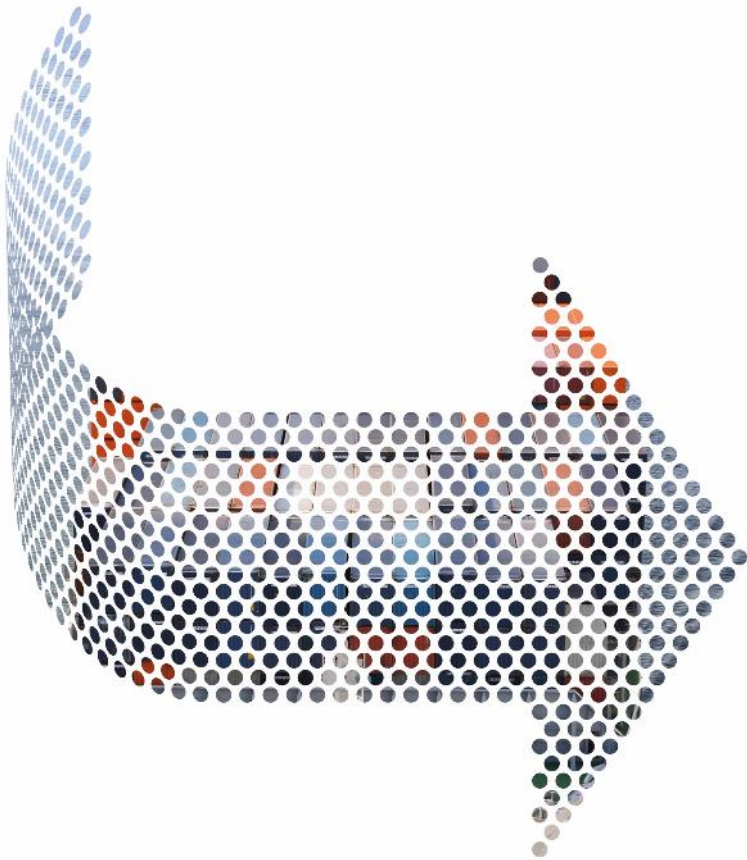


Quebec Region E-navigation Subcommittee



MARINERS' WORKSHOP VANCOUVER 2017

January 26, 2017



PRESENTATION PLAN



E-navigation initiatives
Cyber security
CCG marine portal
AIS AtoN
DUKC
SLGO dashboard
Moving Forward





Cyber security

*Security for people
Security for business
Security for society*



*Integrity
Robustness
Scalability
Efficiency
Confidentiality
Privacy
Coordinates defense
Fast response*





AIS AtoN survey

Objective

- *Worldwide assessment*
- *Define proper conditions for safe deployment*
- *Develop a business case (Assess cost/benefit for users)*





AIS AtoN benefits and limitations

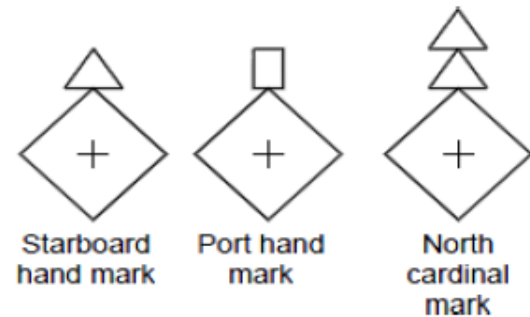


Real or Synthetic AIS AtoN:



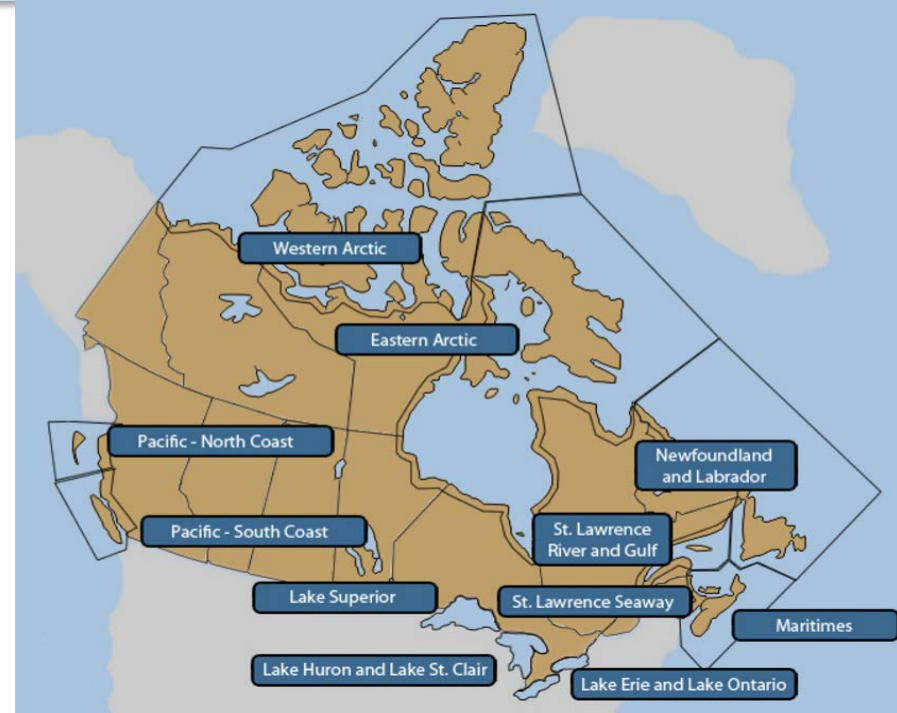
Basic shape (SN243)

Examples of Real or synthetic AIS AtoN



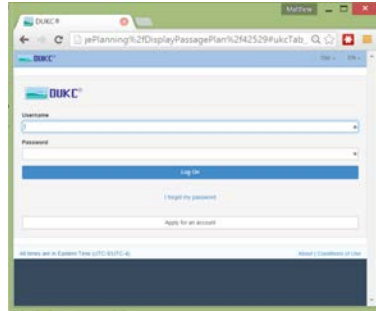
CCG marine portal

- *Marine weather*
- *Charts & Bathymetry*
- *Tides, Water levels and Currents*
- *Aids to Navigation*
- *Navigation Hazards and Notices*
- *Vessel traffic Services*

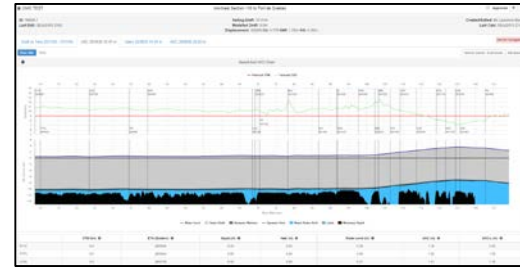


DUKC - Dynamic Under Keel Clearance

Web based



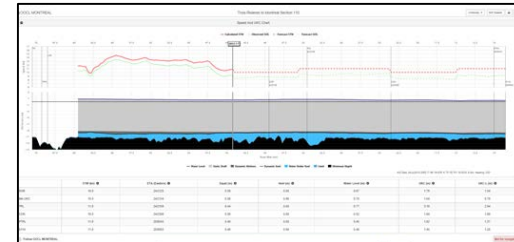
Transit Planning Advice



Voyage Planning Advice



Transit Monitoring Service





DUKC – Remaining Challenges

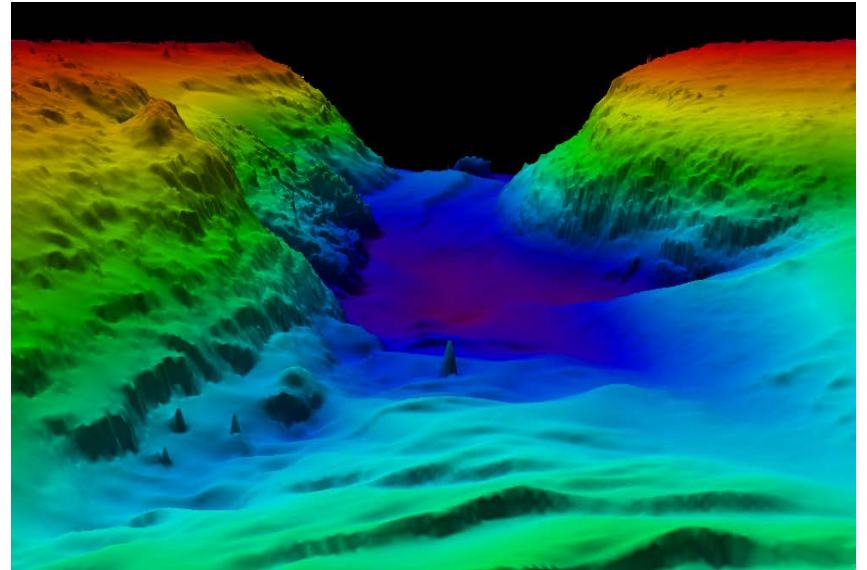
Bathymetric information reliability

Silting model

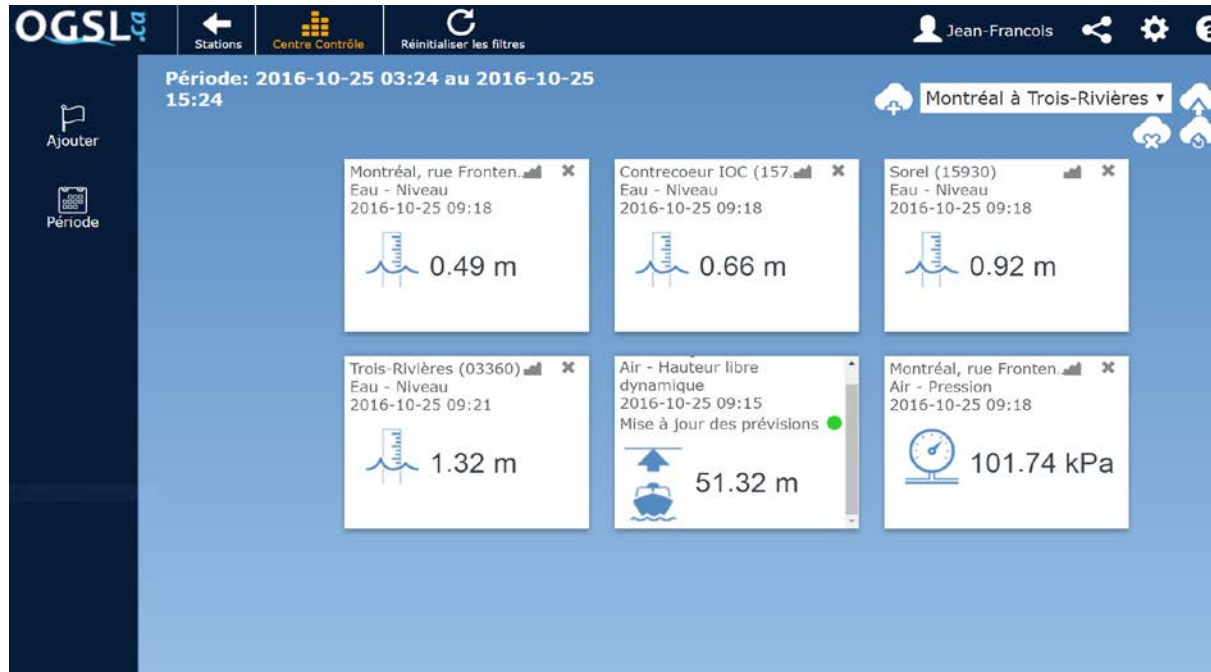
Sounding campaigns

Increase of draft due to heel

Ensure precise real time heel angle measurement



SLGO – Dashboard



Moving Forward

*Local Weather
Stations
Network*

Canada - Montreal, Dorval (St. Laurent river) ⓘ 📍

Live Wind



No live stations... be the first

➔ **HERE!**

GFS 27 km

ⓘ Info

📅 Forecast

📈 Graph

☰ 2D

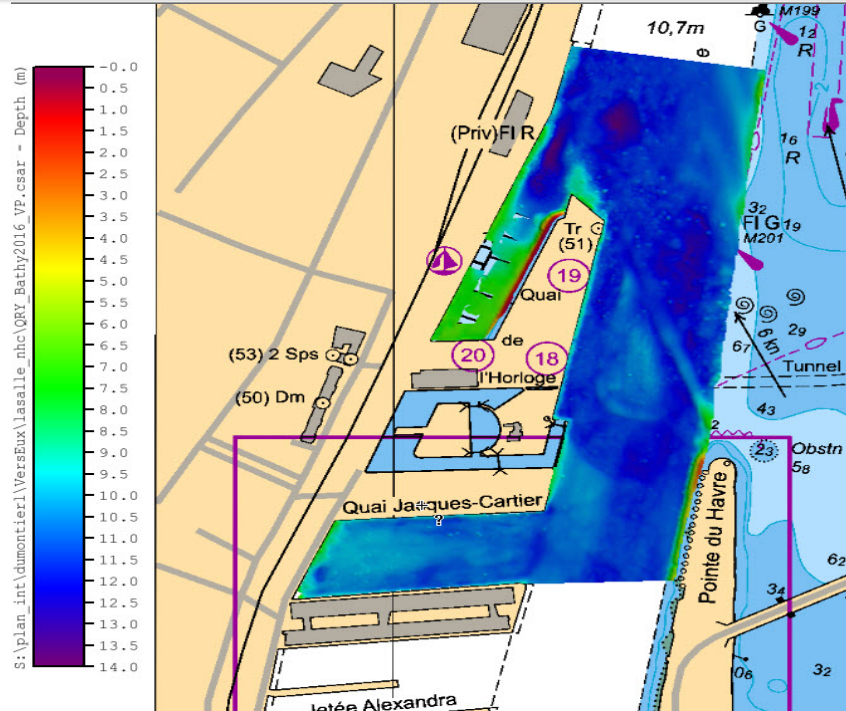
🗄 More

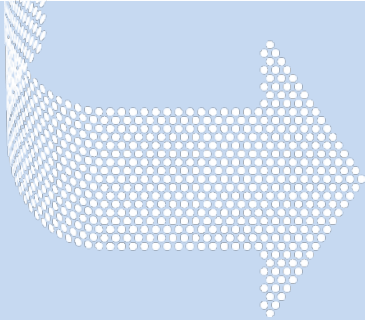
Init: 17.01.2017 12 UTC	Tu 17. 07h	Tu 17. 10h	Tu 17. 13h	Tu 17. 16h	Tu 17. 19h	Tu 17. 22h	We 18. 04h	We 18. 07h	We 18. 10h	We 18. 13h	We 18. 16h	We 18. 19h	We 18. 22h	Th 19. 04h	Th 19. 07h	Th 19. 10h	Th 19. 13h	Th 19. 16h	Th 19. 19h	Th 19. 22h
Wind speed (knots)	2	9	11	12	13	13	11	11	11	8	6	2	4	10	10	7	7	7	5	6
Wind gusts (knots)	3	16	17	20	22	19	17	18	17	12	8	3	8	23	20	16	13	14	11	7
Wind direction	↙	↙	↙	↙	↙	↙	↙	↙	↙	↙	↙	↙	↗	↗	↗	↗	↗	↗	↗	↗
*Temperature (°C)	-5	-3	-3	-4	-5	-3	-1	-1	-2	-1	-1	0	0	1	0	0	1	0	0	-3
*0° isotherm (m)	0	0	0	1.6k	1.7k	0	0	0	0	60	60	590	80	180	140	110	2.1k	2.4k	2.5k	2.3k
Cloud cover (%) high / mid / low	-	73	72	94	96	83	21	10						100	93		8		12	30
*Precip. (mm/3h)	-	82	58	8	48	91	100	100	100	100	100	100	100	96	97	94	97	100	100	19



Moving forward

Provide dynamic bathymetric chart overlay

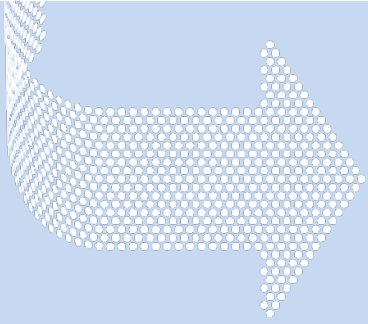




Moving Forward

- *Marine Domain Awareness*
- *Integrated solutions*





Thank you!

Questions?

