

BRETAGNE^{BE}

COMPOSITES

—
BRETAGNE,
land of excellence & innovation
in composites
—

The dynamic composites industry in Bretagne

Skills clusters: a favourable environment for technical & technological innovation

EDUCATION

Renowned higher education establishments

- National Graduate Engineering Institute (Naval & Offshore Engineering, Ship Design)
- Louis de Broglie, Engineering school (Materials Science & Engineering)
- Lycée Marcelin Berthelot (EuroPlastics & Composites)
- Western Bretagne University (Design & Manufacturing of Structures made of Composite Materials)
- University of South Bretagne with E2PIC (Polymer Teams, Interfacial Properties of Composites) within LIMATB

R&D, VALIDATION/TESTING

R&D into biosourced materials

Capacity for breakthrough innovation

≡ **Composite material R&D network:** Composite Bretagne

≡ **Technical centres, technological facilities and research laboratories:**

- CRT Morlaix (non-destructive evaluation)
- CETIM (Composite materials and elastomers R&D)
- ID Composite (expertise in composite materials and procedures)
- CompositIC /LIMATB (composites formulation -Bio-nano, semi-finished products-, shaping, rheology, mechanics)
- 3DMAT (digital simulation of composites)
- IFREMER/LBMS (composite assemblies, structure calculations, fatigue, durability)

≡ **Leader (business):** Kaïros (biosourced composites)

PROTOTYPES

Leaders: Actuaplast, SMM

PRODUCTION: PRODUCT/PROCESS

Skills for large carbon items

Ability to produce high quality parts

Leaders:

- Products: Multiplast (marine leisure, industry), Bic Sport, DCNS, Thales
- Process: Coriolis Composites (industrial process, particularly aeronautics and automotive), SMM (mass production process)

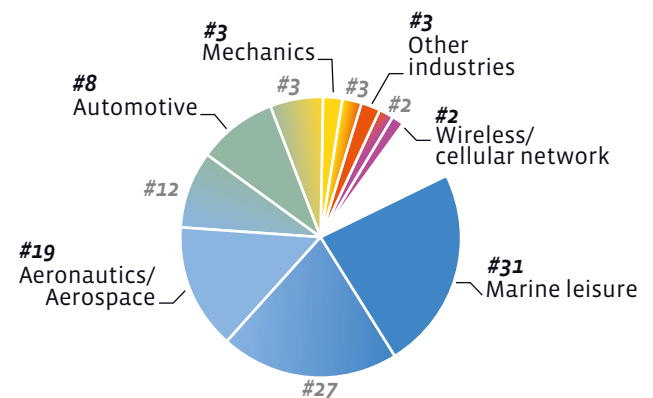
RECYCLING

A key sector undergoing development, with just one goal: EXCELLENCE!

Competitive clusters

- Pôle Mer Bretagne Atlantique (maritime industries)
- Pôle ID4Car (automotive and special vehicles)
- Pôle EMC2 (complex composites)

Over 120 businesses



Testimonial

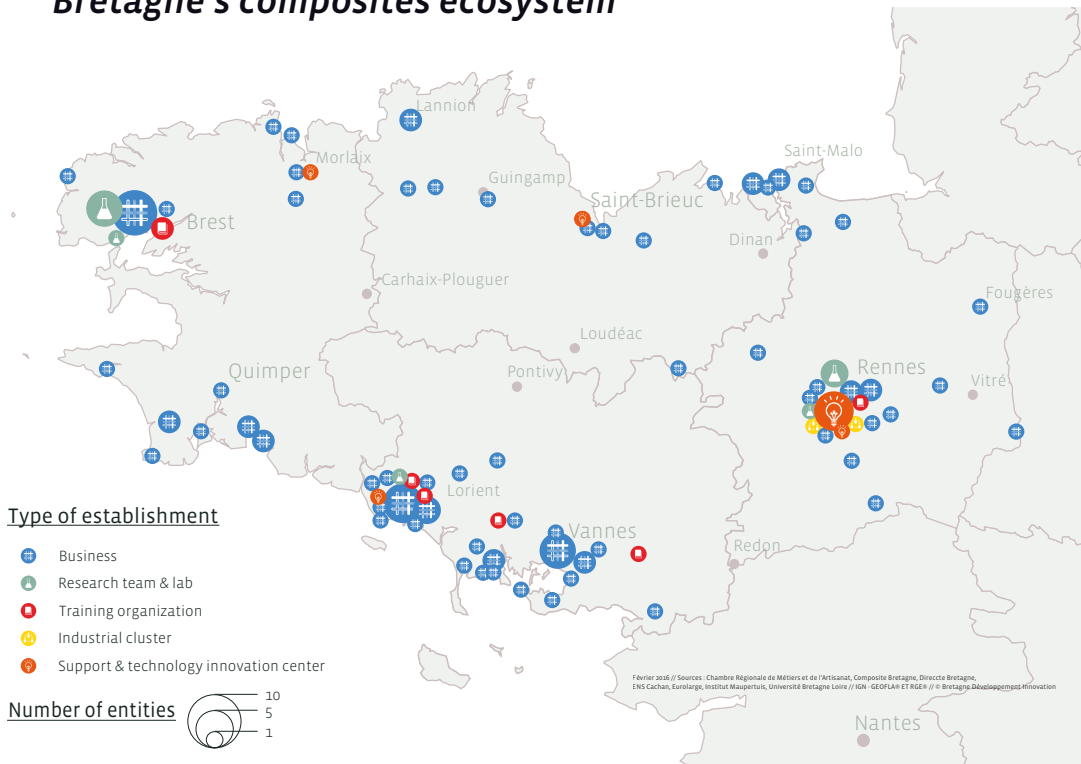
Yann Penfornis, CEO of Multiplast, talks about the development of his business - a true gem in the composites sector - and the benefits of being in Bretagne.

« We are one of the world leaders in racing boat manufacturing and we have managed to diversify successfully into various sectors within industry, aeronautics, telecommunications and luxury goods (Airbus, Thales, Zodiac Aérospatiale, Baccarat, etc.). Our strength is in keeping ahead of new technologies to meet the demands of offshore racing and transposing these innovations into other sectors.

The west of France is the place to be in terms of skills and expertise in the field of composites, with southern Bretagne being the historic centre for race boat manufacturing. We have all the skills the sector requires in Bretagne, with a strong network of businesses that work well together, plus dynamic clusters that forge strong links. We have some highly-renowned research centres available. The quality of the workforce in terms of expertise and attitude is a major advantage; that's why we set up our own internal training centre in order to support our organic growth. For a foreign business looking to relocate to Bretagne, being able to benefit from tax relief on R&D would also be a positive factor. Lastly - and this is possibly one of the main reasons for locating here - the quality of life in our region is an outstanding advantage. »

Offshore racing: an international benchmark

Bretagne's composites ecosystem



Bretagne is a test-bed for offshore racing thanks to two facilities:

- ≡ The Pôle Course au Large in Lorient: the leading European offshore racing cluster, both in terms of the number of skippers who train here and the technical and logistical skills to be found on site.
- ≡ The Pôle Finistère Course au large at Port-la-Forêt: a centre of excellence dedicated to training and monitoring elite athletes.

AN INDUSTRY SERVING A POWERFUL, WELL-ORGANISED NETWORK

The key markets for composites businesses in Bretagne



SHIPBUILDING

117 businesses / 11,600 jobs
 #1 region in France
 Leaders: DCNS, Piriou, Chantiers Navals Bernard



LEISURE MARINE & OFFSHORE RACING

1,300 businesses / 7,000 jobs
 #1 region in France
 Leaders: Bic Sport, Multiplast, CDK



MARINE RENEWABLE ENERGY

188 businesses / 36 research teams
 5 types of technology
 1 innovation cluster: Pôle Mer Bretagne Atlantique
 1 institute of excellence for energy transition: France Energies Marines
 Leaders: Sabella, Guinard Energies, Openhydro



DEFENCE & SECURITY

383 businesses / 47 research teams
 1 cyber security & cyber defence cluster: Pôle national d'excellence CYBER
 Historical presence of the Army: French Navy, DGA (the French defence procurement agency)
 Leaders: DCNS, Thales



AUTOMOTIVE

250 businesses / 17,000 jobs
 1 innovation cluster: ID4Car
 Leaders: Bolloré/Blue Solutions, PSA Peugeot Citroën, Sanden, Faurecia, Cooper Standard



AEROSPACE

30 businesses / 3,000 jobs
 1 cluster: IEF Aero
 Leaders: Thales, Sabena Technics

BRETAGNE^{BE} COMMERCE INTERNATIONAL

Bretagne Commerce International is a non-profit organisation made up of private companies located in western France. We have been commissioned by the Regional Government and the Chamber of Commerce and Industry of Bretagne to assist Breton companies in their international development and to identify and support foreign companies with the aim to expand their business into Europe/France through presence in Bretagne.

Thanks to its cooperation with more than 4,500 local firms, Bretagne Commerce International has a clear understanding and knowledge of the majority of Breton companies in all market segments and, most importantly, your potential client, partner or subcontractor.

We provide free confidential assistance at every stage of your business expansion project.

Data collection

- ≡ Market validation
- ≡ Supplier, partner & customer identification
- ≡ Availability and skills of workforce
- ≡ Financial incentives
- ≡ Cost assessments (salaries, taxes...)
- ≡ Labour laws

Business meetings

Based on your requirements and project, we tap into our long experience with Breton companies, as well as our excellent knowledge of regional expertise and the region's economic environment. We will work closely with you to successfully set up a series of meetings with key business leaders in the region, most likely your potential clients, partners, or subcontractors.

Site proposals

We can offer you installation and personalised partnership solutions.

Assistance before, during and after your installation

We help you with all your administrative formalities:

- ≡ Law firm, accounting firm, bank and insurance recommendations
- ≡ Capital raising orientation
- ≡ Creation of your local structure
- ≡ Staff recruitment
- ≡ Arrival of your expatriates and their families ...

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Invest in
BRETAGNE^{BE}

Tax Credit for R&D

BENEFICIARIES

Businesses involved in the sales, industrial, agricultural or crafts sectors carrying out technical and scientific research (basic, applied or in experimental development).

TAX RELIEF RATES

30% of annual research spending less than or equal to €100M and 5% beyond this threshold.

USING TAX RELIEF

- ≡ Set against corporation tax owed by the business (for up to 3 years).
- ≡ Instant research tax relief rebates for some businesses (Young Innovative Businesses).

ELIGIBLE SPENDING

- ≡ Spending on staff assigned to research (gross salary plus social contributions).
- ≡ Operating costs.
- ≡ Spending on technology monitoring (up to €60,000 per year).
- ≡ Spending on standardisation (up to 50%).
- ≡ Spending on submitting, maintaining and defending patents.
- ≡ Spending on research paid to external organisations (public or private sector).

SMEs may also qualify for innovation tax relief:

- ≡ Applicable to spending on prototype design and pilot installations.
- ≡ Aimed at the creation of new products.
- ≡ Equal to 20% of spending committed.

