

**SPECTRO XEPOS Advantages
for the Customs Administration
of the Czech Republic**

- ▶ On-Site Testing: Immediate compliance checks during inspections
- ▶ High Performance: Low detection limits, rapid analysis times
- ▶ Robust Design: Endures mobile lab conditions, reliable operation
- ▶ User-Friendly: Easy software, low cost of ownership

Ensuring Product Compliance: Czech Customs' Mobile Lab Utilizes SPECTRO XEPOS for Elemental Analysis



The Customs Administration of the Czech Republic assigns goods to a customs-approved treatment, including release into a customs procedure, and assesses and collects customs duties incurred in respect to those goods. Among other activities, it ensures control over foreign trade with military materials, implementation of the common agricultural policy of the EU, waste handling, trade in protected species of plants and animals and the illegal employment of foreigners.

The Challenge

The Czech Customs Administration operates its own laboratory for sophisticated analyses of samples such as alcohol, mineral oils, lubricants and fuels, porcelain, metals, and many other materials. However, sending samples to the laboratory and waiting for results is not always practical – especially when checking goods during transportation or at the premises of economic operators in tax warehouses. In such cases, samples need to be tested on the spot to determine whether the material complies with legislation. To address this need, the Czech Customs Administration decided to become mobile, installing a fully equipped mobile laboratory with various analytical techniques in a truck.

“One of the main applications of our mobile laboratory is petroleum products, particularly the analysis of sulfur in fuels,” Customs officials say. The administration already had good experience with the previous SPECTRO ED-XRF system and therefore considered SPECTRO XEPOS when planning the mobile lab.



“We had clear expectations of the new analyzer. Because of the analysis situation in a truck with considerable vibrations, etc., criteria such as robustness, reliability and durability were very important to us. Of course, it had to fit into a tiny laboratory space. Ease of use was also a key factor. Not to mention the analytical performance, speed and repeatability,” the crew members explain.

It quickly became evident that the SPECTRO XEPOS could operate effectively in a mobile laboratory, delivering results of the same quality as laboratory-based instruments. After considering all the factors, the administration concluded that the SPECTRO XEPOS could be the right choice among similar devices.

The Solution

Since May 2017, the SPECTRO XEPOS has been installed and used in the mobile laboratory. With its low limits of detection, it can conduct a complete analysis within just a few minutes. The software offers exceptional ease of use, and the SPECTRO XEPOS boasts a low cost of ownership.

Calibration and validation of the analyzer were performed during the pre-acceptance phase, ensuring a smooth installation. SPECTRO coordinated with the provider of the mobile laboratory to facilitate seamless integration. The SPECTRO XEPOS was secured with straps in a table hole to prevent movement while the truck is in transit.

The Results

In the mobile lab, the SPECTRO XEPOS is used to test diesel fuel for compliance with specifications, with a primary focus on sulfur content. Recently, the use of different sources of crude oil in refineries has led to an increase in off-spec materials, making this testing even more critical. “With the new instrument, we can perform the analyses directly on site, without having to take the samples back to the laboratory for analysis,” the Czech Customs Administration analysts explain. “Current plans are to expand the scope for the mobile lab, including the identification of unknown inorganic substances.”

About the Customs Administration of the Czech Republic

The Customs Administration of the Czech Republic is a security force and its activities form a part of the customs supervision system in the framework of the single customs territory of the European Union. It implements this supervision on the basis of the uniform customs regulations of the European Union.

About SPECTRO

SPECTRO is one of the world's leading suppliers of analytical instruments. Its advanced analyzers use X-ray fluorescence spectrometry (XRF), optical emission spectrometry (ICP-OES, arc/spark OES), and inductively coupled plasma mass spectrometry (ICP-MS) technologies in providing accurate elemental analysis of materials for industry, research, and academia.



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