



## KEY BENEFITS

- Live 3D reconstruction gives quality and coverage feedback so offshore teams can confirm they have the data they need
- 3D data collection during GVI operations simplifies project planning and execution
- No offshore technicians removes scheduling complexity and reduces total cost of 3D data collection
- ROV3D stereo-synchronized video can be archived in common video formats and used to generate 3D models in the future

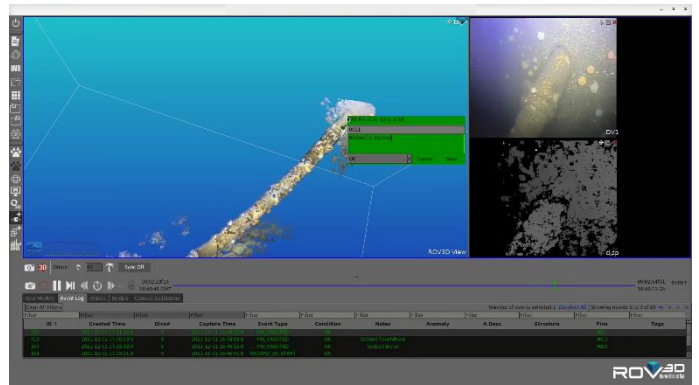
## KEY FEATURES

- Basic field unit consists of two SD cameras, one computer, and one camera calibration target
- Live 3D models are generated using video-based SLAM software algorithms
- < 10mm<sup>3</sup> standard model resolution
- ± 1% standard model accuracy
- Cross-reference 3<sup>rd</sup> party navigation and sensor data with ROV3D data

# ROV3D<sup>®</sup> Recon<sup>™</sup>

## Advanced software. Simple kit.

3D deliverable requirements don't have to introduce risk and complexity to your subsea operations. ROV3D simplifies 3D project planning, data collection, and reporting so you get the information you need without disrupting the rest of your campaign.



**Live 3D Reconstruction from GVI Video**  
[Watch Online Video](#)

## Right tool. Right job. Right advice.

ROV3D has been used to generate live 3D data in real-world conditions since 2016. We've accumulated more than 2,000 days of offshore experience and trained more than 150 offshore personnel to collect 3D data that supports subsea decisions. Our subject matter experts are committed to helping you select the right solution to get the answers you need.



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## REQUIREMENTS AND DELIVERABLES

### ROV INTEGRATION REQUIREMENTS

- Two (2) SD or HD cameras mounted in stereo
  - Video signal formats: NTSC, PAL, SDi, HD-SDi, GigE Vision
  - Video signal frame rate:  $\leq 60$  fps interlace scan,  $\leq 30$  fps progressive scan
  - Video signal resolution:  $\leq 1080$  horizontal lines
  - Sensitivity: 0.05 lux color
  - Angle of view:  $\leq 75^\circ$  diagonal in water
  - Focus / depth of field: Fixed (or disabled auto-focus) / 100mm to infinity
  - Front port type: Flat
  - Camera housing diameter:  $\leq 110$ mm
- Tether bandwidth and mux channels to support two (2) raw analog, digital, or GigE Vision video signals
- Minimum 2,000 lumens available ROV lighting
- Additional offshore integration options
  - 2 channel digital video (SDi / HD-SDi) loop out
  - Video frame level synchronization and cross-referencing of navigational and eventing data
  - 3D spatial synchronization and cross-referencing to navigational data

### OPERATIONAL REQUIREMENTS

- 2.5 hours instructor-lead remote training for up to six (6) offshore personnel
- Completion of camera calibration procedures on first and last dive of a campaign
- Water visibility  $\geq 1.5$ m
- Distance to scanned structures  $\leq 3.5$ m
- ROV speed  $\leq 0.5$ m/s

### IN-FIELD DATA REVIEW

- Live 3D reconstruction to confirm 3D data quality and coverage
- Live pass 3D model export in in point cloud (.xyzrgb) and textured mesh (.obj) formats
- Live pass 3D still images with measurement overlays in .png or .jpg format

### FINAL DELIVERABLES

- ROV3D Summary Report
- Clean-up and optimization of live pass 3D models
  - $< 10\text{mm}^3$  standard model resolution |  $< 5\text{mm}^3$  scope-specific enhanced resolution
  - $\pm 1\%$  standard accuracy | scope-specific enhanced accuracy options
- Media files
  - 3D models in point cloud (.xyzrgb) and textured mesh (.obj) formats
  - Video files in H.264 .mp4 format
  - 3D still images with measurement overlays in .png or .jpg format
- OPTIONAL – 3D georeferencing using synchronized navigational data
- OPTIONAL – 3D model alignment with client supplied 3D CAD files