CANADIAN NETWORKING AERONAUTICS PROJECT FOR EUROPE

CANNAPE

Canadian Research Environment: An Update on NRC and International Partnerships

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Overview of Canadian Aerospace Industry (2011 statistics)

- World's 5th largest aerospace industry
- National but largely focused in Quebec (63%) and Ontario (21%)
- Revenues = $22.4B
- Exports = 74% of its output
- Direct employment = 87, 231 jobs
- Investment in R&D = $2B
- Investments in Capital = $1.4B

Highlights from Aerospace Review & Federal Budget 2013

Recommendations from the Canadian Federal Aerospace Review released in November 2012 include:

- Recognition of aerospace and space as a federal S&T priority
- Development of a technology demonstration program
- Expanding market access and market development opportunities

Canadian Federal Budget 2013 released in March includes:

- Commitments to strengthen the competitiveness of key manufacturing industries, including aerospace
- $1B over 5 years for the Strategic Aerospace Defence Initiative
- $110M over 4 years (starting in 2014-15) and $55M annually thereafter for the creation of an Aerospace Technology Demonstration Program

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Overview of National Research Council of Canada (NRC)

- Strategic refocusing to help the growth of innovative businesses in Canada
- 4 lines of business (strategic R&D, technical services, IRAP: Industrial Research Assistance Program, scientific infrastructure)
- 3 divisions (Engineering, Emerging Technologies, Life Sciences)
- NRC bridges the innovation gap between university-based discovery and industrial commercialization

NRC Aerospace

- Home to over 300 permanent staff and 100 guest workers/students
- Annual budget = $58M ($34M from Government and $24M from collaborative funding and fee for services from industry)
- Over $500M in infrastructure (6 wind tunnels, 9 research aircraft, full-scale structural test rig, engine and combustion test cells, manufacturing research labs for composites and metallics)
- Focus on supporting aerospace industry in matters affecting the design, manufacture, qualification, performance, use and safety of aerospace vehicles
- Advancing aerospace R&TD in aerodynamics, flight research, gas turbines, structures and materials and manufacturing

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NRC Aerospace

- Providing **large-scale infrastructure** and technology foresight
- Moving technologies past the “valley of death” (from TRL 4 to 7) / **de-risking technologies**
- Fostering consortia for large-scale technology demonstration projects
- Making **connections between** Canada’s aerospace **SMEs** with upper tier suppliers and **OEMs**

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Focus on 6 market segments

- **Future aircraft development**, technologies for the design, manufacturing and demonstration of next generation cost-effective and environmentally-friendly aircraft;
- **Cabin and cockpit technology**, improving working and traveling onboard aircraft;
- **Unmanned aircraft systems civil certification and applications;**
- **Air defence technologies**, to reduce the acquisition, maintenance and operating costs as well as the environmental footprint of air defense operations;
- **Aeronautical product development**, to accelerate the development of new technologies and bring them to market more rapidly; and,
- **Aircraft icing**, detecting and mitigating icing risks to meet new regulatory requirements, reduce operational costs and improve flight safety.

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Recent Successes

World's first civil 100% biofuel flight

Radar and Imaging for Land/Littoral Environments (RIFL2E)

Global Aerospace Centre for Icing and Environmental Research (GLACIER)

Composites Technology Demonstrator

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Key International Partners

- Pratt and Whitney
- EADS and business units (Airbus, Eurocopter, Innovation Works)
- Rolls Royce
- Siemens
- DGA
- Bell
- Boeing
- IHI
- GE
- NASA
- JAXA

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Discussion

Thank-you

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