Photo courtesy of H2scan | **HY-ALERTA™ 500 Handheld Hydrogen Leak Detector in use.**

Sensing a new market

H2scan builds its business in hydrogen monitoring

With headquarters in Valencia, California, H2scan is a rapidly growing leak detection and process gas monitoring solution provider. H2scan's industry-leading hydrogen analyzers and leak detectors are based on patented, solid-state core hydrogen sensor technology.

In September 2002 the company's founder and President, Dennis Reid, saw an opportunity in the sensor industry. Recognizing the potential for hydrogen sensors within the rapidly expanding IOT (Internet of Things) platform, H2scan has developed strategic relationships with large companies to exploit these opportunities.

In 2016, H2scan added an environmental and conditioning laboratory and expanded its production facility. The new lab enables the company to condition the process sensors in much greater volumes, increase production, and expand its R&D to validate the proven technology for existing applications where the need for improved technology is as prevalent as the refinery and petrochemical applications.

Product portfolio

Today, H2scan's three main product lines are the HY-OPTIMA™ process hydrogen analyzers, the HY-ALERTA™ hydrogen safety monitors and leak detectors, and a separate line of products designed exclusively for the electric utility and energy market.

The company serves a wide range of global markets including petroleum refining, pipeline monitoring, chemical production, fuel cells and alternative energy, and industrial gas manufacturing. H2scan sensors enable companies to meet safety, regulatory, and process control requirements when monitoring hydrogen, even in challenging environments. Through licensing agreements, H2scan also provides its technology as sub-systems to OEMs for certain industrial applications.

According to H2scan, hydrogen detection, analysis, measurement, and rate of change are a critical challenge in many industries. Given the nature of the hydrogen molecule, it is extremely hard to detect it safely, reliably, and quickly. The company's innovative technology allows the products to be used primarily in three ways: for online process analysis (real-time monitoring hydrogen concentrations in gas streams for industrial process control); embedded directly in the oil of a power transformer; or for safety monitoring for the detection of leaks to avoid potentially dangerous build-up of hydrogen gas in many different applications.

As hydrogen applications have expanded and entered new markets, business opportunities have opened up for H2scan's process analyzers, transformer monitors, and safety monitors. In addition to the numerous applications throughout refineries and chemical plants, ongoing product development within H2scan is enabling opportunities in new markets. For example, in 2018 the company will be releasing a model specifically tailored for syngas applications, which can have CO levels as high as 50%. That's an extremely challenging environment.

Other new markets include measuring hydrogen in natural gas pipelines. Providing analyzers which can accurately and quickly measure the amount of hydrogen entering and exiting the system as well as monitoring for losses along the pipelines is a new and very exciting opportunity for H2scan. In 2018 H2scan plans to offer a modular sub-assembly version of its flagship process analyzers for OEMs looking to easily integrate a hydrogen measurement solution into their existing products.

The company's history of continuous product improvement hasn't been overlooked on the safety or area monitoring side either. H2scan's solid-state non-consumable sensor offers some valuable advantages over competitive technologies, particularly in the areas of ease-of-use, total cost of ownership and overall lifespan. New products under development will further widen the capability gap between H2scan and the older, less reliable technologies currently on the market. gw

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