

Smart Ocean-Smart Industries Canada

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CEO

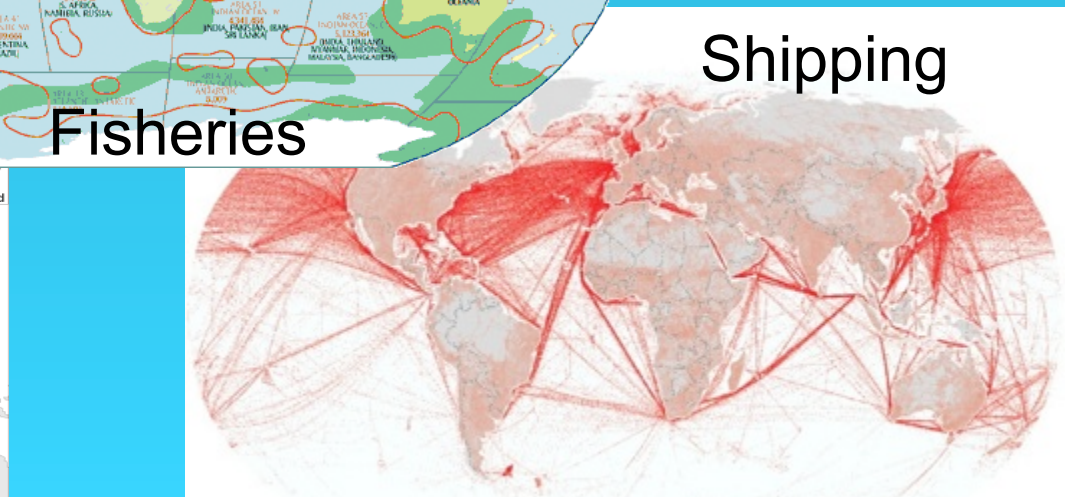
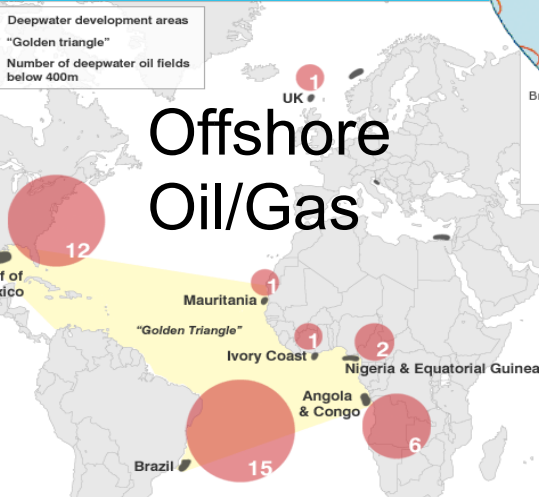
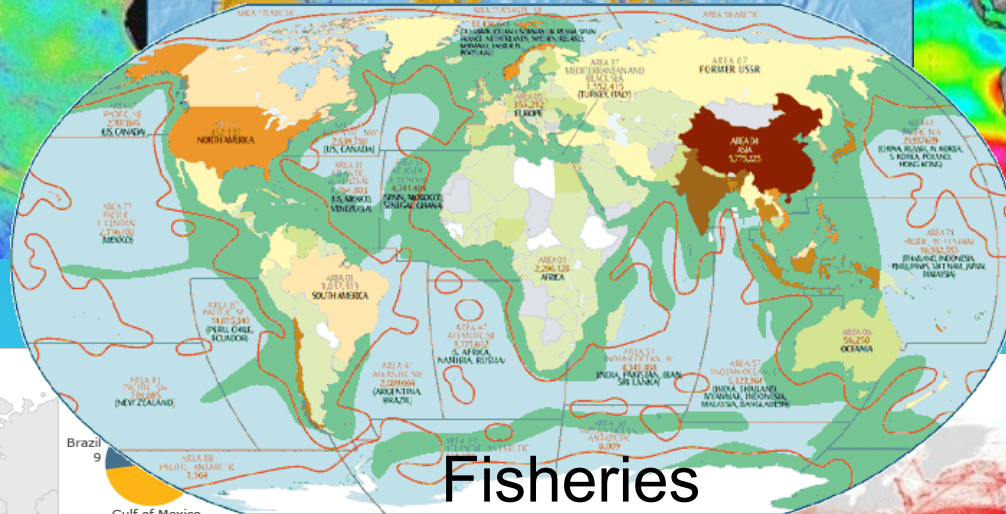
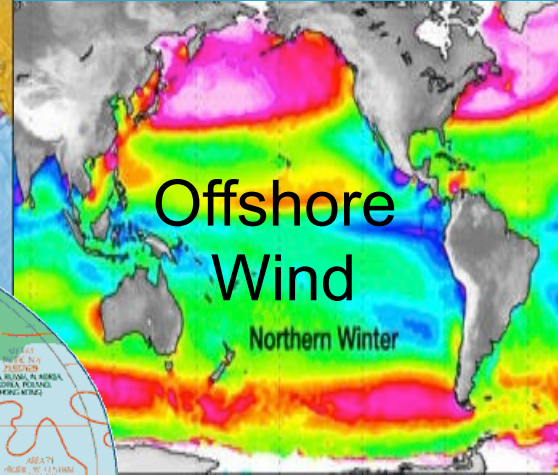
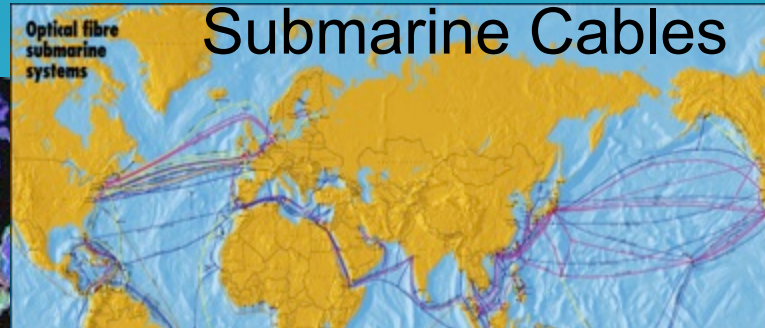
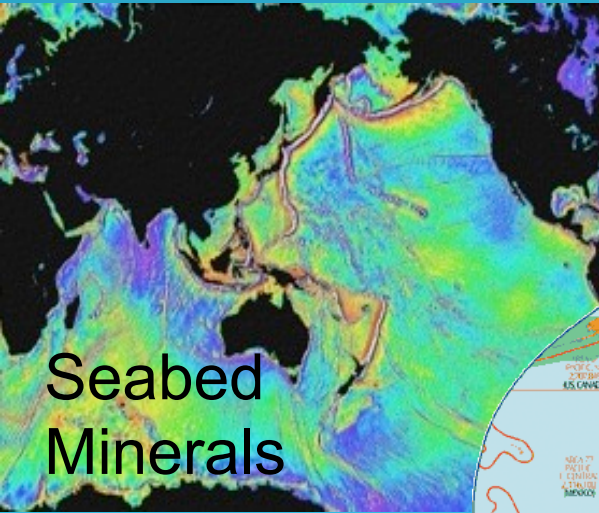
World Ocean Council

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The International Business Alliance
for Corporate Ocean Responsibility

World Ocean View: Multi-Industry



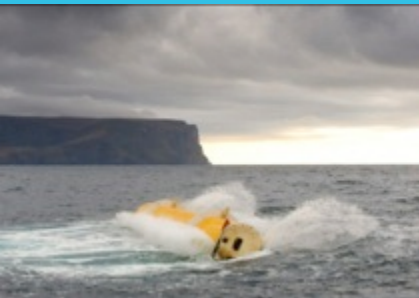
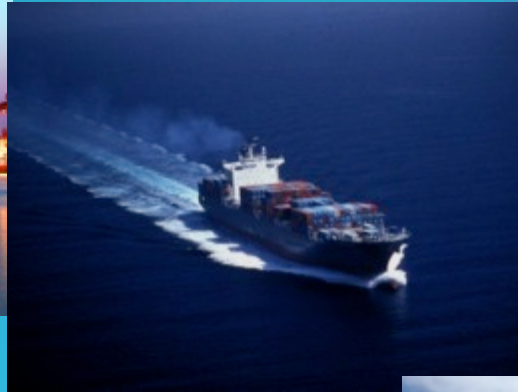
Growing Multiple Use Ocean

- Cruise and coastal tourism
- Shipping
- Offshore oil and gas
- Fisheries
- Aquaculture
- Mining
- Dredging
- Submarine cables/pipelines
- Offshore wind energy
- Wave/tidal energy
- Ports/marinas
- Recreational/sport boating
- Desalination
- Carbon sequestration
- Navy/military use

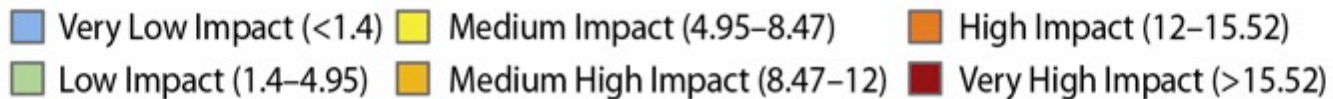
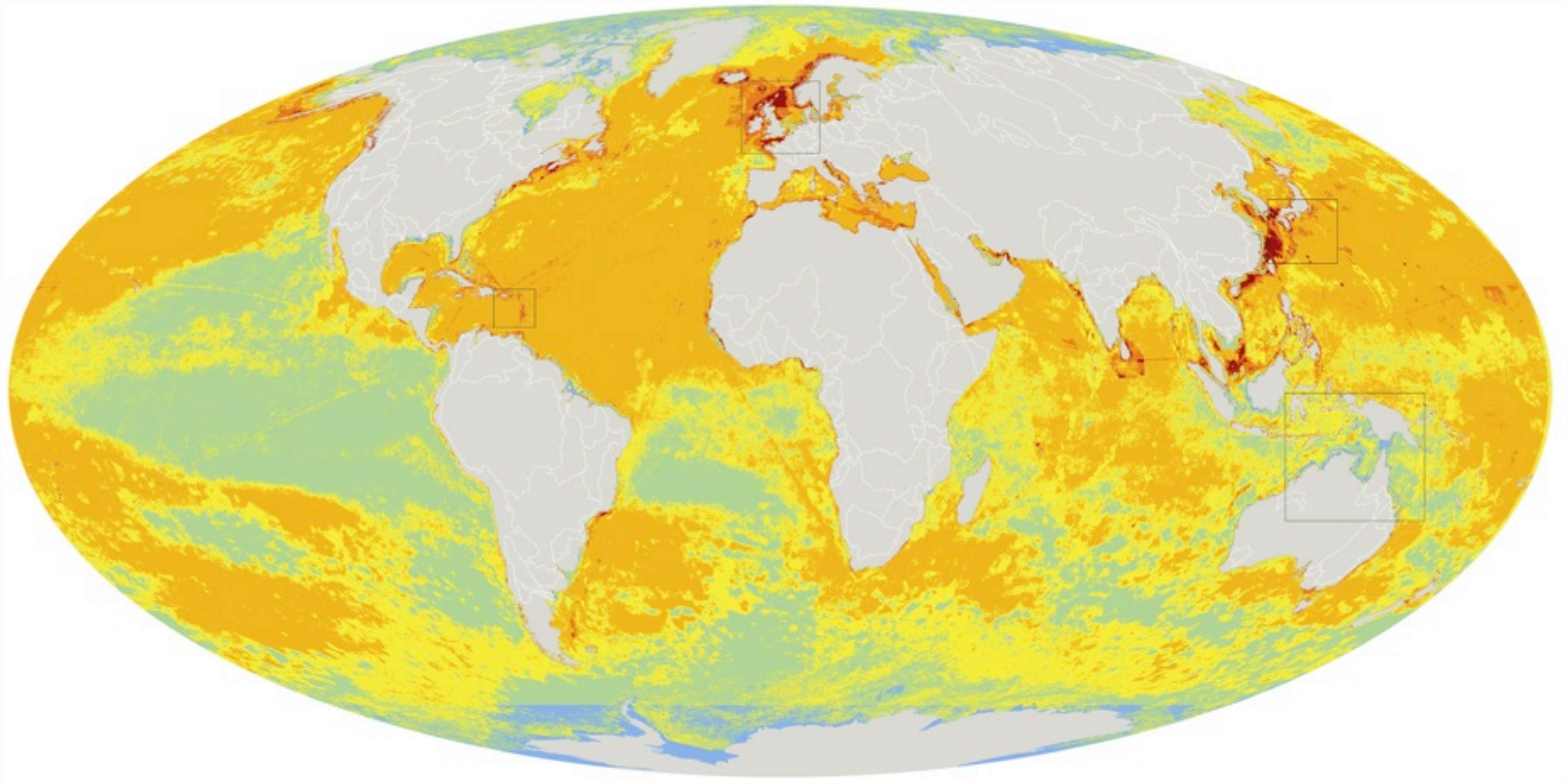
Expanding

- Kinds of use
- Levels of activity
 - Duration
 - Intensity
 - Frequency
- Location of activity
 - Geographical Extent
 - Frequency

The Multiple Use Ocean



Global Ocean View: Ecosystem Impacts



The Ocean Business Community Challenge

- Ocean industries require access and social license to use ocean space and resources
- Many of the critical issues creating impacts and affecting access and social license are cross-cutting or cumulative
- Sustaining ocean health and productivity requires responsible use and stewardship by all users
- Best efforts by a single company, or an entire industry sector, are not enough to secure ocean health
- Ocean industries will benefit from collaboration with other sectors to create synergies and economies of scale to address impacts and ensure access and social license
- **Need structure/process for leadership and collaboration**



World Ocean Council



International, Cross-Sectoral Business Leadership Alliance

- Bringing ocean industries together, e.g. shipping, oil/gas, fisheries, aquaculture, tourism, offshore renewables, etc.
- Catalyzing private sector leadership and collaboration in
 - Advancing “*Corporate Ocean Responsibility*”
 - Communicating responsible ocean industry/economy
- 70+ members worldwide; 30,000+ in global network

Goal Healthy, productive global ocean and its sustainable use and stewardship by responsible *ocean business community*

Creating business value for responsible companies

- Access and social license for responsible ocean use
- Synergies and economies of scale in addressing issues
- Stability and predictability in ocean operations

World Ocean Council Members

3W Marine Pty Ltd

Almi Tankers S.A.

Arcadis

A.P. Moller-Maersk A/S

Arctic Fibre

Baird Publications

Battelle Memorial Institute

Beveridge & Diamond, P.C.

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Caris USA Inc.

Center for the Blue Economy

China Navigation Company

Class NK

CSA Ocean Sciences Inc.

DNV - GL

EcoStrategic Consultants

ESRI

ExxonMobil

Global Trust Certification

Golder Associates

Guangxi Penshibao Co., Ltd

Heidmar, Inc.

Heerema Marine Contractors

Holman Fenwick Willan LLP

Hydrex

Intl Chamber of Shipping (ICS)

Intl Tankers Owners Pollution Fed. (ITOPF)

JASCO Applied Sciences

Keppel Offshore and Marine

L3 MariPro

Lloyds Register

Louisbourg Seafoods

M3 Marine (Offshore Brokers) Pte Ltd

Manson Oceanographic

Marinexplore

Marine Acoustics, Inc.

Memorial University – Marine Institute

Mitsubishi Heavy Industries

Nautilus Minerals, Inc.

N America Marine Env’t Protection Assn.

Noise Control Engineering

Ocean Nourishment

OceanNetworks Canada

OLRAC SPS

PanGeo Subsea

Resolute Marine Energy

RightShip

Rio Tinto

Royal Greenland A/S

Sanford Limited

Shell

Shipping HK Forum Ltd

Southall Env’tal Assoc (SEA)

SubCtech

Swire Pacific Offshore

Tai Chong Cheang (TCC) Steamship Co HK

Technip

Teck Resources

TierraMar Consulting

TOTAL

Total Marine Solutions

Twin Dolphins

Univ. Texas Marine Science Inst.

WOC Ocean Business Leadership Program

1. Ocean Policy and Governance

- Convention on Biological Diversity (CBD); Law of the Sea; etc.

2. Marine Spatial Planning (MSP)

- US; EU; Australia, etc.

3. Operational Environmental Issues

- Biofouling/Marine Invasive Species
- Sound and Marine Life; Marine Mammal / Vessel Interactions
- Port Waste Reception Facilities / Marine Debris
- Water Pollution/Waste Discharge

4. Regional Ocean Business Councils

- Arctic; Mediterranean; Caribbean; Arab Gulf; W Africa, etc.

5. Smart Ocean / Smart Industries

- Data from Vessels/Platforms of Opportunity

6. Sea Level Rise/Extreme Weather Events

- Port/coastal infrastructure adaptation

5. Smart Ocean / Smart Industries

Ensure wide range of industry vessels and platforms are:

- Improving the understanding, modeling and forecasting of oceanic ecosystems, resources, weather, climate variability and climate change, and...
- Contributing to describing the status, trends and variability of oceanographic and atmospheric conditions, by...
- Providing routine, sustained, standardized information on the ocean and atmosphere

Industry leadership in ocean knowledge

Establish a international, multi-industry program to:

- Expand the number of vessels and platforms that collect standardized ocean, weather and climate data
- Improve the coordination and efficiency of data sharing and input to national/international systems
- Build on existing “ships/platforms of opportunity” programs, e.g. Ferry box
- Enhance and advance the clear, compelling business benefits of increased ocean data

Opportunities of Ships

Number of ships - by total and trade as of October 2010

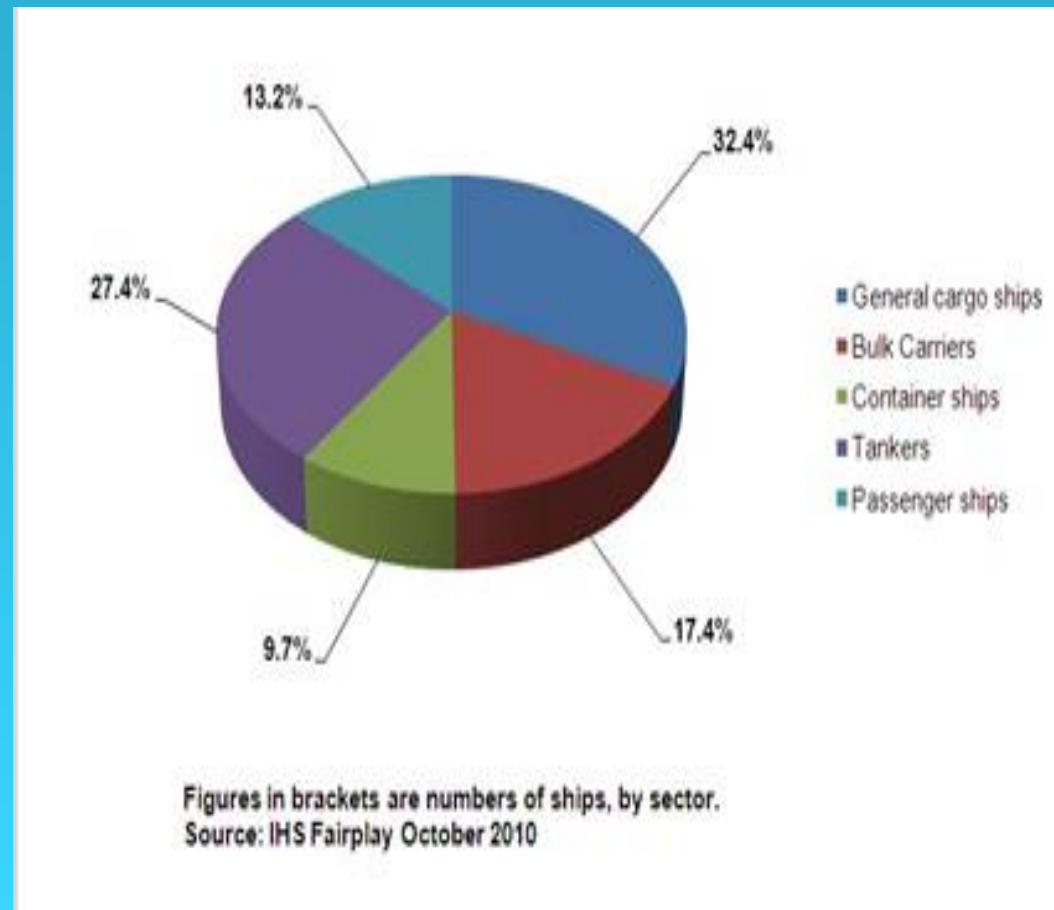
Tankers: 13,175

Bulk Carriers: 8,687

Container ships: 4,831

Passenger ships: 6,597

TOTAL: 50,054



Other Ship and Platform Opportunities

Oil and gas



Fisheries



Aquaculture



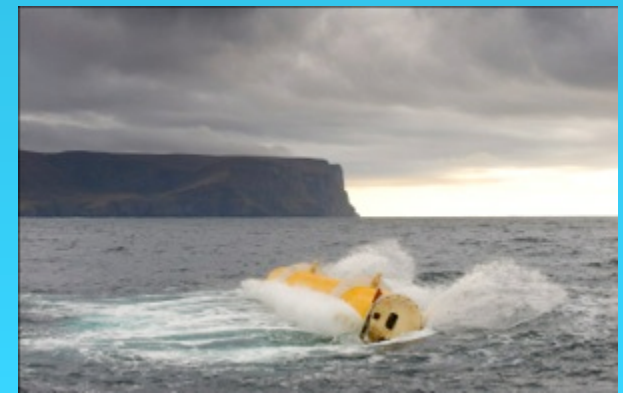
Offshore wind energy



Ferries



Wave/tidal energy



International Ship/Platform Data Collection

Comprehensive

- Incorporates needs and opportunities from different industries
- Addresses ocean, weather and climate data needs

Scaleable

- Within industries
- Across industries
- Upgradeable over time

Entry Options

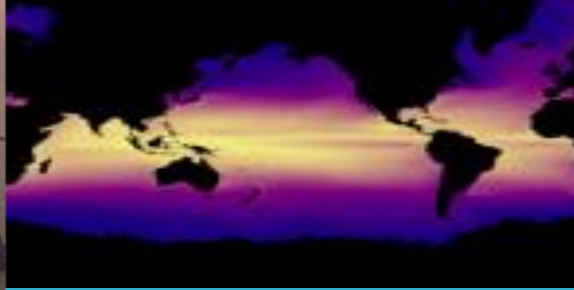
- Retrofit – existing vessels and platforms
- New builds

Cost-Efficient

- Synergies – within and between industries
- Economies of scale

Smart Ocean/Smart Industries: Next Steps

- Develop joint Industry/Science Steering Committee
- Define value proposition/rationale for industry and science
- Inventory of existing ships/platforms of opportunity programs
- **Define the “menu of options” for voluntary observations**
- **Define interface requirements for platforms / payload**
- **Develop the principles, practice and platform for industry data sharing and access**
- Develop Advisory Group for input from broader range of industry / science representatives
- **Develop regional pilot projects to put “Smart Industries” to work**



Thank You !

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