

# Building Solutions for the Energy Industry



**Tim Crome**, Director Sales and Business Development, Technip Norway

Pipeline Repair System (PRS) Facility, Haugesund, June 12, 2012

**Technip**  
*take it further.*



## Safe Harbor

*This presentation contains both historical and forward-looking statements. These forward-looking statements are not based on historical facts, but rather reflect our current expectations concerning future results and events and generally may be identified by the use of forward-looking words such as “believe”, “aim”, “expect”, “anticipate”, “intend”, “foresee”, “likely”, “should”, “planned”, “may”, “estimates”, “potential” or other similar words. Similarly, statements that describe our objectives, plans or goals are or may be forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to differ materially from the anticipated results, performance or achievements expressed or implied by these forward-looking statements. Risks that could cause actual results to differ materially from the results anticipated in the forward-looking statements include, among other things: our ability to successfully continue to originate and execute large services contracts, and construction and project risks generally; the level of production-related capital expenditure in the oil and gas industry as well as other industries; currency fluctuations; interest rate fluctuations; raw material, especially steel as well as maritime freight price fluctuations; the timing of development of energy resources; armed conflict or political instability in the Arabian-Persian Gulf, Africa or other regions; the strength of competition; control of costs and expenses; the reduced availability of government-sponsored export financing; losses in one or more of our large contracts; U.S. legislation relating to investments in Iran or elsewhere where we seek to do business; changes in tax legislation, rules, regulation or enforcement; intensified price pressure by our competitors; severe weather conditions; our ability to successfully keep pace with technology changes; our ability to attract and retain qualified personnel; the evolution, interpretation and uniform application and enforcement of International Financial Reporting Standards, IFRS, according to which we prepare our financial statements as of January 1, 2005; political and social stability in developing countries; competition; supply chain bottlenecks; the ability of our subcontractors to attract skilled labor; the fact that our operations may cause the discharge of hazardous substances, leading to significant environmental remediation costs; our ability to manage and mitigate logistical challenges due to underdeveloped infrastructure in some countries where we are performing projects.*

*Some of these risk factors are set forth and discussed in more detail in our Annual Report. Should one of these known or unknown risks materialize, or should our underlying assumptions prove incorrect, our future results could be adversely affected, causing these results to differ materially from those expressed in our forward-looking statements. These factors are not necessarily all of the important factors that could cause our actual results to differ materially from those expressed in any of our forward-looking statements. Other unknown or unpredictable factors also could have material adverse effects on our future results. The forward-looking statements included in this release are made only as of the date of this release. We cannot assure you that projected results or events will be achieved. We do not intend, and do not assume any obligation to update any industry information or forward looking information set forth in this release to reflect subsequent events or circumstances.*

\*\*\*\*

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*References to Stone & Webster processing technologies and associated Oil & Gas engineering capabilities are subject to the closing of the acquisition announced on May 21, 2012.*



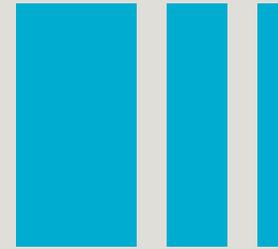
**Technip**



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# 1. Safety Briefing





**Technip**

The Technip logo is displayed in a white box with a red underline. The background of the entire image is a photograph of a large group of workers in red and orange safety gear, wearing hard hats, gathered on a platform next to a large red industrial structure. Some workers are wearing white hard hats and high-visibility jackets. A yellow sign on the red structure reads 'COLOUR CODE' and '211 AT 08'.

**TEAM  
TECHNIP**



## Technip: Strong commitment to HSE

**“I want Technip to become the reference company in Health, Safety, and the Environment.”**

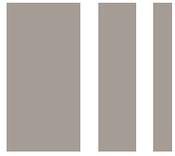


**Thierry Pilenko  
Chairman Technip Group  
PULSE event Aberdeen June 2008**



# Killingøy Island

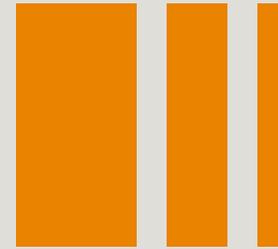




## **Safety Briefing**

- **Observe the closest emergency exits**
- **Ask your guide to show you the muster point**
- **Stay with your group**
- **No fire drill planned for today**
- **Mandatory Personal Protection Equipment will be issued at the start of the tour**

## 2. Technip in Norway



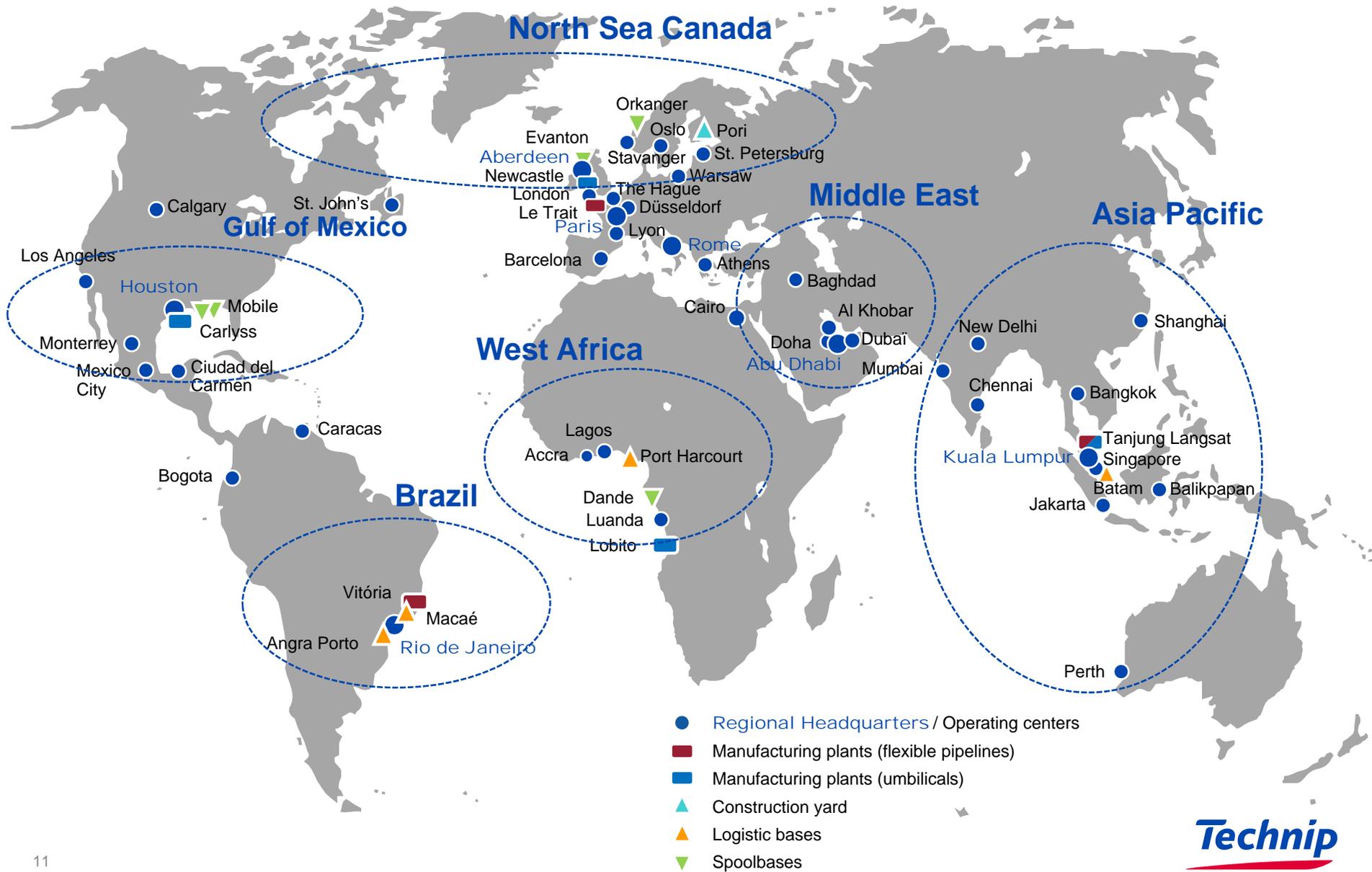
# Technip: A World Leader Bringing Innovative Solutions to the Energy Industry

- A world leader in project management, engineering and construction for oil & gas, chemicals and energy companies
- Revenues driven by services provided to clients Onshore/Offshore and Subsea
- Around 30,000 people in 48 countries
- 2011 Revenues: €6.8 billion; 2011 Operating margin<sup>1</sup> above 10% for the 3<sup>rd</sup> year



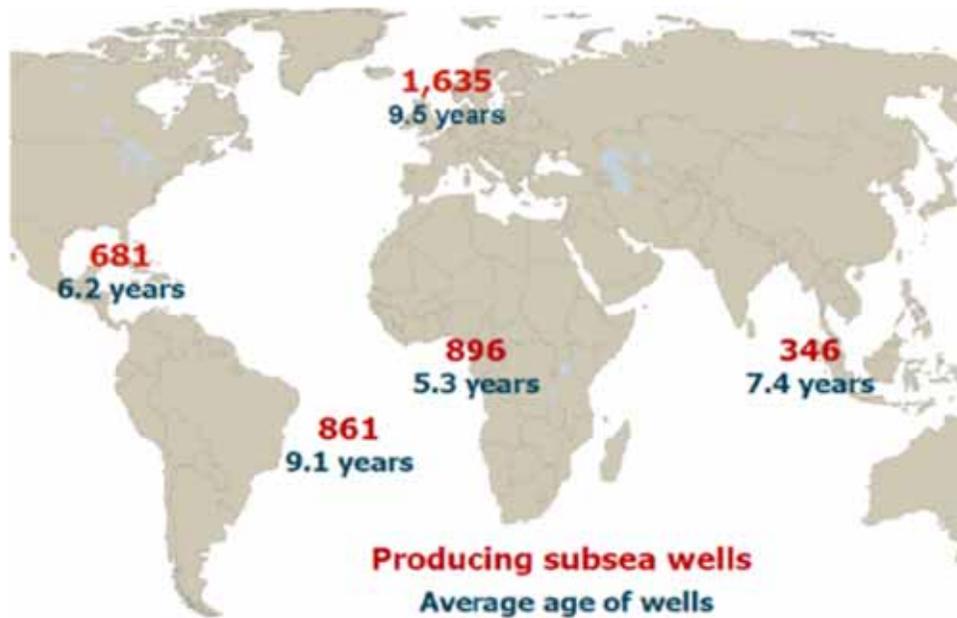
<sup>1</sup> from recurring activities

# A Unique Worldwide Footprint

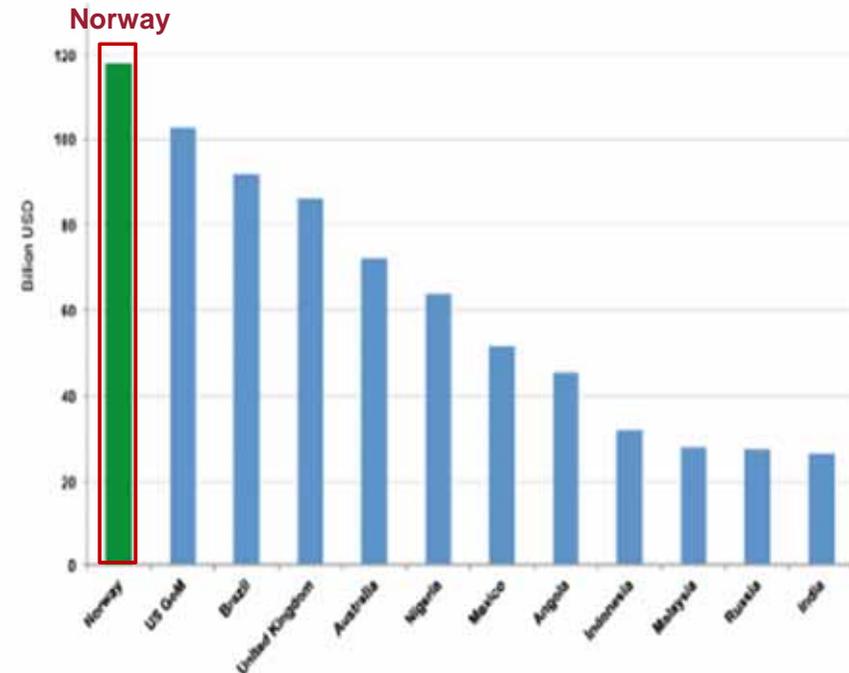


# North Sea: A Large Subsea Market

## Number of Producing Subsea Wells



## Offshore Expenditure Projection 2011 - 2014



- North Sea accounts for ~40% of world's installed base of producing subsea wells
- Norway expected to see the strongest offshore spending



## Over 25 Years Presence in Norway

- **Operating in Norway since 1985**
- **~ 500 people**
- **Providing leading Subsea & Offshore solutions:**
  - Engineering, Procurement, Construction & Installation (EPCI)
  - Tie-backs
  - Subsea construction
  - Flexible riser & Flowline supply
  - IRM\* & Diving
  - PRS\*\*
  - Offshore platforms

\* IRM: Inspection, Repair & Maintenance

\*\* PRS: Pipeline Repair System

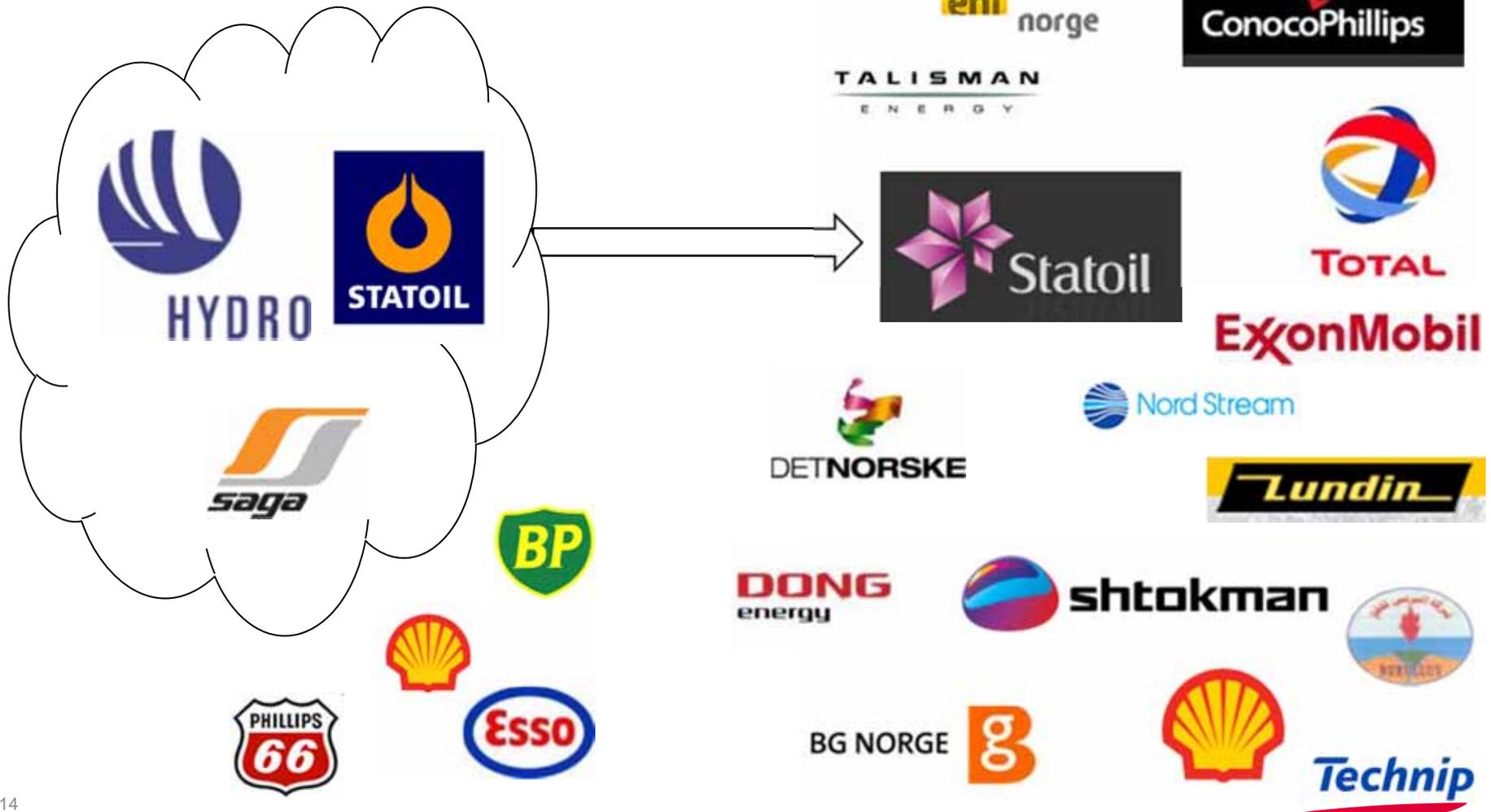


**Technip**

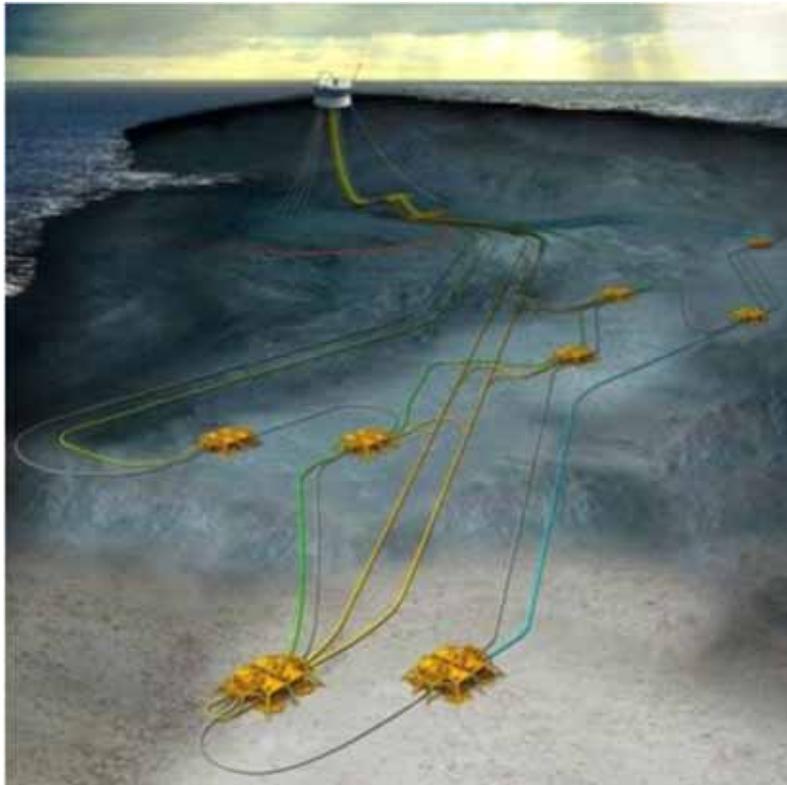
# Ever Increasing Norwegian Client Base

▪ A few years back

▪ Today



## EPCI Project: Goliat SURF for ENI



- First Norwegian oil field development north of the Arctic Circle
- Specialized vessels from Technip fleet will provide quick access to this remote area in the Barents Sea, including the diving & construction vessel Skandi Arctic and Apache II
- Reinforces Technip position in this frontier region

# Investment in Key Differentiating Assets

Apache II



- Rigid reel-lay vessel
- Proven equipment on new hull and accommodations
- Increased efficiency at low cost

Deep Energy



- Deepwater rigid reel-lay vessel
- High transit speed for rapid deployment worldwide
- Exceptional product storage capacities
- Key asset for large remote EPCI projects

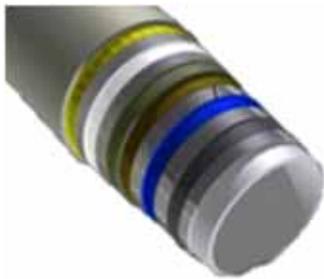
Orkanger



- Facilities upgrade ongoing
- Preparation for operations with Apache II and Deep Energy
- Dual spooling and extra pipe length
- Increased size and weight of pipe

# Providing Innovative Solutions for Offshore & Subsea Developments

## Smooth Bore Riser



- Solution to improve flow assurance on export risers
- 1<sup>st</sup> smooth bore for gas export riser: Asgard, Norway

## Spars



- Solution for harsh waters
- 14 delivered out of 17, plus 1 under construction and 2 ongoing design studies

## Carbon Fiber Armor Flexible Pipe



- Reduction of deepwater riser weight
- Reduce pipelay vessel requirements

## Integrated Production Bundle

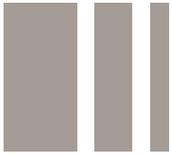


- Improve flow assurance: multi-services and intelligent flexible pipe
- Combines gas lift, electrical cables, electrical heating, fiber optic monitoring and chemical injection services in one pipe

## Electrically Trace Heated Pipe-in-pipe



- Active insulation improving tie-backs flow assurance
- Energy effective design and cost effective installation



# Solid Project Execution

## ▪ Marulk

- Heaviest pipe-in-pipe (12" in 16") installed in North Sea Tieback to Njord



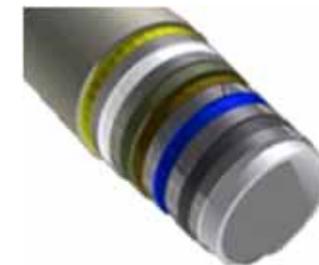
## ▪ Hyperbaric welding<sup>1</sup>

- Hyperbaric welding of two tie-ins on the North Stream pipeline (48")



## ▪ Gjøa

- Gas export riser replacements with smooth bore risers to prevent flow induced vibrations



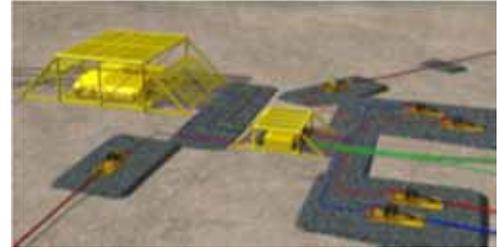
<sup>1</sup> Performed underwater at the seabed



# Continuous Commercial Success

- **Åsgard Subsea compression marine operations**

- Subsea construction work for compression system
- Field support contract option



- **2-year extension of Statoil frame agreement for Subsea services**

- Diving, pipeline repair, contingency and modification services

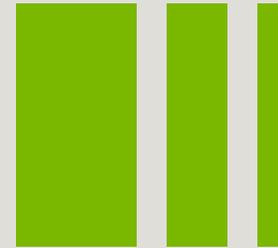


- **Luva Spar FEED**

- Design and planning for procurement, construction and transportation of Luva Spar

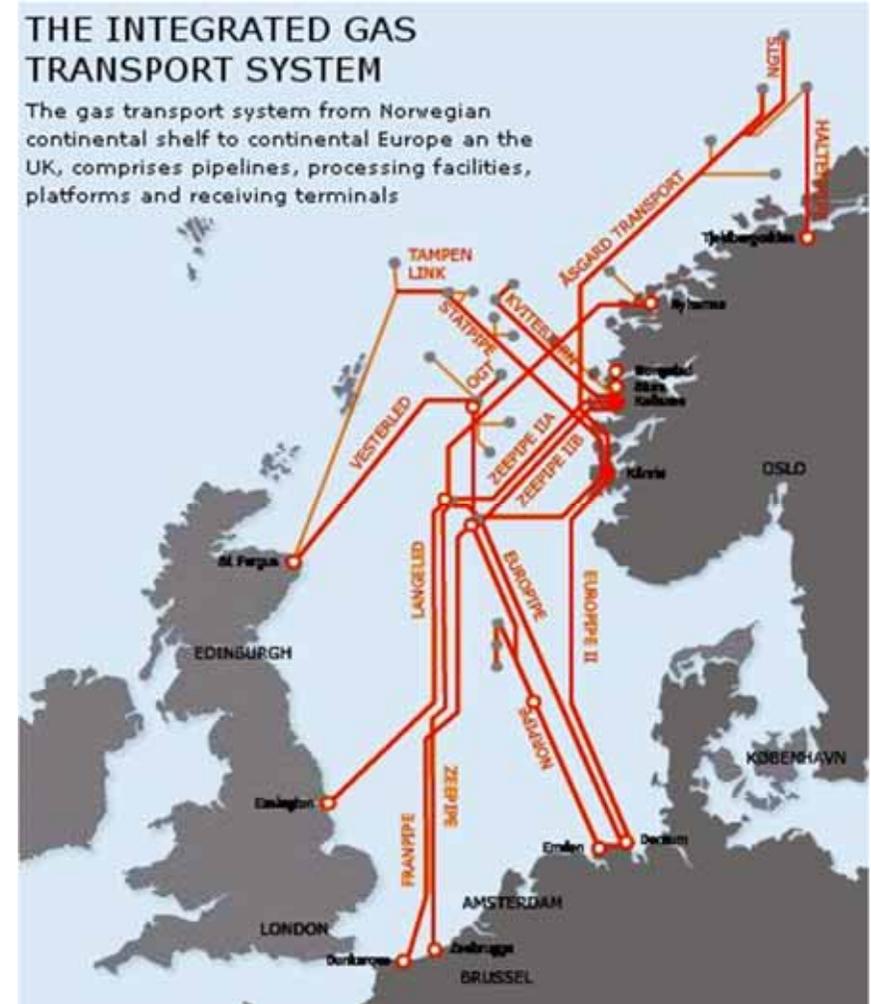
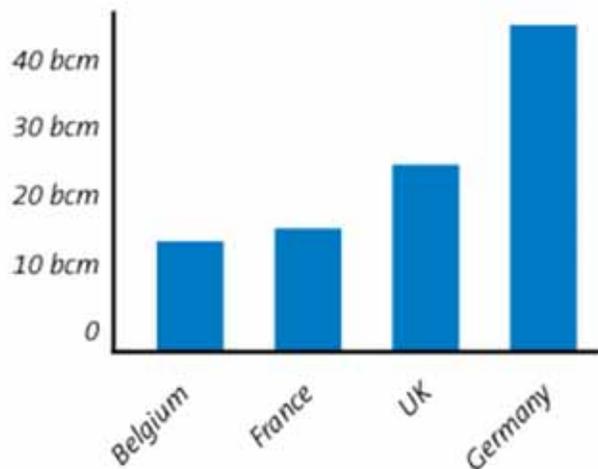


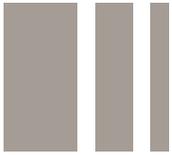
### 3. Today's Visit: Pipeline Repair System (PRS) Facility



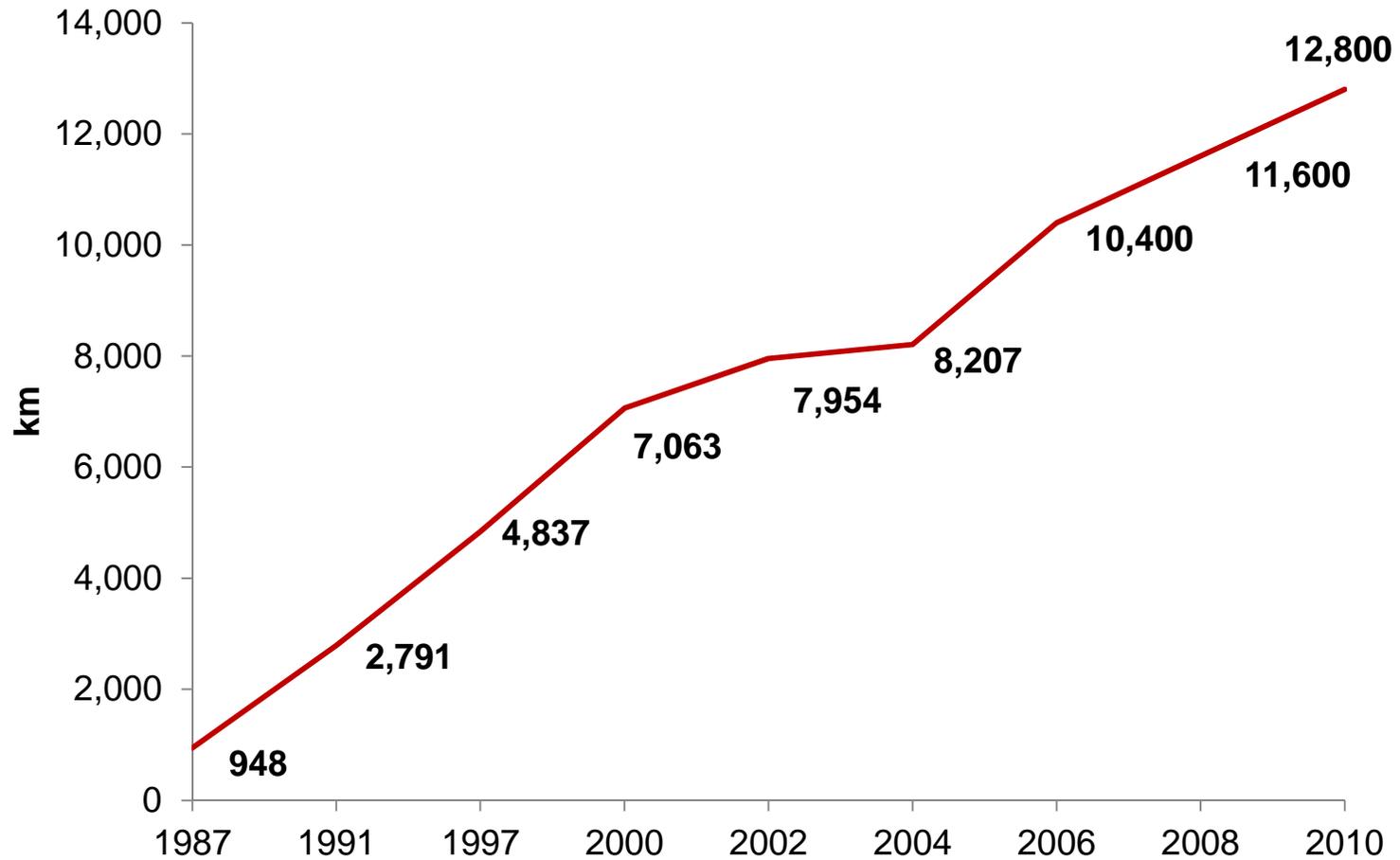
# Norwegian Gas Exports: An Important Supply for European Countries

- Gassco is responsible for transporting the gas to Europe
- Total volume of gas delivered was ~97 billion cm<sup>3</sup> in 2009 (a value of ~US\$15 billion)





## Pipeline Length Covered by PRS



\* North Stream pipeline (~2,450km) in Baltic Sea recently joined PRS

## PRS Function

- Rapid response for pipeline repair
- Ensure regularity of gas supplies
- Founded in 1987
- Unique pool of emergency repair equipment
  - Equipment varies with pipe size and water depth
- Owned by a group of NCS oil & gas pipeline owners: >14,000km pipeline
- Statoil has administrative responsibility



## Technip and PRS

- Technip awarded PRS contract in January 1, 2007
- Very close interface with exclusive Diving Contingency Frame Agreement
- Worlds leading center for the development of remote subsea pipeline construction and repair equipment
- Involvement in technology development, applicable worldwide



# PRS Equipment

## Retro-fit Tee Installation Tool / Retrofit-Tee (RTIT / RT)



RTIT on deck



RTIT overboarding



Pictures from Åsgard DWT2

# PRS Equipment

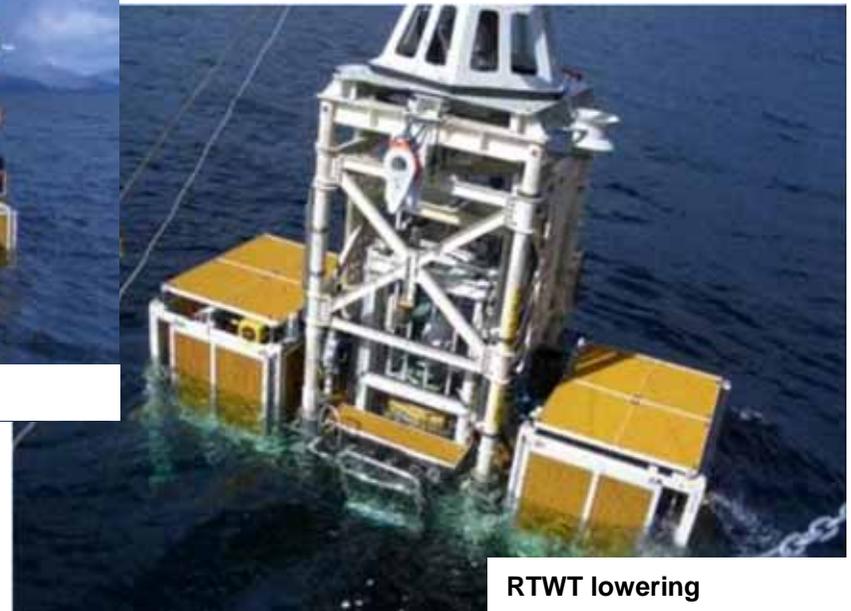
## Retro-fit Tee Welding Tool (RTWT)



RTWT overboarding

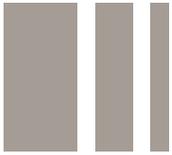


RTWT launching



RTWT lowering

Pictures from Åsgard DWT2



# PRS Equipment

## RTWT Welding and Result

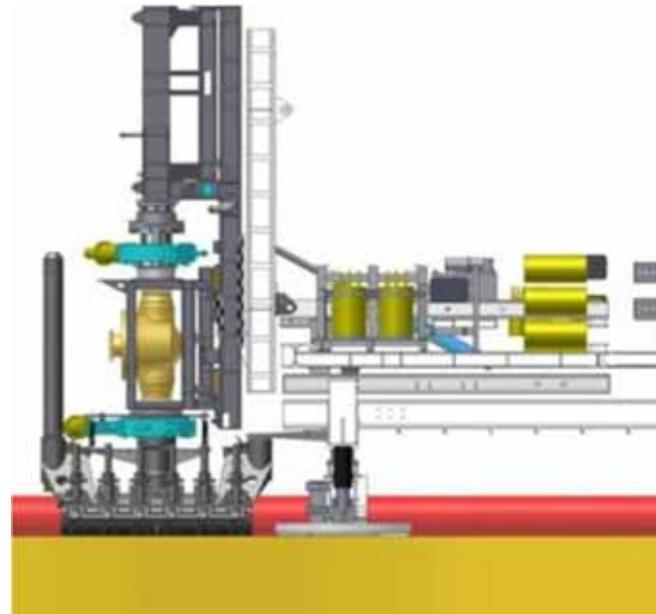


# PRS Equipment

## Hot Tapping using HTCM and PIF



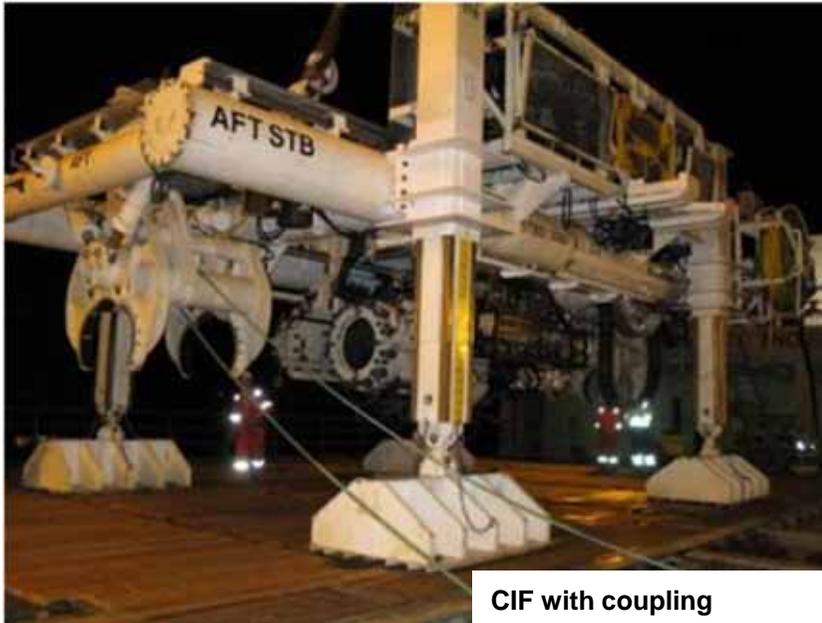
Hot tap cutter with PIF



Hot tap cutter proven on Tampen and Ormen Lange project

# PRS Equipment

## Coupling Installation Frame (CIF) with Morgrip coupling



CIF with coupling



CIF overboarding

Pictures for Kvitebjørn offshore operations

## PRS Equipment

- Development of hyperbaric welding laboratory at PRS base; 400 bar pressure chamber equivalent for 4000 msw deep



JIP with Chevron & BP for development of welding procedure for 400 bar

# Further Development: Remote PRS Welding System for 1km Below The Sea Surface

- PRS welding system for use beyond diver depth: Remote Orbital Welding Tool (ROWT)
- Handling systems for ROWT
- Remote hot tap tee installation and welding tools
- Operational test scheduled for late Autumn 2012



# PRS Equipment (currently on Nord Stream)

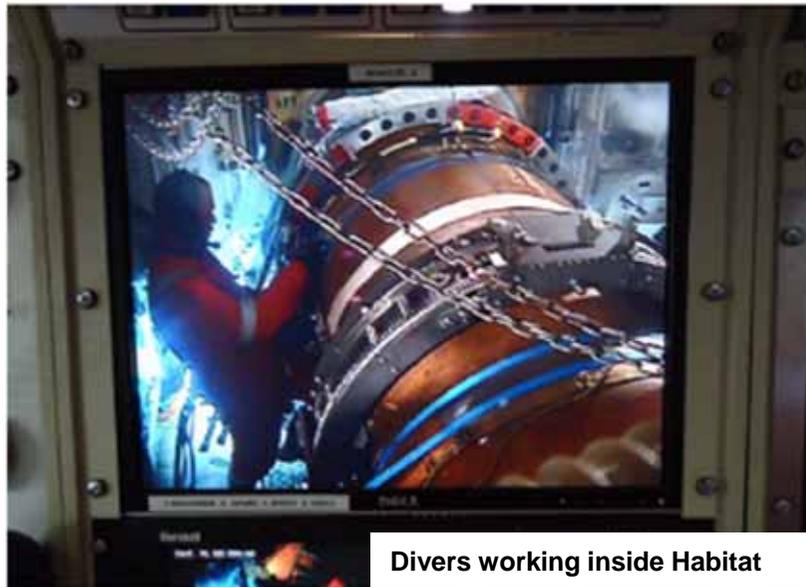
## Hyperbaric Tie-in



- System upgraded to handle 48" Nord Stream Pipeline
- Currently in use in the Baltic Sea

# PRS Equipment (currently on Nord Stream)

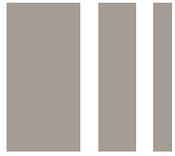
## Hyperbaric Tie-in



Divers working inside Habitat

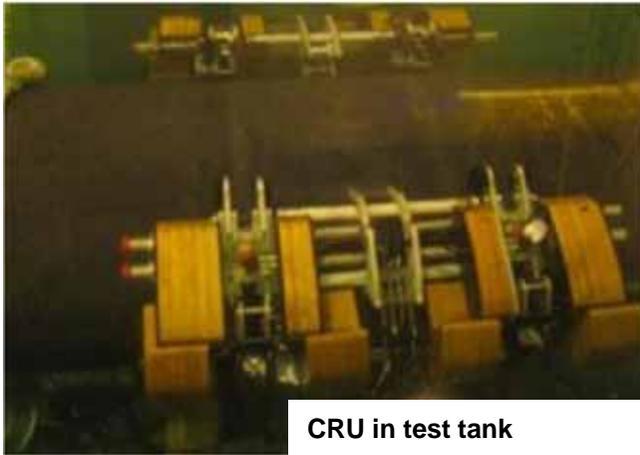


Final Weld Nord Stream 2011



# PRS Equipment

## Coating Removal



Equipment recently used on Åsgard 20" pipeline

# PRS Equipment (currently on Nord Stream)

## H-Frames / Pipe Alignment Frames



- H-frames no. 3 & 4, capacity 120Te
- H-frame no.7, capacity 170Te
- Currently in use on Nord Stream



## Key Takeaways

- Over 25 years experience in Norway
- State-of-the-art assets servicing Norwegian market
- Increase in size and complexity of projects plus more use of EPCI Contracts
- Technip in Norway has unique track record with EPCI execution
- High added-value differentiating technologies
- Strong commitment to HSE



**Technip**

# Personal Protective Equipment

## Standard Requirements

The following personal protective equipment (PPE) is mandatory and shall be used in all indoor and outdoor operational areas<sup>1</sup> at the PRS site.

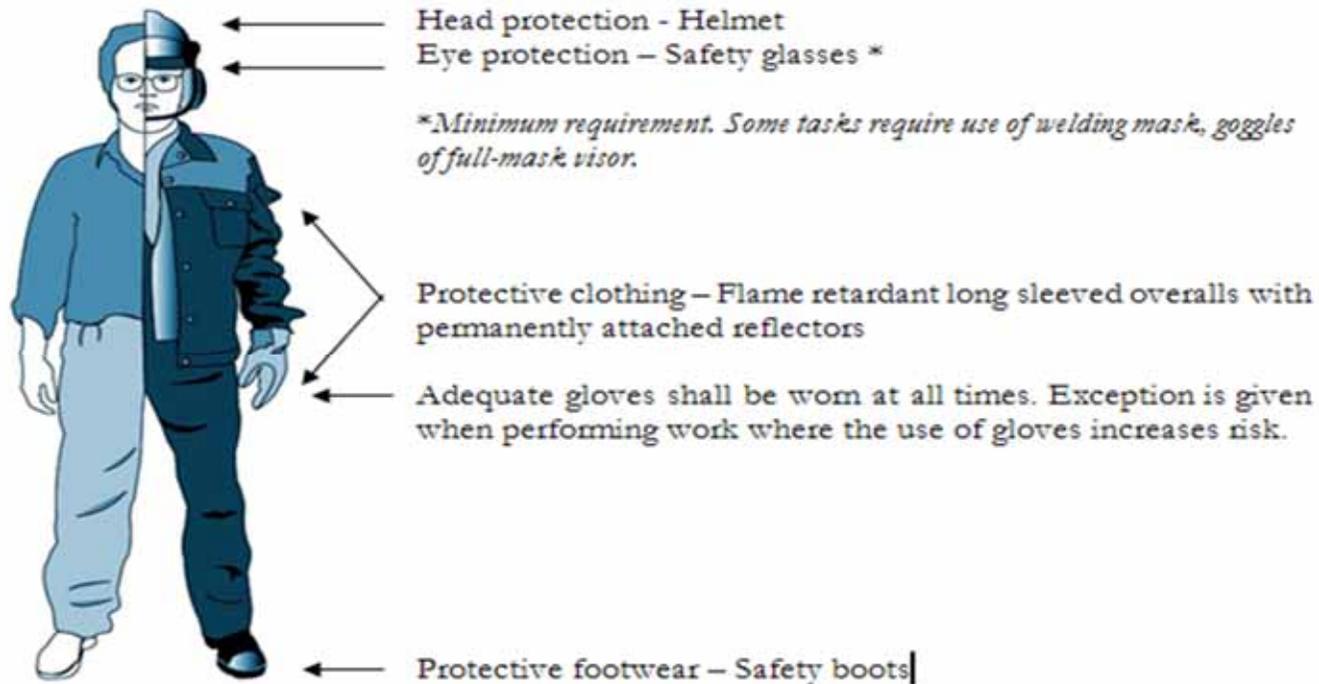


Figure 4: PPE

Any exceptions to these requirements are posted on signs or described in separate instructions.

**Thank you**

