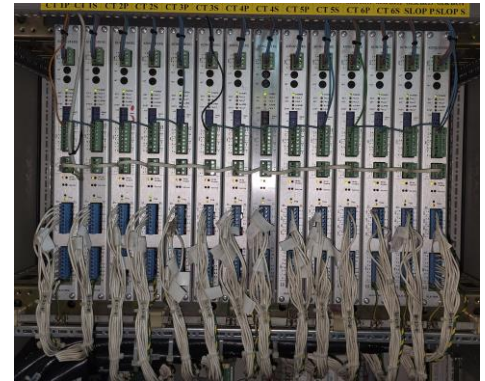




Services Cover

- ❖ Tank radar & sensor signal calibration
- ❖ Alarm & safety interlock verification
- ❖ CCR display integration
- ❖ Software configuration & I/O testing
- ❖ Class survey attendance & compliance testing



3. AMS / PMS / IAS Services

We provide full lifecycle services for all major ship automation platforms:

Alarm & Monitoring System (AMS)

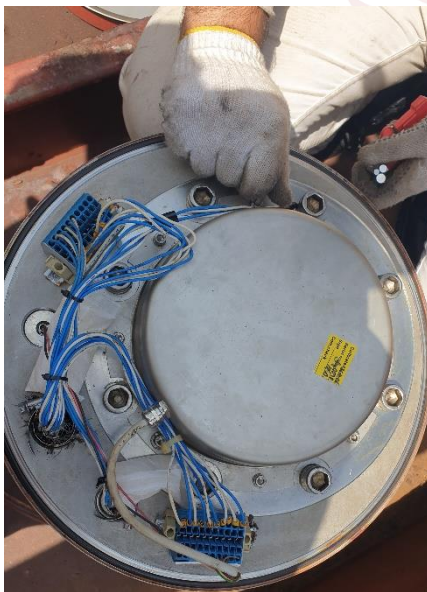
- Alarm philosophy verification
- Signal validation & alarm tuning
- Cabinet & I/O expansion
- Sensor loop testing

Power Management System (PMS)

- Generator synchronization
- Load sharing / load shedding logic
- Blackout recovery tuning
- Breaker interlock & protection testing

Integrated Automation System (IAS)

- System network integration
- CCR, ECR & Bridge display interfacing
- Database management
- Redundancy & failover testing



4. OEM System Experience – Kongsberg & Tank Radar

ALQAQNOOS Engineering has strong practical field experience in servicing, troubleshooting, commissioning, and upgrading advanced marine automation and tank gauging systems, including repeated project exposure on:

- ✓ Kongsberg Maritime – IAS, AMS, PMS, and vessel control networks
- ✓ Saab Tank Radar – Cargo & ballast tank level gauging systems

Our Practical Field Scope Includes

- ✓ AMS / IAS I/O and communication troubleshooting
- ✓ Control network fault rectification
- ✓ Tank radar transmitter replacement & loop testing
- ✓ Cargo & ballast level calibration
- ✓ Alarm point validation & safety shutdown verification
- ✓ Interface integration with CCR, PMS & loading computers
- ✓ Emergency breakdown support & live system recovery

- ✓ Executed during drydock, afloat repairs & voyage troubleshooting



5. Automation Augmentation Services

We enhance and expand existing automation systems without full replacement:

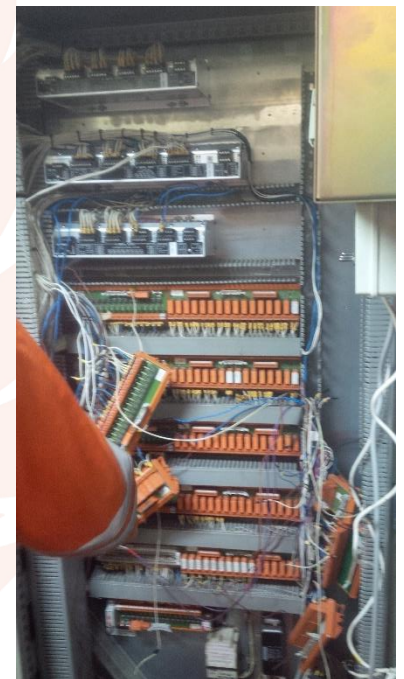
- ❖ Addition of new sensors, transmitters & I/O points
- ❖ Expansion of PLC racks & signal cabinets
- ❖ AMS & IAS alarm point augmentation
- ❖ Additional tank radar channels & interfaces
- ❖ Integration of new machinery into existing automation
- ❖ CCR, ECR & Bridge display expansion
- ✅ Cost-effective expansion
- ✅ Minimal operational disruption



6. Automation Retrofit & Modernization Services

We execute complete or partial automation upgrades for obsolete systems, including:

- ❖ Replacement of legacy PLC & IAS platforms
- ❖ Migration of AMS, PMS & Cargo Automation
- ❖ Control panel replacement & cable renewal
- ❖ Network upgrades (serial → Ethernet)
- ❖ Software re-programming & alarm logic restructuring
- ❖ Integration with Tank Radar, PMS & Loading Computers
- ❖ Full harbor & sea trial commissioning
- ✅ Eliminates obsolete spare-part risk
- ✅ Improves system reliability & cyber security
- ✅ Extends vessel operational life



7. Installation, Testing & Commissioning

We deliver full onboard automation execution:

- ❖ Power & signal cable installation
- ❖ Hardware & software configuration
- ❖ Functional & performance testing
- ❖ Sea-trial support
- ❖ Final calibration & performance verification
- ❖ Documentation & handover

8. Spare Parts & Component Supply

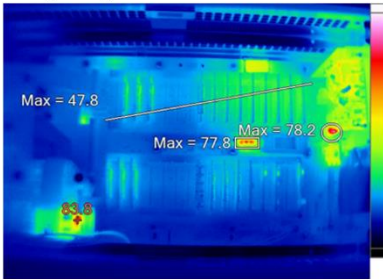
- PLCs, CPUs, I/O modules
- Sensors, transmitters & actuators
- Power supplies & communication modules
- Automation panel components
- ✅ Genuine & approved equivalent
- ✅ Fast sourcing for critical failures





Our Technical Strength

Kongsberg SSU-8810



Safety System Unit



- ✓ Certified marine automation engineers
- ✓ Multi-brand system expertise
- ✓ Advanced programming & diagnostic tools
- ✓ Onboard, drydock & offshore service capability
- ✓ Emergency breakdown response
- ✓ Long-term retrofit and modernization experience

OEM Compliance Positioning



ALQAQNOOS acts strictly as a Marine Automation Service, Integration, Augmentation & Retrofit Specialist, while:

- ✓ All original automation & tank gauging equipment remains fully supported
- ✓ We ensure correct system operation, stable logic, accurate signals, and long-term reliability

Your Trusted Partner for Marine Automation & Intelligent Vessel Control

With **ALQAQNOOS** Marine Automation Service Station, your vessel achieves:

- ✓ Safe & stable automation
- ✓ Reduced breakdown risk
- ✓ Accurate monitoring & control
- ✓ Class-compliant operation
- ✓ Long-term system reliability