

FACT SHEET – BUSINESS OPPORTUNITIES IN THE HAMBURG REGION**Information & Comm. Technologies in Hamburg**

As a cross-sectional field with great outlook for significant growth, information and communications technologies play **an increasingly important role in aviation**. Key topics are the digitalisation of systems and supply chains. This ranges from app development to aircraft manufacturing and MRO technologies.

The ongoing development of digital maintenance processes and technologies, along with fully automated lifecycle management (“digital twinning”), is currently being established as a new field of research in the Hamburg region. Initially, this **covers the entire process**, from examination and monitoring of structures to the determination and execution of measures. Innovative technologies such as augmented reality and 3D printing are in the spotlight.

The **Virtual Reality Lab in the ZAL Center for Applied Aeronautical Research**, with a 6x3.5-meter 4K rear-projection screen, provides the opportunity for one-to-one representation of large components, such as a cross-section of an Airbus A320 fuselage. New technologies and products can therefore be assessed and checked during the development process already. This makes a lasting improvement to the engineering of components and fuselage segments.

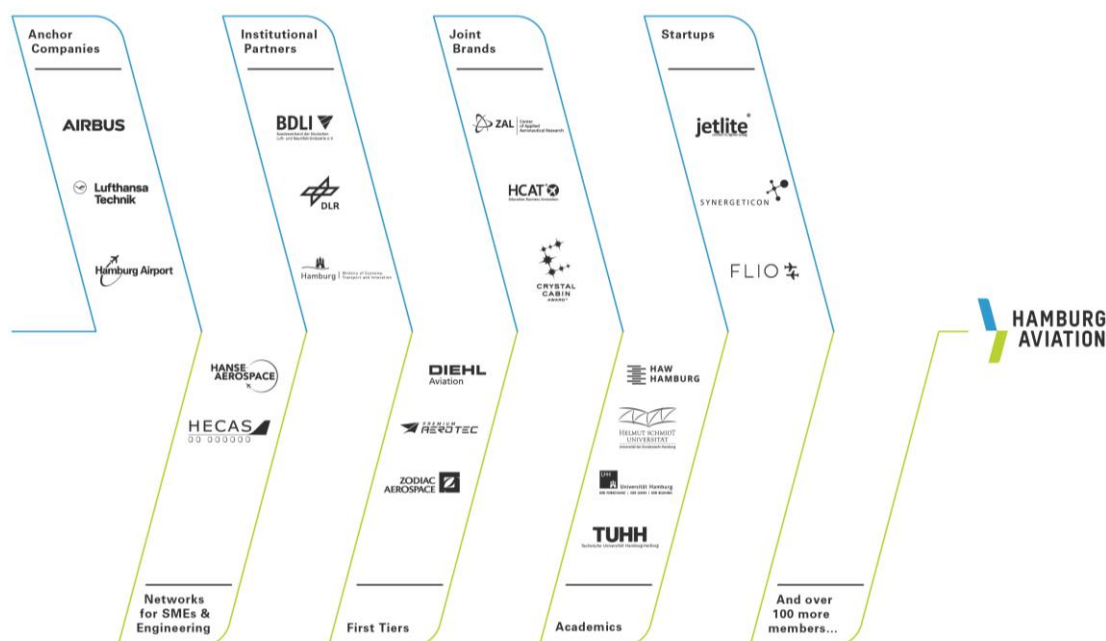
There are also numerous other tech products from Hamburg prominent in aviation. One example is the passenger-centered smartphone app **FLIO**, improving orientation and access to services available at airports worldwide; passenger comfort (in-flight entertainment, office-in-the-sky, xG phone developed by **KID Systeme** and logistics (augmented reality, real-time locating systems, digital job card systems as already applied at **Lufthansa Technik**. The software by startup **Synergeticon** retrieves the information, for example from SAP orders, obtains values from connected measurement equipment, and provides immediate feedback to the user via the tablet. And there are many more.

The mentioned segments are supplemented by the fields of air-to-ground connectivity & satellite communications, cyber-physical systems & system of systems engineering, supply chain & life cycle management, smart cabin and smart airport operations, as well as general Internet of Things (IoT) & Industry 4.0 research and engineering.



HAMBURG: HOME OF AVIATION AND YOUR PLACE FOR BUSINESS

- The 8th-largest city in the Europe, with a population of 1.8 million (5 million in the metro region)
- The place with the **highest GDP per capita of all German states** (53,611 EUR) and the fourth-highest GDP per capita in Europe
- **Among the world's 10 most livable cities**, according to The Economist
- The global capital of wind power, the world leader in research with free-electron lasers, a renowned center for life science, the leading seaport in Northern Europe, and a powerful startup hub – **all connected in a tight network of 9 cluster initiatives**
- The **third-largest civil aviation site in the world** with **more than 40,000 highly-qualified employees** and way over 100 years of tradition
- An **internationally awarded network** forming a powerful alliance of Hamburg based business, science, education and politics: **Hamburg Aviation:**



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