Case Study

Customer Success Story

We spoke with **Licia Dossi,** Senior Lecturer at Cranfield University and Chartered Scientist of Royal Society of Chemistry, to find out how **the Nano-Plotter™ microarray printer** is supporting their work in chemical detection, synthetic polymer chemistry and energetic materials.

What are your main responsibilities and/or what does a typical day entail for you?

As materials scientist by background, I am the project and technical manager of various scientific projects financed by a variety UK and overseas clients on various themes. As Fellow of the UK Higher Education Academy, I deliver lectures at Master and PhD levels, design-deliver bespoken short courses to public and private Defence and Security sectors and I supervise numerous MSc and PhD students. I lead the UK Centre of Excellence in Energetic Materials (CoEEM) - Explosives Detection Hub and I have an important national and international networking and collaborations with academic and industry in UK and overseas. I am co-authoring several scientific papers, patents and books.

What challenges were you experiencing prior to purchasing our product or service?

I was leading Cranfield's partnership in the F7 – CRIM-TRACK project on the detection of illicit chemicals (2014-2017) and the coordinator of the project successfully used an old GeSiM nanoplotter for the fabrication of chemical sensors. The research is now transferred in the UK and I (Cranfield University) became the coordinator of the project since 2024. Consequently, I bought a new GeSiM nanoplotter for the detection research through a UKRI grant on "Biodetection Technologies".

When, where and how did you first become aware of the product?

In 2014, from DTU partners as the nanoplotter was essential for the fabrication of the chemical sensor for the CRIM-TRACK sniffer technology.

How do you plan to use the product in the future?

The nanoplotter is used for the fabrication of colourimetric chips for the detection of common chemicals, illicit chemicals, aerosols and bioaerosols, and pesticides in archival items

What have been the highlights of your application that have been made possible by the product?

The nanoplotter is essential technology for the fabrication of the chemical detection sensor.

What do you hope to potentially contribute to science/the world with your findings/use of the product?

The scientific projects based on the colourimetric sensor produced by the GeSiM nanoplotter are very important for the Security public and private sectors. The detection of the illicit substances is vital in preventing immediate harm to people as well as damage to infrastructure and mitigating long-term negative economic and social impacts on communities. The development of novel methods, technologies and instrumentation for monitoring, sensing and characterising bioaerosols from industrial and urban environments is of high significance to the environmental and agricultural, healthcare, defence, and indoor public settings. Finally, by identifying traces of pesticides in Historical Archive items used in the past for protecting against pests and moulds, we will support the Heritage Risk Management.

"Analytik was excellent during the acquisition process. Hiran was very supportive during the whole period, and he continues to promptly assist when is requested. They have well interfaced with GeSiM on delivery, installation, commissioning and training. It is good to know that they are always available to assist us. Thanks."

Licia Dossi, Cranfield University