# Conducting an Incline without the use of a Pendulum

NASSCO Technical Lead: Kendall Lee

October 2026

NSRP Joint Panel Meeting

# Project Goal

Validate ASTM F1321-21 which indicates digital measurement devices can be used in the place of a pendulum by comparing the following equipment during an incline:

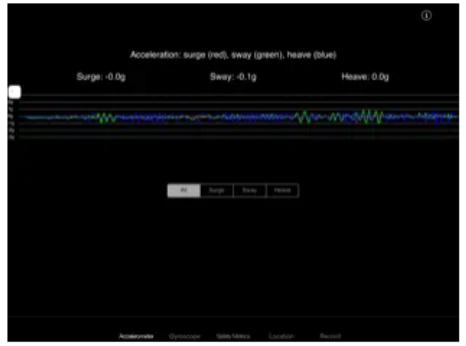


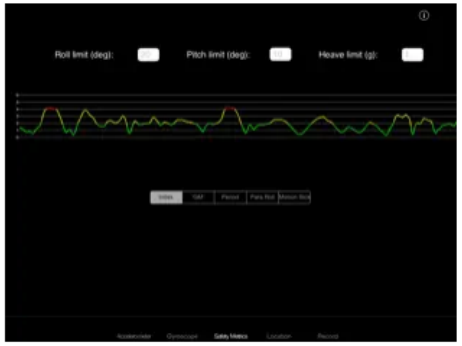

1. Digital level Inclinometer




2. High Precision Inclinometers w/ Data Acquisition System software – GI.bench

3. Phone with app – SCRAMP



# Team Organization

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# Project Progress

- NASSCO completed an incline for T-AO 4 using digital level inclinometers as a first test to further refine what was needed
- Completed kickoff meeting with Austal
- Working with ABS to ensure that the measurement methods meet requirements and will be approved
- Completed training for Data Acquisition System for high precision inclinometers
  - Implemented system during NASSCO Pontoon stability assessment as trial run

# Project Progress

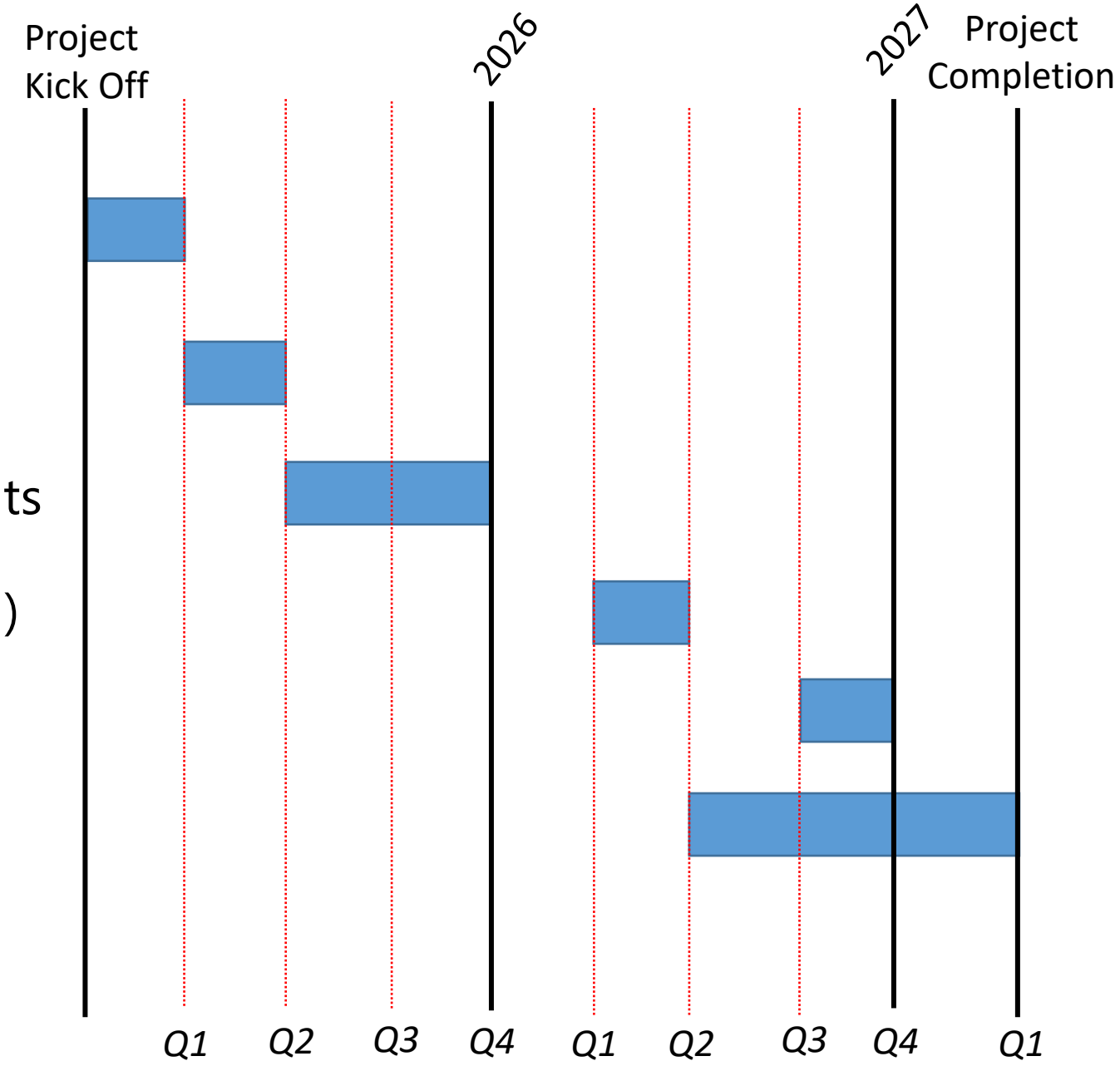
- Austal's T-ATS 11 incline first full implementation of system next month
- Post processing and report/analysis completed shortly after
- Results presented at upcoming NSRP All Panel meeting in March 2027




T-ATS 11 - *Austalusa.com*

# Schedule

- Stage 1: Develop Test Plan & finalize tools to be used
- Stage 2: Procure Tools for Study
- Stage 3: Tool Study & Analysis of Results
- Stage 4: NASSCO Pontoon Incline (trial)
- Stage 5: Austal T-ATS 11 Incline
- Stage 6: Results & Equipment Analysis



# Questions?

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