



Cabin Comfort and Environment Research (CCER) Centre

A unique centre to address airlines' next generation essentials to improve the air travel experience

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Aerospace



National Research
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Canada

The Cabin Comfort and Environment Research (CCER) Centre at the National Research Council Canada is a leading edge facility designed for airlines to develop and evaluate new cabin interiors, technologies and concepts; to explore trade-offs between cabin attributes; and to identify the most cost-effective and cost-beneficial designs while optimizing comfort.

Exclusive access to novel technologies that reduce costs and create new revenue streams through increased cabin comfort

NRC's Cabin Comfort and Environment Research Centre supports the airline industry's strategic goals by developing and testing the most advanced air travel experience technologies. Our world-class researchers apply their expertise to evaluate new product designs and cabin layouts in a realistic and flexible cabin environment.

The Airport Terminal Laboratory (ATL)

Investigate new boarding techniques or the extension of personal entertainment services outside the aircraft to expand the passenger travel experience beyond the aircraft cabin. This area also serves as a space where passengers will 'wait' for their flight during a test.

The Flexible Cabin Laboratory (FCL)

Recreate the cabin environment with dimensions ranging in size from a small regional aircraft to a wide-body cabin like the Boeing 777. The FCL includes a flight environment with a functional aircraft interior, realistic

cabin noise and vibration, interior and exterior lighting, electrical power, ventilation systems, food and beverage service, in-flight entertainment (IFE), and real life crew interactions. Human physiology, 2D/3D cameras and environment sensors are available for use.

The Flight Simulation Laboratory (FSL)

The FSL is a two story space large enough to accommodate the fuselage of a Boeing B737-500 or Airbus A319 when required by clients. The FSL is also suitable for constructing large scale mock-ups or six-axis motion platforms. This laboratory also offers the same features as the Flexible Cabin Laboratory (FCL).

The Human Vibration Laboratory (HVL)

The HVL features a human-rated vibration rig, a climate-controlled environment and aircraft-grade electrical power to enhance the rig's capabilities. The HVL enables airlines to investigate cabin and seat vibrations in helicopters, turboprop and jet aircraft during normal or abnormal operations, and their physiological, psychological and performance effects on aircrew and passengers.





A real life travel experience!

Cabin and airport

Develop technologies that improve passenger comfort and address global integration of cabin systems

Optimize aircrew effectiveness and well-being in challenging work environments

Accelerate the development of new cabins, environmental controls and avionics along the path to commercialization and market acceptance

Safety on aircraft

Assess new in-flight healthcare capabilities (e.g. virtual doctor), medical training and mitigation of the effects of allergens

De-risk new cabin designs and layouts for a safer journey

Evaluate physiological and performance effects in long duration exposure to aircraft environmental factors such as vibration, noise, lighting and inactivity

Passenger and crew experience

Improve passenger comfort and productivity through innovative capabilities to control cabin environment

Change cabin luggage handling and storage strategies to improve turnaround times

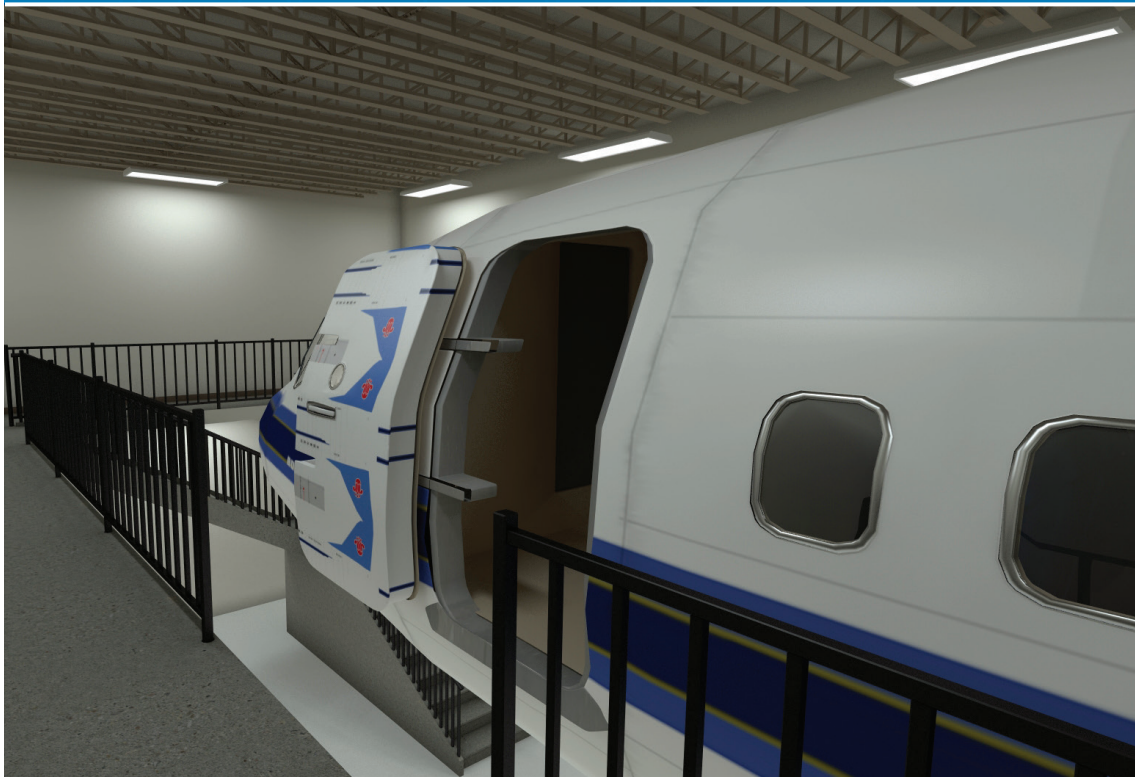
Enhance the passenger travel experience from gate-to-gate

Explore new ways to accommodate an aging population and reduced-mobility passengers

The National Research Council Canada (NRC) is the Government of Canada's premier research and technology organization. Collaborating with industry, NRC's Working and Travelling on Aircraft research program develops and delivers innovative technologies to improve the air travel experience. The new Cabin Comfort and Environment Research (CCER) Centre, a leading edge flexible cabin demonstrator platform in North America, will allow the airline industry to explore the most cost-effective and beneficial designs to improve passenger comfort and flight safety.



*Advancing aerospace research
and technology development*



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