

# We are an industry leader in new services and technology



Pipeline pre-commissioning and commissioning



Pipeline maintenance



Pipeline inspection and integrity engineering



Process pre-commissioning and commissioning



Process maintenance

# Process & Pipeline Services

Confirm system integrity and enhance efficiency





### Process market segments

- Offshore production facilities (platforms, FPSOs)
- Hydrocarbon processing facilities (petrochemical plants, refineries, LNG plants)
- Other (power plants, mining, and marine operations)

### Pipeline market segments

- Gas
- Fluids (crude oil, intermediates, finished fuels)
- Petrochemical (LNG, CO<sub>2</sub>, propane, olefins)
- Umbilicals



With more than 40 years in the industry, the Baker Hughes PPS team stands apart in many ways:

- Successful execution of the largest and most challenging global projects
- Leader in setting industry standards
- Certified project management teams
- Innovative technology solutions to help you meet future market demands
- Specialized equipment, experienced personnel, and facilities located around the world
- Committed to personnel health and safety with reduced environmental impact

Our portfolio of services covers a wide range of energy projects—from platforms and floating production storage offloading (FPSO) vessels to refineries, LNG facilities, and petrochemical—gas processing, and power plants. We help confirm system integrity and enhance efficiency by getting your systems online safer, faster, and more cost effectively.

We are an industry leader in new services and technology:

- VECTRA™, MagneScan™, and CPIG™ magnetic flux leakage (MFL) inspection services
- UltraScan™ inspection services for crack and wall thickness measurement
- Gas transfer services to reduce greenhouse gas emissions
- Nitrogen/helium leak testing, foam inerting, and hybrid cool down technology for process plants
- Innovative pre-commissioning technologies—DENIZEN™ subsea technologies and coiled tubing downline system

Contact your local Baker Hughes representative or visit [bakerhughes.com](http://bakerhughes.com) to find out how we can help you be confident in the integrity of your pipelines and plant facilities, and reduce downtime and HSE risks.

### Pipeline services

Baker Hughes increases pipeline safety with inspection services, testing, cleaning, and drying. By engineering our services to suit your specific project, you'll have a more cost-effective solution.

Whether a new system is going online or an existing system needs maintenance, our range of services will help you to meet pipeline safety regulations. We can do this for you—onshore and offshore, in deepwater, and in the remotest of locations; ensuring your pipeline gets off to the best possible start.



Once your pipeline has been operating for a few years, you'll need to check it's still in good condition. We have pipeline inspection services to examine the issues that can cause you problems, such as corrosion, cracks, pipeline movement and mechanical damage. Debris in the pipeline can affect throughput, cause corrosion, increase operating cost, and prevent proper inspection. Our technologies remove different deposits, including wax, liquids, black powder, rust, and millscale. We'll get your pipeline back on track and improve the efficiency of your system without taking it offline.

Finally, when you need to take the system out of operation whether for maintenance or at the end of its life, we can remove product safely by purging with nitrogen and/or chemical cleaning to leave the pipeline safe and in a condition that won't harm the environment.

### Pipeline maintenance

- Pre-inspection chemical and mechanical pipeline cleaning
- Revalidation hydrotesting and change of service
- Evacuation of gas pipelines
- Supply of temporary pipeline pumps
- In-house manufactured cleaning pigs

### Pipeline pre-commissioning and commissioning

- Filling, hydrotesting, de-watering, drying, inerting, and commissioning to product
- DENIZEN™ subsea pipeline pre-commissioning system:
  - Flooding module
  - Hydrotest module
  - Combined flood and hydrotest system
  - Coiled tubing downline system (CTS)
- AQUASWEEP™ pipeline corrosion inhibitor for hydrotesting

### Pipeline inspection

- VECTRA™, MagneScan™, and CPIG™ magnetic flux leakage (MFL) inspection services
- UltraScan™ inspection services for crack and wall thickness measurement
- Pipeline geometry and mapping:
  - CalScan™ and GEOPIG™ high resolution caliper and mapping services
  - AXIS™ in-line axial strain measurement inspection services
- ATEX certified inspection technology

### Integrity engineering

- RunCom™ corrosion growth assessment
- Bending strain assessment (plus Total Strain Demand & Strain-based Integrity Assessment)
- Dent strain & dent fatigue assessment
- Data integration & integrated threat assessment
- Fracture & fatigue assessment of cracks
- Pipeline depth of cover assessment
- ILI-based Risk Assessment

### Process services

Baker Hughes process services get you online quickly and eliminate leaks and other startup problems while enabling you to meet your product purity specifications. We offer you engineered solutions for pre-commissioning, commissioning, and maintenance shutdowns with specialized services for the oil and gas, power generation, metals and mining, and other process industries.

Our integrated package of services and management of the whole process mean you can optimize utilization of people and equipment, reduce overall costs, and decrease system startup time. For plant turnarounds, our services minimize outage time while improving plant efficiency.



### Process pre-commissioning and de-commissioning

- Cleaning
- Hydrotesting
- Pneumatic testing
- Draining
- Drying
- Inerting
- Bolt torquing and tensioning
- Flange management
- Onsite machining

### Process maintenance

- Cleaning and degassing
- Turnarounds, pre-inspection
- Service switching
- Equipment performance improvement
- SMART CLEAN™ decontamination services
- Bolt torquing and tensioning
- Flange management
- Onsite machining

### Cryogenic and membrane-generated nitrogen services

- Equipment inerting
- Accelerated cool-downs
- Leak testing
- Pipe freezing

