



# ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

## Certificate of Conformity to IEC 61508 and Specific Requirements of IEC 62061 Safety Integrity Level (SIL) 3

### **Functional Safety of Safety-Related Programmable Electronic Systems**

The **Navigator High Performance Automation System** has been assessed (E057\_FSA\_62061 Rev. 2) and is considered suitable for use in SIL 3 Safety Functions based on the design and requirements stated in the Functional Design Specification (Issue 1 Feb 2017) and the assumptions, data provided, and conditions given in the subsequent documents:

- Functional Safety Plan (Issue 1 Feb 2017);
- Safety Requirement Specification (Issue 1 Feb 2017);
- Modification Procedure (Issue 1 Feb 2017);
- Validation Plan and Checklist (Issue 1 Feb 2017);
- Installation, Use and Maintenance of Systems (Issue 1 Feb 2017);
- Testing Plan and Spreadsheet (Issue 1 Feb 2017);
- Software Requirement Specification and Design Document (Issue 1 Feb 2017);
- Update Parts Document - List of Parts (April 2017);
- Applied Measurement Load Cell Prior Use Assessment (E057\_PU001\_rev.1 Feb 2017);
- Generic Winch System SIL Verification (E057\_SV001\_rev.4 May 2018);
- Competency Register (Issue 1 Feb 2017);
- Navigator Control System: IEC 61511 Functional Safety Assessment Prior Use Route (E057\_PU002\_rev.1 May 2017);
- Safety Critical Software to meet the requirements of EN61508/ EN62061 to SIL 3 (Issue 2 May 2017);
- Renewal letter from TAIT Technologies UK, signed by Alec Gass, Head of Mechanical Engineering, dated 16<sup>th</sup> September 2019.

This certificate can cover project-specific systems only if the system's requirements and design fully comply with Functional Design Specification (Issue 1 Feb 2017) and the subsequent documents listed above.

#### **The details of the System and the scope of the assessment are outlined below:**

A High Demand SIL 1 System monitored by a Low Demand SIL 2 System giving an Overall SIL 3 System. Safety Functions assessment comprising of:

- Random Hardware Failures;
- Safe Failure Fraction;
- Systematic Capability of Hardware and Software;
- Assessment of Components and Subsystems;
- Established Common Cause Factors.

**System designed and manufactured by:** TAIT Towers, 401 W Lincoln Avenue, Lititz, PA 17543

Managing Director: Kenneth G L Simpson

Member of IEC 61508 Maintenance Committee (TC 65/SC 65A/MT 61508-1-2)

Assessment Date: March 2014

Renewal Date: September 2019, valid to September 2021

Certificate: E057\_CT001 rev. 4

**ENGINEERING SAFETY CONSULTANTS LTD**  
is ISO9001-certified by Global Group, itself a  
UKAS-accredited ISO9001 certification  
body

Reg: 12Q12086

**ENGINEERING SAFETY CONSULTANTS LTD**  
Tuition House

27-37 St George's Road Wimbledon London SW19 4EU UK  
Telephone/Fax: +44 (0)20 8542 2807

E-Mail: [info@esc.uk.net](mailto:info@esc.uk.net) Web: [www.esc.uk.net](http://www.esc.uk.net)

Registered in England and Wales: 7006868

Registered Office: 27-37 St George's Road Wimbledon London SW19 4EU