

Efficient shallow water real-time dredging monitoring

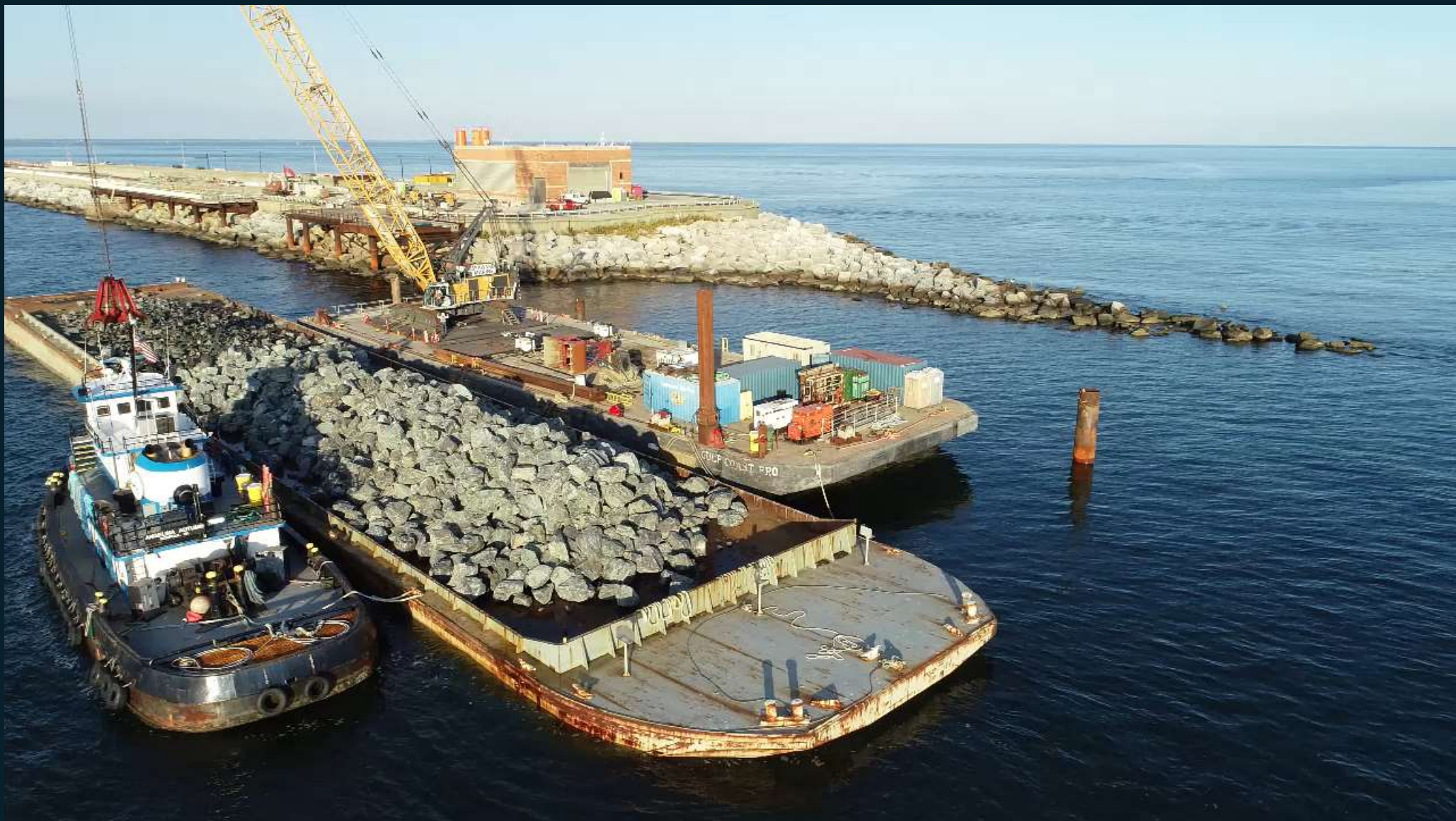
Pawel Pocwiardowski ¹

Christopher Sullivan ²

Mike Mutschler ³

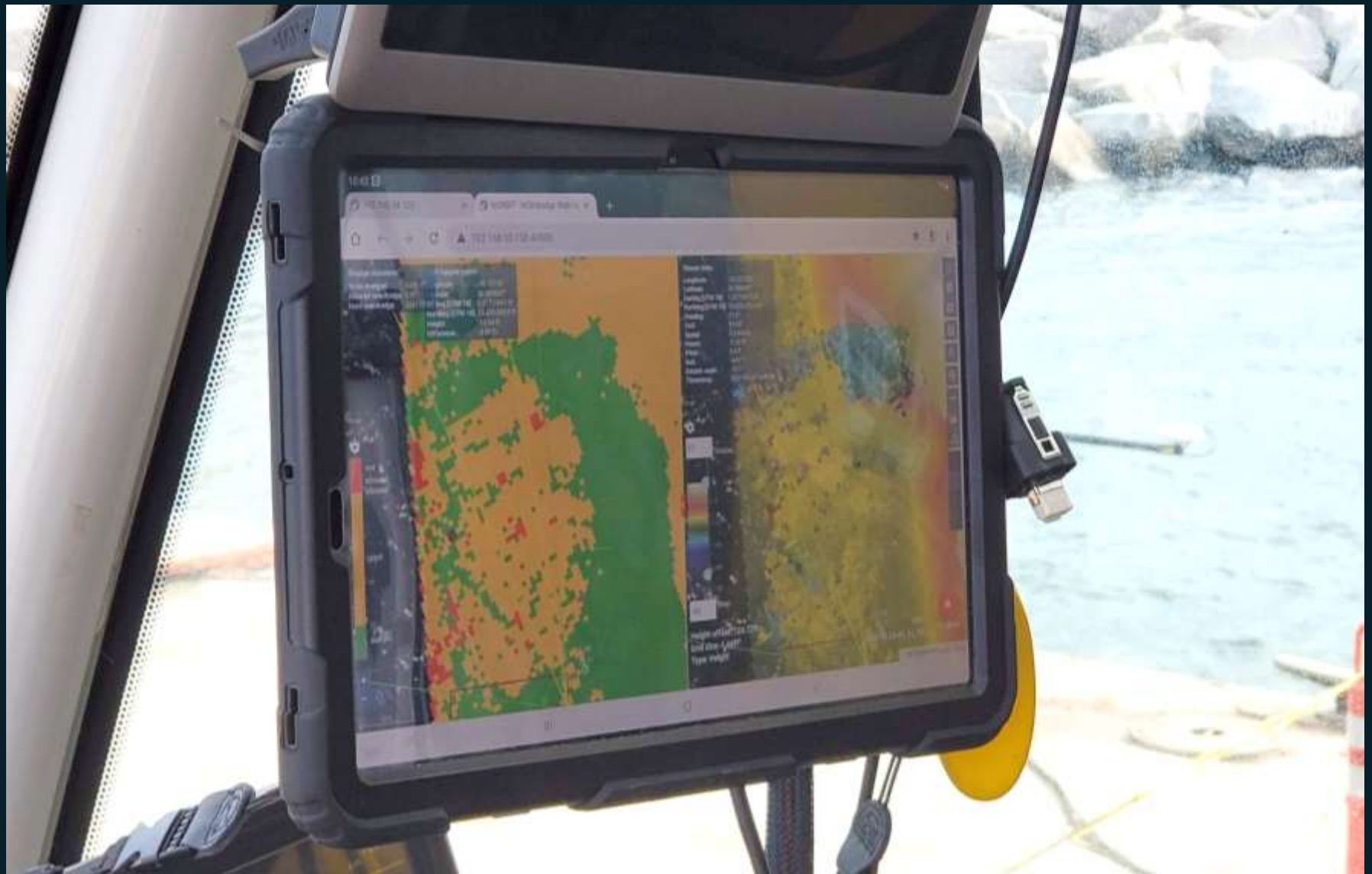
- 1) NORBIT, Product Director, Sonar Systems
- 2) Chesapeake Tunnel JV, Project Survey Manager
- 3) Seahorse Geomatics, President











Dredge volumes:
 To be dredged: 4582 ft³
 Allowed overdredge: 0 ft³
 Hard overdredge: 84659 ft³

Cursor info:
 Longitude: -76.10746°
 Latitude: 36.981146°
 Easting [UTM 18]: 1,317,049.1 ft
 Northing [UTM 18]: 13,429,639.1 ft
 Height: N/A
 Difference: N/A

not allowed
 good
 dump

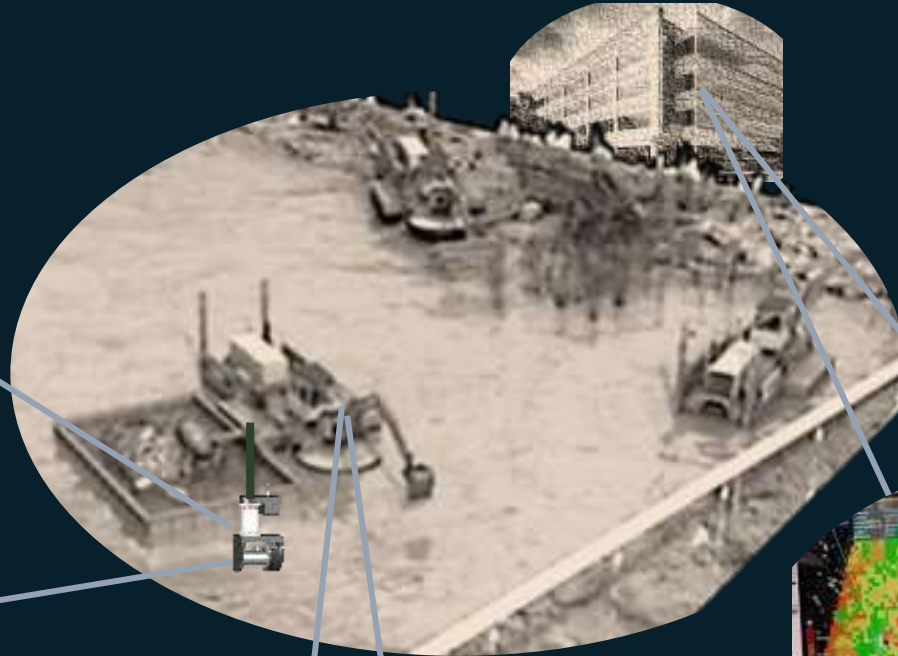
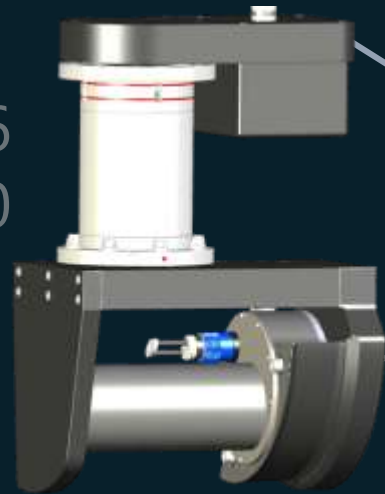
17 Shallow
 5
 -7
 -19
 -31
 -43
 -55
 -60 Deep

Height offset: 124.77ft
 Grid size: 1.64ft
 Type: Height

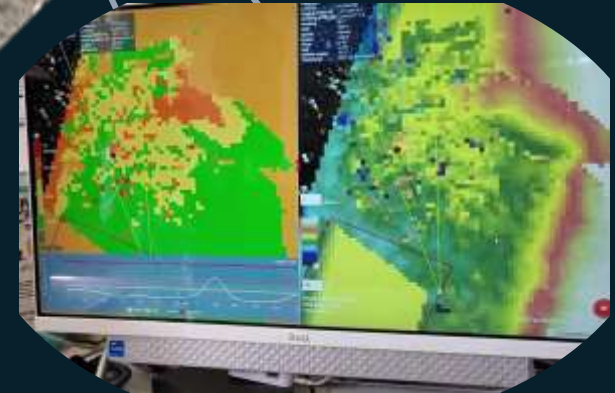
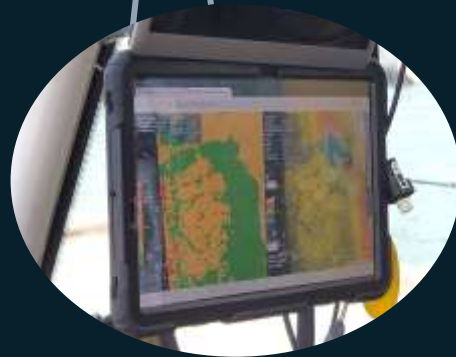
00:00

Waiting for first data

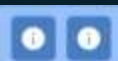
iSTX36
0



Operator's
tablet



Superintenden
t
remote access



Height offset: 0ft
Grid size: 1.64ft
Type: Height



PRE
INT
MAN
POS

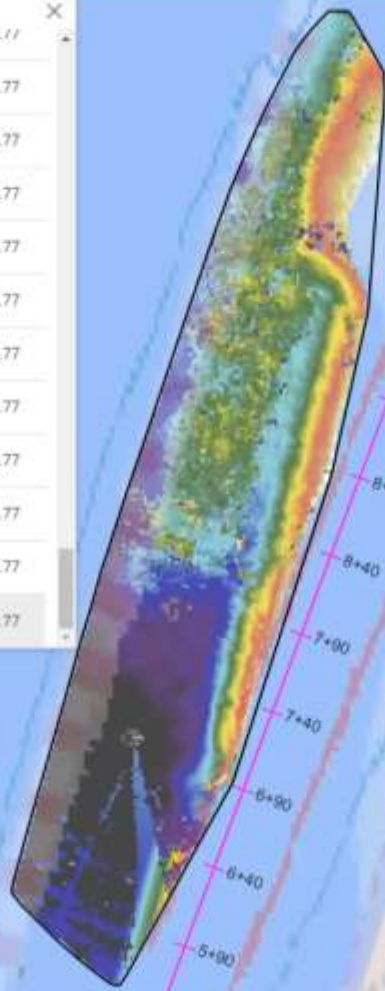


00:00

© Powered by Google Maps



ID	Location	Status	Value
13	ZU21-10-22-14_U5_1/	MAN	124.77
12	2021-10-22-14_04_47	MAN	124.77
11	2021-10-22-14_02_10	MAN	124.77
10	2021-10-22-14_01_59	MAN	124.77
9	2021-10-22-13_47_59	MAN	124.77
8	2021-10-22-13_47_44	INT	124.77
7	2021-10-22-13_44_11	INT	124.77
6	2021-10-22-13_43_50	INT	124.77
5	2021-10-22-13_40_54	MAN	124.77
4	2021-10-22-13_39_42	PRE	124.77
3	2021-10-22-13_38_35	PRE	124.77
2	2021-10-22-13_04_46	PRE	124.77



Settings icon (gear)

- not allowed 4.00ft
- allowed
- 2.00ft
- good
- 0.00ft
- slump

Navigation icons: zoom in (+), zoom out (-), home (house), search (magnifying glass), and a 'sh' button.

Color scale legend for depth

-11

-23

-36 Deep

Height offset: 0ft
Grid size: 1.64ft
Type: Height

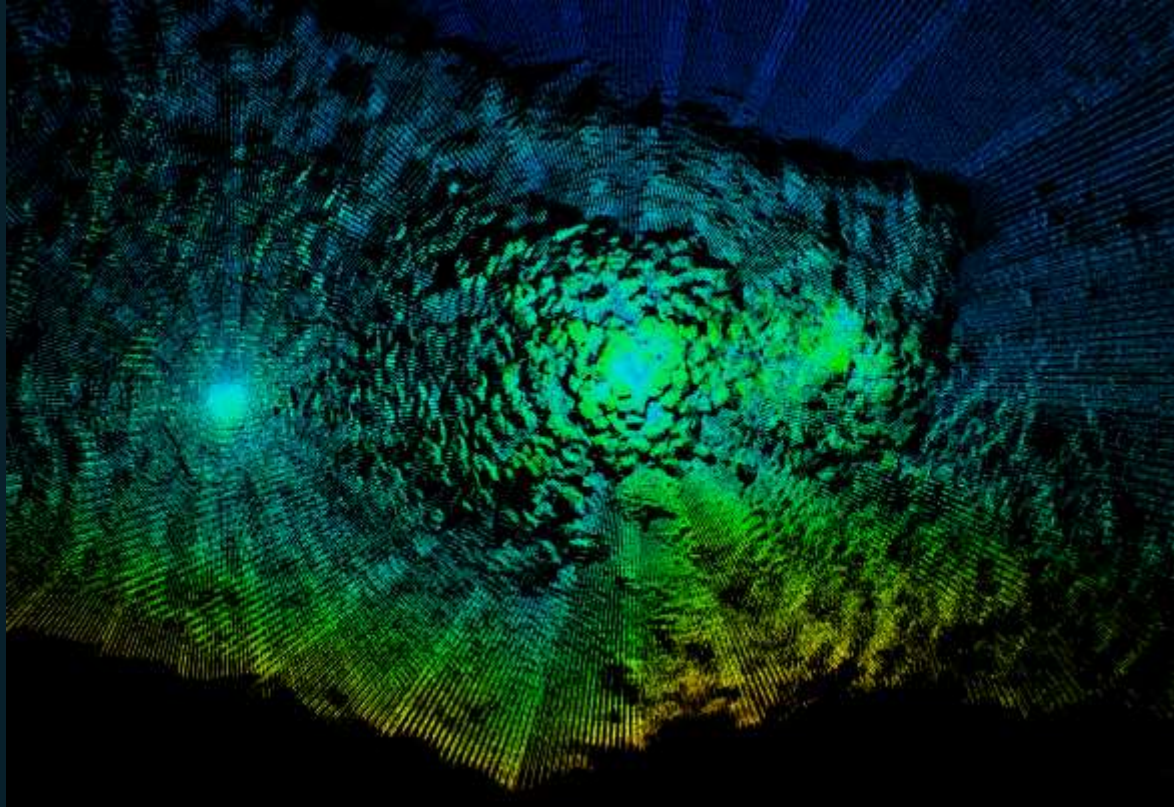
Navigation and tool icons: home, settings, grid, refresh, location, zoom, and a vertical menu with buttons for PRE, INT, MAN, POS.

00:00

NORBIT
- explore more -

Thank you!

NORdredge - 4D solution for dredging applications



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pawel@norbit.com

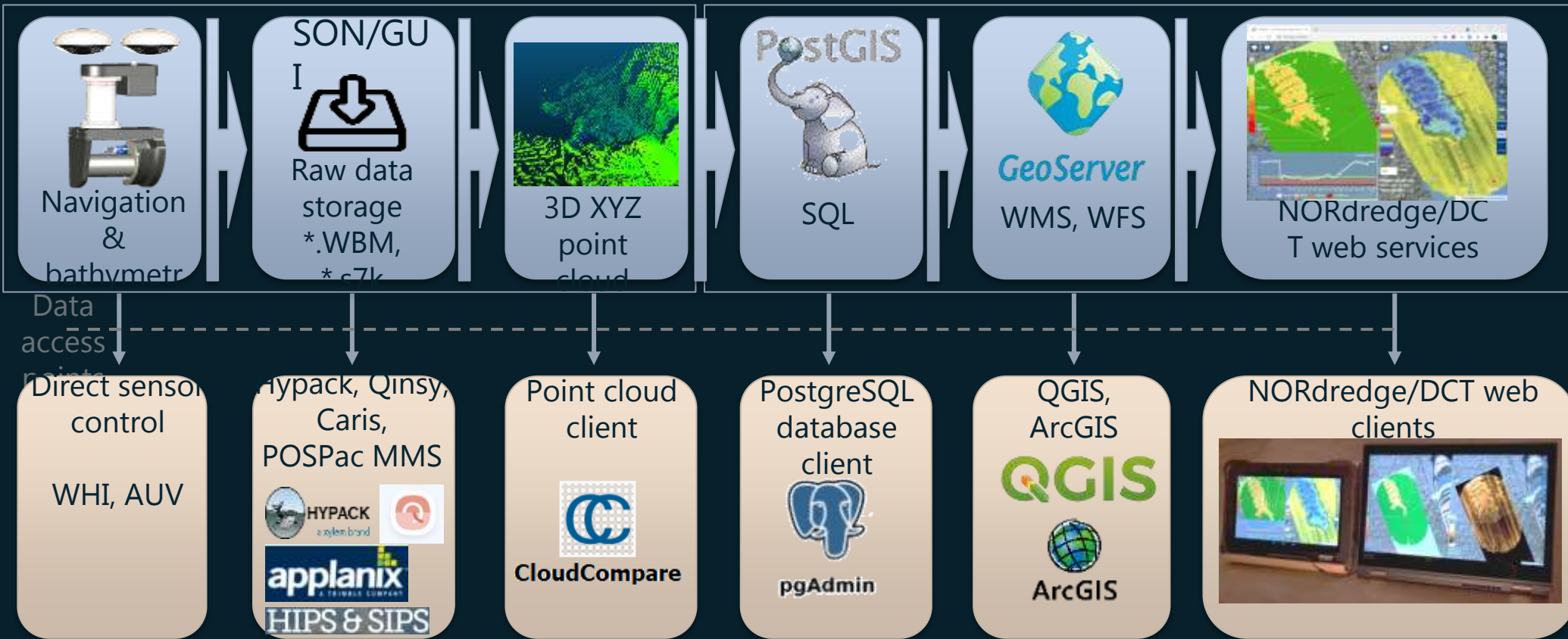


NORdredge - 4D solution for dredging applications

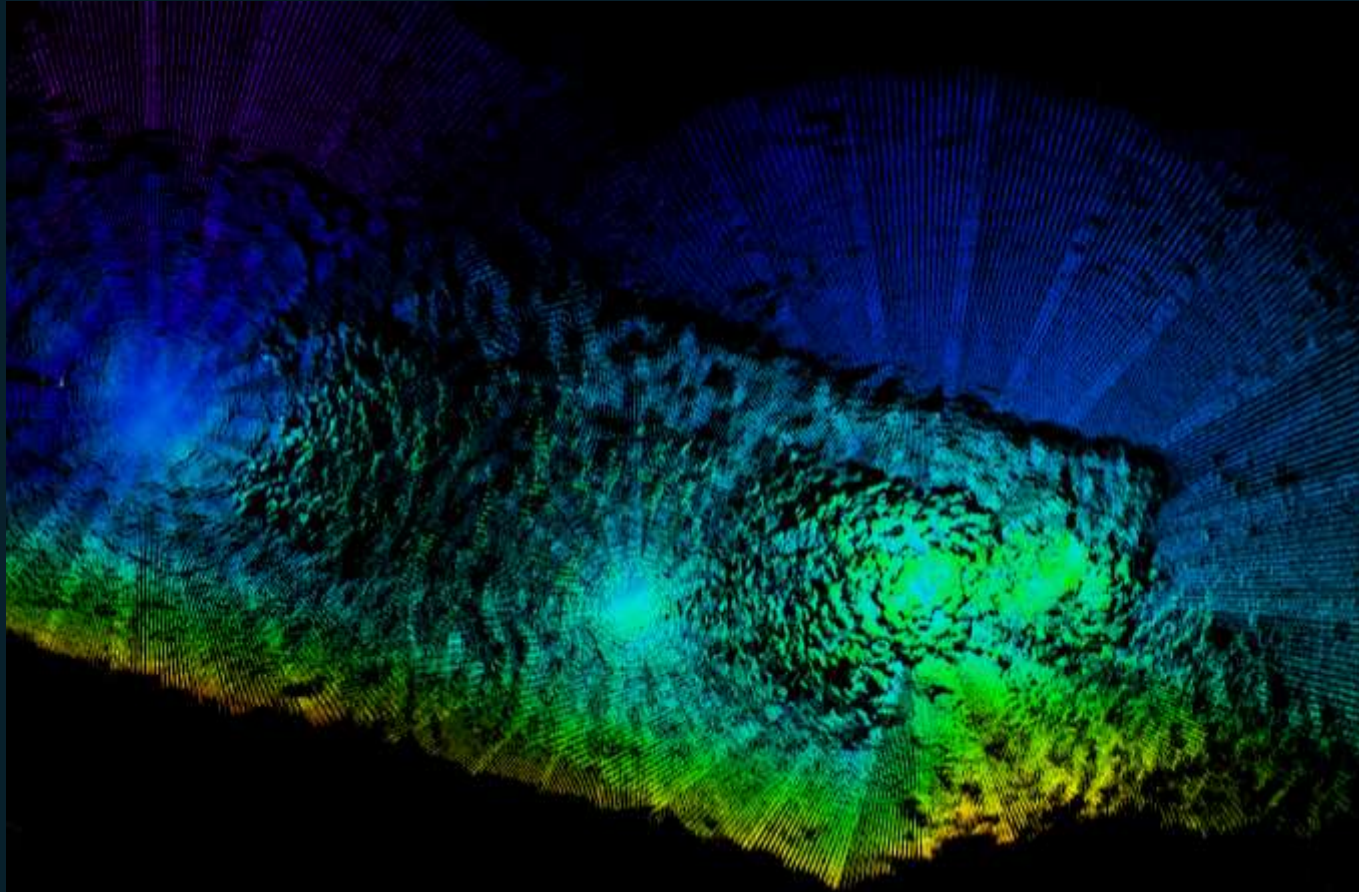
Backup slides

subsea@norbit.com

Open Hydrography Platform (for NORdredge/DCT) – data flow and data access



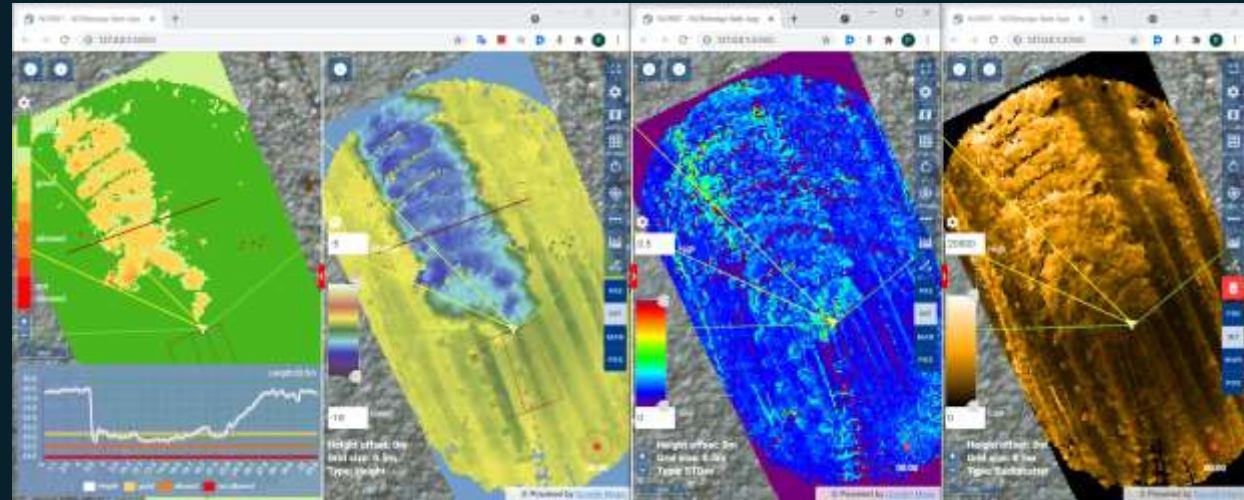
NORdredge 3D point cloud



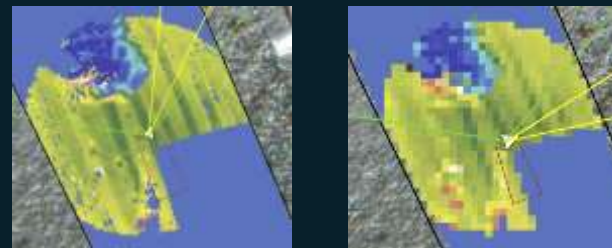
NORdredge database is a PostgreSQL/PostGIS database with following components and tables



difference_grid_layer_view
 height_grid_layer_view
 count_grid_layer_view
 intensity_grid_layer_view
 std_dev_grid_layer_view



Native views vs aggregated views



The comparison between WMS and WFS service to access the NORdredge data

Feature	WMS (Web Map Service)	WFS (Web Feature Service)
Type of data	Tiles – raster images	Geometries, vector data
Bandwidth	Low (like Google Maps, area independent)	Moderate (depends on area)
Feasible for quick reports and maps	Yes	Requires manipulation
XYZ export capabilities	No	Yes
Data manipulation	Limited to raster images	Full vector analyses: Query a dataset and retrieve the features

Example showing a simple editing geometry data

