Utilizing Ship Product Model Information for Corrosion Control and Coatings

All Panel Meeting Presentation
March 2023

Issue, Goal, and Objective

- 3D Ship product models typically do not include information on corrosion control and coatings
  - Data that is pulled from the model for corrosion control and coating applications is incomplete and requires extraction, duplication, and manipulation in other applications
- Goal: develop an improved corrosion control systems design process with more efficient utilization of available 3D ship models and their data
- Long-term objective: develop automated solutions using back end 3D ship model data to calculate design variables and algorithmically perform checks for conformance to applicable requirements

Project Team

- HII Ingalls Shipbuilding
  - Project lead
  - Aaron Kopp, Conor Hogan, John Walks
- ShipConstructor Software Inc. (SSI) USA
  - Technical support
  - Rob Parker, Darren Guillory, TJ Stokes
- ATI (NSRP Program Administrator)
  - Nick Laney, Project Manager
- General Dynamics Bath Iron Works
  - Michael Gerardi, Program Technical Representative

Project Tasks

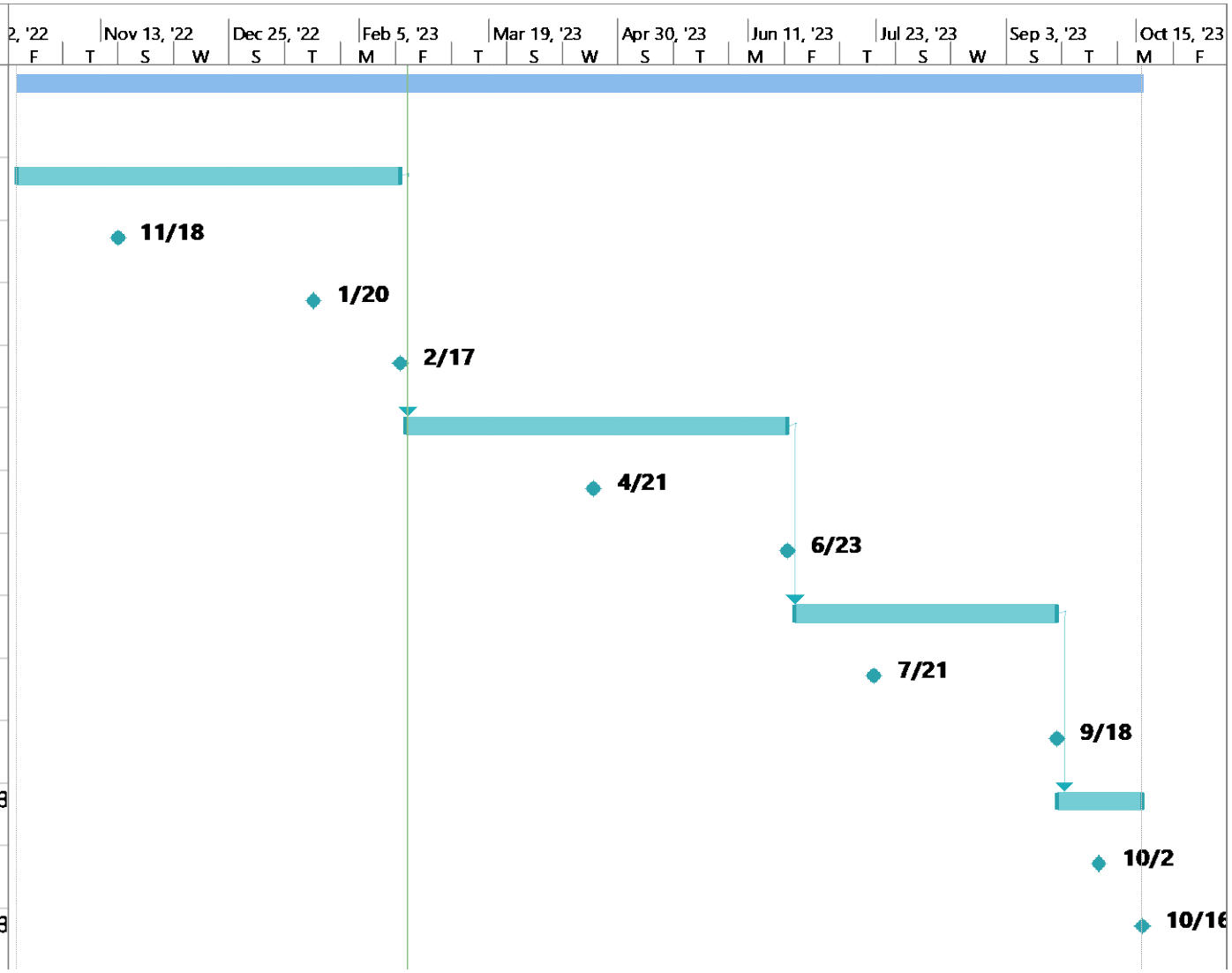
- Task 1: Current 3D Model Review
  - Conduct a Kick-Off Meeting
  - Review current available 3D model data, including properties on different types of objects and back end data tables
- Task 2: Prepare Corrosion Control Design Plan
  - Prepare a plan for efficient integration of corrosion control and coatings design into the 3D model
- Task 3: Develop Tools for Corrosion Control Design
  - Develop tools and algorithms to enhance corrosion control designs using data available in the 3D model
- Task 4: Final Report
  - Prepare final report with conclusions and recommendations

Team Responsibilities

Task	HII Ingalls	SSI USA
Task 1: Current 3D Model Review	Lead	Support
Task 2: Prepare Corrosion Control Design Plan	Support	Lead
Task 3: Develop Tools for Corrosion Control Design	Support	Lead
Task 4: Final Report	Lead	Support

Project Schedule

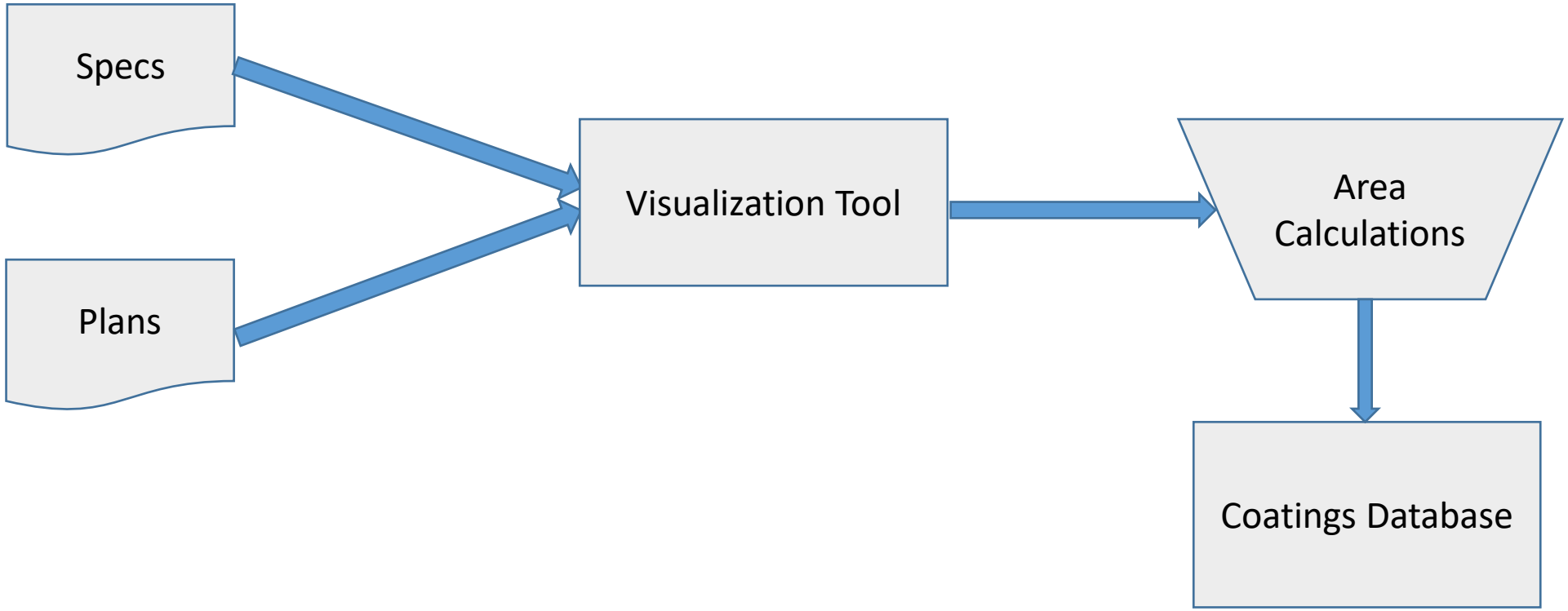
ID	Task Mode	Task Name	Duration	Start	Finish
1		Utilizing Ship Product Model Information for Corrosion Control and Coatings	261 days	Mon 10/17/22	Mon 10/16/23
2		Current 3D Model Review	90 days	Mon 10/17/22	Fri 2/17/23
3		Project Plan and Schedule	0 days	Fri 11/18/22	Fri 11/18/22
4		Quarterly Report 1	0 days	Fri 1/20/23	Fri 1/20/23
5		Task 1 Summary Report	0 days	Fri 2/17/23	Fri 2/17/23
6		Prepare Corrosion Control Design Pl	90 days	Mon 2/20/23	Fri 6/23/23
7		Quarterly Report 2	0 days	Fri 4/21/23	Fri 4/21/23
8		Task 2 Summary Report	0 days	Fri 6/23/23	Fri 6/23/23
9		Develop Tools for Corrosion Control Design	61 days	Mon 6/26/23	Mon 9/18/23
10		Quarterly Report 3	0 days	Fri 7/21/23	Fri 7/21/23
11		Task 3 Summary Report	0 days	Mon 9/18/23	Mon 9/18/23
12		Final Report	20 days	Tue 9/19/23	Mon 10/16/23
13		Final Project Briefing	0 days	Mon 10/2/23	Mon 10/2/23
14		Final Report with Recommendation	0 days	Mon 10/16/2	Mon 10/16/23



Accomplishments to Date

- Task 1: Completed
  - Held Kick-Off Meeting
  - Executed subcontract with SSI USA
  - Established the baseline for the process that is currently used at Ingalls to provide the required corrosion control and coatings data to downstream users
- Task 2: In Progress
  - SSI is reviewing the current process at Ingalls to determine a path forward for more efficient use of the available data

Baseline Process



- Every block is done with a different software tool
- Lots of touch labor
- Opportunities for data transfer errors

Summary

- Status: On Track
  - Task 1 completed
  - Deliverable submissions are up to date
  - Established the baseline for the current process at Ingalls for developing and managing the required corrosion control and coatings data
  - Work to improve the current process is in progress

Questions?

NSRP
NATIONAL SHIPBUILDING RESEARCH PROGRAM™
Taking Shipbuilding and Repair to the Next Level