

# High-flying plans in Canada



Photo: REUTERS/CHRISTINNE MUSCHI Canada: 700 companies with 180,000 employees, led by Bombardier, are active in the aviation sector.

## Corporations and government pump billions into the aerospace industry



[Robert Kleedorfer](#)

"Time flies when you're having fun." Unfortunately, this sentiment is not generally shared by passengers in economy class: narrow seats, annoying fellow passengers and bad food can turn a plane ride into what seems like a never-ending story. Canada's National Research Council (NRC) wants to help make airline travel a more pleasant experience. That is why the NRC is currently recreating three aircraft cabins for up to 40 passengers each on the ground. The aim is to be able to simulate the entire air travel experience, including check-in and boarding procedures.



Photo: NRC “It is not about squeezing still more passengers into an aircraft cabin”, assured NRC spokesperson Micha Hage-Badr. Plans call for testing new interiors, technology and concepts for their feasibility and economic efficiency in cooperation with the industry. The simulation includes noises, vibrations, meals and inflight entertainment. Passengers’ cardiac activity and blood pressure is also monitored during the “flight”. A simulation can last for ten hours or more, Hage-Badr notes, depending on the client’s wishes. “We already have plenty of candidates for testing, since they are paid for their time”, he assures us, laughing.

## Research

NRC is only one of dozens of examples of research and development in the aviation sector in Canada. In total, there is an annual investment flow of 1.8 billion Canadian dollars (1.22 billion euros) in this sector. That should not be surprising, given that the aviation industry in Canada, with 180,000 employees and about 700 companies, is larger than the automobile industry with its plants and supplier companies for the nearby large-scale US manufacturers.

Lixar IT, for example, is specializing in the use of new technologies such as booking apps or applications for flight attendants. “The Internet has completely changed booking behavior and the way that airlines communicate with their customers”, says the company’s CEO, Shelley Fraser. In the future, she predicts, flight attendants will be equipped with iPads in order to have direct access to all data about passengers on the flight.

Big things are under way at Magellan Aerospace in Winnipeg. The corporation manufactures not only engine parts, for the A380 among others, but also satellites and rockets. However, the latest and most important project is manufacturing components for the F-35 fighter jet. At the moment the program is significantly behind schedule. As soon as serial production is up and running, however, the number of the jobs in the F35 plant is expected to increase from 150 to as many as

400. Of course, Magellan regrets that Canada, of all countries, has still not decided in favor of the new jet.



Photo: Kleedorfer The engine test plant in Winnipeg was constructed for 55 million euros. Before being accepted for serial production, jet engines must be subjected to months of endurance testing. “There is no plant anywhere in the world for this, so we are testing them in the open air”, says Chris Horley of EnviroTrec. The non-profit engineering organization works with jet engine manufacturers and has built a test facility for this purpose in northern Manitoba. There is another test facility operated by General Electric at the Winnipeg airport. Canada is an ideal location, because the engines have to be tested at temperatures of minus 5 to minus 22 degrees. “Manitoba has temperatures in this range 200 days a year”, says Horley. Along with icing tests, bird strike testing is also performed. This is done using chickens – dead ones, Horley emphasizes.

## Canada’s economy

### ***GDP***

*Canada has a gross domestic product of 1.62 billion euros. The largest sectors of the economy are raw materials, energy and agriculture.*

### ***Aviation***

*The aviation industry accounts for 20.5 billion euros of GDP. It employs some 180,000 employees in 700 companies.*

### ***Automobiles***

*The automobile industry with 115,000 employees contributes about 13.6 billion euros.*