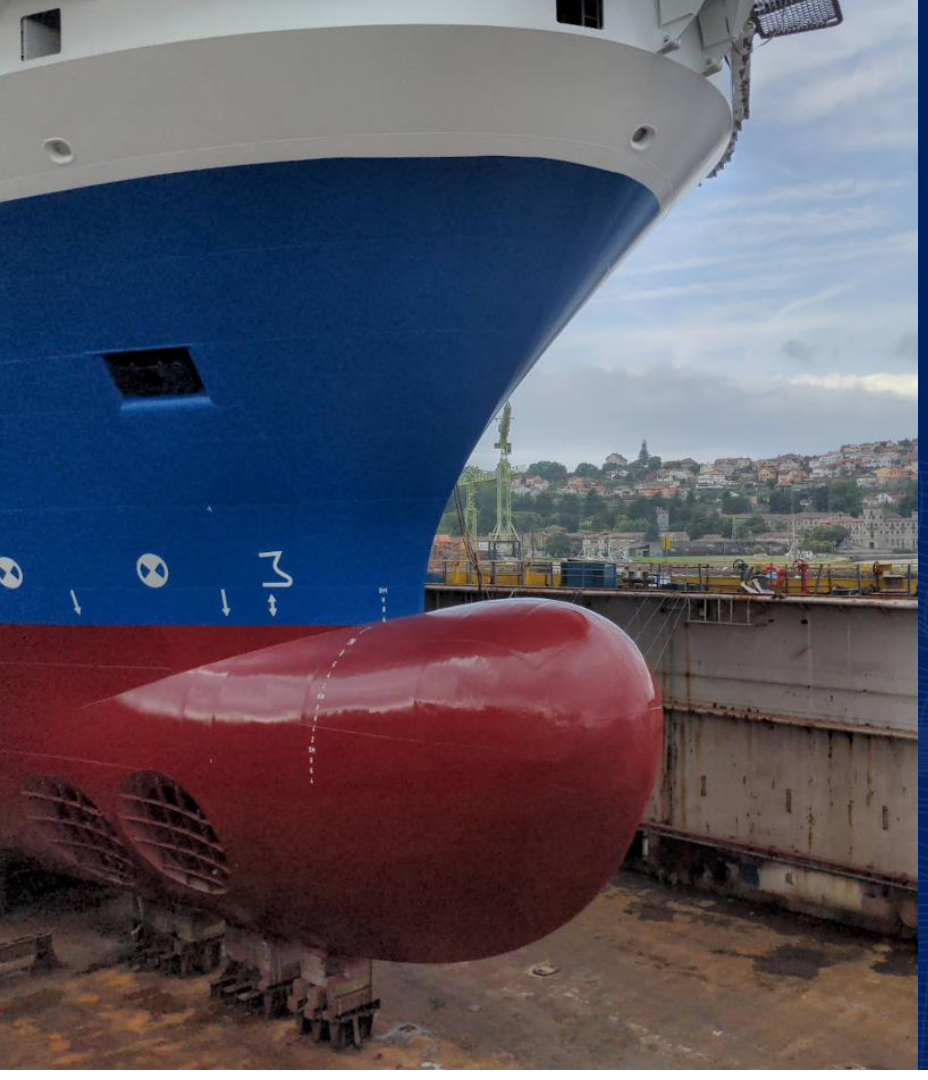
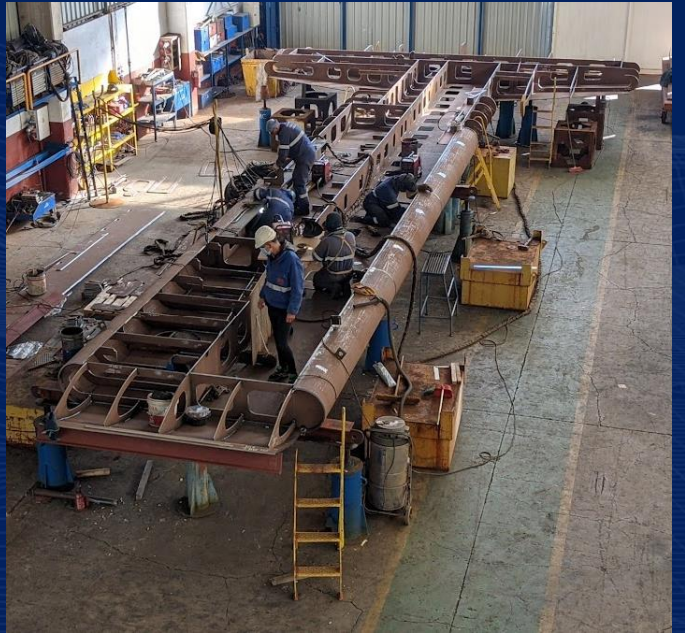
R/V FALKOR (too)

Improving Bubble Sweepdown Issues


FALKOR (too)
SCHMIDT
OCEAN
INSTITUTE
FALKOR (too)
GONDOLA
3





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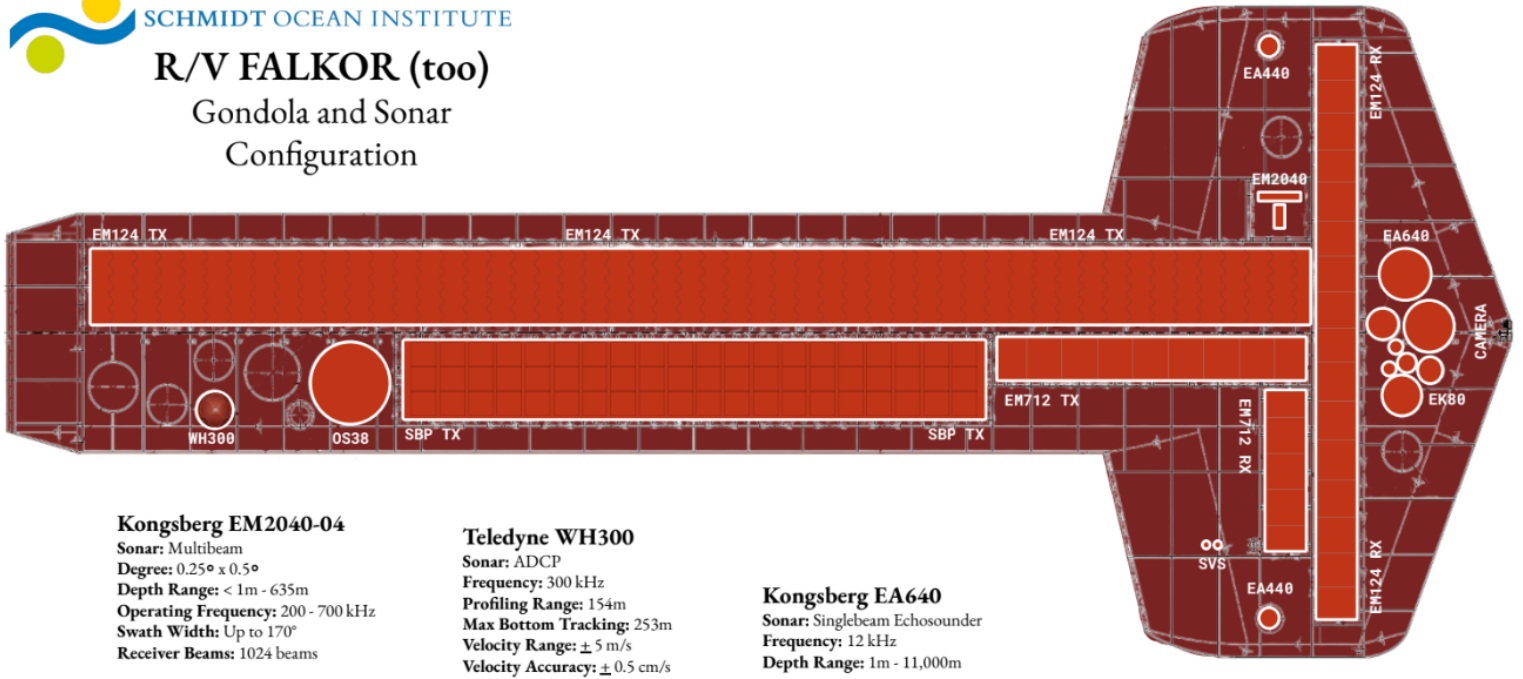
Gondola and Sonar Configuration



Kongsberg EM2040-04
Sonar: Multibeam
Degree: 0.25° x 0.5°
Depth Range: < 1m - 635m
Operating Frequency: 200 - 700 kHz
Swath Width: Up to 170°
Receiver Beams: 1024 beams

Kongsberg EM712
Sonar: Multibeam
Degree: 0.25° x 0.5°, full performance
Depth Range: 3m - 3,600m
Operating Frequency: 40 - 100 kHz
Swath Width: up to 5.5 times the depth
Receiver Beams: 1600 beams

Kongsberg EM124
Sonar: Multibeam
Degree: 0.5° x 1°
Depth Range: 20m - 11,000m
Nominal Frequency: 12 kHz
Operating Frequency: 10.5 - 13.5 kHz
Swath Width: up to 6 times the depth
Receiver Beams: 1600 beams

Teledyne WH300
Sonar: ADCP
Frequency: 300 kHz
Profiling Range: 154m
Max Bottom Tracking: 253m
Velocity Range: ± 5 m/s
Velocity Accuracy: ± 0.5 cm/s

Teledyne RDI OS38
Sonar: ADCP
Frequency: 38 kHz
Max Profiling Range: >1,000m
Max Bottom Tracking: 1,700m
Velocity Range: ± 7 m/s
Velocity Accuracy: ± 0.5 cm/s

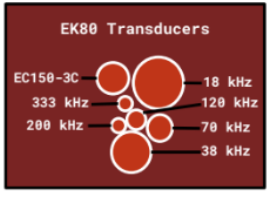
Kongsberg SBP 29
Sonar: Sub Bottom Profiler
Degree: 3° x 3°
Depth Range: 1m - 11,000m
Max Penetration: >200m
Operating Frequency: 2 - 9 kHz
Pulse Length: 2 to 100ms

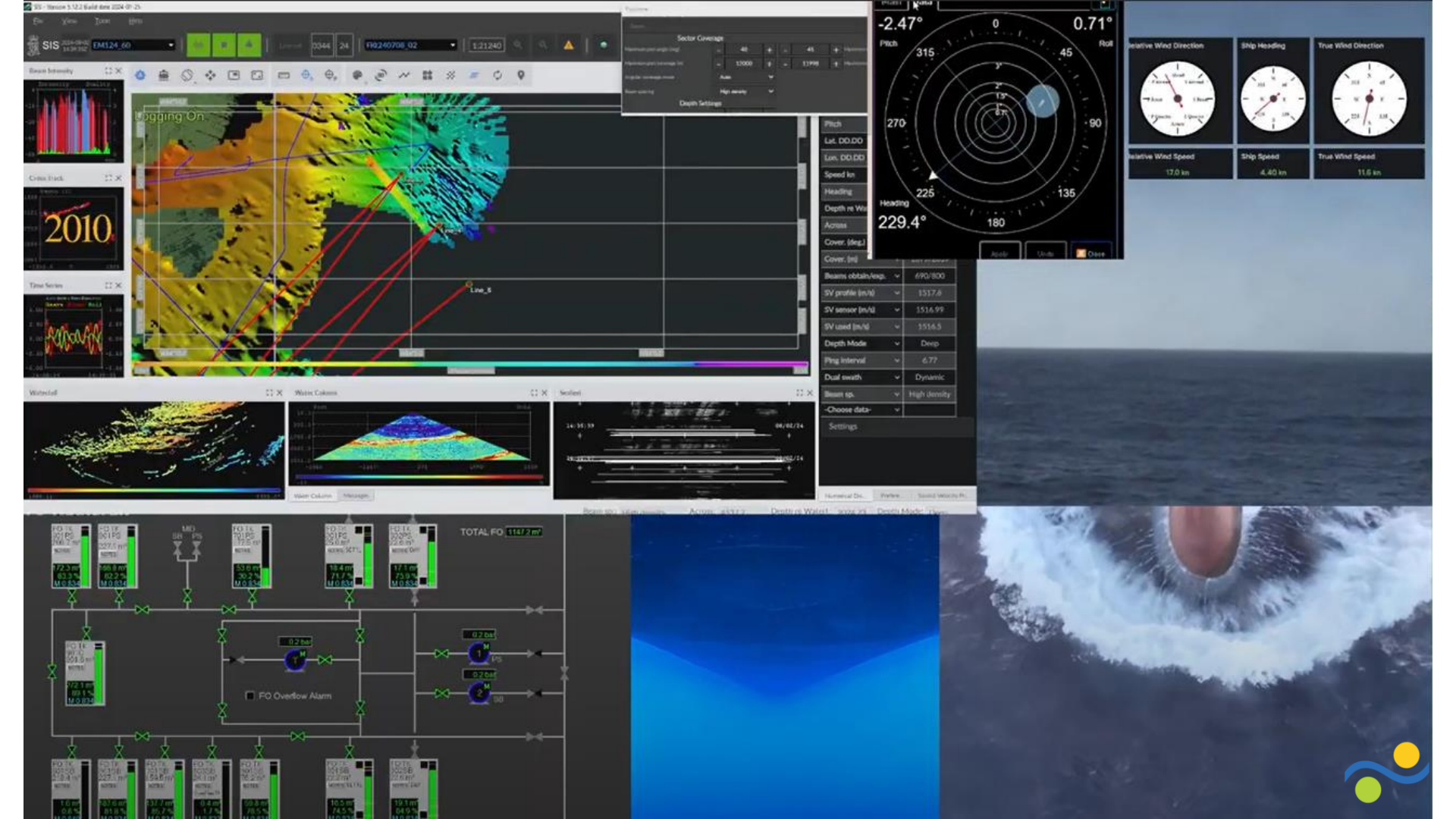
Kongsberg EA640
Sonar: Singlebeam Echosounder
Frequency: 12 kHz
Depth Range: 1m - 11,000m

Kongsberg EA440
Sonar: Hydrophone
Frequency: 10 - 90 kHz

Simrad EK80
W/ EC150-3C ADCP
Sonar: Mid-water echosounder
Frequency Range: 18 - 333 kHz

Valeport Mini SVS
Sonar: Sound Velocity
Frequency: 2.5 MHz
Range: 1375 - 1900 m/s

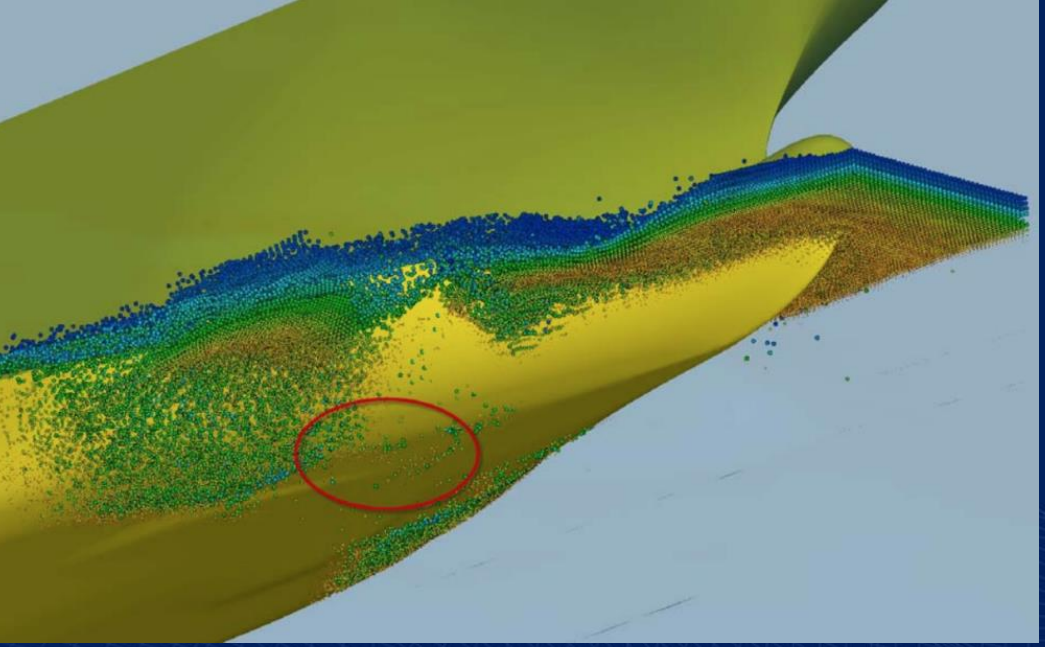


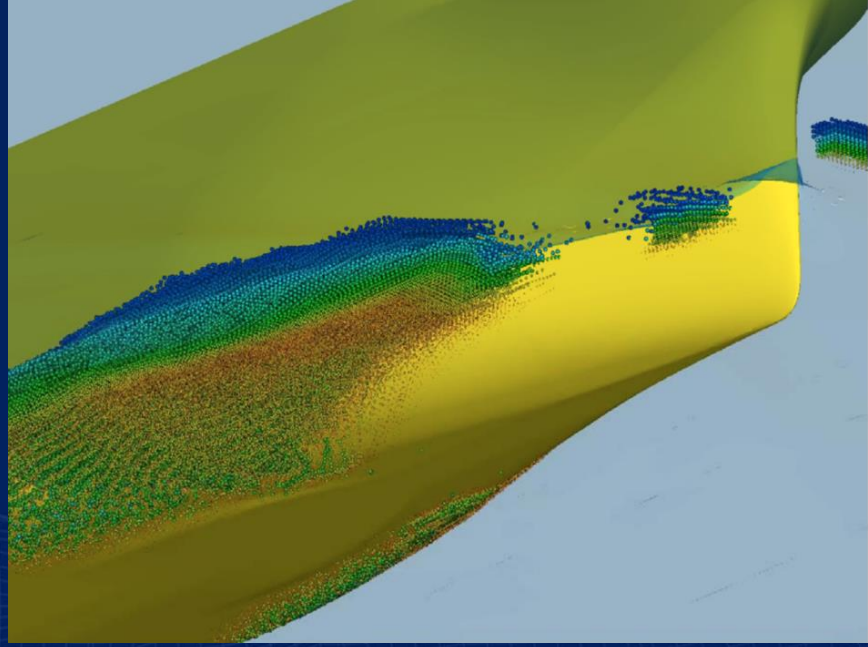

Logging On
2010
-2.47°
0.71°
Pitch
Roll
Heading
229.4°
Relative Wind Direction
Ship Heading
True Wind Direction
Relative Wind Speed
17.0 kn
Ship Speed
4.40 kn
True Wind Speed
11.6 kn
TOTAL FO
FO Overflow Alarm

CFD Study

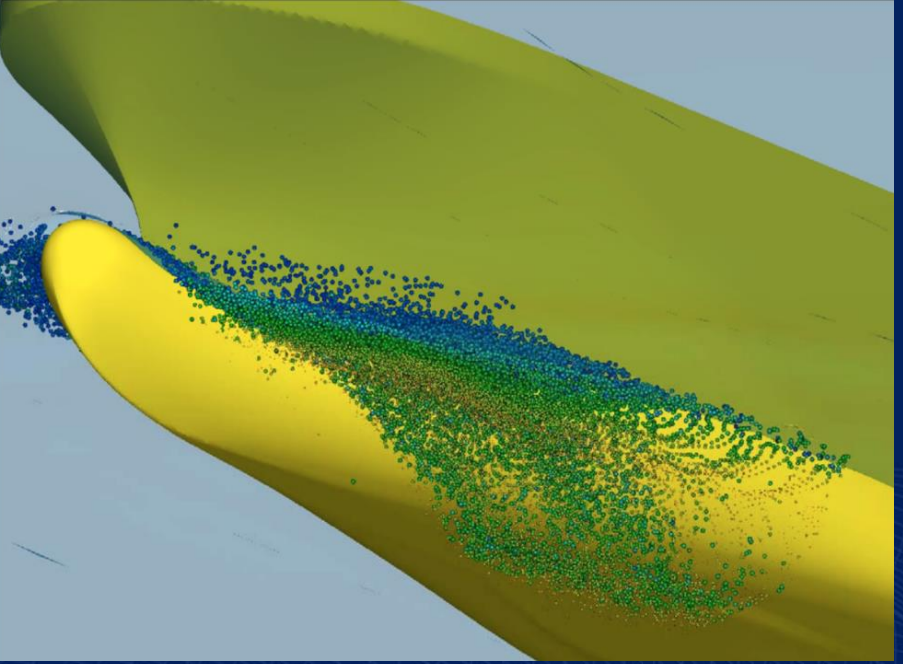
- *Skipsteknisk*
- *Marin* (MAritime Research Institute Netherlands)

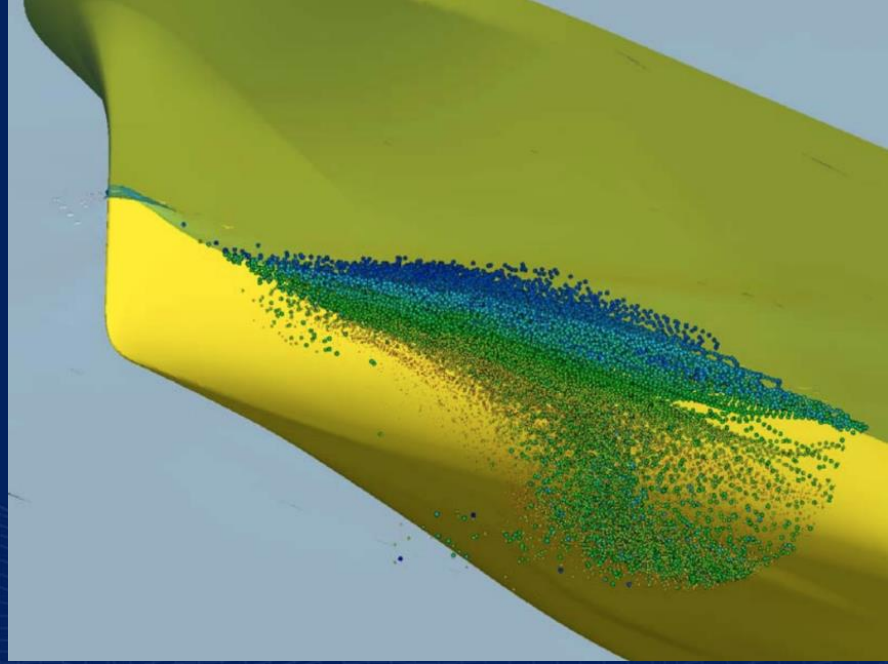
Two conditions were selected and simulated for three hull variants.



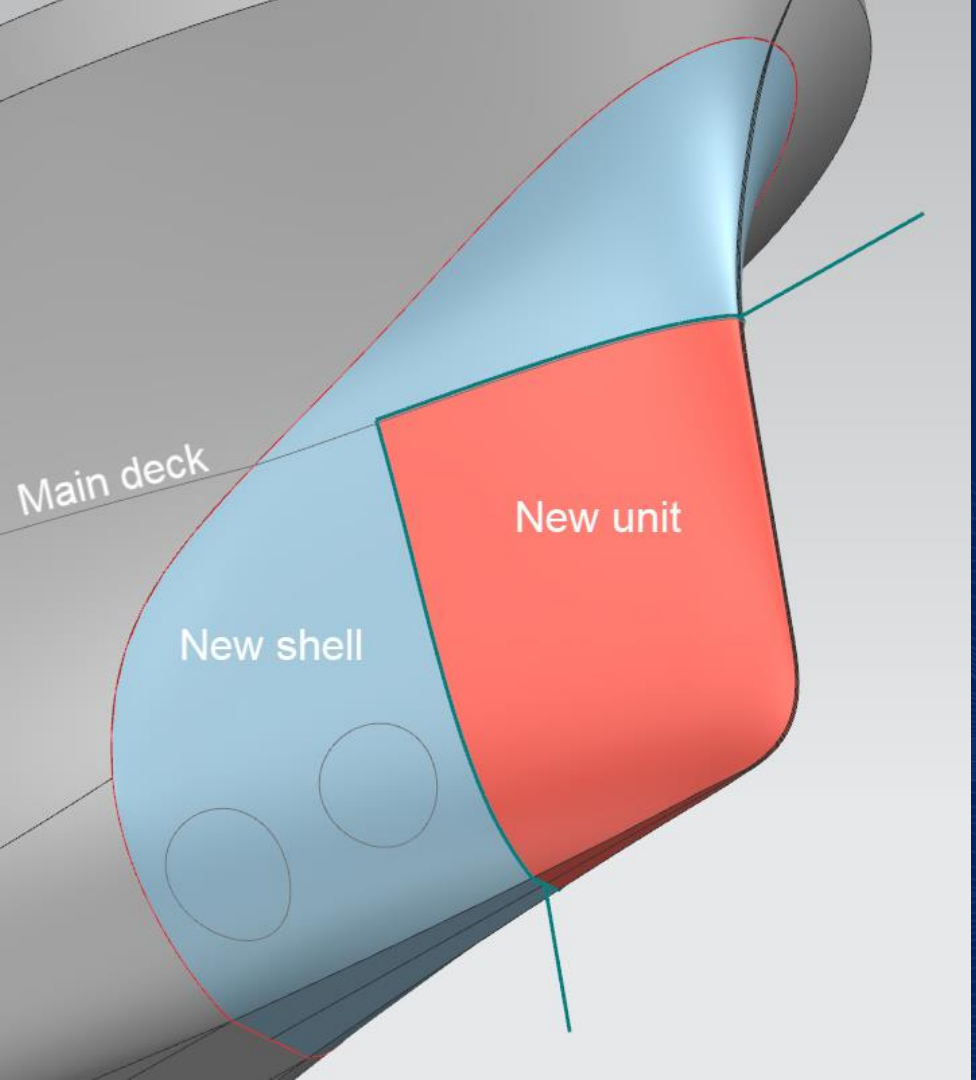


Bow Seas - The bow head seas condition has a regular wave of 13 seconds period and 2.3m amplitude; vessel speed 7 kts.





Quarter Seas - The bow quartering condition has a regular wave of period 13s and amplitude 4.2m, with heading 120 degrees off the bow coming from the port side; vessel speed 7 kts.


Main deck
New unit
New shell


DISCOVERY