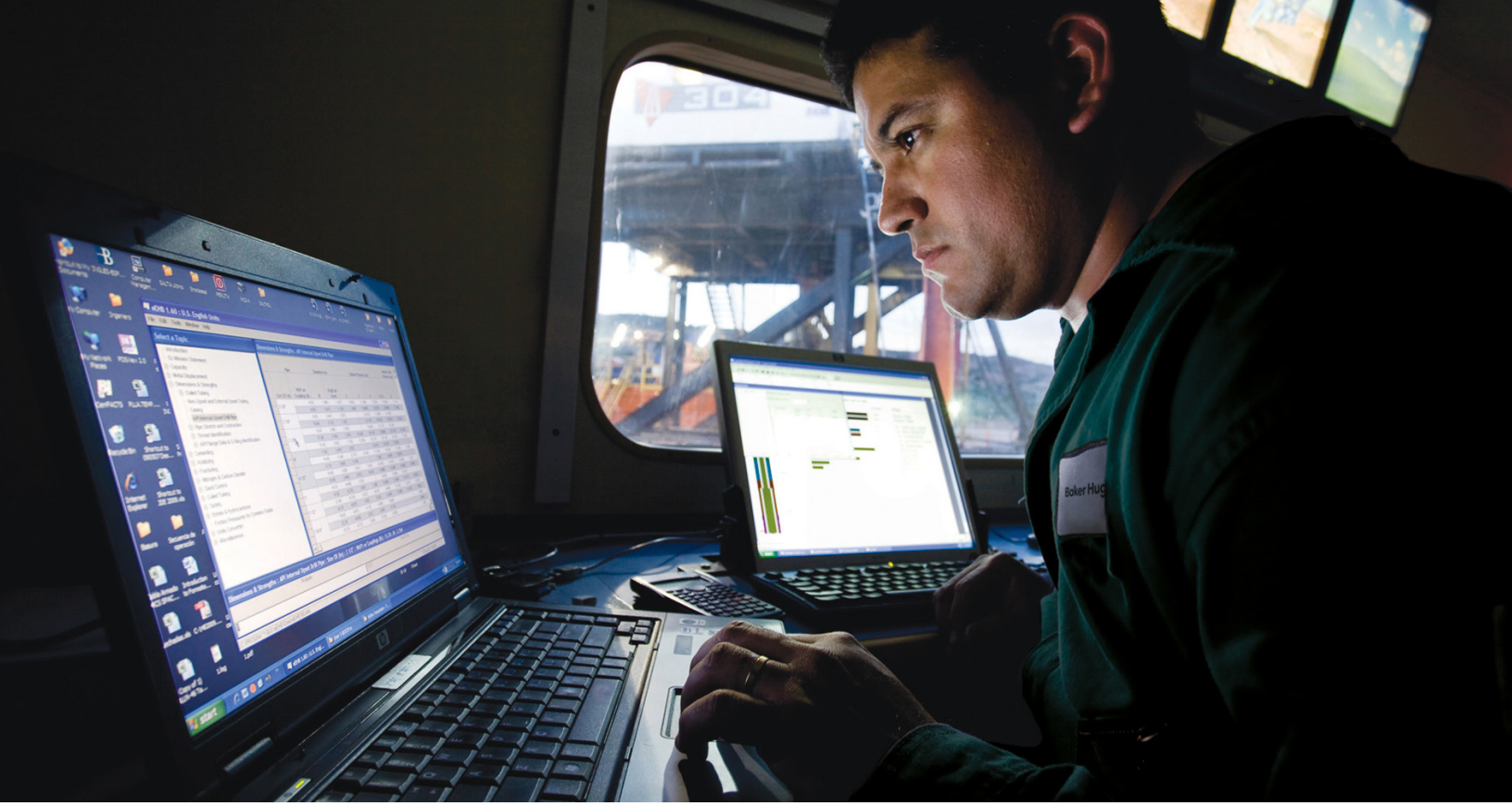
Baker Hughes

Fracture stimulation capabilities

Responding to change with innovative technology and expertise



Innovative, field-proven fracturing technology designed for reliable, efficient operations

Increase productivity with better designs

Whether your well requires a small fracture treatment to bypass near-wellbore damage or a massive, high-rate operation to connect natural fractures throughout a shale reservoir, Baker Hughes has the technology and the expertise to reliably design and execute an efficient hydraulic fracturing operation that will optimize production and maximize your well's productive life.

Baker Hughes experts have broad and deep experience in applying fracture technology to a wide variety of wells on land and offshore. From conventional oil and gas formations to unconventional tight gas, shale, and coalbed methane reservoirs, our experts have faced and overcome virtually every technical challenge many times around the world.

As an integrated service company, our expertise extends far beyond simply pumping fluids and proppants and covers the full life cycle of your well or field. Because we know that every reservoir is different and every well can have unique challenges, we begin the stimulation design process with GaffenyCline advisory studies, which determine overall reservoir characteristics as well as local rock and fluid properties. The results enable our engineers to design an ideal treatment for your well, including thoughtful selection of proppants, fluids, and additives that are compatible with one another, as well as with your formation and its fluids.

Minimize risks at your wellsite

In addition to matching fluid and proppant properties to technical and economic factors for a particular well, Baker Hughes is committed to ensuring that its fluid systems and additives meet or exceed local, state, national, and regional environmental regulations for your location.

Our pumps, iron, and other equipment are carefully maintained and regularly tested to ensure safe, reliable operation. EZTreat™ remote treatment control services simplifies the management and control of pressure pumping and blending equipment, minimizing the potential for error and improving the safety and reliability of oilfield operations.. Whether we are pumping from a fleet of high-horsepower pump trucks or the industry's most advanced stimulation vessels, you can count on Baker Hughes to perform on time and on design.

Improve fracturing efficiency

Using reliable, state-of-the-art blending and pumping equipment, our experienced crews can safely deliver proppants, from sand and bauxite to unique LiteProp™ ultralightweight proppants and in an array of efficient frac fluid systems, including:

- Economical, efficient, low-polymer fluids that maximize regained permeability; options include systems for use with treated produced water and other recycled water sources
- Recyclable, surfactant-based fluids that are nondamaging and stable to 275°F (135°C)
- Low-pH fluids for sensitive formations and for CO_2-energized fracs in low-pressure reservoirs
- High-performance, high-efficiency fluids with adjustable crosslink delay to reduce surface hydraulic horsepower requirements without compromising proppant transport
- Weighted fluids that provide extra hydrostatic pressure to minimize surface horsepower requirements for fracturing deep, high-pressure wells
- High-temperature fluids providing stable viscosity at temperatures up to 500°F (260°C)
- Nonaqueous systems for water-sensitive reservoirs

To complement the frac fluid systems, Baker Hughes has also developed a variety of additives and frac fluid packages, including:

- Environmentally compliant additive systems designed for slickwater fracturing in shale formations
- Engineered surfactants to improve frac fluid recovery and hydrocarbon permeability/production
- A full line of chemical and enzyme breaker systems to degrade frac fluids downhole and to maximize regained permeability
- Bacteria-control systems, including environmentally preferred options

Solve common stimulation problems

We also know that sometimes pressure pumping isn't enough. As a fully integrated oilfield services company, we can carry your development plans a step further.

If we combine our pressure pumping service with our microseismic services and our MFrac™ suite of reservoir, stimulation, and production analysis software, we can optimize well construction, completion, and production plans for subsequent wells or whole fields. This integrated, holistic approach to well development and stimulation improves your productivity and economics, especially when you face common stimulation problems. For example:

- To speed up multistage fracturing onshore and frac packs offshore, the Baker Hughes FracPoint™ multizone frac sleeve technology, single-trip completion systems, and a full line of composite bridge plugs offer options that improve well economics
- To prevent downhole problems before they occur, our StimPlus™ flow assurance services pump long-lasting solid inhibitors (scale or paraffin) with the proppant stages of a frac
- To minimize water use in low-pressure and water-sensitive reservoirs or when water availability is an issue, the Baker Hughes VaporFrac™ services combine our Liquid LiteProp™ technology with a high-pressure nitrogen stream, significantly reducing fluid requirements while maximizing effective fracture area
- To minimize water cuts, the Baker Hughes ConformFrac™ services combine our AquaCut™ relative permeability modifier with optimized job designs that manage proppant convection and frac height growth
- Maximize hydrocarbon recovery from hydraulically stimulated wells with Baker Hughes' EC Prime™ enhanced conductivity fracturing service. The pillar fracturing technique creates larger and more conductive flowpaths while reducing water and proppant requirements.

Contact your Baker Hughes representative for additional information on our comprehensive fracturing services.