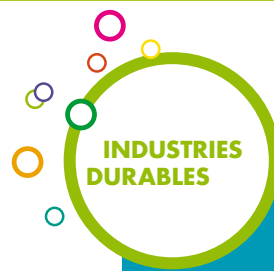


# Composites Materials par excellence in the Pays de la Loire



## A major international meeting

**Composites meetings** has established itself as an essential biennial meeting. Organised by the EMC2 competitiveness cluster, this invitation-only event for professionals confirms the Pays de la Loire as a benchmark region for applied composite technology across all industries.



## Technocampus EMC<sup>2</sup>, The future of research into composites



**The research and technology platform Technocampus EMC<sup>2</sup> focuses its work on high performance composite materials for large-scale parts.**

The site includes 300 individuals, a CETIM centre of expertise on composites, industrial facilities providing means of manufacturing, and an area dedicated to training. The infrastructure allows for full-scale testing of parts, the production of functioning prototypes and for progression to the

industrialisation stages of aeronautics industry parts as well as naval and automobile construction. Technocampus EMC<sup>2</sup> was initiated by Airbus, EADS, IW, and CETIM who each provide researchers and dedicated equipment.

This platform for innovation meets the needs of the industrial sectors, the centres of innovation (the EMC2 Centre, the Civil Eco-Construction Engineering Centre, the Prestige Automobile Centre, etc) and SMIs/SMEs. The enterprise partners carry out their R&D pre-industrialisation projects in borrowing skills and equipment from the Technocampus EMC<sup>2</sup>

NNOUVELLE VAGUE - RCS NANTES B 339 786 493 - Photos : P.B. Fourny - Ouest Médias / Région des Pays de la Loire - Sora Composites D. Maciel/Ville de St-Nazaire - Airbus S.A.S. tous droits réservés - Istock - Photos non contractuelles

**The growing use of composite materials** by naval construction, automotive and aeronautics companies is behind the **emergence of a specific sector** in the Pays de la Loire. Thanks to its dynamism and strong reactivity, this area has become a reference point for composites.

It is for this reason that Airbus Nantes has become one of the three EADS (European Aeronautic Defence and Space) European Centres of Excellence in this area. The site is highly strategic in that 25% of the A380 is built of composite materials and the future A350 will be constructed using 50% composite materials. Today's site, the result of 20 years of expertise, is the leading site for the aeronautics group in composite structural parts subjected to severe mechanical stress.

Excellence in these new technologies also benefits other major sectors, well-represented in the region. The region is one of the world leaders in the nautical industry which was a pioneer in

the large-scale use of composite materials due to their exceptionally high performance with regard to strength, durability, lightness and elasticity. The same is true for the automotive industry which is revolutionising its manufacturing processes, using polyester-fibreglass composites on a massive scale and will no doubt be using high-performance (carbon) composites in the future to overcome rising energy costs and meet new environmental standards.

« Airbus European Centre of Excellence »

With the support of the SEM Pays de la Loire



Hôtel de la Région  
44966 Nantes cedex 9 France  
Phone: 02 28 20 50 00  
www.paysdelaloire.fr

## Composites

### Materials par excellence in the Pays de la Loire



### The industrial stars

The Pays de la Loire is one of the rare regions to benefit from a highly-diverse industrial infrastructure, from major OEMs to SMEs in specific niche markets. The companies can be divided into three groups according to their target markets and technologies used.

#### High-performance Composites: aeronautics

- Airbus
- Daher Aerospace
- Hexcel Composites
- Duqueine Atlantique

#### Mass-produced composites for the automotive industry

- Sora Composites

#### Composites for "general distribution" (water sports, leisure vehicles, etc.)

- Bénéteau
- King Cat
- Plasticon
- Plastima

#### More than 30 companies (design offices, tool and mould makers and specialist service providers) complement this sector, adding expertise and employing more than 2000 people

- Ajilon Ingénierie
- CD Plast
- Allio
- Jallais
- Europe Technologies

### Excellence in training

#### • 9 Engineering schools

##### École Centrale de Nantes

(Nantes Central Engineering School)

##### École des Mines de Nantes

(Nantes School of Mines)

##### ENSAM in Angers

(General engineering school)

##### ENSIM in Le Mans

(General engineering school)

##### ESB in Nantes

(Higher Institute of Wood Technologies)

##### ESTACA in Laval

(Aeronautical, Automotive, Space and Railway Engineering School)

##### ICAM Nantes

(Catholic general engineering school)

##### ISMANS in Le Mans

(Higher Institute of Advanced Materials and Mechanical Engineering) and Polytech'Nantes

(University of Nantes Engineering School)

#### • L'école de Design de Nantes

Atlantique (The Nantes Atlantique School of Design)

### Synergies to boost competitiveness

With 22 basic research and applied research laboratories, including 10 CNRS (National Scientific Research Centre) units and 12 technical and technology transfer centres, the Pays de la Loire region is at the forefront of innovations in composite material research.

#### CEMCAT

A state-of-the-art resource for composite materials, the Centre d'Études sur les Matériaux Composites Avancés pour les Transports (Centre for studies of advanced composite materials for transport) is given over to carbon fibre manufacturing processes.

With direct links to major automotive manufacturers, the expertise of the CEMCAT involves the transformation of fibreglass and carbon fibre reinforced materials (heat-hardening and thermo-plastic materials).



#### A COMPETITIVE CLUSTER FOR MATERIALS

This exceptional innovation centre combines different sections of the mechanics industry in the implementation of metallic and composite materials in industry. The principal aim of the EMC2 Centre of Excellence is to create synergy between groups of international stature, small and medium enterprises, research laboratories and private and public training centres, as well as any industrial collaboration through the organisation of mutually organised R&D projects.

- 80 SMEs/SMIs
- 50 laboratories, training bodies and economic development organisations
- Around 30 projects certified and financed each year.