Random sampling in pharmaceutical and food processing industries is useful for delivering precise values of critical production parameters, albeit with a significant drawback: The inherent low sampling rate fails to deliver information on the exact quality of each single product in the product stream. EVK addresses this issue with its newly developed Hyperspectral Imaging (HSI) based HELIOS Analyzer, which targets the entire product stream for real-time inspection.

Calibrated using the same precise values obtained from random sampling, HELIOS Analyzer applies these measurements on a continuous basis to the entire product stream, in-situ and 24/7.

EVK’s proprietary internal classification and quantitative analysis software extracts information on the chemical composition, concentration, distribution or layer thickness for each individual product.

The Austrian company EVK DI Kerschhaggl GmbH is a specialist in non-contact inspection systems based on optical, inductive and hyperspectral technologies. Our product lines are the result of decades of innovations and developments to raise the performance of in-line sorting and inspection quality. We support our customers in staying ahead of their competition and offer to develop new applications. Contact us to discuss your needs.

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Quantitative in-line analysis
- Chemical composition
- Product identification
- Pre- and post-packaging
- In-situ chemical deposition
- Spatial homogeneity and coverage on substrates
- Drying processes
- Layer thickness

Product specifications and descriptions are subject to change without prior notice.

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To achieve real-time product release, a continuous quality check and production optimization is required at each stage of the manufacturing process. This ensures that all final release criteria are met.

Only a fully integrated control strategy, which demands the implementation of real-time process analyzers and control tools, can provide real-time knowledge of any changes in the many manufacture processing steps. Alarms and automatic feedbacks to production processes are an integral part of this strategy.

EVK’s HELIOS Analyzer is a new tool available which can measure, analyze and steer production processes ranging from laboratory environments to industrial manufacturing.

**QUALITY INSPECTION FOR THE ENTIRE PRODUCT STREAM**

**PRODUCT IDENTIFICATION**

Pharmaceutical applications of HELIOS Analyzer, such as quality control of tablet manufacturing, have been demonstrated by the Research Center for Pharmaceutical Engineering (RCPE).

**CHEMICAL COMPOSITION**

Calibrated chemical mapping of Active Pharmaceutical Ingredients (API) in tablets can be performed in NIR and SWIR spectral ranges. The ability to quantitatively map ingredients is perfect for in-situ quality inspection and control.

**SPATIAL DISTRIBUTION HOMOGENEITY ON SUBSTRATES**

EVK’s HELIOS Analyzer has been developed to analyze and quantify how well chemicals are distributed on a substrate. Sample classification, based on customer-specific thresholds, will quickly bin samples into “good” and “reject” categories.

**DRYING PROCESSES**

HELIOS Analyzer can accurately monitor drying processes in the NIR spectral range – an often critical process during production. Combined with an analytically performed calibration, HELIOS Analyzer’s quantitative measurement time series makes R&D easier and forms a powerful tool for use in developing new process technologies, or for delivering in-situ inspection and control, in manufacturing.

**LAYER THICKNESS**

HELIOS Analyzer can also be configured to measure API coating layer thickness. The NIR and SWIR spectral ranges even make it possible to measure certain opaque materials.

**HELIOS ANALYZER**

HELIOS Analyzers in NIR and SWIR wavelength regions are available for in-situ implementation or with customized mechanical construction for various applications in the lab.