutions. For this purpose, we build the best possible equipment and technical devices. That is not all, however. We also extend our portfolio by investing in partnerships.

Can you give us a concrete example?

A good example is the cooperation agreement we signed with the Technical University of Dresden last December. Together, we want to meet the demands of future mobility, which will no doubt make better use of resources and be more energy-efficient. We are dealing with innovative, integrated controller systems and modules.

Finally, you became responsible for marketing activities in Europe at the end of 2014. What changes can we expect to see in the near future?

I don’t want to reveal too much. But why not increase our impact by leveraging the unique position of HORIBA and coordinating activities in the business segment. This applies equally for MCT (Mechatronics), EMS (Emission Measurement Systems) and TAS (Test Automation Systems).

HORIBA cooperates with the Technical University of Dresden

In an agreement signed in late 2014, both sides agreed that HORIBA will equip the Institute for Automotive Technology of the Faculty of Transportation Sciences „Friedrich List“, TU Dresden concentrates its activities on the subjects of vehicle technology and individual mobility.

SAE 2015 World Congress & Exhibition

This year’s SAE World Congress, under the motto „Leading Mobility Innovation“, takes place in Detroit, USA, from April 21 – 23, 2015. Matthias Schröder, Manager Emission Engineering Global Product Planning Group of HORIBA, will present an exciting topic: an “Investigation of the Influencing Parameters Using Optimized Exhaust Emissions Measurement Systems with Different Modern Plug-in Hybrid Electrical Vehicles.” Previously, on March 18, he will be giving a talk on this topic at the Stuttgart International Symposium Automotive and Engine Technology of the FKFS (Research Institute of Automotive Engineering and Vehicle Engines Stuttgart).

HORIBA Sweden with new office in Gothenburg

Since last December, HORIBA ATS can be found at a new address in Sweden. The new contact details: HORIBA Europe GmbH filial Sverige, Grimboåsen 10A, SE-41749 Gothenburg, Sweden. This new, upgraded facility reflects HORIBA’s significant investment in additional possibilities for Scandinavian customers, and improved infrastructure for employees. The move to the new offices on December 11, 2014, was accompanied by a small celebration.

Further dates and events participated in by HORIBA

March 17 to 19 Automotive Testing Expo Korea 2015, Seoul, Korea.
April 21 to 23 SAE 2015 World Congress & Exhibition, Detroit, USA.
May 6 and 7 HORIBA CONCEPT Europe 2015, Dresden, Germany.
May 20 to 22 SAE 2015 Automotive Engineering Exposition, Yokohama, Japan.
June 16 to 18 Automotive Testing Expo Europe 2015, Stuttgart, Germany.
September 15 to 17 Automotive Testing Expo China 2015, Shanghai, China.