

INVEST. INNOVATE. INTERNATIONALIZE.

Aerospace

Industry Clusters in Eastern Germany

The German capital region of Berlin-Brandenburg has established itself as one of Europe's leading developers of state-of-the-art aircraft turbines and a major engine manufacturing, testing and light aircraft production location.

Aerospace in Germany

Germany is one of the world's most attractive aviation manufacturing locations. Sector revenues (more than EUR 37.5 billion in 2016) have more than quadrupled since the 1990s. During the same period, the industry has recorded annual average growth of more than seven percent. Employing a workforce of around 108 thousand (of which more than 50 percent are engineers and industry professionals), the aerospace sector is one of the country's most innovative industries, spending more than EUR 4 billion of 2016 turnover (around 11 percent) in research and development.

Aircraft OEMs and industry analysts forecast global demand for 30 to 35 thousand new passenger aircraft (worth more than USD 5 trillion) over the next 20 years. This significant demand will further open up supply chains as part of the continued shift from regional to global sourcing. Germany, as a home to leading players from all segments – from equipment manufacturers, material and component suppliers to engine producers and whole system integrators – is very much at the center of the industry supply chain transformation process.

Aerospace in Germany – Selected Key Data

Turnover/Revenue	EUR 37.5 billion
Export Share of Sales	70 percent
R&D Investment Level	EUR 4 billion (11 percent of industry turnover)
Workforce	108,000

Source: German Aerospace Industries Association (BDLI) 2017

Aerospace in Eastern Germany

The Berlin-Brandenburg capital region enjoys a reputation as the cradle of German aviation. It was here in 1891, that German aviation pioneer Otto Lilienthal carried out his first flight attempts. In 1990, almost a century later, the region began to assert itself as a leading international aerospace location. Today, aviation goods count as one of Brandenburg's most important export products (Germany's aerospace sector has an export rate of around 70 percent), with the state alone generating more than EUR 2.2 billion export turnover in 2015.

Around 100 companies in Berlin-Brandenburg are active in the sector, providing employment to some 17 thousand engineers, mechanics and service personnel. Berlin-Brandenburg enjoys an excellent development and testing reputation, attracting technology leaders of the renown of AneCom AeroTest, Element Materials Technology Berlin, FTI Engineering Network, and Rolls-Royce. Companies and research institutions located in the region are involved in all four of the major European aerospace projects (Galileo global navigation satellite system and the Airbus A380, A400M, and A350 WXB). The high concentration of aerospace-related manufacturing and assembly – as well as R&D, design, recycling and supply – facilities enables companies to successfully partner across the whole value chain. In the region of 52 institutions of higher learning and around 200 public and private research institutions constitute one of the densest research networks in Europe.

Aerospace in Eastern Germany - Berlin-Brandenburg Capital Region

Number of Companies	approx. 100
Workforce	17,000
R&D Institutes	200+
Export Turnover	EUR 2.2 billion

Source: Brandenburg Economic Development Agency 2014, 2017

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Transport, Mobility and Logistics (VML) Cluster

Established in 2011, the capital region's "Transport, Mobility and Logistics" (VML) cluster is one of a number of dynamic interstate clusters belonging to Brandenburg and Berlin. The cluster was set up to specifically address the challenges of sustainable mobility in the global age. Brandenburg counts among Europe's main developers of state-of-the-art aircraft turbines.

Highly interdisciplinary in nature, the cluster eschews the conventional focus on one mode of transportation in favor of an investigation of the transportation, mobility and logistics interactions that occur across industry sectors. Within the capital region, these include the aerospace, automotive, logistics, rail transport engineering, and traffic telematics industries.

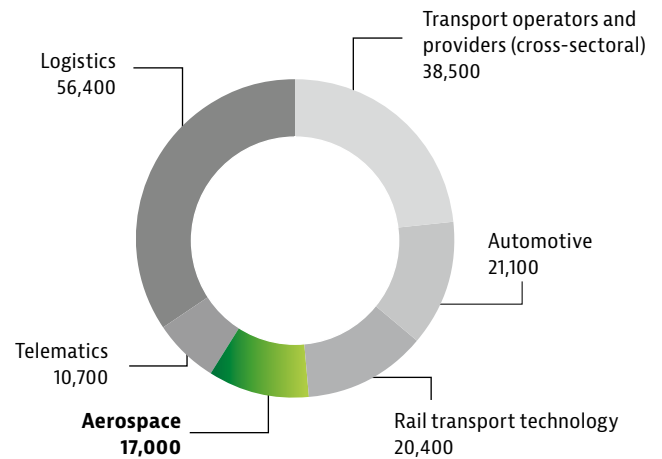
Aerospace Value Chain

Around 100 aerospace companies, research facilities and universities from across the industry value chain, with a combined turnover of more than EUR 2 billion, are also organized in the Berlin Brandenburg Aerospace Allianz e.V. (BBAA). BBAA has been an associate member of the German Aerospace Industries Association (BDLI) since 2004 and is a member of the European Aerospace Cluster Partnership promoting mutual exchange, policy learning, and cooperation to achieve high-level performance among European aerospace clusters.



Transport, Mobility and Logistics Cluster in Berlin-Brandenburg

Number of employees in cluster segments



Source: VML 2012

Network Competence

Building on existing networks, the VML cluster optimizes the region's competence profile by adhering to a policy of continual development and delivers important contributions to future transport systems in a number of joint projects. The VML cluster enjoys the pooled resources of around 200 thousand people working in more than 17 thousand companies and over 100 scientific research establishments. The capital region boasts more than 50 institutions of higher education and around 200 public and private research institutes – making it home to one of Europe's most dense research and technology transfer networks.

Academic Excellence

Aviation industry actors and suppliers also benefit from the know-how provided by the technical universities and universities of applied sciences in Berlin, Cottbus, Brandenburg a. d. Havel, Senftenberg, and Wildau who provide a steady pool of aeronautical engineering, aircraft propulsion, aviation logistics, and mechanical engineering graduates.

Business services in Brandenburg are provided by the Brandenburg Economic Development Corporation (WFBB).

VML Brandenburg – Cluster Voices



Michael Weisel

CEO, FTI Engineering Network GmbH

What does your company do?

FTI specializes in aircraft security video systems for passenger and freighter aircraft. We provide innovative camera, video and sensor solutions – installed inside and outside the aircraft. We thereby support aircraft operator efforts to increase security and efficiency in their daily business – in the air and on the ground. Our long-term experience in aviation and camera technologies make us an ideal partner for airlines, aircraft operators and manufacturers. Moreover, we are also expert in the design and certification of large and small aircraft modifications for special purposes. We are also Design Organisation (DOA: EASA.21J.405) and Production Organisation (POA: DE.21G.0006) approval certified.

Why is the Berlin-Brandenburg region such an attractive aerospace location?

FTI is located in the Aerospace Technology Center in Wildau which has been continuously growing during the last years. Wildau has also become a home for a wide range of aerospace companies, training centers and a technical university providing degrees in aviation. This attracts aerospace employees to stay here or move to this region.

What does the future hold for your company?

As a result of increased security awareness we expect the aircraft surveillance market to continue growing in the future. This will allow us to continuously improve our products and services and extend our customer base. We have also just started to expand our aircraft modification activities which also shows promising potential to position FTI in this market.

Company: FTI Engineering Network GmbH

Activity: Aircraft security video solutions

Employees: approx. 35



www.ftigroup.net



André Sinanian

CEO, MTU Maintenance Berlin-Brandenburg

What does your company do?

MTU Maintenance Berlin-Brandenburg, located in Ludwigsfelde, is part of MTU Maintenance, the engine services provider and a business unit of MTU Aero Engines AG. The facility is MTU's second largest dedicated maintenance site in Germany. Within MTU Maintenance's international network, this location has the broadest and most complex product range. Its portfolio consists of ten aircraft engine and industrial gas turbine programs in the lower to middle thrust and power category range and includes more than 120 derivatives. The success of MTU Maintenance Berlin-Brandenburg can be spelled out simply: IGT, PWC and CF34. The company is the MTU competence center for industrial gas turbines; the specialist in Europe, the Middle East and Africa for Pratt & Whitney Canada engines; and MTU Maintenance's competence center for the successful CF34 engine family, manufactured by GE Aviation.

What are the advantages of clusters?

The Brandenburg Economic Development Agency and its cluster experts are partners and a catalyst for ideas for us. We can contact them regarding a wide range of questions – be it site expansion, additional investment, such as the promotion of technology projects, or in the search for additional, specialized personnel. Thanks to our close cooperation, we receive competent and efficient advice from one single source.

What does the future hold for your company?

Our order books are full and we have a whole range of new products that will enter the market successively. Organizationally, we are well positioned and we have made the right investments for the future in recent years.

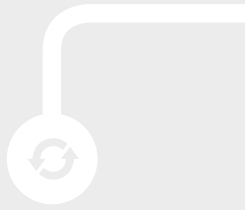
Company: MTU Maintenance Berlin-Brandenburg GmbH

Activity: Maintenance, repair & overhaul, leasing and asset mgmt. of aircraft engines/industrial gas turbines

Employees: approx. 700



www.mtu.de





Alastair McIntosh

*Managing Director, Rolls-Royce Deutschland
Head of Technology Programmes, Civil Aerospace*

What does your company do?

Rolls-Royce is a world-leading manufacturer of power systems, with its civil aerospace, defence aerospace, marine and power systems divisions represented in Germany. More than 10,000 Rolls-Royce employees are based in Germany at over a dozen different locations. This represents the group's largest workforce in any single country outside the United Kingdom.

Dahlewitz occupies an important position within the Group as the location of a number of global centers of expertise. For example, in the mechanical testing of engine components as well as in two-shaft engines, nacelles, and the development of compressor and power gearbox technologies which are central components of future generations of propulsion systems.

Why is the Berlin-Brandenburg region such an attractive aerospace location?

The Berlin-Brandenburg region is the third largest aerospace cluster in Germany. We have grown since we opened our site in Brandenburg in 1993 – as has the aerospace cluster itself. Today we directly employ more than 2,600 highly skilled employees. Government support made available to strengthen the aerospace sector is outstanding.

How important is internationalization to your activities?

Rolls-Royce is a global player. We have customers in more than 150 countries, comprising more than 400 airlines and leasing customers, 160 armed forces, 4,000 marine customers including 70 navies, and more than 5,000 power systems customers.

Company: Rolls-Royce Deutschland Ltd. & Co. KG

Activity: Only German engine manufacturer with full systems capability – certified to develop, assemble and service modern civil and military jet engines

Employees: approx. 3,600 (nationwide)



www.rolls-royce.de



Dr. Reiner Stemme

CEO, RS-UAS

What does your company do?

RS-UAS develops airborne surveillance systems for security and protection applications. We cover all system components from the airborne platform, integration of sensor equipment to data ground links, ground stations and, of course, data processing. We also cooperate with business and research partners to create turnkey systems for clients. Our experience in aircraft and airborne surveillance system design is being put to good use to develop next generation surveillance platforms and systems.

Why is the Berlin-Brandenburg region such an attractive aerospace location?

Our headquarters are located in the Aerospace Technology Centre Schönefelder Kreuz in Wildau – at the center of the region's growing aviation research and industry. Flight operations are performed at Schönhagen airport, just 30 minutes from our headquarters.

What are the advantages of clusters?

The experience of the individual cluster partners helps us to move into new markets. As a small company we are also perceived much more positively than we would be if we tried to win the world's markets alone.

How important is internationalization to your activities?

Our products are developed for the global market and are sought after in the growing optional piloted vehicle platform segment where demand is international. RS-UAS has to build and offer products and support internationally. We do both of these things; either directly with our employees or with strong sales/maintenance partners in the selected target markets.

Company: Reiner Stemme Utility Air Systems GmbH (RS-UAS)

Activity: Airborne surveillance systems development

Employees: approx. 60



www.rs-uas.com

Germany Trade & Invest Cluster Marketing Activities

Industry clusters – in which companies, research institutions and universities come together to join a particular industry in a geographical region – provide numerous partnership opportunities and synergy effects for their members. Member companies and organizations also benefit from the cluster umbrella brand when venturing into international markets.

Germany Trade & Invest's (GTAI) cluster marketing activities strengthen the internationalization of the Eastern German economy, and the global visibility of both Eastern Germany as an investment location and the cluster in the region. To this end, GTAI has already published the "INVEST. INNOVATE. INTERNATIONALIZE. Industry Clusters in Eastern Germany" booklet highlighting the innovative capacity and attractiveness of the new federal states as an investment location based on the example of a selection of industry clusters in Eastern Germany.

As part of GTAI's 2017/2018 activities, these clusters are now being individually presented in selected international target markets. GTAI provides the accompanying cluster representatives – companies, research institutions and cluster management – with the opportunity to learn more about their target markets and to expand and intensify their network of contacts.

GTAI Cooperation Forums allow cluster delegation members to enter into "matchmaking" discussions with local companies and institutions about potential partnership. Investor events at the selected locations allow Eastern Germany to be presented to foreign companies in order to generate cluster settlement interest. GTAI works closely with the respective federal state economic development agencies and cluster management.

Powerhouse Eastern Germany

GTAI activities that market Eastern Germany as a business location to the world are bundled together under the "Powerhouse Eastern Germany" umbrella brand. Prospective international investors are advised about market opportunities available in the new federal states.

GTAI's Powerhouse Eastern Germany division promotes the benefits of doing business in the new federal states to international investors as well as seeking to increase the opportunities of Eastern German businesses in the international marketplace. International business delegation and exchange trips play a central role in achieving this dual objective.

Powerhouse Eastern Germany branded conferences and trade fair visits and special events help communicate the message that the regenerated region has established itself as one of Europe's most attractive and innovative production and service locations.

Particular focus is attached to the region's strong and dynamic industry sectors including the renewable energies, chemical, mechanical engineering, automotive, biotechnology, and service sectors. All international companies interested in locating in Eastern Germany are supported by GTAI and the responsible economic development agencies of the respective new federal states.



OUR SERVICES

About Us

Germany Trade & Invest (GTAI) is the economic development agency of the Federal Republic of Germany. The company helps create and secure extra employment opportunities, strengthening Germany as a business location. With more than 50 offices in Germany and abroad and its network of partners throughout the world, GTAI supports German companies setting up in foreign markets, promotes Germany as a business location and assists foreign companies setting up in Germany. All investment services and related publications are free of charge.

Investment Location Services

- Market and industry reports
- Market entry analyses
- Business and tax law information
- Business and labor law information
- Funding and financing information

Business Location Services

- Legal and tax-related project support
- Funding and financing advisory services
- Site visit organization
- Local partner and network matchmaking
- Public and private partner coordination

Imprint

Publisher

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Print

Kern GmbH, 66450 Bexbach
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Order Number

20965

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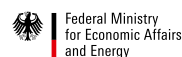
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Trade & Invest, September 2017

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