

MAKE LORRAINE A EUROPEAN CENTRE IN TOMORROW'S MATERIALS

The Lorraine reinforces its position in the materials domain with the creation, in Metz, of a Technical Research Institute (IRT). Based on a public-private partnership, IRT M2P (metallurgy, materials and processes) is an exceptional concentration of competences, equipment and sites shared between manufacturers and academic players.



A Response to the challenges in materials and processes

The development of research and technologies in the materials domain is essential for maintaining and improving the competitiveness of our industry. This is why several large industrial groups and SMEs working in the production of materials (steels, non ferrous metals, construction materials, polymers, composites, etc.) and in the automobile, aeronautics, construction and energy production sectors have decided to pool their resources to conduct this research together. They are backed up by the state in the Future Investments framework.

The materials must be renewed to meet the major energy and sustainable development challenges via energy-saving production processes and products with improved functionalities.

The increasing rareness of raw materials, the inescapable increase in the costs of energy, the need to upgrade our products mean that the performances of the current materials must be improved both in their characteristics and their means of use together with the development of new materials and innovative multi-material combinations. Here, we are talking about the consolidation of our industry today and its development tomorrow.

To take up these challenges, IRT M2P, the Materials, metallurgy and processes technological research institute, has the ambition of becoming a world ranking research and technological transfer centre in terms of competences and industrial pilots to accelerate and encourage the extrapolation of processes and products towards the final industrial application to:

- >> take product developments into account (life cycle analysis, eco-design, recycling, etc.),
- >> lighten the parts by accurate control of the microstructures of the materials,
- >> improve the quality of the products by their redesign and by surface nano-functionalisation,

- >> employ all the potentialities of the various materials by associating them in lighter and more functional products.

The manufacturers, members of IRT M2P, are allied with universities (Lorraine University, Arts & Métiers, PRES Franche Comté Bourgogne, UTT Troyes, CNRS) to accelerate the transfer of knowledge and favour innovation.

At the heart of a rich technological fabric

Fully committed to these challenges, the 3 regions - Lorraine, Champagne-Ardenne, Franche-Comté - offer a rich and diversified potential to accommodate the IRT, this missing link in innovation:

- >> a melting pot of industrial competences with the presence of national and international leaders from the sector and a dynamic network of SMEs and SMIs,
- >> a workforce of 300,000 employees,
- >> private research centres (ARCELORMITTAL, ASCOMETAL, FAURECIA, PSA, SAINT-GOBAIN, ARKEMA, etc.),
- >> an excellent academic fabric with 4,000 researchers in 42 laboratories,
- >> 4 science parks (Materalia, Future vehicle, Microtechniques, Fibres),
- >> a synergy with transfrontier territories, rich in scientific competences and which share the same industrial trajectory and the same problems.

At the centre of a Lorraine fabric already rich in engineers' schools, university and industrial laboratories, from Nancy to Thionville, IRT M2P completes this innovation transfer system between universities and industry. By 2016, the IRT will have a total surface area of 6,000 m² in the Metz technology and business centre including offices, laboratories and technological halls. There will be two sub branches, one in Franche-Comté and one in Champagne-Ardenne.

12 projects are in the process of being launched and 6 other projects are being considered; more than 60 people (1/3rd industrial, 1/3rd university and doctoral students, 1/3rd IRT's personnel) will work on them in the next three years; in 7 years time, this workforce will be doubled.

During the next three years, the global budget of the centre will be 47 Mio Euros of which more than 8 Mio Euros will be earmarked for investments.

«We are in the starting blocks and in the process of recruiting a first group of around twenty people» declared Mr Rémy NICOLLE, Project director. *«The IRT will allow us to take up major challenges in materials and work especially in the association of various materials, the use of the right material in the right place... the challenges to be taken up are substantial but we have an unbridled technical ambition as the future of our industry is at stake.»*

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KEY FIGURES

- >> 110 Mio euros for the project portfolio over 10 years
- >> 120 researchers by 2021
- >> 6,000 m² of technological platforms
- >> 35 manufacturers (large groups and small and medium size enterprises)

already partners

- >> 4 higher educational establishments and the CNRS as partners
- >> 15 academic laboratories involved in the performance of the projects
- >> 4 science parks providing support.