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GENERAL CATALOG

Products



General Gateway

- Testing the fiber optic wires
- Instant short-wavelength signal time-domain and frequency-domain visualization
- Fiber-optic based short-wavelength temperature sensors reading, e.g., inside car parking
- Gas Leak detection across the pipelines



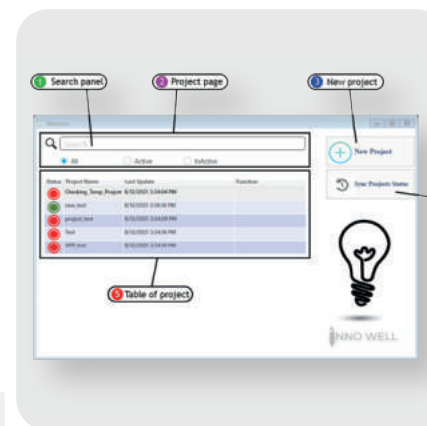
Professional Gateway

- Signal time-domain and frequency-domain visualization and analysis with the highest wavelength coverage range
- Gas kick detection in oil and gas wells
- Fiber optic-based temperature sensors reading , e.g., inside the gas and/or oil wells or chimneys



Industrial Gateway

- Long-wavelength signal time-domain and frequency-domain visualization and analysis
- Fiber optic-based long-wavelength acoustic sensors reading, e.g., inside the gas and/or oil wells
- Fiber optic-based long-wavelength temperature sensors reading, e.g., inside the gas and/or oil wells or chimneys



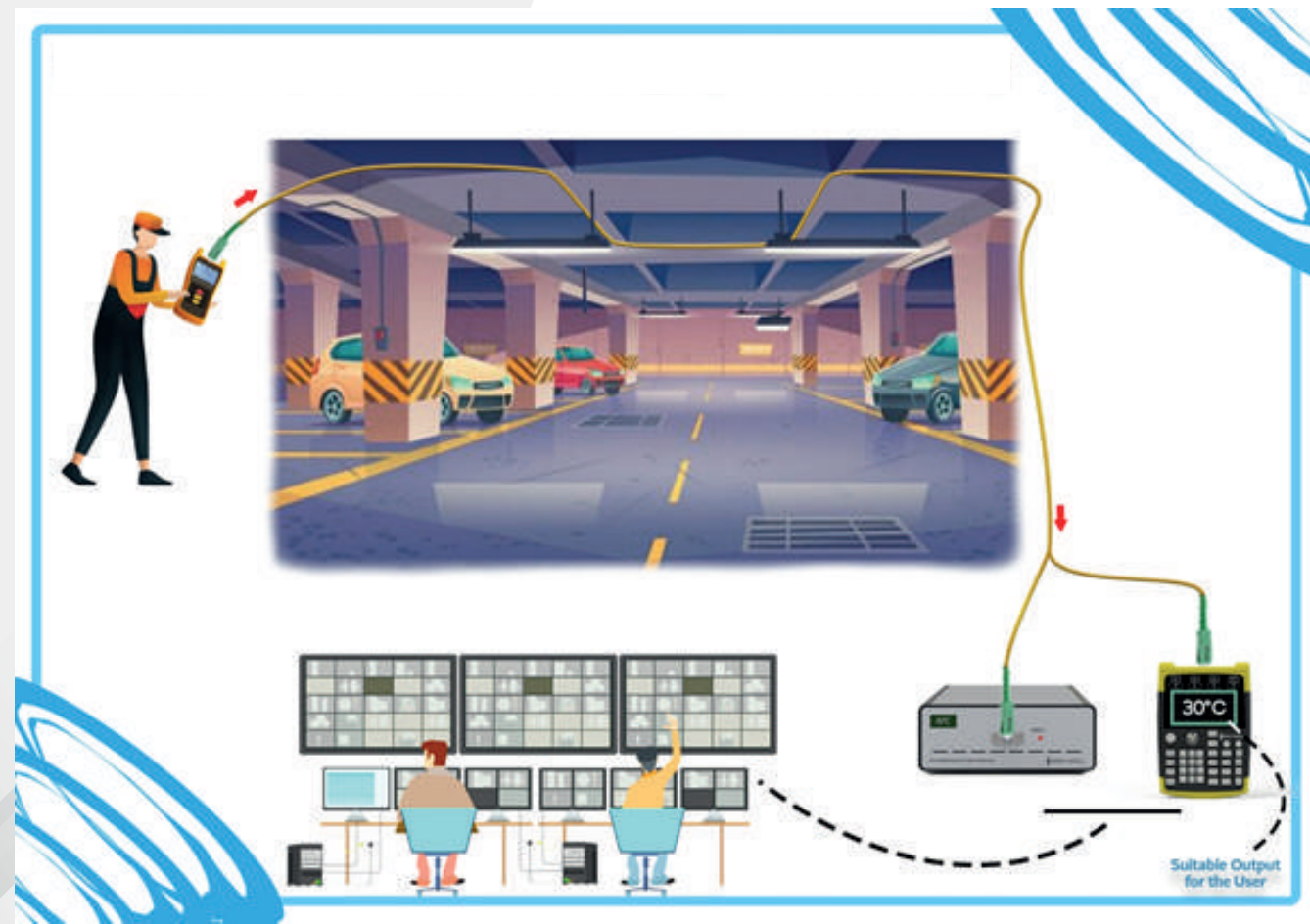
InnoSoft

- Support up to 16 signals for a project
- USB data transition or over the network (Ethernet and/or Wi-Fi)
- Built-in gas kick detection Algorithm
- Support user-defined functions
- Free updates are available

Solutions

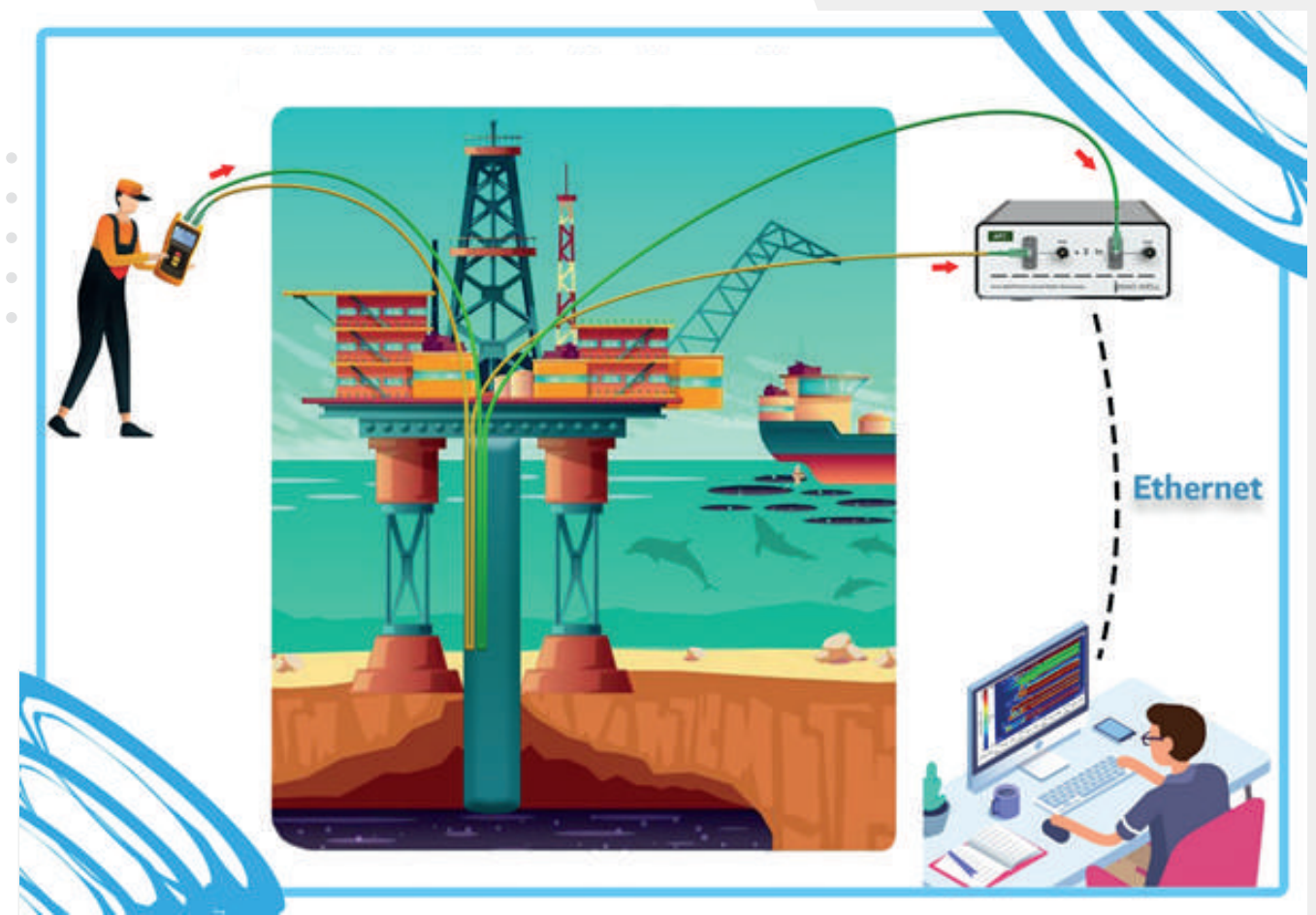
Fiber optic sensors inside the car parking

car parking always need to be monitored for indoor air quality and fire detection. Monitoring the ambient temperature is one of the best solutions in this field. For this reason, fiber optic sensors can be well used in this field. These sensors can also use the general and industrial products to inform the user and the person monitoring the ambient temperature. One of the things that makes fiber optic sensors a good option is measuring the temperature along the fiber optic cable, which can cover a wide area well.



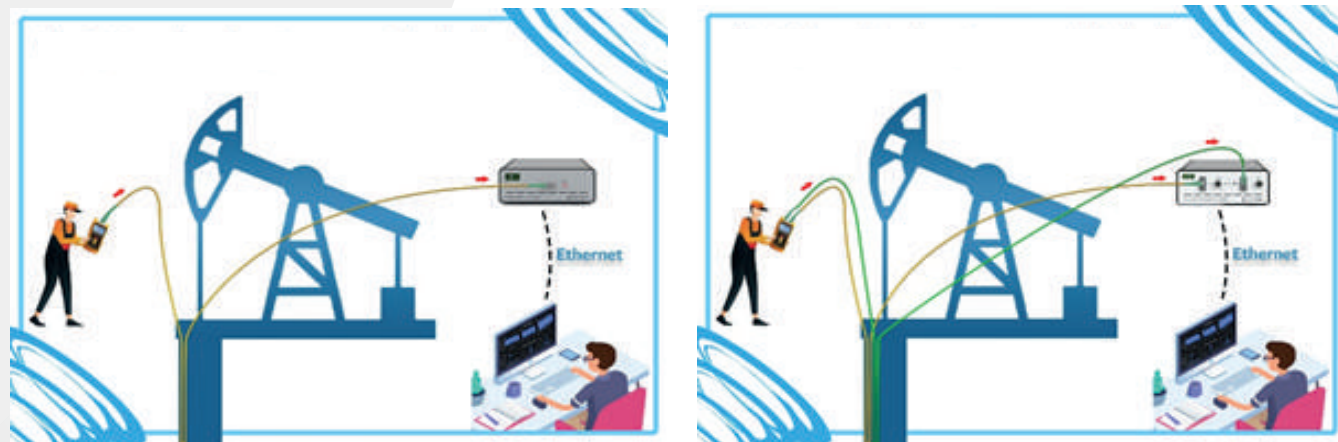
Gas Kick Detection Inside Oil and Gas Wells

Detection of gas kicks has always been one of the challenges of the oil and gas industry. A gas kick can cause many financial and human losses in the oil and gas industry from the past to the present. Gas kicks appear more challenging in oil and seabed gas wells. Conventional gas kick detection methods cannot be used in these wells, and for this reason, in recent years, researchers have suggested the use of fiber optic sensors. In this method, DTS and DAS fiber optic sensors are installed on underwater facilities (Marine Riser), and its output is checked on the oil rig using a professional gateway. If temperature-seismic patterns of gas kick are observed at the sensor output, the user instructs to stop the drilling operation until the problem is resolved. InnoWell, as one of the specialized companies in this field, offers technical products such as Gateways and services such as Consulting, Installation, and Training for gas Kick detection.



Fiber Optic Acoustic and Temperature Sensors Inside Oil Well

Today, expensive pressure and temperature gauges are used to measure the temperature and pressure inside oil wells. Fiber optic sensors can be a cheap alternative to these pressure and temperature gauges. Essential features of fiber optic sensors such as high durability and the ability to work in harsh environmental conditions have made them one of the most suitable options in this field. On the other hand, gateways designed by InnoWell are well able to receive, display and analyze the output results of fiber optic sensors. In this regard, both professional and industrial products can be suitable options for use in these conditions.



Gas leak detection across the pipeline

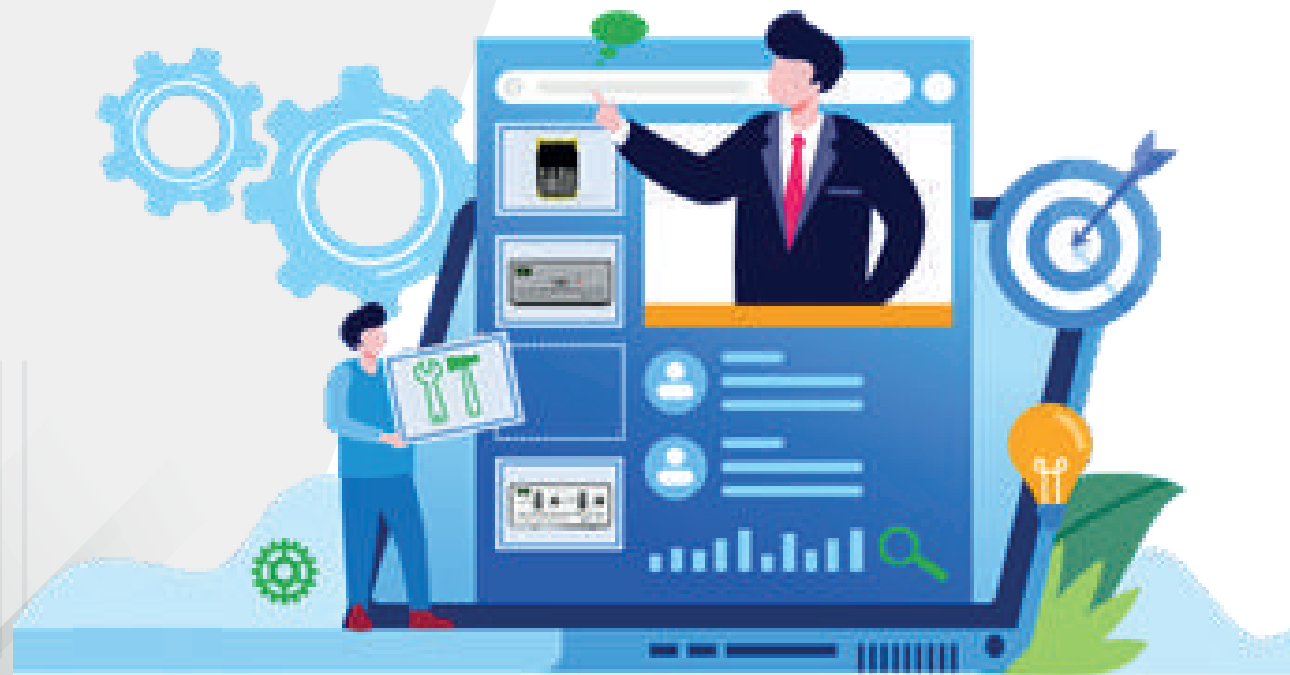
Pipelines may be used to transport gas in uninhabited or residential areas. On the other hand, the possible leakage of these lines can cause many human and financial risks. One of the methods used to detect pipeline leaks is the use of fiber optic sensors. The DTS sensor is installed alone or in with the DAS attached to the pipelines, detecting possible gas leaks and sending the necessary warning to the monitoring rooms. Fiber optic sensors have two essential features: the ability to use the sensor over long distances, such as several kilometers, and measure temperature and vibration continuously, making them a good option for monitoring pipeline leaks. InnoWell products, General Gateway, can be used for on-site inspections and Industrial Gateway in monitoring rooms.



Services

Customization Order

There is always a need to develop custom apparatuses and services for customers in specific industries or work in different conditions. Given InnoWell's challenging field of work, the company is ready to develop custom products and services. After holding meetings between the company's research and development team and customers, we can develop products to fulfill their requirements. Although custom products and services are mainly made based on developing/modifying existing products and services, developing sophisticated and dedicated products and services in situations where the aspects are identified after meetings is also possible. Considering that the custom products are more complex than conventional models, the price includes the preemptive product's price plus research and development costs and probably the hardware/software updates



Consulting Meeting

InnoWell is ready to provide consulting services in fiber optic sensors and gas kick detection in oil and gas wells. With this regard, companies that require the services can request holding meetings with InnoWell's professional R&D team and receive technical and managerial services. In those meetings, the possibility of providing the most fitting and economical services and products based on customer needs and the usages can be discussed.



Software Support

Products made by InnoWell owe a significant portion of their unique features to the company's software. Therefore, software support for products is practically the development of facilities and improving the user experience. InnoWell offers a different software support package for each product. These services are free, but the support period varies depending on the product type.



Collaboration

Today, the development of industrial companies is not possible without investing in research and inter-cooperation. Moreover, large industries' moral responsibility is to develop technical tools and services for scientific and academic cooperation to make human life more manageable. To this end, InnoWell, as one of the leading companies in gas kick detection and fiber optic sensors, is ready for technical and research cooperation with various centers. These collaborations can include laboratory services, assistance with academic theses, assay development, and more. In addition, industrial start-ups that need our company's experience and facilities to develop their ideas can apply for cooperation with InnoWell. Our company is also ready to cooperate with research centers and industrial groups.



Health inspection

InnoWell provides on-site health monitoring services to support customers. These services can include sensor calibration, product health checks, and software checks. InnoWell teams with professional and specialized fiber optic products can identify and fix any equipment or sensor processes problem. Also, in troubleshooting fiber optic sensors, InnoWell Portable can be an ultimately helpful tool to be used by technicians.



Structural Health Monitoring

Structural health monitoring (SHM) has risen as a critical issue today. In addition to providing security for users of structures, these systems also increase structures' lives and reduce maintenances costs. InnoWell offers an SHM system that could continuously surveil the structures utilizing distributed acoustic sensors (DAS) and optic gateways. Infrastructural vibration and strength tests are performed using the same apparatus, while validated algorithms identify the natural frequency.

Application(s):

- Bridges, tunnels, and road health inspections
- Passages, large amphitheatres, and residential towers health test
- Large historical structures conditioning

Specification(s):

- High durability in harsh environmental conditions
- Ability to monitor the structure permanently or periodically

Recommended product(s):

- Professional, Industrial, and General gateways



Real-Time Gas Kick Detection

Gas kick detection is the leading service provided by InnoWell. In this service, installation services, initial testing, and training of customer operators are performed. Equipment installation includes adding fiber optic sensors to the drill and installing a monitoring room and tools related to receiving signals from the sensor. The efficiency of the product is checked in the presence of the customers and experts, and the health and efficiency of the product are guaranteed. In the next step, the operators introduced to InnoWell by the customer, depending on the size of the project, get acquainted with the product's technical details and how to use the software and hardware of this service. These operators can also help fix minor product defects with the guidance of InnoWell experts.

Application(s):

- Oil and Gas Wells

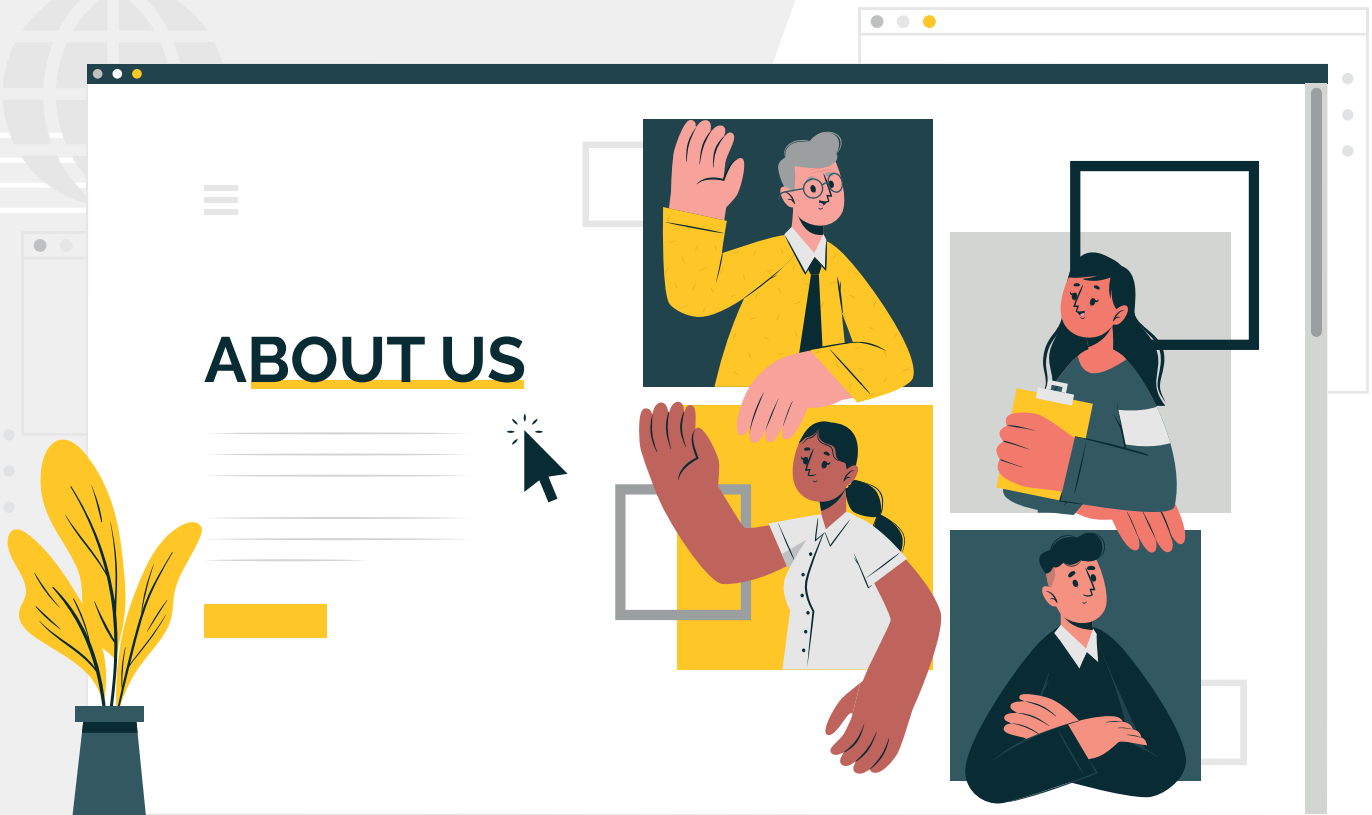
Specification(s):

- Rapid kick detection using validated algorithms
- Send information to remote locations

Recommended product(s):

- Professional gateway





InnoWell is an innovative company in the field of optical gateway and fiber-optics-based sensors. The company's products and services can properly fulfill customers' requirements for measuring temperature, strain, and various gasses, whether toxic or explosive, in power plants and other open areas such as parking spaces. Our industrial and professional gateways are also empowered with a validated algorithm that can identify gas kicks just before happening. Our ultimate aim is to provide a groundbreaking but practical approach to measuring different parameters in oil and gas wells besides analyzing tools to help engineers save lives.