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# Electronic chart remote updating - how to set about doing remote updating - requirements, technology, benefits, costs.

**Rune Holst Johnsen,  
Director Primar Stavanger,  
Norwegian Hydrographic Service**

**At:  
Digital Ship Scandinavia 2007, 20-21 March, Oslo**

# Presentation Content



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- Primar Stavanger ENC Service, operated by the Norwegian Hydrographic Service
- Online Updating – Video from 1998 – “Your Chart is Just a Click Away”
- Status, very few vessels have on-line capabilities on ECDIS
- ECDIS online will be the future
- Interim Solution: Primar Online
- Safe, effective and cost efficient
- ECDIS Online next
- Regulations motivate ECDIS Online

# Primar Stavanger ENC Service



## - RENC – Governmental service

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- SOLAS Chapter V, Regulation 9, requires Contracting Governments to ensure that hydrographic data are available in a suitable manner in order to satisfy the needs of safe navigation.
- Member States are encouraged to distribute their ENC's through a RENC in order to share in common experience and reduce expenditure, and to ensure the greatest possible standardization, consistency, reliability and availability of ENC's.
- Primar Stavanger, a Regional ENC Coordinating Centre (RENC) with global reach
- Meeting national and international resolutions for supplying a consistent and safe ENC service

# Operation of the ENC service

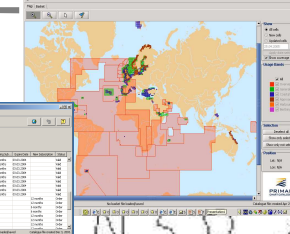
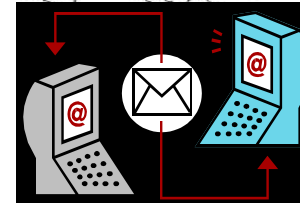


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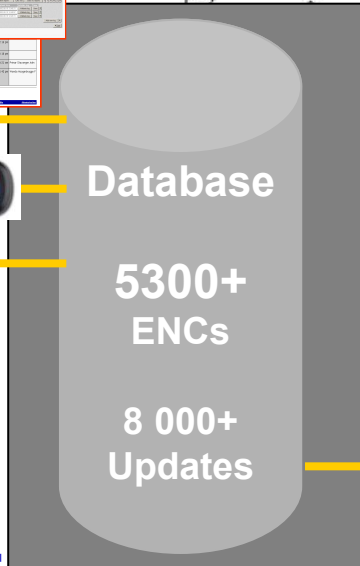
**Instant response for permits 24/7**



**Distributors: 50**

**(12+7)**

- PS RENC
- Croatia
- Denmark
- Estonia
- Finland
- France
- Greece
- Latvia
- Mozambique
- Norway
- Poland
- Sweden
- Russia
- EAHC
- Italy
- Japan
- Korea
- Singapore
- USA
- Canada
- NON-RENC



**(18)**

- Argentine
- Australia
- Bahrain
- Belgium
- Chile
- Germany
- Iceland
- India
- Mexico
- Mozambique
- Netherlands
- Pakistan
- Philippines
- Portugal
- South Africa
- Spain
- Turkey
- UK
- 

**enc.org**  
International Centre for ENCs

**Nations: 35++**



**Governmental Services:**

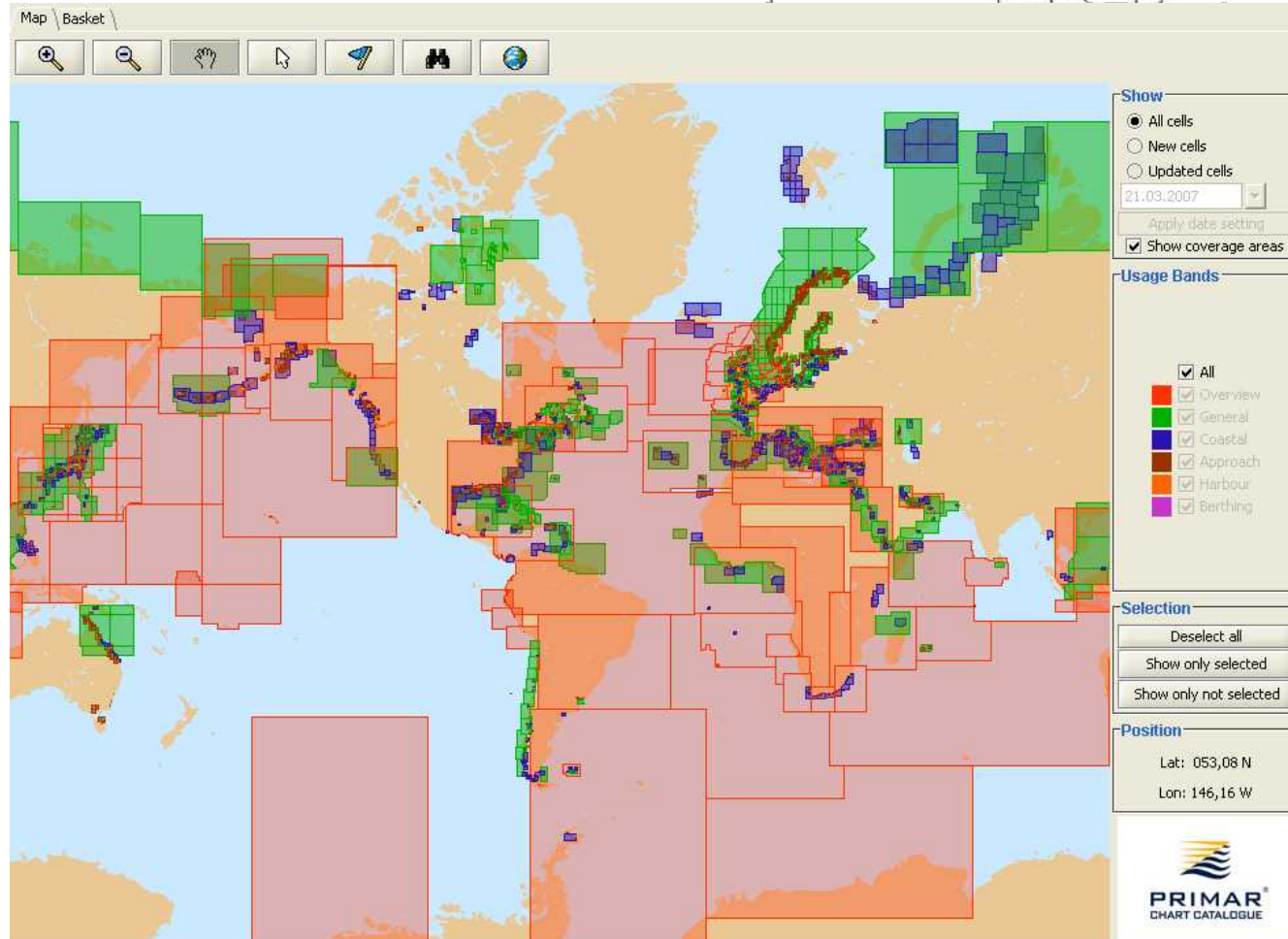
**Navy, Pilots, VTS, etc**

# Coverage

## Primar Stavanger ENC Service



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# 626 Canadian ENC's released 21 March



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Map \ Basket

Search, Pan, Hand, Mouse, Rotate, Home, Refresh

**Show**

- All cells
- New cells
- Updated cells

21.03.2007

Apply date setting

Show coverage areas

**Usage Bands**

- All
- Overview
- General
- Coastal
- Approach
- Harbour
- Berthing

**Selection**

Deselect all

Show only selected

Show only not selected

**Position**

Lat: 072,64 N

Lon: 046,93 W

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CHART CATALOGUE



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**Video**

**- your chart is just a click away -**



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# Status today on remote updating

# ENC reomote updating status



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- Only a few ECDIS systems have capability
- Many vessels with good sat-com interface, and internet connection
- Primar Online – solution for any vessel with internet connection to receive ENC updates and new editions, ECDIS online not needed

# Primar Online Users



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- 60 vessels on Primar Online
- 30 active users (weekly, not need update CDs)
- 30 new test users,
- 304 Norwegian Coastal Directorate,
- 280 Norwegian Pilots (remote online)
- And it has not started yet...

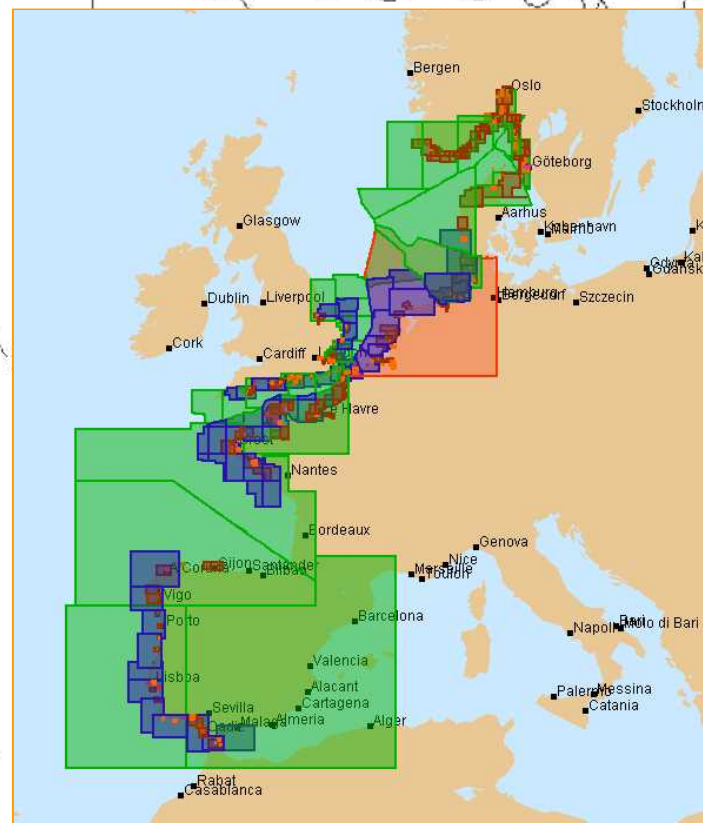


# ENC folio example



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- 328 ENC's (cells & units)
- 185 mb
- Average weekly update 3,6 mb
- Price per minute 5 USD (Inmarsat Fleet) 64kb
- Cost per week USD 42 USD
- 3G Mobile phone, USD 10 per week (limited range)
- Trend, decreasing prices



# Alternative costs



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- DHL approx USD 85 – 105 (Europe) for 1-2 CDs
- Most other express delivery at same price levels.

## Worldwide Document Express 2007



Priser STATENS KARTVERK SJØKARTVERKET

Nettopris dør-til-dør pr. sending innenfor gjeldende serviceområde

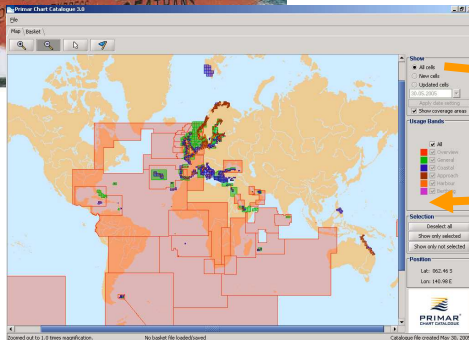
Vekt (KG)	Sone								
	1	2	3	4	5	6	7	8	9
E DOX >									
0,3	435	511	544	577	588	598	620	707	762
0,5	439	517	554	584	594	610	632	719	778
1	553	654	693	730	748	775	811	959	1 028
1,5	654	774	820	873	889	927	976	1 181	1 261
2	754	894	948	1 010	1 030	1 078	1 141	1 404	1 493

NOK 577 =  
USD 93

# Primar Online



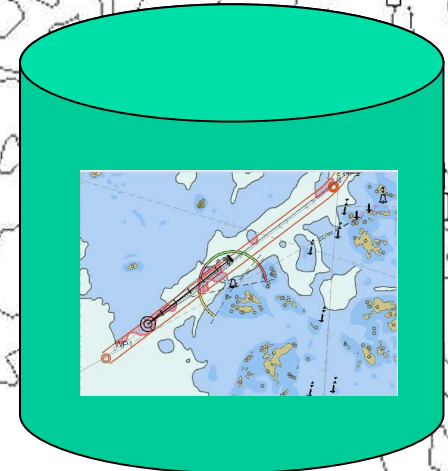
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**Updated ENC catalogue**

**User ID + download ENC files**

**ENC and permit files**



- Updated ENC Exchange Set created onboard based on vessel ENC subscription (ENC folio)
- Resumes communication in case of errors
- Local cache ensures only new ENC files for subscription is transferred
- What is local cache and how does it work?

# ECDIS Online



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- Next ECDIS – Primar Online
- Most ECDIS manufactures now looking into this (new wave from the ECHO video..)
- Motivated to be part of ECDIS functionality
  - IMO A.817(19) ECDIS Performance Standard,
  - IHO Publication S-52 Spec. For chart contents and display aspects of ECDIS, and
  - IEC 61174 ECDIS operational and performance requirements.



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# Primar Stavanger ECDIS Online

Primar Stavanger invites ECDIS manufacturers to implement  
online protocol. Enable ECDIS Online.

Supply of encrypted ENC's,  
ENC Service Delivered Only by Distributors

# Summary



**PRIMAR<sup>®</sup>**  
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- Safe and efficient governmental service
- Good coverage
- Primar Online, cost effective, available now
- Regulations motivate ECDIS online
- Standard and access available from Primar Stavanger
- Do not wait, increase your performance !!

**PRIMAR IS JUST A CLICK AWAY**



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# sail safely with official charts