

addenergy





# ADDING VALUE, ENHANCING PERFORMANCE AND INTEGRITY IN THE ENERGY SECTOR

Add Energy offers solutions and specialized consultancy services that enable operations to be safe, compliant and efficient





# ONE PROGRESSIVE ENERGY

One team with common goals and progressive thinking people that are energized to deliver

Add Energy is established in key energy regions across the globe in close proximity to our clients. We are headquartered in Norway and operate through offices located in Europe, Asia, North America and Australia.

The solutions that we deliver are supported by a unique toolbox of proprietary software and analytical tools developed in partnership with industry and academia. Our commitment to high standards and quality is demonstrated through our excellent client relationships and extensive repeat business.

### **ADD ENERGY GROUP FACTS**









# **OUR CAPABILITIES**

Integrity & Well Experts providing services and solutions to the energy industry on a global scale



### DRILLING & WELL OPERATIONS

- ▶ Well Kill Support
- Well Engineering
- Well Servicing

- Well Integrity
- ► Reservoir & Flow Simulations
- **▶** Blowout Contingency

### ASSET & INTEGRITY MANAGEMENT

- Asset Management Strategy
- ► Business Performance Insights
- ► CMMS Data Building
- ► Maintenance Optimization
- ► Materials Management
- Operations Support
- ► Safety Integrity & Risk Management
- ► Training & Competency Assurance

### SAFETY & RISK MANAGEMENT

- ► Safety & Risk Management
- ► Technical Risk
- ▶ Training





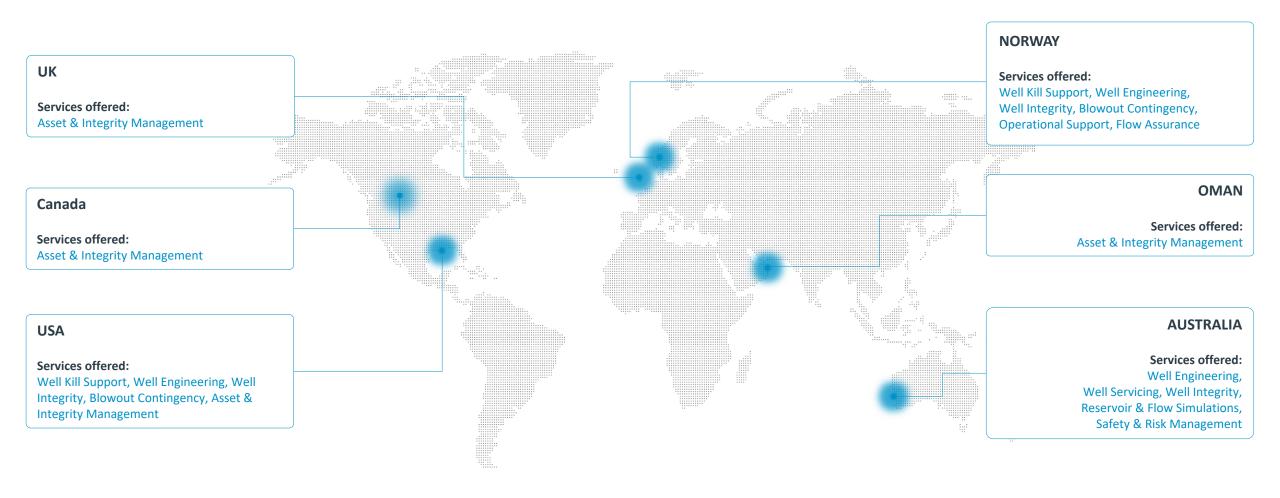






# **GLOBAL PRESENCE**

Our global presence enables sharing of experience across basins and provides distinct value to customers

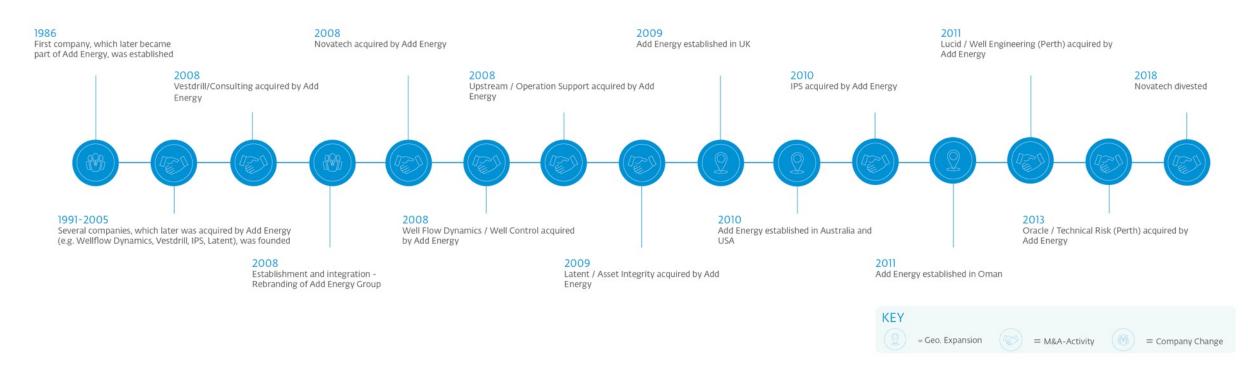








# THE ADD ENERGY STORY - TIMELINE



Add Energy Group is built on a foundation of oil service companies that each possessed specialist knowledge within their niche

Some of the companies date back to the late 1980s, effectively making Add Energy a provider of solutions to the Oil & Gas industry for over 30 years Being a high-quality provider of specialized & integrated engineering and consultancy-related solutions to the E&P industry has always been the focus







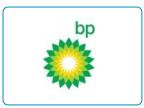
# **OUR CLIENTS – A SELECTION**





































































# **MANAGEMENT STRUCTURE**

### Corporate

Ole B. Rygg Chief Executive Officer



Harald Justnæs Chief Financial Officer



Terje Løkke-Sørensen Chief Technical Officer



### **Business Unit Management**

Eduardo Robaina Drilling & Well Australia



Morten Emilsen Well Control Oslo-Houston



Peter Adam
Asset Integrity
Aberdeen-Houston









# **DRILLING & WELL OPERATIONS**

Drilling and Well Operations offers specialized consultancy services and support from well design to operations; we aim to minimize risk, expenditure and exposure of Oil and Gas drilling operations globally.

- Well Engineering
- Well Servicing
- Well Integrity
- Reservoir and Flow Simulations

- Well Kill Support
- Blowout Contingency
- Relief Well Injection Spool (RWIS)







# WELL ENGINEERING

Alignment of well objectives with effective design solutions

We design, plan and manage all types of exploration, production, storage and disposal wells: vertical, horizontal or multi-branched; depleted or HPHT; onshore or offshore; subsea or platform; shallow or deep water; remote location and harsh environment.

### **KEY FACTS**



More subject matter experts than in well engineering

Provided expertise projects and advice in over worldwide







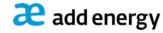
- Concept Screening, Feasibility and Field Development Studies
- Well Design
- Completion Design
- Well Test Design
- Abandonment Design
- Technical Incident Investigations
- **Advisors and Consultants**
- **Regulatory Compliance Support**











# WELL SERVICING

Nurturing of old wells for improved performance and reliability

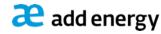
We set up and manage integrated multi skilled teams to plan, execute and close-out well intervention with wireline, slickline or coiled tubing and recompletion activities. We are responsible for the provision of technical and operational support for all well intervention related activities.

### **KEY FACTS**





- Well Service and Intervention
- Offshore Intervention Management
- Advisors and Consultants
- Audit and Investigation Support
- Equipment Testing and Preparation Support











# **WELL INTEGRITY**

Preventing uncontrolled release of underground fluids to the environment

We assess plans and activities relating to prevention and mitigation of uncontrolled flow from wells to protect life, assets and the environment.

### **KEY FACTS**



Improvement Recommendation Example:





- Well Integrity Management System
- Well Integrity Assessments
- Well Integrity Examination
- Well Integrity Investigatory
- NORSOK D-010 Well integrity –2 day course
- Advisors, Specialists and Consultants











## RESERVOIR AND FLOW SIMULATIONS

Understanding of production drives from underground to surface

We provide engineering solutions to assist with field development planning and project execution. Our goal is to provide short and long-term production optimization.

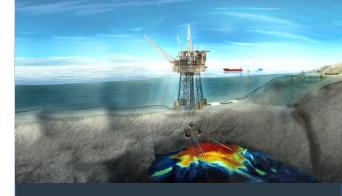
### **KEY FACTS**



Help clients to re-develop their reservoir interpretation, delivering positive production rates and tangible financial savings

Completed over **25** short and long term production optimisation flow models





- Static and Dynamic Reservoir Modeling
- Well Performance Modelling
- Production Chemistry and Fluid Characterization
- Production Optimization Flow Assurance
- Production Technology









# WELL KILL SUPPORT

Emergency expert advice during a blowout or well control incident

We deploy our expert advisory personnel on-site during blowouts and well control incidents. 24/7 services with use of our dedicated software tool; OLGA®-WELL-KILL. Our long record of successful accomplishment includes the highly profiled incidents the Montara, Macondo (Deepwater Horizon), Elgin and the Porter Ranch blowouts.

### **KEY FACTS**





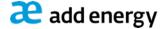
- OLGA®-WELL-KILL
- Incident Response
- Relief Well Support
- Relief Well Injection Spool (RWIS)











# PROJECT SHOWCASE: DEEPWATER HORIZON

BP's Macondo blowout in the Gulf of Mexico

### What Add Energy did:

- Add Energy had a central role in both the well kill and the investigation teams in BP's headquarter in Houston
- Add Energy specialists joined the investigation team and the engineering task force to provide dynamic analysis, simulations, planning and evaluations for the upcoming kill operation
- Performed dynamic simulations and supervised the kill operations and provided very important input to BP's investigation report

### **Results:**

 The top kill and the dynamic kill operations relied 100% on input from Add Energy's dynamic simulations and engineering evaluations



"....the Court found Mr.
Emilsen (Add Energy's
blowout specialist)
generally credible and
believes that his modeling
was accurate...."









# **BLOWOUT CONTINGENCY**

Blowout Contingency Planning and Prevention

We offers expert advice in well design and operations to limit the risk and reduce the consequence of a blowout. We perform transient multiphase flow simulations to identify and evaluate potential flow rates and kill requirements by use of our unique software, OLGA®-WELL-KILL, which is tailor-made for well control simulations. We develop detailed relief well plans, identify potential constraints and propose design solutions with details on spud locations, well trajectories, ranging (homing-in) strategies and intersection methods.

### **KEY FACTS**



Taylor-made software for well control applications. Developed in 1989 and used on more than 70 well kill operations

The RWIS on average increased kill mud injection rates by 260%

Prepared 1700 Blowout Contingency Plans



- Blowout and Well Kill Simulations
- Relief Well Planning
- Blowout Contingency Planning
- Simulations While Drilling
- Casing Magnetization
- Spill Drill Support
- BOP & Well Control Equipment Audits
- Training
- The Relief Well Injection Spool (RWIS)











# THE RELIEF WELL INJECTION SPOOL (RWIS)

### **About the RWIS:**

- Patented subsea equipment that enables operators to stop a blowout safely and efficiently via a single relief well, jointly developed by Trendsetter Engineering and Add Energy
- Removes the bottleneck caused by choke and kill lines from the surface to the seabed and enables higher kill rates
- A significant advance for the industry which utilizes multiple vessels as opposed to the alternative method requiring multiple relief wells
- Improved economics: The RWIS enables operators to optimize well economics and help unlock projects that would not otherwise comply with legislations

### **Benefits of using the RWIS:**

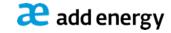
### **During Project Development**

- Complies with legislation and company policy by guaranteeing single relief well contingency
- Enables the completion size of the well bore to be increased, maximizing well flow rates
- Allows production targets to be met with fewer wells, assuring the project can be developed within budget
- Helps to build a business case for project sanction

### **During Blowout**

- Enables rapid kill of a blowing well through high rate pumping of kill fluids into a blowing well
- Improves safety of a well kill operation through a simplified solution
- Enables relocation of pumping and storage off the rig to dedicated pumping vessels
- Ensures no rig modifications are required or interference with primary well control equipment





# **ASSET & INTEGRITY MANAGEMENT**

Asset and Integrity Management offers specialized consultancy services, software and training; designed to increase safety and plant performance.

- Asset Management Strategy
- Business Performance Insights
- CMMS Data Building
- Maintenance Optimization

#### Software:

- OptiBoM<sup>TM</sup>
- Aim-Hi<sup>TM</sup>
- AssetVoice<sup>TM</sup>

- Materials Management
- Operations Support
- Safety Integrity & Risk Management
- Training & Competency Assurance





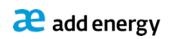
# **ASSET MANAGEMENT STRATEGY**

Creating the foundations for excellence

Unlocking efficiencies in operations through a clear and concise definition of your asset management strategy

- A realistic strategy for the execution of an optimized maintenance management regime
- A clear process for equipment "repair and spares" decisions based on risk, consequence and likelihood
- A standardised CMMS data set that is customised to your own business requirements and operations
- A robust equipment criticality selection process that will manage risk and optimize expenditure

Tapping into expert experience to identify the most logical, streamlined and efficient asset management tactics is key to creating a productive maintenance management regime





- CMMS/EAM Selection
- CMMS/EAM System Migration Strategies
- Asset and Maintenance Reference Plans
- Maintenance Philosophy Development
- CMMS Data Blueprint
- Maintenance Strategy Creation
- Repair and Sparing Philosophy/Decision Criteria Creation
- Data Governance
- Corrective and Preventive Maintenance Prioritization Strategy Development
- Equipment Criticality Assessment Process Development
- Work Management Standards and Procedures
- Operational Readiness Support
- CMMS Data Analyst Manpower
- Maintenance Consultant Strategic Advice
- RAM Analysis
- Training







## **BUSINESS PERFORMANCE INSIGHTS**

Unlocking the potential of your assets, people and CMMS

Gain actionable insights to optimize expenditure, unlock efficiencies and enhance safety

- Understand how your asset is performing compared to industry best practice
- Identify where to focus investment for the most Rate of Return (ROI)
- Roadmap improvements
- Insights for improvement and how to implement them
- Gain transparency around your costs and discover optimization opportunities

Using the data analysis tools and the experience of Add Energy's consultants enabled opportunities for improvement to be realised quickly, allowing us to understand where to focus our efforts to gain maximum ROI

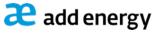


- Repair and Spares Workshops
- Operational Excellence Audits and Enhancement Programmes
- Business Performance Improvement Programmes
- Maintenance Benchmarking and Optimization Roadmaps
- Uptime Improvement Studies and Implementation Plans
- Change Management Programmes
- CMMS Data Analysis and Enrichment Plans
- Spares and Inventory Audits
- Business KPI Development and Dashboard Creation
- Root Cause Analysis
- Capital and OPEX Investment Review and Advice
- Analytics and Data Science
- Bespoke Software Solutions









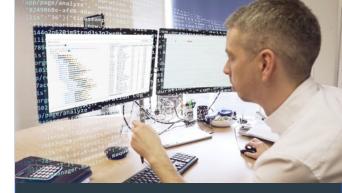
## **CMMS DATA BUILDING**

Building for maintenance excellence

Manage and implement your maintenance regime with maximum visibility and efficiency

- Assure equipment is being maintained to manage risk, likelihood and consequences associated with outage
- Increase tool time through better planning and preparation of work tasks
- Optimize maintenance application through quality data and CMMS functionality
- Avoid time wastage by having correct and reliable information at your fingertips





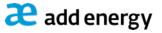
- CMMS/Maintenance Build for New Assets
- CMMS/Maintenance Rebuild for Existing Assets
- CMMS Data Cleansing and Enriching
- CMMS/EAM Data Migration
- Asset Register
   Verification (Desktop and Physical Asset
   Verifications)
- Asset Register Functional Hierarchy Optimization
- Equipment Criticality Analysis
- Equipment Classification
- Equipment
  Description
  Standardization and
  Improvement

- Maintenance Strategy Development and Localization
- Maintenance Allocation
- MaintenancePackaging, Routing and Nesting
- Critical Spares Risk Cost Analysis
- Equipment and Maintenance BoM Development
- Performance Standard Embedment into Maintenance
- Maintenance
   Scheduling and Load
   Levelling of the
   Maintenance Plan
- CMMS Data Build Consultant Manpower









# MAINTENANCE OPTIMIZATION

Rationalizing expenditure and unlocking efficiencies

Build an optimized maintenance management regime through better utilization of your people, CMMS and processes

- Reduce risk of downtime
- Rationalize your maintenance expenditure
- Assure equipment reliability
- Optimize resource utilization through an optimized maintenance schedule





- Maintenance Benchmarking and Improvement Roadmaps
- Maintenance KPI
   Development and Live
   Dashboard Creation
- Work Order
  Improvements and
  Frequency
  Optimization
- Maintenance Packaging, Routing and Nesting
- Maintenance Prioritization Process Implementation
- Maintenance Backlog Rationalization
- Maintenance Task Criticality Assignment
- Equipment Reliability Analysis and Improvement Plans

- Root Cause Analysis
  - RCM Studies
- FMECA's
- Late Life Extension
   Assessments and
   Implementation Plans
- Maintenance Management Training and Coaching
- Work Management Training and Coaching
- Expert Maintenance and CMMS Consultants -Manpower
- Supply of Ad-Hoc Technical Advisers and Subject Matter Experts









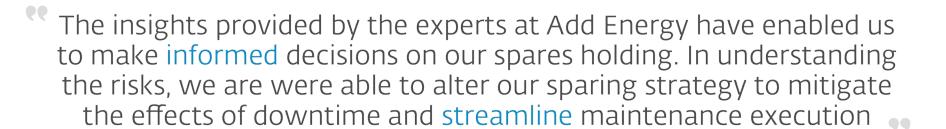


### MATERIALS MANAGEMENT

Optimizing your spares holding

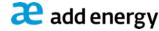
### Reduce your OPEX costs through immediate access to critical spares

- Know what you need to stock, based on risk, consequence and likelihood
- Remove capital tied up in non-critical stock holdings
- Reduce equipment downtime and maintenance expenditure, through availability of spare parts
- Understand what you have in stores, and where they are located to avoid unnecessary expenditure and time wastage





- Repair and Spares Workshops
- Repair and Spares Decision Philosophy
- Critical Spare Risk Cost Analysis and Identification of Min Max Spares Holding
- Inventory Audit, Counting and Verification
- Inventory Rationalization and Improvement Plans
- Surplus Spares Strategy Creation
- BoM Data Cleansing and Standardization
- Development of Equipment and Maintenance BoMs
- Spares Preservation Strategy Development
- Asset Labelling and Tracking
- Management of Change











# **OPERATIONS SUPPORT**

Supplementing operations with expertise

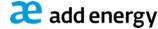
Providing expert competency and solutions to your existing operations

- Obtain ad-hoc subject matter expert support on-demand
- Identify opportunities to enhance uptime and availability
- Improve your existing processes and procedures through expert advice
- Rely on a competent team to deliver on your business goals and objectives

An independent expert provided by Add Energy, who supported us during a major shutdown, not only enhanced our capacity to adhere to the shutdown plan, but identified optimized ways of working which we have captured in our new processes and procedures



- Manpower supply of the following disciplines:
  - Maintenance
  - Process
  - Electrical
  - Mechanical
  - Instrumentation
  - moti amentation
  - Rotating Equipment
  - CMMS Specialists
  - Trainer's
  - Facilitators
  - Investigators
  - Software Engineers
- Development of Plant Operating Procedures
- Operator Simulator Training
- Document Management
- Competency Training and Improvement Plans
- Uptime Improvement Studies











# **SAFETY INTEGRITY & RISK MANAGEMENT**

Identify, manage and minimize risk

Minimizing exposure to risk and management of safety on your operating asset

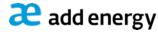
- Assure compliance with legislation
- Gain complete visibility of your risks and put actions in place to mitigate them
- Create and manage a safety culture and competence
- Enhance productivity through safety implementation measures
- Identify opportunities for improvement derived from best practice

Add Energy's wealth and breadth of experience in safety assurance and risk management provided our organisation with sustainable solutions that were compliant with legislation and our corporate requirements



- PerformanceStandardDevelopment
- Bowtie Analysis
- Benchmarking of Frameworks
- Identification of Safety Critical Equipment
- Desktop and Physical Verification of Site Equipment
- **EX Inspection**
- Development of HSEQ Management Systems
- HSEQManagementSystem Audits
- Development of Safety Cases and Formal Safety Assessment

- Risk Assessment
- Corrosion
  Inspection
  Management
  Strategy
  Development
- Assistance with Regulatory Improvement Processes
- Crisis and Emergency Management
- StrategicSecurityManagement
- Supply of Ad-hoc Technical Advisers and Subject Matter Experts











### TRAINING & COMPETENCY ASSURANCE

Achieve results through enhanced capability

Enabling asset stakeholders to rely on a competent people, using good practices to deliver efficient work

- Enhanced knowledge and skills
- Compliance to international, national, industry or company standards
- Safe, efficient and effective delivery of work

Diverse knowledge base from facilitators, interactive, good life examples, good level of discussion and good level of flexibility in discussing organizational issues



- Free initial consultation
- Design and development
  - Definition of role and position competence requirements
  - Candidate and employee assessment frameworks
  - Organization technical assessment and gap analysis
  - Ongoing individual verification and competence assurance system framework design
  - Design of structured learning modules

- Delivery (examples of past work)
  - Process safety
  - ▶ Maintenance and asset management
  - ► Maintenance work management
- Maintenance execution coaching
- ► RCM
- ▶ Operator simulator
- ► CMMS best practice and utilisation
- ► Ex inspection
- Safety leadership
- ► Manual handling
- Chemical awareness and dangerous goods
- Crisis and emergency management
- Media management and response
- ► Hostile environment











# **OUR SOFTWARE SOLUTIONS**

Asset and Integrity Management







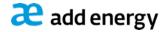
Aim-Hi™ is a cloud-based maintenance management tool that provides instantaneous intelligence around maintenance KPI's and the assets planned maintenance regime. Visual dashboards enable users to quickly identify areas of underperformance and where opportunity for optimisation, cost rationalization and resource maximization can be achieved



AssetVoice™ is an integrated software and hardware solution with capacity to monitor and track stocked and installed engineering components through their lifecycle using IoT technologies.



Find out more about our software at addenergy.no

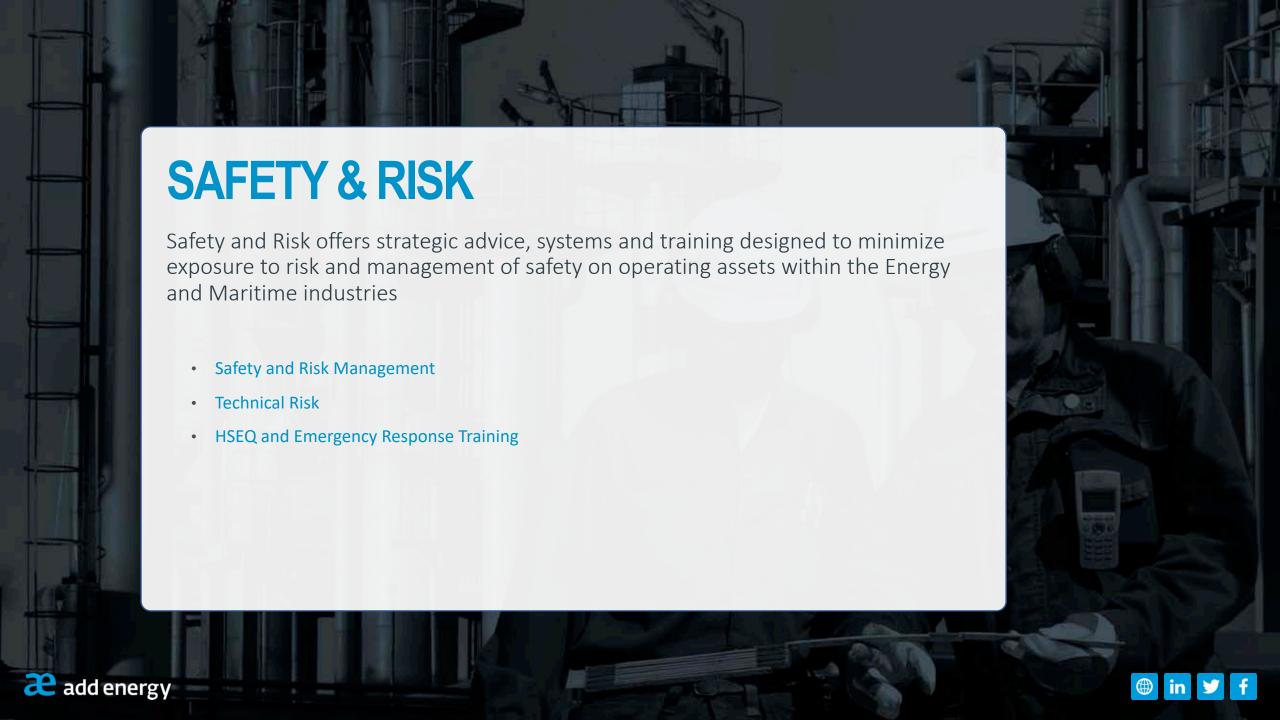












## **SAFETY & RISK MANAGEMENT**

Providing organizations with sustainable safety and risk management solutions at corporate and operational levels that are compliant with legislation and corporate requirements for the lifecycle of a project

We provide health, safety, risk and security management solutions for the lifecycle of a project – from concept to completion – to onshore, offshore, marine and major hazardous facilities worldwide.



### **KEY FACTS**

Undertaken HSEQ works scopes in over 30 countries



Assisted clients in achieving compliance with ICF (World Bank), Environmental and Social Performance Standards and management of associated risks





- Risk Management Services
- Development of HSEQ
   Management Systems & Conduct of Audits
- Assistance with Regulatory Approvals & Compliance Processes
- Workshop Facilitation
- Safety Cases and Formal Safety Assessments
- Crisis and Emergency Management
- Environmental Management
- HSEQ Training
- Strategic Security Management
- HSEQ Operational Support –
   Provision of HSE Advisors









### TECHNICAL RISK

Provides technical safety and risk consultancy services to the offshore, onshore, marine and major hazard facilities industries

We have a group of experts capable to provide technical support in areas of Safety Case validation, regulatory compliance, systems integrity and workshop facilitations including:

- Development and revision of Safety Cases for
  - -Offshore and onshore production facilities
  - -Mobile offshore drilling units
  - -Construction/installation vessels/facilities
- Facilitate workshops, including HAZID, HAZOP, ALARP, SIMOPS and other risk assessment workshops

- Process safety studies, including
  - -Fire and explosion risk assessment
  - -Escape, evacuation and rescue assessment
  - Qualitative risk analysis
- Bow-tie analysis
- Performance standards

### **KEY FACTS**



Expert workshop facilitation support to 5 of the top tier operators in Australia over the past 8 years





- Assistance with Regulatory Approvals Process
- Workshop Facilitation
- Health Risk Assessments; Pipeline Risk Assessment (to ALARP)
- Safety Integrity Level (SIL) and Layers of Protection Analysis (LOPA)
- Concept Selection and Layout Concurrent/Simultaneous Operations (CONOPS/SIMOPS)
- Project Risk Assessments (cost and schedule)
- Failure Mode, Effect and Criticality Analysis (FMECA).
- Safety Case Development and Formal Safety Assessments Studies
- Performance Standards Development
- Development of HSE Documents
- Facility Surveys and Audits
- Bowtie Diagrams









# HSEQ AND EMERGENCY RESPONSE TRAINING

Achieve HSEQ goals by enhancing competence and extending capability

Effective training of personnel is an integral and critical element of the overall HSEQ Policy of organizations and is also essential for the safe management and operation of any service or operations.

We offer training programs that are tailored to address our client's specific requirements across a range of core topics and individual disciplines.

### **KEY FACTS**



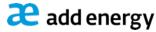
Subject Matter Expert Trainers with over **150 years** experience

100% Assurance that all personnel are qualified and competent to manage work and comply with legislation





- ► HSEQ and IMS Programs
- Safety Leadership & Mentoring
- Project Specific Induction,
  Regulatory Compliance,
  Environmental Awareness, PTW,
  Manual Handling, Confined Space
  Entry
- Crisis & Emergency Management (CEM) Programs for Management & Response Teams
- Scenario Training, ER Exercises, Response Drills, CEM Training Workshops
- Media Management
- Relative/ NOK Response, HR Support Programs
- Security Orientated Training Programs











# **GET IN TOUCH**

For more information on any of our services please contact the relevant location that offers the service you require



**STAVANGER, NORWAY** (HEAD OFFICE)

Phone: +47 66 98 32 90

**Services offered:** 

add energy

Well Integrity, Operational Support



**OSLO, NORWAY** 

Phone: +47 66 98 32 90

Services offered: Well Kill Support, Well Engineering, Well Integrity, Blowout Contingency



ABERDEEN, UK

Phone: +44(0)1224 645 999

**Services offered:**Asset & Integrity Management



HOUSTON, USA

Phone: +1 832

Services offered:
Well Kill Support, Well
Management, Well Engineering,
Well Integrity, Blowout
Contingency, Asset & Integrity
Management



**OMAN, MUSCAT** 

Phone: +968 24 215 012

Services offered:
Asset & Integrity Management



**MYANMAR, YANGON** 

Phone: +95 9 511 4504

Services offered: Well Management



#### **SINGAPORE**

Phone: +65 6908 1683

Services offered: Well Management, Well Engineering



#### PERTH, AUSTRALIA

Phone: +61 8 9322 1180

Services offered:
Well Management, Well
Engineering, Well Servicing, Well
Integrity, Reservoir & Flow
Simulations, Safety and Risk



#### CALGARY, CANADA

Phone: +(403) 538-2641

Services offered:
Asset & Integrity Management







# THANK YOU

For all the latest updates and news on Add Energy please view our website and social media channels



**WEBSITE** 

ADDENERGY.NO



**TWITTER** 

@ADD\_ENERGY



LINKEDIN

**ADDENERGY** 



**FACEBOOK** 

**#ADDENERGYGROUP** 





addenergy



