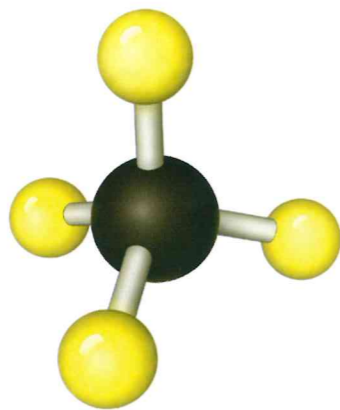


## Natural gas safety

**533** The sudden efficacy of Marcellus shale gas extraction has created a shift in engine technical center safety and performance needs. The tendency of methane to gather rather than disperse requires carefully conceived random-path positive supply ventilation and high-level exhaust – as well as spark-resistant blowers, motors outside the airflow, redundant fans and/or power back-up – as a critical proactive safety system (in addition to standard means of detection and reactive systems and devices). Process hazards analysis reduces the quotient of likelihood and severity to a pre-approved standard minimum. Robust safety control, marshaled by a PLC, should



be separate from device-under-test data acquisition systems. Meanwhile the quest for high thermal efficiencies and low

emissions calls for basic upgrades: new gas trains with proper block and bleed venting logic; gas blending stations (with modified span gas inventories) controlled by a precision gas chromatography analyzer; compressors to emulate the turbo boost; new gas infrastructure/pressure assessment relative to utility or new boost compressor station; flow measurement adjustments; and adjusted back pressure and purge cycles – for a start.

### Affiliated Engineers

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## Compact, high-speed camera

**534** The newest member of the pco.dimax family – the CS car safety testing camera – is specifically designed for universal applications onboard, off-board and in sled-testing scenarios. It provides high-speed image quality in an



ultra-compact package. In addition to that, the new ruggedized and lightweight camera body will withstand 150g for 11ms. It can take 2,000 frames per second, enabling super-slow-motion videos to be captured in full HD. A variety of resolutions and frame rates are user selectable via software. A multitude of mounting points and threads provides the opportunity to affix the camera in all test setups. In addition, the camera includes a quick-change lens adapter system for C, F and EF mounts. For ease of operation, the CS features HD-SDI video output and automated lens control. Another special feature of

the pco.dimax family is the in-built automatic image calibration – no session referencing by the user is necessary. PCO cameras provide crisp images with vibrant colors, even in highly stressed onboard and sled testing environments. The CS camera also offers additional features such as secured synchronization modes, making it a powerful multiuse tool for diverse applications within the field of car safety testing.

### PCO AG

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## Thermal management test tools

**535** Vehicle thermal management covers a large variety of components, systems and intelligent software developments and is designed for maximum comfort and safety of passengers, but also to achieve high levels of onboard energy efficiency. At con4 test solutions the team has decades of experience in the environmental test equipment business for planning, design and project management worldwide. It has developed into a reliable turnkey partner for the supply

of test equipment for thermal management components such as vehicle HVAC and engine cooling. Its product and service range covers vehicle HVAC calorimeters; drive-in vehicle test chambers;



component wind tunnels; HVAC component calorimeters and durability test stands; heater core and evaporator performance test benches; refrigerant circuits; coolant and oil conditioning modules; DAQ; data communication and control solutions; planning and technical consulting; design; manufacturing; and service.

### con4 test solutions

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## Heat exchangers in new application



**536** Bowman heat exchangers are a key part of a new lubrication system for the development and testing of turbochargers.

Developed by Belgian automotive testing specialist, DSi (Delta Services industriels), the TC-Lube test system enables lubrication of turbochargers independently from the engine block. It also provides a very fast response, with programmable control of oil temperature, oil pressure and lubricant air content around the turbocharger.

During operation, the oil used to lubricate the turbocharger constantly circulates between the main tank and the Bowman heat exchangers used for heating up and cooling down the oil. The repeated temperature cycling of the fluids is a key aspect of the test application and is required to ensure the equipment – including the Bowman heat exchanger itself – performs reliably under tough operating conditions.

The unique in-line structure of Bowman's plate heat exchangers offers another benefit, as the units have a unique internal flow arrangement that enables the inlet and outlet connections to be axially in-line. With both inlet and outlet ports situated adjacent to each other, these compact units fit neatly into the fluid stream, eliminating unsightly additional pipework.

### Bowman

To learn more about this advertiser, please visit: [www.ukipme.com/info/tem](http://www.ukipme.com/info/tem)

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testing expo 2015  
europe

## Retrofit of acoustic measurement rooms

**537** The higher demands of consumers and car manufacturers concerning the reduction of vehicle sound emissions has placed increased demands on the quality of the results from sound-level measurements. This trend can be seen across the automotive industry and has also affected the design of measurement rooms. Here, broadband compact absorbers (BCA) – which were developed by Faist Anlagenbau, an expert in sound proofing technology – are increasingly used.

These absorbers require a greatly reduced installation depth (250mm and 350mm are standard) in contrast to conventional wedge absorbers and at the same time reach a very high rate of absorption over the entire frequency range. It is also possible to cover lower cut-off frequencies in the same space and with minimum effort.

The surface of the BCA modules is smooth and powder-coated. Media interfaces can be easily integrated, and in the case of a retrofit of existing rooms, more space is available.

One current example of the retrofitting of acoustic measurement rooms with BCA absorber systems was at the facility of a German car maker, where the wedge absorbers in a measurement room were replaced by a BCA system. Faist maintained an identical cut-off frequency of 80Hz and measurements showed that 50Hz has now been achieved.

Meanwhile, at the premises of an international engine builder, Faist redesigned the acoustic measurement room and converted it from an anechoic chamber to a semi-anechoic chamber. BCA modules replaced wedge absorbers, the cut-off frequency of 100Hz was reduced to 63Hz and the measurement range was extended.

### Faist Anlagenbau GmbH

To learn more about this advertiser, please visit: [www.ukipme.com/info/tem](http://www.ukipme.com/info/tem)

## Vehicle assembly and testing

automotive EXHIBITOR  
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europe

**538** Dürr Assembly Products, a company in the Dürr Measuring and Process Systems division, supplies products, systems and equipment for sophisticated assembly and testing tasks for the final assembly of vehicles. The company's product portfolio comprises the pre-assembly of modules, for example for front and rear axles, the adjustment of axles and their joining to the body.

Modern vehicles comprise numerous mechatronic systems such as brake systems, chassis, headlamps and driver assistance systems. For the adjustment and inspection of these safety-related systems, Dürr has developed some innovative technologies for the testing of passenger cars and commercial vehicles.

In 2014, Dürr delivered systems and services in 30 countries worldwide. Meanwhile, there are more than 1,700 of the company's test rigs and more than 200 assembly and setting units installed in plants. Its competent service staff offer professional support in maintenance and modernization of equipment.

Dürr has 450 employees worldwide, with 300 at the company's site in Püttlingen,



Germany. It also has a presence in the USA, Brazil, India and China with further production sites. Through affiliates and representations abroad, Dürr Assembly Products operates in a further 20 countries around the world.

### Dürr Assembly Products

To learn more about this advertiser, please visit: [www.ukipme.com/info/tem](http://www.ukipme.com/info/tem)

## Comprehensive test center in Asia

**539** Located in Taiwan, Automotive Research & Testing Center (ARTC) is an independent research and testing facility dedicated to the automotive industry. It specializes in testing, research and development, and homologation.

With 25 years of experience, ARTC plays an important role in providing comprehensive testing services in Asia. It houses 12 laboratories and two technical centers, which include: electromagnetic compatibility (EMC); crash; noise vibration and harshness; emission and fuel economy; durability; reliability; lighting; vehicle performance testing labs; CAE; and automotive optics centers. ARTC's 119ha proving ground has 12 test tracks for various vehicle dynamic test programs. Based on core technologies of mechatronics

control, lighting, image recognition and vehicle-to-vehicle communications technology, ARTC has built advanced systems and service applications across five fields comprising intelligence, safety, green energy, optics and telematics.

Facilitating global market development, ARTC also cooperates with organizations

such as AMECA, AQR, DOTARS, IDIADA, TÜV and UTAC Ceram. ARTC's EMC laboratory is accredited by A2LA and qualified to test for GM, Ford, Fiat Chrysler Automobiles and Jaguar Land Rover, providing convenient testing and homologation services for nearby manufacturers.

ARTC has expanded its green transportation testing services and charging stations to assist the industry in developing electric vehicles and components. New testing capabilities comprise vehicle EMC (bus level), electrical safety, vehicle corrosion, handling, charger and power propulsion reliability.

### Automotive Research & Testing Center

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