

Welcome to the newest issue of the SPECTRO Live!

This time in our title story we have an attractive application example from metal analysis: We show you why the thousands of tuktuks that clatter through Bombay and Calcutta don't just fall apart.

In addition, we have new XRF and ICP OES applications for you: There is a new packet for the cement industry for our XEPOS and the ARCOS does away with the idea that molybdenum is too line-rich for OES

Besides, we spoke with the new director of the SPECTRO DACH (e.g. Germany, Austria, Switzerland) and Benelux (e.g. Belgium, The Netherlands, Luxemburg) subsidiary. In the interview, Oliver Büchler lets you in on how he managed to become Director in Germany and on the plans he's been forging for the subsidiary's future.

In short, we think that this Live is once again a colorful mix and we hope you enjoy your read!

What's in, What's new?

Stationary Metal Analysis:
 SPECTROMAXx No. 2,500
 goes to Piaggio India



Fragile Cement:
 New application packet for
 the cement industry



Flexible Molybdenum:
 New application for the
 ARCOS ICP-OES



New director:
 Interview with subsidiary
 director Oliver Büchler



Ivy League:
 New seminars in
 SPECTRO Campus



Don't forget!
 Trade Show Calendar
 for 2008



Why Don't They Break?

SPECTROMAXx Number 2,500 goes to Piaggio India

Why don't the so-called tuktuks break under all that weight? Well, because they are excellently tested quality products! Material control is of central importance to the manufacturer, [Piaggio India](#), and they have recently brought a second [SPECTROMAXx](#) stationary metal analyzer into operation. The instrument is the 2,500th SPECTROMAXx produced by SPECTRO.

With so many systems sold already, this analytical instrument, introduced to the market in fall 2004, has proven itself to be an international best seller. Manfred Bergsch, SPECTRO Business Unit Manager, explains the instrument's sales success: "The SPECTROMAXx is accurate and fast. At the same time it's simple to operate and just as robust as the tuktuks from our customer Piaggio India." The 2,500th instrument will be used for incoming quality control; being run in multiple-shift operation with a sister instrument that has been in place at Piaggio India for many years. Incoming and outgoing control in metal processing is one of the typical applications for the SPECTROMAXx. The instrument is also used in smelting plants and foundries.



Tuktuks, the workhorse in many developing and emerging countries.

Fragile Cement

SPECTRO gives cement companies an analytical head start



Cement is the basis of the global economy: World-wide 1,400,000,000 tons of the gray dust are used for building every year. Experts know that all cement is not created equally. There are hundreds of sorts of cement each with different properties depending on the raw materials used.

In order to ensure consistency in the contents of the products, cement plants operate their own laboratories that monitor the raw materials and finished products. „[X-ray fluorescence analysis](#)“ is the ideal method for this application. It is inexpensive,

easy to use and quickly delivers reliable results,“ explains Dirk Wissmann, Product Manager for XRF at SPECTRO.

In order to enable a trouble-free introduction to elemental analysis for cement plants, SPECTRO developed a new application package for cement analysis for the [XEPOS](#) XRF instrument. It combines the user friendly analytical technology from SPECTRO with an individually tailored cement calibration and a powerful sample preparation procedure: Cement is bound in a fused sample in order to ensure reproducible results.

Sounds exciting? Follow up on the [next page!](#)

Homogenous Samples for Reproducible Results



Many analyses must be performed in cement plants: Incoming materials need to be tested – is the silicon content in the delivered sand OK? Or the calcium content in the lime? – During production processes, the manufacturer must constantly monitor the cement mixture. “For these routine controls, it is usually sufficient to press the sample material into tablets,” reports SPECTRO Product Manager Dirk Wissmann. The pressed samples reach their limits in the shipping department, at the latest, when quality control of the final product is required. “Every cement can have a different grain size distribution. For an accurate analysis of the contents, the sample must be fused.” Commercial standards and fusion procedures are available for this.

Here’s how the cement fusion works: The grains of cement are ground to a uniform size. Then the cement dust is mixed with a binding agent and heated to 1,000° C or more in a smelter. When the material has melted, it is mixed, poured into a form and cooled. The sample solidifies to a massive tablet that can then be placed on the measuring aperture of the [XEPOS](#).

Too Many Lines? Not for Us!

ICP OES for the analysis of transition elements? "Difficult," was the answer given by many specialists until recently. The new SPECTRO ARCOS is now teaching the experts otherwise.

The higher the contents of transition elements in a sample, the more matrix lines are visible in the spectrum – and the more difficult it becomes to detect the trace elements present.

That's why classical [emission spectrometry](#) reached its limits in this application. The result: Industrial laboratories where these materials occurred had to invest in an expensive mass spectrometer.

Until now. In a series of tests, SPECTRO has proven that even line rich metals can be analyzed with the [SPECTRO ARCOS](#) ICP-OES instrument.

How did SPECTRO overcome the problems in this difficult application with an ICP-OES instrument? Find out on the [next page!](#)



Molybdenum: Hard and Flexible

[Molybdenum](#) is versatile: The steel industry uses it to produce high-strength and corrosion resistant steel. PVC manufacturers utilize ammonium octamolybdate to reduce smoke formation in floor coverings. In the petrochemical industry, Molybdenum-based catalysts play an important role in hydrodesulfurization. And: Molybdenum disulfide is, due to its structure, an excellent heat and pressure resistant lubricant.

The Detector Makes the Difference

The new application report “Analysis of Molybdenumoxide by ICP-OES with axial Plasma Observation” documents the analysis of extremely pure molybdenum oxide, which is used for catalyst applications or in electronic components.

Extremely pure transition elements – with a purity of up to 99.999 percent, for example – were, until now, considered to be extremely difficult or even impossible to analyze with ICP-OES. The ARCOS proves otherwise: It accurately determines the contents of all of the trace elements in such a sample in less than three minutes. An excellent recovery rate was determined for the analysis of reference materials.

Olaf Schulz, Product Manager for [ICP OES](#) at SPECTRO, explains: “The optical system of the [ARCOS](#) achieves a very high resolution. It is 8.5 picometers in the wavelength range between 130 and 340 nanometers; 15 picometers, above 340 nanometers. This represents the best resolution available, over the widest spectral range. The influence of spectral interferences is strongly reduced; accuracy and detection sensitivity effectively improved.” Important for SPECTRO customers: “The procedure described in the report can also be utilized for the examination of other subgroup elements,” reports the Product Manager.

Obtain the application report, free-of-charge, per [e-mail](#).



Modern motors: Unthinkable without the heat resistant molybdenum



Hot Reading!

“The Analysis of Iron and Steel:” The first application report for the new SPECTROLAB



With a full 15 pages, “The Analysis of Iron and Steel” is a great deal more comprehensive than other application reports from SPECTRO.

No wonder: The first application report for the new [SPECTROLAB](#) is expected to document all of the instrument’s strengths – and that calls for room: “With its hybrid optic, the new plasma generator and the new readout system, the instrument has set new standards for [stationary metal analysis](#)”, informs Product Manager, Kay Tödter. In addition to a detailed description of the instrument, the report contains several test series from iron and steel analyses. A study that documents the long-term stability of

the instrument is, of course, the highlight: In the first stage, measurements with a high alloy test sample were generated over a week and then evaluated. This evaluation itself demonstrates an extraordinary stability. After four weeks, the sample was tested again. “In the four weeks between the tests, we used the instrument for about 1,000 analyses of varying materials,” reports Kay Tödter. The comparison between the two stages impressively proves the excellent long-term stability of the new SPECTROLAB.

The report “The Analysis of Iron and Steel” can be requested, free-of-charge, per [e-mail](#).



Oliver Büchler: New Director of the DACH and Benelux Subsidiary

Since May 2008, Oliver Büchler has directed the SPECTRO DACH and Benelux subsidiary. In our interview, he tells you where he comes from and what he plans for the future.

[Have you already gotten used to your new office?](#)

(laughing) New office? No, I didn't need to move. Subsidiary Director Büchler sits at the same desk as Sales Manager Büchler. Only my range of responsibility has changed: In addition to sales, I am now

[... continue](#)

“Our previous Subsidiary Director, Michael Privik, has taken over more responsibilities for [AMETEK](#), our mother company. In order to lessen his work load, Oliver Büchler will shoulder some of the management responsibilities in the future. It's a good idea. It speaks well for SPECTRO that we are able to fill top positions with our own excellently qualified talent.”

Manfred Bergsch, CEO at SPECTRO



... Continued from page 11: "We're a world renowned innovator."

also responsible for service activities in the DACH and Benelux region. I'm doing the job that Michael Privik used to do – and he's now responsible for the entire Europe Middle-East Africa (EMEA) region.

The new management team remains?

Yes. Our structure now better reflects SPECTRO's international alignment. But there is no change in course. Continuity is important. And why not: Our business model works and we are growing in all

areas. We're a world renowned innovator.

SPECTRO presented itself with five other AMETEK companies at the Control Exhibition. A signal for the future?

Yes, definitely. In Sales and Marketing we will be working more closely together with our sister companies. We have many of the same target markets. Take our sister [Lloyd \(M&CT\)](#): Their measuring instruments are suited to the same laboratories as

[... continue](#)

Trade Shows in Review



Analytica 2008: ARCOS takes the stage

SPECTRO exhibited its products at the [Analytica](#) in Munich from April 1-4th. The leading trade

show set a new record with 32,500 visitors from as much as 111 countries. The SPECTRO ARCOS was the highlight at the SPECTRO stand and was even nominated for "innovation of the year" by GIT Publishers.




Control 2008: Family get-together on a grand scale

SPECTRO presented itself at the [Control](#) in Stuttgart from April 22-25th. SPECTRO shared a stand

with AMETEK companies [EDAX](#), [Taylor Hobson, Land](#), [Solartron Metrology](#) and M&CT ([Jofra](#), [Lloyd](#), Calibration Systems). "We discovered many ways to cooperate more closely," reveals Division V.P. Michael Privik.





“In the future, we’ll be working more closely together with our sister companies in sales and marketing.”

... Continued from page 12: “We’re a world renowned innovator.”

our spectrometers. During customer visits, we’ll be considering solutions involving other [AMETEK](#)-companies more strongly in the future.

You have your roots in mobile metal analysis. Are the spark spectrometers still your favorites?

I enjoy learning. It goes without saying that as Sales Director, I had already become familiar with all of the SPECTRO products. Today I think just as often about continuing advances in the development of the [ARCOS](#) as about sales of the [iSORT](#).

The person: Oliver Büchler

Oliver Büchler, born in 1965, joined SPECTRO’s quality assurance team in 1987. He became director of calibration and then Sales Director for metal analyzers and, in 2007, took over management of sales in DACH and Benelux. Born in Duisburg, his favorite hobby is touring through the Rhine Valley on his motorcycle.





University Online

New courses
at SPECTRO Campus

SPECTRO has added new online seminars to the Campus at www.spectro.com. Training courses for each of the SPECTRO products are now available on the E-Learning platform. The seminars are interactive step-by-step lessons enabling customers to easily learn about the fundamental technology involved in the instruments -- without having to study time consuming instruction manuals.

The new seminars explain how the instruments work as well as providing information about applications. In addition, seminars covering the fundamentals of [OES and XRF](#) analysis as well as a separate course for polarization in XRF instruments are available

for users. "Our interactive seminars simplify understanding of the complex interrelationships," explains Tom Milner, Marketing Director at SPECTRO. "Still, the seminars offer substance and deepen one's knowledge of the technology." And that is exactly what customers expect!

Are you interested in taking a course at SPECTRO Campus?

Simply register online under www.spectro.com. Attendance is free-of-charge. When a course has been successfully completed, you even receive a printable participation certificate in PDF form from SPECTRO.



Don't forget!

Where you can find us: Trade Show Calendar for the second half of 2008.



Metal & Metallurgy China

06/03 – 06/06, Shanghai, China, German Pavillion

June

- FORUM LABO, 06/03-06/06, Paris, France
- EXRS 2008 Conference, 06/16-06/20, Cavtat, Dubrovnik, Croatia



X-Ray Conference

08/02 – 08/04, Denver, CO, USA

June (continued)

- 9th China Metal & Metallurgy Exhibition, 06/23-06/26, Guangzhou, China, Stand 1D038

[... click here to continue with July to October ...](#)

Don't forget!

Where you can find us: The finals for 2008.

July

- 5th Int. Metallurgy, Iron, Steel, Foundry, Casting, Forging, Nonmetal, Die Casting Industry Equipment Exhibition, 07/09-07/12, Seoul, South Korea

August

- NDT China, 08/27-08/30, Shanghai, China

September

- JAIMA Show, 09/03-09/05, Tokyo, Japan
- ICTP Conference, 09/07-09/10, Kyungju Hyundai Hotel, South Korea
- Aluminium, 09/23-09/25, Essen, Germany, Halle 2, Stand 2E28
- ANALYTICA China, 09/23-09/25, Shanghai, China, German Pavillion

October

- BIMU, 10/03-10/07, Milan, Italy
- Viennatec, 10/07-10/10, Vienna, Austria
- ISA, 10/14-10/16, Houston, TX, USA
- Gulf Coast Con., 10/14-10/15, Galveston, USA
- MS & T, 10/25-10/30, Pittsburgh, PA, USA

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