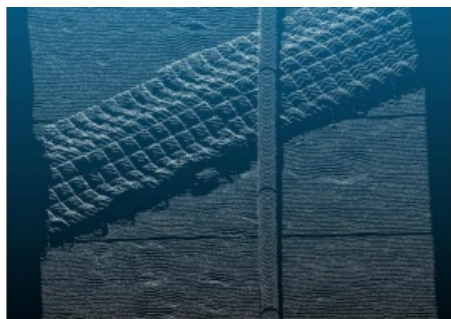
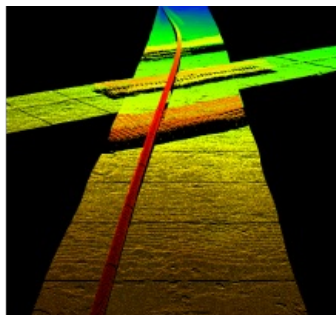
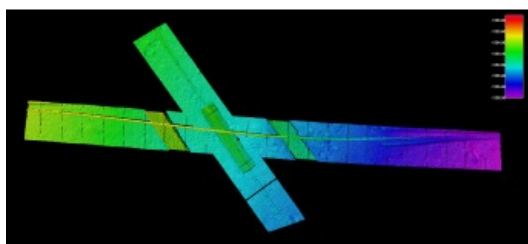


Deep-rated Laser Systems for Oceaneering



2G Robotics has delivered two deep-rated ULS-500 subsea laser systems to Oceaneering International's Oceaneering Survey Services (C&C Technologies) business unit. Including these two ULS-500 systems, Oceaneering now utilises six of the ULS-500 systems with its autonomous underwater vehicles (AUVs) as part of its advanced survey and inspection services for assessing pipeline

and flowline integrity. Oceaneering has used the 2G Robotics ULS-500 system to accurately and efficiently inspect 2,500 kilometres of pipeline and flowline.

The dynamic scanning capabilities of the ULS-500 benefit Oceaneering's survey and inspection system. Dynamic scanning with the ULS-500 increases operational efficiency compared to traditional sonar and acoustic techniques as the high sample rates of the system allow for faster vehicle traversal for faster inspections. With dynamic scanning, one of the critical features is precision time synchronisation since inaccuracies with time synchronisation will produce inaccuracies with model generation. The ULS-500 uses PPS (pulse per second) time synchronisation as it provides better timing accuracy than a standard NTP (network time protocol) time synchronisation approach, ensuring better data

accuracy.

Accuracy

Data accuracy is critical for proactively detecting, preventing, and mitigating costs and risks associated with asset failure. The 3D point cloud models generated by the ULS-500 provide Oceaneering with the detail needed to accurately assess pipelines, flowlines, mats, sleepers, and collars, and measure displacements, deformations, spans, anodes, and top-of-pipe. The high density of the data equips Oceaneering with the best information possible for making informed decisions and ensuring continued safe offshore operations.

2G Robotics' innovative laser systems consistently deliver value through performance. Oceaneering has been using the ULS-500 since 2013 to perform dynamic flowline and pipeline inspections with its AUVs. The ULS-500 can be used to perform high-quality stationary scans, but the system delivers even greater operational value when integrated with subsea vehicles to perform dynamic scanning. The ULS-500 is specifically designed for dynamic scanning with development focused on subsea vehicle integration, high sample rates, and timing synchronisation for efficient and accurate data acquisition.