

Selecting an Instrument Vendor – A case study from Eurofins Chemtest



by Shimadzu UK

Eurofins Chemtest is one of the largest and most experienced environmental testing laboratories in the UK and Ireland. The majority of the company's workload - around 60 to 70 per cent - is environmental soil analysis, with the remainder encompassing the analysis of water, leachate, waste, and asbestos. Over the past 18 months, Eurofins Chemtest has invested in a range of Shimadzu instrumentation, including GC, GC-MS, HPLC and TOC systems. The company has also worked closely with Shimadzu to develop a method for ultra-fast total petroleum hydrocarbon (TPH) analysis using the Nexis GC-2030. This set-up has the capacity to process up to 700 samples a day on just three instruments.

Chemtest was set up in Newmarket over 25 years ago, with the brand soon becoming synonymous with high quality environmental analysis. Since then, it has gone from strength to strength, gaining UKAS accreditation to ISO/IEC 17025:2017 and the Environment Agency's Monitoring Certification Scheme (MCERTS) performance standard for soil analysis. Chemtest joined the Eurofins family in spring 2019, and today Eurofins Chemtest is a driving force within environmental testing in the UK and Ireland, focusing on digital innovation and customer experience.



As part of the largest life science company in the world, operating in 50 countries and with over 850 laboratories, Eurofins Chemtest now has increased capabilities and resource to support customers globally. Its continuous investment plan has seen £4.1 million invested into infrastructure and equipment since 2019, including 20 Shimadzu systems of different types for the Newmarket laboratory. This commitment to introduce state-of-the-art technologies, maintaining a +20% headroom in capacity, makes Eurofins Chemtest the most reliable chemical testing partner in the UK and Ireland.

Making the right choice

With so many instruments and manufacturers to choose from, it can be hard to make the right decision for your lab. There may be several systems that would do the job, but how do you differentiate between them? For Eurofins Chemtest, it came down to finding a company that was not only able to provide state-of-the-art equipment but was also willing and able to build a supportive relationship and develop solutions to meet their specific needs. Glynn Harvey, Technical Manager at Eurofins Chemtest, explained: "What makes Shimadzu different is that they offer a very personal approach. They take the



time to discuss what we want - our needs and expectations - and are always honest with us about whether the instrument we're thinking of investing in is the most appropriate for our applications. That means a great deal to us, as it shows a real understanding of what we require, and a willingness to work with us to make sure we have exactly what we need."



Sharing technical expertise

From time to time, all laboratories require some degree of technical support, whether it is service and maintenance, optimisation of existing methods that have been implemented on new instruments or the development of a completely new protocol. Glynn continued: "After-sales support and rapid response times are fundamental; if we have a problem, we need to resolve it instantly, because it very quickly affects our turnaround times. Shimadzu's flexibility and willingness to work with us to meet our high expectations stood out. We have pretty much instant access to their technical experts when we need it, and if a problem can't be diagnosed over the phone, they send an engineer to us straightaway."

Partnering to enhance existing methods and develop new ones

Whenever existing methods are transferred to different instruments, the protocol must be optimised and validated to ensure the quality of results. At the same time, laboratory workloads are continually changing, creating the demand to enhance methods and develop new ones to increase throughput. "Shimadzu really wanted to work in partnership with us," said Glynn. "The company helped Marzia Di Lillo, our organics manager, and me to revamp our existing methods, even providing loan instruments and spending several weeks at our site to develop a bespoke method for us, with no obligation to buy. We also have the option to go to Shimadzu UK's headquarters in Milton Keynes, where they've set up similar systems to run test samples for us."

A tailored ultra-fast total petroleum hydrocarbon protocol

The close relationship between Shimadzu and Eurofins Chemtest recently saw the two companies work together to develop a custom method for ultra-fast total petroleum hydrocarbon analysis using a dual column Nexis GC-2030 [1]. Glynn summarised the process: "Our organics methods need to be robust enough to deal with a wide range of contamination, but the real challenge is to optimise the

protocols to get the best chromatography in the shortest run time. One of Shimadzu's technical experts optimised every step of the protocol - temperature profiles, split profiles, column chemistry, flow rates, temperature ramps, flow ramps - to streamline and speed up the analysis. Combined with the use of dual columns, rather than a single column, this made a huge difference. We can now analyse up to 700 samples a day with just three of these systems - we needed between nine and 12 GCs previously - helping to improve turnaround times and freeing up instruments for other applications, increasing our sample capacity even more."



Planning for the future

Eurofins Chemtest is set to continue to grow, and investment in additional and replacement instrumentation from Shimadzu will form a key part of that progression. Over the next year or so, the technical team plans to review all the company's methods, working with Shimadzu to introduce even more improvements. Marzia commented: "The instrumentation is very good, and the software is really user-friendly - all our analysts like working with it." And Glynn concluded: "We've always found the Shimadzu team very accommodating. They've taken the time to understand who we are and what we need, and they react extremely quickly to even the most trivial questions. It's very much a partnership that both companies are benefitting from."

1. Application News: Ultra-fast Total Petroleum Hydrocarbon (TPH) analysis using the Nexis GC-2030. No. SCA_180_038.