



ADVANCED ENGINEERING FOR PIPELINE ENGINEERING

- **Independence**
 - Independent and impartial engineering, without hardware or installation preference
- **Advanced Subsea Engineering**
 - Unique combination of engineering experience, including design, testing, analytical skills and proprietary software solutions
- **Experienced Personnel**
 - Personnel with worldwide experience, all locations, all water depths
 - 25 years in offshore industry
- **Resources**
 - Staff of 150 based in Houston, Galway, Aberdeen, Rio, Perth and Paris
- **Worldwide client base and experience**

SERVICE

- **Integrated Pipelines and Riser Solutions**
 - Pipeline Design
 - Flow Assurance
 - Riser, Umbilical Design
 - Delivery Management
- **Software**
 - Pipelay (Proprietary)
 - Flexcom (Proprietary)
 - Modes (Proprietary)
 - Shear7
- **Recent Client Base**
 - BP
 - ChevronTexaco
 - ExxonMobil
 - Petrobras
 - Total
 - Shell
 - Cameron
 - Allseas
 - Heerema

CAPABILITY

- **Mechanical Design**
 - Layout & Route Selection
 - Pipe Wall-thickness Sizing
 - Corrosion Coating & CP Anodes
 - Corrosion Prediction
 - Pipe-in-pipe
- **On-bottom Stability Analysis**
 - Advanced 3D Time Domain FEA
- **In-place FEM Analysis**
 - Limit-State Based Design
 - Upheaval/Lateral Buckling Analysis
- **Free-Span Assessment**
 - Strength/Integrity Check
 - VIV On-set and Fatigue Analysis
 - Wave Induced Fatigue Analysis
- **Installation Analysis**
 - Reeling
 - S-lay
 - J-lay
- **Well/Flowline Jumper Design**
 - Stress/Strain Check
 - VIV and Fatigue Analyses