# Advanced Gas Analysis – On the Go

The field of ambient air analysis – monitoring industrial and other environments for harmful concentrations of gases – has traditionally faced a technology limitations: Would you prefer a complete and reliable tool, which will be bulky, complicated and inconvenient? Or would you like a nice portable one that's simple and lightweight, but unreliable and limited in its capability?

Truly complete gas analyzers were difficult to use in field conditions due to their size, and required a scientific background to operate. Smaller detectors delivered unpredictable reliability and were able to identify gases but not concentrations. When you're talking about sulfur dioxide, nitrous oxide, ammonia, methane and Freon, that's not a pleasant choice to have to make.

## Breaking through the barriers

This was the challenge facing Gasmet Technologies of Finland, a leading developer and manufacturer of gas monitoring systems. Unwilling to accept the technological roadblock, Gasmet decided to devise a better solution for users of their gas analyzers, which are based on the FTIR (Fourier Transform Infrared Spectroscopy) principle and can detect multiple gases in minute concentrations.

And thanks to the capabilities of the Recon ultra rugged mobile computer from Handheld and the ability to simplify their own software, Gasmet has developed the Dx-4030, a solution that combines the best attributes of both old choices into one new and vastly superior one.

## A rugged handheld and improved software

The first challenge was to find the right portable technology. The key was to find a mobile computer that was field-suitable. Because the work is performed in outdoor environments, the computer had to provide a sufficient protection against impact, moisture and dust. A basic PDA was not going to be tough enough. After searching the handheld market, Gasmet found the Recon, which has an IP67 rating that means it's impervious to water and dust, and also met stringent U.S. military standards for withstanding drops, immersion and temperature extremes.

The next step was to create user-friendly software. Gasmet developed a new version of its analysis software called CalcmetTM Lite, which allows users to perform all the basic analysis functions using just a few buttons on the Recon handheld.

## A new solution and new capabilities

The result breaks through the old technology ceiling. The Dx-4030 is a powerful combination, lightweight enough to fit in a small backpack but sophisticated enough to provide a full range of gas analysis in industrial environments. For example, by using the Recon with an added GPS receiver, the user can correlate gas concentration results with geographical position, accomplishing a step that was typically done separately after the field analysis was performed.

! For more information about the Recon, visit www.ultrarugged.com or www.handheldgroup.com

## Challenge

To create a portable gas analyzing system that didn't require advanced scientific knowledge, but would still be accurate and reliable as well as portable and able to handle harsh environments.

## Solution

By combining the capabilities of the TDS Recon rugged handheld with a Windows Mobile version of the gas analysing software, Gasmet developed a user-friendly and field-ready solution.

## Result

The new solution is a powerful and more efficient combination. It is lightweight enough to fit in a small backpack but sophisticated enough to provide a full range of gas analysis in industrial environments and field conditions.

Handheld is a world wide supplier of rugged PDAs and handheld computers. All our products are ruggedized and can withstand water, dust, drops and vast temperature changes.
Handheld and its partners deliver complete mobility solutions to businesses in industries such as logistics, forestry, public transportation, construction, military and security.

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