



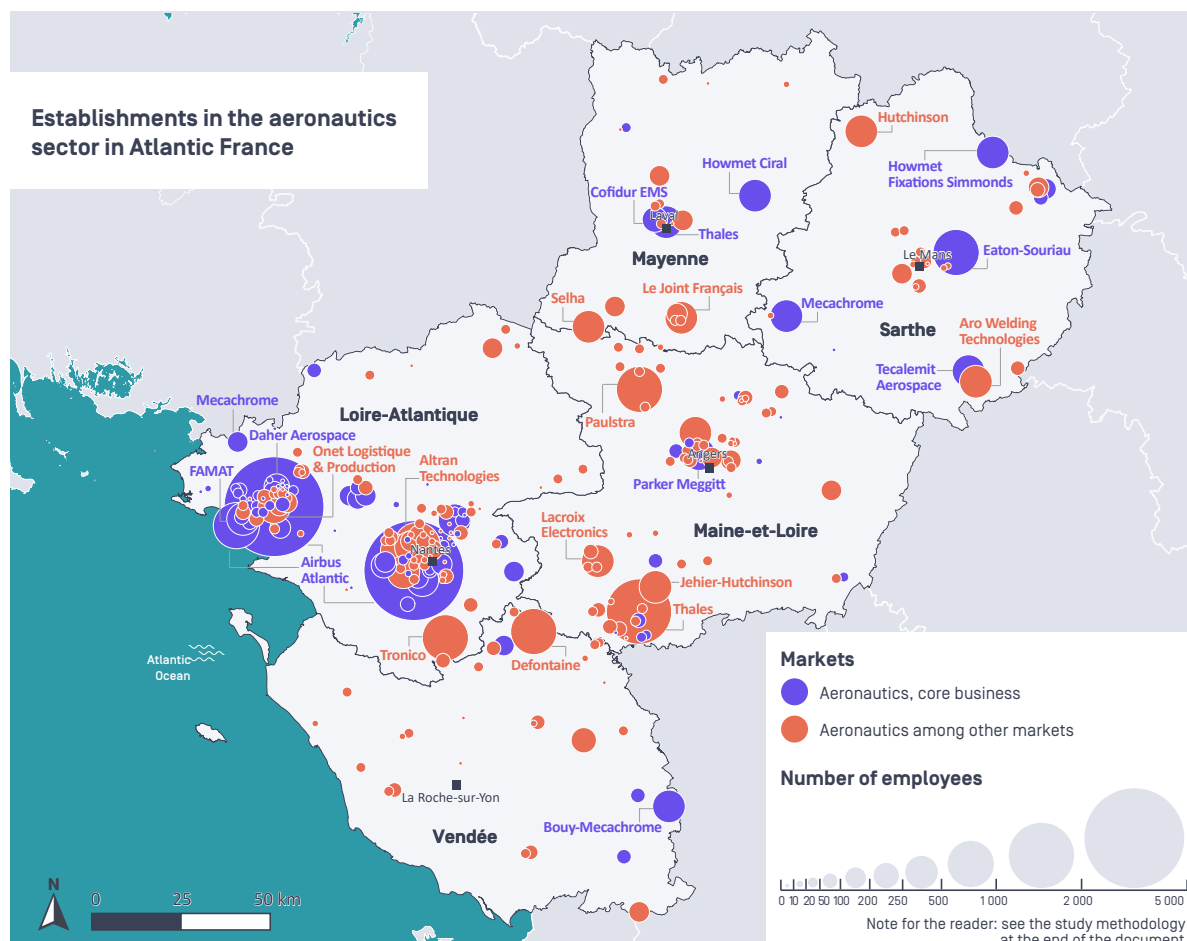
Aeronautics

The civil aeronautics sector in the Atlantic France region benefits from the presence of three major Airbus Atlantic sites.

The aircraft manufacturer relies on a large network of subcontractors to design, develop, industrialise and produce aerostructure parts and subassemblies.



KEY FACTS IN ATLANTIC FRANCE



More than
28,700 employees



285 establishments,
more than 160 of which
are EN 9100 certified



6 Airbus Atlantic
sites

Loire-Atlantique: a major aeronautics centre

	Number of establishments			Number of salaried employees		
	Aeronautics, core business	Aeronautics among other markets	Total	Aeronautics, core business	Aeronautics among other markets	Total
Loire-Atlantique	65	76	141	11 046	4 727	15 773
Maine-et-Loire	12	55	67	750	3 422	4 172
Mayenne	4	16	20	851	1 607	2 458
Sarthe	7	20	27	1 773	1 542	3 315
Vendée	4	26	30	670	2 351	3 021
Pays de la Loire	92	193	285	15 090	13 649	28 739

Over half of the workforce in the aerospace industry is concentrated in the **Loire-Atlantique** region, where major industrial establishments and numerous subcontractors are located. However, the aerospace industry is also well represented elsewhere in the region. All the départements are home to one or more key players in the industry, particularly establishments that are open to markets other than aeronautics.

Companies in the sector are of significant size: three quarters of employees work in establishments with at least 100 employees. This proportion rises to over 85% in establishments where aeronautics is the core business.

MAIN BUSINESS SECTORS

Establishments whose core business is aeronautics employ more than 15,000 people

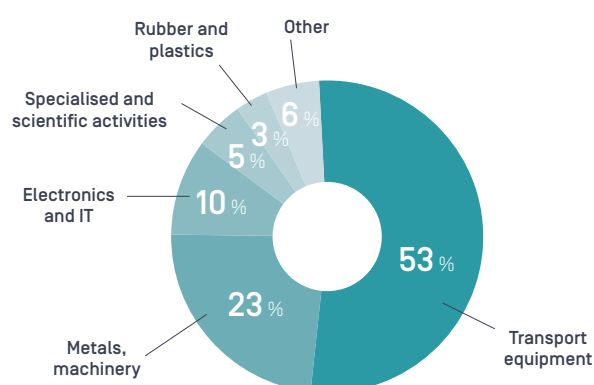
More than half the employees of establishments focused exclusively on aeronautics work for the transport equipment sector in aerospace construction. The metals and machinery sector is the second largest employer, with a preponderance of industrial mechanics.

The main contractor, **Airbus Atlantic**, has three major sites in Loire-Atlantique. They employ over 7,000 people, including more than 2,600 in Nantes and 4,300 in Saint-Nazaire. Three other sites, acquired at the beginning of 2025 from subcontractors **Daher** and **Spirit Aerosystems** in order to secure the long-term increase in production rates, strengthen the aircraft manufacturer's industrial network in the region. These six Airbus Atlantic sites are an essential link in the Airbus value chain. Set up in 2022, the Airbus Atlantic subsidiary will enable the manufacturer to optimise its competitiveness by increasing its levels of flexibility, speed, simplicity and agility.

Many subcontractors work around Airbus Atlantic in the region, including **Daher**, **Mecachrome** and **Parker Meggitt**, all of which are present in every department of the region.

Howmet Fixations Simmonds, a specialist in metal fasteners and parts, and **Eaton-Souriau**, a connector manufacturer, both based in the Sarthe, are also among the region's leading companies in the industry.

Breakdown of salaried workforce by sector in establishments with aeronautics as the core business



3/4

of employees
in the sector work in
establishments with at least
100 employees

Many companies are also active in markets other than aerospace

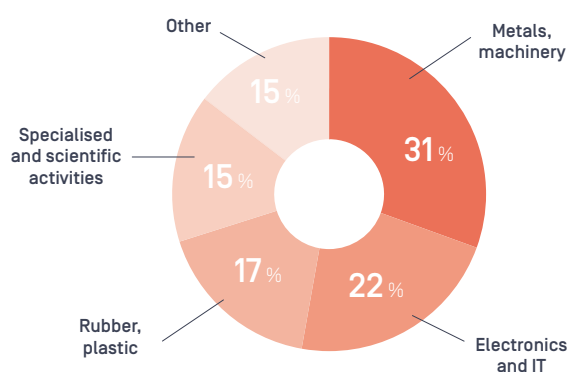
In establishments working for different markets (aerospace, automotive, naval, etc.), the main sectors of activity are relatively similar to those of companies specialising in aeronautics.

The majority of employees in these establishments work in metals, machinery and, in particular, industrial mechanics. Next come the electronics and IT sectors, mainly the manufacture of assembled electronic cards.

The Vendée-based company **Defontaine**, which specialises in the manufacture of gears and mechanical transmission components, employs nearly 600 people at its headquarters in La Bruffière.

Other establishments, which provide a large number of jobs in the region, also work in part for the aerospace market. These include **Tronico**, also in Vendée, **Lacroix Electronics**, in Maine-et-Loire, and **Selha**, in Mayenne, which manufacture assembled electronic boards. **Hutchinson**, in Sarthe, with 410 employees, manufactures rubber goods.

Breakdown of employees by sector in 'aeronautics, among other markets' establishments

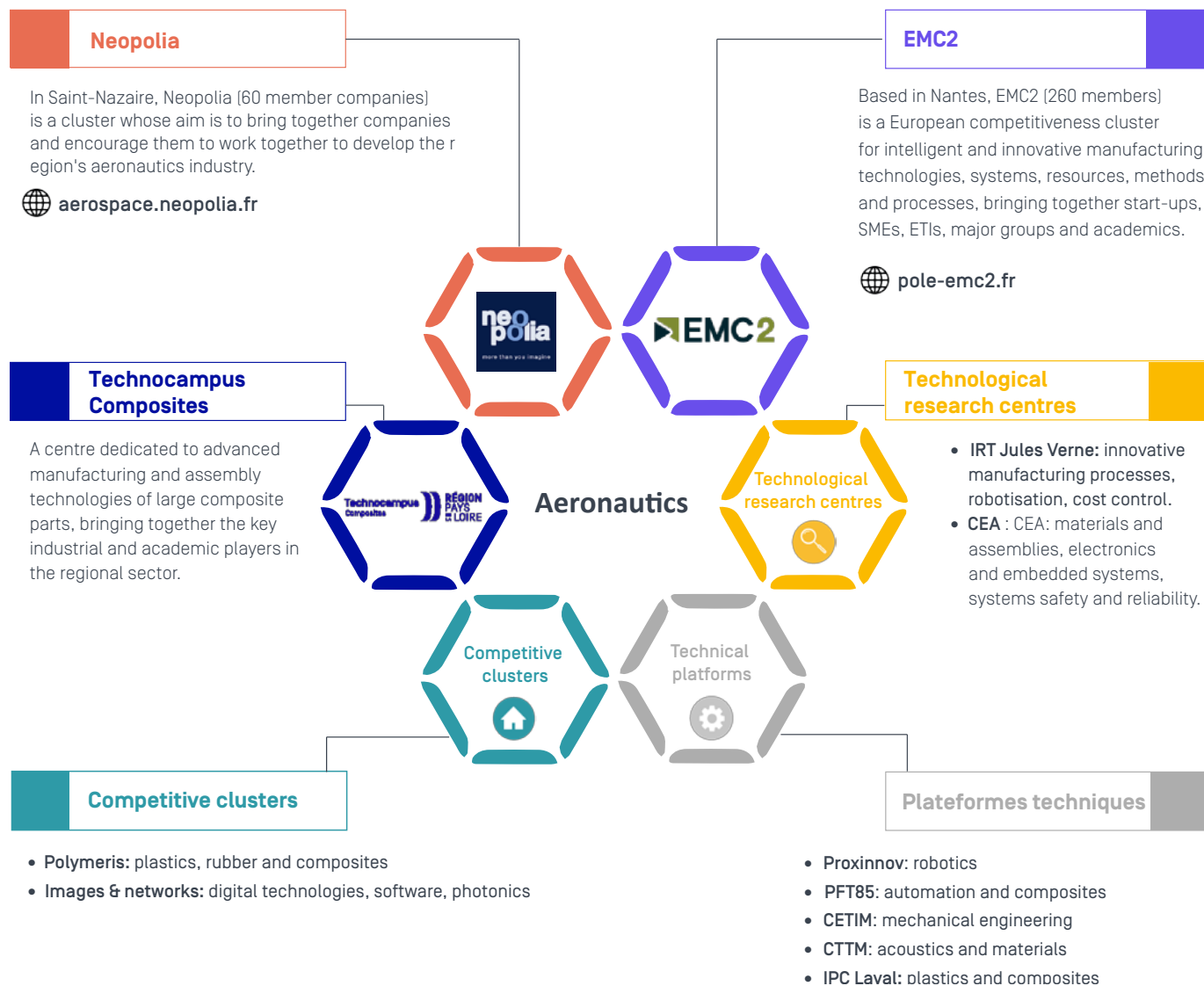


2/3 of the sector's establishments are also positioned in markets other than aerospace.



AERONAUTICS INDUSTRY ECOSYSTEM

In the Atlantic France region, the aeronautics industry is supported by a large number of reference centres and networks, technical platforms and research centres.



The Campus of professions and qualifications of excellence in aeronautics



The Atlantic France region offers some forty initial and continuing training courses, ranging from vocational diplomas to engineering degrees, to help develop the skills and know-how that are essential to the aeronautics industry. The Campus of professions and qualifications of excellence in aeronautics Atlantic France - Brittany brings together academic establishments, manufacturers in the sector, institutional partners and professional organisations (GIFAS and UIMM) to address training and employment issues in the sector.

The aim of the campus is to make careers and training more visible and accessible, and to provide relevant responses to companies' needs for skills and know-how. The region is also home to top-tier general engineering schools that also offer training in aeronautical professions: Centrale [Nantes], IMT Atlantique [Nantes], ENSIM [Le Mans], ESEO [Angers], ESTACA [Laval] and Polytech [Nantes].

Airbus Atlantic, the main contributor to the region's aeronautics trade surplus

At the national level, GIFAS's positive assessment for 2024 shows that the industry has returned to the levels of activity seen before the health crisis. In France, the aeronautics industry generated sales of €77.7 billion, including €51.2 billion from exports (82% of total sales).

In the Atlantic France region, **exports of aeronautics construction products** generated €2,938 million in 2024 (ranked 2nd in terms of products exported). Foreign trade with Germany accounted for 68% of this amount, mainly corresponding to components shipped to Airbus' final assembly lines in Hamburg. Products shipped to the United States amount to 25% of exports, largely due to the flow of Airbus packages between the Montoir-de-Bretagne and Mobile, Alabama sites. Since 2018, Airbus has been taking advantage of its privileged access to the sea to transport aircraft sections on this regular shipping route. The aircraft manufacturer ships across the Atlantic not only components manufactured on site, but also sections produced at other Airbus sites in Germany, Spain and England. Nantes Saint-Nazaire Port is home to Airbus's only European hub for its American plant.

Imports of aeronautics products into the region will amount to €908 million in 2024. The main supplier countries are Germany (34%), the United States (22%) and Spain (10%). As a result, the region has a trade surplus of €2,030 million.

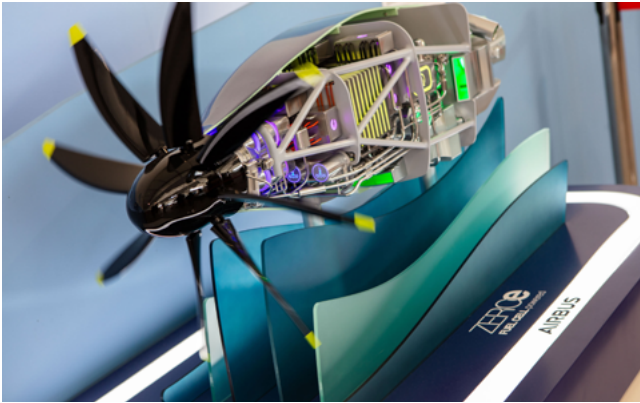


La Team France Filière Aéronautique et Spatiale

At the national level, the different partners in the sector have decided to join forces by launching the 'Team France Filière Aéronautique et Spatiale'. Spearheaded by Business France, this initiative aims to bring together organisations representing companies in the sector around a common objective: to define an export strategy and promote the French offer internationally.



CHALLENGES



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Accelerating decarbonisation: an industry imperative

On 14 February 2023, the air transport sector was the first to officially submit its decarbonisation roadmap to the government. This is a crucial issue for the aviation industry, with a target set by the International Civil Aviation Organization (ICAO), a UN body, of zero net CO₂ emissions from civil aviation by 2050. This ambition calls for a radical transformation of the industry, from aircraft design to operation.

Among the different measures being considered:



- Fleet renewal with new-generation aircraft that offer airlines the highest levels of comfort while guaranteeing significant reductions in CO₂ emissions.
- The use of SAF (Sustainable Aviation Fuel), i.e. synthetic fuels and biofuels, to gradually replace paraffin.
- The development of hydrogen as a fuel for new internal combustion engines, or as a fuel for fuel cells [electric motors].

By 2025, decarbonisation will no longer be limited to downstream activities [aircraft operation], but will involve the entire value chain, including materials production, manufacturing, logistics and maintenance. The region's companies, which are closely involved in the supply chain of Airbus and its major customers, are directly affected by these requirements. This means adopting processes that consume less energy, optimising resource management [water, energy, raw materials] and developing innovative solutions as part of a circular economy.



An industry in the midst of an ecological transition

In Nantes, **Airbus** is continuing to develop its hydrogen-powered aircraft. In 2023, the aircraft manufacturer inaugurated one of its two European 'zero emission' research centres, dedicated to the manufacture of cryogenic tanks, critical components for the storage of liquid hydrogen. The aircraft manufacturer is also working with the IRT Jules Verne, which in 2024 will be equipped with three new cutting-edge technological facilities as part of the NOMADE project, to remove the technical, industrial and economic barriers associated with these tanks.

At Donges [44], the Take Kair project, led by **Hynamics** [an EDF subsidiary], involves the construction of a plant to produce e-kerosene from renewable hydrogen, with a target of 37,000 tons a year by 2030. The project, supported by the France 2030 plan as part of the CARB'AERO call for projects, aims to provide a sustainable aviation fuel that will cut CO₂ emissions by a factor of 5 compared with fossil paraffin. The SAF produced on this site would represent more than a third of the incorporation target set by the European Union for the French aeronautical sector.



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Reconciling speed increases and industrial sovereignty: the challenge of supply chain resilience

Supply chain resilience is a major challenge for the region's aeronautics industry, which has to respond to pressure on production rates despite geopolitical, inflationary and labour crises.

To reduce their dependence on international suppliers, prime contractors are stepping up the insourcing of strategic skills. This trend is illustrated by Airbus Atlantic's acquisition, in early 2025, of three industrial sites from subcontractors **Daher** (Carquefou, Malville) and **Spirit Aerosystems** (Montoir-de-Bretagne), in order to secure production and meet delivery deadlines for its order books. With the same objective in mind, the aircraft manufacturer is also pursuing the development of exclusive partnerships with its equipment manufacturers. At the end of 2024, **Mecachrome** renewed its agreement with Airbus Atlantic for five years, ensuring the long-term future of its sites in Loire-Atlantique and Vendée and guaranteeing visibility on its activities until 2030.

The subcontractors themselves are investing to keep pace with this increase in production rates. **Ametra Intégration**, based in Longué-Jumelles [49], has doubled its sales in three years thanks to its aerospace and defence customers. To meet demand, in 2023 it launched a transformation plan called Neo (New Operational Excellence), focusing on optimising the supply chain, improving testing resources and training teams.

In Cholet [49], **Aequis Aerospace** has invested more than €4 million since 2021 to modernise its machinery in anticipation of higher production rates and to boost its in-house production capacity. These investments will enable the company to remain competitive and meet the growing demands of the regional and international aerospace sector.

These initiatives are evidence of a collective effort to strengthen industrial sovereignty and secure supply chains, while supporting the necessary ramp-up to maintain the competitiveness of the aeronautics sector in Atlantic France.



To support regional companies in this drive and meet the demands of a rapidly changing industry, the EMC2 cluster has joined forces with the **SPACE AERO** association. The aim of this partnership is to strengthen the industrial skills of its members and accelerate the transformation towards a more competitive and sustainable aeronautics industry in the region.

Digital transformation to boost industrial performance

The acceleration in the digitisation of industry is optimising production methods in the aeronautics sector, driven by digital simulation, the internet of industrial objects (IIoT), predictive maintenance and big data management. Numerous «service» start-ups are helping to modernise this sector as it moves towards Industry 4.0.

Nantes-based start-up **Miura Simulation** is developing digital twins that can be used to model industrial processes and products in order to optimise them.

Additive manufacturing, which is essential to the aeronautics industry, is also well represented in the region. In Loire-Atlantique, **Addium** and **Loiretech** meet the 3D printing needs of customers for prototyping and manufacturing high-precision parts.

In Laval, RealityCad develops virtual reality solutions for training employees at aeronautics production sites, as does **Arkai Interactive** from the Vendée.



An industry in the midst of a digital transition

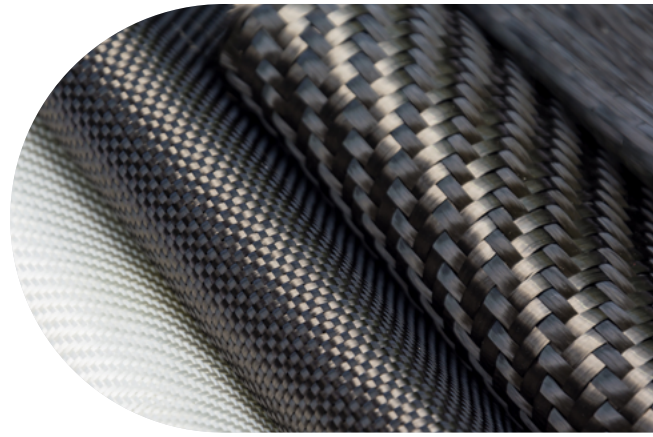
In Beaupréau-en-Mauges, the **Lacroix Group**, a specialist in electronics, has capitalised on these technological advances to build its new assembly plant. Named Symbiose and awarded the «**Industry of the Future Showcase**» label, this site, which employs 430 people, is an example of Industry 4.0 on a national scale.

Composite materials: innovation to combine technical performance and the circular economy

The players in the Atlantic France aeronautics industry are strengthening their commitment to the circular economy of composites, while optimising their performance.

Two years after the launch of its Shap'In R&D centre, equipment manufacturer **Daher** has reached a new milestone in 2025 by transforming composites innovation into industrial solutions. This transition marks an essential step for the subcontractor, which aims to play a key role in tomorrow's major aeronautical programmes, where these materials will play a decisive role. Shap'In has consolidated Daher's expertise in machining composites and welding thermoplastic composites, a major technological breakthrough that allows assembly without fasteners, thereby reducing the weight of aerostructures.

The technocentre has also rethought the entire life cycle of composite materials, setting up a recycling process with a view to producing new parts. In line with this circular economy approach, the start-up **Reeverse Systems** in Nantes is offering a digital solution for managing, reusing and optimising materials for the aeronautical industry.



Another start-up, **Fairmat**, has raised more than €50 million in 2025 to triple its production capacity and accelerate its international expansion. Its patented 'Infinity Recycling' process enables carbon composites to be cold-recycled almost indefinitely, with a reduced carbon footprint. The recycled materials are reused in a variety of sectors, including sport, automotive and electronics.

The civil-defence duality, a new challenge for the Atlantic France's aeronautics industry

In a global context of geopolitical tensions, France is planning a major increase in its defence budget, creating a huge call for tenders for the many regional aerospace subcontractors. More and more players in the civil aeronautics sector are opening up to the defence market, using this duality as a lever for diversification. To meet the growing demand from the military, **Europe Technologies**, **Rabas** and **Gestal**, which have historically focused on aeronautics, are benefiting from the regional **ECODEF** programme to adapt their production facilities to meet the growing needs of the defence sector. This initiative was launched in 2024 by the EMC2 cluster in association with the Region, the DGA (Direction Générale des Armées), Daher, Airbus Atlantic and Naval Group, to help the region's SMEs and SMBs transform to meet the challenges of the defence economy sector on three fronts: increasing production, agility of the production base and civil-defence duality.



In Cholet [49], **Thales** is to build a new production site for its means of communication between soldiers, aircraft and ships, and its electronic warfare equipment. Scheduled for completion in 2028, this €300 million project is designed to meet the challenges of European military rearmament.



At the beginning of 2025, **CERTIX Group**, based in Angers, made it official that the French Ministry of Defence would invest in its capital via the Definvest fund. Operated by Bpifrance, this fund aims to invest in SMEs deemed strategic in terms of national defence interests. CERTIX Group now comprises five complementary industrial entities, including **AAS Industries** and **COMMECA Anjou**, two SMEs in Maine-et-Loire specialising in machining. The group is thus confirming its position as an integrator and supplier of complex systems, capable of covering the entire value chain, from design to final integration.

METHODOLOGY FOR STUDYING THE SECTOR

This document is based on a methodology developed by Solutions&co - Analyse et Prospective. This enabled the scope of the aerospace industry in the Atlantic France region to be defined according to a 'market' approach: companies whose core business is aeronautics and those for which aeronautics is just one market among others [automotive, naval, etc.]. Therefore, to obtain the broadest possible estimate of the number of establishments and employees in the aerospace aeronautics industry, all companies [core and other markets] should be counted.

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