



**PRODUCTION  
OPERATIONS  
WE KNOW  
HOW**



**Petrolink is a leading supplier of operations services to the energy industry. Through our comprehensive competence and experience we manage and support asset owners and operators in exploiting, enhancing, and protecting values.**

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Petrolink support operation of platforms, subsea installations, and floating production units offshore, oil and gas terminals onshore, refineries and process plants including hydrogen plants and carbon capture facilities. In addition, we provide services concerned with concept selection, preparation for operations, operations support, and emergency response.

Operating companies and asset owners in Norway and internationally are our main clients.

We have offices in Stavanger, Aberdeen, Doha, and Kuala Lumpur. Established in 1990, Petrolink today employs more than 20 professionals with capabilities extending from long-term strategic to daily practical activities. Our services are field oriented, client adapted and cover the full lifecycle of projects - always aiming at maximising operations performance, deliverability, and safety.

# OUR

# MISSION

## To be a leading supplier of operations services to the oil & gas industry and other energy industries

Whether it concerns development, modifications, or abandonment activities, Petrolink is ready to assist in successfully managing operations challenges. We understand operations requirements through years of experience from provision of a variety of services for plants, facilities, and equipment onshore and offshore. Our track record also includes environmental initiatives, such as facilities for carbon capture and renewables.

### **We serve a wide range of industry segments:**

- » Oil & Gas
- » Offshore
- » Subsea
- » Onshore incl. LNG
- » Renewables
- » Hydrogen technologies
- » Refineries and petrochemicals
- » Carbon capture
- » Various other segments

We enhance efficiency and reliability of operations, which in turn will reduce costs, increase

production, and make operations more predictive. We pursue high professional standards in all our work with full attention to HSEQ matters.

### **Our services are operations oriented:**

- » Accelerate time to production start-up
- » Maintain high production performance and production
- » Optimise production and improve recovery rates
- » Reduce capital and operating expenses
- » Improve safety and environmental performance
- » Stimulate collaboration between operator, contractors, suppliers, vendors and other stakeholders
- » Speed up information sharing and decision making
- » Reduce operational risk and enhance technical integrity

### **Our client base is diversified:**

- » Asset owners
- » Field operators

- » Plant operators
- » EPCI contractors
- » M&M contractors
- » National authorities

Our professionals have experience from many phases of asset management extending through the entire lifecycle of projects, i.e., from concept inception and development through operations to tail-end production and abandonment. We work closely with our clients on stand-alone basis, in integrated teams and by taking operations responsibility through outsourcing, including dutyholdership.

Petrolink is always ready to assist in maximising asset values by seeking rational, efficient, and robust solutions. Our approach is collaborative by combining client asset knowledge with our own operations experience, proven methodologies, and best practices. We work in compliance with national and international rules and regulations as well as relevant standards and guidelines.

# A LONG-TERM PARTNER

One of our strategic goals is to be a preferred and long-term partner for our clients, achieved through outstanding performance exceeding expectations

## We realise our goals by:

- » Utilising highly professional and competent personnel
- » Exercising full management commitment in all business activities
- » Pursuing a collaborative approach in relations with clients and other stakeholders
- » Conducting internal campaigns for continuous improvement

Key means to achieving our goals are use of proven work procedures including our codes of conduct.

Moreover, we pursue an inclusive business culture to encourage enthusiasm among our staff and to develop excellent client relations.

We offer attractive workplaces with challenging opportunities and exciting career options in Norway and internationally.

Petrolink provides services and solutions consistent with recognised standards, procedures, and workmanship. We integrate best industry practices and comply with mandatory and agreed HSEQ requirements.

We perform excellent activity planning and execute tasks professionally – always with strong focus on efficiency, safety, and cost/benefit.

Petrolink is certified according to the Quality System Requirements of ISO 9001:2015, the Environmental Management System of ISO 14001:2015 and the Occupational Health and Safety Management Systems of ISO 45001:2018. In addition, we are registered in the Magnet joint qualification system.





# OUR LINES OF BUSINESS

## OPERATIONS SUPPORT



Operations Readiness  
& Assurance  
Consultancy

Competence  
Assurance

Maintenance &  
Inspection  
Engineering

Personnel Assistance

## TECHNICAL SERVICES



Operations  
Documentation

Simulator Training

Process Technology

Integrated Operations

## OPERATIONS



Operations  
Management &  
Execution

Safety & Emergency  
Response Training

Process Safety & Risk  
Assessment

Digitalisation



Appraise

Select

Define

Execute

## Preparation for Operations

From strategies, technical studies, and work processes to flawless start-up

Thorough preparation for operations is essential to optimising performance, meeting production targets and complying with HSEQ requirements. Petrolink has the experience and skills to participate from project inception and development through fabrication, installation, and mechanical completion to commissioning and start-up of operations.

## Production Operations

Management, technical services, and operations assurance for any facilities

The main target for any stakeholder in exploitation of natural resources is that operations are efficient and safe. Petrolink provides the complete set of services required to establish and maintain operations strategies, organisation plans and work procedures. We are ready to participate in live facility operations including taking on full operational responsibility through dutyholder assignments.

## Operations Support

From training, personnel assistance, and documentation to maximum uptime

Operating facilities need continuous attention to maintain and improve efficiency and safety for ascertaining technical integrity at any time. Petrolink has the knowledge and resources representing the competence, experience and workmanship required for any such tasks during the entire operations phase, i.e. from start-up through operations to abandonment.



# OUR BUSINESS

## UNITS

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### Operations Readiness & Assurance

Take responsibility for safe and efficient operations through development and provision of tailor-made operations models, regulation compliant strategies and user-friendly solutions including entire production operations crews.

- » Operations Management & Execution
- » Operations Readiness & Assurance Consultancy

### Operations

Ensure efficient operations through analysis, development, and enhancement of technical integrity of installations from design through operations to tail-end production and abandonment.

- » Maintenance & Inspection Engineering
- » Process Safety & Risk Assessment
- » Process Technology
- » Operations Management & Execution
- » Personnel Assistance



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## Operations Support

**Provide support to planned and ongoing operations concerned with production plants, facilities, and systems in order to retain and enhance safety, performance and efficiency.**

- » Operations Documentation
- » Competence Assurance
- » Simulator Training
- » Safety & Emergency Response Training
- » Integrated Operations
- » Digitalisation
- » E-learning



# PETROLINK AND OUR SERVICES

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## Why Petrolink as supplier for operations services?

- » An experienced service company with diversified competence developed over 30 years
- » An operations-minded organisation with multidisciplinary technical support available
- » An adaptive work approach ready to team up with clients in integrated work models

## What are Petrolink's main focus areas?

- » Operations philosophy, strategies, and plans
- » Competence assurance and organisation  
Work processes, procedures and routines  
Cost efficiency, HSEQ and performance optimisation
- » Sharing of knowledge and best practices across operating regimes
- » Operations requirements applied across and through all organisation levels
- » Digitalisation and Digital Twins
- » Integrated operations for virtual collaboration models and practices
- » Lifecycle approach in all work
- » Resourcing of personnel with proven operations mind-set
- » Interactive management documentation and CBT development

# 01

## Operations Readiness & Assurance Consultancy

Assistance to field development, readiness for operations and modifications including optimisation campaigns for planned and ongoing operations.

We develop strategies, philosophies and plans for Preparation for Operations, Production Operations and Operations Support. Increased efficiency, reduced expenses, and improved HSEQ levels are the key drivers in our efforts to reach performance targets.

- » Operations strategies and philosophies
- » Master Plan and field development
- » (FEED/PDO) preparation assistance
- » Operational Assurance (OA) and Ready for Operations (RFO) planning
- » Organisation analyses including resource management and recruitment
- » Work process and task analyses including operations procedures
- » Opex analyses to establish operations strategy and associated costs
- » Uncertainty and risk evaluation
- » Emergency and operational recovery planning
- » Reliability, Availability and Maintenance (RAM) analyses

By combining our operations experience with our engineering capabilities, we achieve cost/benefit tuned solutions for safe and high-performance operations.

# 02

## Operations Documentation

Documentation for multiple purposes in a variety of formats and styles for office and field use.

We transform technical data and information from the early project phase to user-friendly documentation by combining field experience with technical knowledge and writing capabilities:

- » Corporate policies and handbooks
- » Project handbooks and procedures
- » Ready for Operations (RFO) handbooks
- » Interactive operations documentation and procedures
- » Emergency handbooks and procedures
- » Start-up and preservation procedures
- » Maintenance manuals and instructions
- » Inspection procedures and checklists
- » Interactive system descriptions and specifications
- » Work procedures and instructions
- » Tutorial material and training handbooks
- » Procurement and vendor documentation

Essential support information, which normally is integrated with the deliverables:

- » Process Flow Diagrams (PFDs)
- » Piping & Instrumentation Diagrams (P&IDs)
- » System topology and block diagrams
- » Single line diagrams and circuit diagrams
- » Logic diagrams and cause & effect
- » General arrangement drawings
- » Data sheets and equipment lists

Documentation may be produced in paper and electronic formats for office and field application. We also produce digital visualisation solutions and web portals for remote access and on-line updating.

# 03

## Operations Management & Execution

Management systems, execution models and operations teams for ongoing operations.

We offer flexible management models with complete production operations crews for maximising safety and production and meeting agreed production targets:

- » Insourced services to compliment client's existing operations team
- » Outsourced services to take dutyholder responsibility for operations on behalf of client

We offer quality services reflecting years of operations experience from a variety of operating regimes in Norway and internationally:

- » Full operations management
- » Complete production operations teams
- » Part-time and transition management
- » Ready for Operations (RFO) support
- » Operations and maintenance support
- » Change campaigns and management
- » Management of HSE regulatory compliance

## Competence Assurance

Training programs extending from industry familiarisation to facility specific requirements to enhance preparations, execution, and supervision of operations.

We ensure that operations personnel always have the required understanding and skills for safe and efficient operations of facilities, systems and equipment for the following typical activities:

- » Preparation for operations
- » Start-up and shut-down operations
- » Operations incl. monitoring and supervision
- » Production optimisation and fine-tuning
- » Facilitation of modification campaigns
- » Tail-end production and abandonment
- » Emergency response preparations

We train personnel to master unexpected events and emergency situations, for which attitude, competence and procedures are of fundamental importance.

Our approach is to provide more than just training by analysing actual competence requirements for every position as well as competence held by individuals. On the basis of gap analyses we provide tailor-made training programs to ensure that the necessary competence for any position and installation always is in place.

We apply various training methods, such as traditional classroom training, Organised Job Training (OJT), simulator training and e-learning. Training is conducted on client site or at our offices. We provide all training material required, which may be commercial material or generic and tailor-made material developed by ourselves.

## Simulator Training

Training of control room operators and technicians in a variety of process and utility systems by using recognised simulation tools.

Understanding and confidence about operations are efficiently strengthened through generic and plant specific simulator training. Operations personnel who have trained on realistic field situations in simulation setting will immediately recognise threatening situations, recall procedures, and take appropriate actions in the field to safeguard personnel, facilities, and other assets.

Typical training situations are:

- » System familiarisation and workflow studies
- » Verification and enhancement of operating procedures
- » Start-up and shut-down operations
- » Operations optimisation incl. troubleshooting and fine-tuning
- » Preparation for modification campaigns
- » Preparation for abandonment projects
- » Emergency response management

Simulation may be used in many contexts, such as for verification of system design, technical integrity, performance optimisation, safety, testing, training, and production monitoring. Our simulation training is primarily operations-oriented targeting control room operators, field technicians and supervisory personnel. We use simulation tools to demonstrate set-up and behaviour of process and utility systems by training on realistic scenarios while interfacing with control systems (DCS/SAS) and key support systems.

## Safety & Emergency Response Training

Training in safety and emergency response to manage unexpected events to protect and limit threats to personnel, environment, and facilities.

Our training services address the following typical subjects:

- » Basic training and drills in emergency response management
- » Emergency response training for control room operators and other personnel
- » Emergency and crisis management training for platform managers (OIMs)
- » Emergency training for any level, i.e. Line 1, 2 and 3
- » Next of kin crisis management and follow-up
- » Preparation and verification of emergency plans and organisations incl. documentation
- » Crisis psychology training for catastrophic events
- » Verification and operations support for any level of emergency response
- » Advisory and coaching services for establishment of emergency organisations

All services are provided according to national and international statutory regulations, industry standards and guidelines.

## Maintenance & Inspection Engineering

Solutions for improved operations integrity, regularity, and reduced expenses through optimised maintenance and inspection programs.

We assist in complying with key performance and production targets, such as volume, schedule, regularity, and HSEQ requirements. This is achieved by paying attention to facilities from early project phase through development to start-up and continuously during operations. Strategies and basic terms need be established at project kick-off and during the course of development be converted to practical plans for field implementation and follow-up.

- » Overall maintenance and inspection philosophies
- » Maintenance and inspection strategies
- » Failure Mode, Effects and Criticality Analysis (FMECA)
- » Reliability Centred Maintenance (RCM) analysis
- » Cost analyses (LCC and Opex)
- » Maintenance programs presented as field-friendly work packages
- » Spare part stock for start-up and operations (SPIR) management and analysis
- » Risk Based Inspection (RBI) programs

Our services are based on full recognition of client requirements, mandatory terms, and best practices.

## Process Technology

Services extending from conceptual studies and field development to operational optimisation and support of planned and ongoing activities.

Our services have an operational bias and are built on our extensive operations experience from a variety of technical systems and application areas. We provide the core of services for process and operations personnel, allowing experts to generate, verify and implement the design work for projects. We cover the complete range of activities from project inception and development through start-up and operations to tail-end production and abandonment:

- » Business case development
- » Concept and front-end studies
- » Processing and flow assurance studies
- » Debottlenecking and production optimisation studies
- » Basic Engineering, Front End Engineering Design (FEED) and detailed design support
- » Design verification & technical integrity assessment
- » Pre-operations and operations support

Our operational bias ensures high production rates with optimum regularity and throughput for any operational scenario. We use recognised methodologies and software tools in conducting our work.

## Process Safety & Risk Assessment

Ensure that facilities and systems are designed and operated according to applicable safety and performance requirements for intended operations.

Management of safety and risk needs to be fully integrated with the overall management of organisations and facilities. The approach needs be compliant, rational, and cost-effective and inviting innovative spirit for improved solutions.

Exposure to potential hazards needs to be managed so as to reduce the probability of losses through safety and risk-oriented design, operating procedures and control measures. In addition, redundancy and shut-down systems need be present to mitigate any undesired effects. Risk and safety issues need to be evaluated in a structured and calculated manner in compliance with an overall strategy.

- » Hazardous Areas Classification (HAC)
- » Barrier element design
- » Quantitative Risk Assessment (QRA)
- » Hazard & Operability Analysis (HAZOP)
- » Hazard Identification Analysis (HAZID)
- » Crisis Intervention In Offshore Production (CRIOP) analysis
- » Technical audits

Our approach is supported by gap analyses for verification of design, operations and maintenance for follow-up and rectification of findings.



## Personnel Assistance

Operations personnel for commissioning, start-up and operations to support during periods with peak workload and uncovered expertise needs.

Our resource base consists of the following typical personnel categories:

- » Control room operators
- » Process technicians
- » Instrument, electrical, automation and mechanical technicians
- » Senior operation management and production personnel
- » Chemical and laboratory services personnel
- » Mechanics and machine room operators
- » Crane operators and deck personnel
- » Safety officers

When required we supplement our own personnel resources with resources from cooperation partners and external networks.

## Integrated Operations

Enhancement of operations performance by combining technical competence and field experience through system integration, information sharing and human collaboration.

We create solutions to master challenges and opportunities better by connecting people, organisations and technologies in a well-structured manner. Thus, information is readily available across organisations and geographical sites for better decision making:

- » Operations and collaboration centres
- » Organisation set-up and work procedures
- » Operator, contractor, and vendor collaboration models
- » Cross site collaboration models
- » ICT topology and infrastructure

We improve execution of key tasks:

- » Asset management and condition monitoring
- » Information and alarm handling
- » Production optimisation and flow assurance
- » Performance solutions and services
- » Change management, implementation and training

We ensure that common objectives are met by all stakeholders extending from operations personnel to home office including vendors and contractors.

## Digitalisation

Digital solutions to continuously improve safety, sustainability, reliability, and productivity in every phase of an asset's lifecycle.

We implement digital solutions to improve project performance by integrating people, data, and processes throughout the project lifecycle. Blending asset data with a virtual representation of the physical asset will provide both spatial and situational awareness. When complex data is presented in a visual way, it is more intuitively understood.

Applying digital twin-based simulation to enhance insights and support decision making:

- » Concept development
- » MC & Commissioning
- » Training & Familiarisation
- » Inspection & Maintenance
- » Isolation & Shutdown
- » Work permits & WO
- » Visualisation & Collaboration
- » Workflow Optimisation
- » Maintenance Optimisation
- » Operations Optimisation
- » Risk Management
- » Data Management

Combining our expertise with supplement resources from cooperation partners and networks we can provide a tailored solution for each client

## E-learning and Visualisation

Solutions from interactive multimedia productions to 2D/3D drawings for E-learning, which also serves documentation, operations support, and other purposes.

We apply combinations of visualisation methods, technologies, and media to enhance communication and learning, and improve information sharing:

- » E-learning and classroom solutions through application of multiple media tools and techniques
- » Corporate identity development through design handbooks, internet services and corporate presentations
- » Sales and promotional material through development of brochures, catalogues and advertisements as well as conference and exhibition stands
- » Visualisation tools through development of 2D/3D animations, graphical design, illustrations, and CAD drawings

Years of experience from multiple clients has provided us with comprehensive knowledge about using visualisation tools. Informative and accurate solutions are obtained by combining information already in possession of clients, such as CAD models, technical drawings, and other material, with information from other sources.



# SELECTED PROJECT REFERENCES

## Provide operations support services for the Trym and Oselvar subsea fields, North Sea



Petrolink's main deliverables:

- » Operations Documentation
  - System descriptions
  - Operating procedures
  - Initial start-up procedures
- » Competence Assurance
  - Definition of competence requirements
  - Conduct of gap analyses
  - Development of training programs
- » E-learning
  - Development of Computer Based Information (CBI) modules
  - Development of Computer Based Training (CBT) modules
- » Operations Assurance & Consultancy
  - Assistance in readiness for operations
  - Preparation of capex/opex plans



## Providing operations personnel to installations and plants offshore & onshore, Norway



Petrolink's main deliverables:

- » Personnel Assistance
  - Control Room Operators
  - Process Technicians
  - Instrument, Electrical, Automation and Mechanical Technicians
  - Senior Operation Management and Production personnel
  - Chemical and Laboratory Services personnel
  - Mechanics and Machine Room Operators
  - Crane Operators and Deck Foremen
  - Roustabouts and Logistics personnel





## Providing emergency Response Training at offshore installations, Norway and internationally



Petrolink's main deliverables:

- » Safety & Emergency Response Training
  - Basic training and drills in emergency management according to statutory guidelines
  - Emergency response training for control room operators and other personnel
  - Emergency and crisis management training for platform managers (OIMs)
  - Emergency training for any level, i.e. line 1, 2 and 3
  - Courses on next of kin crisis management and follow-up
  - Preparation and verification of emergency plans and organisations incl. documentation
  - Crisis psychology training for catastrophic events
  - Verification and operations support for any level of emergency response
  - Advisory and coaching services for establishment of emergency organisations



## Supporting in extending production through the entire re-development of the Valhall field including preparation for de-commissioning, North Sea



Petrolink's main deliverables:

- » Operations Assurance and Consultancy
- » Operations Documentation
- » Competence Assurance
- » Simulator Training
- » E-learning
- » Personnel Assistance
- » Safety & Emergency Response Training
- » Operations Assurance & Consultancy
- » Maintenance & Inspection Engineering
- » Process Safety & Risk Assessment
- » Process Technology
- » Project Services
- » Integrated Operations



## Providing well services expertise to the Balder, Jotun and Ringhorne fields, North Sea



Petrolink's main deliverables:

- » Well Control & Engineering
  - Contingency planning and prevention services
  - Provision of services for "wild wells" and intervention
  - Abandonment and optimisation analyses and planning
  - Planning of well intervention for dynamic and static wells



## Providing project personnel, Norway

Petrolink's main deliverables:

- » Project Services
  - Project Managers
  - Planners
  - Cost Controllers
  - Document Controllers
  - HSE Engineers and Coordinators
  - Project Engineers, various disciplines
  - Maintenance & RCM Specialist



## Providing process technology services to enhance production on various fields

Petrolink's main deliverables:

- » Process Technology
  - Process studies for well boosting and production enhancement
  - Process studies to identify potential production enhancement concepts, and solutions to existing production problems
  - Feasibility studies regarding use of compact separation technology
  - Concept evaluations
  - Process/facilities due diligence activity, assessing the technical feasibility of several potential developments





## Supporting in operating Norway's largest combined-cycle power plant



Petrolink's main deliverables:

- » Operations Documentation
  - System descriptions
  - Operating procedures
  - Initial start-up procedures
  - Updating plant management systems
- » Competence Assurance
  - Definition of competence requirements
  - Conduct of gap analyses
  - Development of competence mapping tools
  - Conduct of training monitoring
- » Multimedia
  - Development of Computer Based Information (CBI) modules
  - Development of Computer Based Training (CBT) modules
- » Personnel Assistance
  - Start-up advisors
  - Plant operators
- » Operations Assurance & Consultancy
  - Preparation for ISO 9001 & 14001 certification



## Supporting the Goliat field development, Barents Sea



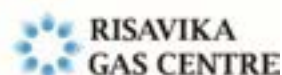
Petrolink's main deliverables:

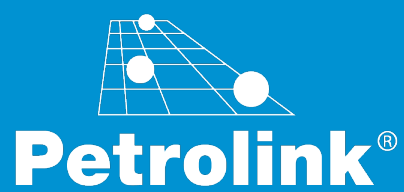
- » Operations Assurance & Consultancy
  - PDO development
  - Opex analyses and budget preparation
  - Ready for Operations (RFO) planning
  - Operations and maintenance planning
  - Management of HSE regulatory compliance
- » Operations Documentation
- » Maintenance & Inspection Engineering
- » Process Safety & Risk Assessment
  - Conduct of task analyses (HAZID)
- » Process Technology
  - FEED review & input
- » Project Services
- » Integrated Operations



## More Project References

CLIENT	ASSIGNMENT	PETROLINK'S MAIN DELIVERABLES
Equinor	Support in getting ready for operating Europe's largest LNG plant at Hammerfest, Barents Sea	Competence Assurance Simulator Training E-learning Personnel Assistance
Cansolve, Aker Clean Carbon & Risavika Gas Centre	Providing operations services to amine-based CO <sub>2</sub> removal test plants, Norway, UK, and US	Operations Documentation Competence Assurance E-learning Personnel Assistance Safety & Emergency Response Training Operations Management & Execution Operations Assurance & Consultancy Process Safety & Risk Assessment
Repsol	Providing complete Information Management Services, Norway	Management and Supervision Documentation for Operation (DFO) Project Document Control Operations Document Control Data Management Authority Liaison and Company Management System Responsibility
Repsol, Aker BP, Vår Energi, Marathon, ABB	Providing services related to Integrated Operations for various fields, North Sea	Integrated Operations
DONG	Supporting with Well Control & Contingency plans for Stine subsea field, North Sea	Operations Consultancy
Vår Energi	Providing operations personnel to onshore team for start-up of drilling campaign offshore, Norway	Personnel Assistance
Vår Energi	Providing drilling technology training for onshore personnel, Norway and internationally	Technical Training
North Energy	Providing drilling & well services expertise to Management, North Sea	Well Control & Engineering
Aker BP, ConocoPhillips, NPD, Sagex, Inoil	Providing drilling technology services to enhance production on various fields, Norway and internationally	Drilling Technology





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