

GAS

FINDING WAYS TO ADD VALUE TO GAS DETECTION EQUIPMENT

In the United States, around 65% of all gas utility first responders carry a SENSIT instrument for gas leak investigation. So, with such a dominant position in the market, SENSIT Technologies is under constant pressure to keep ahead of the competition, and in the following article we will explore the ways in which it has managed to do so.

For more than 40 years, SENSIT Technologies has developed and manufactured hazardous gas detection equipment for applications such as gas leak surveys, underground gas location, pipeline purging, personal safety and confined spaces. The company was founded by the parents of the current CEO Scott Kleppe, and has built a global reputation for its combustible gas leak detectors. "To maintain and build on our market position, we have to continually innovate; by finding new ways to meet the needs of our customers," Scott explains. "However, as we seek to expand our product range and market activity, it is important for us to retain and build on the strengths that have made us the market leader."

The core technology in many of the SENSIT products is an advanced low power semiconductor sensor to measure combustible gases in the LEL (Lower Explosive Limit) range, and a thermal conductivity style sensor to measure combustible gases in the percent volume range.

Developing a broader spectrum of measurement parameters

The expansion of the SENSIT product range has been driven by the requirements of new applications and by customers wishing to monitor other gases in addition to Natural Gas, Propane and Butane. Oxygen, for example is a useful parameter to monitor, particularly in confined spaces, where a lack of oxygen can prove fatal.

Carbon Monoxide (CO) is also an important gas; produced when fuel is burned in low levels of oxygen. After CO is breathed in, it enters the bloodstream and mixes with haemoglobin to form carboxyhaemoglobin. This reduces the ability of blood to carry oxygen, which causes the body's cells and tissue to fail. Consequently, there is a requirement to measure CO levels in many applications, and around 20 years ago SENSIT manufactured its own sensor for this purpose. "At that time, a number of different sensor manufacturers were knocking at our door, seeking to become the supplier of our CO



Scott Kleppe

sensors," explains Scott Kleppe. "Our CO sensor requirement was significantly smaller than the numbers being manufactured by the main manufacturers, so it made sense to exploit their experience and economies of scale."

Among the prospective suppliers was a representative from Alphasense in the UK, and following extensive trials the incorporation of Alphasense electrochemical sensors into several of the SENSIT products was agreed. Scott says: "Accuracy, stability, repeatability and price were of course major issues in the assessment, but we also took other factors into consideration such as the quality and speed of technical support."

Shared values create long relationships

With the partnership between SENSIT and Alphasense now stretching back over 20 years, Scott says: "Shared values and goals are the underlying reasons for the relationship's longevity. For example, both companies strive to deliver outstanding levels of service for our customers. At SENSIT, we constantly remind ourselves that we have two ears and just one mouth, so when a customer calls for help, we listen, and we go the extra mile to ensure that they get what they need."

"We are fortunate to have a team of almost 120 people that really care about our customers because they appreciate the importance of the life saving work that they do. As a result, most of our staff have been with us for a very long time."

"Over the years, we have learned from experience that Alphasense shares the same working philosophy because they have consistently responded quickly and effectively to our requests. They also constantly seek to innovate, which feeds into our development work so that we now include a much wider range of sensor options in our product range."

"The instruments that leave our factory have the SENSIT name upon them, which means that our reputation travels with them and our brand therefore depends on every part of every instrument. Consequently, we need a supply chain that delivers components and sensors that are consistently reliable; delivered on-time, every time."

"After working with Alphasense for over 20 years, we have become accustomed to high levels of quality. We know for example, that every sensor has been individually tested, which saves time and cost, protects our brand and builds trust into the relationship."

Helping critical workers

As a provider of equipment to critical workers, SENSIT had to ensure normal manufacturing output at its facilities near Chicago during the COVID-19 pandemic. "The factory had to be quickly adapted to accommodate social distancing," Scott explains, "we also moved the factory to a shift pattern, with the facility being completely sanitized between shifts. Staff now work longer shifts, but with a week on, followed by a week off."

"Some staff have been able to work from home, which meant less time lost travelling, with benefits to the work/home balance and the environment, so it will be interesting to see if we can retain those advantages once the 'new normal' emerges."

Looking forward

Scott believes that the recent pandemic will inevitably make citizens more conscious of risks such as airborne hazards, and this will further drive the market for safety products; particularly personal monitors. At the same time, SENSIT's partnership with Alphasense will help to meet other market needs such as a broader range of parameters and lower cost sensors with less interference and a longer interval between maintenance.

Instruments are also likely to become smaller and even easier to use, with wireless communications and improved functions for transparency and traceability.



SENSIT® GOLD G2 can be configured for combustible gas readings in PPM, LEL and/or % vol., as well as a variety of toxic gases and oxygen

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