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Jean-Maxime BOULANGER,
R&D Manager



*All of us at CRITT M2A would like to wish you
a Happy, peaceful and prosperous New Year*

R&D challenges at CRITT M2A

In the constantly changing automotive industry, CRITT M2A must be reactive and anticipate future needs in order to remain at the cutting edge of technology. For each company, R&D has become a differentiating and performance factor, so CRITT M2A reinvests every year 20% of its turnover.

To keep pace with changing technologies and acquire new knowledge, CRITT M2A participates in national and European research projects (Interreg, FP7, H2020, ANR, FUI, BPI France, CISIT..).

The CRITT M2A's objective is to make its centre a world renowned pole of excellence, and remain leader in its field of activity. Therefore, it is supported by a dynamic and skilled team to provide its customers the best service possible. In that perspective, CRITT M2A hired last spring a new R&D Manager : Jean-Maxime BOULANGER.

« When I joined CRITT M2A, I was interested by its expertise and specialized know-how, that's why I wanted to be a part of this dynamic testing centre.

The place of the Research & Development Department is inherently cross-sectoral between our 4 departments.

Indeed, R&D is part of a niche strategy which that has proved its strength over the years. R&D has to help, support, develop and transform each innovative projects conducted by our engineers, customers and/or specialized renowned actors of our market.



Maintaining a technological watch and communicating about our actions and performance in all worldwide technical events enables us to anticipate every projects. This is in line with the coherent, efficient and recognized approach that we are committed to. »

In 2015, CRITT M2A presented Research Publications during congresses, conferences and international trade shows (2015 European Vehicle Performance Engineering Conference, SAE 2015 World Congress & Exhibition, SIA Powertrain and Automotive Testing Expo Europe).

« Also, R&D has an important role on various partnerships that CRITT M2A is sustaining and developing. Indeed, its action is covering academic, industrial and institutional fields within networks, organizations or technical centers. »

Sharing expertise with the University of Genoa, the engineering school ENSAM ParisTech and the University of Loughborough is a source of development which has enhanced the R&D business dynamic for some years.



ECOBEX project

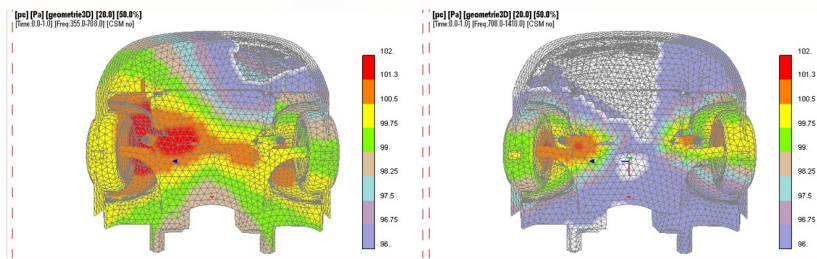
Among the ongoing projects, CRITT M2A participates in ECOBEX, mentioned in the last newsletter. This project started in July 2014 and is due to last three years. It aims at reducing the noise of cars in line with the new ISO 362 test standard and new European rules.

It is accredited by I-Trans pole and LUTB Transport & Mobility Systems. The industrial and academic partners at CRITT M2A working on the project are Vibratex, ESI Group, Matelys, Mecacorp, MicrodB SA, Saint-Gobain Isover, Renault SAS, RJP Modelage, UTC.

The first phase of this project consists in characterizing the pass-by noise on the reference vehicle (Renault Megane 3) on CRITT M2A's test track. This allows the analysis of the engine, exhaust and tyre noises.

Then the complete vehicle is characterized on a chassis dynamometer to identify the acoustic transfer between engine compartment and outside of the vehicle by means of an acoustic antenna.

Finally, the engine is characterized on a powertrain bench to define the noisiest parts and zones of the engine.



Moreover, calculation and acoustic synthesis softwares are developed in parallel with the project and could be used to perform services for OEMs and car manufacturers.

In addition to characterization measurements, a research work is performed to develop innovative materials.

Then, part prototypes will be tested on CRITT M2A's test track in July 2016.

Start of the Electrical Test Centre (C2E) : first tests performed with success

In accordance with the announced schedule, the Electrical Test Centre has been operational since October 2015. The whole equipment for cell and module tests was received. The results of these first tests have confirmed the high performance of test means in terms of dynamics and regulation accuracy.

The first characterization and endurance tests performed on the Single Cell Test Channels for customers started in October.



To remain informed on latest technologies, particularly regarding batteries, CRITT M2A actively participates in conferences, including the congress Batteries 2015 which took place in Nice last October or soon the AABC conference in Mainz in Germany next January.



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Human Resources

After several recruitments in recent years, today the centre has 30 employees.

To cope with the increased activity, CRITT M2A is recruiting a service technician and a turbo engineer.

In addition, as part of the electrical centre development, CRITT M2A will recruit technicians in 2016.



AGENDA

- **March 10th 2016**, CRITT M2A will present a technical paper during the 8th Conference Advanced Downsizing & Turbocharging, in Stuttgart. The publication is entitled « Innovative methodologies for turbocharger failure prediction »
- **From April 12th to 14th 2016**, CRITT M2A will attend the SAE World Congress 2016, in Detroit.
- **May 17th and 18th 2016**, CRITT M2A will attend the 12th International Conference on Turbochargers and Turbocharging, organized by IMechE, in London
- **May 27th and 28th 2016**, CRITT M2A will participate in the SIA Powertrain Conference, in Versailles.
- **From May 31st to June 2nd 2016**, CRITT M2A invites you on its stand nr.1952 at the Automotive Testing Expo Europe show, in Stuttgart.

Advanced
Downsizing & Turbocharging

