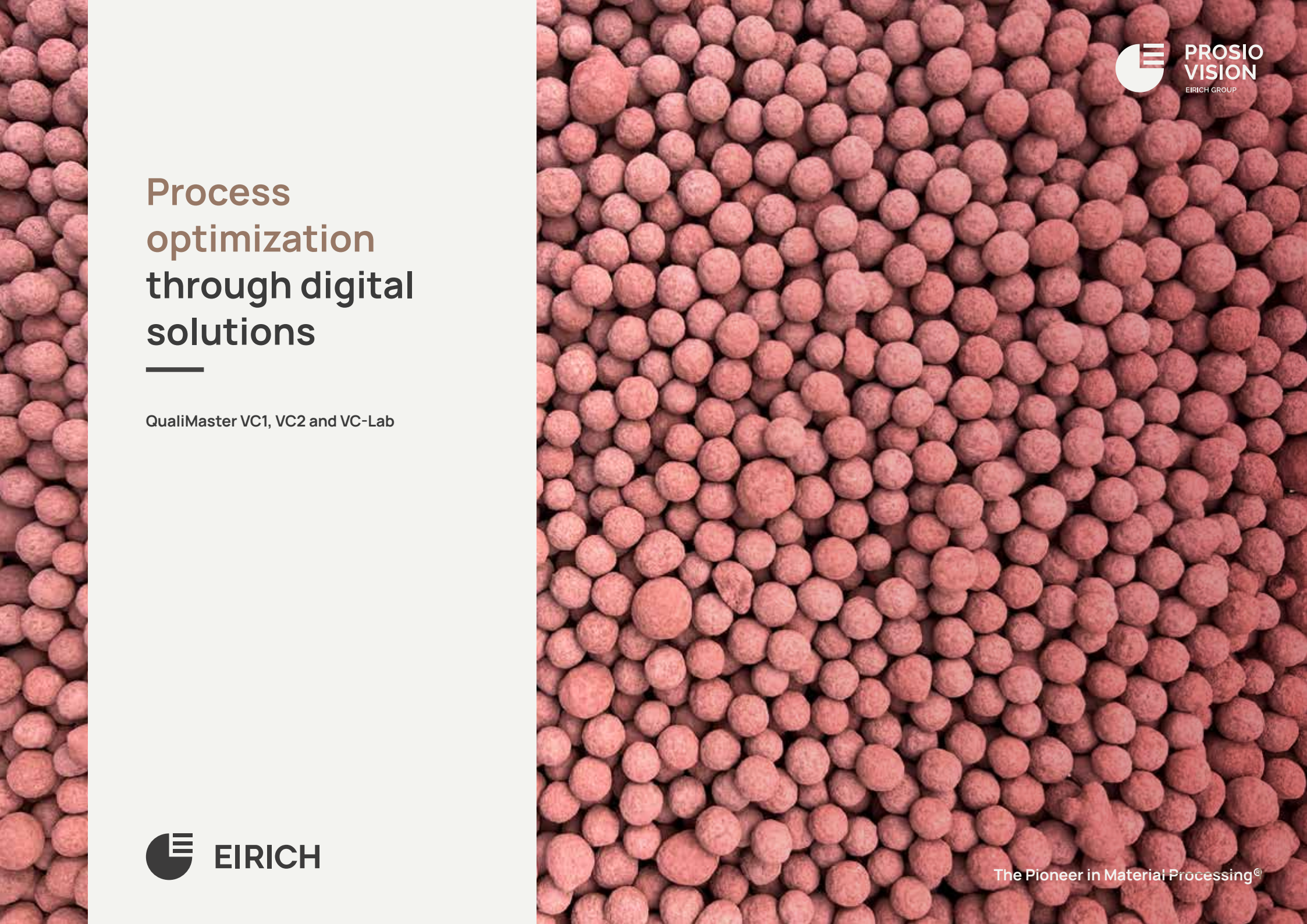

PROSIO VISION
EIRICH GROUP

Process optimization through digital solutions

QualiMaster VC1, VC2 and VC-Lab

EIRICH

The Pioneer in Material Processing®

Prosio Vision as Eirich's competent partner in the field of process optimization

Our mission:
We want more than just good processing

Our aim is permanent optimization of the process by measuring relevant parameters. This compensates fluctuations in raw materials and production conditions.

Optical granulate measurement through VC1


EIRICH
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QualiMaster VC1

The system for optimum production results

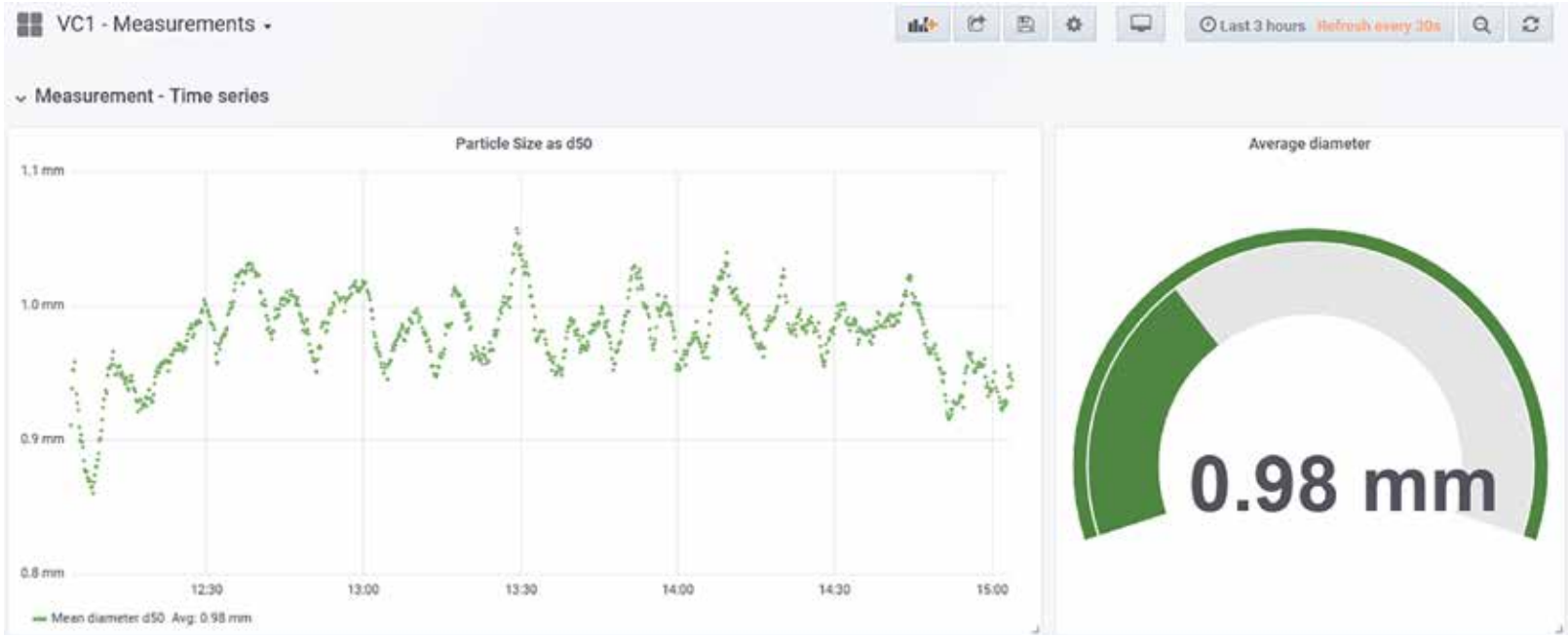
The system identifies the particle size distribution, grain shape and surface structure of bulk materials and granules. So the VC1 delivers important data for process optimization, troubleshooting and quality assurance in the field of process engineering.

The installation of VC1 is above a belt conveyor. The measurement is contactless which results in less maintenance and cleaning effort.

The integration and communication of the recorded parameters with the plant control system and other interfaces is customer specific adjustable.

Eirich VC1
Vision Control

In-line process recording:
The key for process optimization



The system can be adopted and configured based on specific applications to be perfectly suited for measurements like particle size distribution, surface structure or color characteristics. Depending on the lens, the camera measures particle sizes from 0.2 to 10 mm. The current camera images are not only shown on line via a display but additional access from control cabinets or control rooms is possible too. The QualiMaster VC1 measures in-line and provides information immediately and in high temporal resolution.

This results in faster access to the measured values in comparison to laboratory evaluations. They enable rapid correction of plant parameters in the event of unfavorable changes in product properties. So the QualiMaster VC1 creates the basis for modern and efficient controlled production.

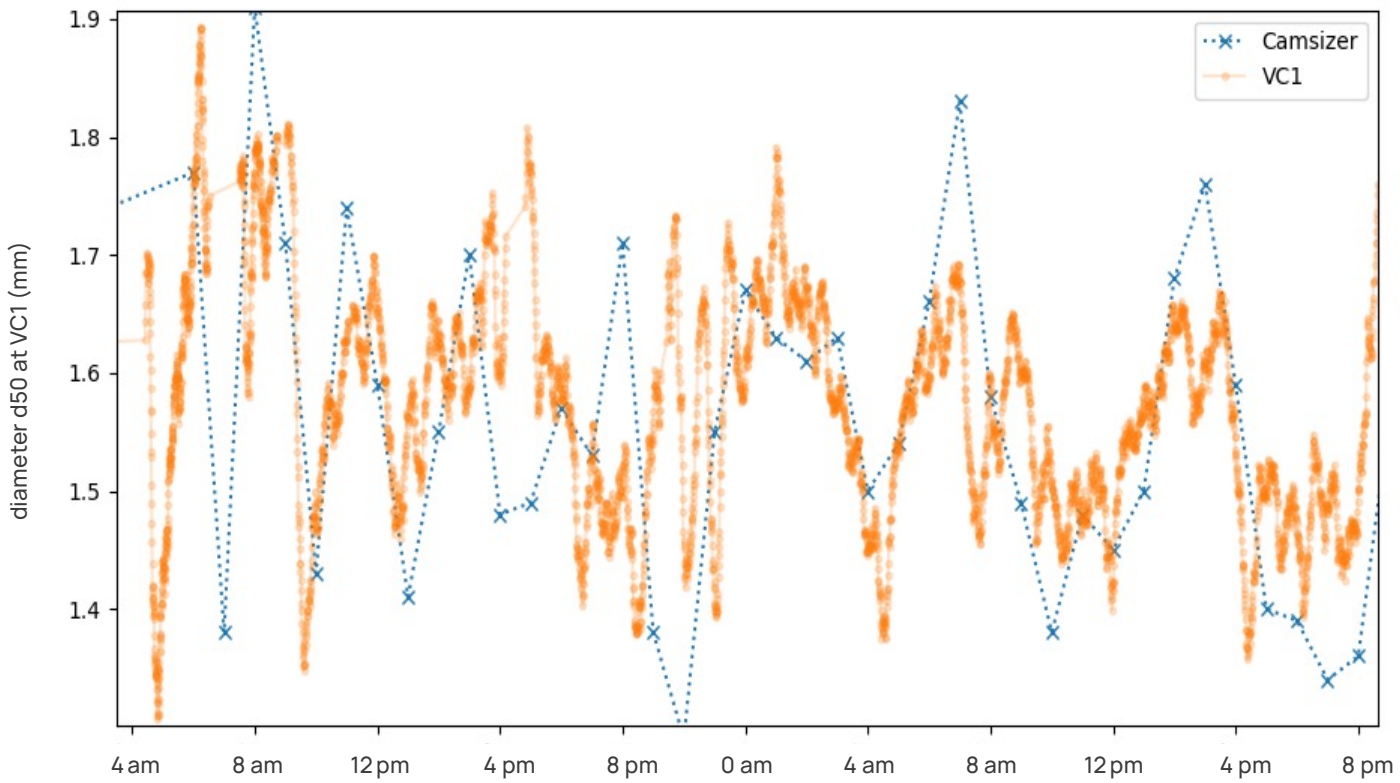
The new Eirich QualiMaster VC1 thus is an essential component for digitalization of complete plants in bulk material preparation and processing.

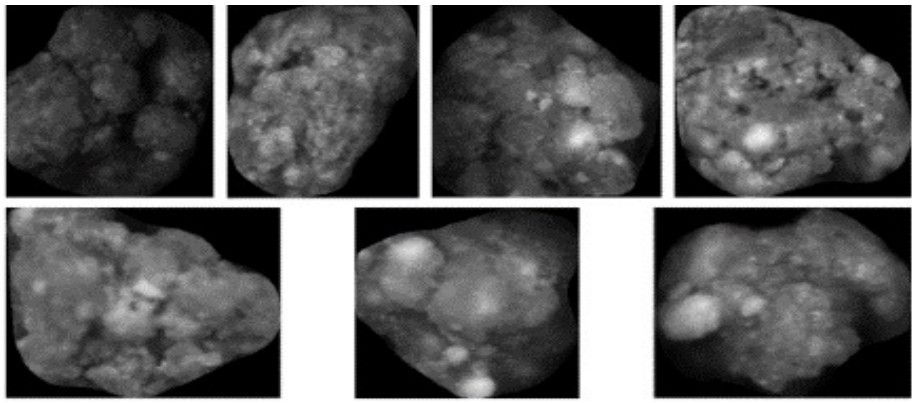
Comparison of the medium granule diameter with VC1

In-line measurement vs. Camsizer laboratory measurement

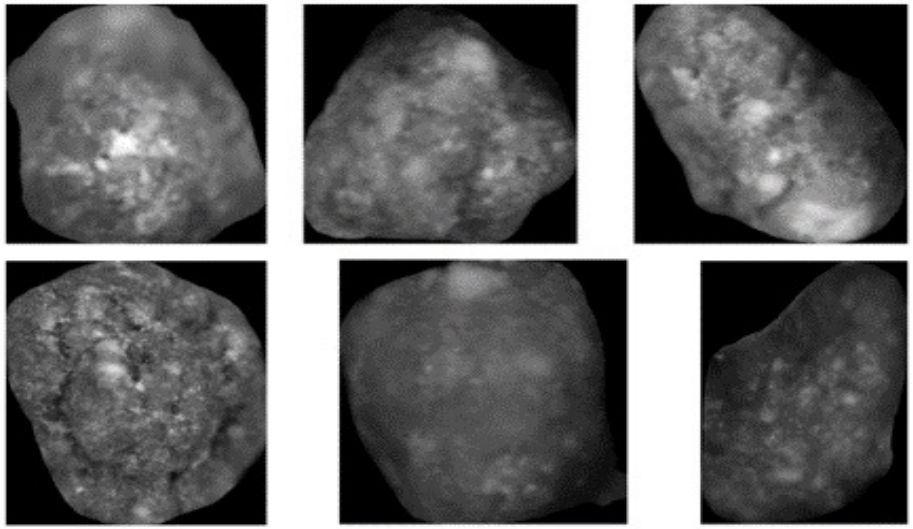
The comparison of the two measurement devices shows proper agreements between the results. The VC1 enables a clearly higher temporal resolution. Fast trend detection is essential for an efficient control.

Results for VC1 as a moving average





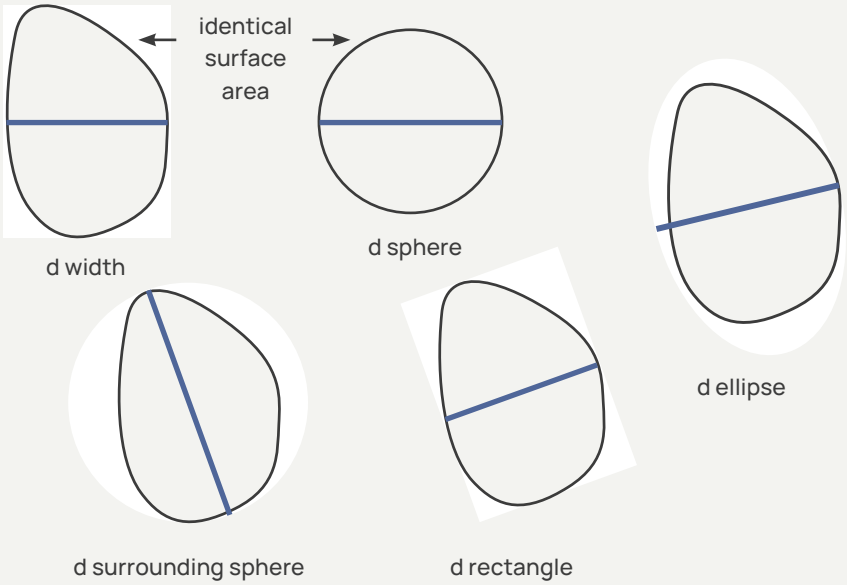
Example of particles with irregular surface structure



Example of particles with a regular surface structure

Characteristic value for the surface structure

The surfaces of the recorded granules are compared with reference images and are evaluated afterwards. This allows the measurement of defective surfaces during normal product flow.



Particle size

The VC1 identifies individual particles from images of bulk solids and determines their diameter. As non-spherical particles do not have a clearly defined diameter, the VC1 can determine different diameters in order to optimally adapt the evaluation to the needs of the customer and the product. The data recorded can not only be shown as an average value, but in the form of distribution curves too.

Grain shape

In addition to the particle size, the VC1 can also determine the sphericity. This indicates to what extent a particle resembles a sphere. The data recorded can be shown as an average value and in the form of distribution curves too.

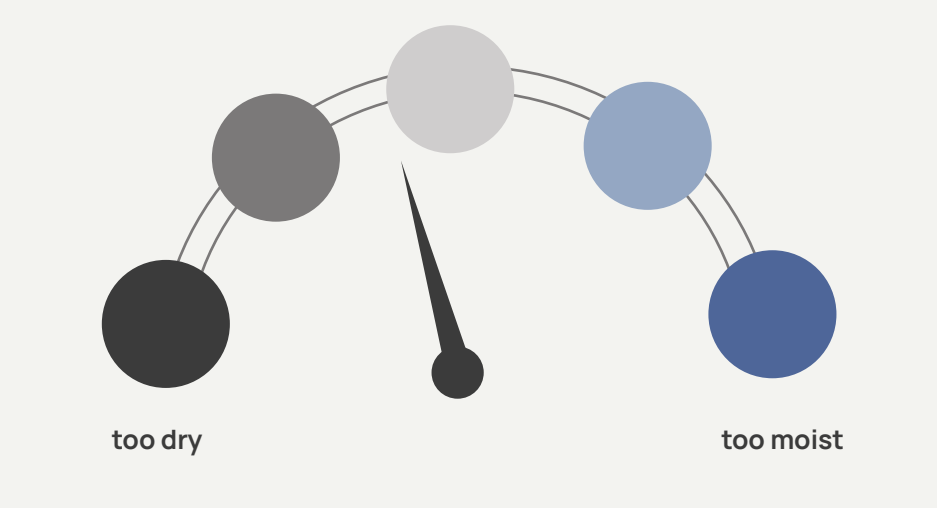
QualiMaster VC2: The system for fast trend detection

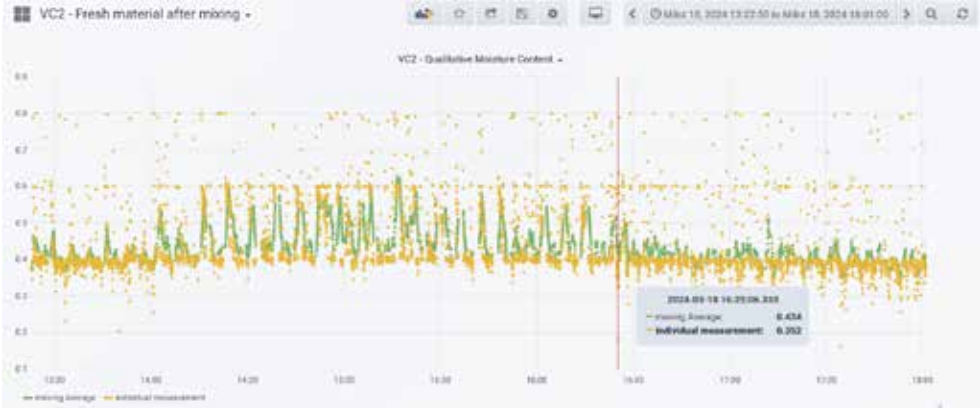
+ Modern Deep-Learning

The VC2 compares and evaluates the current consistency of a product with reference pictures. Whether finely dispersed, crumbly or pasty, the VC2 can be used for all structures.

QualiMaster VC2: The system for fast trend detection

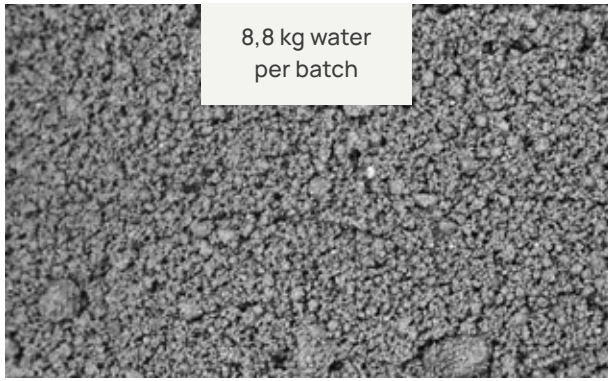
The relative evaluation of the parameter is translated to a dimensionless value between 0 and 1. This value can be visualized via a traffic light or a speedometer.

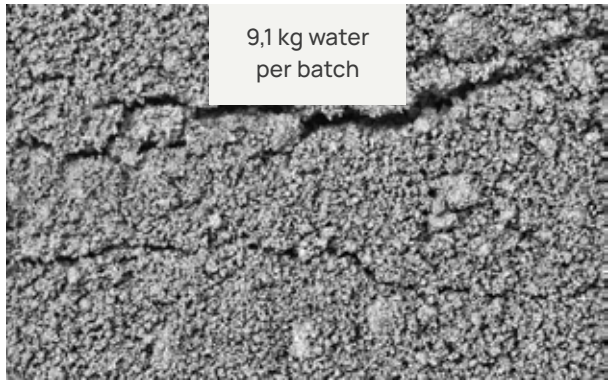


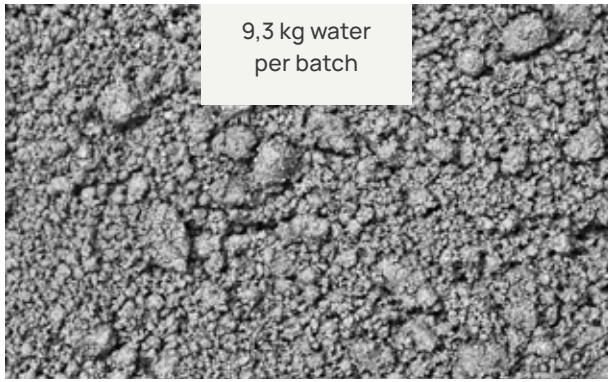


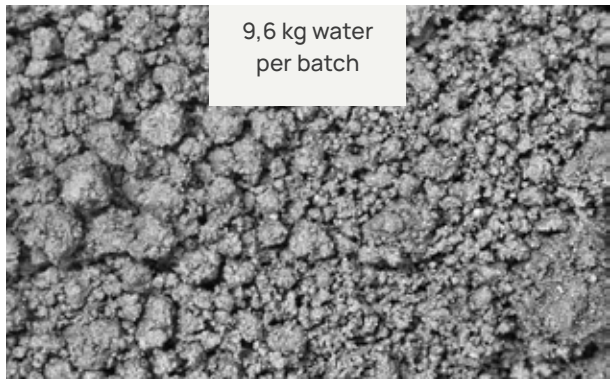
QualiMaster VC2: The system for fast trend detection

Recording of the VC2 from the surface of the pre-product
Less than 0,5% of water in the mixture may change the consistency of the mix enormously. The VC2 can map the knowledge of a plant operator as a measurement value.



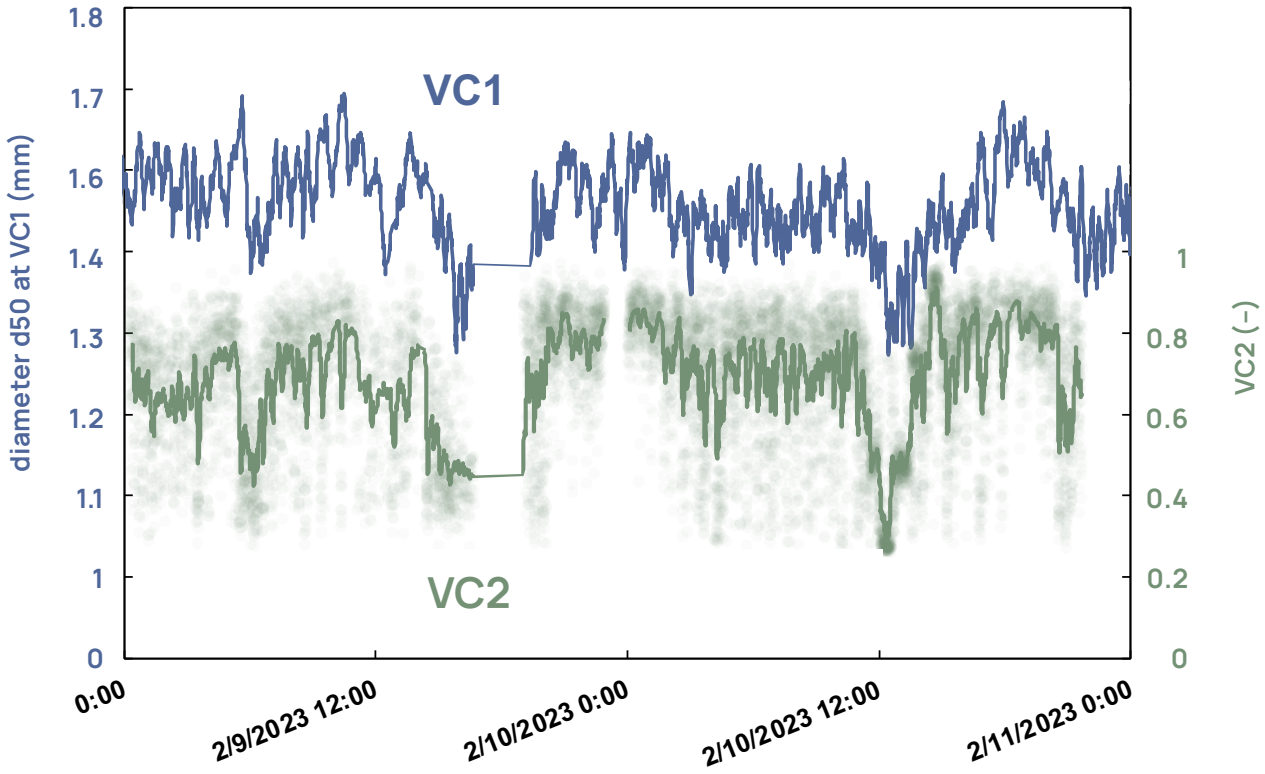




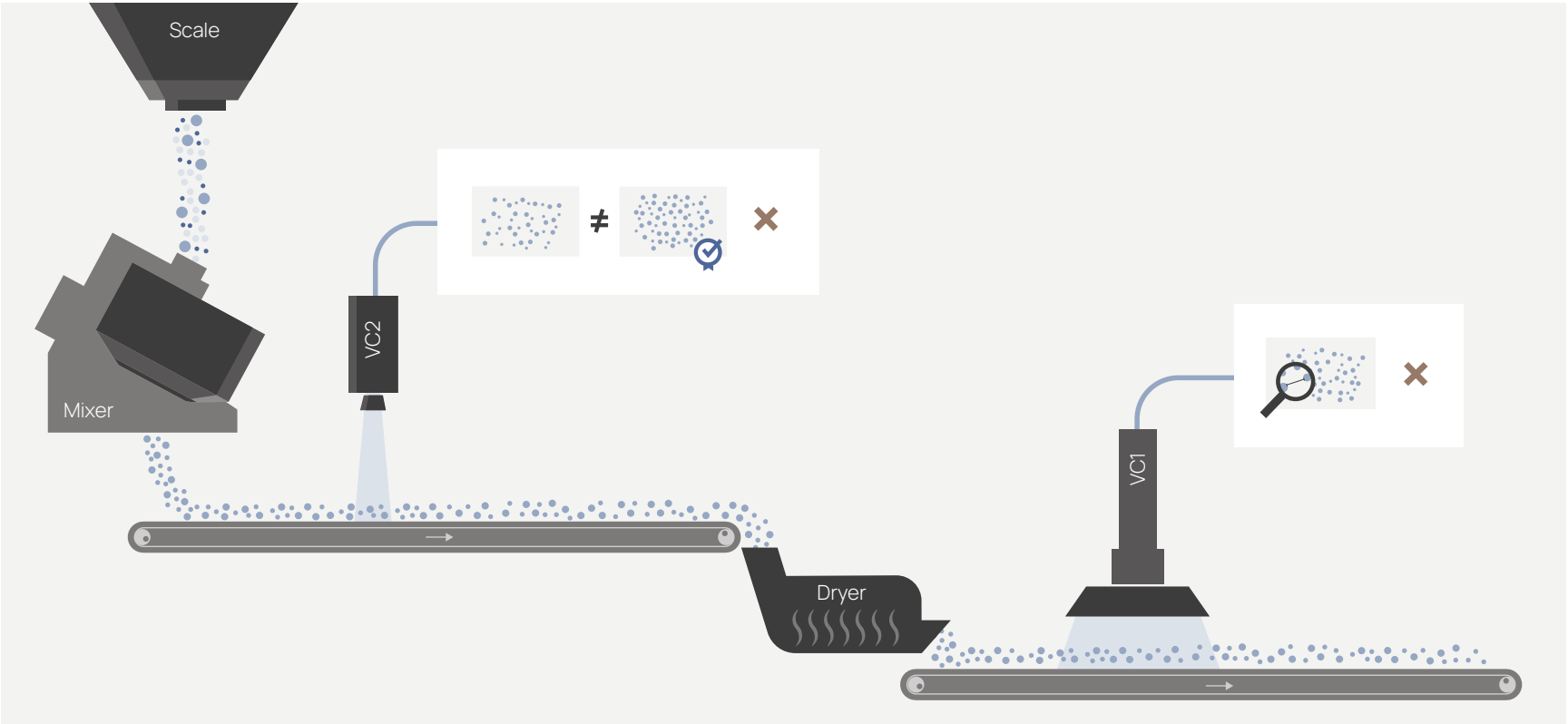


System comparison of VC2 on pre-product and VC1 on final product

In this case study the VC1 determines the quality of the final product by taking the grain diameter d50 as base value. The measured values of the VC2 show a high grade of correlation to the quality values from the VC1. The VC2 delivers the data already 30 minutes earlier which enables a dynamic control of the preparation of the preliminary product.



Two systems
which are perfectly matching



VC1

- Precise measurement data at the end of the process for quality assurance and documentation
- Output of defined values for the grain shape
- Qualitative assessment of surface structures
- Low maintenance effort for high data quality

VC2

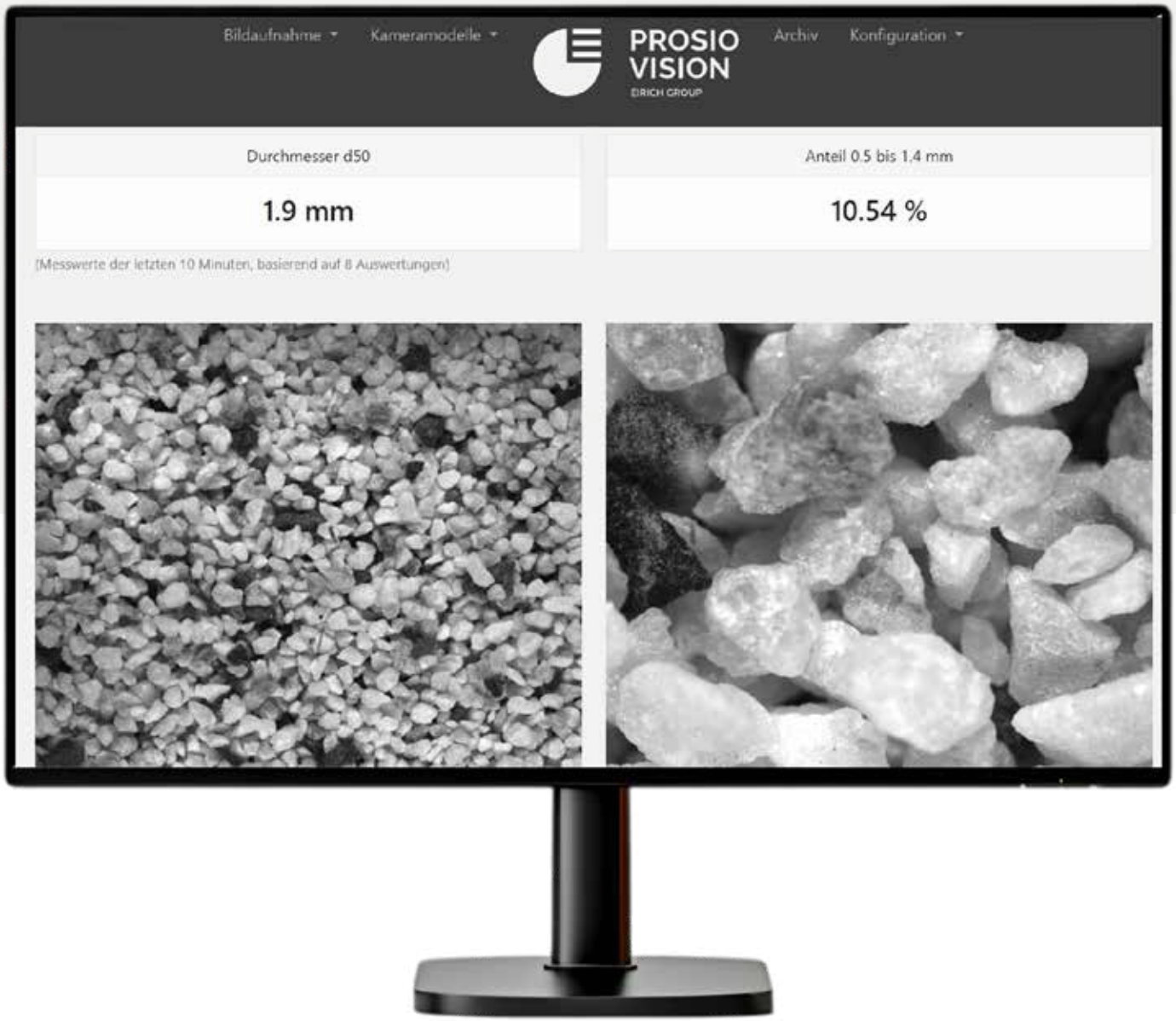
- Fast qualitative statements for early correction
- Output of absolute values for the particle size distribution
- Relative assessment of characteristic parameters of a product on basis of reference data
- Universal system for all consistencies
- Simple adaptation to changing requirements
- Low space requirement and simple installation

QualiMaster VC-Lab:
Analysis in small format

Our mission:
We want to do more than prepare raw material well. Our aim is to permanently optimize the process by measuring and evaluating relevant parameters. The Qualimaster VC-Lab enables the recording and analysis of material properties in a compact space through intelligent image evaluation with Artificial Intelligence.

The VC-Lab - your smart laboratory system for the analysis and visualization of relevant process parameters.

For dynamic image analysis of
- particle size
- color
- shape



Results of evaluation (customer-specific KPIs)

- Roundness
- Surface structure
- Sphericity
- Mixing ratios
- Color deviations
- Particle size distribution (e.g. Q3 distribution)

Functions

- Detection of particles from 100 µm to 15 mm
- Short measuring time of less than 1 minute
- Simple operation
  (easy filling and emptying)
- Manual image acquisition or
  automatic image series
- Possibility of remote maintenance and
  remote set-up
- Export option for measurement results
  (e.g. as CSV)

Get your **free, non-binding initial consultation** now!

We find a solution for
your quality problem!

Eirich Loglizer and ProView for professional data analysis

The Eirich Loglizer is an in-house solution for professional data logging.

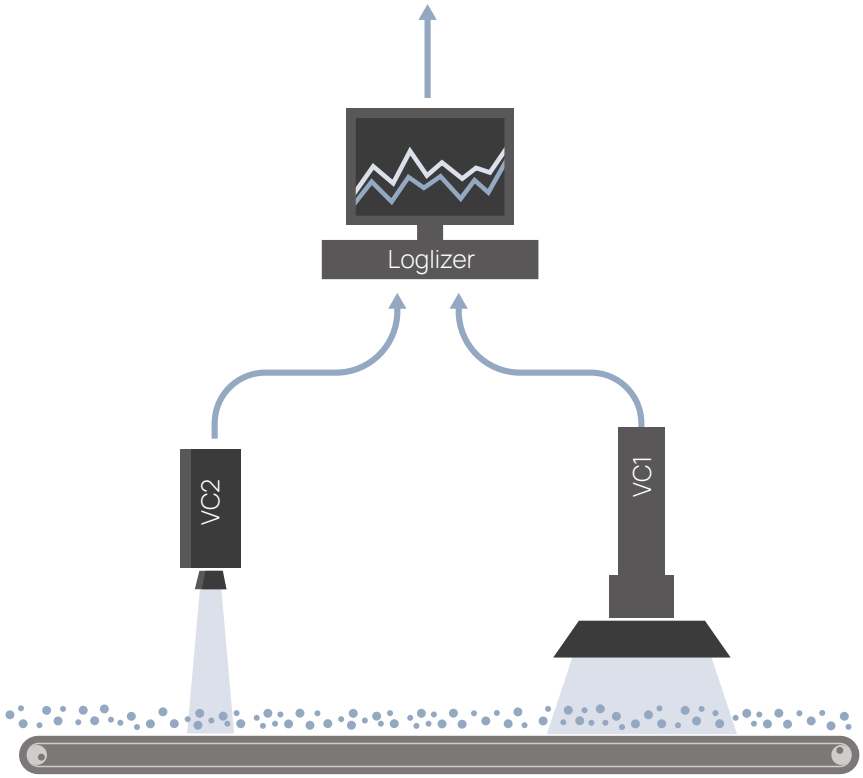
The analysis are based on the data stored in the Eirich Loglizer. This data needs to be systematically documented and analyzed together with other process data. The Eirich Loglizer is the basis for the data analysis. An initial data analysis can be carried out graphically using the visualization system Eirich ProView.

Data logger Eirich Loglizer

- data logging of maximum 1000 process data channels from the compele plant
- redundant archiving in a local SQL database. No Cloud connection necessary.
- sampling rate freely configurable over a wide range, starting from 10 ms.

PROSIO VISION
EIRICH GROUP

Prosio Vision is a joint venture between Eirich and the start-up Prosio Engineering.



Visualization with Eirich ProView

- Clear visualization of the process data
- Simple operation, no installation required thanks to web technology
- Access via the factory network or mobile devices

Our products
in process

QualiMaster VC1 –
Intelligent in-line monitoring directly on the conveyor belt.

Eirich VC-Lab -
Smart image analysis for your process.

The Eirich Group, with Maschinenfabrik Gustav Eirich as its strategic center in Hardheim, is a supplier of machinery, systems, and services for industrial mixing, granulating/pelletizing, drying, and fine grinding. Our core expertise is in the field of processes and techniques used for the preparation of pourable materials, slurries, and sludges.
We are a family-run company that operates 16 sites around the world.

You can find more information at:
www.eirich.com

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