A pioneer in the field of module solutions
The Modularization Case

Weighing the factors on module versus stick build or a hybrid solution takes the right partner with an in-depth understanding of the design, logistics and construction challenges. With KBR, you work with an expert that has successfully completed more modular studies, pre-FEEDs, FEEDs, and Detailed Designs than anyone in the industry.

The modular decision requires careful assessment of all variables including location, laydown, labor, logistics, safety, availability of materials and quality. KBR is a neutral partner with extensive constructability experience that can help you find the right solution that is best for your project’s unique challenges, to help you achieve on-time, safe and cost-effective execution.

In both offshore and onshore environments, greenfield and brownfield sites for hydrocarbon fluids, we have the experience and capabilities to conceive an effective modularization plan.

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Dedicated, Highly Experienced Modularization Teams: Our module experts have designed and procured over 1.5 million tons of modules since 2000 alone, acquiring the right experience and capabilities to help our clients ensure timely project completion.

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In-depth Global Fabrication Expertise: We have worked with and provided project supervision for nearly all the Tier 1, 2 & 3 fabricators worldwide, keeping critical path modules on schedule.

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Proven Tools & Systems: We have the customized systems for modules: 3D CAD, 4D and Materials Management in addition to our suite of engineering, procurement and cost and schedule project controls tools, to help our clients ensure project success and on-time delivery.

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Logistics Approach and Focus: Our logistics teams since 2000 have transported 20 million tons of material over 8 million miles, mitigating risks and focusing on delivery of equipment and materials, including heavy lift modules, anywhere, anytime, helping our clients maximize project return.

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Commissioning & Startup: Our system-based approach begins with the end in mind, starting this planning in the engineering and procurement phases of FEED and Detailed Design in order to effectively maximize the hook-up and pre-commissioning activities in the fabrication yard, minimize carry over work to site and deliver an easy efficient start-up.

Why KBR

“Modularization has recently become a bit of a buzz word within the industry. While it can be very advantageous, it must not be assumed to be a ‘one size fits all’ solution. KBR has successfully worked with clients at all phases of a project’s execution to confirm the correct project specific input is analyzed early enough to consider the entire breadth of modularization possibilities.”

Michael Kluck
Sr. Project Manager – Engineering, Project Execution
Types of Modules

Modularization in construction has been around for well over one hundred years, but increased in popularity during the early 20th century. From 1910 to 1940, Sears Roebuck sold more than 500,000 pre-fabricated homes in the U.S. alone.

As Gas Monetization became more commercially viable, modularization of gas treatment facilities steadily increased. Currently, with newer technologies, greater transportation options, increased lifting capabilities and an increased demand for products and services, modularization continues to provide economic options to owners.

KBR is considered a pioneer in the field of modular construction – we built the first modular offshore platform in the North Sea over 40 years ago. Having been at the forefront of study and design enhancements in modular construction for over 50 years, KBR has proven itself as a world-class modularization contractor.

In both Offshore and Onshore environments, greenfield and brownfield sites, for hydrocarbon fluids, KBR has forged a dominant global role in assisting owners to develop their assets commercially.

When assessing constructability of a planned facility, KBR has the experience and capabilities to conceive an effective modularization plan.

When it comes to modularization, at KBR, We Deliver.
Related Success

Offshore or onshore, greenfield or brownfield sites, when project economics favor a modular solution, KBR delivers. Our rich history of module solutions backed by our long standing relationships with module fabricators around the world and strengthened by our commitment to safety, quality, structural integrity and on-time delivery make us the right partner for your module project.

- Woodside LNG Train 3
  - Karratha, Australia
- Woodside LNG Duas
  - Karratha, Australia
- Malaysia LNG Duas
  - Doha, Qatar
- Pertamina LNG “H”
  - Kailumon, Indonesia
- Woodside LNG Train 4
  - Karratha, Australia
- SEAGAS LNG Train 1
  - Damietta, Egypt
- NLNG Trains 4 & 5
  - Bonny Island, Nigeria
- NLNG Train 6
  - Bonny Island, Nigeria
- Shell Malampaya
  - Philippines
- ConocoPhillips
  - Belawan FPSO
  - Indonesia
- PEMEX EPC-1
  - Mexico
- Shell EA FPSO
  - Nigeria
- BP Block 18 FPSO
  - Angola
- Chevron Agbome FPSO
  - Nigeria
- Total Pazflor FPSO
  - Angola
- BP Glen Lyon FPSO
  - North Sea
- Petrobras Barracuda
  - Carratinga FPSO
  - Brazil
- Chevron Tombua-Landana
  - Angola
- Statoil Karstø Expansion Processing Plant
  - Norway
- Klimen LNG
  - BC, Canada
- INPEX - operated Ichthys LNG Project
  - Darwin, Australia
- Statoil Karstø Upgrade Processing Plant
  - Norway
- Magnolia LNG (NLNG)
  - Louisiana, USA
- NLNG Trains 6
  - Bonny Island, Nigeria
- Chevron GTL
  - Escavros, Nigeria
- Chevron Tombua-Landana
  - Angola
- Total CLOV FPSO
  - Angola
- Statoil Karstø Ø Expansion Processing Plant
  - Norway
- Kitimat LNG
  - BC, Canada
- INPEX - operated Ichthys LNG Project
  - Darwin, Australia
- Magnolia LNG (NLNG)
  - Louisiana, USA
- NLNG Train 3
  - Bonny Island, Nigeria
- Shell EA FPSO
  - Nigeria
- Petrobras Barracuda/Carratinga FPSO
  - Brazil
- 1990:
  - Woodside LNG
- 1995:
  - NLNG Trains 1 & 2
  - Bonny Island, Nigeria
- 2000:
  - Malaysia LNG Duas
  - Karratha, Australia
- 2005:
  - Petrobras Barracuda/Carratinga FPSO
- 2010:
  - Chevron GTL
  - Escavros, Nigeria
- 2015:
  - Chevron Tombua-Landana
  - Angola
KBR Delivers Module Solutions

Global Reach
KBR’s global network of offices and execution centers provide the ability to deploy the best resources to a project while minimizing travel and relocation costs.

Best in Class, Tools, Systems & Processes
KBR uses proven industry-leading best practice tools, systems and processes on every project. Total security enabled transparency, anywhere, any place, any time.

Modularization Achievements
- First modularized GTL facility in Africa (Nigeria)
- >1.5 million tons of modules designed and fabricated

Resources
KBR employs over 22,000 of the world’s most talented and experienced people. We staff major projects worldwide. Over 30% of our global team has modular experience.

Vast Project Experience
KBR has led many of the world’s large and mega-projects over the past 20 years. In remote locations requiring flexible solutions, KBR consistently helps our clients deliver projects on time and on budget.

Lessons Learned
KBR has well developed Lessons Learned databases established over many years and projects. These valuable assets are used on every project to ensure success.

Proven Performance
KBR offers tried, tested and proven performance over many years, in all locations, in various project scenarios meeting our customers’ expectations… We Deliver.

Fabrication Yard Relationships
KBR has worked with most of the world’s fabricators: Tier 1, 2 & 3. These long standing relationships assist us to deliver modular solutions on time and minimizes on-site hook-up & commissioning.

With over 1.5 million tons of modules designed, fabricated and installed (or in progress), KBR is a world leading module contractor.
The Modularization Path

A typical modularization path follows a familiar project progression.

A successful module plan works through the recognized project phases: Conceptual → FEED → Detailed Design & Procurement → Fabrication → Construction → Turn-Over & Start-Up.

This plan is also subject to the same project relationship between influence and cost.

Influence is high in the early phases and drops off dramatically as decisions are made and costs are committed.

Project success and maximum ROI requires experienced inputs at the outset. KBR has successfully completed more modular studies, pre-FEEDs and FEEDs than most contractors.

On modular design, We Deliver.
We Deliver. KBR works alongside clients worldwide to deliver any project, any time, any place—making us a leader in the engineering, construction and services industries.

KBR, Inc. is a global technology, engineering, procurement and construction company serving the hydrocarbons and government services industries, employing over 22,000 people worldwide with customers in more than 80 countries and operations in 40 countries. We are proud to work with our customers across the globe to provide technology, value-added consulting services and integrated EPC skills to help ensure consistent project delivery with predictable results.