GMC is an independent offshore engineer and contractor with over 21 years of experience of delivering offshore projects around the globe.

Its multi-discipline team has extensive experience in all aspects of offshore project delivery, including the design and installation of fixed and floating facilities, pipelines, risers, and subsea systems.

Drawing on in house experience, expertise and tools, GMC can offer clients a Pipeline and Riser Engineering service to analyse and engineer effective pipeline systems including:

- Route Selection
- Diameter Sizing
- Materials and Corrosion
- Design for Strength
- On-Bottom Stability
- Thermal Design
- Expansion and Buckling
- Spans
- Protection
- SCR Catenary Analysis
- Installation Requirements

**GMC SOFTWARE TOOLS**

- **OFFPIPE** - for the Finite Element Analysis (FEA) of nonlinear problems, for example the stress analysis of offshore pipelines, including dog legs, expansion loops, etc.
- **SACS** - FEA of offshore structures such as large-scale stingers, platforms, steel structures
- **MOSES** - A specialised software package for the analysis of hydrostatic loadings
- **ANSYS** - Used for simulation modelling in a wide range of applications, for example the action of severe wave activity on pipelines and risers

Combining experience, expertise, and tools, GMC can undertake a wide range of pipeline engineering, from delivering a turnkey engineering package for a specific project, to smaller scopes of work supporting existing client teams.
GMC ENGINEERING PROJECT EXAMPLES

**ENI - APPALOOSA SUBSEA PIG LAUNCHER**
Customer: ENI Petroleum  
Project: Longhorn / Appaloosa  
Location: Gulf of Mexico  
Water Depth: 1280 meters  
Year: 2009 - Current  
Scope of Work: Engineering design, manufacture, project management and installation of a subsea pig launcher.

**STAT MARINE SRP OFFSHORE / LANDFALL OIL PIPELINE**
Customer: Stat Marine / Statoil  
Project: SRP Offshore / Landfall 42" Crude Oil Pipeline  
Location: Bahamas SRP Crude Terminal  
Water Depth: 100 meters max.  
Year: 2010 - 2011  
Scope of Work: Perform offshore pipeline lateral stability analysis and create pipeline alignment sheet and trench profile. Work also includes the pipeline thermal expansion analysis for the onshore portion of the proposed 42" pipeline to optimize the onshore pipeline system.

**EXXON MOBIL - ARKUTUN DAGI TESTING PLATFORM**
Customer: Exxon Mobil  
Project: Pipeline Testing Platform  
Location: Houston  
Water Depth: N/A  
Year: 2011  
Scope of Work: Design of pig receivers, work platforms, and handling systems. Fabrication and delivery of piping spools and handling system.

**RELATED GMC ENGINEERING PROJECTS**

**1999 - 2010**
Responsible for the detailed design of two (2) 6-inch SCRs in the water depth of 720 feet. Work also included the design of subsea wellhead jumpers and pipeline & umbilical spanning analysis. The dual 6-inch flowlines are approximately 17 miles each and run from the subsea well at the water depth of 1,350 feet to the platform “A” in GB-189.

**2009**
Responsible for the riser wet park and recovery feasibility study during the construction campaign of Chevron Frade multi flowlines and umbilicals installation at the water depth of 1300m in Brazil for Acergy. Work also includes riser hang off, riser clashing and pipelay tension control to maintain the pipeline on-bottom stability on the curve.

**2005**
SCR/Flow-line pullout analysis, J lay analysis, installation sequence development, free span analysis for 8” SCR and 10” flow-line on the Mad Dog Southwest Ridge Production project at the water depth of 5,000 feet.

**1996**
Design and analysis of SHELL 8-inch steel catenary riser at the GC-65 platform “A” in the water depth of 1350 feet. Work included riser load development, static & dynamic strain analysis, and SCR sensitivity study due to the variation of riser length to be installed.

**ABOUT GMC**
GMC is an industry leader in innovative engineering, project management, and installation solutions for offshore oil and gas SURF, drilling, and production projects. Established in 1990, GMC has offices in the UK, USA, and Singapore, as well as, strategic partners and satellite offices in Brazil, China, Poland, and Russia.