



# Advanced Fuels and Chemicals

**Our industry-leading hydrocarbon technology expertise, integrated piping supply chain, direct-hire capability, High-Value Engineering Centers, and global module yards allow Bechtel to deliver some of the most complex projects in the world, on budget and on schedule, for our clients.**

We offer the complete spectrum of engineering, procurement, and construction services for the refinery industry – from concept development, self-perform construction, right through to plant support services during operations. By working with our clients as a partner, we have achieved millions of dollars of total installed cost savings through value engineering and optimized designs. We understand that our clients require certainty of outcome, not only for the EPC phase of the project, but throughout the operating life of their asset.

Bechtel plays a role in developing and financing projects through Bechtel Enterprises (BEn). To date, BEn has developed or participated in the financing of more than 100 projects around the globe, representing over \$85 billion of capital investment.



275+

refinery expansions and modernizations successfully delivered around the world

110+

gas processing plants

80+

years of refinery project execution excellence

60+

years of successfully executed petrochemicals projects

## Integrated supply chain

We leverage our vertically integrated piping supply chain through our JV with Cimtas in Turkey to manage risk and schedule to drive down overall construction cost.

## Outcome predictability

A significant measure of a project’s success is that the final total installed cost and completion date match those predicted during project planning. We have learned over the years that direct control over the critical path positively influences those outcomes. For that reason, Bechtel favors the integrated, direct-hire EPC execution model.



## Value engineering and lowest total installed cost (TIC)

Bechtel has delivered hundreds of millions of dollars in TIC reductions to our clients over the last decade. These savings have been realized through value engineering, where we engage with the client in a structured manner to reduce costs by optimizing process design, isolation and sparing philosophies, plot plan configuration, and temporary facilities layouts. We have invested in cost competitiveness initiatives that have yielded significant cost reductions in equipment costs, bulk material quantities, and construction direct and indirect costs. Our team understands how to deliver efficiencies in the up-front design that achieve the lowest TICs for our clients.

## Focus on Innovation

In recent years, Bechtel has launched an initiative to stay at the forefront of industry innovation and invested in assets to support:

### Technology experience

- Olefins – Ethylene (steam cracking) and propylene (propane dehydrogenation)
- Olefins derivatives – polyethylene, polypropylene, higher olefins, ethylene, dichloride, vinyl chloride, and propylene oxide
- Aromatics and derivatives
- Titanium dioxide

- Houston Innovation Center
- Digital Supply Chain
- Welding and Applied Technology Center
- Industry Control System Cyber Security Lab

## Downstream and Chemicals Technology Center

Our Downstream and Chemicals Technology Center is a leader in refining technologies and consulting services for petroleum, gasification, and energy markets throughout the world. Complemented by many years of operations experience, our international staff of technical experts have studied, evaluated, and implemented a wide range of process technologies. We provide value to our customers by integrating our industry, technology, and market know-how, and offer complete project solutions from concept to execution.

## What our Technology Center can do for you

- New technology development
- Value improvement practices
- Debottlenecking studies
- Program management
- Technology licensor evaluations
- Energy conservation and optimization
- Pre-commissioning and commissioning assistance
- Technical audits
- Modularization



## About Bechtel

Bechtel is one of the most respected global engineering, construction, and project management companies. Together with our customers, we deliver landmark projects that foster long-term progress and economic growth. Since 1898, we've completed more than **25,000** extraordinary projects across **160** countries on all seven continents.