

Case Study Competition

THE PASSENGER EXPERIENCE OF TOMORROW: The Future of Aircraft Cabin Interiors by Quebec Students

Introduction

Aircraft cabin interiors are a core element of the brand image of airlines. They are at the center of their competitiveness. Numerous research and development efforts strive to make the cabin interiors more comfortable, less expensive and less harmful to the environment, while remaining profitable for the airlines.

The aerospace sector is facing a colossal challenge: the rapid growth of air traffic. It is forecasted that the number of passengers worldwide will increase from 3.6 billion in 2016 to 7.2 billion in 2035.

In fact, traveling by plane is more accessible than ever. Considering the demographic characteristics and dynamics have changed significantly over the last 40 years, it is essential to accommodate the needs of these new passengers.

Rethinking the aircraft cabin is one of the ways to address this challenge. The aim is both to better manage passenger flows and to develop economic alternatives, while improving the flight experience.

Objective

Rethink aircraft cabin interiors by imagining a creative solution that enhances the passenger experience of tomorrow while maximizing airline business potential.

Beyond the marketing aspect related to the improvement of the customer experience, the jury's attention will be focused on the development of a profitable business involving notions of design, ergonomics and marketing as well as the use of new technologies: artificial intelligence, digital technologies, etc. The proposed solutions should minimize the environmental impact of the life cycle of aircraft interiors and ensure sustainable development. The solutions will have to consider reducing costs for airlines and/or increasing their revenues.

Rules

The participants shall be Quebec cégep, undergraduate or graduate students. The teams may include 2 to 4 students.

A bonus point will be accorded to multidisciplinary teams. It is recommended to compose your team of members from at least two different disciplines i.e. engineering, management, law, sciences, environmental and sustainability studies, marketing, etc.

Elements to be included in your submission:

- Description of the proposed passenger experience (comfort, ergonomics, entertainment, adaptation for people with reduced mobility, luggage management)
- Environmental impact (Life cycle)
- Profitability and development costs
- Technical feasibility
- Proposal of the value for the passenger
- Proposal of value for the airline

Constraints

- Reference flight – Geneva to London Heathrow (1h 35min)
- Typical ticket cost : economy: \$160 USD, business: \$451 USD
- Reference aircraft : CS300
 - Fact sheet and environmental product declaration (<https://commercialaircraft.bombardier.com/en/cseries/Literature.html>)
- Typical carry-on luggage size per passenger - 15Kg
Dimensions: 23 x 40 x 55 cm

Special attention should be given to the Personnel and Cargo Accommodations and Emergency Provisions sections in Subpart D - Design and Construction of Part 25 of the Federal Aviation Regulations.

(<https://www.ecfr.gov/cgi-bin/text-idx?node=14:1.0.1.3.11>)

Evaluation Criteria

CRITERIA	DETAILS	SCORE
Adequacy of the submission	Does the proposed design respect the constraints and address the case study challenge?	/4
Technical innovation	Is the design technically feasible? Is it innovative?	/4
Cost and profitability	Manufacturing costs, required investments, revenues for airlines, etc.	/4
Passenger experience	How is the passenger experience enhanced? Is it creative and innovative?	/4
Environment	Does the submission address adequately the environmental impact of the design?	/4
Presentation quality and answers to the jury's questions	Presentation quality, respect of time, relevance of the answers to the jury's questions, creativity and dynamism	/4
TOTAL		/24

+1 point will be accorded to multidisciplinary teams.

Competition Procedure

The competition consists of 2 steps:

1. Reception of the submissions by April 1, 2018 and selection of the 3 finalist teams.
2. Presentation of the finalist's designs on April 20 in front of the jury during the Aéro Montréal International Aerospace week at the Palais des congrès de Montréal.

Prize

The winning team will represent Quebec students during a trip to the Hamburg region of Germany in 2018. In addition to discovering the aerospace industry of Germany through multiple industrial tours, they will present their design to industry experts and leaders.

Important Dates

- **From February 14, 2018** register your team on www.casestudy.aeroportail.ca and submit a summary of your design:
 - PDF format
 - 5 pages max. excluding cover page, table of contents and bibliography
 - Possibility of adding up to 10 pages in annex max.
 - Police Cambria 12, spacing 1.5, standard margins
 - The inclusion of pictures, 3D rendering of the cabin interiors and schematics are encouraged
- **April 1 at midnight:** Submission Deadline
- **April 7 at noon:** Announcement of the 3 finalists selected by the public on www.casestudy.aeroportail.ca
The 3 teams will present their design in front of a jury of experts in a “Dragon’s den” style presentation.
- **April 20:** Grand finale at the Palais des congrès de Montréal during the Aéro Montréal international Aerospace week. Each finalist team’s presentation will last 15 minutes followed by a ten minute question period. The presentations can be done in French or in English.

Jury Members

- **Mrs. Chantal Boily** – Business Development, Director, Canada at Zodiac Aerospace
- **Mrs. Christine De Gagné** – Cabin Marketing Manager Commercial aircraft C Series at Bombardier
- **Mr. Sébastien Gendron** – CEO/Cofounder, Transpod (projet Hyperloop)
- **Mr. Franz Joseph Kirschfink** – Managing Director, Hamburg Aviation
- **Mr. Gilles Néron** – Senior Director, Business Development & Administration, Air Canada

Required Presentation Material

- The team’s PowerPoint presentation on a USB key in addition to photos, schematics and/or videos if necessary
- 4 color copies of the presentation and a one page summary for the jury