Presented By:
Nathan Keys, Measutronics

Understanding Overdredging

Using Technology to Enhance Efficiency and Profitability

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About Measutronics Corporation

PORTFOLIO

DREDGING
- CUTTERHEAD
- EXCAVATOR
- HYDRAULIC PUMP
- CLAMSHELL BUCKET
- DRAGLINE
- HOPPER DREDGE
- DUST PAN
- BUCKET LADDER

MARINE CONSTRUCTION
- PILE DRIVING
- MATERIAL PLACEMENT (DIKING)
- OBJECT GUIDANCE / PLACEMENT
- STRUCTURAL MONITORING
- WICK DRAINS
- TREMIE POUR
- DRILL RIG GUIDANCE
- VESSEL TRACKING / GUIDANCE

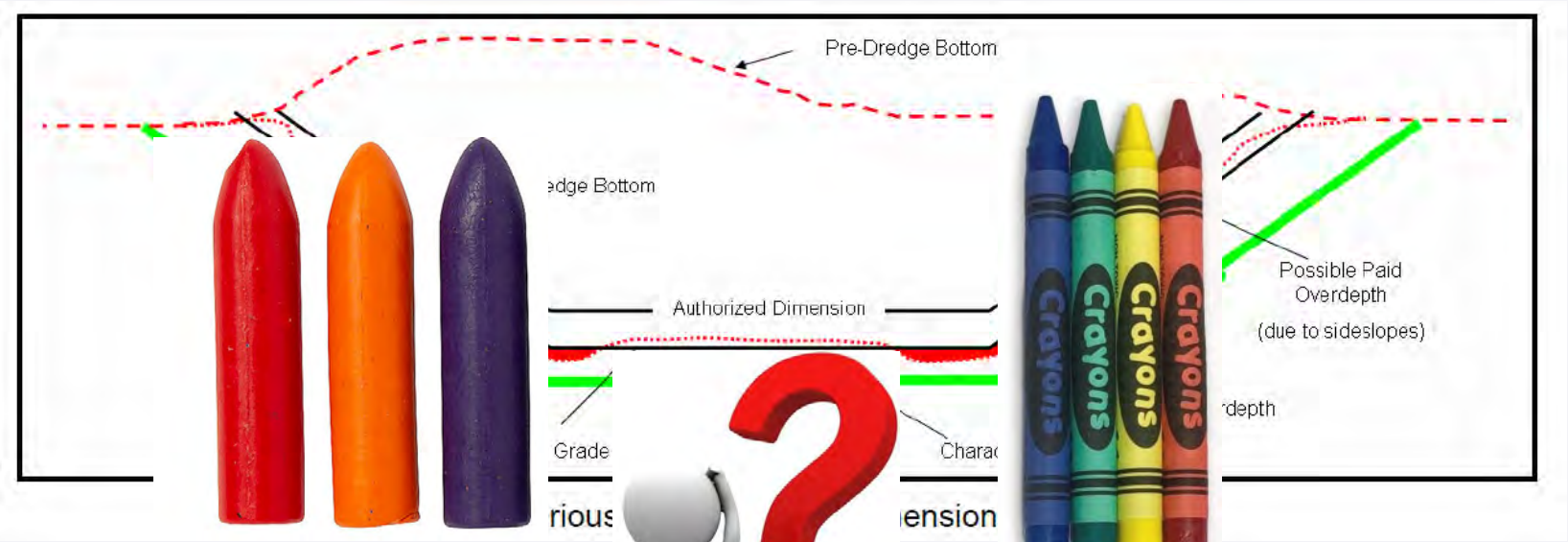
HYDROGRAPHIC SURVEY & U/W INSPECTIONS
- SINGLE BEAM
- MULTIBEAM
- 2-D SONAR / 3-D SCANNING SONAR

Trimble. Advanced Marine Partner

...precision dredging, reducing that tolerance as much as possible, is important, especially in environmental dredging. There are several issues. For example, if required to remove two million cubic yards, an owner does not want the dredge operator to remove anything more because of sediment management costs. Anything technology developers can do to improve the process and reduce excess dredging, is valuable.

Dr. Donald Hayes, Research Environmental Engineer,
U.S. Army Engineer Research and Development Center

Paid or unpaid overdepth



The "as-dredged" surfa the project's bottom line

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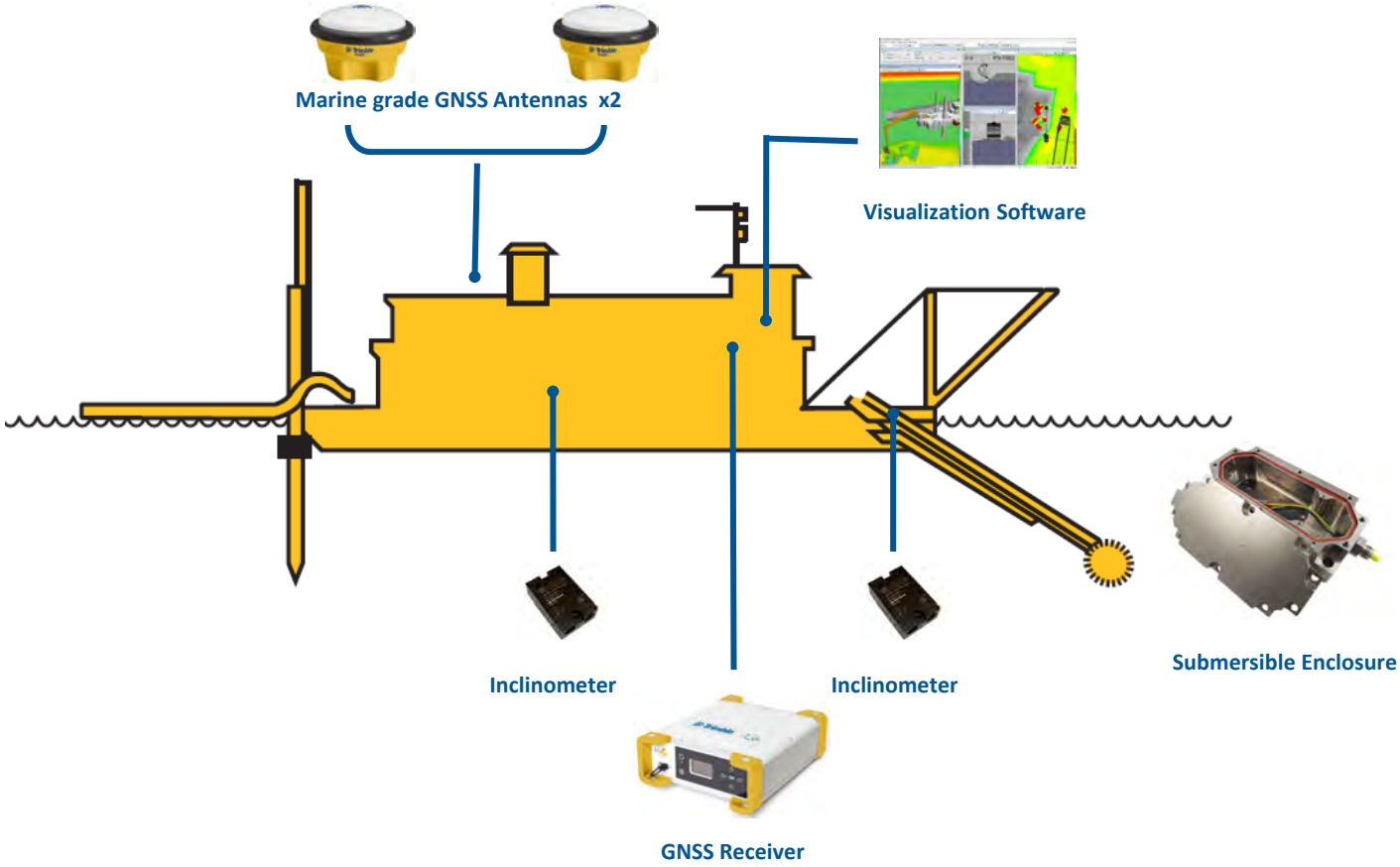
Cutterhead Dredge



Marine Excavator

Attachment sensor

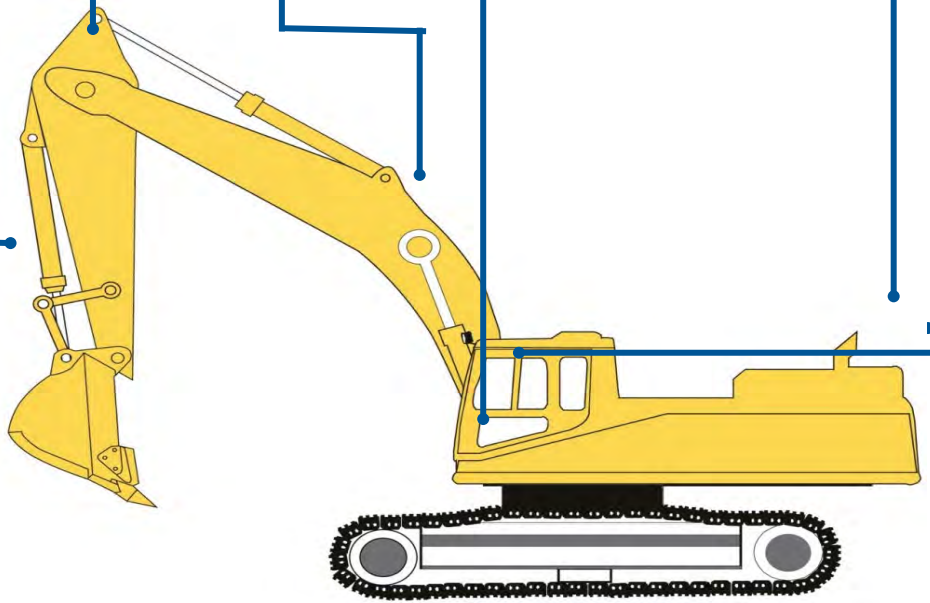
Stick Sensor

Boom Sensor

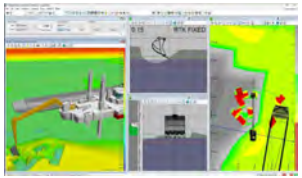
Attitude Sensor

Marine Grade GNSS Antennas x2

Submersible Enclosure

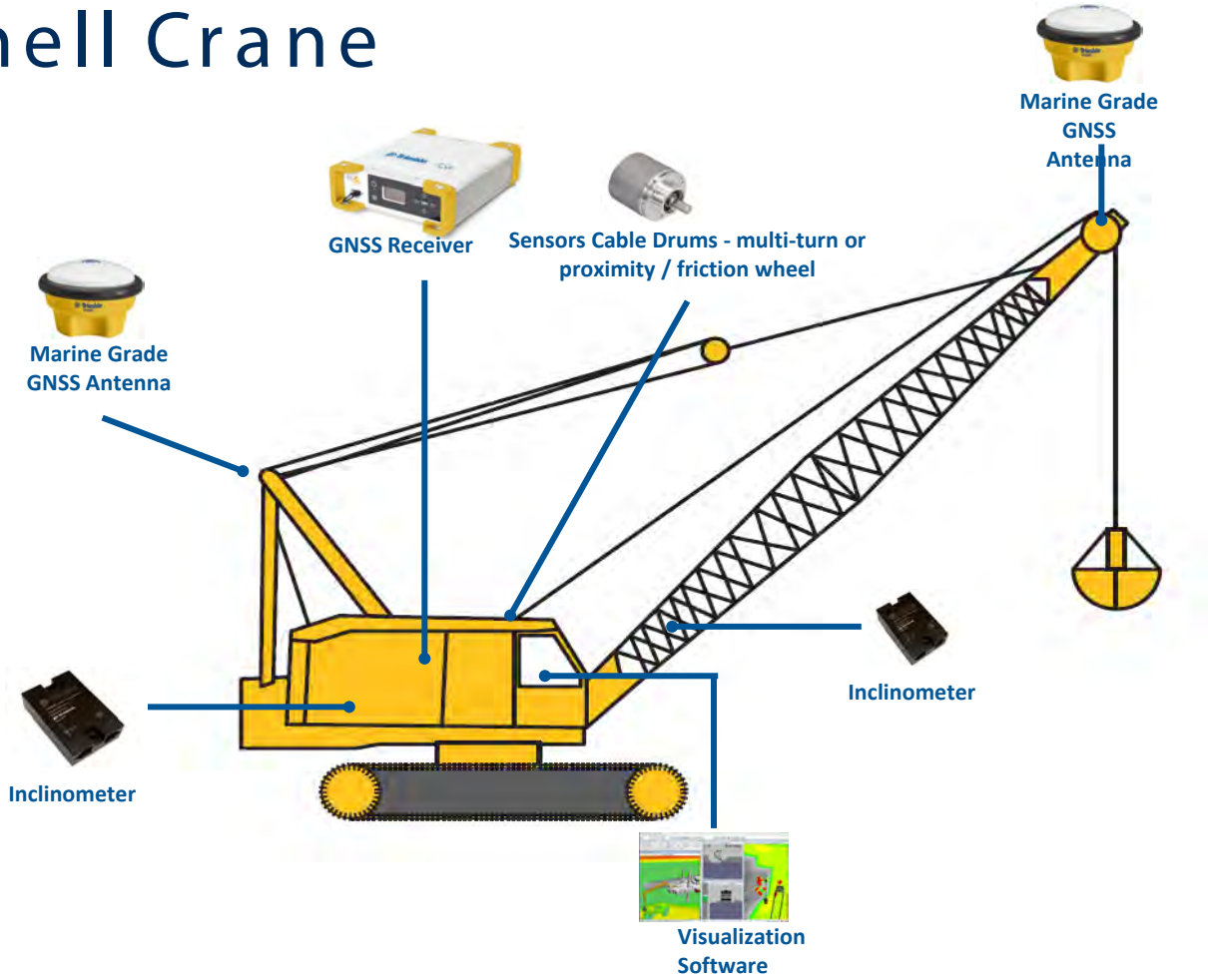


GNSS Receiver



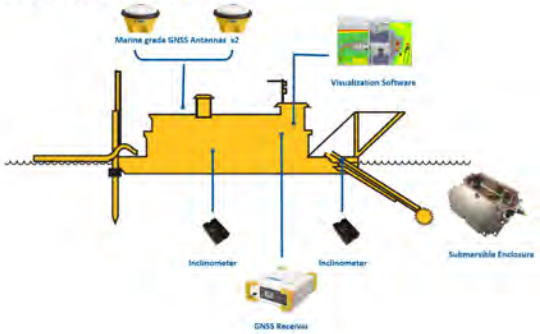
Visualization Software

Clamshell Crane

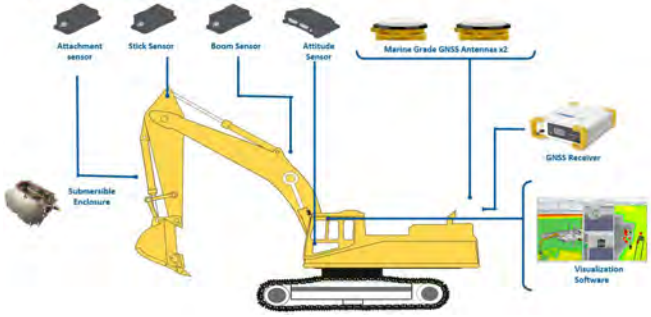


Calibration / Tolerances

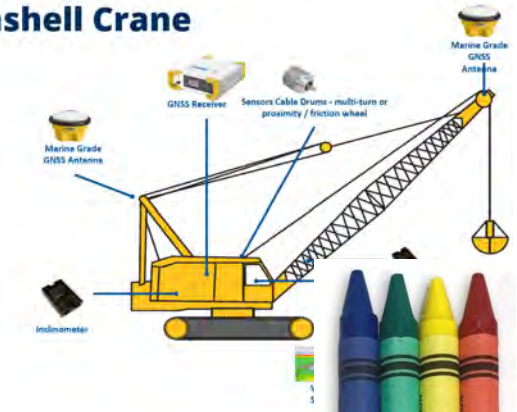
Cutterhead Dredge



Marine Excavator



Clamshell Crane



ERROR BUDGET INPUTS

GNSS Horizontal: +/- ~0.03'/0.01m (RTK)
GNSS Vertical: +/- ~0.06'/0.02m (RTK)
GNSS Heading: +/- ~0.10° (2m baseline)

Inclinometer: +/- 0.01°- 0.50°
Attitude:+/- 0.01°- 0.50°
Rotational Encoders: +/- 0.01°- 0.20°

FINAL ACHIEVED ACCURACY: f {OPERATOR, SENSOR QUALITY, LEVER ARMS, ENVIRONMENTALS, MATERIAL TYPE, ETC.}

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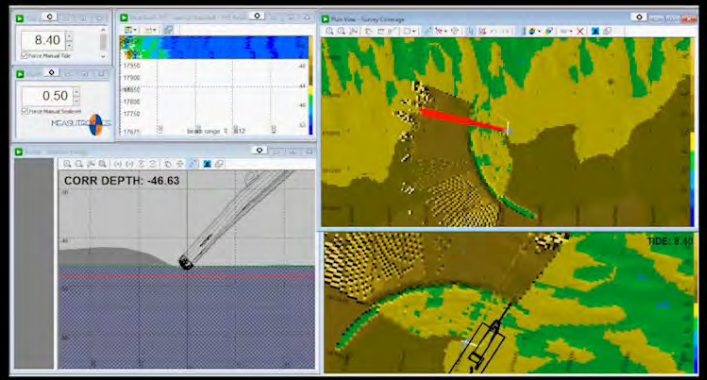
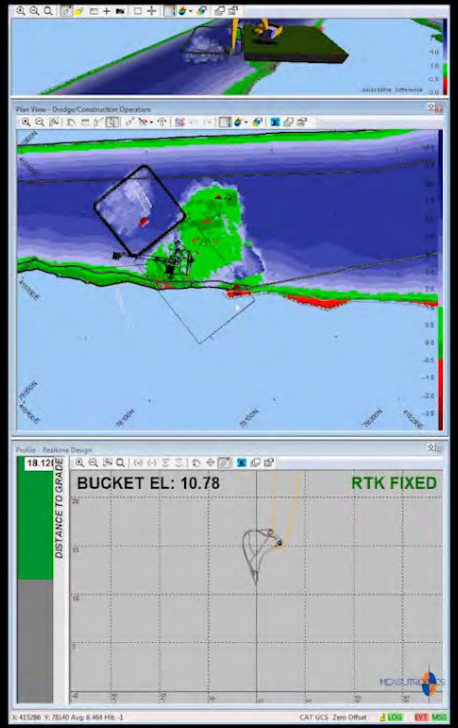
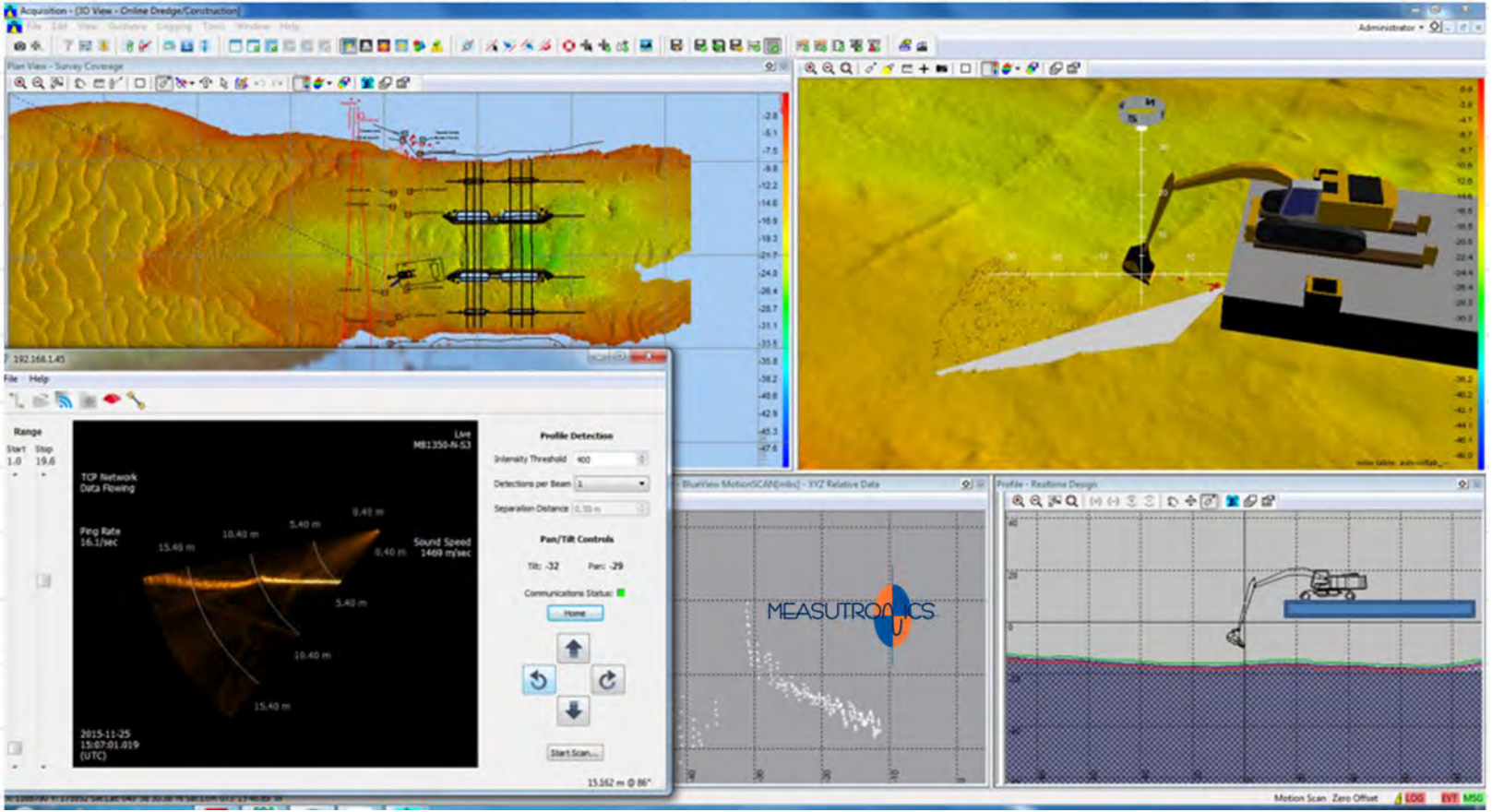
Using Guidance Solutions





Traditional MB SONAR Collection

Verification: "As-Building" – Nov, 2015



“As-Building” Solutions

“As-Building” Solutions

“As-Building” Solutions

Next steps

DOWNLOAD THE WHITE PAPER

- Download your copy of the Overdredging whitepaper
- Watch the video(s):

Understanding Overdredging

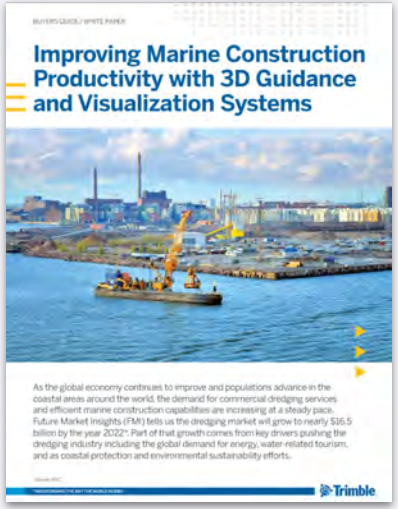
https://www.westerndredging.org/webinar-machine-guidance-for-management-of-over-dredging-july-15

Tappan Zee Bridge Case Study

https://www.youtube.com/watch?v=6Lux5gSmYyE

Continuum of Innovation

https://www.youtube.com/watch?v=_4VyI9Cm1EY



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Next steps

DOWNLOAD THE WHITE PAPER

- Download your copy of the Overdredging whitepaper
- Get in contact to learn more:

EMAIL

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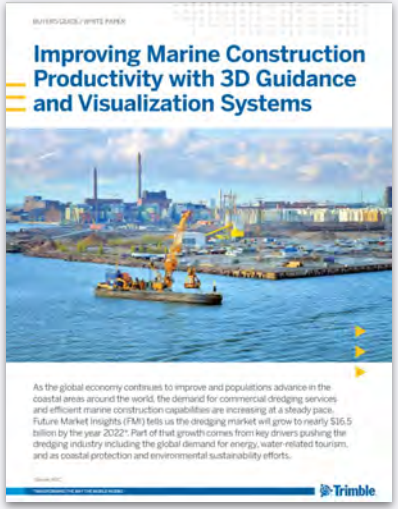
WEBSITE

Measutronics.com

LINKED IN



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Thank You

Questions?

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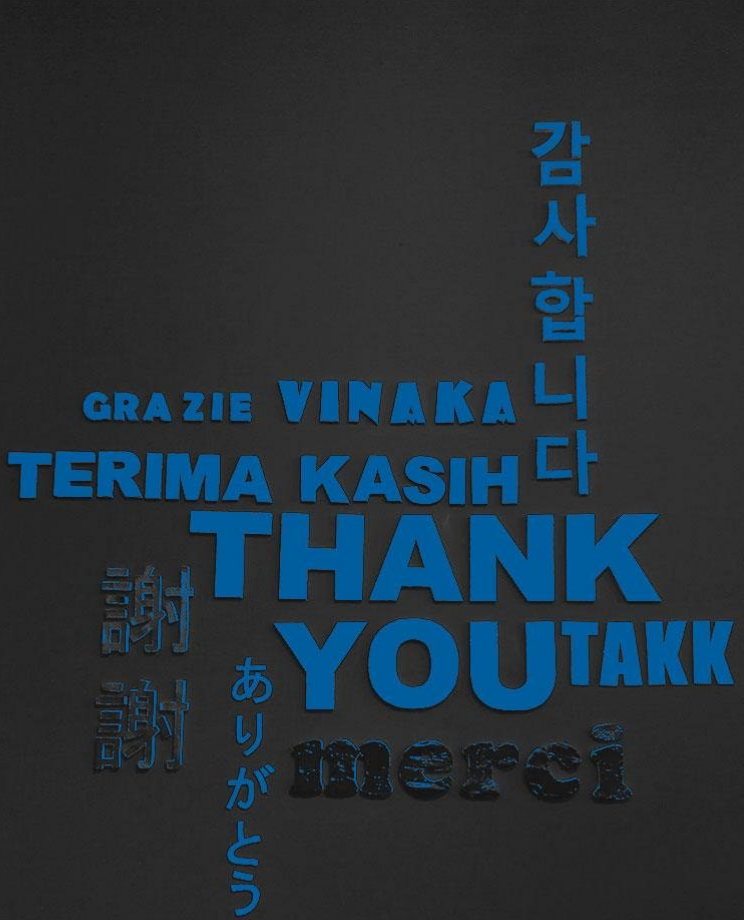

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