

The KMB project (Petromaks)

DEEPIT (Deep Water Repair Welding and Hot Tapping)

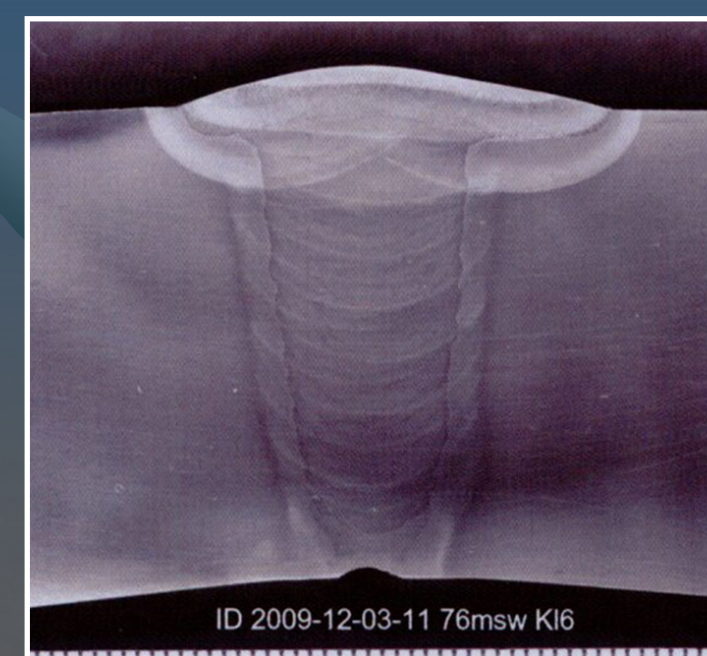
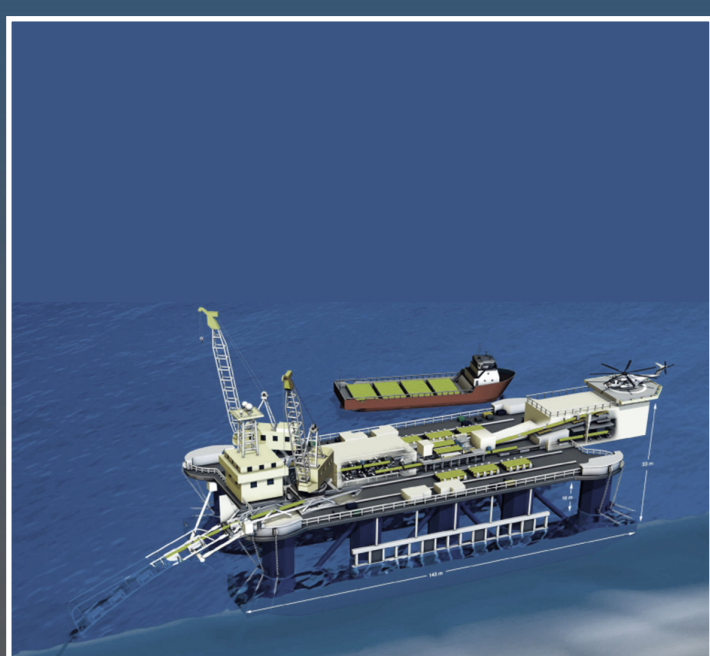
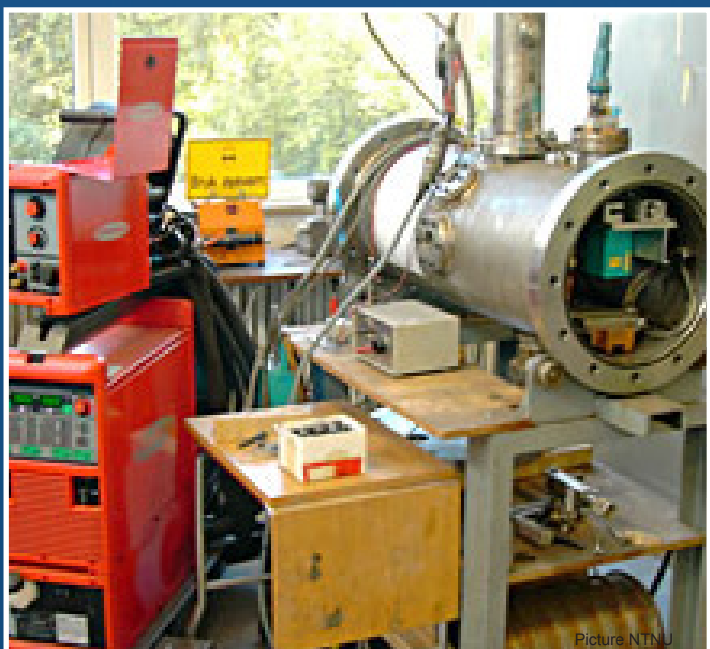
Steel pipelines represent today the most important infrastructure for transport of oil and gas to onshore facilities in Norway and Europe. The recent trend is that oil and gas exploration is moving to deeper waters where diver assisted operations will not be used. This means that fully automatic remotely controlled welding equipment must be developed.

In order to establish basic knowledge for such future operations, the present DEEPIT project is important. Moreover, the DEEPIT project also focus on education of new specialists (MSc and PhD levels) for future recruitment.

Research Tasks

The project consists of 5 different tasks:

1. Study of welding process at deep waters (high chamber pressure)
2. Requirements and possibilities for heating (including preheating)
3. Weld modeling (heat flow, phase transformations, residual stresses)
4. Modelling of hydrogen diffusion during welding
5. Structural integrity and acceptance criteria (FE models for cold cracking susceptibility and structural integrity)
6. PhD studies



Partners

The following partners are involved:

- Institute for Energy Technology (IFE)
- Norwegian University of Science and Technology (NTNU)
- Statoil
- Gassco
- Technip
- EFD Induction
- SINTEF Materials and chemistry (project management)
- Research Council of Norway



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