

The NSPS Shipbuilding Value Chains

A photograph of a ship on the ocean under a cloudy sky. The ship is a large vessel, possibly a cargo ship or a fishing vessel, with a dark hull and a white superstructure. It is positioned in the middle ground, slightly to the left of the center. The ocean is a mix of dark and light patches, suggesting waves and reflections. The sky is filled with heavy, grey clouds, with a hint of light breaking through near the horizon.

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Center on Globalization, Governance & Competitiveness

Duke University

January 24, 2013

dedicated to
**INNOVATIVE and
INTERDISCIPLINARY**
research

- 1 Global Value Chains & Development 
- 2 Environment
- 3 Agriculture, Food & Health
- 4 NC in the Global Economy 
- 5 Global Engineering & Entrepreneurship 
- 6 Nanotechnology 

CGGC IN THE MEDIA

JULY 26, 2012

Geosynthetics Industry Poised to Grow as Gulf Coast Restoration Ramps Up

JULY 10, 2012

New Tool for Cities Hopping on Bus Rapid Transit

JUNE 11, 2012

RESTORE Act creates jobs along ailing Gulf Coast

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OUR TEAM



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RESEARCH REPORTS

Geosynthetics: Coastal Management Applications in the Gulf

At least 84 firms are linked to geosynthetics and coastal management, providing jobs in 36 states.

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[Interactive Database](#)



U.S. Bus Rapid Transit

New report and online tools for understanding the Bus Rapid Transit value chain.

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Restoring Gulf Oyster Reefs: Opportunities for Innovation

Restoration will support 132 innovative small and medium sized businesses across 22 states.

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Accessing Ocean Technology Value Chains: a Guide for the Canadian Trade Commissioner Service

Increasing access of Canada's small and medium-sized enterprises to ocean technology value chains.

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HIGHLIGHTS

Our Work at a Glance

Download the **FULL LIST** of 2009-2012 CGGC Reports, Publications and Presentations

GVC Book Contribution

Global Value Chains in the Postcrisis World: A Development Perspective



CO-EDITED BY GARY GEREFFI

SKILLS FOR UPGRADING: Workforce Development and Global Value Chains in Developing Countries



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Recent Clients



Project Scope

Value chains of:

- Arctic/Offshore Patrol Ships (**AOPS**)
- Polar **Icebreaker** & Science Vessels (**OOSV/OSFV**)
- Joint Support Ships (**JSS**)

Research Objectives

- Discover the **value chain position** of Nova Scotia's companies;
- Identify **innovation and technology trends** in the shipbuilding value chains;
- Make **recommendations** to industry and government about:
 - Regional value chain development activities
 - Supporting Nova Scotia companies
 - Moving into higher value-added activities

Ship Systems & Subsystems

Propulsion system

- | | |
|------------------|-------------------|
| • Engine | • Thrust block |
| • Generator | • Propeller shaft |
| • Control unit | • Propeller |
| • Electric motor | |

Command & surveillance systems

- | | |
|--|--|
| • Command system | • Electromagnetic environmental effects (E3) & radiation control |
| • Integrated Platform Management System (IPMS) | • Meteorological & oceanographic system |
| • Navigation system | • Surveillance systems |
| • Communication systems | |

Electric plant

- | |
|--|
| • Electric power generation and distribution |
| • Lighting systems |



Outfit & furnishings

- | | |
|------------------|-----------------------------|
| • Ship fittings | • Hull compartments |
| • Deck machinery | • Preservatives & coverings |
| • Living spaces | |

Auxiliary systems

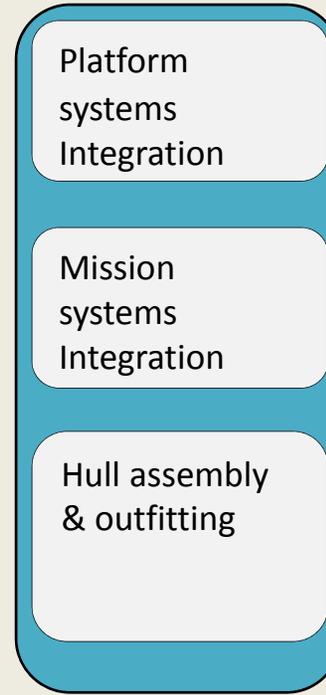
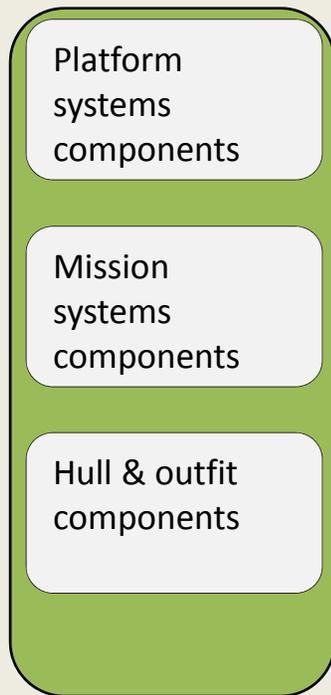
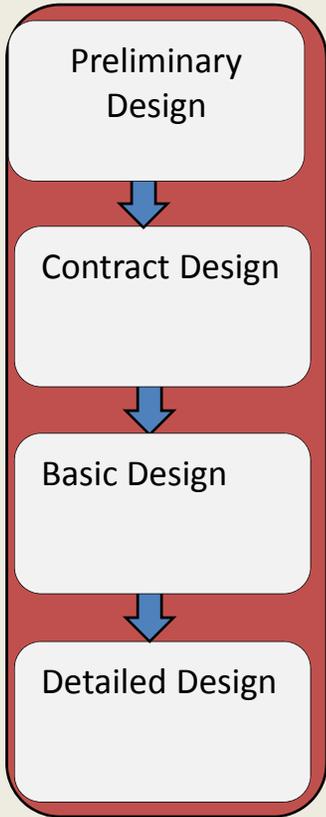
- | | |
|---|---|
| • Ship steering system | • Berthing, mooring & towing systems |
| • Climate control, fire extinguishing & water systems | • Fluid, fuels handling & storage |
| • Anchor handling & stowage systems | • Auxiliary boats & stowage system |
| • Replenishment-at-sea | • Aircraft handling, servicing & stowage |
| | • Environmental pollution control systems |

Armament systems (if relevant)

- | |
|--|
| • Weapon systems |
| • Small arms & ammunition stowage/handling |

Hull

- | |
|-------------------------|
| • Steel plates ("skin") |
| • Keel |
| • Girders |
| • Frames |
| • Beams |



Materials Planning & Procurement

Production Support Services

Production Planning & Engineering

Supporting Institutions

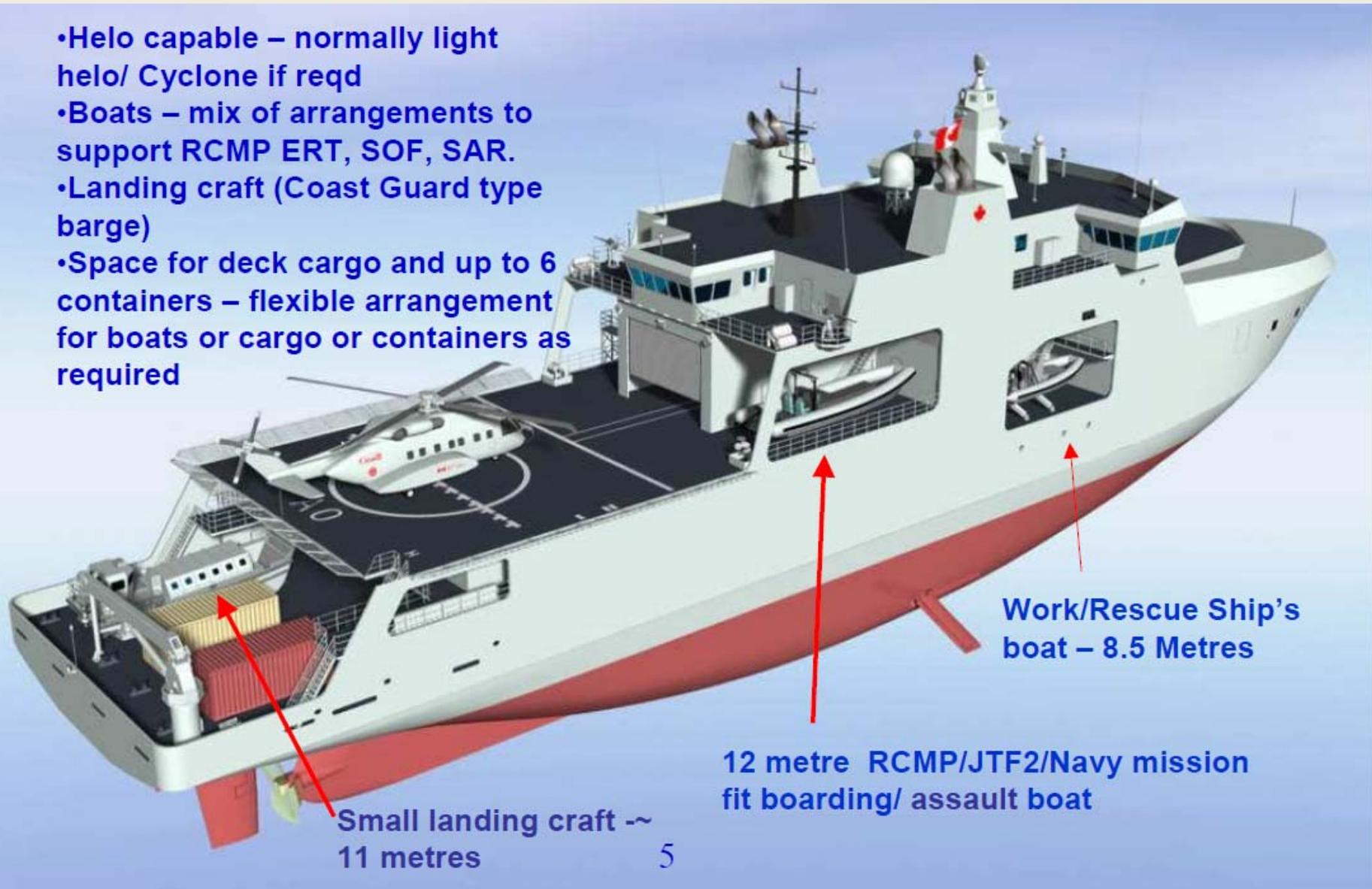
Research

Education & Training

Government

Policies & Regulations

- Helo capable – normally light helo/ Cyclone if reqd
- Boats – mix of arrangements to support RCMP ERT, SOF, SAR.
- Landing craft (Coast Guard type barge)
- Space for deck cargo and up to 6 containers – flexible arrangement for boats or cargo or containers as required



Small landing craft ~
11 metres

5

12 metre RCMP/JTF2/Navy mission
fit boarding/ assault boat

Work/Rescue Ship's
boat – 8.5 Metres

Platform Systems - Hull Components

Steel	
Essar Steel Algoma (ON, Canada)	Steel
Gerdau Amersteel Corporation (ON,Canada)	Steel
Industeel (Belgium)	High Strength/High Tensile Steel (EH 50 or higher)
JFE Steel Corporation (Japan)	High Strength/High Tensile Steel (EH 50 or higher)
Kobe Steel Co (Japan)	High Strength/High Tensile Steel (EH 50 or higher)
Nippon Steel Co (Japan)	High Strength/High Tensile Steel (EH 50 or higher)
SSAB EMEA AB (Sweden)	High Strength/High Tensile Steel (EH 50 or higher)

Coating
AkzoNobel/International Paint (U.K.; Canada)
Chugoku Marine Paints Ltd. (Japan)
Jotun Paints Ltd. (U.K)
PPG Coatings SPRL/BVBA (Belgium)
Sigma Samsung Coatings (Korea)
Subsea Industries NV (Belgium)

Propulsion System
ABB (Switzerland, U.S.A.)
G.E. (U.S.A.)
MAN Diesel and Turbo (Germany)
Rolls Royce (U.K.,U.S.A.)
Wartsila (Finland)

Opportunities for Nova Scotia

- *Direct sales*
- *Access the multinational firms' supply chains*
- *Upgrading skills and technology*
- *Develop niche areas in the shipbuilding value chain*

Recommendations

1. Supporting NS Companies

- Connect with key players in the value chain
- Help SMEs overcome barriers to entry in the shipbuilding value chain
- Inform value chain actors about the effect of public & private regulations on the value chain
- Communication about NSPS and relevant policies to companies and citizens

2. Moving into higher value activities

- Evaluate entrepreneurial potential,
- Focus sector development strategies
- Grow and nurture a pool of technology-based entrepreneurs

3. Regional Value Chain development activities

- Connect with key players in the non-combat value chains
- Plan for the future

A photograph of a beach at low tide. The foreground shows a large, smooth sand dune. The middle ground is a wide, flat expanse of wet sand reflecting the sky. In the distance, a small boat is visible on the ocean under a cloudy sky.

Thank you
for your attention!

Duke University
Center on Globalization, Governance &
Competitiveness