

CUTTING-EDGE CONSULTANCY AND ENGINEERING: WE MAKE **ENGINEERING** WORK

DELIVERING EVERY PROJECT ON TIME, ON BUDGET AND WITH THE HIGHEST SAFETY AND QUALITY STANDARDS.

WORLD-CLASS ENGINEERING & CONSULTANCY SERVICES COMBINED WITH PROJECT MANAGEMENT EXPERTISE

Our services are based on the integrated experience, skills and passion for technology of 1,400 engineers and consultants in 7 offices and 6 countries serving oil & gas, chemicals & petrochemicals, infrastructure and utilities, and energy sectors.

Bilfinger engineering solutions boost the efficiency and sustainability of our customers' green- or brownfield plants throughout the entire lifecycle. From one single source, we provide a full range of engineering, design and consultancy services: from feasibility studies, consulting and planning to implementation.

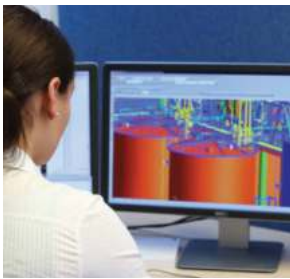
Bilfinger Middle East's network of engineering offices was first established in Abu Dhabi in 1974 initially to serve the Water & Electricity department with the development of potable water distribution infrastructure.

With now over 50 years of Engineering expertise in the Middle East, and decades of experience around the globe, Bilfinger Engineering services boost the efficiency and sustainability of our customers' green - or brownfield plants throughout the entire lifecycle. From one single source, we provide a full range of engineering, design and consultancy services: from feasibility studies, consulting and planning to implementation.

We deliver the optimized solution for our customers in terms of efficiency and sustainability for process plants, oil and gas plants, chemical and petrochemical plants, energy transition, power, plant-related construction and infrastructure, as well as for the pharmaceutical and bio-pharmaceutical industries.

With over 3000 engineers and consultants in 27 countries, including over 1,400 in the Middle East, Bilfinger maintains a high quality team of engineers in all disciplines, able to independently handle the project management, engineering and construction management of projects of up to 200,000 man-hours. An experienced team of construction managers and supervisors is available to ensure efficient, safe and high quality construction works.





Products & Services

- Consulting and concept design
- Economic and technical feasibility studies
- Front end engineering & design (FEED)
- Basic and detail engineering
- Procurement services
- Health, Safety and Environmental consultancy
- Management Consultancy
- Project management
- Construction management & supervision
- Commissioning

Areas of specialization

Infrastructure

- Desalination plants
- Water treatment
- Waste water treatment
- Water storage, pumping and transmission schemes
- Water distribution systems
- Wellfield systems
- Sewerage systems
- Electrical distribution systems
- Substations
- Environmental engineering

Civil/Concrete Technology

- Concrete rehabilitation
- Structural design of water retaining structures, plant foundations, utilities, intake structures
- Buildings and building utility systems incl. HVAC

Oil & Gas

- Oil/gas/water separation
- Oil/gas pipelines onshore / offshore with pigging facilities
- Oil and gas production networks
- Gas treatment plants
- Oil/gas terminals, jetties and platforms
- Storage facilities and tank farms
- Gas compression and gas receipt stations
- Cathodic protection systems
- Wellhead & flowline
- Manifold & separator
- Utility & offsites
- Offshore structural design
- Asset integrity
- Remnant life assessment
- Telecom systems
- CO2 compression and transportation
- DCS, ESD SCADA systems

Environmental, Fire & Safety

- Health, safety and environmental impact studies (HSEIA)
- Risk analysis - qualitative/quantitative (QRA)
- HAZID/HAZOP
- Soil contamination and waste treatment
- Fire engineering

Industrial Projects

- Plant engineering
- District cooling schemes

Specialised Stress Analysis Capability

Bilfinger Middle East has expertise in various specialised piping stress analysis activities and providing proven solutions to the real life technical problem. Our stress engineering team is capable of performing very critical piping & pipelines connected to various critical, using the appropriate industry codes and standards.

Apart from the conventional static stress analysis, the team is capable of performing following specialised activities:

Acoustic Induced Vibration (AIV) and Flow Induced Vibration (FIV)

AIV and FIV assessments to bring the vibration levels within acceptable limits

Fatigue Analysis

Fatigue analysis of existing piping systems is an operating plant as a means of finding out the root cause of failures and provide solutions.

Dynamic Analysis

Dynamic stress analysis including surge analysis, water hammer analysis, slug flow analysis.

Analysis of Non-Metallic piping

Stress analysis for above ground & underground non-metallic piping such as GRE is a specialized area where Bilfinger has expertise.

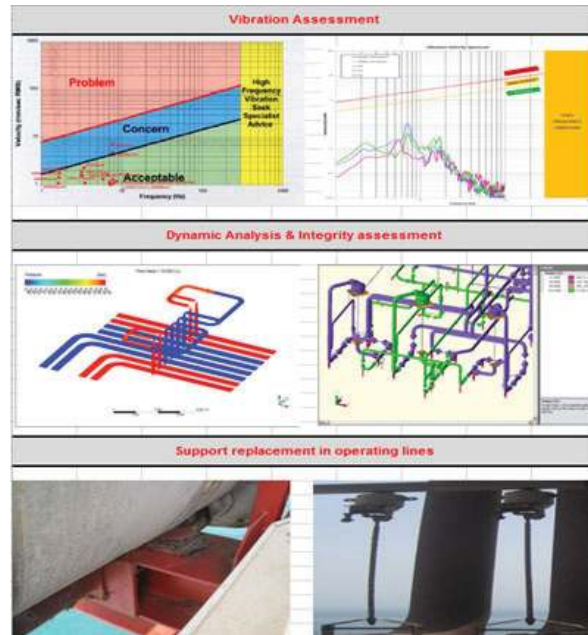
Replacement of Pipe Supports by Lifting Lines in Live Condition

Bilfinger has capabilities to perform the static analysis for lifting the piping during operating condition to replace the existing supports & spring hangers without plant shutdown.

Offshore Structural Designs

Offshore structural design capabilities include re-assessment of existing structures, life extension studies, Fitness for Service based on inspection report findings, mitigation measures, ultimate strength (pushover) analysis, strengthening measures etc.

- Global in-place analysis
- Local in-place analysis
- Fatigue analysis
- Pushover non-linear analysis
- Boat impact collision analysis
- Dropped object analysis
- Pre service analysis including lift, load out
- Transportation and installation
- Risk based inspection (RBI) studies
- GAP analysis for the existing structures
- Finite element analysis - skid shoe, blast walls etc.



Due Diligence Studies

Bilfinger has the capability to perform due diligence studies for oil and gas related facilities to facilitate company for potential acquisition of assets of target company, using systematic approach of technical evaluation.

The due diligence group has performed this studies covering the following major area of attention

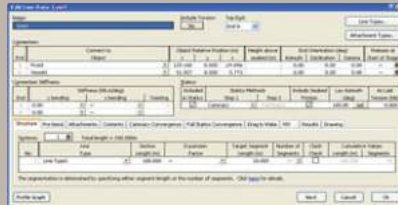
- Technical condition of the facilities, verification of asset integrity;
- Verification of compliance with technical norms and standards and with (local) regulations on safety, health and environment;
- Review of all interfaces involved;
- Operations and maintenance, level of automation and maintenance strategy;
- Operational bottlenecks
- High level qualitative risk ranking and mitigation to reduce risks

Energy Optimization Studies

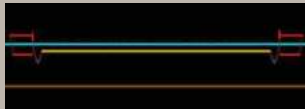
Bilfinger Middle East has a specific group of experts working in the area of energy optimisation where we have served major clients in the region. Our vision in this area is "Optimization of energy perform the operating costs. The technologies employed in the old plants are energy inefficient than the modern technologies. This offers a scope to improve the energy performance. Bilfinger helps to identify these energy saving and optimizing opportunities in oil and gas sector with complete end to end engineering solutions.

Specialised Pipeline Towing Analysis

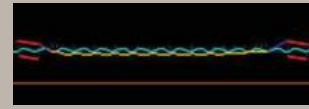
We have expertise in the special pipeline calculations such as Pipeline towing analysis for sub-sea pipelines including surface tow, near-surface tow & bottom tow methods. The experts use a special software such as Oracflex for the analysis.



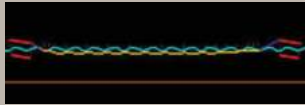
Static Analysis Model (With buoyancy modules)



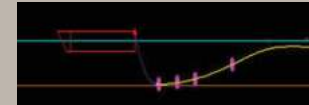
Dynamic Analysis Model (With buoyancy modules)



Lowering Analysis (Pipeline Touch down)



Pipeline Fully Lowered (All buoys removed)a



Solar Power System Design

Bilfinger Middle East has a team for solar system design for various oil & gas operating companies. Our team is capable of performing on-grid and off-grid solar system using the appropriate industry codes & standards

Lightning Protection Study

Bilfinger Middle East has expert team for performing the lightning protection study in 3D environment. This is facilitated by using the combination of DEHN and PDMS / Smart Plant 3D modelling software.



Bilfinger Middle East

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