



SAFE AND SECURE

Located in Stockport, Cheshire **SELLA CONTROLS** has easy access to the motorway network, mainline railways and Manchester International Airport. **SELLA CONTROLS** has custom built offices and workshops providing:

- **Consultancy** Lifecycle Services • Risk Assessment • SIL Determination
Independent Assessment (FSA) • Third Party Certification
- **Project Management** On time delivery of project • Regular customer contact
Agreed milestones to monitor progress
- **Design** Detailed Hardware Design • Software Development • Auto CAD
- **Engineering** Functional Design Specification • Software Specification
Safety Requirements Specification
- **Manufacturing** Panel Build • System Build • System Integration
- **Testing** In-house • Factory Acceptance Testing • Site Acceptance Testing
- **Commissioning** System Inspection • Support during Start-up
- **Technical Support** 24 hour call out support • Upgrade/Modifications
Maintenance (IEC 61511 life cycle) • Proof testing
- **Training** Hardware/Software Design • Maintenance and Servicing
Customised courses



Sella Controls Limited

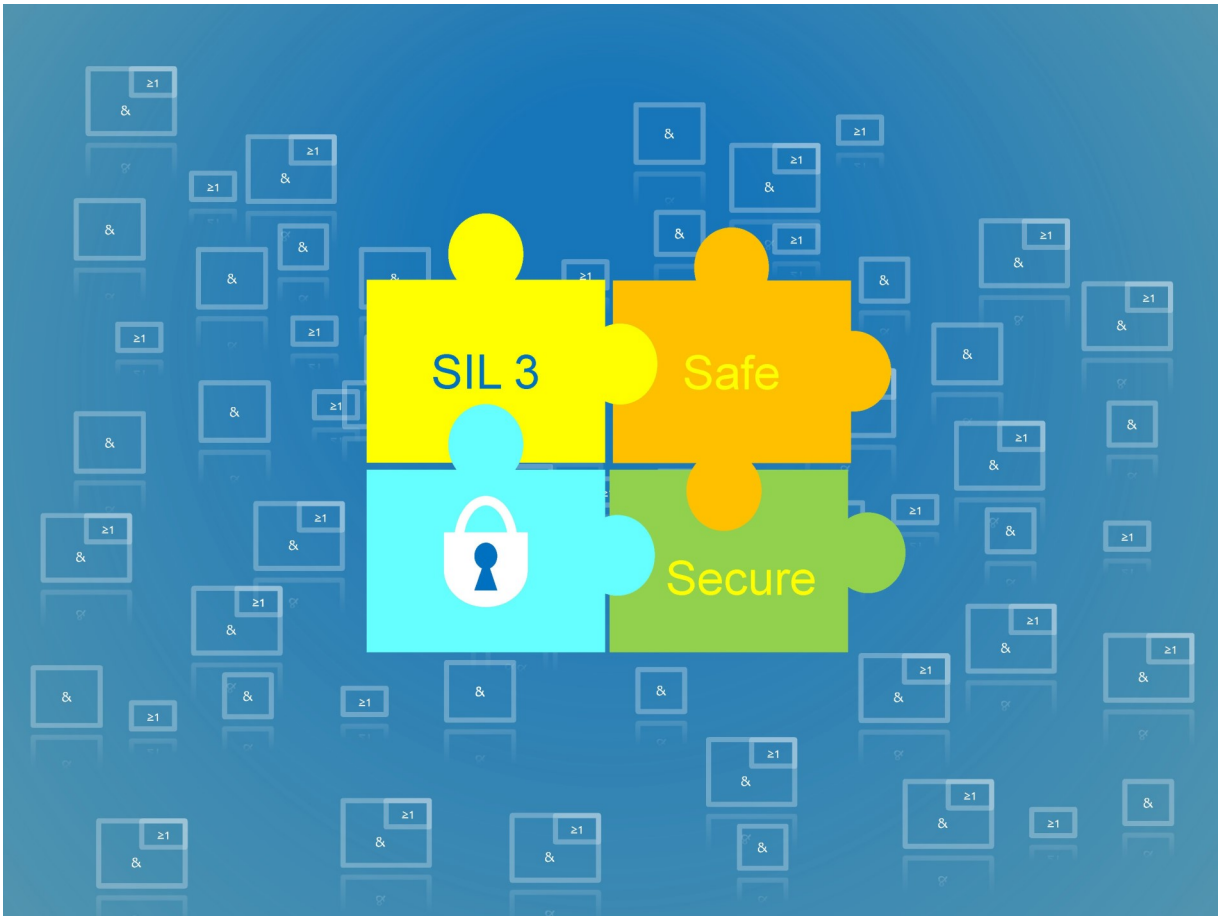
Safety Control & Automation Systems

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Innovative Technology from SELLA CONTROLS



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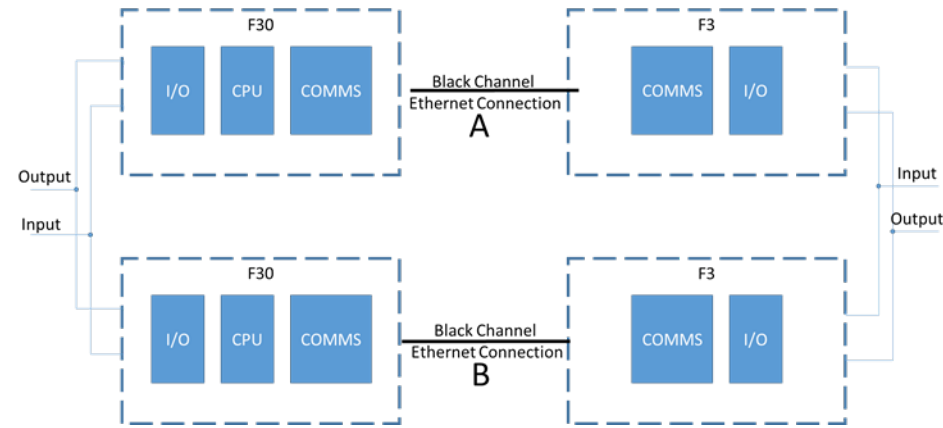
Innovative Technology



Black Channel Communications

A typical scenario when de-manning control rooms or offshore platforms is a requirement for two independent safety systems, possibly of different technologies (often on different installations) to pass safety critical signals between each other. Traditionally a cable would need to be laid. However access on some sites and offshore environments make the provision of new cabling challenging, expensive or impossible, and the only practical route is to implement the signals using existing infrastructure. **SELLA CONTROLS** can provide a unique method to connect these via 'Safety Related Telemetry Technology' (BLACK CHANNEL communications as per IEC 61508) which is both deterministic and secure. This is based on a pair of PES's capable of communicating across any media using a SIL3 certified protocol, including channels with low communications rates and high latency (Line of Sight (LOS), existing HV power cables, Fibre Optic or Copper shared networks are examples we have experienced). This can result in significant savings in both time and costs, especially in offshore or harsh environments.

Case Study 1



Recently this was used on the Culzean CPF to FSO link using LOS.

The purpose of the system is to safely transfer hardwired signals from a third party SIS installed on the Culzean CPF and the different manufacturer third party ESD system installed on the FSO. Digital outputs on the SIS system were wired to the ESD telemetry system digital inputs.



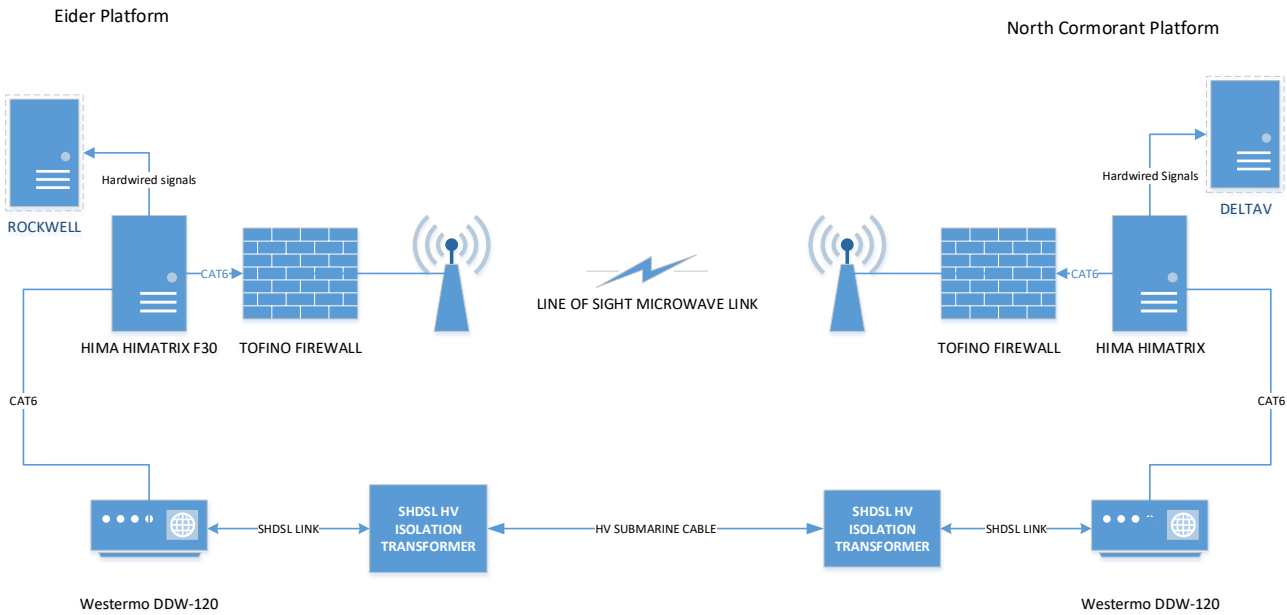
Safety Control & Automation Systems

Case Study 2

Two identical ESD telemetry systems were supplied. Each system comprised of a HIMatrix PES controller with dedicated communication ports for safety.

The signals are sent over a safety related network via a line of sight microwave link as the transmission medium. On receipt of the signals the partner ESD telemetry system then directly drives digital outputs to a third party SIS.

This solution provides a SIL 3 certified link between platforms and saves installing and maintaining a conventional dedicated hardwired link, significantly reducing costs.



The examples above show that other media can be used such as fibre or even HV submarine cable.

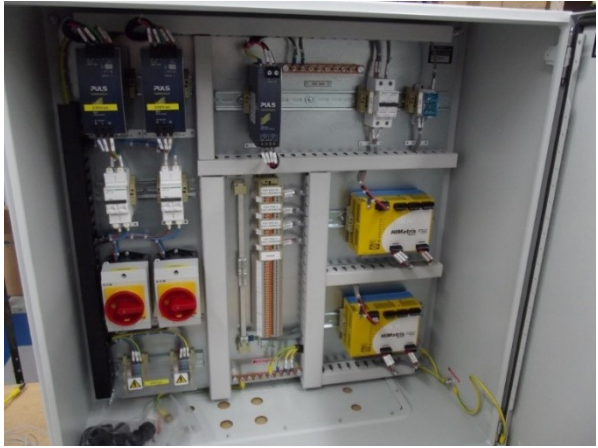
PES LOGIC SOLVERS – HIMatrix F30 & F3

The PES logic solver consisted of a redundant pair of compact HIMA HIMatrix F30 controllers which have 20 digital inputs and 8 digital outputs, linked via SafeEthernet to a pair of F3 RIO modules.

The controller incorporates a CPU card which contains two microprocessors. These microprocessors operate in a 1oo2 mode, i.e. a failure will safely shut down the individual PES but the redundant PES will maintain the link.

Failures are detected by extensive diagnostic routines, which check the integrity of the system and user memory, as well as the microprocessor and other critical hardware devices.

The F3 DIO 8/8 is a remote I/O device which provides 8 digital outputs and 8 Digital inputs. The outputs are assigned as follows: 2 digital outputs at 2A and 6 digital outputs at 0.5A.



The system I/O is configured as Duplex (two channels). That is, two I/O channels are assigned to each input and output.