

Customer testimonial

ARL iSpark meets all requirements of Metalor Technologies

“The ARL iSpark has the precision, the accuracy, the reliability and the efficiency required to perform the large number of demanding analyzes needed every day.”

Metalor Technologies SA

Metalor Technologies SA is an international Swiss-based group, with subsidiaries in 17 countries. It is a leading participant in the field of precious metals and advanced materials.



As one of the oldest and most renowned manufacturers of products for the international gold market, the Refining Division offers a broad range of products, whose quality is recognized worldwide. Metalor Technologies is also one of the five referees worldwide on both the LBMA (London Bullion Market Association) and LPPM (London Platinum and Palladium Market), two trade associations defining and supervising the precious metal markets, and specifically the physical delivery of precious metals.

In addition to providing ingots to banks and financial institutions, the Refining Division supplies pure precious metals to the other divisions of Metalor Technologies SA. It also sells precious metals to industrial customers. The form and degree of purity varies according to the individual customer's requirements, and can go as high as 99.999% grade thanks to highly controlled and stabilized impurities.

Challenges of the Metalor Swiss Laboratories

With more than 100,000 analyzes per year performed according to the ISO 17035 standard environment, the Swiss laboratories are the most important and the reference laboratories of the Metalor group.

The Trace Analysis Laboratory is in charge of quality control over all the fine precious metals (Au, Ag, Pt, Pd) before they ship to the customers. The sensitivity and tight laws associated with the precious metals market require a continuous accuracy on the results provided by their laboratories.

Quentin Bochud, Laboratory

Manager, explains: “In the Trace Analysis Laboratory we analyze 30-35 elements at the ppm level to provide the fine title of the material (Au, Ag, Pt, Pd) by difference. Any error on any impurity will hence have an impact on the result. This is the reason why we are constantly looking to improve

accuracy and precision of our analyzes.

Short analysis time, but also ease of use and efficiency of the instrument are crucial to absorb the large number of daily samples and avoid increasing the residence time of the precious metals.

Another particular challenge we face is the risk of cross-contamination between the different precious metal matrices. We therefore require an equipment offering quick and simple switch from the analysis of samples in one precious metal matrix to another one.

We have been satisfied with our Thermo Scientific™ ARL™ 4460 OES spectrometer for more than 15 years. We recently decided to purchase a Thermo Scientific™ ARL iSpark™ in order to meet our increasing instrumental and analytical challenges.”

“The analytical results satisfied all our rather tough criteria and the design and robustness of the ARL iSpark spectrometer leads to a significant gain of time.”

Combining the strengths of Thermo Fisher and Metalor Technologies

“The development and the validation of the analytical methods* and calibrations for the analysis of fine Au, Ag, Pt and Pd is the result of an intensive collaboration involving Thermo Fisher Scientific application scientists and Metalor Technologies laboratory experts.”

ARL iSpark brings the solutions to Metalor’s needs

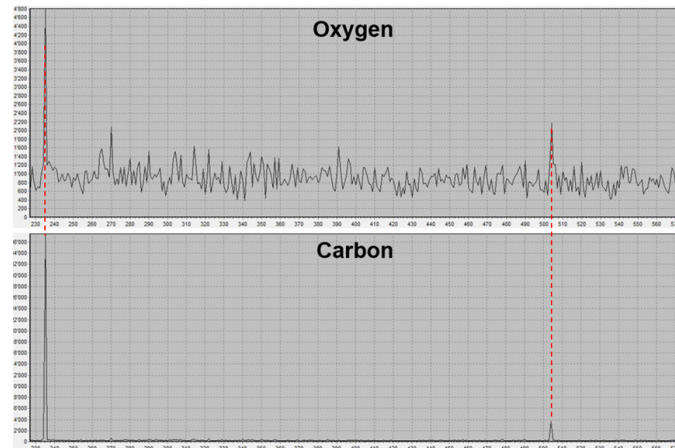
“The ARL iSpark has been installed in 2016, and we have now been using it for more than 1.5 year. The ARL iSpark has the precision, the accuracy, the reliability and the efficiency required to perform the large number of demanding analyzes needed every day.

The stability of the ARL iSpark prevents from having to re-standardize frequently the instrument, and limits the use of very expensive and rare SUS.

The new table changing system of the ARL iSpark is the perfect answer to the cross-contamination problem; it is fast and easy and allows quick switch to the analysis in another precious metal matrix.

Other instrument features contribute to better efficiency or reduced costs. An example is the ECOMode that makes it simple to reduce the argon consumption when the instrument

Intensity run-charts of O and C demonstrating (red dotted lines) the presence of carbon oxides in silver sample.



is idle, without cutting off the argon feed of the instrument. Another example is the ease of maintenance of the instrument, thanks to full frontal access to argon filter and instrument components.”

New perspectives in Spark OES

“At Metalor Technologies, we have also started exploring new fields of application possible with our ARL iSpark OES spectrometer. The first one is the determination of the oxygen concentration, which already showed promising results in fine silver. The second one, called Spark-DAT, allows a fast evaluation of non-metallic inclusions simultaneously with the standard OES analysis method in concentration. The benefit of such a combined method is that we not only have information on the oxygen concentration in the metal, but also that we can determine in the form of what oxide oxygen is present.”

Conclusion

“The collaborative development with Thermo Fisher Scientific was extremely successful. The analytical results satisfied all our rather tough criteria and the design

and robustness of the ARL iSpark spectrometer leads to a significant gain of time. The new features offered by this instrument open new wide horizons for analytical development in the Spark OES field. No doubt, the ARL iSpark spectrometer has been an excellent investment for our company, and we expect significant further developments to be carried out on it.” concludes Mr. Bochud.

*The methods are now standard methods for ARL iSpark OES spectrometer delivered with analysis methods for fine Ag, Au, Pd and Pt.

Mrs. Estelle Rérat, Lab Technician Trace Analysis at Metalor Technologies with ARL iSpark



Find out more at thermofisher.com/ispark