NRC·CNRC

National Research Council of Canada

RTOs, Program Design and Accessing Canada's North

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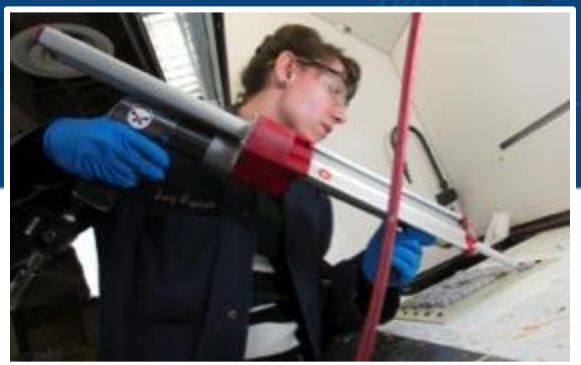
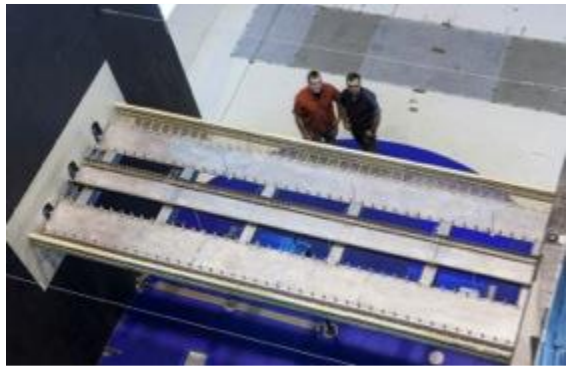
September 23, 2014

Research and Technology Organisations (RTOs)

- Globally, RTOs play a crucial role in overcoming national innovation hurdles and helping companies to create value
- RTOs are market-driven organizations whose primary job is to develop and deploy technology
- They act as links in the innovation system – stimulating business investment in R&D, adding value to research investments, reducing risks, and developing market-focussed technology





Wo we are:
NRC today - Canada's RTO

VISION

To be the most effective research and technology organization in the world, stimulating sustainable domestic prosperity

MISSION

Working with clients and partners, we provide innovation support, strategic research, scientific and technical services to develop and deploy solutions to meet Canada's current and future industrial and societal needs

- NRC 2013-14 total expenditures: $894.4M
- Approximately 3550 employees

What we do:
NRC's unique value proposition

- Specializing in state of the art technology
- Drawing expertise and know-how from across NRC for multidisciplinary solutions-tailored to the needs of our clients
- Combining NRC strategic R&D, tech capabilities with innovation support and specialized infrastructure to provide a powerful mix of research & technology operations for Canada

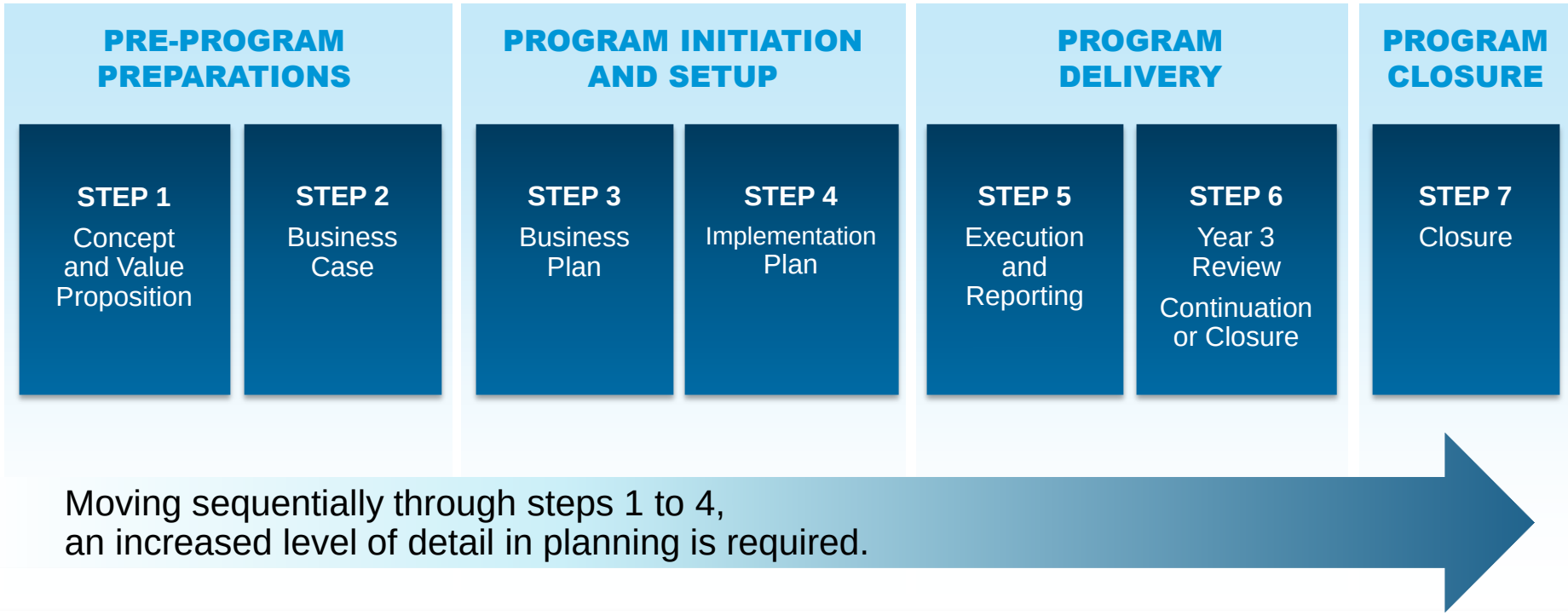
Solving innovation and competitive technology problems. Developing, adapting and transferring technology.

How we do it:
Programs are key delivery units

- Programs are “temporary management structures designed to help organizations to achieve specific objectives”
- Program Management is the “coordinated management of related projects, which may include related business-as-usual activities, that together achieve a beneficial change of a strategic mature for an organization”
- NRC Programs are designed to meet an identified industrial need (short, medium and long term) and can draw on resources from across NRC and externally
- Programs are the basis for investment decisions by NRC

Research program development and investment decision making process

Objective: Allocate and manage NRC resources through an outcome oriented, risk based, stage-gate investment process using criteria that reflect strategic alignment, market demand, business objectives and capabilities



Building a Program Management Culture Requires:

- Senior Management support and (firm) commitment
- Common language for talking about programs and program management
- A minimum set of corporate fundamentals:
  - Foresight capability
  - Effective understanding of commercial markets
  - Linking Program Management to Organizational Strategy
  - Communications
  - Risk Management in Corporate, Program and Project Environments
  - Building Effective Program and Project Teams
  - Client interface ability and understanding
  - Importance of Client Relationships and Technology Transfer

Example: Accessing Canada's North – NRC's Arctic Program

"This new program will focus on transforming those unique Canadian challenges into Canadian opportunities"

Prime Minister Stephen Harper
21st August 2014

Arctic

Engineering solutions for Northern development and environmental stewardship initiatives for improved operations, safety and communities in the Arctic

- Sustainable resource exploration and development
- Codes and standards development
- Environmental remediation
- Cold regions infrastructure
- Improved northern shipping and extending the life of ice roads
- Marine safety

Program Thrusts

Thrusts:

1. Resource Development
2. Northern Transportation
3. Marine Safety Technologies
4. Community Infrastructure

Key engineering challenges:

- De-risking technology development in a region with low population and small international community of Industrial stakeholders
- Mirroring Arctic Council and Canada's Northern Strategy priorities, including strong understanding of Industry needs

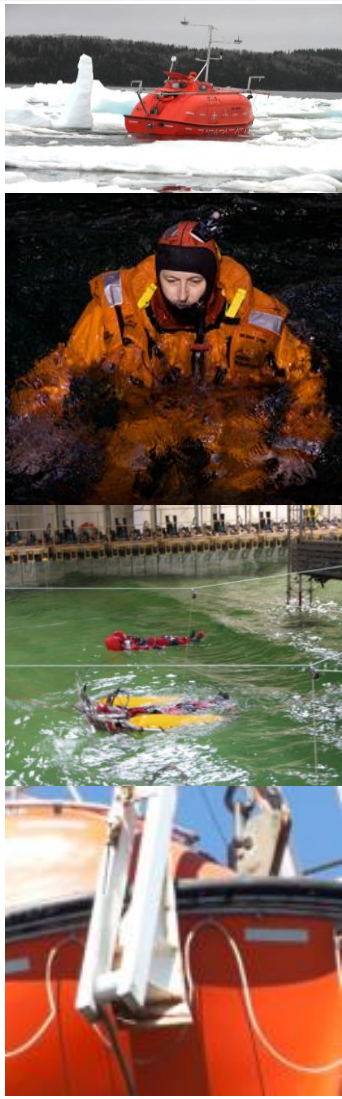
Thrust Example:
Marine Safety for Extreme Environments

Performance enhancement of Life Saving Appliances (LSA) in extreme environments and improvement of standards & regulations:

- Testing and verification for product approval (e.g. lifeboat hook release mechanisms, immersion/helicopter & transportation suits)
- Evaluation of LSA for extreme environments

Marine Safety for Extreme Environments – Themes:

- Input into Safety Regulations
- Evacuation Egress Technologies
- Evacuation Survivability Technologies
- Next Generation Evacuation and Survival Systems



The Outcome!
The results of a Great program

Externally:

- The desired outcome was achieved
- Created a whole new capability in the Country
- Showcased Canada as a place of innovation
- Through industry, built the Canadian economy

Internally:

- Worked to realize a shared vision that is meaningful and inspiring to those involved inside and outside NRC
- Fostered a sense of teamwork where individuals feel that their contribution has been valued and that they have made a difference
- Instilled trust & mutual respect both inside and outside the NRC

Thank you

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