National Research Council Canada
Ocean, Coastal, and River Engineering (OCRE)

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Bridging Innovation in Global Marine Technologies
NRC – Ocean, Coastal and River Engineering

• Highly skilled professionals – over 60 years of experience
• Established relationships with industry
• Cross-collaboration with other NRC portfolios
• International market advantage
• World-class facilities
• Numerical and physical modelling
• Field capabilities
Programs are key operational units

- Programs are designed to meet an identified industrial need and can draw on resources from portfolios across NRC and externally.
- Programs have a clear, defined objective and are composed of projects designed to meet that objective.
- Programs are time-limited and end when the deliverables are achieved or the strategy changes.
- Programs are the basis for investment decisions by NRC.
Ocean, Coastal and River Engineering

PROGRAMS

Marine Vehicles

Arctic

Marine Infrastructure, Energy and Water Resources
Research Thrusts:
• Reduced cost of marine operations
• Safe and economic Arctic and offshore O&G operations
• Building a sustainable, competitive Canadian shipbuilding industry

OBJECTIVES
Reduce fuel consumption
Reduce vessel design costs
Maximize the value of capital investment
Reduce risk
Arctic Program

Research thrusts:

• Resource development
• Northern transportation
• Marine safety technologies
• Community infrastructure

OBJECTIVE

Ensure sustainable, low-impact development of the North while increasing the quality of life for Northerners
Arctic Program – Our impact

- Safer and more realistic shipping regulations (improved by at least 20%)
- Reducing the uncertainty in ice loads by 40%
- Increasing the reliability of ice management
- Reduce the number of incidents
- Reduce vessel structural damage by 50%
- Optimized route planning
- Increase survivability in lifeboats (baseline: 24 hours) to a target of five days.
- Increased performance of immersion suits (baseline: minimum of six hours) to a target of twelve hours

Economic impact

$289 million in reduced costs
Research Thrusts:

- Marine infrastructure
- Renewable energy
- Water resources

OBJECTIVES

- **Optimize** the design of marine infrastructure
- **Improve** the management of water resources
- **Accelerate** the commercial viability of Canadian marine renewable energy technologies
Thank you

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