

INVESTMENT OPPORTUNITIES

Aerospace Industry in the Czech Republic



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Welcome to the Czech Aerospace

The Czech Republic at a Glance



Population (million)	10.5
Labour force (million)	5.3
Unemployment (% , May 2015)	6.4
GPD per capita (*2014)	28,446
Annual inflation (% , May 2015)	0.4

Source: Czech Statistical Office 2015, Czech Ministry of Finance April 2015, IMF 2015 ; *current international \$

International Airports in the Czech Republic



Source: CzechInvest, 2015

The Czech Republic has a long aviation tradition and has always had a strong presence in the aerospace sector. Over the years the country has made a name for itself based on outstanding quality, reliability and innovation in the industry.

From basic production to final aircraft assembly and cutting-edge research and development programmes, the local aerospace industry has progressed significantly and simply cannot be overlooked. Today most Czech companies and institutions work with top industry players on various levels and take part in multinational joint programmes or research projects.

Maintenance, Repair and Overhaul

MRO activities have a long history in the Czech Republic and local facilities are well-established, reliable partners for their customers, providing extraordinary services for various aircraft types – from helicopters and private and regional aircraft to large aircraft MRO facilities with maintenance capabilities for Boeing and Airbus planes. All of these facilities are conveniently located in the heart of Europe.

Light and Sport Aviation

Many small private companies specialising mainly in the production of light sport aircraft have been established since 1990. These firms are headed by very experienced engineers and workers, including former employees of major state-owned aircraft factories. The Czech Republic has become one of the largest LSA manufacturers in the world.

Czechs and Space

When it comes to space activities the Czech Republic is not lagging behind. The main focus is on high-added-value areas such as satellite systems, components and innovation programmes. The Czech capital, Prague, is the home of the European GNSS Agency, which is responsible for the Galileo navigation system project and the country is also an active member of the European Space Agency.

Ready for the Future

For many years the Czech Republic's aviation industry has been among the most competitive in the world. Now, driven by its strong historical tradition, the industry is proving once again that its expertise is valuable on the global market and Czech companies are ready for all the challenge.

The Czech aerospace industry has undoubtedly advanced to the level of global competitiveness in terms of quality and innovation while maintaining some advantages of an emerging market for investors. Companies such as Honeywell, GE Aviation and others have taken advantage of that while expanding their businesses. Join the world's elite and invest in the Czech Republic!

“ As a two-time foreign investor in the Czech Republic, I speak from the positive experience of selecting a country partner for my business that brings me an exceptionally talented and educated workforce, a business environment that is non-intrusive to our operations and growth, and a location at the center of Europe. There are countries with lower wages, but in our high-technology aerospace business it is the superior productivity and the innovative nature of the local people that makes the Czech Republic a smarter choice. ”

Christian R. Nielsen
CEO and Owner, Aveo Engineering Group

Labour Availability and Skills

Aerospace at Czech Universities



Source: Ministry of Education, Youth and Sport, 2015

What has kept the aerospace sector on such a high level throughout its history is and always will be people. Roughly 10,000 employees work in the industry in the Czech Republic. Their skills and expertise are the core of the sector's success.

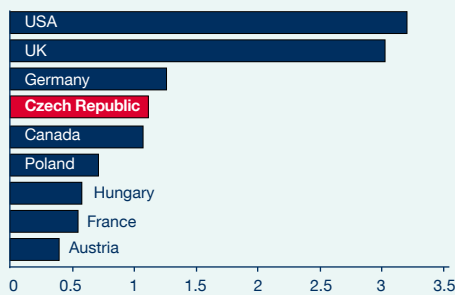
The Czech Republic and its traditionally strong technical education system accommodate such institutions that provide high-level education in key areas to make sure there are enough graduates in various aerospace related programmes to ensure enough available people with relevant knowledge for the very demanding labour market.

Education

Top Czech universities have outstanding aviation programmes focused on several highly specialised areas that are crucial for aviation-related manufacturing. The Czech Technical University in Prague and Brno University of Technology offer a unique approach in aerospace education, as students are allowed to experience the real world of aircraft design and work on the development of new aircraft themselves with the assistance of aviation experts. This process is supported by various departments in the fields of flight dynamics, controls, advanced avionics, sensors, safety systems and IT solutions.

Companies and universities work hard to make sure labour will remain an advantage of Czech aerospace with the continual global growth in the aviation industry that is expected for years to come.

Specialization in Aerospace



Note: Number of companies per 100,000 population

Source: fDi Intelligence from the Financial Times based on Dun & Bradstreet (fDi Benchmark 2015)

Technical Programmes at Czech Universities Academic Year 2014/2015



Source: Ministry of Education, Youth and Sport, 2015

“A country's competitiveness depends on its people and Honeywell has found the talent it needs here – innovative, skilled and dedicated people. This is why we have made the Czech Republic a key research, development and manufacturing hub in central Europe.”

Jiri Tomicek
VP and General Manager, Honeywell Technology
Solutions Czech Republic

Professional Groups



Association of Aviation Manufacturers of the Czech Republic

The Association of Aviation Manufacturers has 37 members ranging from small specialised companies to major prime contractors, systems suppliers aircraft aggregate and component manufacturers. They cover the whole spectrum of skills from design, development and production of aerospace systems to maintenance and operation including marketing and sales.

Their activities range from military and civil aircraft, aircraft engines and weapon systems to space research, aircraft-system components and aggregate production, including the respective software. The Association of Aviation Manufacturers is a member of the ASD Aerospace and Defence Industries Association of Europe and of the Confederation of Industry of the Czech Republic.

www.alv-cr.cz



Confederation of the Czech Aviation Industry

The Confederation of the Czech Aviation Industry (CCAI) is a network of Czech aviation manufacturers and institutions involved in aerostructures, aero engines, MRO, avionics, systems and complete aircraft and integrated aircraft component design, development, production and testing. The CCAI consists of 21 aviation manufacturers and 8 associate members with over EUR 270 million in turnover, employing more than 3,280 aviation professionals.

The CCAI develops and supports business cooperation between its members, strengthens the competitiveness of the Czech aviation industry and protects the interests of its members, while also supporting and promoting education for the aviation industry and prospective development and research projects.

www.sclp.cz



Moravian Aerospace Cluster

The Moravian Aerospace Cluster represents a regional concentration of aviation-industry sectors, specialised suppliers, service providers, companies operating in related fields, educational and non-profit organisations and individuals.

Moravian Aerospace Cluster is an independent association which brings together its members on the basis of common interest in field of research and development activities as well as production capabilities (airframe design, avionics, composite materials) in the Moravia region.

www.aero-cluster.cz



Unmanned Systems Manufacturers Association

The Unmanned Systems Manufacturers Association (AVBS) was established to promote industrial players involved in development, manufacturing and operation of unmanned aerial vehicles in the Czech Republic. The current member base consists of seven organisations including international companies such as Honeywell, as well as academia represented by the Institute of Aerospace Engineering at Brno University of Technology. The association's goals include supporting and exploiting unmanned-vehicle research and development as well as promotion and development of education. The AVBS is a member of the pan-European association UVS International.

www.avbs.cz

Research and Development

Today's aerospace industry is largely based on sharing knowledge and experience with partners on national and international levels. Unique research teams work within the industry and in academia. Public-private cooperation has been a key activity in the R&D area, thanks to which specialised university centers have become involved in high-value-added projects. Knowledge and innovation are among the most important factors in order to remain competitive on the global level and to be able to advance further. The Czech Republic is home to world class institutions that represent exactly that.

Honeywell



Honeywell Technology Center Brno and Prague Laboratory

The laboratory in Prague started operations in 1993 as Honeywell's first R&D center outside the US and it recently became the European focal point for Honeywell User Experience and Human Factor research.

Honeywell Technology Solutions in Brno is an R&D center for Honeywell Inc. with operations in the Czech Republic, India and China. The center provides technology, product and business solutions for multiple businesses of Honeywell that meet global standards of quality, innovation and lifetime performance.

Czech Honeywell Technology Solutions is involved in providing Research, Product Design, Development and Engineering to deliver best value to Honeywell customers. The center in Brno with its world-class engineering talent and state-of-the-art infrastructure works on current and next generation products for Aerospace, Automation Control Solutions and Transportation Systems business of Honeywell.

www.honeywell.cz

Aerospace Research and Test Establishment

The Aerospace Research and Test Establishment (VZLÚ) is a national center for research, development and testing in aeronautics and space. The main mission of VZLÚ is to generate new knowledge and transfer it into industrial practice, as well as to provide its partners with maximum support in the development of new products. As a multi-discipline research organisation, VZLÚ exploits synergic effects and also contributes to the progress of the automotive, rail, defence, security and power industries and civil engineering.

The facility is well equipped, enabling a wide range of services including wind-tunnel testing, production of composite parts and a portfolio of various tests in accredited laboratories.

www.vzlu.cz

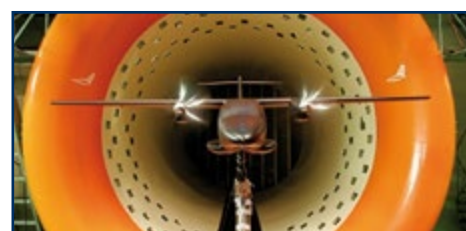
“The long and successful tradition of the aviation industry in the Czech Republic has formed an outstanding and experienced workforce with an intense passion for everything related to flying. This combined with capital, extensive industrial and engineering expertise, technology and the leadership of GE, is a great formula for growth. The certification in 2011 of the new H80 engine developed and built here, all under one roof in the Czech Republic, is perfect evidence of this.”

Milan Šlapák
Turboprop Program Manager – GE Aviation,
Regional Engines & Services

Selected Specific Examples



The GE H80 Turboprop engine is the first engine in the history of GE Aviation designed and manufactured outside the US



The wind-tunnel testing facility is an essential part of development procedures at the VZLÚ



Faculty of Mechanical Engineering, Department of Aerospace Engineering, Czech Technical University in Prague

The Faculty of Mechanical Engineering is part of the oldest technical university in Central Europe established in 1707. The aim of the contemporary faculty is to be a top educational and research establishment recognized both in the Czech Republic and abroad.

Aerospace has a long tradition at the Czech Technical University, as the first lectures in the field were given as early as in 1929. In 1976 the Institute of Aerospace was established as the predecessor of the current Department of Aerospace Engineering, which prepares graduates to meet the needs of the aviation industry and air transport in the areas of aircraft design and structures, aircraft engines, production technology, maintenance, research and development, etc.

The department offers education in master's and doctoral programmes in the fields of aeronautics and astronautics, with more than 40 special aviation and space courses, cooperation with industry and international student-mobility programmes.

Research and development is focused on aircraft and propulsion-unit design, aerodynamics and flight mechanics, safety and reliability of aircraft structures, propellers, composite materials and technologies, aeroelasticity and modal analysis, flutter certification for light sport aircraft, numerical modelling and CAD design, stress analysis, material and structural testing, NDT methods, strain-gauge testing on metal and composite structures, and European and national research projects.

<http://aerospace.fsik.cvut.cz>



Institute of Aerospace Engineering, Brno University of Technology

The main scientific activities of the Institute of Aerospace Engineering under the Faculty of Mechanical Engineering are focused on application of modern computational methods in the area of aircraft design and aircraft-structure testing. All students in master's and doctoral study programmes are widely engaged in practical projects.

The Institute of Aerospace Engineering has a long tradition of close cooperation with the aircraft industry on new aircraft projects and in the area of applied research and testing, which are conducted in a laboratory certified by the Czech Civil Aviation Authority. Areas of expertise include aerodynamics, flight mechanics, structural design, strength, composites, safety assessment of aircraft systems, hydraulic systems and aircraft operation. The institute also collaborates intensively on international R&D projects with leading European research institutes and industrial partners.

Another field of activity is student-exchange programmes with other European universities.

www.lu.fme.vutbr.cz



The European Global Navigation Satellite System Agency is the first EU regulatory body located in the Czech Republic.



Evektor's SportStar EPOS airplane represents a concept of environmentally friendly electric sport aircraft of the future.



StealthViz™ developed by Aveo Engineering is a high-tech custom solution for a large defence customer.

Join the Global Industry Leaders that Already Picked the Czech Republic to Expand their Businesses

Honeywell



LATECOERE
Czech Republic

**ZODIAC
AEROSPACE**

Bell
Helicopter
A Textron Company

Honeywell Aerospace

The Czech Republic is the cornerstone of Honeywell's global engineering strategy in Europe. The Prague Laboratory opened in 1993 and the Brno Design Center followed ten years later. In 2006, the Brno Design Center was integrated into Honeywell Technology Solutions' international network of research, development and engineering centres.

Honeywell also has two manufacturing sites in the Czech Republic: Aerospace in Olomouc and Environmental and Combustion Controls in Brno. More than 4,000 professionals work for Honeywell in the Czech Republic.

www.honeywell.cz

GE Aviation Czech

GE Aviation has been successfully developing and manufacturing aircraft engines in the Czech Republic since it acquired certain assets of the local company Walter in June 2008. Since the acquisition, GE Aviation has already certified three new engine models and made significant investments in its Czech business.

The company's engineering team has already more than doubled its size and is still expected to grow as new development projects are coming down the pike. The Czech operation has become a turboprop center of excellence for GE Aviation.

www.geaviation.cz

Latecoere Czech Republic

Latecoere acquired the traditional Czech manufacturer Letov in 2000. Since then, a new assembly facility and composite, machining and paint shops have been built to produce parts and subassemblies such as passenger doors for Airbus, Embraer, Boeing and Dassault. With the support of its French parent company, Letov established a new research and development technology center and the company benefits from its cooperation with Czech academic and research institutions. The facility is now the Latecoere Group's center of excellence for aircraft door mechanisms and subassemblies.

www.letov.cz

Zodiac Galleys Europe

Zodiac Galleys Europe s. r. o. is part of the Galleys & Equipment segment of Zodiac Aerospace, a global leader in cabin interior products, structures and systems for the aerospace industry. Zodiac Galleys Europe is an exclusive producer of all Galleys for the A320 family.

The company also expanded production capacity for the Long range aircraft (A330 & 340 family) and the Retrofit (refurbishment) market in which Zodiac won major contracts from Lufthansa/ Swiss and Delta Airlines for refurbishment of over 250 planes starting in the fall of 2014.

www.zodiacaeospace.com

Bell Helicopter

Bell Helicopter's customization and delivery center in Prague offers modifications, upgrades, avionics, and special mission packages for all current Bell Helicopter models. The facility offers customization, delivery and maintenance of Bell Helicopter aircraft and offers a wide range of aftermarket Citation Jet service offerings for Cessna.

The facility in Prague serves as an anchor for Bell Helicopter in the region and is a key part of our strategy to provide regional sales, customization, delivery, training and aftermarket support to our European customers.

www.bellhelicopter.com



Meet the Czech Companies in Aerospace Sector

Airframe • Interior • Avionics • Hydraulic systems • Starting units • Engines and engine components • Final aircraft assembly • Production and processing of composite materials • Lighting • Space technologies



AERO VODOCHODY AEROSPACE – www.aero.cz

Aero as a Czech partner of leading manufacturers and air forces specializes in the development, assembly, production and servicing of military and civil aviation technology with tradition since 1919.



AIRCRAFT INDUSTRIES – www.let.cz

Development, manufacture and sales of L 410 UVP-E20 aircraft; maintenance, modification, modernisation, sale of spare parts, subcontracting, R&D.



AVEO ENGINEERING GROUP – www.aveoengineering.com

World-leading producer of high-tech electronics solutions and innovative LED lighting products, customers include Sikorsky, General Atomics, Textron, Elbit Systems, Lockheed Martin and Saab.



EVEKTOR – www.evektor.cz

Design & Development Company focused on aircraft and cars as well as their parts and components design.



JIHLAVAN – www.jihlavan.cz

Supplier of BTS hydraulic components for aviation, supplier of BTP hydraulic components for aviation, producer of BTP parts for aviation including approved special processes.



LA COMPOSITE – www.lacomposite.com

Development and production of composite and sandwich parts. Technology: prepregs, bonding, autoclave, NC machine, assembly.



PBS VELKÁ BÍTEŠ – www.pbsvb.cz

Production of small gas turbines for aircraft starting systems, turbojet engines, cooling units and heat exchangers, auxiliary gear boxes, ground power units for electrical power and compressed air.



UNIS – www.unis.com

Aviation technology (avionics, ECU/FADEC), power electronics, small energy sources, micro-turbine control, critical control systems, robotics, automation, embedded systems.



QUITTNER & SCHIMEK – www.qscomp.cz

Interconnection components and electromechanical assemblies for aerospace and defence applications – wiring harnesses, electrical boxes and panels, cable systems and installations.

Maintenance, Repair and Overhaul



CZECH AIRLINES TECHNICS – www.csatechnics.com

Company with over 80 years' experience, offering in-house aircraft maintenance and base maintenance services (B737, A320FAM, ATR42/72), line maintenance services (B737/757/767/777, A320FAM/330, ERJ170/190, ATR42/72), landing gear overhaul/repair, engineering (CAMO, DOA).



LOM PRAHA – www.lomp Praha.cz

MRO and modernisation of Mil helicopters and L-39 aircraft including engines (TV3-117, VR-14/24, AI-9V, AI-25TL) and aggregates. The only fully certified company providing MRO services for Mil helicopters L-39s in NATO and the EU.

To see more companies please visit our free online database at
<http://aerospace.czechinvest.org>



Space Industry

The National Space Plan

The Czech Republic's accession to the ESA has also been an essential stimulus for change in the country's approach to space activities, including the need to develop the National Space Plan, which was formulated by the Ministry of Transport and provides a basis for future progress in the Czech space sector and the focus of its space activities and for decisions on participation in European and international projects.

Throughout their history, Czechs have traditionally had a strong connection with space, and that still holds true today. The Czech Republic has been an active member of the European Space Agency (ESA) since 2008 and today the ESA represents the main opportunities in Czech space activities in terms of maximising benefits to society as a whole. We are proud that the European Global Navigation Satellite Systems Agency (GSA), the institution that is responsible especially for marketing, security matters and exploitation of Galileo and EGNOS, recently relocated to Prague from its temporary headquarters in Brussels. This opens new opportunities for Czech companies and their partners and encourages them to exert greater effort in research and technological innovation in order to stay ahead.

The space sector and national space activities are coordinated by the Ministry of Transport through its Coordination Council for Space Activities, in which the Ministry of Education, Youth and Sports, Ministry of Environment, Ministry of Defence, Ministry of Industry and Trade, Ministry of Foreign Affairs and the Office of the Government of the Czech Republic are also involved. Beyond coordination, the Ministry of Transport is directly responsible for ESA and EU space policy and programmes, development of space applications, and coordination of other international cooperation of the Czech Republic in space and space-related activities, all for the benefit of the Czech Republic and its competitiveness.



The Czech Space Alliance

Established in 2006, the Czech Space Alliance (CSA) is an association of 14 small and medium-sized companies vying for business in space technologies, principally through the European Space Agency. It has established itself as the voice of the Czech space industry, both externally (to the ESA and other space agencies and industry associations worldwide) and internally. As such it contributes to "the National Space Plan" formulated for the government under the leadership of the Ministry of Transport, our de facto space agency.

The CSA wins the lion's share of Czech business within the ESA and has developed professional relationship with the large satellite integrators as well as with smaller companies abroad. It negotiates bi-lateral cooperation agreements with non-ESA countries, including Brazil, with which the Minister of Transport has already signed an agreement. Cooperation with Japan is well advanced.

The technologies with which the CSA's members are successful include fine mechanics, space-qualified electronic subsystems and passive components, development of advanced materials, ground segment and onboard software, electronics testing facilities, X-ray optics and engineering consultancy.

www.czechspace.eu

Other Organisations Involved in Space Activities

Association of Aviation manufacturers
www.alv-cr.cz

Intelligent Transport and System Services
www.sdt.cz

Confederation of the Czech Aviation Industry
www.sclp.cz

Find out more about Czech space activities at
www.czechspaceportal.cz





CzechInvest's Services

Headquartered in Prague, CzechInvest is the Investment and Business Development Agency of the Ministry of Industry and Trade. Since its establishment in 1992, the agency has been tasked with attracting foreign investments and developing domestic companies through its services and development programmes.

Our Objectives

- To advise and support existing and new companies to grow and prosper in the Czech Republic
- To facilitate communication between the public and private sectors
- To actively influence the positive development of the business environment
- To support the competitiveness of the Czech economy

CzechInvest is exclusively authorised to file applications for investment incentives at the relevant governing bodies and prepares draft offers to grant investment incentives.

Its task is also to provide potential investors with current data and information on the business climate, investment environment and investment opportunities in the Czech Republic.

Our Services

- Detailed, sector-specific market intelligence and value propositions
- Customised business cases
- Identification of business properties and sites suitable for investment
- Tailored visits to the Czech Republic
- Access to investment incentives and EU funds
- Information and advice on doing business in the Czech Republic, regulations and taxation
- Identification of potential business partners, suppliers and acquisition targets
- Referrals to professional associations (lawyers, bankers, accountants, etc.)
- Aftercare service

Our services are fully funded by the Ministry of Industry and Trade as a part of the business support measures so they are free of charge to businesses.

Our Clients

Aero Vodochody, Aircraft Industries, Bell Helicopter, Evektor, Frentech Aerospace, GE Aviation, Honeywell, Jihlavan, Latecoere, Mesit, PBS Velká Bíteš, Unis, Zlin Aircraft, Zodiac Aerospace and others

- Aerospace R&D Centre
- Aerospace Institute/Technical University
- Aerospace Manufacturer
- MRO Centre of Excellence



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