



### Integrated Offshore Solutions From Wellhead to Market, Anywhere in the World



### Local delivery, global resources

WorleyParsons Group offers customers a single integrated project delivery service, from wellhead to market, for the most challenging offshore developments. Our comprehensive global footprint enables us to provide experience and knowledge from topside, hull and subsea projects around the world for our customers in local project delivery.

## Efficiency through integration

As the worldwide search for hydrocarbons moves into ultra-deep waters, the technical challenges multiply and the scale of the investment required to safely deliver these projects continues to escalate.

Together, WorleyParsons and INTECSEA offer a totally integrated project delivery solution for these complex projects that improves performance and operability while minimizing risk. As a co-located team with common systems, tools and processes, WorleyParsons Group offers customers a single point of interface for both the topside and subsea components of a project. This integration brings increased transparency and simplified communication, allowing project teams to focus on pertinent project delivery functions. This methodology has consistently resulted in increased efficiencies, providing customers with cost and schedule benefits and better safety performance for employees, contractors, customers and the environment.

Across all phases of the asset lifecycle our customers benefit from our cohesive structure. In the *Select* phase WorleyParsons Group considers the development of the full field, understanding that decisions made in the early phases of a project have the most significant impact on project outcomes. Our focus on strategic viability and long-term business value provides customers with solutions that optimize outcomes and minimize both technical and non-technical risk.

In *Deliver*, our global footprint enables us to employ expertise and knowledge in EPCM from around the world. Our customers have access to our global best practices and deep local knowledge, while benefiting from our workshare system which leverages our high-value project delivery centers to reduce costs and increase project outcome certainty. This proven workshare methodology realizes the benefits of multi-office execution, delivering the strongest team, best experience and most value.

In the relationship-based *Improve* phase, our customers benefit from our unique alliances that employ integrated execution teams and deliver considerable cost and schedule savings compared to conventional project execution methods. We provide customers with a single source for the resources and technology needed to deliver their sustaining capital programs and meet complex brownfield requirements.

#### WorleyParsons Project Phases



WorleyParsons' experience covers all five phases of the asset lifecycle. In each one of these phases we understand the critical issues and apply our specialist business lines, *Select*, *Deliver* and *Improve* to enable our customers to achieve their business objectives. Our phased approach enables consistent

project delivery worldwide and WorleyParsons' project systems are fully aligned to this process.

# Offshore capability overview





#### **Fixed and Floating Topsides**

WorleyParsons has a proven track record in the design of large, integrated topsides. We are fully conversant with the detailed design challenges associated with the critical items requiring specific consideration including safety in design, installation method, weight and center-of-gravity estimation and control, drilling facilities design and integration, integrated and traditional modular living quarters design, and optimizing design for fabrication.

#### **Large Floatovers**

WorleyParsons develops integrated deck floatover installations and has been instrumental in the development of the analysis and engineering techniques required to expand the range of applicability of the floatover installation. This extensive experience ensures that the many fundamental issues associated with the configuration of an integrated deck structure are thoroughly assessed and established during conceptual design, when decisions have a high impact on the ability to achieve an effective floatover installation.



#### **Arctic Developments**

INTECSEA and WorleyParsons are world leaders in the design and construction of oil and gas production facilities located in remote, hostile environments. Innovative and one-of-a-kind solutions have consistently been implemented to solve the unique challenges associated with revamp, modernization and grassroots projects above and below the ice in these environments. WorlevParsons has provided engineering and procurement services for the largest floatover platform in the world, to be located in the sub-Arctic Russian waters.







#### TLPs, SPARs and Semisubmersibles

The key to INTECSEA's success is an interface management capability that incorporates naval architecture, hull and deck design and analysis, facilities structure design, mooring and riser system design and analysis, along with construction, transportation and installation operations support. INTECSEA has been instrumental in the design of 16 of a total of 21 currently sanctioned tension leg platforms and have participated in over 20 semisubmersible projects and major portions of 9 SPARs.

### Offshore Pipelines and MEG Reclamation

Our complete suite of expertise enables complex projects in technically challenging environments to be managed in-house with fewer interfaces. Our capabilities include flow assurance, MEG reclamation for hydrate inhibition, pipeline process simulation, materials selection, corrosion and welding analysis, pipeline stabilization and protection, installation assessment, advanced 3D simulation and pipeline system integrity management.

#### **Offshore Decommissioning**

Our diverse range of decommissioning services span the late life and decommissioning durations. These services include maintenance, asset integrity, removal methodology, cost estimating, scheduling, waste management and project management both offshore and onshore. As part of the WorleyParsons Group, INTECSEA provides engineering capability for decommissioning pipelines and sea bed infrastructure and subsea removal. The team leads the way in decommissioning management and technology in this new and most challenging industry.

# Offshore capability overview







#### Large Substructures

Our offshore experience encompasses some of the world's largest jacketed platforms and most complex topside facilities. With the full range of supporting naval architectural and installation engineering services available in-house, WorleyParsons Group has successfully completed projects in some of the most hostile marine environments in the world. Our extensive experience in developing technical solutions has led to a standardized development process that requires little preinvestment and reduces the total time to reach drill-ready status.

#### **Minimum Facilities**

WorleyParsons develops innovative, lightweight and generic minimal facility wellhead platforms (MFPs) to provide customers with cost-effective solutions that set new industry benchmarks for both marginal and multi drill-center field developments. We provide customers with high-level strategic planning, concept development, detailed design, procurement and construction management for major field developments requiring multiple drill-centers through the innovative selection of proven technologies and current industry experience. We've consistently provided innovation to address the challenges of marginal field developments, taking them from initial conceptual brainstorming though to construction, installation and operation.

#### FPSOs, FSOs and FPUs

INTECSEA has been involved in 70 ship-shaped facilities (46 FPSOs, 22 FSOs and 2 FPUs) in 22 countries. Our involvement typically begins during concept screening studies where we determine the optimal solution for a development utilizing our extensive knowledge base in order to provide an unbiased, independent assessment. We also have extensive FEED and EPCM capabilities for new-build hulls or conversions, topsides and mooring systems.







#### Subsea Systems

INTECSEA has provided subsea systems engineering and project management services for numerous customers in many deepwater field developments. These projects include flow assurance analyses, system concept designs, cost analyses, concept evaluations, systems selection and other systems engineering and project execution activities. Project responsibility ranges from conceptual design studies through field installation, commissioning, start-up and operating manuals.

#### **Offshore Deepwater Risers**

INTECSEA designs dynamic risers in depths exceeding 8,000 feet, provides deepwater riser solutions and is an industry leader in wet insulated and pipe-in-pipe systems. We provide customers with technological solutions to hydrocarbon production and transportation in the world's abyssal depths including steel catenary, flexible, hybrid and top-tensioned risers. Major areas of expertise include single-point and conventional buoy moorings for marine terminal systems. We have both the analytical and practical installation and operational expertise to carry the riser system from design through to execution.

### Floating Liquefied Natural Gas (FLNG)

The rapidly emerging FLNG market seeks to monetize resources from stranded and remote gas fields. FLNG offers several development, operations and commercial advantages, including offshore access, cost savings from onshore infrastructure and pipelines, and a potentially shorter construction schedule. WorleyParsons is well positioned to support customers through our technology-neutral approach that ensures an optimal solution for the customer. Our extensive experience in marinization and modularization, together with offloading and containment systems ensures risks are known and quantified early in the conceptual design phase.

### Enhanced project outcomes

As offshore facilities move to deeper waters and more extreme climatic conditions, selection of the right facility concept and topsides becomes ever more important. Our *Select* services supports these critical front-end decisions with comprehensive pre-feasibility and feasibility studies that overcome such challenges, mitigate risk and enhance project outcomes.

### Select Offshore Solutions

The *Select* business line supports strategic decision making on critical front-end planning issues to meet our customers' ultimate business objectives.

This integral front-end phase of the WorleyParsons Group's global project delivery capability assists customers by merging high-end technical skills and extensive practical experience in project execution to deliver best-in-class front-end studies. *Select* draws on our diverse global skill set giving customers access to experience gained on field developments across a diverse range of locations and environments.

Our focus on strategic viability and long-term business value provides customers with options that optimize outcomes and minimize both technical and non-technical risk. Leveraging in-depth cross-industry experience, *Select* teams around the world provide technical analysis and decision support during the initial stages of an offshore project, securing the greatest value over the project lifecycle. Our proven processes and tools quantify risk and commercial value, enabling our customers to make data-driven decisions with confidence.

#### WorleyParsons' tools provide decision support based on the objective outcomes of case evaluations.

Concept evaluation is supported by the EcoNomics<sup>™</sup> DELT∆ tool, one of WorleyParsons' many proprietary data analysis programs, which assigns quantitative values to risks associated with environmental, regulatory and social issues that can often impede project progress. This internallydeveloped program simplifies and expedites the assessment of complex situations and enables fact-based decision making in a timely manner. This approach compares multiple technical and non-technical criteria and assists customers in identifying and selecting the most robust and sustainable project options for the long-term.

## **Deliver** Offshore Solutions

WorleyParsons Group helps customers succeed in this dynamic and competitive business environment by supplying innovative, cost-effective and safe project solutions.

Successful delivery of offshore projects requires experienced teams, excellent systems and outstanding project delivery practices. WorleyParsons Group is committed to understanding our customers' goals and drivers, and develops integrated execution plans and performance measures to ensure certainty.

Our established capability in the design of offshore facilities ranges from the simplest of unmanned platforms through to complex floatover topsides. WorleyParsons' integration with INTECSEA offers a unique and comprehensive full-service offshore solution in a range of specialty areas including all types of floating systems, FPSOs, FPUs, TLPs, spars and semi-submersibles.

Integration with INTECSEA provides certainty in delivery that only comes from a highly experienced and integrated project team operating under a single leadership and accountability structure. A single execution plan, comprehensive cost estimates and complete technical specifications provide customers with ultimate cost assurance and savings, and an improved execution schedule. Our combination of topsides, hull and subsea expertise allows for complete focus on pertinent project delivery functions and has proven to optimize project delivery.



The mooring system can disconnect to allow the vessel to navigate away from approaching icebergs.

#### Engineering for harsh environments

 PROJECT
 SHTOKMAN PHASE 2 & 3

 CUSTOMER
 GAZPROM

 LOCATION
 BARENTS SEA, RUSSIA

 PHASE
 IDENTIFY & EVALUATE > DEFINE > EXECUTE > OPERATE >

This project site is characterized by harsh environmental conditions like sea ice, icebergs, winter darkness and severe Arctic storms. Through INTECSEA, WorleyParsons performed FEED for the subsea production systems with tie-backs and flexible risers for the floating production facilities. The selected concept was based upon a ship-shape FPSO capable of withstanding the conditions that may occur at the site, and topsides capable of processing 70 million cubic meters per day of gas plus associated liquids. Produced gas will be conditioned onboard the floating topsides and transported through subsea pipelines to the mainland.



Fully integrated, co-located topsides, hulls and subsea teams result in improved risk management and safety performance.

# Long-term relationships

Using the knowledge accumulated from over 275 international alliances or long-term contracts, we have developed a culture and a suite of unique tools, systems and delivery methodologies that incorporate industry best practice to drive innovation, efficiency and performance.



### Improve Offshore Solutions

Companies operating in the offshore industry face unprecedented challenges in achieving profitable sustainability, which heightens the need for a customer-focused strategic partner who can tailor solutions to individual project needs.

*Improve* draws on the experience and best practices learned worldwide to bring customers new ways of thinking and better ways of doing business. Our strong, industry-specific knowledge and long track record of success is underpinned by our alliance-based contracting model. The trust generated within the alliances enables WorleyParsons Group to deliver maximum value to offshore customers using local teams, supported both locally and globally.

WorleyParsons Group is the trusted long-term partner for companies operating in this sector. Our offshore service capabilities have been built by working closely with our customers, identifying and meeting their needs and delivering innovative solutions through streamlined, proprietary project delivery systems. From this experience we are recognized as a global leader in the provision of long-term, performance-based asset services.

#### Delivering long-term operating efficiency

PROJECT	OFFSHORE AND SUBSEA ENGINEERING SERVICES CONTRACT
CUSTOMER	BP
LOCATION	GULF OF MEXICO
PHASE	IDENTIFY > EVALUATE > DEFINE > EXECUTE > OPERATE

WorleyParsons and INTECSEA have been selected to provide engineering and project management services to support BP's offshore production and subsea facilities. BP has adopted the use of long-term contracts to ensure its substantial program of offshore and subsea development projects is delivered safely, with technical integrity and with high, long-term operating efficiency. This contract includes brownfield topsides modifications for BP's Gulf of Mexico producing assets as well as topsides work associated with tiebacks executed by the BP Gulf of Mexico Subsea Projects Group services.



Our relationship-based *Improve* alliances promote innovation, efficiency and performance.

# Local project delivery

![](_page_13_Figure_1.jpeg)

# Supported globally

![](_page_14_Figure_1.jpeg)

# Proven performance

![](_page_15_Picture_1.jpeg)

#### Liwan 3-1 Area Facilities Development CUSTOMER HUSKY ENERGY

PROJECT LOCATION SOUTH CHINA SEA

#### IDENTIFY EVALUATE DEFINE EXECUTE OPERATE

WorleyParsons and INTECSEA completed concept screening and deepwater feasibility studies, FEED and project management consultancy services using an integrated project team approach with participation by Husky and CNOOC. The development plan was divided into four segments designated "deepwater" (subsea tieback), "shallow water" (platform), "onshore" (gas processing plant) and "downstream" (sales gas pipelines). This is the first deepwater development in offshore China and includes an 80 kilometer subsea tieback and the largest float-over high-deck design to be installed offshore China.

![](_page_15_Picture_6.jpeg)

#### Equus Semi-submersible CUSTOMER HESS PROJECT LOCATION NORTH WEST SHELF, AUSTRALIA

IDENTIFY EVALUATE DEFINE XECUTE OPERATE

WorleyParsons and INTECSEA performed the pre-FEED services for the Equus offshore facilities which comprise the first semi-submersible production facility including risers and moorings for Western Australia. The offshore development is located in a cyclonic region in water depths over 1,000 meters. The facility design flow rate is 325 MMscfd and includes gas/liquid separation, glycol regeneration, gas dehydration and gas/condensate export. We are currently undertaking the FEED of the production semisubmersible and its topsides. The pre-FEED phase was executed by the co-located WorleyParsons and INTECSEA Select teams in Australia.

![](_page_15_Picture_9.jpeg)

Jubilee Field Development CUSTOMER TULLOW GHANA LIMITED LOCATION OFFSHORE GHANA

#### IDENTIFY > EVALUATE > DEFINE > EXECUTE > OPERATE >

INTECSEA provided owner's engineering services from concept through execution for the subsea facilities of the Jubilee Field. The field is the first deepwater development in offshore Ghana, in water depths ranging from 900 to 1,700 meters. Included in the current phase of development are nine production wells, six water injection wells, and two gas injection wells. Drill centers are arranged on both the east and west sides of a subsea canyon and are tied back to a turret-moored FPSO through a system of flowlines. The gas injection and production systems are routed through a riser base structure on each side of the canyon to allow for delivery of lift gas to the base of the production risers as well as injection gas to the injection wells.

![](_page_16_Picture_0.jpeg)

#### **Rosebank Facilities**

 CUSTOMER
 CHEVRON NORTH SEA LIMITED

 LOCATION
 WEST OF SHETLANDS, UNITED KINGDOM

 PHASE
 IDENTIFY VALUATE DEFINE EXECUTE OPERATE

Rosebank Field is located in approximately 1,130 meters of water northwest of the Shetland Islands in a very harsh environment. WorleyParsons Group completed an extensive pre-FEED of the entire facilities for Rosebank including topside, hull, marine, mooring, subsea and gas export systems. A class 2 cost estimate and level 2 EPCI schedule were also developed to support Chevron approvals. WorleyParsons developed a United Kingdom compliant, fully integrated 3D FPSO model using PDMS showing details of the topside's process, utilities, hull, marine turret, mooring and offloading systems. We are currently undertaking the FEED of the FPSO, complete with topside, mooring and riser systems and associated subsea systems.

#### Sakhalin-1, Arkutun Dagi Field Development

 CUSTOMER
 EXXON NEFTGAS LIMITED

 LOCATION
 RUSSIA

 PHASE
 IDENTIFY

 EVALUATE
 DEFINE

 EXECUTE
 OPERATE

WorleyParsons is providing FEED, detail engineering and procurement services for the topsides of this drilling and production platform. The field is being developed using a gravity based structure to support an integrated deck containing all drilling and processing facilities and living quarters. The integrated topsides will be installed using a floatover, which at approximately 34,000 tonnes is one of the world's largest open water floatovers. WorleyParsons is leveraging our depth of experience to meet the demands of this large floatover—particularly our knowledge of the demands imposed during the transportation of extremely large decks from their fabrication to installation locations.

![](_page_17_Picture_3.jpeg)

## Proven performance

![](_page_18_Picture_1.jpeg)

![](_page_18_Picture_2.jpeg)

BP Juniper CUSTOMER BP TRINIDAD & TOBAGO PROJECT LOCATION TRINIDAD & TOBAGO

IDENTIFY > EVALUATE > DEFINE > EXECUTE > OPERATE

The Juniper Project will develop resources from the Corallita and Lantana fields located in the Trinidad Columbus Basin, approximately 52 miles east of Galeota Point, Trinidad. The current project plan is to move forward during the define stage phase with a subsea development concept which ties back to a new Mahogany C Platform with a 26 inch export line that ties into the 26 inch Savonette to Mahogany B pipeline. Subsea development will consist of one 6-slot manifold at Lantana and a looped 12-inch flowline system with a design pressure of 5,250 psig. Expandability will be provided to enable subsea production from other fields. WorleyParsons and INTECSEA have been awarded with work covering Phases 1-4 and work support for Phase 5.

Jasmine Area Development CUSTOMER CONOCOPHILLIPS PROJECT LOCATION NORTH SEA, UK

#### IDENTIFY EVALUATE DEFINE EXECUTE OPERATE

The North Sea Jasmine field was discovered in June 2006. The Jasmine development comprises a new wellhead platform tied back to the ConocoPhillips operated ludy platform via a new multiphase pipeline and new riser platform, bridge linked to the existing ludy platform. The Jasmine Wellhead Platform includes a test separator, flare and metering and will be supported by a new bridgelinked living quarters platform. WorleyParsons Group has been engaged by ConocoPhillips (as Operator) and their joint venture partners BG and ENI to perform FEL 2, FEL 3, detailed design and procurement services to develop the lasmine field.

![](_page_18_Picture_8.jpeg)

Hebron Topsides Development CUSTOMER EXXONMOBIL LOCATION CANADA

IDENTIFY EVALUATE DEFINE EXECUTE OPERATE

WorleyParsons is carrying out front-end engineering design work for the largest open water floatover in the world. Hebron is a heavy oil field estimated to have 400-700 million barrels of recoverable resources. WorleyParsons will provide overall project management of the contract, with a special emphasis on performing work in Newfoundland and Labrador in accordance with Hebron project benefits commitments. The 36,200 tonne deck will be floated over a gravity based structure, and the deck will be designed to handle up to 175,000 barrels per day of crude while its liquids handling capacity could be as high as 315,000 barrels per day due to the high volumes of produced water.

# Proven performance

![](_page_19_Picture_1.jpeg)

![](_page_19_Picture_2.jpeg)

![](_page_19_Picture_3.jpeg)

Kashagan East Field Development EP CUSTOMER AGIP KCO LOCATION KAZAKHSTAN

#### IDENTIFY EVALUATE DEFINE EXECUTE OPERATE

The Kashagan field is the largest oilfield in the north Caspian Sea, containing 42°API oil at pressures of approximately 12,000 psig and greater than 20% H<sub>3</sub>S in the sour gas. The EP (experimental program) is the first phase of the project, producing 450,000 bpd and associated gas, and comprises offshore and onshore utilities and pipelines. Modular design techniques were used to minimize offshore involvement. WorleyParsons gas processing teams completed the engineering detailed design of the primary oil and gas separation, dehydration, compression, and high pressure gas injection units situated on offshore barges, as well as the onshore associated gas sweetening process design.

Lucapa Field CUSTOMER CHEVRON LOCATION ANGOLA

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The Lucapa Field is located in Block 14 offshore Angola on the north rim of the Congo River Canyon in 900 meters to 1,800 meters water depth. The FEED scope included subsea control system, subsea trees, manifolds, well jumpers, IWOCS, flowlines, flowline jumpers, gas export pipeline, and SCRs and umbilicals to a spread-moored FPSO. The scope also included an alternative riser system using a Hybrid Riser Tower (HRT), connected to the FPSO via freehanging flexible jumpers.

#### Thunder Horse Semi-Submerisble PDQ CUSTOMER BP LOCATION GULF OF MEXICO

#### IDENTIFY EVALUATE DEFINE XECUTE OPERATE

INTECSEA provided technical and marine expertise while WorleyParsons provided overall project management of the *Select* phase for this facility as a part of the ongoing deepwater brownfields program for BP. Two notable scopes were progressed: the Mooring Chain Jacks Replacement Study and the Flex Joints Replacement Project. The mooring chain jack project scope entails replacement of critical components of the Thunder Horse topsides mooring system that are nearing the end of their design life. The flexjoint project scope was two-fold comprising a review of the design for replacement flexioints for two infield flowlines and a condition assessment and report for the existing Thunder Horse riser pull-in chain jack equipment components.

#### Subsea Seven Riser Buoys

 CUSTOMER
 PETROBRAS

 LOCATION
 BRAZIL

 PHASE
 IDENTIFY > EVALUATE > DEFINE > EXECUTE > OPERATE >

INTECSEA has provided FEED and detail engineering support for Subsea Seven on the Petrobras Guara and Lula NE BSR project. Both fields are located in Brazil pre-salt area with water depth of 2,200 meters. The projects include supply of four subsea riser buoys 250 meters below sea level, each supporting more than twenty SCRs, umbilicals and flexible service lines. This is a first-of-a-kind design in the industry and helps reduce the FPSO riser motions to a very minimal level. INTECSEA's scope included engineering of the buoy hull structure, tether system, hull system, and support of procurement, fabrication and installation.

### Corporate overview

WorleyParsons is a leading global provider of professional services to the resources and energy sectors, and the complex process industries.

We cover the full asset spectrum, both in sise and lifecycle, from the creation of new assets, to services that sustain and improve operating assets

Our business has been built by working closely with our customers through long-term relationships, anticipating their needs, and delivering inventive solutions through streamlined, proprietary project delivery systems.Strong growth continues to characterise our performance both through organic development and through strategic acquisition as we strive to provide tailored services wherever our customers need us.

#### **HYDROCARBONS**

POWER

**MINERALS, METALS & CHEMICALS** 

**INFRASTRUCTURE & ENVIRONMENT** 

### **Eco**Nomics

EcoNomics<sup>™</sup> provides our customers with the systems, technologies and expertise to optimise and balance financial, social, and environmental outcomes, improving sustainability performance while enhancing profit and long-term viability.

WorleyParsons' vision is to be a leader in sustainability by helping our customers capture new markets and business opportunities created by the new energy economy.

### **One**Way

Zero Harm is our corporate vision for health, safety and the environment (HSE).

We are committed to our vision and apply it to all operations, at all times, in all locations, and at all levels of responsibility. We will actively work to align our expectations and behaviors to achieve Zero Harm in our dedication to continuous improvement. These expectations are reflected in our integrity management framework, OneWay<sup>TM</sup>, and linked to our global systems and procedures.

![](_page_21_Picture_14.jpeg)

Worley Parsons

# Supporting capabilities

#### Arctic & Cold Climate

WorleyParsons and INTECSEA are world leaders in design and construction of oil and gas production facilities located in remote, hostile environments. Innovative solutions are required to solve unique challenges associated with projects, above and below the ice.

#### Floating Production Systems

WorleyParsons, jointly with INTECSEA, leads in the design of TLPs, SPARs and semi-submersibles. With more than 30 years of experience in this industry, the floating production systems team has been responsible for many achievements and the development of some important leading techniques.

#### Gas Processing

WorleyParsons has designed and built more than 400 gas processing plants around the world. Locations have ranged from deserts of the Middle East, the jungles of South-east Asia to the Arctic regions of Canada.

#### Heavy Oil & Oil Sands

As the world's oil resource is getting heavier, producers worldwide must find production solutions for heavy oil and in-situ bitumen production. WorleyParsons is a leader in this area with nearly 40 years of experience.

#### INTECSEA (Deepwater)

INTECSEA is a global company within the WorleyParsons Group and combines all the group's capabilities for offshore pipelines, subsea production, marine production risers and floating production systems.

#### LNG

WorleyParsons' track record in LNG/FLNG production and regasification extends from evaluation studies and concept technology selection, through FEED and detailed engineering, procurement and construction management for greenfield and brownfield developments.

#### Offshore Topsides

WorleyParsons offers customers a full service solution in a range of speciality areas, including subsea production, offshore pipelines, marine production risers, full insurance and floating production systems including all types of deepwater hulls, tendon and mooring systems.

#### **Onshore Developments**

With much of the world's easy to produce oil already recovered, WorleyParsons increasingly assists customers on projects employing a range of secondary and tertiary enhanced oil recovery techniques.

#### Petrochemicals

With expertise gained over 600 project in over 30 countries, our experience covers the manufacture or processing of over 65 types of chemicals and petrochemicals.

#### **Pipeline Systems**

WorleyParsons' dedicated Pipeline and Terminals group operates from centers of expertise in onshore pipelines, compressor and metering stations, geomatics and SCADA systems.

#### Refining

With over 60 years of experience, we have completed 23 grassroots refineries including supporting utility systems, product terminals and offsite facilities ranging in capacity from 5,600 bpd to 272,000 bpd.

#### Sulphur Technology

Our sulphur recovery units account for approximately 60% of the world's production of recovered sulphur. These facilities include the world's largest single-train units and apply processes developed and patented by WorleyParsons.

#### Unconventional Oil & Gas

WorleyParsons is developing solutions to the unique logistical challenges associated with unconventional hydrocarbons projects across the globe.

### INTEGRATED OFFSHORE SOLUTIONS

Capability & Experience

www.worleyparsons.com

www.intecsea.com

![](_page_23_Picture_4.jpeg)