

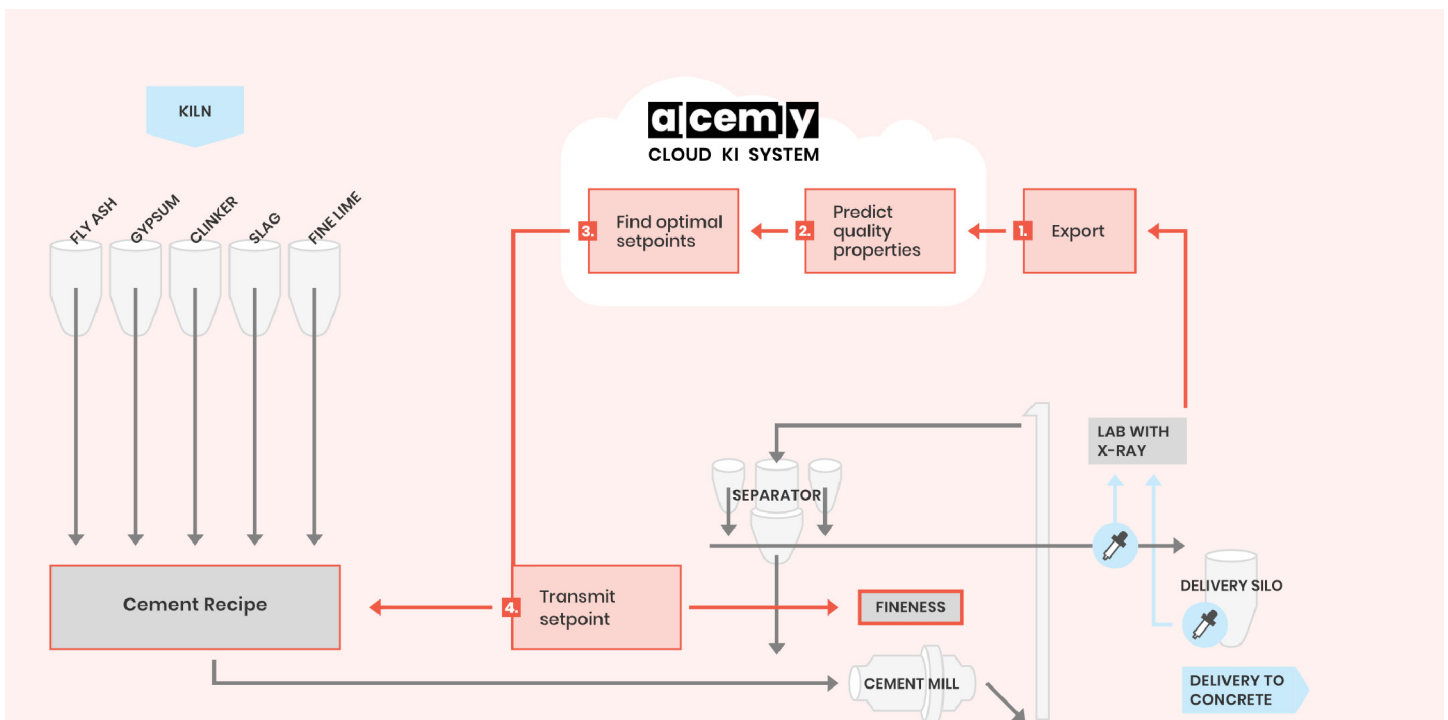
alcemy for cement: from reactive to proactive quality control using machine learning



Our AI software for intelligent quality control is the tool for producing cements of the highest quality. With this new approach, we support manufacturing companies in managing increasingly complex cement formulations for a more climate-friendly future.

Based on a continuous analysis of quality-relevant data from chemistry, mineralogy and particle size distribution, our intelligent algorithms provide target values for optimizing current cement production to desired quality parameters for the control center or expert systems.

CO-GRINDING SEPARATE MILLING



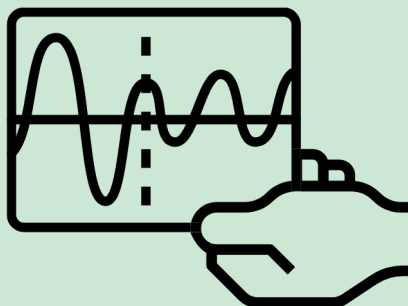
Automatic transmission of the analysis values of the current grinding or mixing

Our models predict quality characteristics such as compressive strength and Blaine of the current grinding or mixing

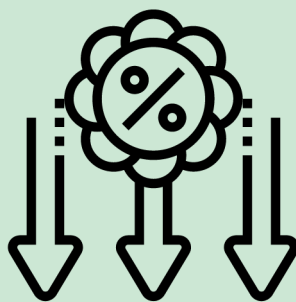
Our optimization algorithms find optimal target values for fineness or recipes to achieve the desired target properties

alcemy transmits setpoints to control station or expert system

ADVANTAGES FOR OUR CUSTOMERS



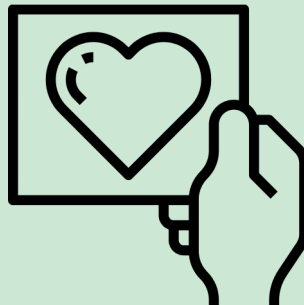
20-50% lower strength standard deviation



**3-8% cost reduction per tonne of cement
(savings in grinding energy or clinker and
emission certificates)**



Tool for a deeper understanding of building material quality and simplified, paperless workflows



Additional revenues through increased customer satisfaction and stronger customer loyalty

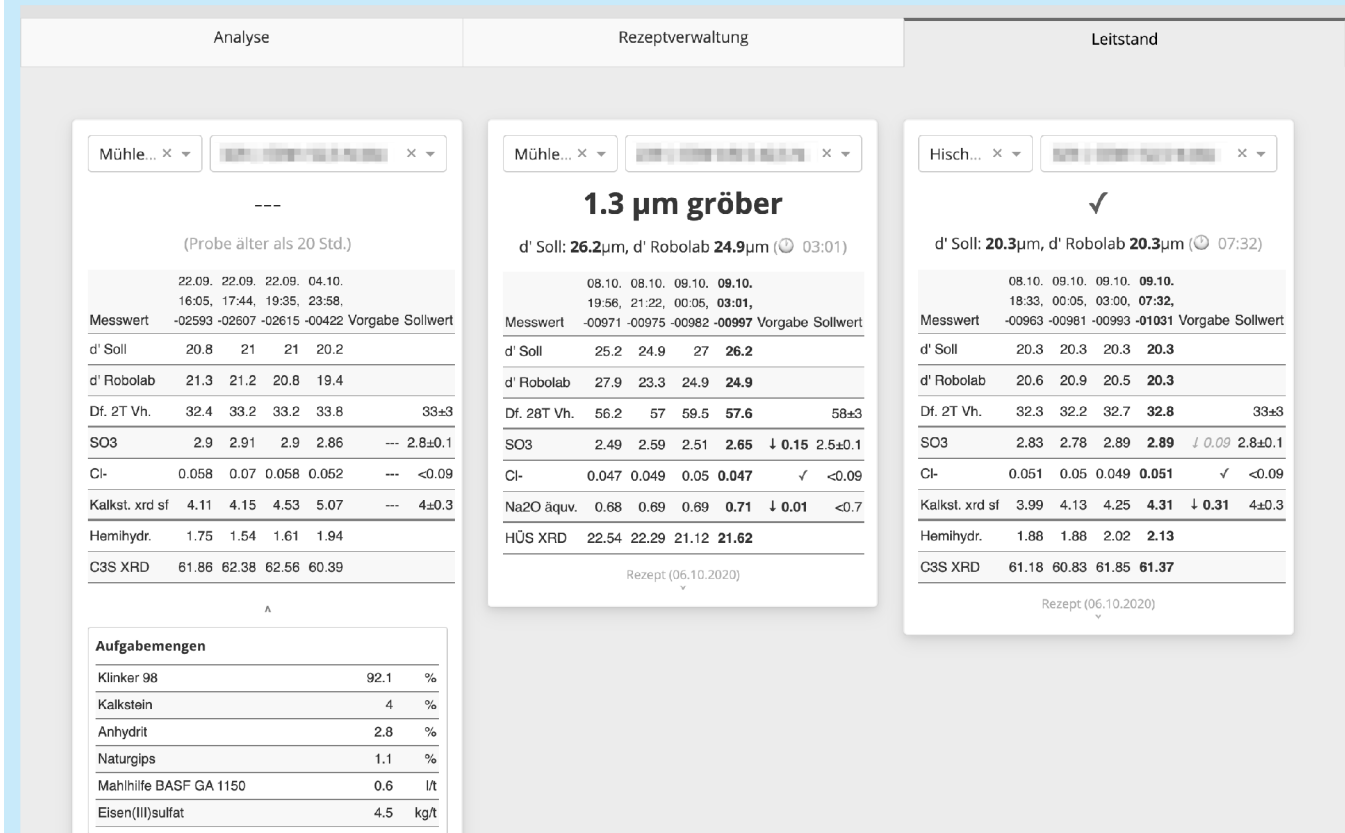
OUR APPLICATION IN DETAIL

All information on cement control in an overview

alcemy's dynamic set points for production on target for each cement produced and each mill

Always the current most important characteristic values and measurement results at a glance

Quick insight into the latest cement formulation



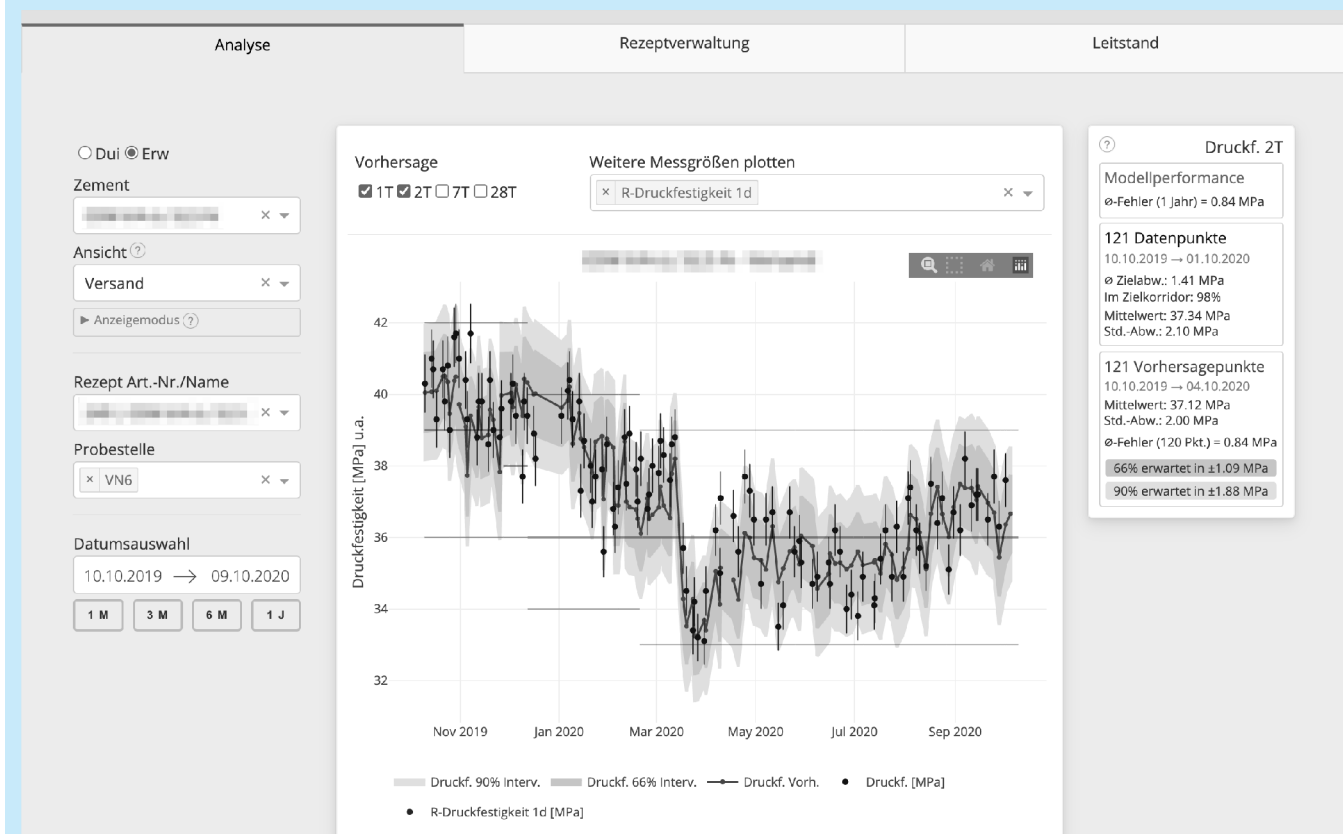
Deep insights into the cement qualities

Graphical display of compressive strength forecasts of shipping and production samples

Automatic graphic presentation of cement-specific compressive strengths & other quality parameters

Deep insights into the most important influencing factors from chemistry, mineralogy and particle size distribution

Detailed display of individual parameters and automatic highlighting of extreme values



Manage recipes and combine them with findings from the analyses

Creation and management of cement recipes and target values

Management of the controller with and without alcemy

Recipe history easily understandable with reasons for changes

Kurzname für Leitstand CEM I 52,5 R

Werk

Mühle Mühle

Silos

Zildruckfestigkeiten

- ☐ Druckf. 1T
- ☒ Druckf. 2T
- ☐ Druckf. 7T
- ☒ Druckf. 28T

Druckf. 2T 48 ± 3 MPa

Druckf. 28T 75 ± 3 MPa

- ☒ Hauptdruckfestigkeit
- ☐ Hauptdruckfestigkeit

Feinheitssteuerung

alcemy Steuerung

Steuerungsbereich

Steuerungsbereich für d' Robolab von 10,5 bis 14 µm

Notfalleinstellung für d' Robolab 11,5 µm