



**PRIMAR<sup>®</sup>**

# **PRIMAR RENC Model**

**REGIONAL ENC/ECDIS SEMINAR**

**Rio, Brazil, 5-6 November 2008**

**Odd Breivik, NHS**

# PRIMAR RENC



- Regional ENC Coordinating Centre
- RENC concept is at the core of the WEND Principles (World Wide ENC Database) of the International Hydrographic Organization (IHO)
- International cooperation between many national hydrographic offices
- Operated by the Norwegian Hydrographic Service on not-for-profit basis



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# PRIMAR Vision

*In order to enhance safety at sea and protect the maritime environment, PRIMAR's vision is to be the most efficient model for the provision of ENC services and maritime geospatial data worldwide*



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**PRIMAR ENC service  
is a not-for-profit governmental service  
operated by  
the Norwegian Hydrographic Service  
(Sjøkartverket)**



**STATENS KARTVERK**  
NORWEGIAN HYDROGRAPHIC SERVICE

# PRIMAR RENC core member nations



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FINLAND



FRANCE



SWEDEN



GREECE



LATVIA



POLAND

**Governmental Service**  
– One Database  
– Global-Secure



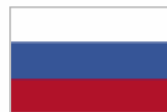
ESTONIA



CROATIA



NORWAY



RUSSIA



DENMARK

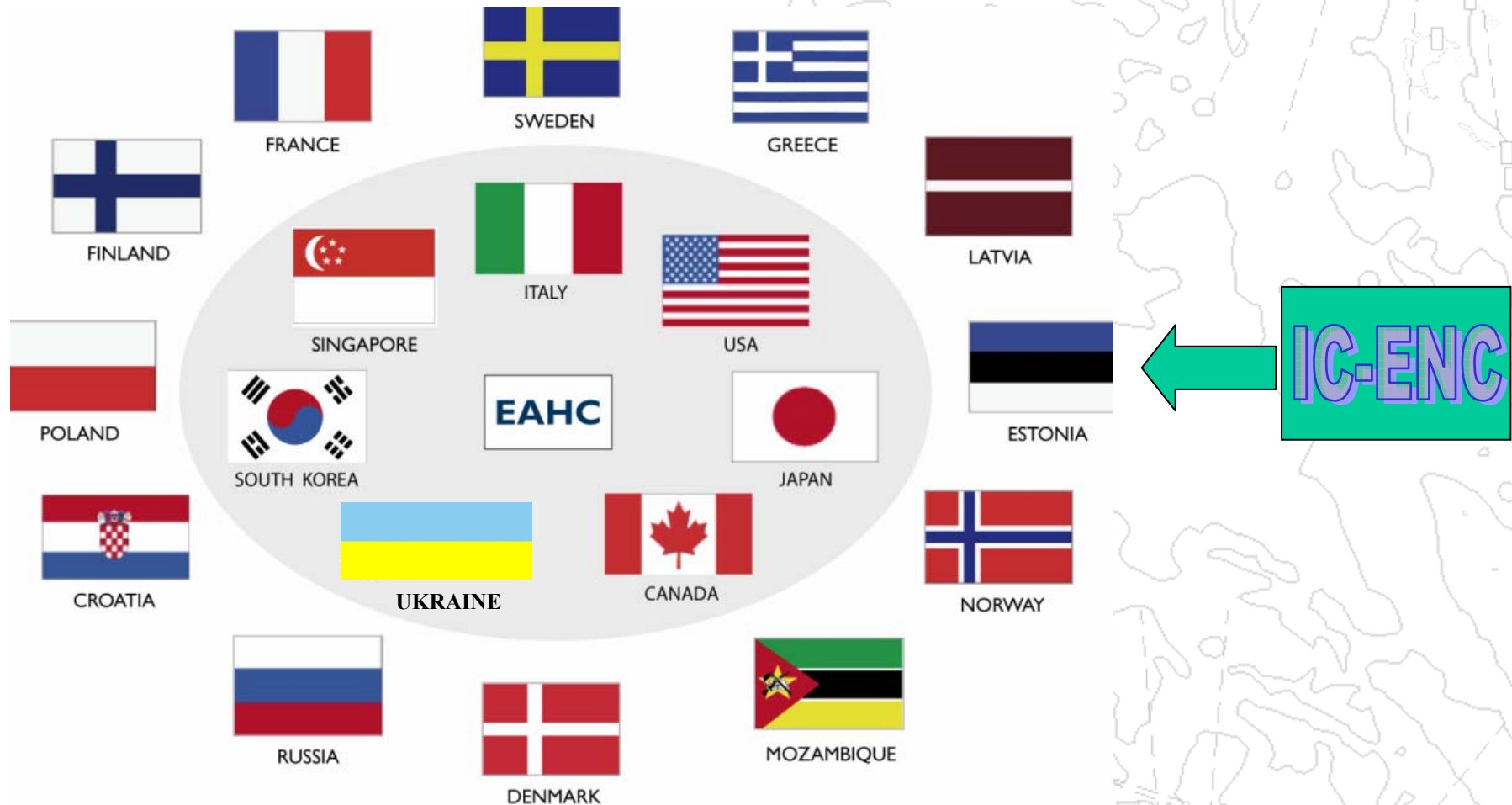


MOZAMBIQUE

# Nations part of the PRIMAR ENC Service



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# Administration of PRIMAR RENC



- **PRIMAR Advisory Committee (PAC)**
  - Meetings are held two times a year to decide policies and actions to motivate increased use of ENC's.
  - Latvia holds the chair of the PAC at present
- Sub groups
  - **PRIMAR Marketing Group (PMG)**
  - **Technical Experts Working Group (TEWG/JTEWG)**
- PMG deals with issues such as licensing, pricing, services etc.
- TEWG/JTEWG have meetings once a year to exchange technical knowledge and information and discuss issues such as the quality of the ENC's, consistency, and overlap



# Joint RENC Information Work

A comprehensive report on charts and carriage requirements has been produced by PRIMAR and IC-ENC.

This document aims to provide a frame of reference for users who want a firm basis for making an educated decision on the equipment and data to use.

It has been compiled by the Hydrographic Offices of Denmark, Finland, France, Germany, Norway, Sweden and the UK, with the maritime authorities of the same countries verifying the references and interpretations of the international regulations covered.

Version 2 now available in Japanese and Spanish.

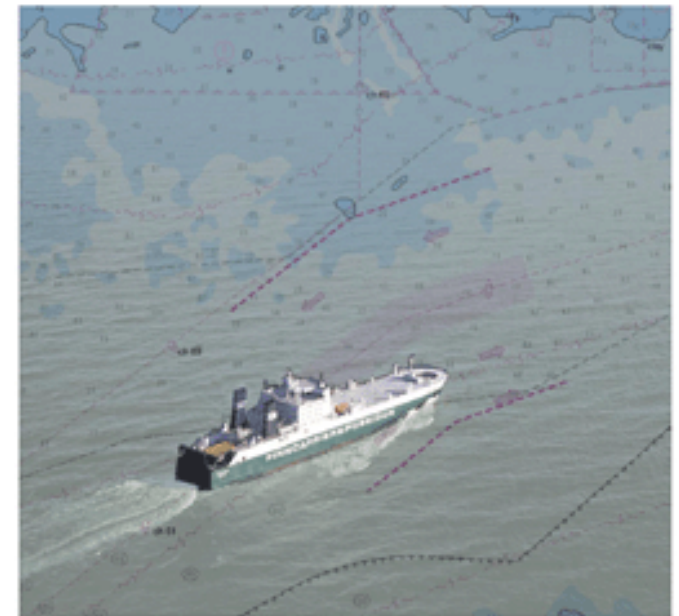
Operated by the Norwegian Hydrographic Service



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Facts about electronic charts and carriage requirements

Prepared by  
Primar Stavanger & IC-ENC  
Joint Information Working Group (JIWG)



2nd edition 2007



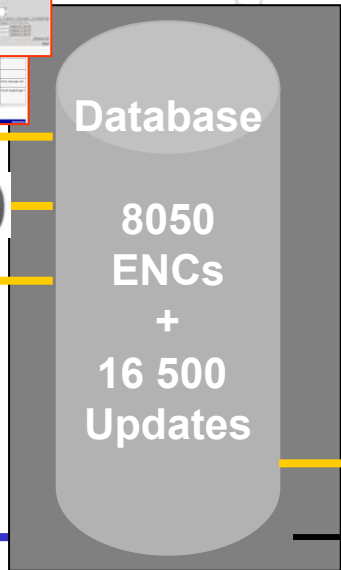
# Operation of the ENC service



PRIMAR®

- Argentina
- Australia
- Bahrain
- Belgium
- Brazil
- Chile
- China
- Colombia
- Cuba
- Ecuador
- Germany
- Hong Kong
- India
- Malaysia
- Mexico
- Mozambique
- Netherlands
- New Zealand
- Peru
- Pakistan
- Philippines
- Portugal
- Slovenia
- South Africa
- Spain
- Turkey
- Ukraine
- UK
- Uruguay

- Croatia
- Denmark
- Estonia
- Finland
- France
- Greece
- Latvia
- Mozambique
- Norway
- Poland
- Russia
- Sweden
- East Asia
- Canada
- Italy
- Japan
- Singapore
- South Korea
- USA
- ++



Instant response for permits 24/7



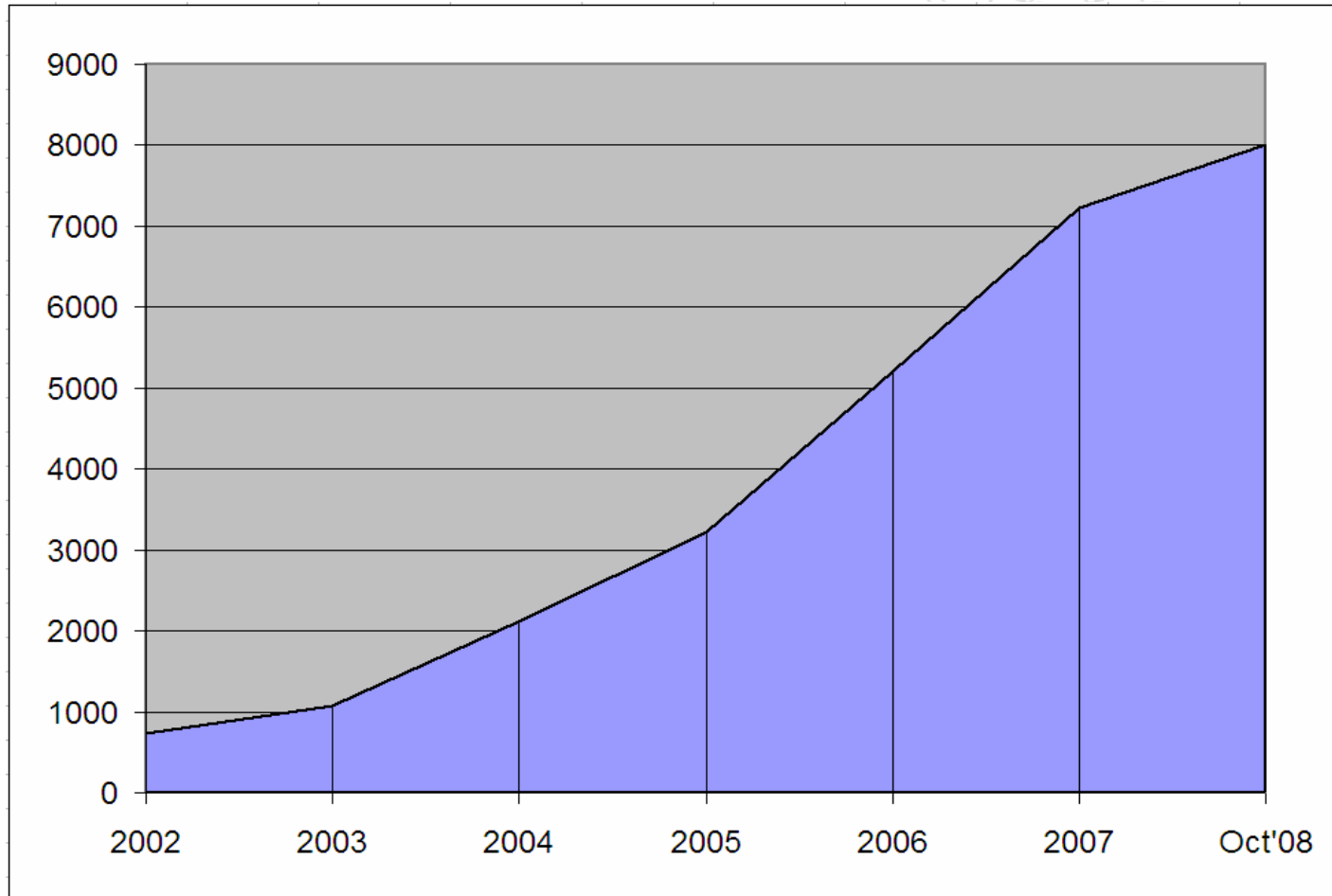
New ENC based WMS Services

# PRIMAR ENC Service



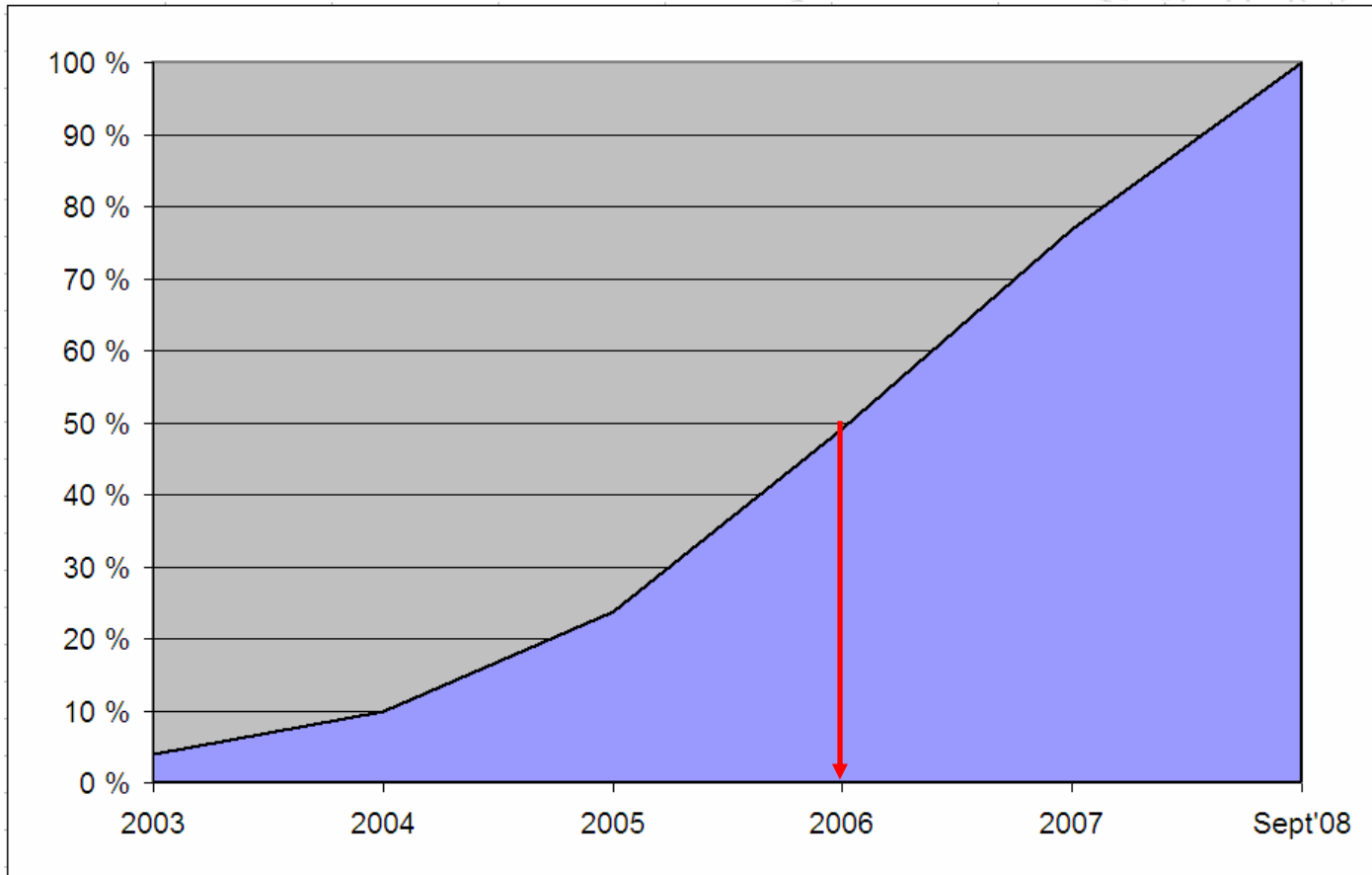
- **Only available through a set of authorized distributors - PRIMAR does not operate in the end-user market**
- **53 distributors in 22 countries globally**
- **Distributor agreement based on standard terms & conditions**
- **ENC prices to the market are set by the distributors themselves**
- **Currently PRIMAR offer 3, 6 and 12 month subscriptions.**
- **Weekly update CD service**
- **All services are ISO 9001-2000 certified**
- **Efficient solutions available 24/7 via the Primar Chart Catalogue**
- **Remote update solutions**

# Growth of ENC Database



Operated by the Norwegian Hydrographic Service

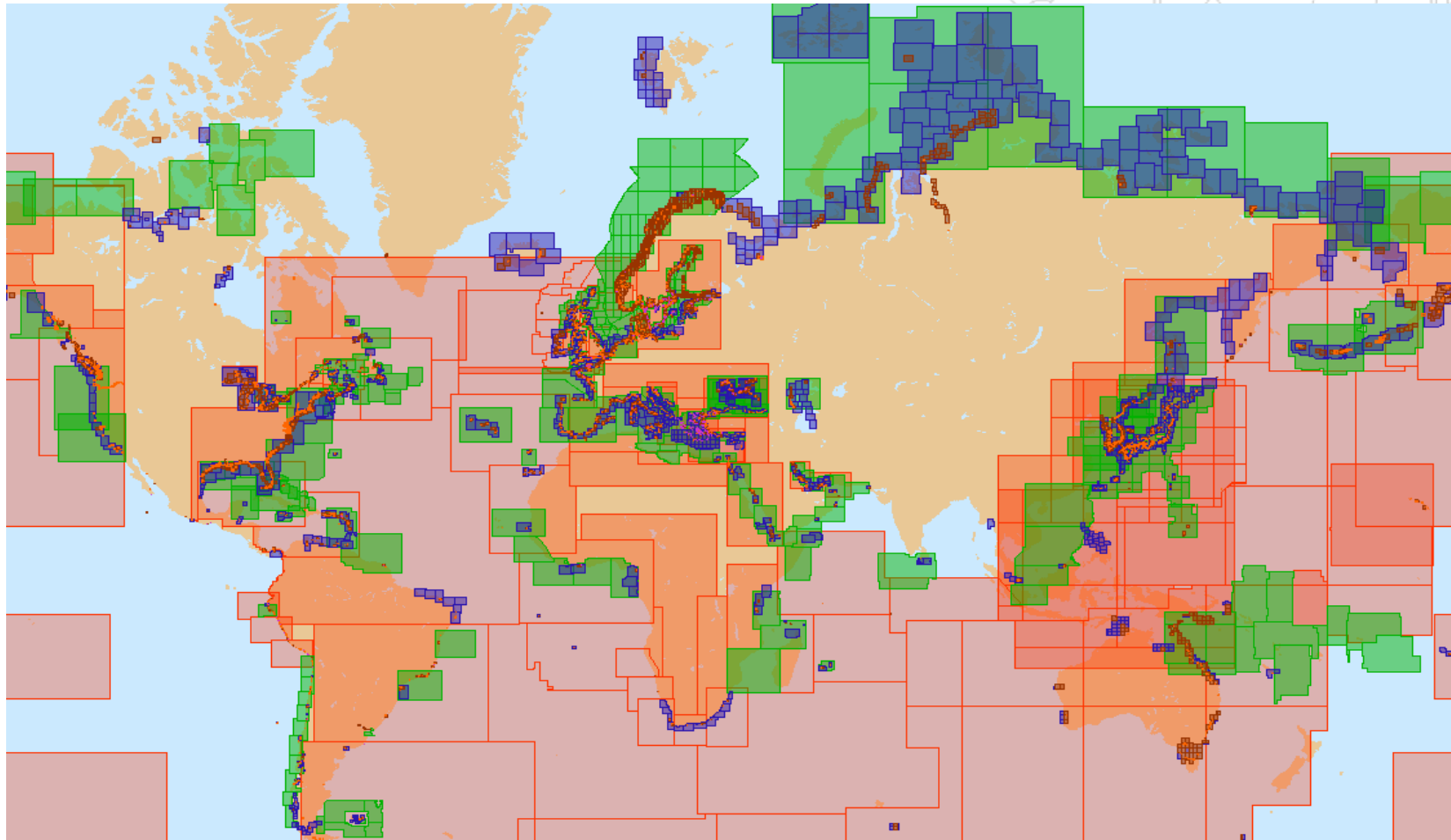
# Growth of no. of end users in PRIMAR ENC Service



# PRIMAR ENC Coverage October 2008



PRIMAR<sup>®</sup>



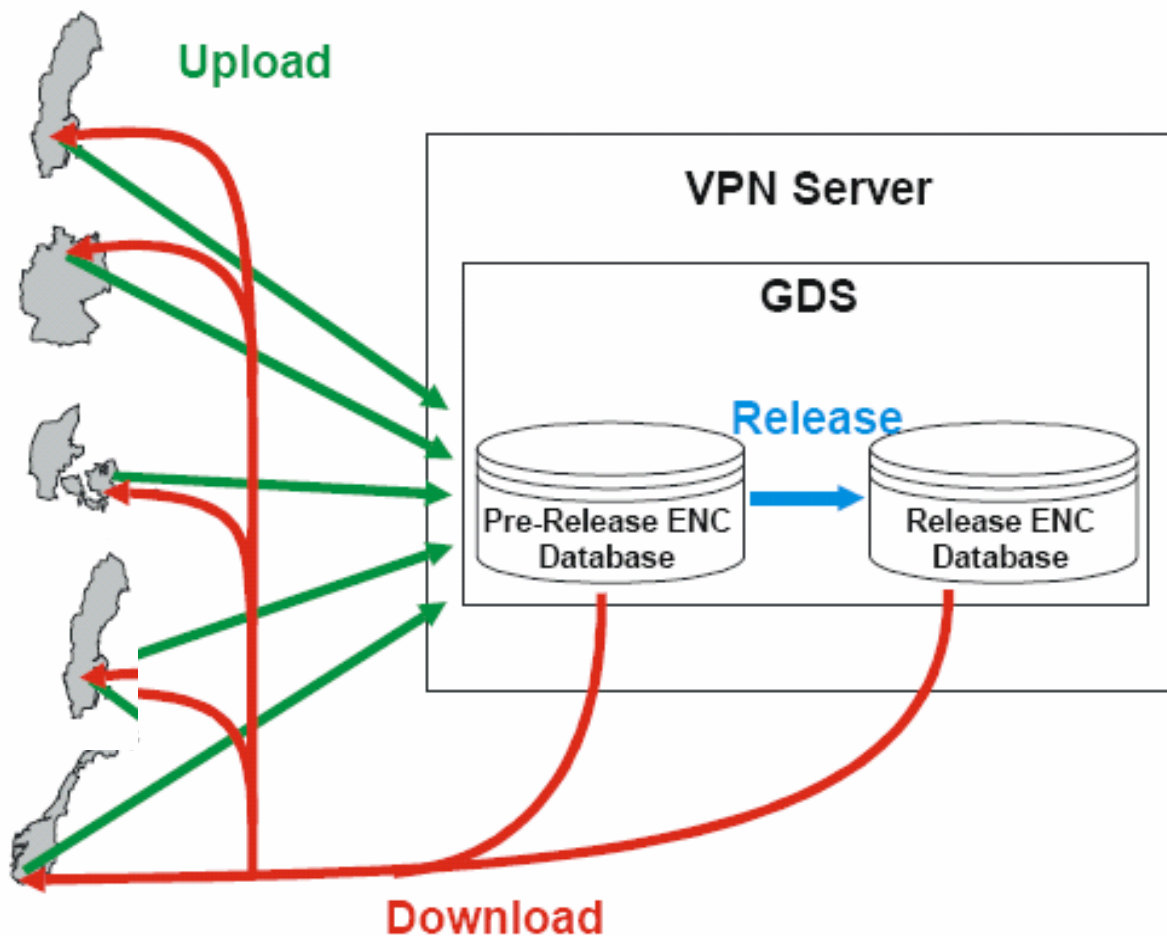
Operated by the Norwegian Hydrographic Service

# VPN (Virtual PRIMAR Network)

Web tool for secure administration of national ENC's



**PRIMAR**<sup>®</sup>



**HOs have full control of their ENC's**

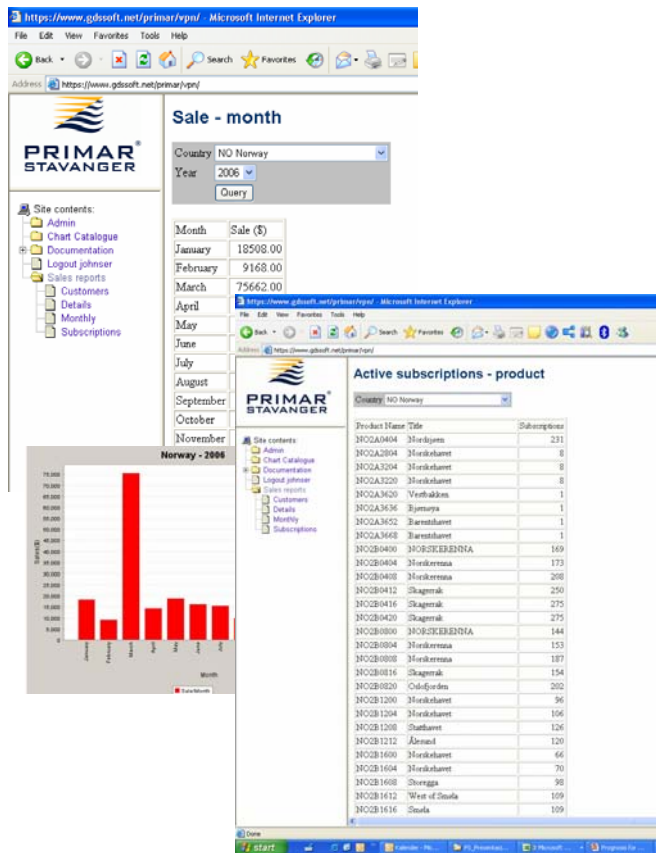




PRIMAR®

# Real-time sales reporting

- Sales per month
- Sales per distributor
- Sales per chart no./title
- Number of charts per no./title in subscription
- Shipping company and vessels using nation's ENC's.
- And more...



# PRIMAR Chart Catalogue



PRIMAR®

- ENC folio planning, management, on-line ordering and delivery -

**Selection**

- General
- Coastal
- Approach
- Harbour
- Berthing

**Position**

Lat: N/A  
Lon: N/A

**PRIMAR CHART CATALOGUE**

Product	Title	Usage Band	Price Band	Expiry
Q83006	English Coast - Humber Region	General	Medium	
Q83007	English Coast - Humber Region	General	Large	
Q83008	English Coast - Scarborough R.	Coastal	Medium	
Q84005	English Approaches - Lowestoft	Coastal	Medium	
Q84006	English Approaches - The Wash	Coastal	Medium	
Q84007	English Approaches - Grebby	Coastal	Medium	
Q84008	English Approaches - Bournemouth	Coastal	Medium	
Q84009	English Approaches - Bournemouth	Coastal	Medium	
Q85004	English Harbours - North East	Harbour	Large	
Q85005	English Harbours - North East	Harbour	Large	
Q85006	English Harbours - North East	Harbour	Large	
Q85007	English Harbours - North East	Harbour	Large	
Q85008	English Harbours - North East	Harbour	Large	
Q85009	English Harbours - North East	Harbour	Large	
Q85010	English Harbours - North East	Harbour	Large	
Q85011	English Harbours - North East	Harbour	Large	
Q85012	English Harbours - North East	Harbour	Large	
Q85013	English Harbours - North East	Harbour	Large	
Q85014	English Harbours - North East	Harbour	Large	
Q85015	English Harbours - North East	Harbour	Large	
Q85016	English Harbours - North East	Harbour	Large	
Q85017	English Harbours - North East	Harbour	Large	
Q85018	English Harbours - North East	Harbour	Large	
Q85019	English Harbours - North East	Harbour	Large	
Q85020	English Harbours - North East	Harbour	Large	
Q85021	English Harbours - North East	Harbour	Large	
Q85022	English Harbours - North East	Harbour	Large	
Q85023	English Harbours - North East	Harbour	Large	
Q85024	English Harbours - North East	Harbour	Large	
Q85025	English Harbours - North East	Harbour	Large	
Q85026	English Harbours - North East	Harbour	Large	
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Q85098	English Harbours - North East	Harbour	Large	
Q85099	English Harbours - North East	Harbour	Large	
Q85100	English Harbours - North East	Harbour	Large	

Product	Subscription type	Price band	Permit end date	Amount	Price	Discount	Total
ENC	12 months	Large	Mar 10, 2006	76	1530.00	1530.00	0.00
ENC	12 months	Medium	Mar 10, 2006	41	466.00	466.00	0.00
ENC	12 months	Small	Mar 10, 2006	390	1690.00	1690.00	0.00
ENC unit	12 months		Mar 10, 2006	37	585.00	585.00	0.00
Sum:					4271.00	4271.00	0.00

Free access:

- ✓ Show ENC coverage
- ✓ Make ENC folios

SecurID Authentication:

- ✓ Sales and ordering
- ✓ Fleet Management

# National services to enhance safety and efficiency



- Utilization of the common infrastructure for provision of official data to governmental maritime authorities
- Use of the same official data aboard the vessels and ashore will ensure consistency of references
- Better coordination of activities related to safety at sea e.g search and rescue
- Interoperability of the navigational data between various maritime authorities

# PRIMAR Navy Supplier ENC Service



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Operated by the Norwegian Hydrographic Service

# Navy supplier service



**The PRIMAR navy supplier service is operated through a Navy supplier agreement between the Norwegian Hydrographic Service (NHS) and a nation's navy. Terms and conditions are defined in the Navy supplier agreement. A nation can issue a discount for their own national ENCs to their nation's navy.**



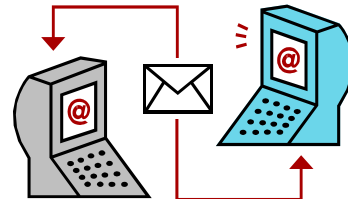
# PRIMAR national services

## Maritime administrations, Pilots, VTS



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Access on duty  
and at home



PRIMAR Stavanger	Remote update	Registrerte losere			
PRIS VÅR	01 08 2005	UP TO DATE	0	all grossen@chat-sances net	Utført
Telenor	10 22 34		2629	per spony@chat-sances net	Utført
Web	10 22 04				
2001	01 06 2005		39707	all tpsmk@chat-sances net	Utført
Nyhetstjen	10 15 09				
	01 06 2005		2629	per spony@chat-sances net	Utført
	10 10 07				
	01 06 2005		2629	per spony@chat-sances net	Utført
	09 47 05				
	01 06 2005		5	all grossen@chat-sances net	Utført
	08 07 03				
	31 05 2005		7514	per inge hansen@chat-sances net	Utført
	18 38 03				
	31 05 2005		562	hal gulbrandsen@chat-sances net	Utført
	16 52 04				
	31 05 2005		5718	ellett roos@chat-sances net	Utført
	15 41 04				
	31 05 2005		238	Tatjana semenkova@maia.no	Utført
	14 51 04				
	31 05 2005	UP TO DATE	0	Tatjana semenkova@maia.no	Utført
	14 40 05				
	31 05 2005		7883	roy anne rstrand@chat-sances net	Utført
	14 35 43				
	31 05 2005		1748	ingelocken@chat-sances net	Utført
	14 35 03				



Norwegian Coastal  
Directorate

- reports and administration of users -

300 Pilots/adm  
On-line

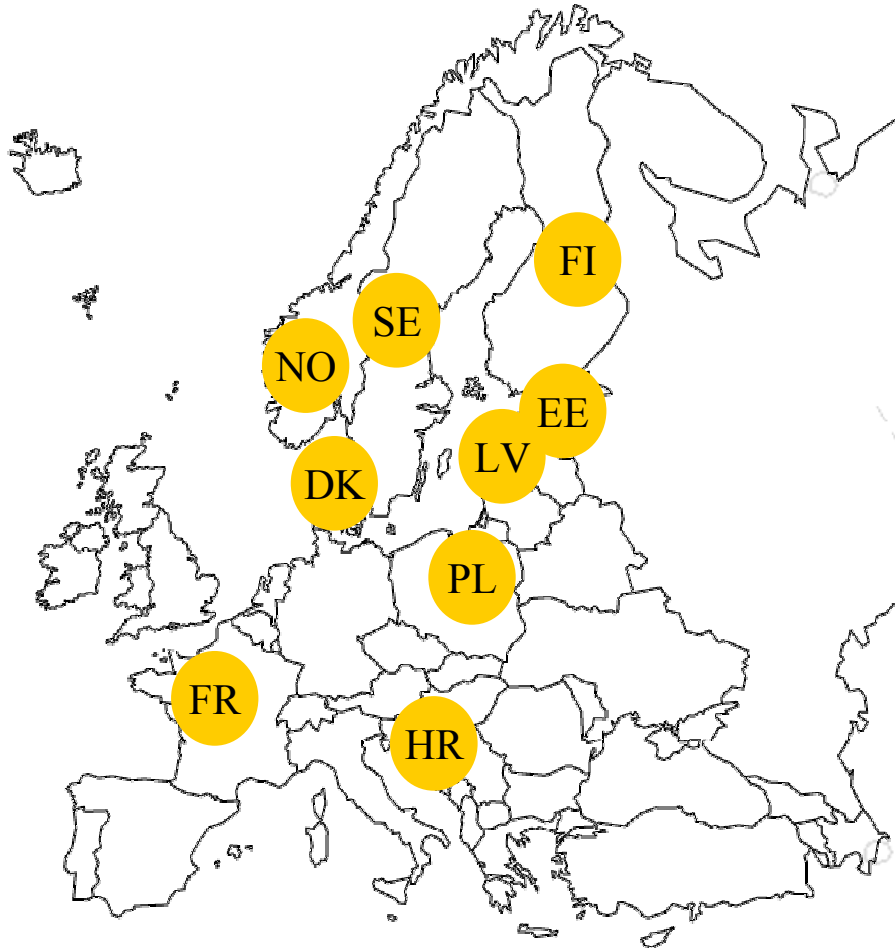




# PRIMAR Web Map Service (WMS)



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- Prototype service established by PRIMAR in 2008.
- 9 hydrographic offices participating in the design and testing of the service
- National trials in progress, including several governmental organisations

# OpenLayers



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OpenSource JavaScript library for displaying map data in web browsers

<http://www.openlayers.org/>

Operated by the Norwegian Hydrographic Service

# NASA World Wind



PRIMAR<sup>®</sup>



3D engine with  
high resolution  
Landsat imagery  
and SRTM  
elevation data  
integrated  
with other wms  
services

<http://worldwind.arc.nasa.gov>

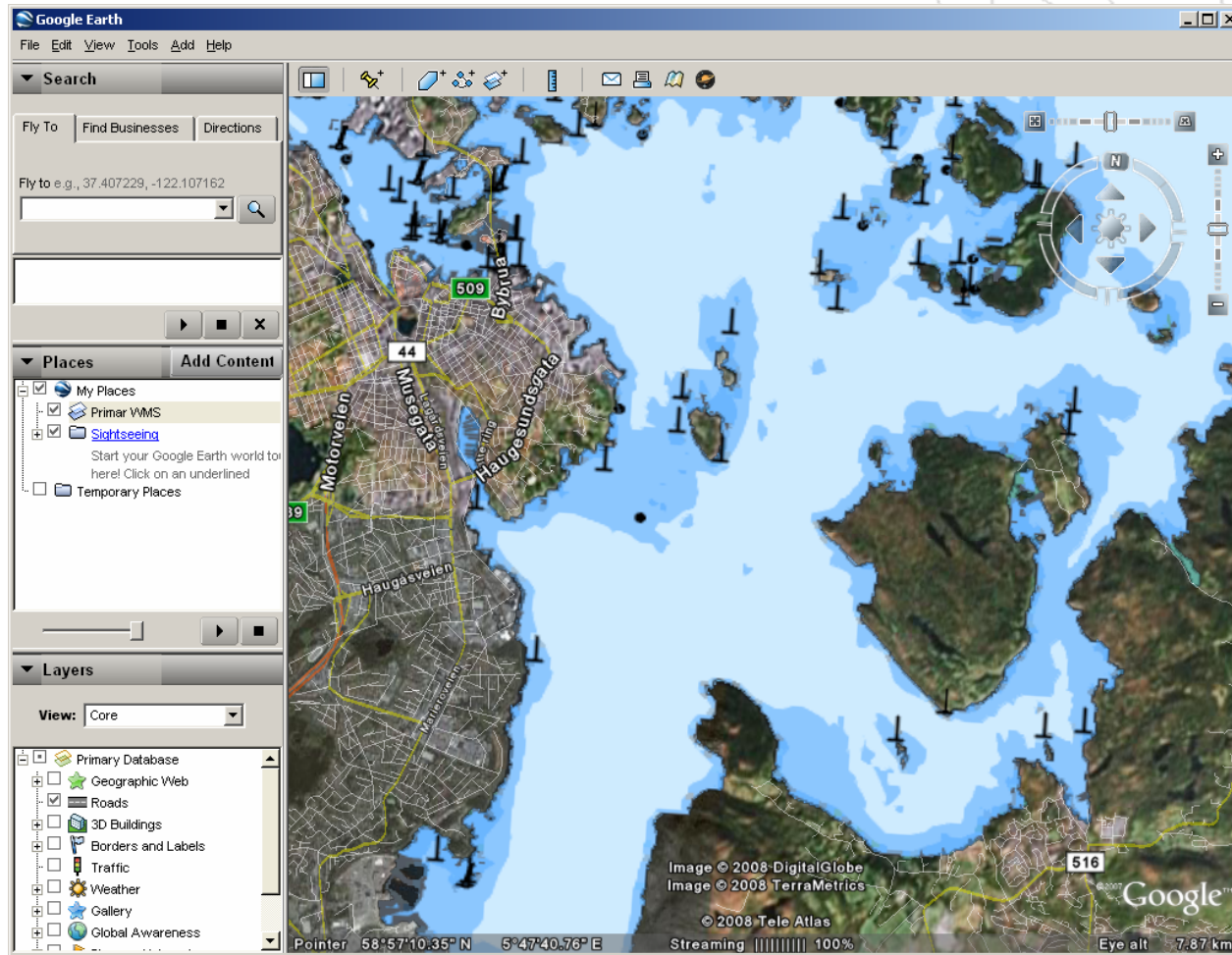
Operated by the Norwegian Hydrographic Service



# Google Earth



PRIMAR®



<http://earth.google.com>

Operated by the Norwegian Hydrographic Service

# Inspector tool to aid Port State Control inspections



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**Ais Target: NAVION STAVANGER**

Feature name	Value
MMSI	311582000
Country	Bahamas
Source type	AIS
Source name	Norsk AIS
Active	true
Ship name	NAVION STAVANGER
Call sign	C6FW8
IMO number	9248435
Ship type	Tanker
Destination	ROSS O\F
ETA	2005-12-09T12:00:00
Dimension	Lenght: 277.0 Width: 46.0
Maximum actual draught	9.2 m
Positioning device	Global Positioning System (GPS)
Latitude	N 58°49.60'
Longitude	E 005°22.17'
Time stamp	2005-12-07T09:24:15.48
Sun Altitude	04.5 °
SOG	0.1 kn
Max SOG	4.2 kn
COG	079 °
Heading	163 °
ROT	-0.7142446 °/min
Nav Status	at anchor
Pos Accuracy	> 10m
RAIM	Not in use
Time halted	16h 49m
Ship info Callsign	Ship info Callsign (CALL_SIGN)
Ship info IMO	Ship info IMO (IMO_NR)
Llyods	Llyods(IMO_NR)
NIS	NIS(CALL_SIGN)

Map showing vessel positions and movement vectors in the Stavanger region. Legend includes: Cargo ship (200), Passenger ship (155), Fishing Vessel (99), Tanker (47), Other (28), SAR vessel (28), HSC (21), not defined (20), Various (61).

Windows taskbar: Start, Internet, Kystverket Vest - Mic..., http://ais3.aionline..., Microsoft PowerPoint ... 10:26



**PRIMAR<sup>®</sup>**

# Thank You!

**Capt. Sach Sharma**  
**[sach.sharma@statkart.no](mailto:sach.sharma@statkart.no)**