
UNITED STATES

Preserving the SS United States

Digital Capture of a Historic Maritime Asset Before Her Final Voyage

Darren Guillory
SSI Senior Technical Solutions Specialist



David Heath
Beast Code Subject Matter Expert and Innovation Specialist



NSRP Workforce & Compliance / PPPF Joint Panel October 20-21, 2026



The Vision Behind an American Icon

William Francis Gibbs

Designer of the SS United States

Built to Redefine What Was Possible



SS United States

Fastest Ocean Liner Ever Built

From Maritime Icon to Preservation Challenge



1952 – Entered Service

1969 - Retired from Active Service

1978-2025 Redevelopment & Preservation Efforts

2025 – Relocated to Mobile AL

Future – Artificial Reef Project

SSI | Software, services, and expertise for the Business of Shipbuilding

Preservation vs. Reality

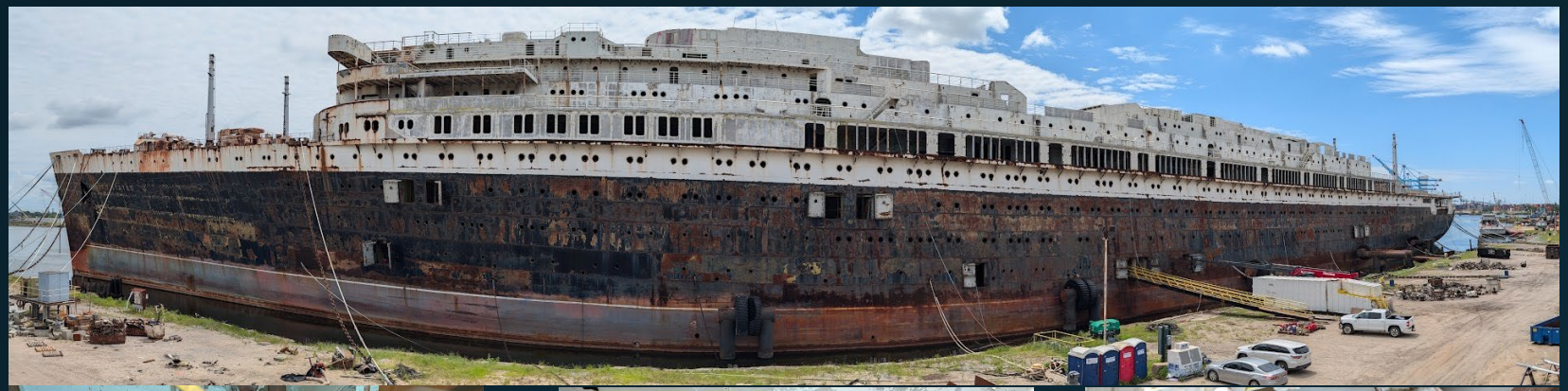
For nearly five decades, organizations searched for a sustainable future for the SS United States

- Museum proposals
- Hotel proposals
- Mixed-use redevelopment concepts
- Preservation campaigns

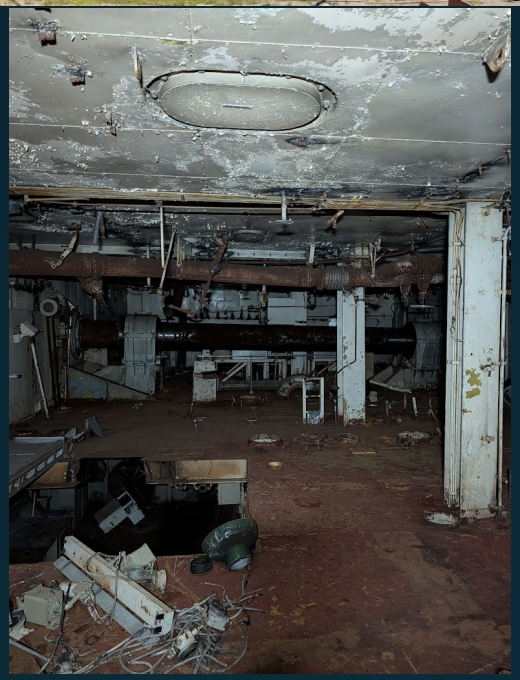


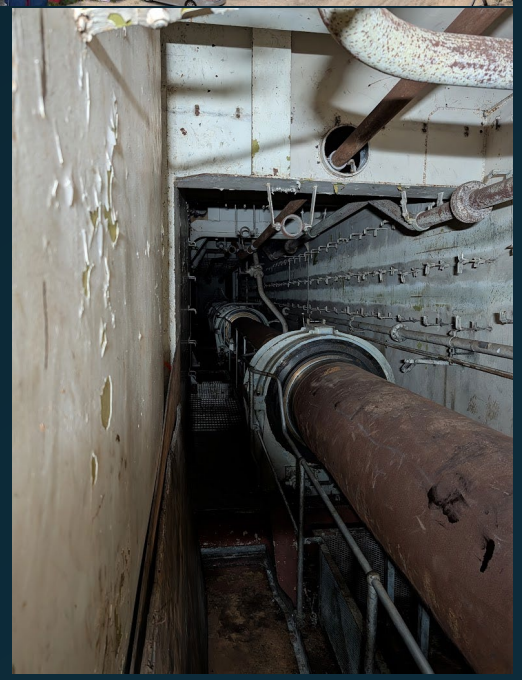
The challenge wasn't passion.
The challenge was sustainability.

Preserving More Than A Ship









If we couldn't preserve the ship physically, could we preserve its legacy digitally?

Preservation of this Icon Became a Community Event



Maritime & Community Partners

- Destin-Fort Walton Beach
- NSAM Center of Excellence
- SSI
- Beast Code

Reality Capture & Tech Partners

- FARO
- NavVis
- Q3D
- Dot3D
- Teleport
- REscan
- ATI
- Cintoo
- CUPIX

A shared commitment to preserving maritime history brought together maritime professionals, technology providers, community partners, and reality capture experts.

Capturing the Ship Before Her Final Voyage

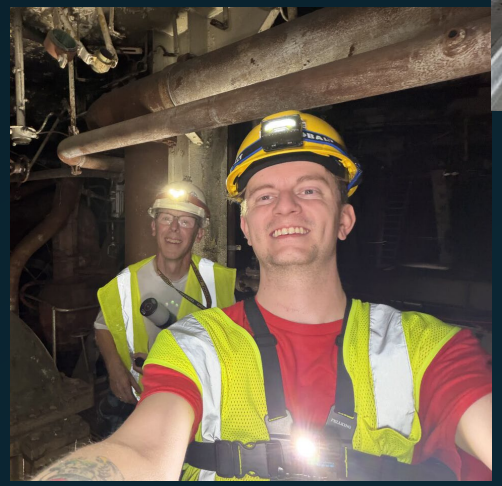
A once-in-a-lifetime effort to preserve the SS United States digitally.



















Planning / Logistics / Technologies / Execution and Outcomes

- The Team
- The Tools
- The Data
- The Technology
- The Results
- What is Next?



The Team



Phase I Team Members

- Keating Conroy – Anatum Geomobile – XGRIDS Reseller

Phase II Team Members

- Alex Fogg – SS United States Sponsor - Natural Resources Chief at Okaloosa County
- David Heath – Beast Code – Subject Matter Expert
- Trace Menser – Beast Code – Senior Developer
- Jamie Breakfield – ATI / Mantech – Technical Director NSAM
- Patrick Roberts – Ship Constructor SSI - VP of Sales & Operations at SSI - ShipConstructor Software USA, Inc.
- John Walks – Ship Constructor SSI - President of Walks Maritime LLC - SSI
- Darren Guillory – Ship Constructor SSI - Senior Technical Solutions Specialist (Software) - SSI
- Sanjay Srinivas – RESCAN - Mechanical Engineer at REscan
- Greg Lawes – Point3D (FARO Rep) - 3D Laser Scanning Technology, Support and Services
- Nathan West – Point3D (FARO Rep) - 3D Laser Scanning Technology, Support and Services, Drone Pilot
- Ben Dorris – Tangible - Architecture, Engineering and Sustainment Professional
- Kevin Whitford – NAVVIS - Senior Account Executive- NavVis
- Frank Hahnel – NAVVIS - Experienced Sales Executive in Geomatics & Remote Sensing
- Tianyue Yu – AuraGO Mobile Phone Lidar - Founder & CEO, Q3D Sensing
- Scott Diaz – AuraGO Mobile Phone Lidar - AI & Automation Operations Specialist

Building a Solid Team for Reality Capture Research and Demonstration

The Tools

XGRIDS - NAVVIS - FARO - Dot3D - AuraGO - Mobile Capture - MultiSet - 360 Camera



NAVVIS

FARO, NAVVIS and Insta360 gear owned and used by Nicolas Larrabee at Puget Sound Naval Shipyard on Subs and Ships

Insta360



XGRIDS

DOT3D

Q3D SENSING



TELEPORT

3Dpoint

RE scan









FARO

SSI®

Demonstrating the Latest Reality Capture Solutions in a Challenging Environment

The Data

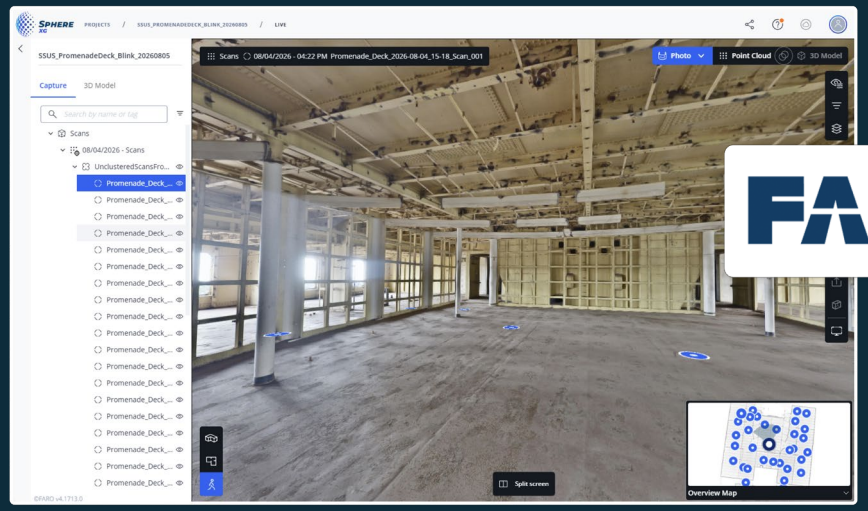
- Structured Point Cloud Data
- 3D Gaussian Splats
- 360 Video
- SLAM Based Point Cloud Data
- Mobile Device Scan and Imagery Data
- Drone Captured 2D Video and Imagery Data
- 2D Photographs and Video



Very large and diverse datasets proving out multiple use cases of some of the most recent data types

The Technology

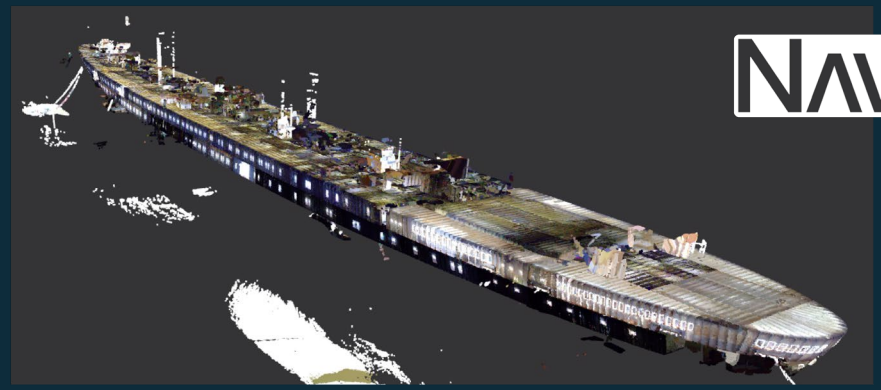
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  - SuperSplat Explorer
  - Varjo Teleport
  - XGRIDS Cloud Delivery
- 3D Gaussian Splatting
  - 2D Images to 3DGS
  - Massive Data Streaming
- 360 Video to 3D Spatial Data
  - Insta360 3DGS Cloud Processing
- AI Pipelines
  - 3D Point Cloud and Gaussians to 3D Interactive Spatial Dataset
  - MultiSet VPS System



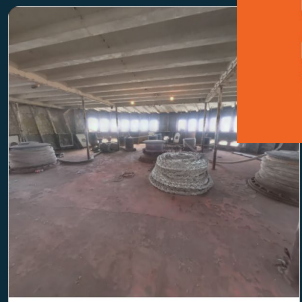
FARO

XGRIDS

TELEPORT



NAVVIS



SS United States Cruise Ship - AFT Lines Room - SuperSplat

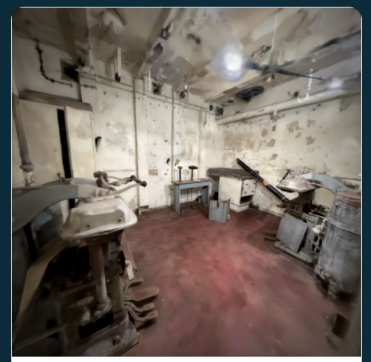
This scan was created by Anatum Geomobile using the XGRIDS PortalC...

superspl.at

Cloud based post processing and delivery of massive reality capture datasets

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SS United States Tailor Room - Deck D - SuperSplat

This is the Tailor Room on the SS United States on Deck D. Shot wit

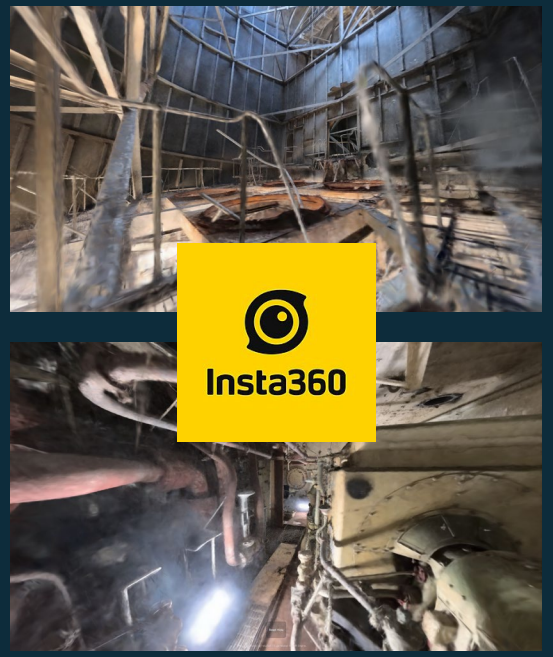
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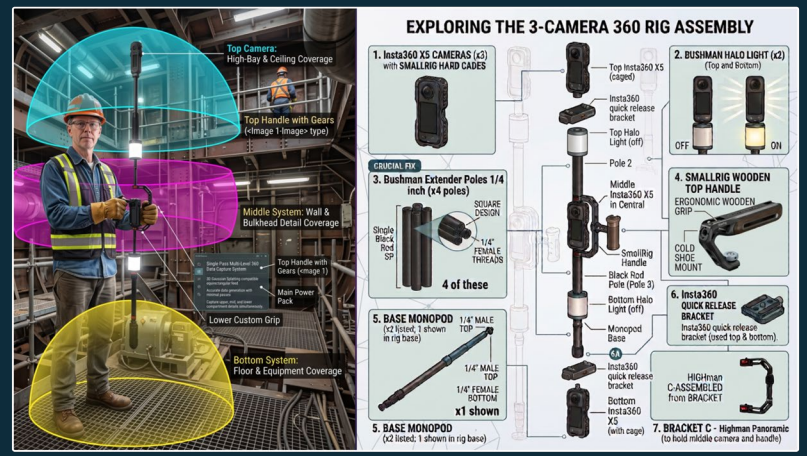


SS United States - Promenade Deck and Upper Deck Compl...

This entire 2 deck capture of the SS United States was done using the XG...

superspl.at

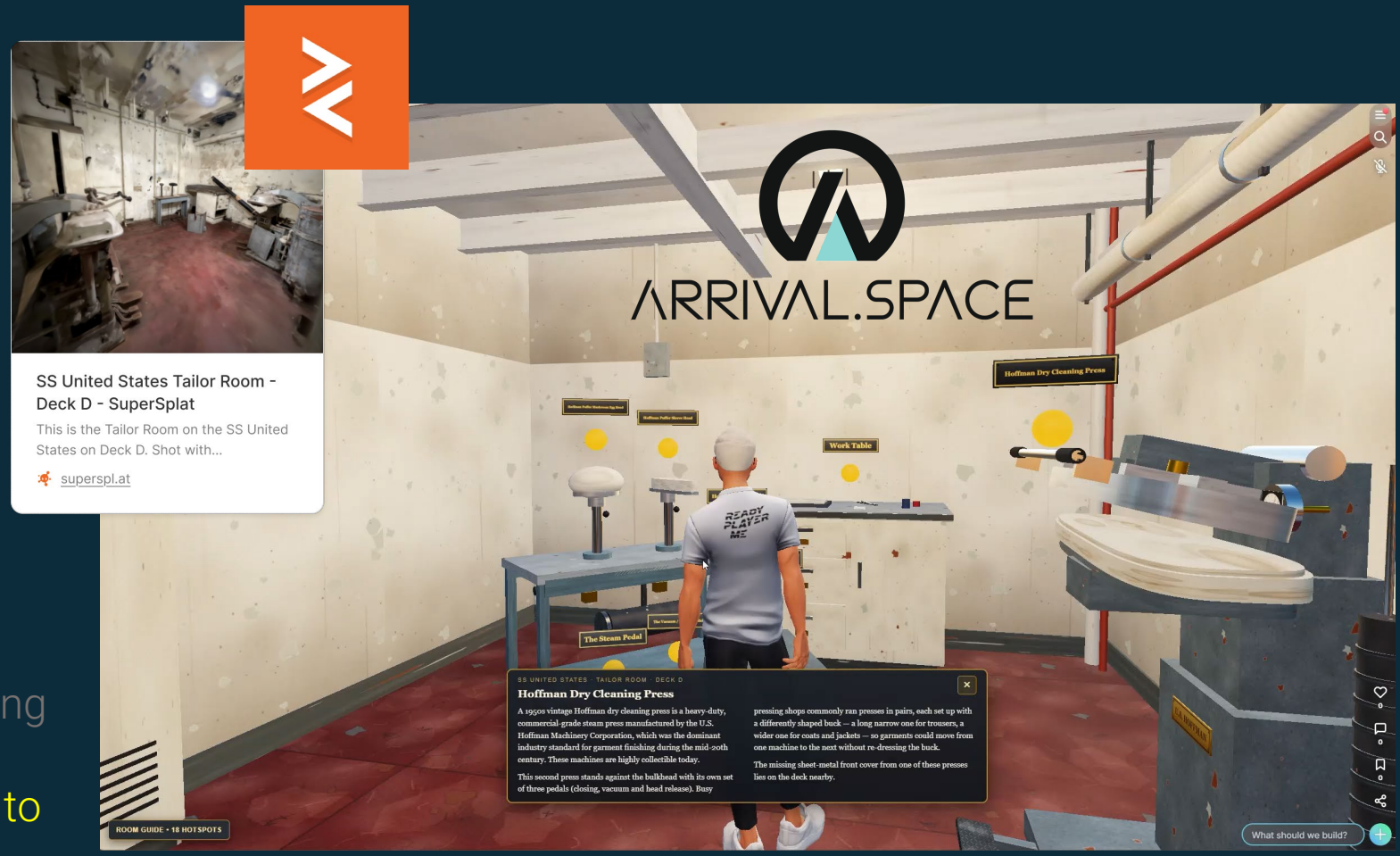




Utilizing some of the most advanced rapid capture solutions in a very challenging environment

The Technology

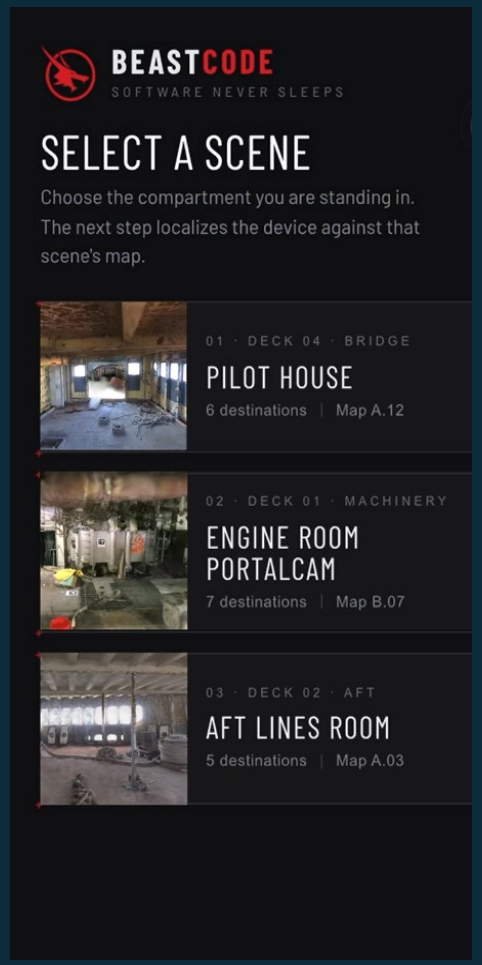
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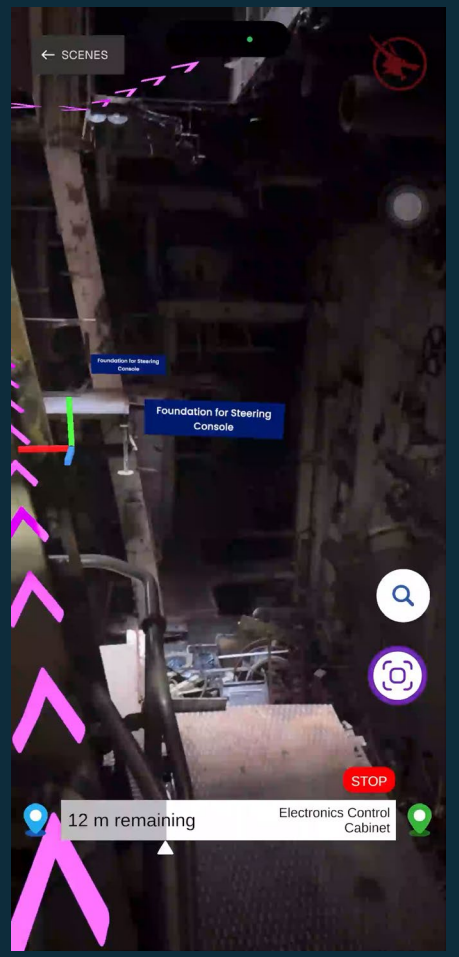


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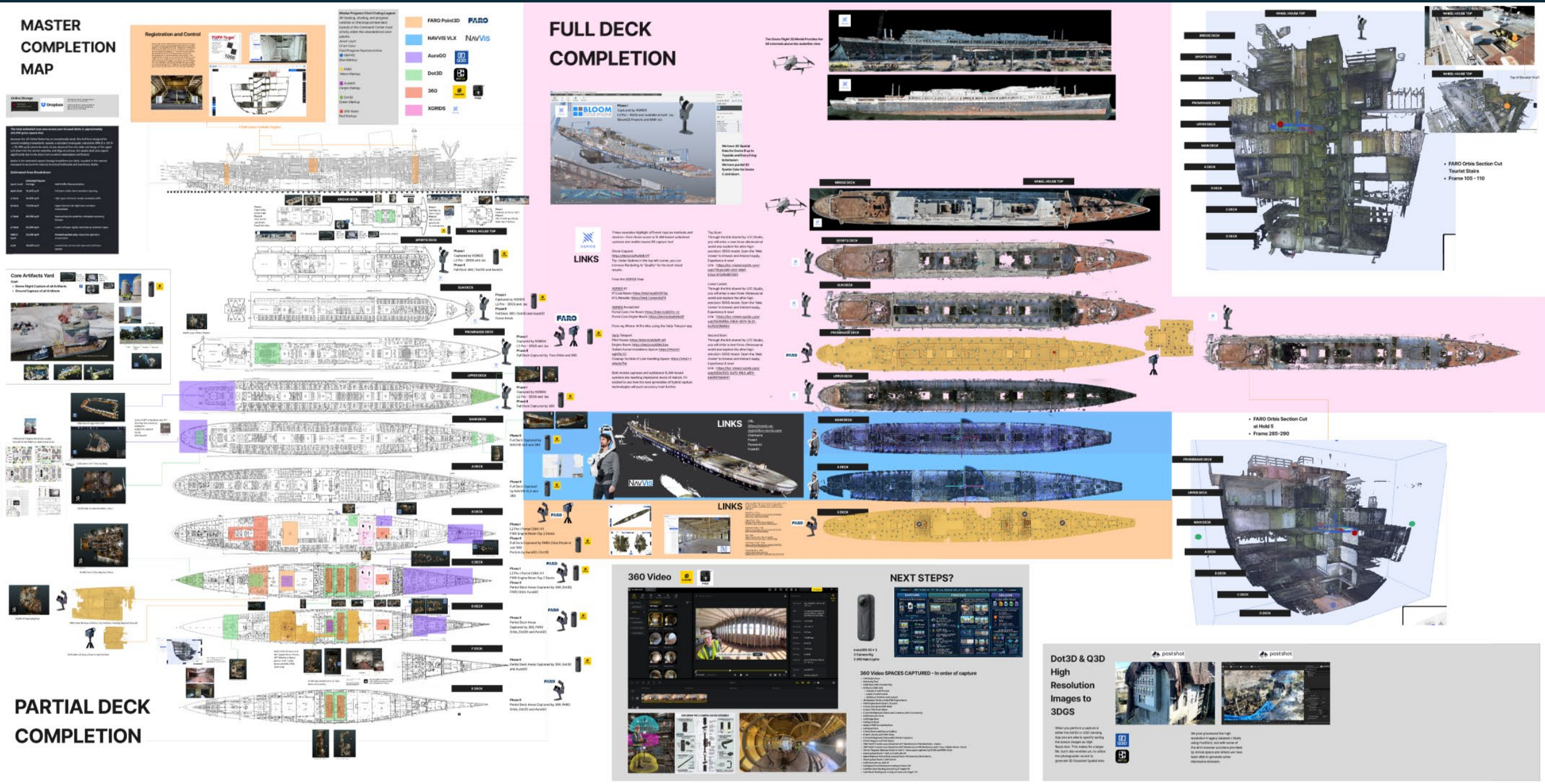




We demonstrated the value of utilizing Reality Capture datasets as the baseline for VPS systems to align devices to platform coordinate systems

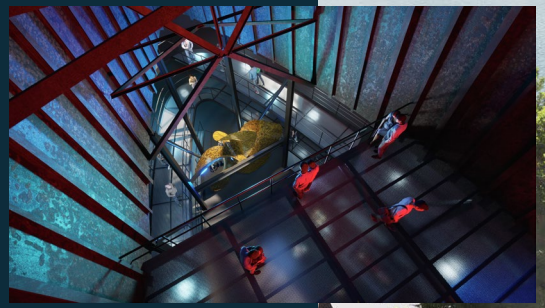
The Results

To date, we have successfully 3D scanned approximately over 400,000 square feet of the ship, mapping roughly 70 percent of the entire 600,000 square footage of the SS United States.



What is Next?







Okaloosa County Visitors Center
SSUS Conservancy Land Based Museum

Conclusion

The scanning effort wasn't simply about documenting an old ship. It was about preserving the engineering, history, and legacy of one of the most significant vessels ever built before access to her was lost forever.

