

News release

Innovative Technology for the Perfect Cup of Coffee

- Caffeine and moisture content of coffee beans can now be measured with trinamiX Mobile Near-Infrared (NIR) Spectroscopy Solutions.
- Especially smaller roasters benefit from enhanced quality assurance while being able to respond more closely to customer wishes.

September 03, 2020 – Ludwigshafen, Germany – trinamiX, a wholly owned subsidiary of BASF, now enables coffee roasters to better monitor and control the purchasing and refining process of coffee beans. Many factors influence the roasting result and contribute to the coffee experience. These include, among others, variety, cultivation area, quality class, storage, transport and numerous processing steps. Thereby, the caffeine and moisture levels of coffee beans are particularly interesting. They can be determined quickly and easily with trinamiX Mobile Near-Infrared (NIR) Spectroscopy Solutions.

Mobile NIR Spectroscopy empowers small roasters to perform professional on-the-spot analysis

The determination of the caffeine and residual moisture content is subject to elaborate analytical procedures. Unlike large coffee businesses, small coffee roasters wanting to determine the respective content of their creations cannot use their own laboratory capacities. trinamiX now equips them with the right tool. "With trinamiX NIR spectroscopy solutions, I have significantly more possibilities to ensure the quality of the coffee," explains Dr. Steffen Schwarz, renowned coffee expert and founder of the Coffee Consulate Coffee Training and Research Center. "The residual moisture, for example, can be measured quickly and easily so that the roasting profile can be adjusted accordingly. Knowledge about the caffeine content allows the roaster to fine-tune coffee compositions towards different taste profiles. This knowledge provides security and allows small roasters in particular to craft the perfect product again and again."

NIR spectroscopy is a proven technology and used in laboratories around the world – the innovation is the portable format of the spectrometer. The measurement data of the spectrometer is evaluated in the cloud by intelligent algorithms and displayed within seconds in the app on a smartphone or tablet. "The handiness of the device is a decisive advantage. Large labs where beans can be tested are not available everywhere or the transport takes too long," explains Dr. Schwarz. "With the trinamiX spectrometer, I can flexibly perform an analysis at any time."

Better quality control along the supply chain

The application of NIR spectroscopy is not limited to the roasting process. Throughout the entire value chain measurements can be made in order to document and track the moisture of the

beans – during harvest, transport, and storage. This way, critical phases can be closely monitored and counteracted in good time. "A higher water content not only results in greater weight with lower yield, but it also carries mold risk," explains Patrick Hellberg, Manager Business Development Spectroscopy Solutions at trinamiX. "With our technology, merchants and warehouse staff can quickly measure on-site how much moisture is contained in the produce and thus plan more precisely."

Further parameters will be added to trinamiX Mobile NIR Spectroscopy Solutions going forward. "We are currently working to determine the acidity and help roasters offer more stomach-friendly coffee," says Patrick Hellberg. "Together with coffee expert Dr. Schwarz, we are further expanding our applications in order to serve our customers even better in the future."

A German-language short film on the application of trinamiX Mobile NIR Spectroscopy Solutions in the coffee industry can be accessed using the following link:

<https://www.youtube.com/watch?v=XtqDVpWscas>

About trinamiX:

trinamiX www.trinamixsensing.com is a wholly-owned subsidiary of BASF SE, the world's largest chemical company. Founded in 2015, the company has developed a wide-ranging portfolio of technologies and products around both Infrared detection as well as 3D imaging and distance measurement employing a team of more than 120 experts across a wide range of scientific disciplines.

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