

# Product brochure EVK SQALAR

# EVK SQALAR



## Spectroscopic Quantitative Analysis Software Tool for determination of chemical concentrations in materials

**What it is** EVK SQALAR is a multifunctional quantitative analysis software tool for multivariate measurements of chemical properties.

EVK SQALAR can be used in sorting, inspection and monitoring applications in-line, at-line and in the laboratory.

EVK SQALAR uses EVK's hyperspectral imaging camera detection technology in the VISNIR, NIR and SWIR wavelength spectra.

**What it does** EVK SQALAR enables non-invasive measurement of chemical concentrations in objects without interrupting the product stream.

EVK SQALAR monitors and measures user defined properties of the full stream of bulk materials or single objects.

EVK SQALAR helps to increase quality, consistency and safety of products during the industrial processing.

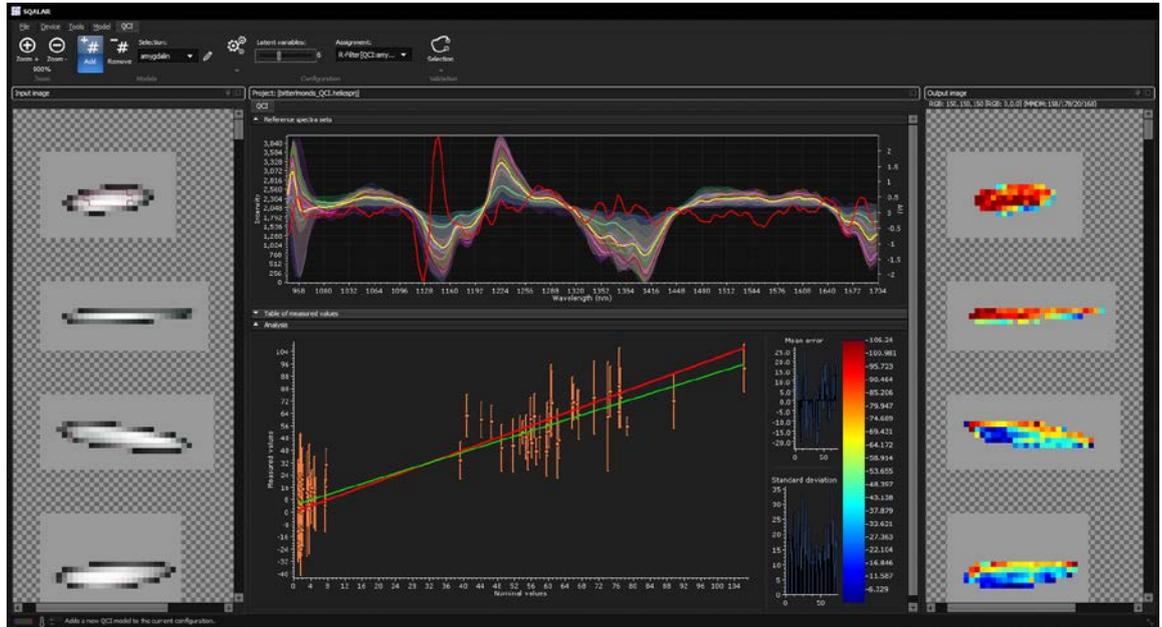
**Typical applications** **FOOD:** Analysis and monitoring of nutrients, moisture, protein, fat, or pH values during processing of fruits and vegetables. Detection of poisonous compounds or chemical residuals from diseases.

**RECYCLING:** Determination of different materials in heterogen material streams. Determination of calorific value of refuse derived fuels. Determination and separation of different plastic based on its chemical composition.

**MINING:** Separation of mineral types and rock based on chemical composition analysis.

**CHEMICALS and PHARMACEUTICALS:** Spatially resolved measurement of API concentrations in tablets, powders, coatings or other types of material.

# Experts in industrial imaging



## Features:

Quantitative chemical analysis in-line, at-line and in the lab

In-situ results of the full product stream

Intuitive and instructive modeling environment

Linking and brushing functionality

EVK's „one click integration“ of quantitative models to EVK's HSI cameras

Statistical figures of merit

High precision measurement of substance concentration

Measurement accuracy in the sub percent range

## Benefits:

Full control of user defined properties of the entire product stream

Guaranteed fulfillment of „requirements“ of every piece or quantity of the production

Fast and simple mastering of complex system designs

Direct feedback of user interaction

Instant validation of generated model

Feedback of statistic stability of model quality

Reliable and reproducible information of product properties for process control

Product safety in fields with highest legal or standard requirements

# Product Features

	<b>EVK HELIOS Optimizer lite</b>	<b>EVK HELIOS Optimizer</b>	<b>EVK SQALAR</b>
QCI	x	x	■
CLASS32	x	■	■
EC3	x	■	■
CF	x	■	■
HSI Reference Spectra Selection	x	■	■
Linking and Brushing	x	■	■
HSI Preprocessing	■	■	■
HSI DAQ	■	■	■
HSI Camera Calibration	■	■	■

<b>QCI</b>	Quantitative Chemical Imaging - quantitative representation of measured chemical properties in colour streams.
<b>CLASS32</b>	Hyperspectral imaging classification algorithm. Uses chemical features of matter to separate up to 8 different material classes into different colours.
<b>EC3</b>	EVK Chemical Color Camera. Visualization of spectral information of an inspected object in full 24-bit chemical RGB colours.
<b>CF</b>	Combine Features logically links camera features such as EC3 colors, CLASS32 material classes, spectral dynamics, mean spectral intensity etc. to generate a user defined result. E.g. the elimination of background from an inspected organic material stream with a scattered particle distribution.
<b>HSI Reference Spectra Selection</b>	his graphical selection tool allows the extraction and tagging of spectral reference datasets for further data processing, model generation and documentation.
<b>Linking and Brushing</b>	Instant preview of the final result as seen by the camera for every change on the model the user applies.
<b>HSI Preprocessing</b>	Preprocessing methods such as normalization, derivatives and filtering of HSI data.
<b>HSI DAQ</b>	Hyper Spectral Imaging Data Acquisition: Recording and displaying of hyper-spectral data. HSI data storage and export to third party file formats (e.g. MATLAB® *.mat)
<b>Camera Calibration</b>	Illumination flat fielding to correct for spectral background.

**EVK DI Kerschhaggl GmbH**

Josef-Krainer-Straße 35  
8074 Raaba, Austria

P +43 316 461 664  
F +43 316 461 664-14

office@evk.biz  
www.evk.biz

