

# Measurement

Comprehensive solutions for global energy and industrial markets



# A leading provider of valves, automation, and measurement systems to the oil and gas industry

Cameron products are primarily used to direct, measure, and control the flow of oil and gas as they are moved from individual wellheads through flowlines, gathering lines, and transmission systems to refineries, petrochemical plants, and industrial centers for processing. As an OEM and source of more than 20 industry-recognized brands, Cameron delivers high-quality solutions in the areas of valves, automation, and measurement. By combining technologies from these three areas, we deliver reliable flow control and vital accuracy consistently.



# Products by Market

## PETROCHEMICAL AND CHEMICAL

We manufacture high-quality valves and flow measurement technology for the safe transport of potentially dangerous chemicals.



## GAS PROCESSING

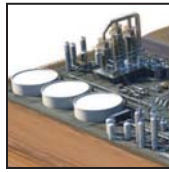
For high performance and positive sealing, our valves offer dependable, zero-leakage control. For maximizing opex, the ultrasonic flowmeters and metering systems provide accuracy.



## REFINING OIL

Our valves and flow measurement technology for refining services offer easy installation and reduced-maintenance performance.

Our sampling, blending, and measurement technologies provide leading solutions for cost optimization.



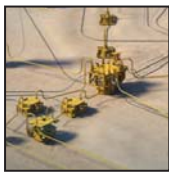
## LNG

We offer a wide range of proven, flexible products with special design features for all installations. Our world-class sampling and ultrasonic flowmeters enable high-accuracy measurement for fiscal applications.



## SUBSEA PRODUCTION

Designed to operate efficiently in deepwater, high-pressure applications, our field-proven valves, chokes, and chemical injection metering valves (CIMVs) are available for subsea production and subsea umbilicals, risers, and flowlines.



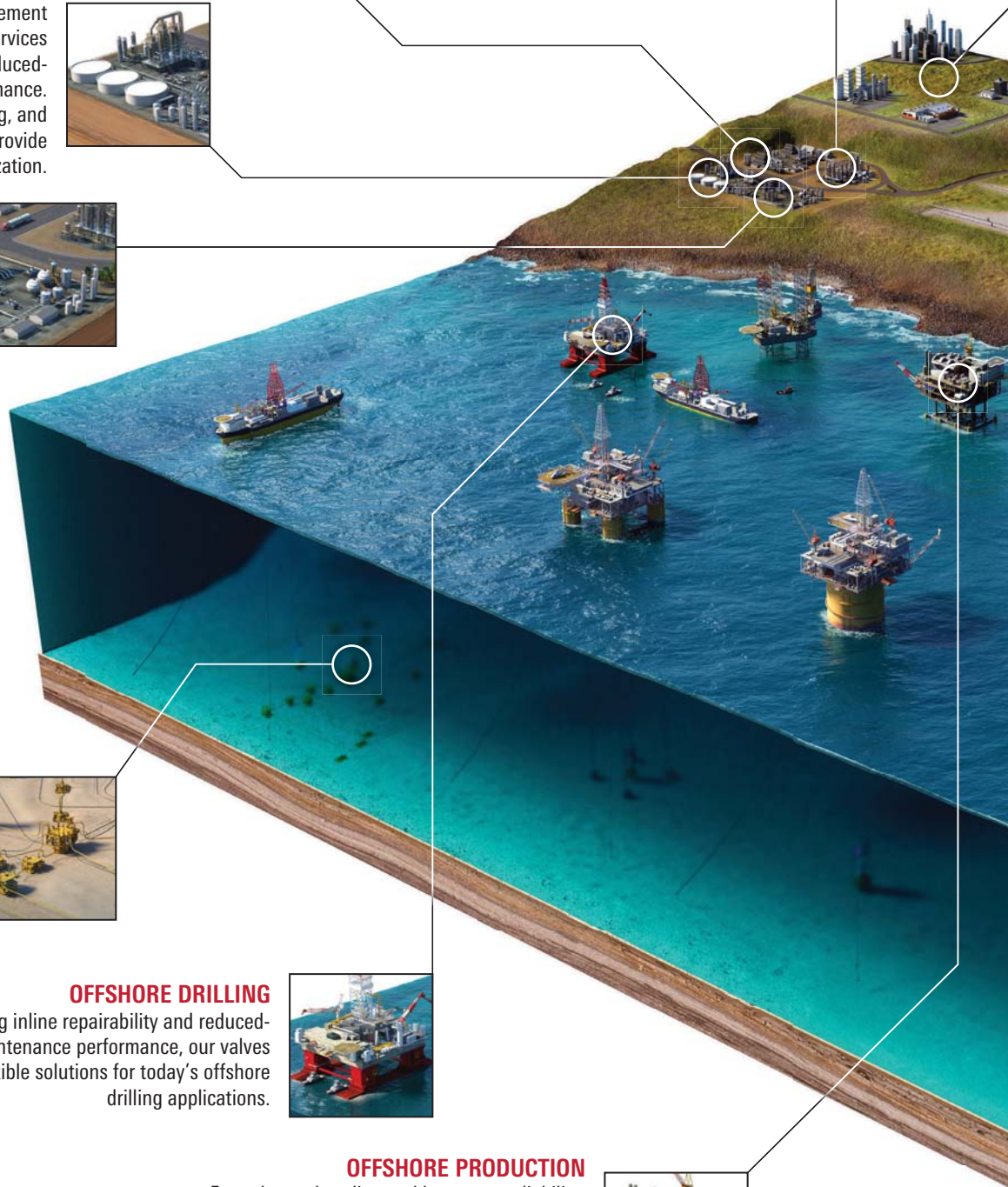
## OFFSHORE DRILLING

Featuring inline repairability and reduced-maintenance performance, our valves provide flexible solutions for today's offshore drilling applications.



## OFFSHORE PRODUCTION

For enhanced sealing and long-term reliability, we offer valves with exotic trims, compact spherical designs, and an assortment of seating options. Our compact high-accuracy measurement solutions can significantly reduce deck loading and improve facility export.



### INDUSTRIAL

We offer downstream valve solutions to the power, municipal, and construction industries. Our ultrasonic flowmeters are used in the power industry to enable more effective generation and management of facilities.



### TRANSMISSION AND STORAGE

Our sampling, blending, and measurement systems help increase pipeline safety and performance, minimize loss, and maximize throughput.



### ONSHORE DRILLING

Committed to providing safe drilling technology, we provide valves and Coriolis flowmeters that enhance safety while increasing drilling efficiency.



### UNCONVENTIONAL AND SHALE

We offer a broad range of rugged, high-quality valves suited for both gas and liquid unconventional applications. Our distributed wireless measurement technology enables rapid, low-cost well-pad deployment.



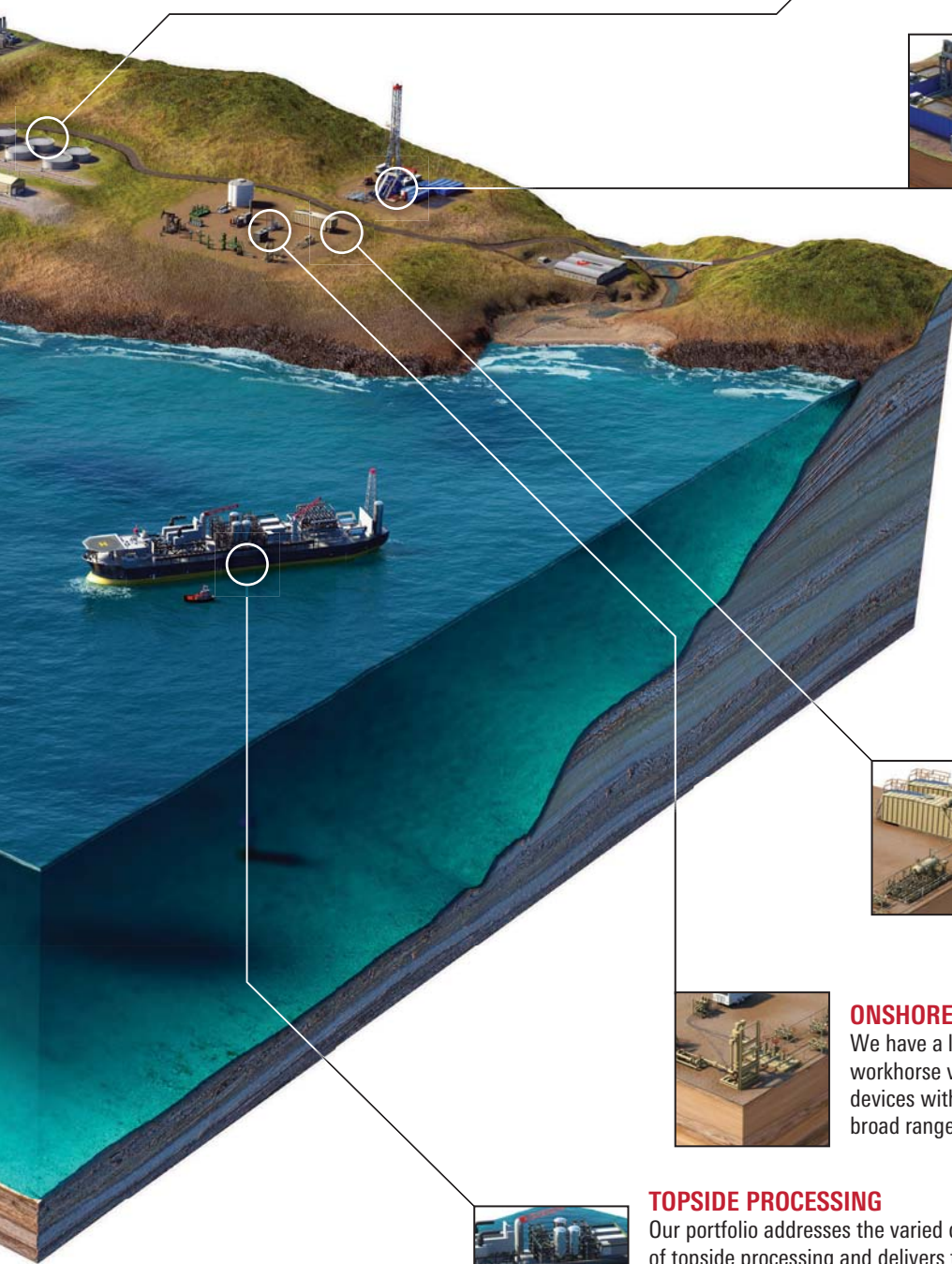
### ONSHORE PRODUCTION

We have a long history in providing workhorse valves and leading measurement devices with superior performance across a broad range of applications.



### TOPSIDE PROCESSING

Our portfolio addresses the varied demands of topside processing and delivers technical performance that respects weight and service requirements. Our compact flow technologies help ensure that the optimal footprint and performance can be achieved.



# Decades of Experience and Expertise in Flowmetering Technologies

We offer a variety of accurate and reliable metering technologies, including turbine, ultrasonic, differential pressure, and positive displacement metering flowmeters for applications throughout the energy industry.

## Measurement and flow computing

Cameron has a range of measurement products to support and complement our flowmeters and sampling products. Our portfolio of wired and wireless Scanner\* flow computers offers an enabling technology for both distributed measurement and local control for applications such as well pads. The NUFLO MC Series\* flow totalizers are recognized as the industry standard in flow measurement and are deployed in applications around the world. These leading technologies are complemented by our robust BARTON\* measurement technology, such as chart recorders, switches, indicators, and remote-telemetry level systems that are used in a wide range of industries.

## Liquid and gas sampling

With CLIF MOCK\* measurement technology and JISKOOT\* sampling and blending products, Cameron has a wide range of sampling offerings. These products comply with international standards for representative sampling, storing, and handling of hydrocarbons from LNG through crude oils, refined products, and bitumen to unstabilized condensates. You can be confident in the performance of our products. Proven with a global installed base that is used for fiscal, custody transfer, or quality measurement, our technology enables us to deliver the optimal product or fully integrated system for your application.

## Measurement reporting

Our reporting technologies provide the instant information needed for operational excellence and the records needed to support fiscal and other recordable transactions. The multifunction Scanner flow computers, with their combination of control and remote terminal unit capabilities, are prime examples of this expertise. Similar characteristics are found in the NUFLO\* measurement technology, LINCO\* measurement technology electronic temperature averager, and the BARTON CryoScan 60\* remote-telemetry level system for monitoring remote fluid inventories. These capabilities evolved from the veteran expertise that continues to be found in the BARTON technology differential pressure and temperature recorders, and related differential pressure indicators and switches.

## Flowmeters

We deliver unique performance and value for our customers by combining the industry-leading custody-transfer accuracy of CALDON\* ultrasonic flowmetering products and renowned and proven BARTON and NUFLO technologies with the CamCor CT\* custody transfer Coriolis flowmeter, CamCor PRO\* process Coriolis flowmeter, and CLIF MOCK technology orifice meters. We offer a reduction in footprint and pressure loss across a wide range of applications.



Scanner flow computer.



BARTON measurement technology chart recorder.



BARTON measurement technology differential pressure indicator.



CALDON ultrasonic flowmetering products for gas.



CALDON ultrasonic flowmetering products for liquid.



BARTON measurement technology turbine meters.



NUFLO measurement technology cone meter with Scanner flow computer.



CLIF MOCK True Cut\* sample mixing system.



CLIF MOCK measurement technology gas sampling system.



NUFLO MC-II\* flow totalizer.

# Measurement Portfolio

Cameron offers both prefabricated and custom-engineered systems to fit the application and demands of almost any environment.

## Sampling and blending systems

Cameron sampling and blending products offer customers a range of solutions designed to improve profitability, provide a rapid return on investment, and reduce life cycle costs—all backed by a dedication to innovation and leading-edge technology. Together with a network of more than 50 highly trained agents in key locations around the world, JISKOOT products have a reputation for delivering project management capabilities that span every facet of a project—from site survey to final onsite commissioning, training, and local support.

## Metering systems

Flowmetering is one of the most important process measurements, and Cameron is committed to providing global standard or custom metering systems to serve our customers' needs. Cameron metering systems deliver a rapid return on investment through reduced measurement uncertainty, rapid project execution, compact footprint, and significantly reduced operating costs.

## High-integrity pressure protection system (HIPPS)

- HIPPS provides high-integrity protection for your personnel, equipment, and environment.
- Suitable for onshore and offshore installations requiring reliable pressure protection of downstream systems, a HIPPS prevents a system from exceeding its rated pressure level. A HIPPS is considered as the barrier against the high-pressure section of an installation or production facility.
- Cameron HIPPS is designed to Safety Integrity Level 3 to offer higher integrity compared with conventional process shutdown and emergency shutdown systems. Each HIPPS is independently instrumented and incorporates field-proven Cameron components, including LEDEEN actuators and GROVE valves.

## Technical services for challenging applications

3Q\* flow and measurement technical services offer full-stream consultancy and technical solutions that provide the bandwidth, skills, and independent authority to cost-effectively solve a variety of measurement challenges. With this insight, customers reduce risk and uncertainty while maximizing the value of produced, processed, and transported hydrocarbons.



# Engineering Innovation and Manufacturing Expertise

Few companies can match the level of engineering expertise that Cameron commits to day-to-day project and support businesses. Cameron innovation is backed by decades of experience and expertise. We have a history of inspiring innovation and forming a bridge to expertise and a comprehensive portfolio of field-proven products and worldwide sales and service channels.

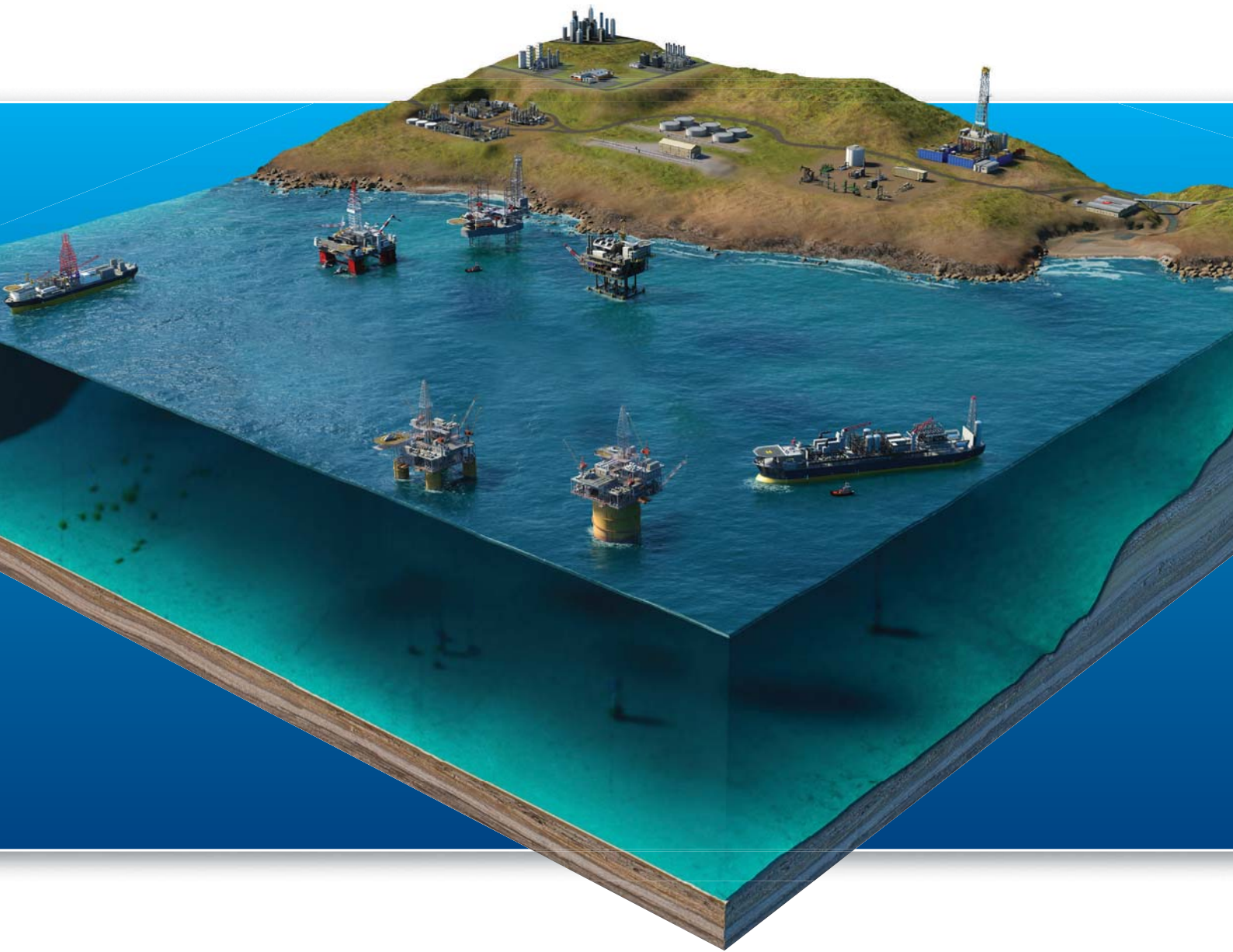
Our program of comprehensive support and services is right where you need it, ready to respond. Highly trained Cameron support technicians are available 24/7 and are strategically located in service centers in 20 countries. Our service portfolio includes

- warranty
- parts and field service
- repair, testing, and maintenance
- remanufacturing
- site and asset management
- installation and commissioning.





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