BLUE LOGIC

WHO WE ARE

A highly experienced Subsea company focusing on cost efficient and environmentally friendly products and services/projects:

- We are located at Forus/Norway
- Address: Luramyrveien 29, Sandnes
 - Office, workshop and warehouse
 - Client office
- 29 employees. Strong technical experience and competency
- Our objective: Be the preferred supplier within our business segment



ONS award 2020





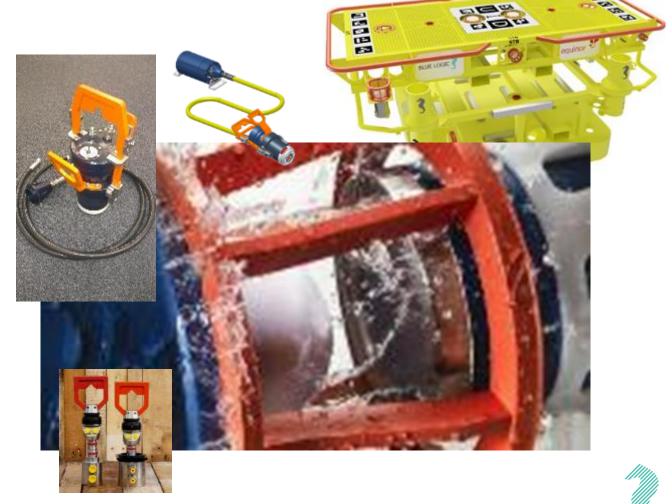
OUR DRIVERS, BLUE LOGIC PHILOSOPHY

Reduced overall cost

- Standardized approach
- Innovative high-quality products with reduced maintenance requirements
- Reduced duration for subsea operation
- Simple handling
- Creative and cost-efficient solutions
- In total reduced duration for support vessel

Environmental focus

- Reduced duration for support vessel
- No oil spill to deck or to sea
- Suppliers located locally





OUR COMPETENCY

- Engineering
 - R&D
 - Studies
 - 3D modelling
 - Detail/Fabrication engineering
 - Multidiscipline and System integration
- EPCI capability
- Knowledge to relevant standards. Involved in API
- Certification requirements
- Assembly and testing
- Hi-quality Rental products
- Service and PLM (Product Lifecycle Management)
- Standard products in stock quick delivery
- New product development



PRODUCT CATEGORY EXAMPLES,
INTERVENTION AND/OR PERMANENT INSTALLATION

1. Hydraulic Products

- Hot stabs and receptacles (Info on other slides)
- Valve stabs (Info on other slides)
- Check Valves, Relief Valves, Flow and Pressure Control
- Multi-Purpose Pipeline Penetration System

2. Mechanical Products - Intervention

- ROV Handles
- Flex Joints
- Lifting device (1000Te) Mechanical connected/released

3. Electrical Products

- Inductive Power and Communication Connector System ("Subsea USB")
- Subsea battery charging for drones and tools
- Electrical Torque Tools and Gearboxes (ISO Class 1-7)
- Electrical ROV tools





OUR HOT STABS AND RECEPTACLES

Connectors for fluid and gas

- Ø35 to Ø200 (¼" to 10") complete program
- Low to High Pressure alternatives (20K)
- Pressure, Dummy stab, and Parking receptacle
- Various sizes, 1-6 ports

Advantages:

- Check Valves included, no leakage no water ingress
- Durable and field-proven seal systems
- Stab-Lock System (Optional)









Blue Logic ValveStabTM

FOR BOTH INTERVENTION AND PERMANENT INSTALLATION

- Combining Hot Stab and Ball Valve technologies
- Full working pressure at both ends disconnected, (not limited to compensator pressure)
- Double barrier to sea
- ROV and Diver operable
- Pressure Balanced system

Advantages

- Alternative to hot stab and complex ROV panel with valves
- High flow capacity > 50 l/min
- 100% leakage free connection system.
 (If required Flushing of cavity can be added)
- No leakage in or out
- No check-valve spring force to overcome
- Easy operation and maintenance

ValveStab versus ROV panel

Since the connector has integrated ball valves in both male stab and female receptacle, conventional ROV panels with ROV valves and tubing can be omitted, thus allowing for extremely compact subsea solutions









VALVE STAB APPLICATION, EXAMPLES

Pull Head - ValveStab

Lighter, flexible and re-connectable

Auto Release

Weak Link - Emergency Quick Disconnect (EQD)



Hexa Port ValveStab with two dedicated Flushing ports for flushing of cavity before opening of Valves/hydraulic functions

Ø55/57 Hexa Port Receptacle w/flushing
Hexa Port ValveStab Receptacle with Flushing
Manifold













ELECTRICAL TORQUE TOOL (ELTT)

Electrical Torque Tool

- Exchangeable Outputs, Class 2 to 4
- Automatically switch between High and Low torque mode when initiated.
- A unique feature is the center pin in the key, reporting the absolute position.
- Accurate High and Low torque modes achieved without the need for changing the motor.

Gear Box

- Ultra compact and lightweight Torque Multiplier
- Fits into ISO standard short buckets
- 10 to 40kNm output torque
- 50kg submerged weight
- Oualified
- Gearbox for permanent installation available



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ELECTRIC TORQUE TOOL, ADVANTAGES

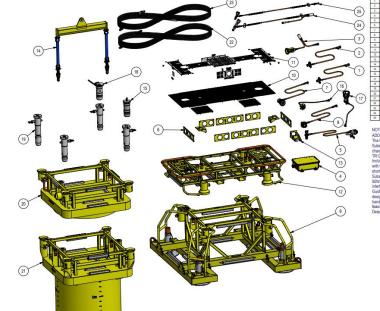
- No oil spill on deck or subsea
- No need for special hydraulic controllers
- No more on deck calibration sequence
- Full Torque Control both Static and Dynamic
- No more valve damages
- Torque diagnostic
- Logging of applied torque, trending and diagnostic
- Break Open/ Re-Seat control
- Pre-programmed multi-turn operation and sequences
- Fail-safe function auto close/open
- Full speed and torque control
- Increased availability possible to do diagnosis





Subsea Power and Communication

- Universal/Standard Docking Station for charging and communication (Stand-alone or included in structure design)
- Inductive connectors for drone (AUV) charging (2,5kW)
- Inductive connectors for data communication



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Track record

Blue Logic deliver equipment, tools, services and projects to operators and maritime industry

To date we have close to 400 customers. Our main market is the North Sea. Our plan and objective - be a preferred supplier and/or partner, worldwide

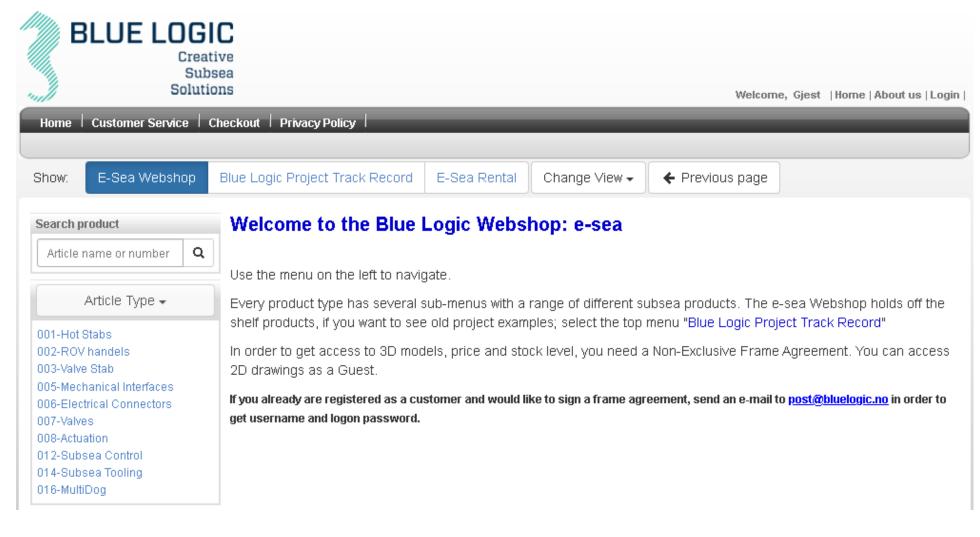
We have an extensive track record. Examples, standard product deliveries last 6 years:

- 5500 Hot stabs, various sizes. Some with client specific requirements
- 1800 Hot stabs with valves, various sizes
- 900 Valve stabs, various sizes. Some with client specific requirements

For other references; Nonstandard products, ROV tools, various electrical connectors and subsea docking stations, and project references please have a look at our Web shop: E-Sea https://e-sea.bluelogic.no/



E-Sea







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