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The Vibro-acoustic strategy at CRITT M2A

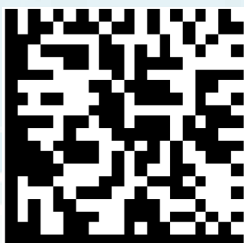
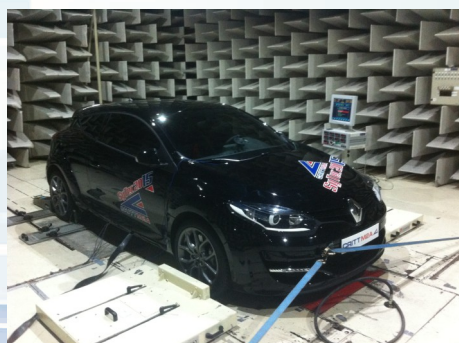
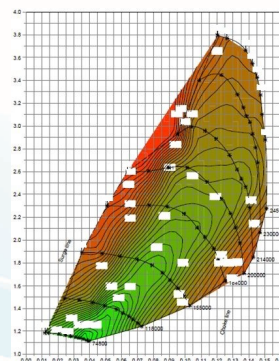
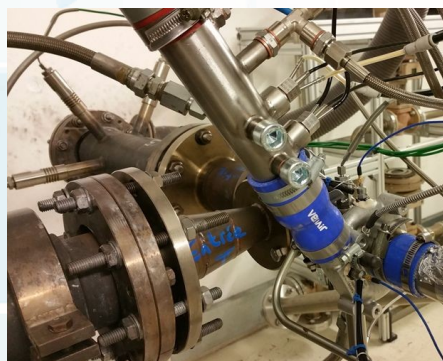
Since its creation, CRITTM2A has always invested in high technology and performant test facilities and strengthened its skills. With the development of our technical skills, the **acoustic expertise** has gradually provided support to other centres's departments.

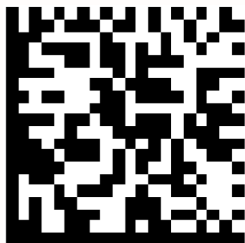
Thanks to several outstanding NVH test facilities that are complementary to each other, CRITT M2A performs **sound mesasurements** and offers to its customers **methodologies** in line with its needs. These measurements can be carried out on engines, on turbochargers, on the complete vehicle and soon within the electrical area.

Interactions with the R&D department are also natural and related to the test activity. Methodological development work is applied to turbochargers (acoustic power measurements in the pipes, detection of mechanical failure by vibration monitoring). This work involves CRITT M2A in **vibro-acoustic research programs**.

The transverse activities and synergies enables CRITT M2A to enlarge the capabilities of the vibro-acoustic department.

CRITT M2A will be equipped with an additionnal turbocharger bench which will be used in a full anechoic environment to complete the current range of services. This new test facility will allow the analysis of the sound and vibration behaviour of turbochargers and their components.





MÜLLER-BBM
VibroAkustik Systeme



09 - 11 March, 2016 - Le Méridien Hotel, Stuttgart, Germany

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CRITT M2A : partner for the organisation of technical days

For the first time, AVL organized its **Tech Day** about «Calibration for Real World Emissions» in partnership with CRITT M2A. It took place at our premises on March 23rd 2016.

In the morning, the **expected regulatory changes** on vehicle exhaust emissions and resulting challenges were presented during several conferences. **Three workshops** were held in the afternoon, including driving a vehicle equipped with a PEMS, an application on virtual engine and tests carried out on an engine bench in a virtual driving environment.

This day rich in exchanges was very successful.



Likewise, on June 15th, CRITT M2A will host the **Müller BBM Pack-Day**. Several manipulations will be held on engine test bench, in semi anechoic and reverberating chambers, and on the noise test track.

These technical days perfectly demonstrate the strong partnership policy set up at CRITT M2A in its technical and economic environment.

Research works led at CRITT M2A presented at technical conferences

CRITT M2A participated in the ISROMAC conference which took place from April 10th to 15th 2016 in **Honolulu**. This international conference gathered the **university community** for five days around turbochargers issues.

One of the **Ph.D student** at **CRITT M2A** presented a R&D article based on a new experimental methodology to test a turbocharger under pulsating conditions. This internally developed methodology consists in reproducing the engine exhaust conditions, hence getting closer to a real test condition.



The objective is to test turbochargers in a more realistic environment than with a traditional bench, thanks to the use of a specific test bench.

On March 10th 2016, CRITT M2A also presented a publication during the 8th conference "Advanced Downsizing & Turbocharging", in **Stuttgart**.





ISROMAC 2016

International
Symposium on
Transport
Phenomena and
Dynamics of
Rotating Machinery

Hawaii, Honolulu

April 10-15, 2016



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This annual conference gathers automotive experts and some universities around the development of technologies dedicated to the turbocharger.

The topic, submitted by CRITT M2A focused on «Innovative methodologies for turbocharger failure prediction». In testing endurance conditions, the developed methods allow monitoring of the condition of the turbocharger thanks to vibration measurements. Therefore, we can stop the test before the turbocharger destruction and start to examine the cause of this failure.

Customers can thus obtain a more accurate analysis of the failure.



Human Ressources

To keep pace with its growth, CRITT M2A is **currently hiring** new employees.

A service technician and a turbo expert joined the team this month.

CRITT M2A also recruits a **PhD student** for its electrical test center to work on batteries. Some technicians and an expert engineer will be hired by the end of 2017.



The company is involved in training young people proposing work placements, from **Second-year to University Master Degree level**.

Since 2010, CRITT M2A has doubled its workforce to reach more than 30 employees today, including 5 former **trainees**.

SYTEC 2016



CRITT M2A will organize its **SYTEC** on October 3rd and 4th 2016.

Find more information about this event by clicking [here](#)

You could soon register online!

AGENDA

- **From May 31st to June 2nd 2016**, visit CRITT M2A on its stand nr.1952 at the Automotive Testing Expo Europe, in Stuttgart.
- **On June 1st and 2nd 2016**, CRITT M2A will attend the SIA Powertrain conference, in Versailles.
- **From June 19th to 22nd 2016**, CRITT M2A will participate in one of the biggest international conferences on batteries **EVS29**, in Montréal.

