Case Study

New Allies for the King in the Battle Against Illicit Drugs in Sweden

The beautiful Scandinavian nation of Sweden is unique in many ways, made up of thousands of coastal islands and inland lakes, along with vast boreal forests and glaciated mountains. This ancient northern country is blessed with a remarkable history and friendly culture. But Sweden also shares a common affliction with nearly every other nation on earth, the blight of a drug culture and illegal and illicit drug trafficking. There is also a black market for other contraband. Illegal drugs are smuggled into the country along with guns and explosives, items of contraband that seem to keep common company. Illicit drugs brought into Sweden are no different from those abused in other countries, e.g., cocaine, heroin, methamphetamines, and synthetic opioids. Swedish Customs actively intercepts, and interdicts illegal and dangerous items smuggled into the country using a variety of technologies such as X-ray and including, more recently, the complementary Thermo Scientific Gemini Analyzer and the Thermo Scientific TruNarc Handheld Narcotics Analyzer. These are new and potent allies in Sweden's fight against drug trafficking, according to Maria Delin, Customs Officer based in the southern coastal city of Malmö, only a bridge away from Copenhagen and Denmark.

Officer Delin oversees a team of about 15 members in the Customs, or Tullverket facility in Malmö. Together, they are responsible for employing existing technologies as well as new ones in order to operate more effectively and efficiently. Drug trafficking in Sweden is on the rise, Delin says, and this growing problem has caught the attention and raised the concern of His Majesty Carl XVI Gustaf, King of Sweden. The King recently visited the Customs facility in Malmö to see a demonstration of how various tools, including the Gemini and TruNarc, are effectively employed in efforts to reduce the flow of drugs and contraband into this nation of 10 million people.

"We use both the TruNarc and Gemini handheld analyzers in our work," Officer Delin says. *"The capabilities of the two units complement one another. Typically, we send the TruNarc out into the field with our agents; it is very portable and easy to carry and use. More often, we keep the Gemini here in our lab, although it is also quite portable. But the Gemini also has a more extensive substance library than the TruNarc, so frequently we will identify a suspect package and, if we can't positively identify it on the spot, we will bring it back to the lab for further analysis. Not all substances are clearly identifiable as drugs; many suspect substances are related compounds that may be used in the manufacture of drugs. The Gemini has a more extensive library than the TruNarc, so for us, using the two analyzers together helps us achieve a positive analysis."*



His Majesty Carl XVI Gustaf, King of Sweden, being shown by Maria Delin, Customs Officer, how her team screens suspect packages using a variety of tools including the Gemini and TruNarc Handheld Narcotics Analyzers.

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Screening suspect packages using the Gemini analyzer.

Photos courtesy Swedish Customs.

TruNarc Handheld Narcotics Analyzer is a Raman device used to rapidly screen and identify drugs, adulterants, and drug precursors in the field suspected to be cocaine, methamphetamine, diazepam, morphine, tramadol, amphetamine, oxycodone, MDMA and others. If the result is positive but inconclusive, the evidence will be returned to the laboratory for full analysis to identify the controlled substance through the Gemini Analyzer. Advantages of the TruNarc Handheld Narcotics Analyzer include the short amount of time required for testing, the ability to scan through common evidence packaging materials, and no destruction or consumption of the evidence.

The Gemini Analyzer helps identify a broad range of narcotics, unknown chemicals and explosives in the field using FTIR and Raman spectroscopy, providing complementary testing in a single, field-portable device. Gemini is capable of identifying more than 15,000 individual substances in an average of 30 seconds or less.
It leverages both Raman and FTIR technology to address a broader range of samples than either technique alone. Fast, safe, and accurate, it identifies unknown solids and liquids, from narcotics to explosives and chemical warfare agents to industrial chemicals and precursors using a comprehensive onboard library. Raman and FTIR are highly specific and reliable identification methods, each with strengths and limitations. By integrating both into a single analyzer, operators harness the power of each technology while enabling a broader range of chemical identification.

Editable Libraries Prevent Obsolescence

Officer Delin particularly values the Gemini Analyzer's extensive library and emphasizes that the library be constantly updated as well as shared with other Gemini instruments analyzers in other Customs offices and law enforcement locations throughout Sweden. "It's a key advantage for us that the library can be edited and customized," she adds. "It is constantly kept up to date with the latest substance information. It won't become obsolete. Updates from Thermo Fisher for the Gemini Analyzer can be plugged in, so that we are always on the cutting edge and ahead of the game, but particularly with library editing and sharing capability."

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