BENDER®
The Power in Electrical Safety

Offshore and Subsea Solutions

Nonproductive time (NPT) is an acronym well known throughout the oil and gas industry and accounts for substantial losses in time and revenue in petroleum production. NPT is estimated to cost upwards of $100 to $500 million annually. Equipment such as blow-out preventers (BOPs) and top drives can account for 51% - 75% of all equipment-related NPT.

Avoid costly downtime in offshore facilities.

Bender is a worldwide leader in providing electrical safety equipment to the oil and gas industry. Bender's advanced ground-fault protection solutions continuously monitor power and control system integrity, and provide advanced notification of developing ground faults and system insulation breakdown.

- Products for virtually any offshore application – platforms, umbilicals, ROVs, and FPSO vessels
- Advanced notification of ground faults and insulation breakdown using the latest in ground fault monitoring technology for AC and DC systems, and systems with variable speed drives
- Significantly reduce system downtime with automatic ground fault detection and location
- Communications solutions for remote notification of technicians or integration into modern industrial communications networks

Benefits

Detects and locates faults without interrupting operation
Ground faults or insulation breakdown issues can be detected and located while keeping the installation energized.

Reduces maintenance costs
Significant decrease in maintenance costs due to the accuracy of detection and decreased need for human interaction with the system.

Automatically locates faults
Automatic fault location eliminates the need for opening branch circuit breakers or disconnecting equipment.

Safety
Ground-fault location at feeders and loads minimizes employee shock hazards, and quick repair can prevent a fire.

Ungrounded Systems

1 Insulation Condition Monitor
iso685-D-P

- Minimizes unplanned outages and eliminates the need to interrupt power to identify faulted circuits
- Allows planning of system maintenance by trending insulation deterioration over time

2 Automatic Fault Locator
EDS440

- Monitors feeders to detect which has an insulation fault
- Displays information on the iso685-D-P display

3 Insulation Monitoring Device for Subsea
isoHR685W

- Monitors and protects expensive subsea umbilical cables
- Predicts umbilical cable failure years in advance
- Offers high accuracy and stable measurements in situations with excessive vibration, temperature and humidity

4 Communications Display
CP900

- Allows simple and intuitive programming of all connected devices
- Complete system overview

5 Ground-Fault Locator
ISOSCAN® EDS3090 Series

- Fault location clamps available in 20, 52, and 115 mm diameter that easily fit various conductor sizes
- Offers selectable operating mode for insulation fault location or residual current measurement

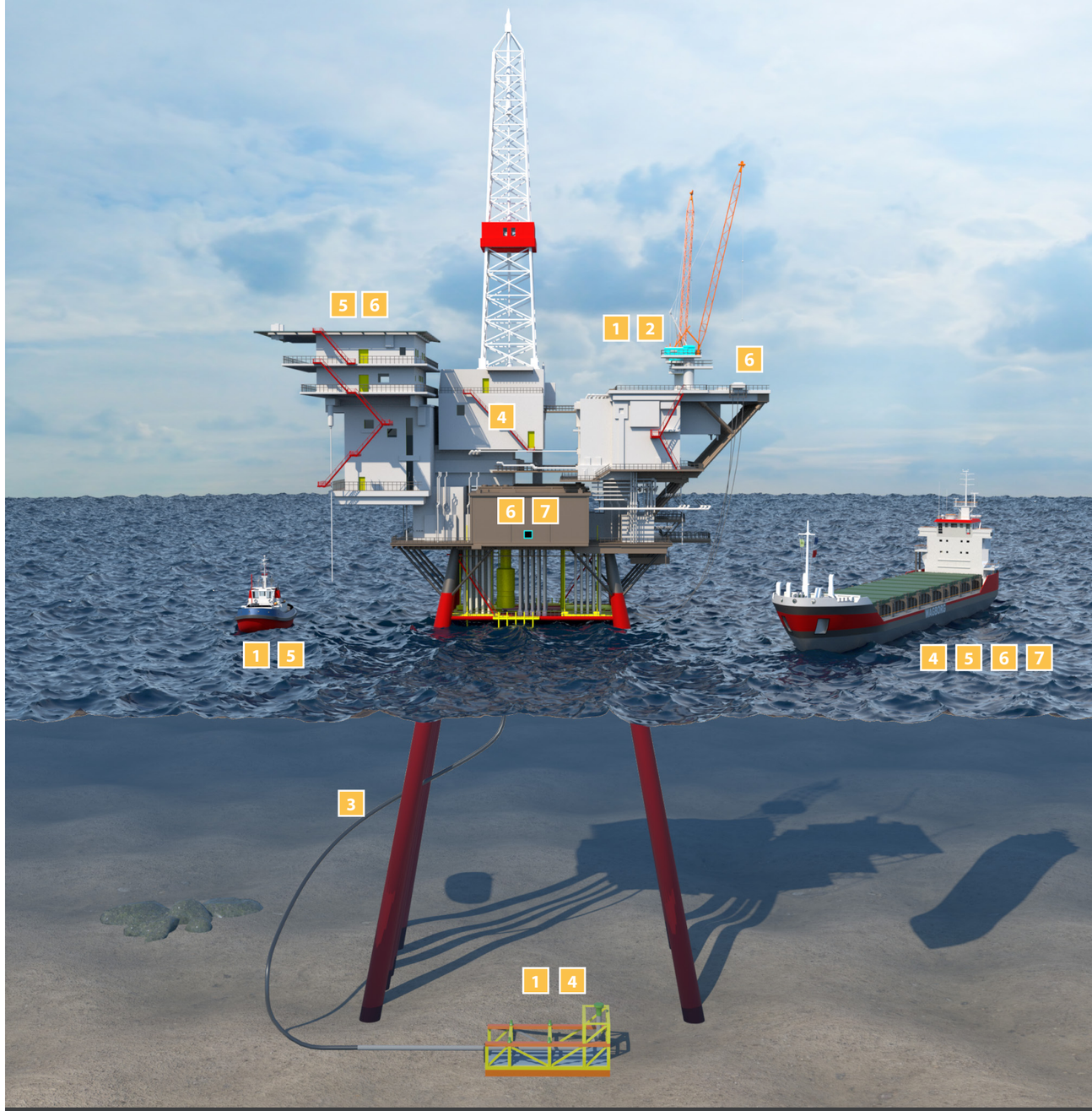
6 Insulation Monitor
ISOMETER® iso415R

- Monitor AC or DC control or power circuits up to 400 V
- Modbus and near-field communications

High Resistance Grounded Systems

7 High Resistance Grounded Systems
HRG Series

- Reduces probability of an arc-flash incident by limiting current of a phase-to-ground fault
- Enables operation of critical loads to continue during a ground-fault and minimizes system interruption
- Ensures system reliability by actively monitoring for short and open-grounding-resistor conditions



Bender offers solutions for multiple areas in the oil & gas industry – onshore, offshore, underwater systems, transport, refineries, maintenance, and more. All of these areas utilize production systems that are required to operate around the clock and should not be shut down due to minor electrical faults.

The use of ungrounded systems (floating systems) with appropriate monitoring devices from Bender can guarantee this. Insulation monitoring devices (iso685 Series) provide real-time measurement of critical equipment and cabling. All recorded information can be accessed remotely at a centralized control point.

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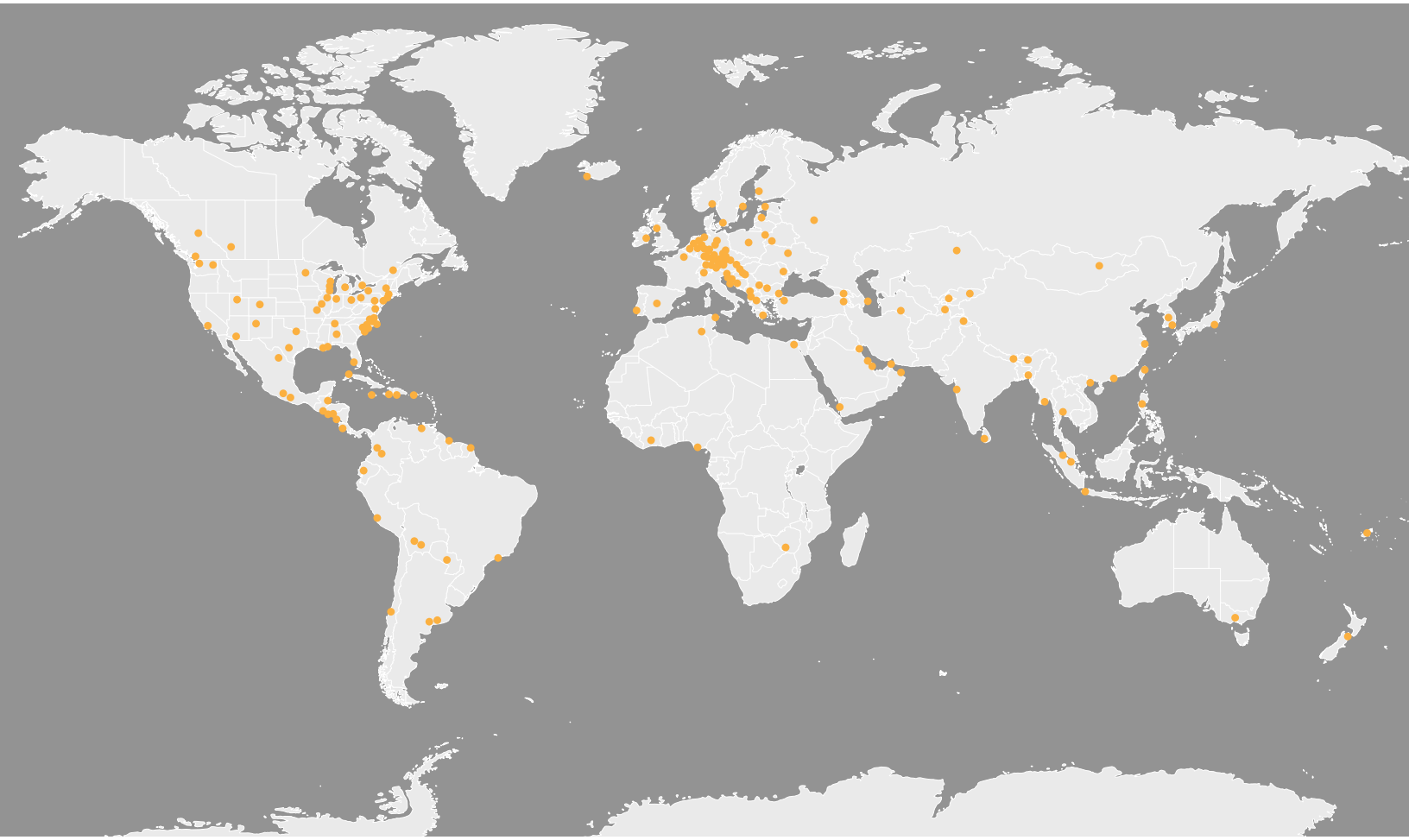
Bender is located in over 70 countries around the world



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