



The Technological Evolution of Dredging

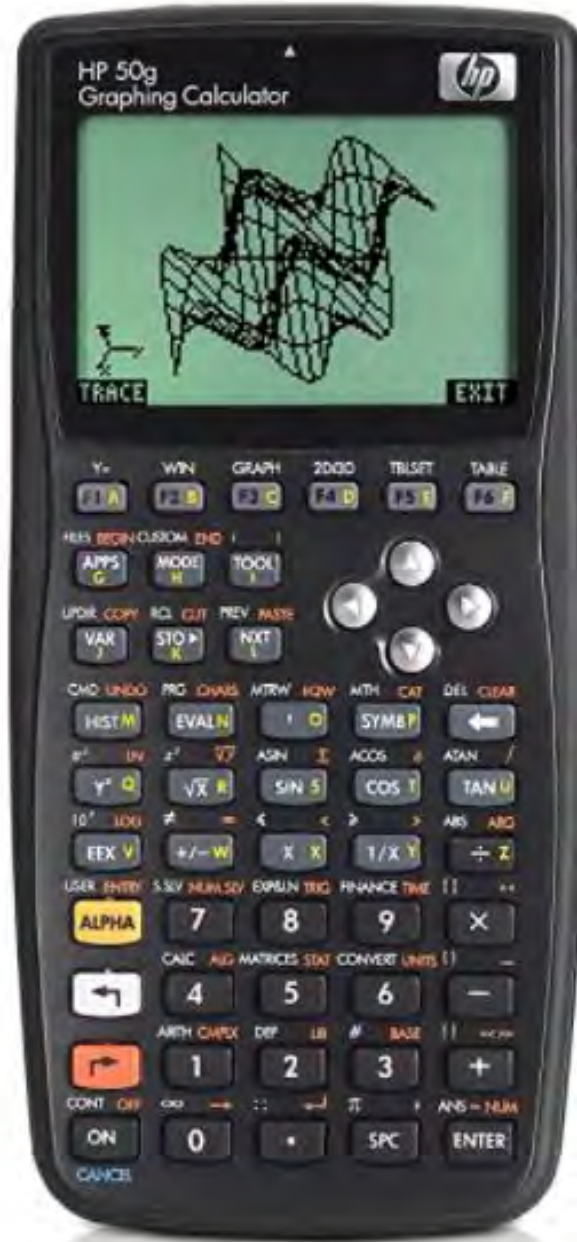
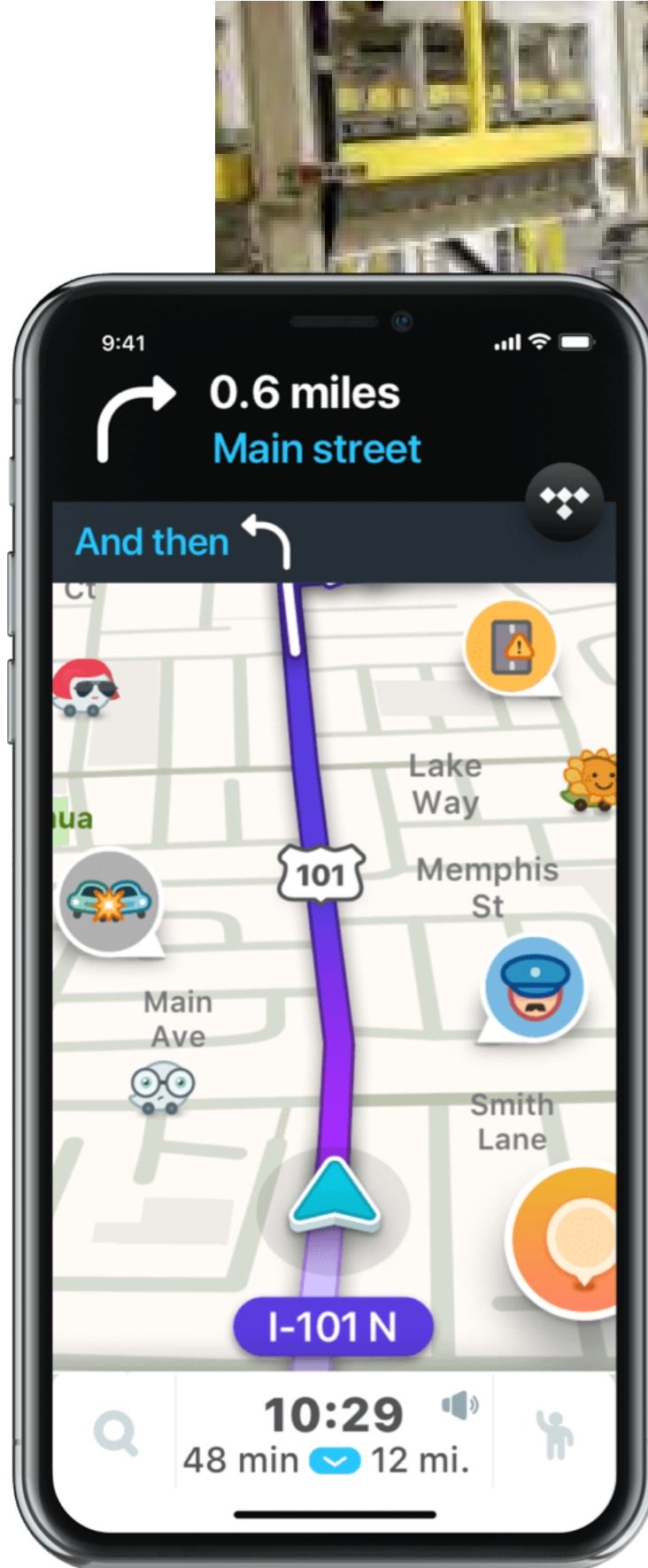
WEDA Gulf Coast Chapter
Mobile, AL
November 2021

*Presented by DSC Dredge, LLC
Bob Wetta, President & CEO*

Discovery vs. Technology



Discovery vs. Technology





Why Technology?

A better way to solve problems

To find a more efficient and/or accurate way of doing something

Long -term reduction of costs

Can be adopted to increase safety

Can be adopted for environmental benefits

Can produce new technologies or new discoveries

Dredging Technology



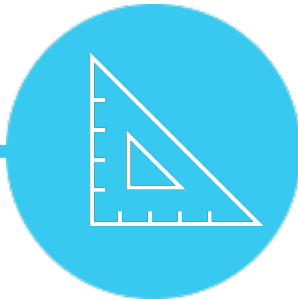
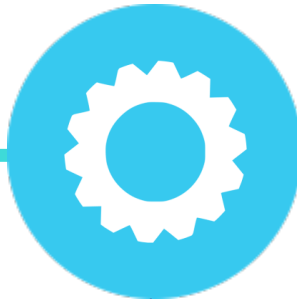
Where We've Been...Where We're Heading

World Events, Inventions & Dredge Technology

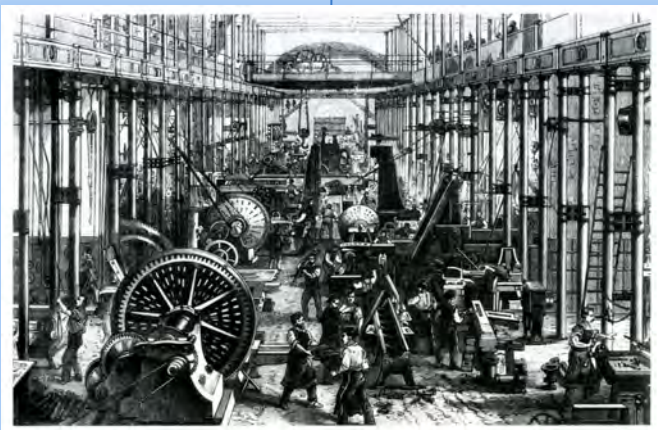


Pre -1890

1890

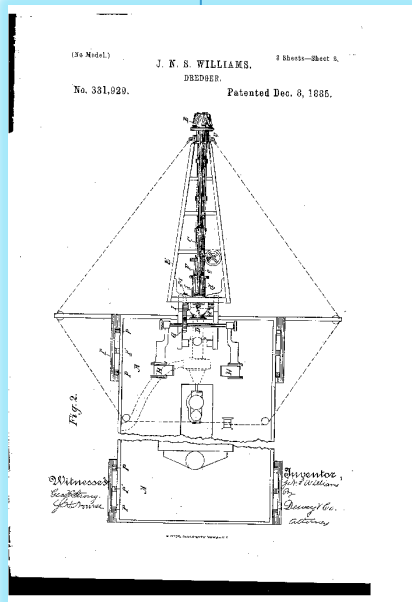


Electric Lamp



End of 2nd Industrial Revolution

Mechanical Dredge Controls

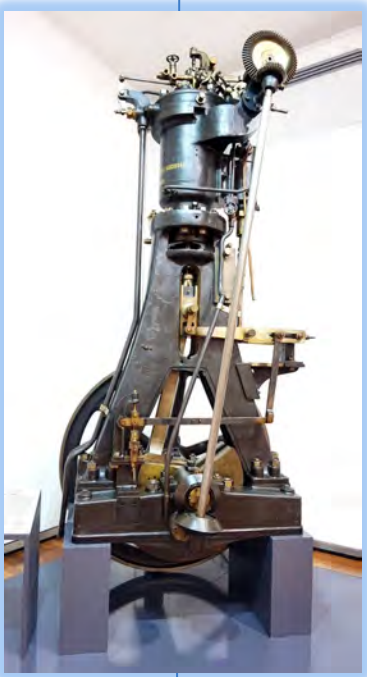


Swinging Ladder Dredge

Radio



Diesel Engine



Where We've Been...Where We're Heading

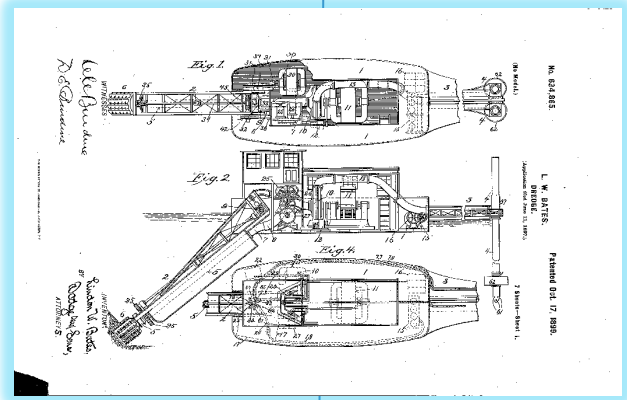
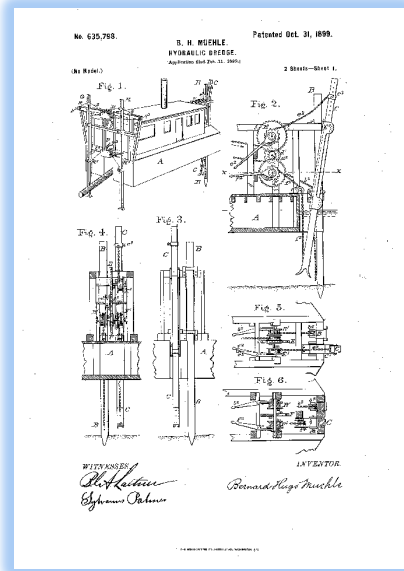
World Events, Inventions & Dredge Technology



1890



Moving/
Tilting
Spuds



Electric
Powered
Dredge

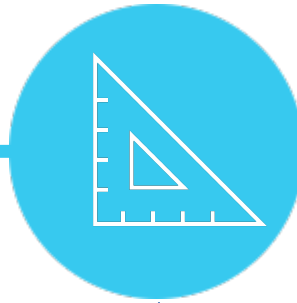
1900



Sonar-like
Device



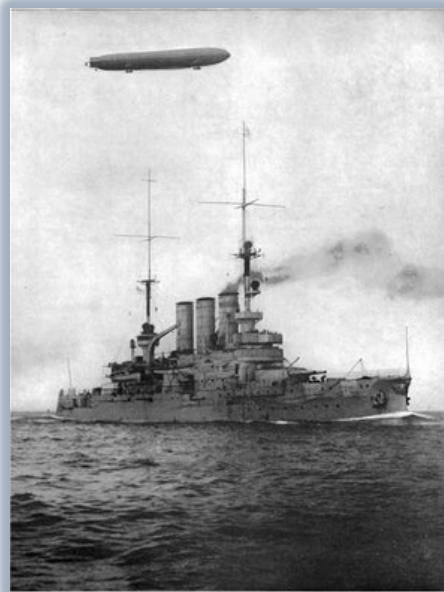
CSD
Development



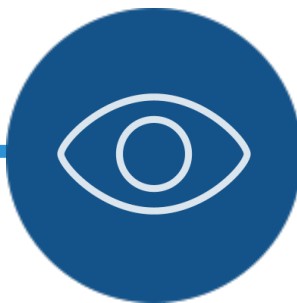
1910



World
War I



Commercial
Air
Flight



Where We've Been...Where We're Heading

World Events, Inventions & Dredge Technology



1910



Talking Motion Picture



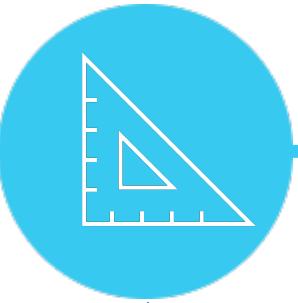
Industrial Pneumatic Controls



1920



Television

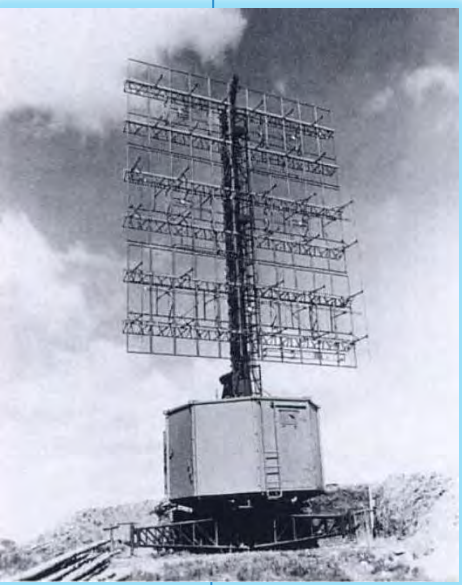
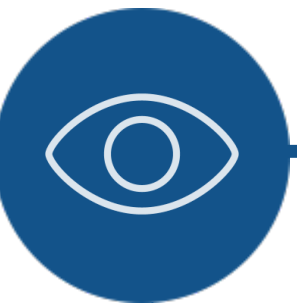


Color Movies

1930



World War II



Radar

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World Events, Inventions & Dredge Technology



1930



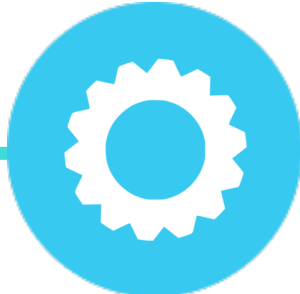
Hydrographic Surveys



Diesel Powered Dredge



1940



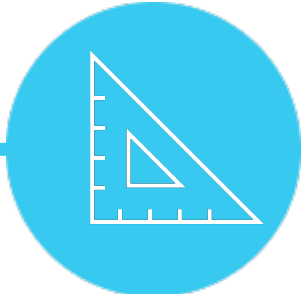
Speed of Sound Exceeded



Commercial Jet Air Flight



1950



Transatlantic Phone System



Hydraulic Dredge Controls



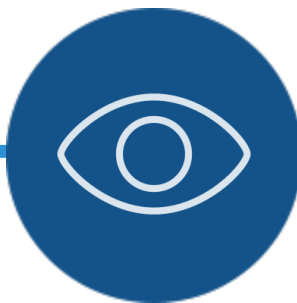
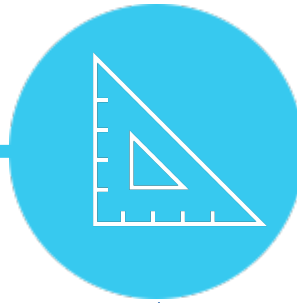
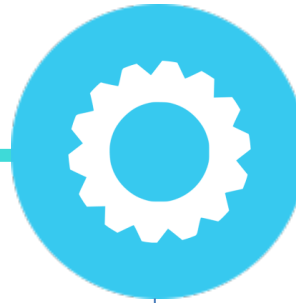
Where We've Been...Where We're Heading

World Events, Inventions & Dredge Technology



1960

1970



Vietnam War



Industrial DC Drive

World Dredging Association/
WodCon



US Environmental Protection Agency

Personal Computer



Internet

Where We've Been...Where We're Heading

World Events, Inventions & Dredge Technology



1970



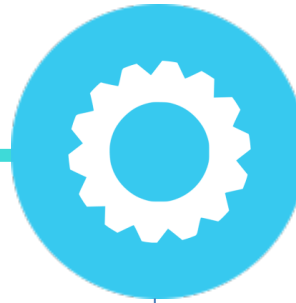
Production
Instrumentation



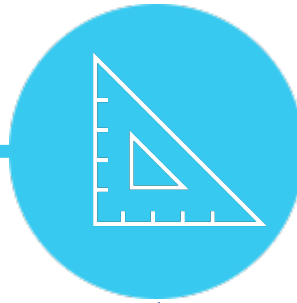
1980



Civilian
GPS
System



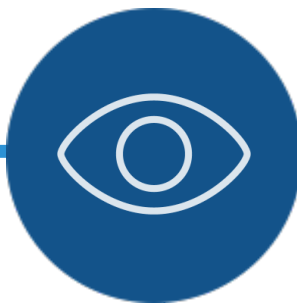
Commercial
Cell
Phone



World
Wide
Web



Multibeam
Sonar



Ultra-Portable
Dredges

Where We've Been...Where We're Heading

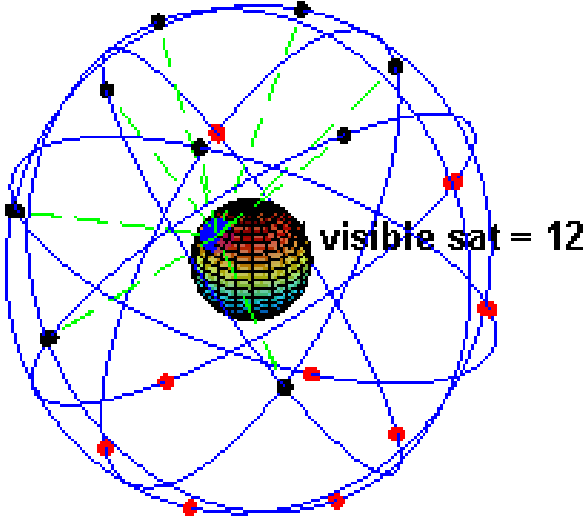
World Events, Inventions & Dredge Technology



1990



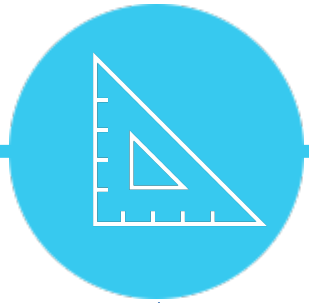
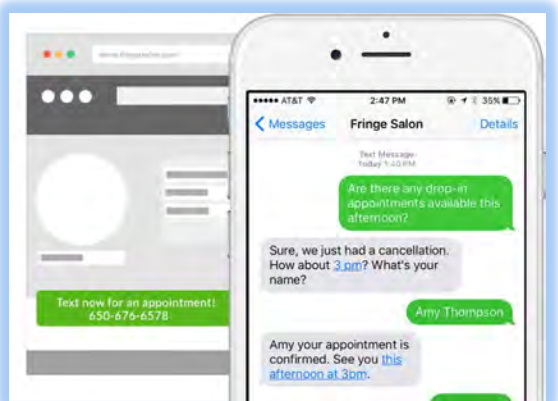
RTK
For
GNSS



Bluetooth



Text
Message

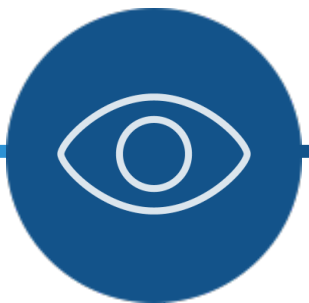


Submerged
Pump
SLD

2000



DVR



Industrial
AC
Drive

Where We've Been...Where We're Heading

World Events, Inventions & Dredge Technology



2000



iPhone

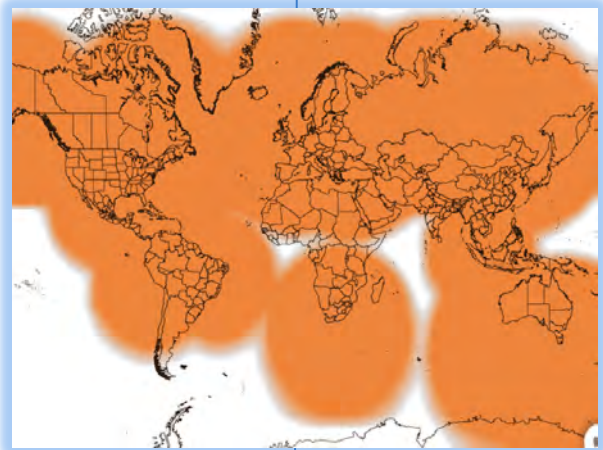
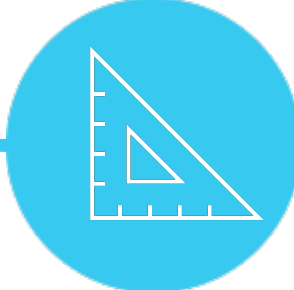


PLC/PC
Controlled
Dredge

2010



Industrial
Artificial
Intelligence



Global
Cellular
Connectivity



Dredge
SCADA
Networks



Simplified
Dredge
Control
System

Where We've Been...Where We're Heading

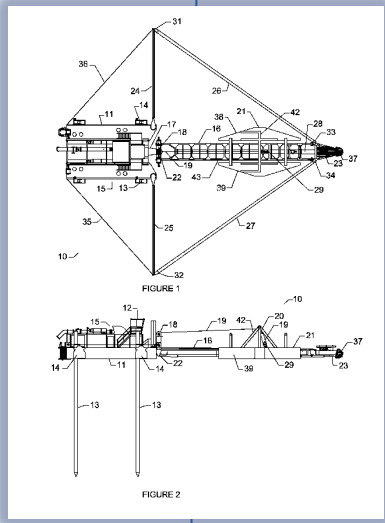
World Events, Inventions & Dredge Technology



2010



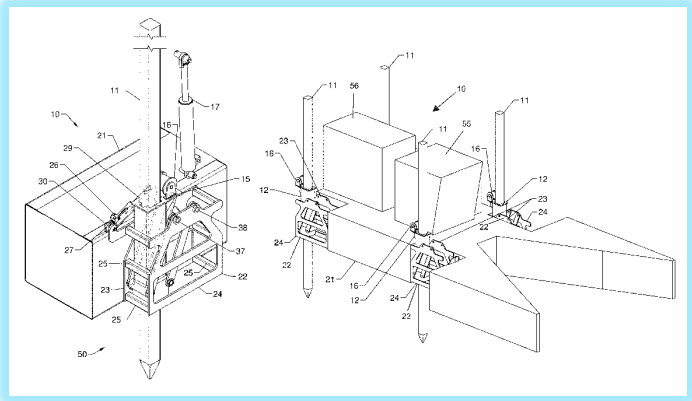
Complex
Dredge
Control
Systems



Wide
Format
SLD
(SHARKUDA®)



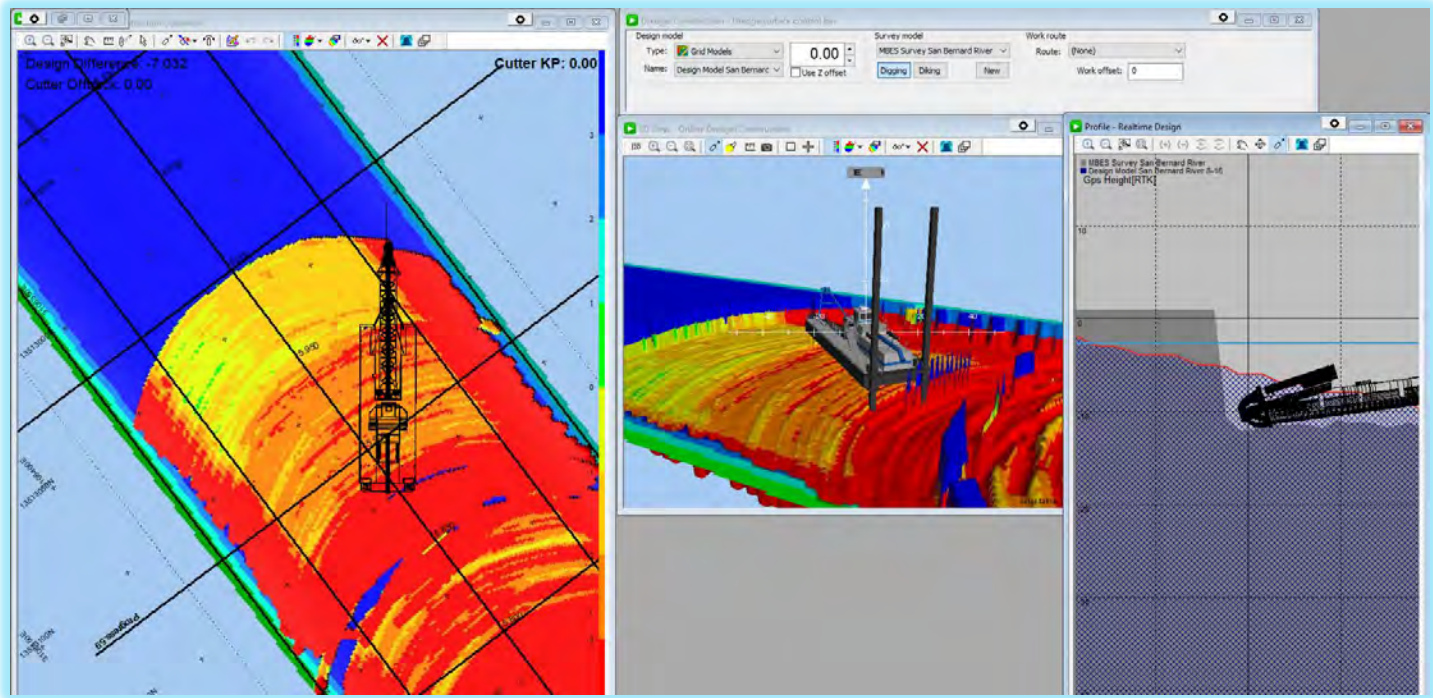
Spud
Glider



2020



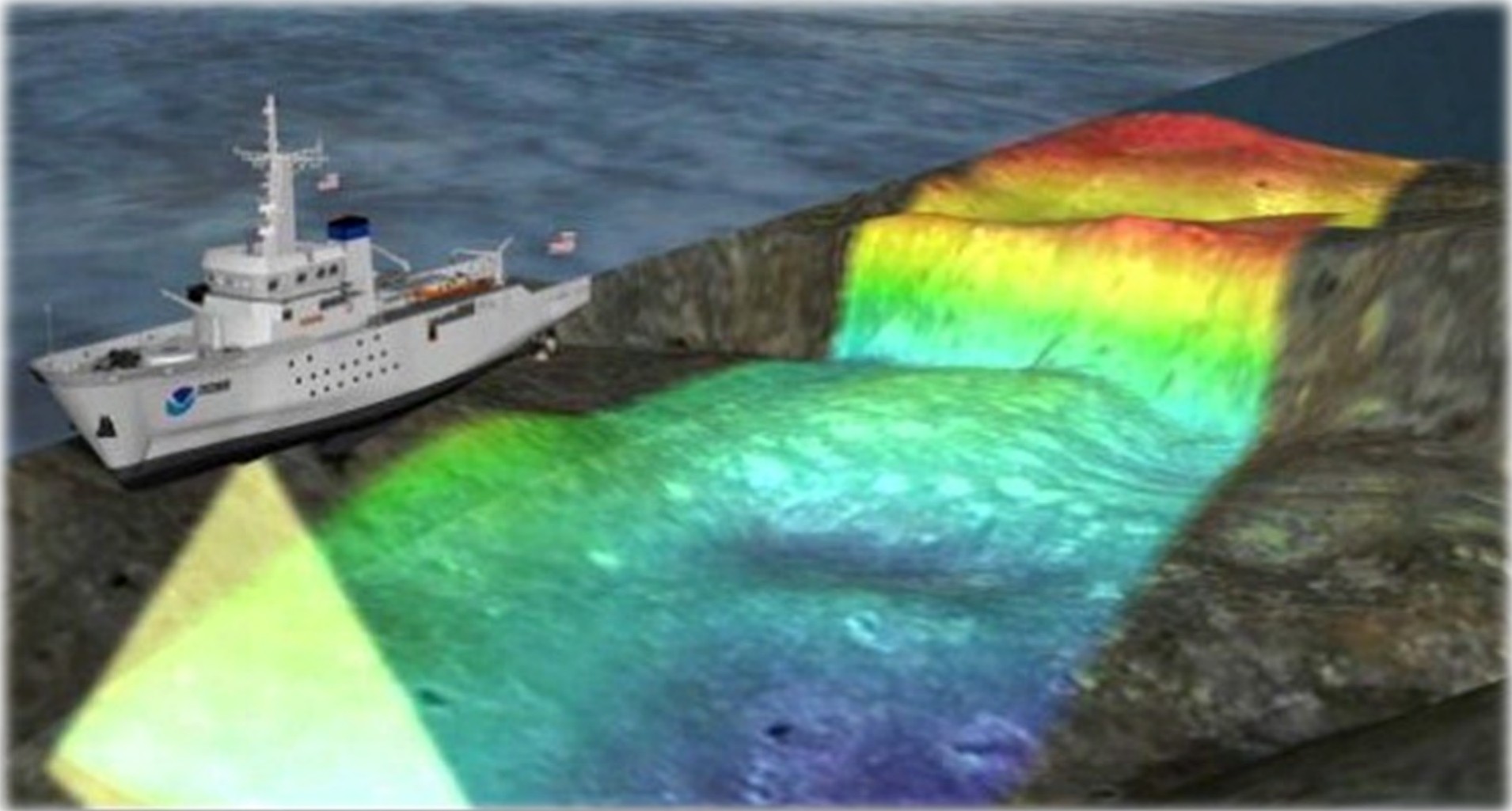
Innovative, user-friendly bottom
visualization systems



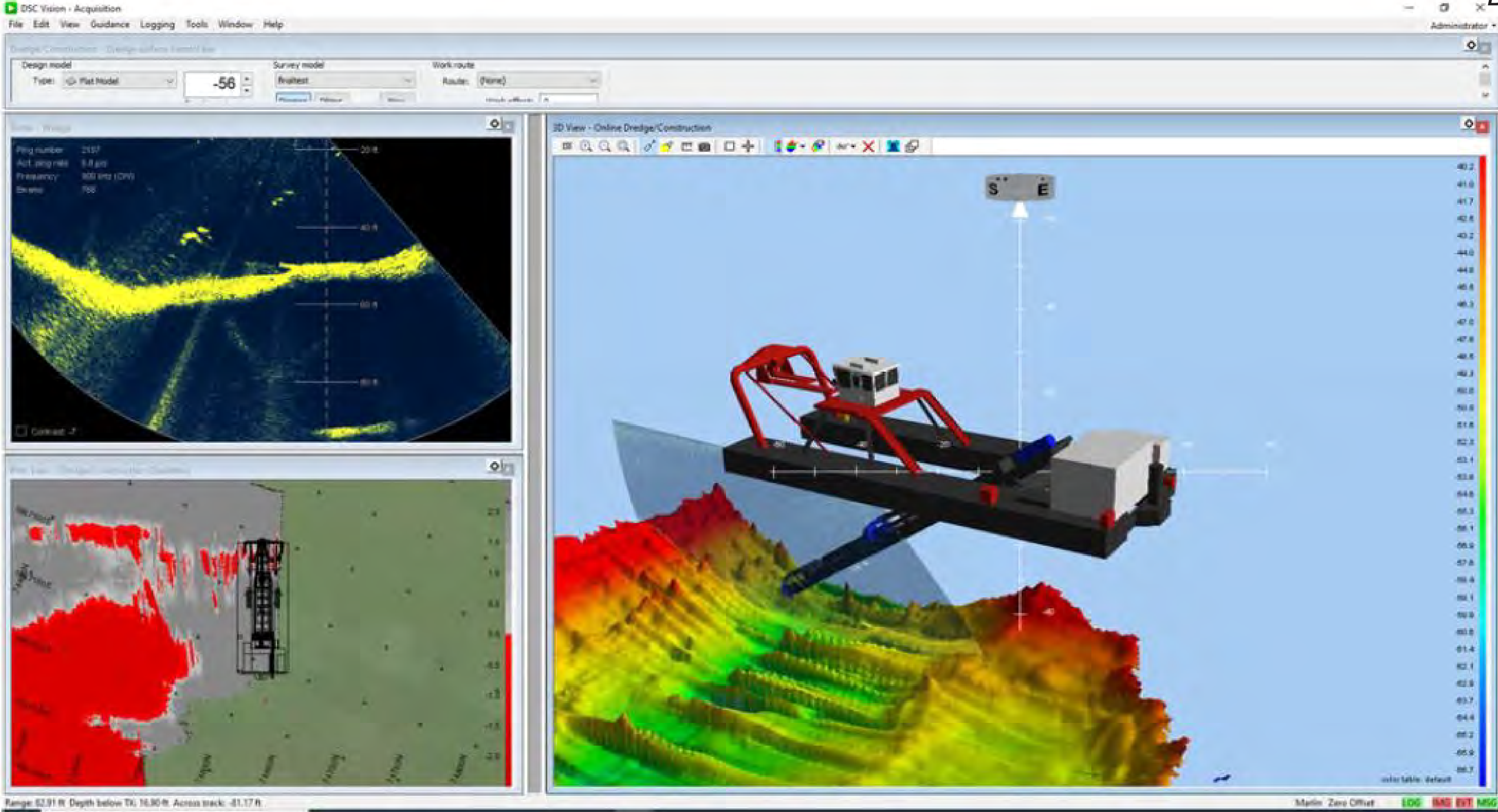
Merging Technologies



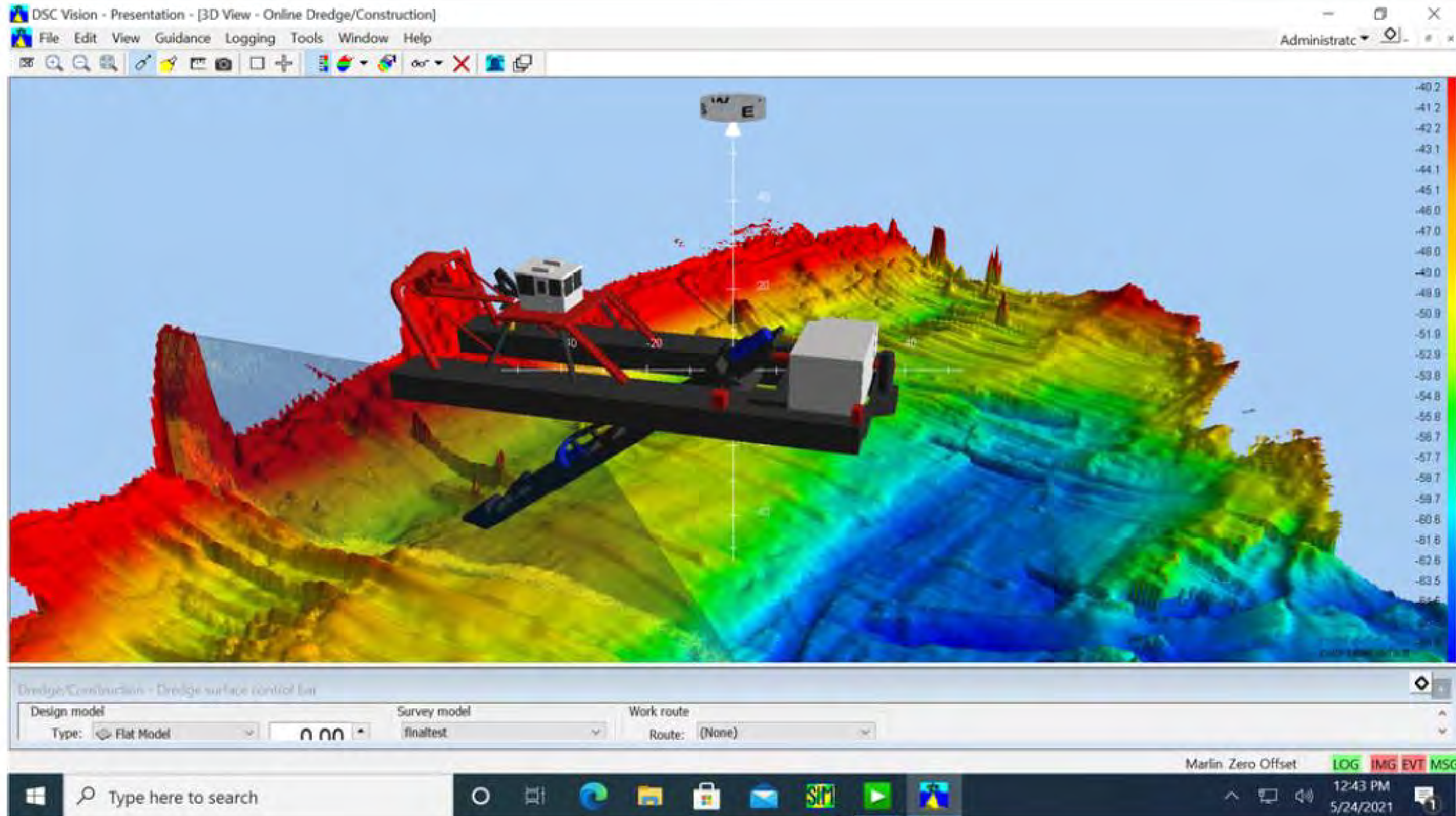
Merging Technologies to Find New Technologies



Merging Technologies to Find New Technologies



Merging Technologies to Find New Technologies



Merging Technologies to Find New Technologies



Multi -beam Sonar [accurate visibility underwater]

GPS Positioning [accurate location]

Remote Connectivity [monitoring, data storage]



The Possibilities



- Serves for pre/post survey
- Accuracy [minimizes over dredging, remobilization to missed areas] \$\$\$
- Lessens traffic on the water [safety]
- Lower traffic = lower emissions [environmental]
- Will we adopt or continue to lag behind other industries?
- R&D to show proof to all stakeholders

