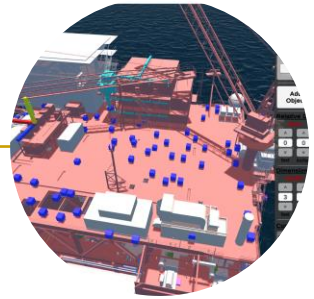
numeric
engineering

Automation,
Instrumentation
& Monitoring

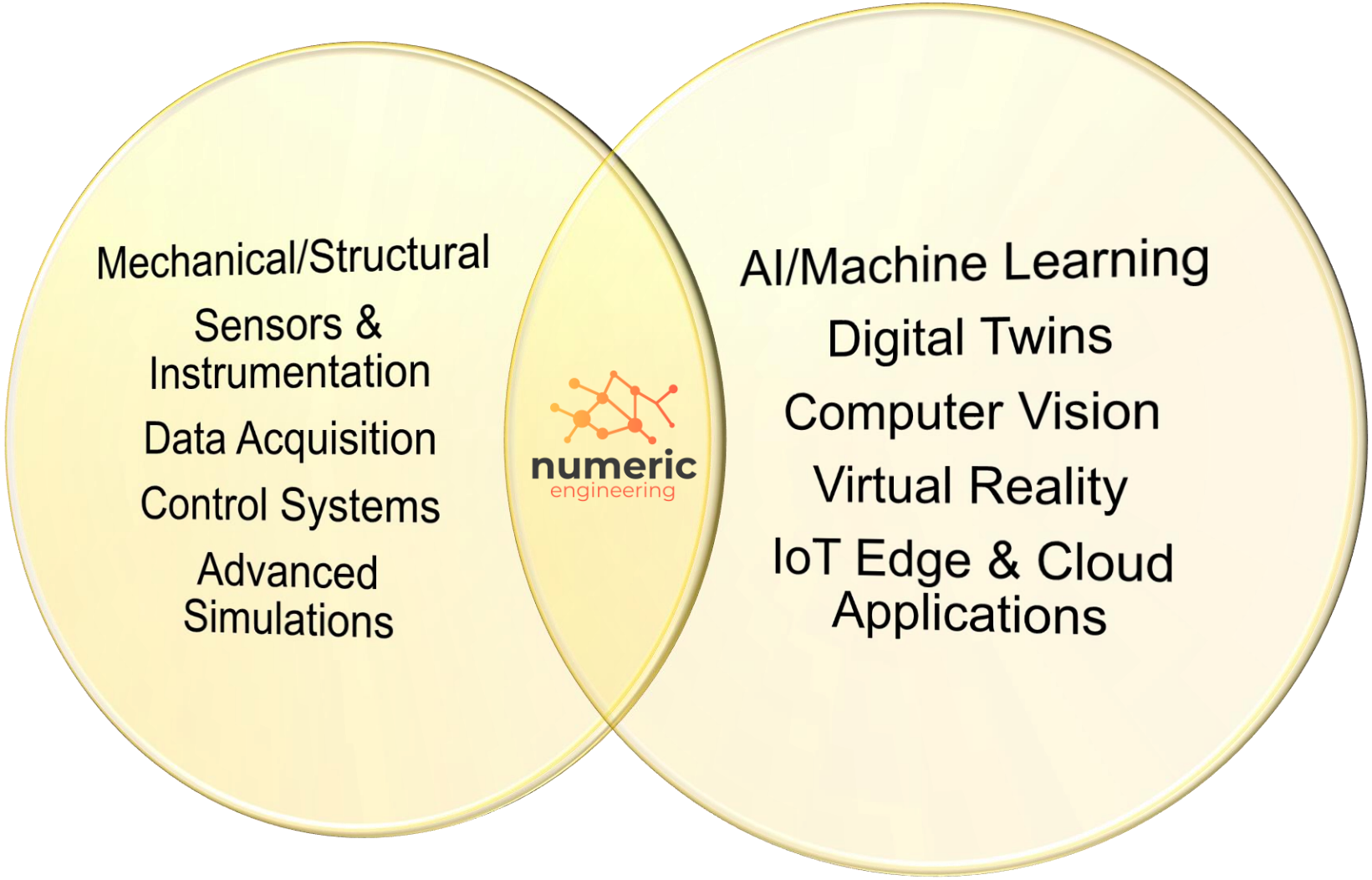
IoT & Digital Twin
Technology

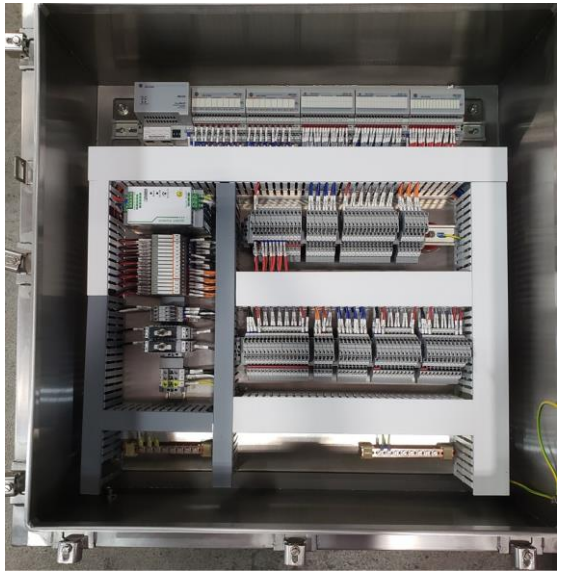
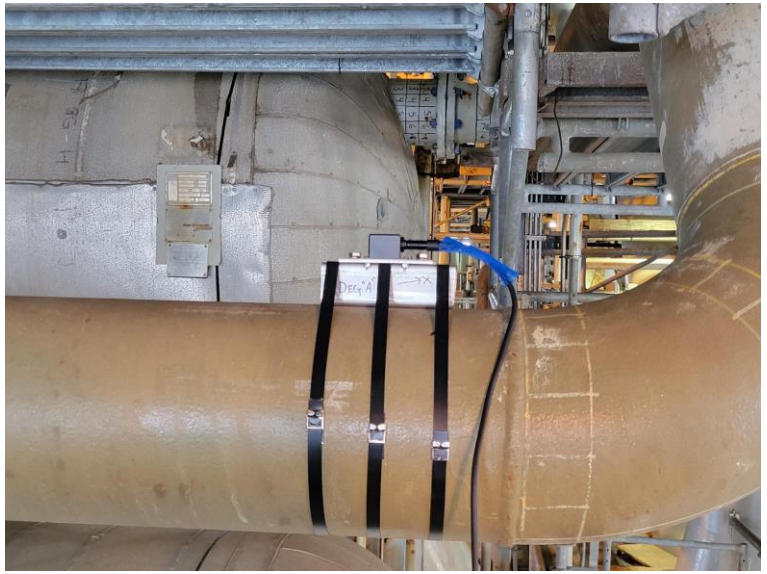


Custom
Software
Development

Numeric Engineering is a technology-based consultancy firm that specializes in Automation, Instrumentation and Digitalization applications. We provide novel and reliable technical solutions by uniquely combining traditional engineering practices with emerging technologies such as Internet of Things (IoT), Edge Computing, and Artificial Intelligence (AI).

Numeric's Domain Knowledge Intersection

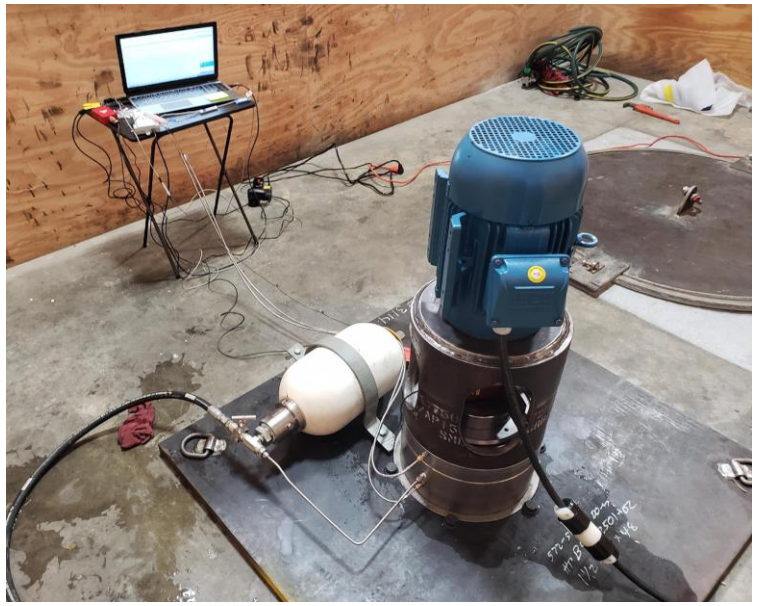


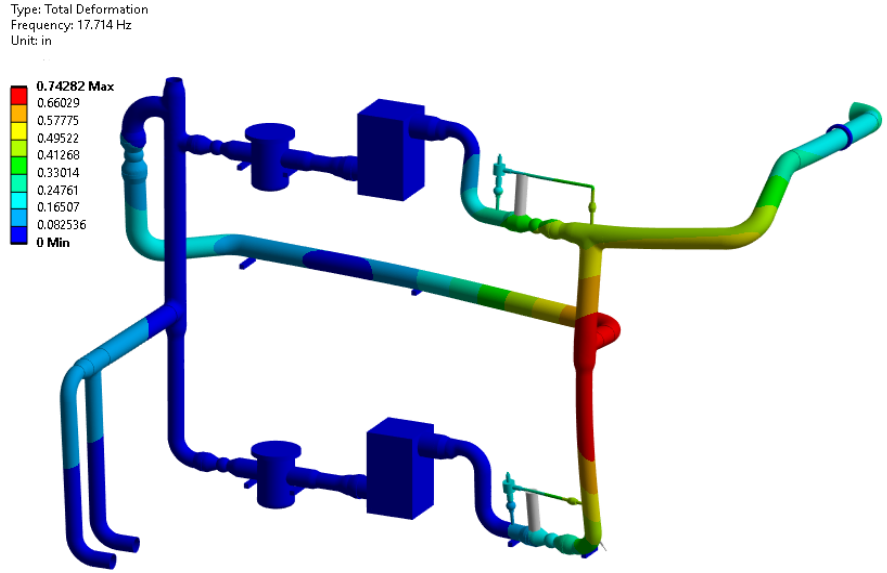





Automation, Instrumentation & Monitoring

Instrumentation & Control Systems Engineering
Industrial Networking & Communication
Control Panel Design, Wiring & Expansions
PLC Engineering & Programming
Condition Monitoring

numeric engineering

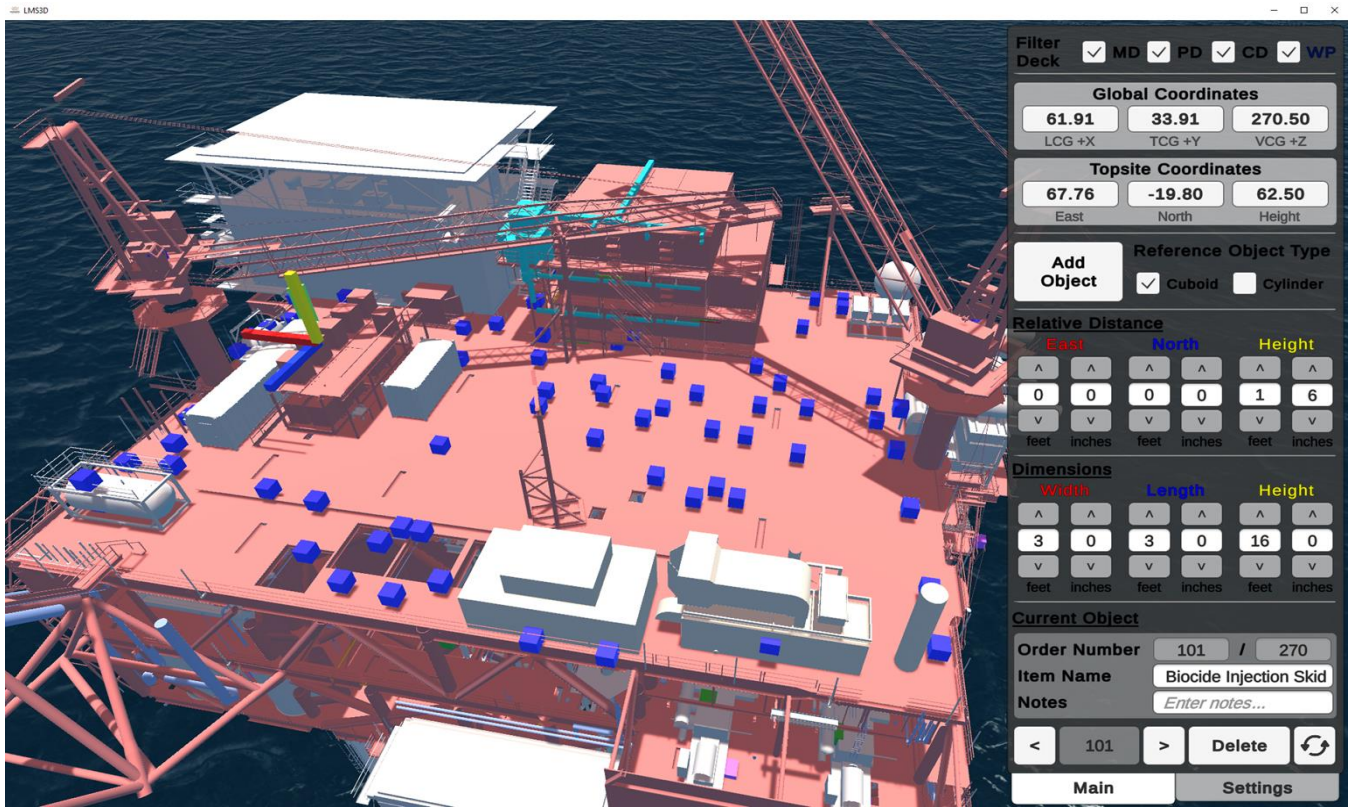




IoT & Digital Twin Technology

Physics & Machine Learning Based Digital Twin Technology Development
Edge & Cloud Computing
Engineering Studies for Faster, More Efficient & More Reliable Operations

numeric engineering



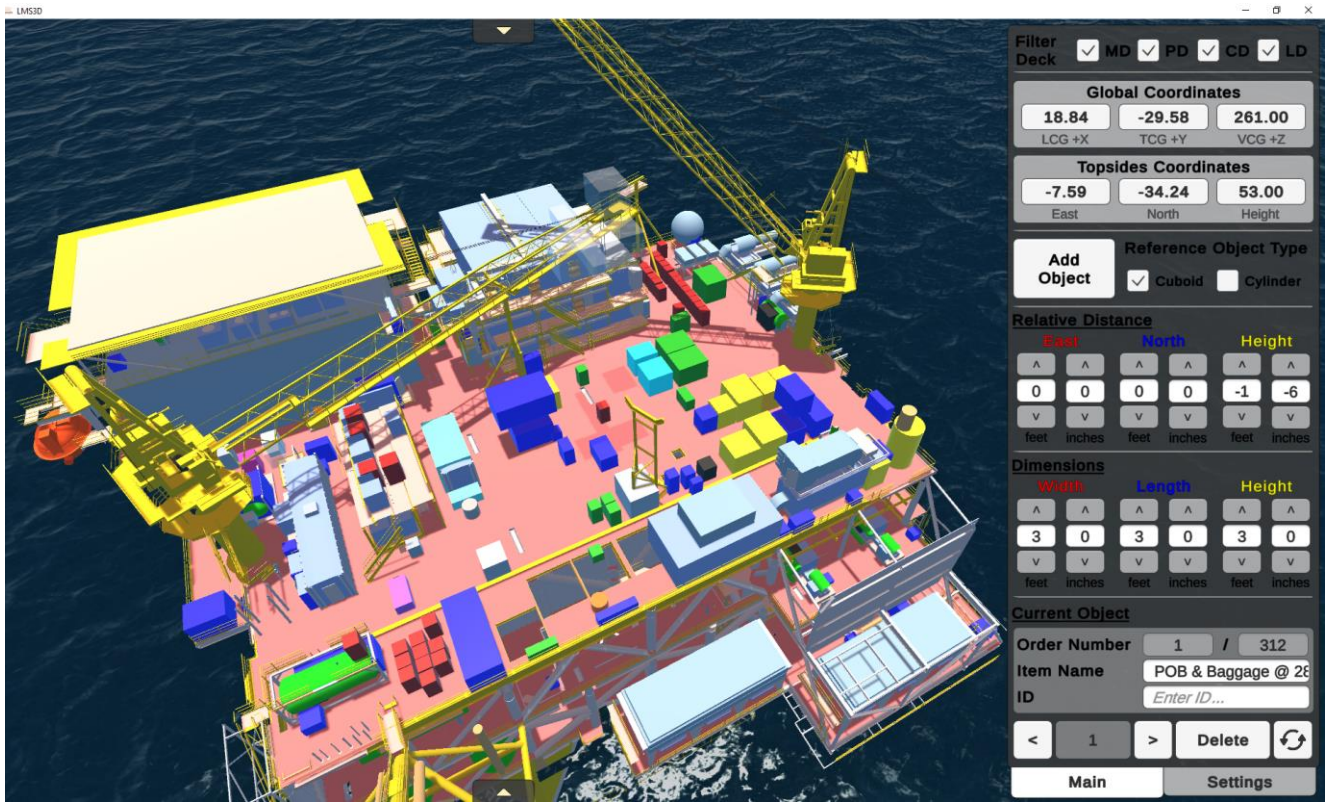
Custom Software Development

Numeric Engineering's Flagship Product – Load Management System
Development of Virtual Sensors – Redundant Tendon/Mooring Line Monitoring System
Patented Computer Vision Technology Applications

numeric engineering

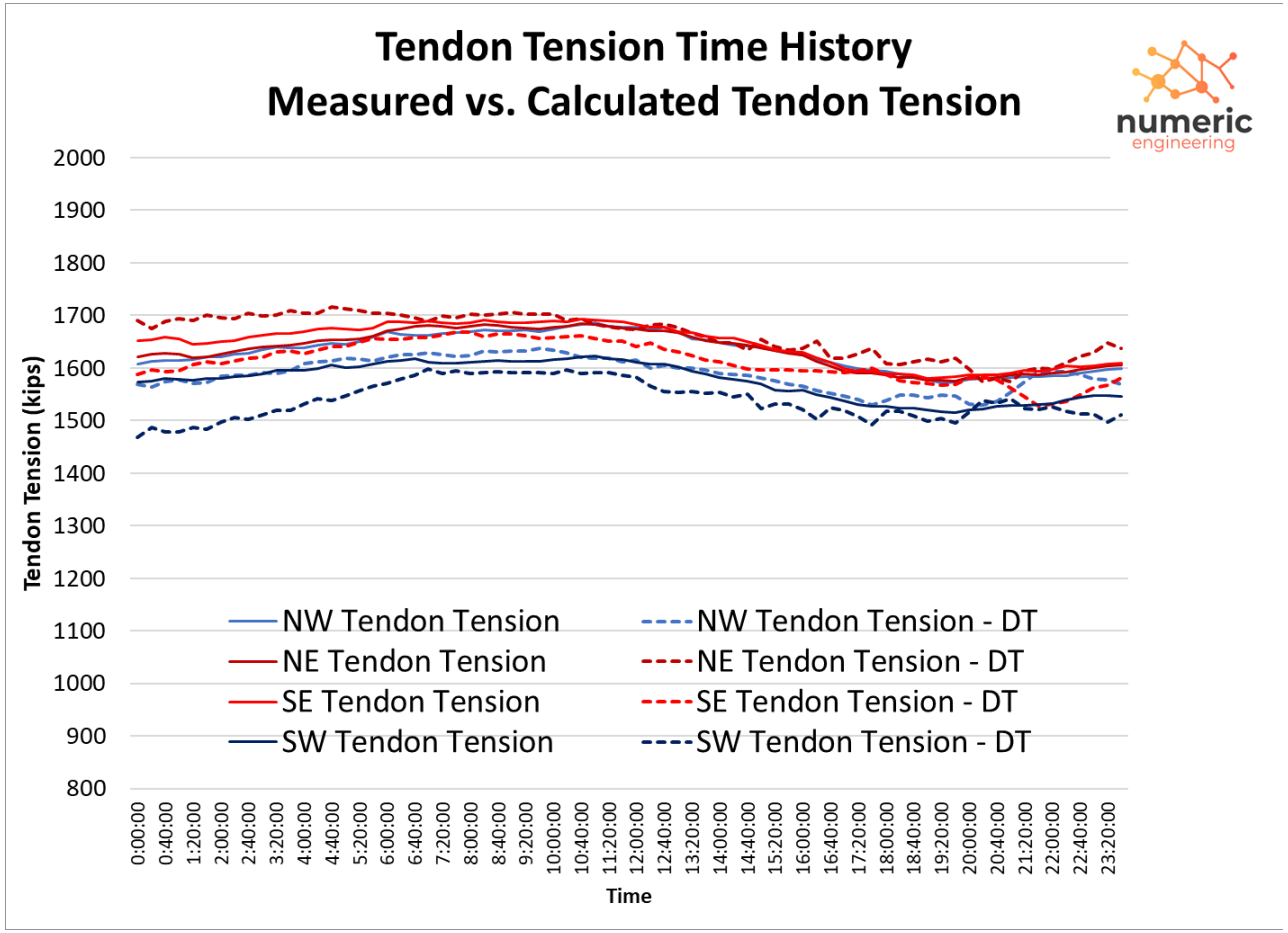
Numeric LMS – An Operator-Driven Solution

- The LMS software is a custom weight management solution that `was designed based on continuous operator feedback.
- Having an intuitive deck survey module helped identify and rectify 500kips of phantom weight, bringing phantom loads to an acceptable level.
- Additional automation of facility deck tank fluid levels eliminated this issue from occurring again.



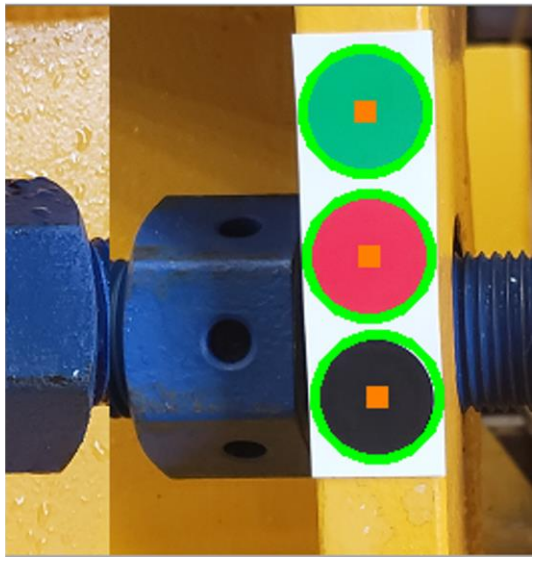
Numeric Redundant TTMS

- Software + Hardware Solution
- Most existing TTMS systems don't have a redundant mechanism to take over in case of a system failure.
- There is no easy method to analytically calculate the tendon tensions as the existing sensors, such as wind, wave and current, give only a rough estimate of the horizontal force (eccentricity) acting on the platform.
- Ballasting and de-ballasting operations solely rely on the readings from TTMS.
- A redundant TTMS system is also needed for monitoring the accuracy and the stability (drift issues) of the existing TTMS system.



Numeric Computer Vision

- Numeric Engineering has a patented computer vision application that is able to track 6 degrees of freedom (DOF) motions of structures in challenging offshore environments (Patent Number: US 11,461,906 B2).
- Much more reliable and robust than indirect estimation of displacements from accelerometers and/or strain gauges.
- Lower cost, lower complexity, less power consumption and less storage requirements as compared to Laser Scanning.
- Suitable to be utilized on remotely operated vehicles (ROV).
- Ideal for component monitoring in challenging environments.
- Allows for safer, faster installation campaigns.



numeric engineering