



SUBSEA ENGINEERING FOR A SUSTAINABLE TOMORROW

Integrated engineering solutions from concept to end of life
and beyond. Safe. Reliable. Cost Effective.

FROM
CONCEPT
to
LIFE EXTENSION

> Concept > FEED > Detailed Design > Construction Support > Operations > Life Extension >

DEEPER
SAFER
SMARTER
GREENER



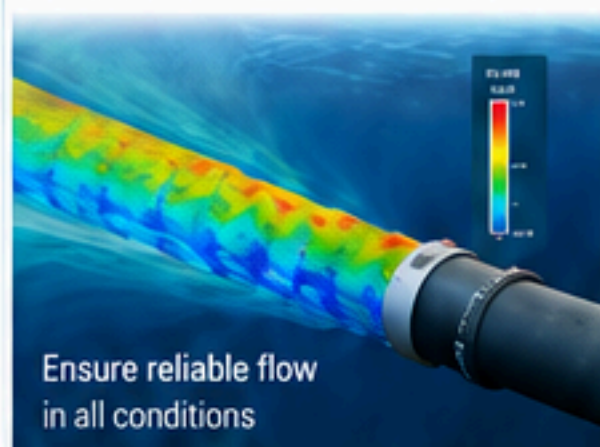
SUBSEA DESIGN AND ADVANCED ANALYSIS

- ▶ Finite Element Modelling for complex subsea applications
- ▶ Wall thickness calculations (DNV ST-F101, BS 8010)
- ▶ Free-span assessments (Level 1–3, FATFREE, ABAQUS, DNV RP-F105)
- ▶ Buckling assessments (ABAQUS, DNV RP-F110)
- ▶ On-bottom stability assessments (ABAQUS, DNV RP-F109)
- ▶ Pipe-soil interaction / on-bottom roughness assessments (DNV RP-F114)
- ▶ Pipeline walking assessments (ABAQUS, DNV RP-F110)
- ▶ PLEM/PLET design
- ▶ Spool design
- ▶ Riser design and analysis



PROCESS ENGINEERING & FLOW ASSURANCE

- ▶ Steady-state analysis (OLGA / Pipesim)
- ▶ Transient analysis (OLGA / SPS)
- ▶ Wax analysis
- ▶ Low-temperature studies for shutdown, start-up and blowdown scenarios
- ▶ Tailored technical training



HSE (FACILITATION AND PERFORMANCE)

- ▶ HAZOP
- ▶ HAZID
- ▶ SIL
- ▶ LOPA
- ▶ QRA
- ▶ FERA
- ▶ RAM analysis



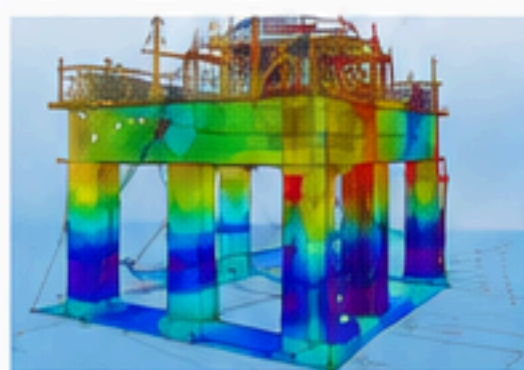
MATERIALS / CORROSION AND INTEGRITY MANAGEMENT

- ▶ Fitness-for-Service Assessments (Level 1–3)
- ▶ Engineering Critical Assessments (ECA) to BS 7910 and DNV RP-F108 (installation & operation)
- ▶ Fatigue analysis of pipelines and risers
- ▶ Risk-Based Assessment (RBA)
- ▶ Development of Integrity Operating Windows (IOW)
- ▶ Integrity Management Plan development
- ▶ Emergency Pipeline Repair System (EPRS) support
- ▶ Design and implementation of subsea clamps
- ▶ Materials and corrosion studies for subsea wellheads, XTs, manifolds, PLEM/PLETs and spools
- ▶ CRAS / CCM
- ▶ Material selection studies (Oil & Gas, CCUS, Hydrogen)
- ▶ Erosion analysis
- ▶ Coating and painting selection
- ▶ Cathodic protection design
- ▶ Minimum design temperature assessments
- ▶ Failure investigation
- ▶ Specialised mechanical testing



SUBSEA/OFFSHORE STRUCTURAL DESIGN AND ANALYSIS

- ▶ Platform in-place analysis
- ▶ Platform redundancy analysis
- ▶ Platform ship impact analysis

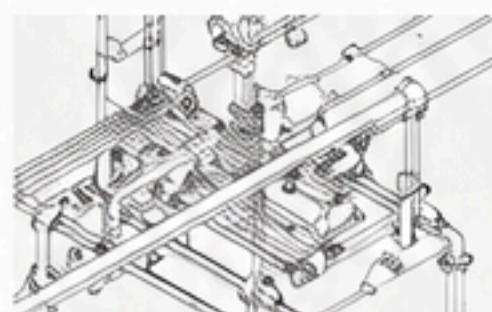


ROBUST
STRUCTURES
FOR A RESILIENT
TOMORROW



DRAFTING AND DRAWING DEVELOPMENT

- ▶ Preparing general drawing
- ▶ Preparing fabrication drawing
- ▶ Preparing pipeline routing drawing
- ▶ Platform details drawing



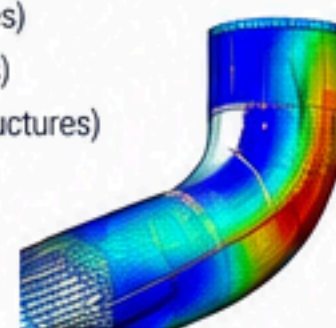
FROM IDEAS
TO DETAILED
REALITY



ACCESS TO KEY SOFTWARE

- ▶ ABAQUS (Finite Element Analysis)
- ▶ DNV FATFREE (Free-span assessment)
- ▶ ECE (Corrosion rate calculation)
- ▶ OLGA and Pipesim (Transient & Steady-state)
- ▶ PHAST and SAFETI (HSE studies)
- ▶ SACS (Structural assessments)
- ▶ CAD and TEKLA (Design of structures)

ADVANCED
TOOLS
PROVEN
RESULTS



OUR CLIENTS



OUR GLOBAL PRESENCE



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ENGINEERING TODAY
FOR A BRIGHTER
TOMORROW