SMART OCEANS BC – Media Backgrounder
From sensors to decisions – when seconds count

Introduction

Smart Oceans BC is a multi-faceted program to support BC decision-makers faced with responding to natural disasters and hazards. It leverages the unique capabilities of the world's most advanced cabled ocean observatories to inform public safety, marine safety and environmental monitoring. Made possible through funding from Western Economic Diversification and IBM Canada, Smart Oceans BC is the next phase in the world-class Ocean Networks Canada system that will position Canada as a global leader in ocean technology that delivers science and information for good ocean management and responsible ocean use.

Program Objectives

Smart Oceans BC will combine existing and new marine sensing technology with its powerful data management system, Oceans 2.0, so that coastal and offshore areas of Canada, particularly those slated for resource extraction or transportation can be managed safely, following environmentally sound approaches.

Overall goals:
- Contribute to implementation of a world-class marine safety system
- Deliver a world-class ocean area management system on Canada's west coast
- Support current provincial, federal and First Nations priorities
- Drive new economic benefit for Canada

Stakeholders: Serving BC's coastal communities

The Smart Ocean BC footprint will cover areas critical to Canada's economic future including:
- Strait of Georgia and Port of Vancouver
- Proposed oil and gas export facilities located at the Port of Prince Rupert, Kitimat, Campbell River, Port Alberni, and Douglas Channel waterways
- Associated shipping routes to the high seas

Components of Smart Oceans BC

Smart Oceans BC will include infrastructure for:
- Marine safety
  - by monitoring and providing alerts on sea state and ship traffic
- Public safety
  - through natural hazard warning for earthquake ground-shaking, underwater landslides and near-field tsunamis
- Environmental protection
  - by gaining a baseline of critical areas, and providing real-time environmental observations for managing operations and accidents should they occur
- Science-based decision making
  - leveraging the NEPTUNE and VENUS observatories to help support decision-making

All of these systems will use Oceans 2.0 and high speed, real-time analytics to monitor the

hundreds of sensors.

Funding for Smart Oceans BC

Western Economic Diversification is providing ($9, 127,000) over 3 years to assist with the purchase and initial installation of the initial infrastructure required to deliver Smart Oceans BC. IBM Canada (http://www.ibm.com/ca/en/) is providing significant investments to enhance the data analytics capacity required to support Smart Oceans BC.

Ocean Networks Canada was recently awarded a CANARIE grant to develop fast event detection and enable a mobile Oceans 2.0 for use in geographically remote sensor locations. This will also enhance the data analytics capacity to support Smart Oceans BC.

Smart Oceans BC is built upon the existing Ocean Networks Canada infrastructure and operations, developed over the past ten years through investments by:
- Government of Canada
- Canada Foundation for Innovation
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Centres of Excellence for Commercialization and Research (CECR)
- Government of British Columbia
- Canada's Advanced Research and Innovation Network (CANARIE)
- University of Victoria
- Industry partners such as OceanWorks International, International Submarine Engineering Ltd. and ASL Environmental Sciences Inc.

It represents over $200 million in capital investment and has an annual operating budget of $16 million per year. In 2012, Ocean Networks Canada was selected as one of only four Major Science Initiatives eligible for funding under the Canada Foundation for Innovation Major Science Initiatives Program.

Ocean Networks Canada also represents a consortium of 12 member institutions from across Canada and harnesses, through collaborative relationships, the capacities in Ocean Tracking Network, ArcticNet and MEOPAR. In addition, Ocean Networks partners with NRCan, Fisheries and Oceans Canada, and Environment Canada to deliver observatory information aligned with their current priorities.

Future Export & Economic Development Opportunities

Smart Oceans BC will provide opportunity for further economic growth in BC through commercialization of these advanced systems under the Ocean Network Canada Innovation Centre, a federally funded Centre of Excellence for Commercialization and Research (http://www.oceannetworks.ca/technology-services). The Ocean Networks Canada Innovation Centre is responsible for bringing the advanced ocean observing technologies developed on NEPTUNE and VENUS to world markets.

About Ocean Networks Canada

Ocean Networks Canada, an initiative of the University of Victoria, operates the world's most advanced cabled ocean observatories off the BC coast for the advancement of science and the benefit of Canada. The NEPTUNE and VENUS cabled observatories supply continuous power and Internet connectivity to a broad suite of subsea instruments from the coast to the deep sea, supporting research on complex ocean and Earth processes in ways not previously possible. This

Internet connectivity permits researchers to operate instruments remotely and receive data on their computers anywhere on the globe, in real time.

With an operational life of more than 25 years, Ocean Networks Canada provides essential data required to address pressing scientific and policy issues. Real- time flow of data to on-shore laboratories and data centres permits rapid analysis of information on natural hazards such as earthquakes, tsunamis, storm surge, and underwater landslides.

NEPTUNE and VENUS share the same data management and archive system called Oceans 2.0. It provides users with open access to real-time and archived data and supports a collaborative work environment.

Links:
Ocean Networks Canada:
http://oceannetworks.ca

High resolution video and photos of Ocean Networks Canada operations:
http://www.flickr.com/photos/oceannetworkscanada/
https://vimeo.com/oceannetworks

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For further information about the University of Victoria: http://www.uvic.ca