

control **maps**

Raw material management software for meltshops



control 

reduce your OPEX and CO₂ emissions

qontrol maps is an advanced raw material optimization software designed to reduce your OPEX along the complete steelmaking value chain.

- Are your suppliers delivering the correct raw materials?
- What are the current properties of your raw materials?
- What is the ideal furnace charge mix?
- What is the ideal alloying strategy from melting to casting?
- How should you arrange your production orders to reduce cost?
- What are the raw material requirements for the next campaign?
- How to deal with changing scrap availabilities and energy prices?
- How can you reduce overall costs and CO₂ emissions?

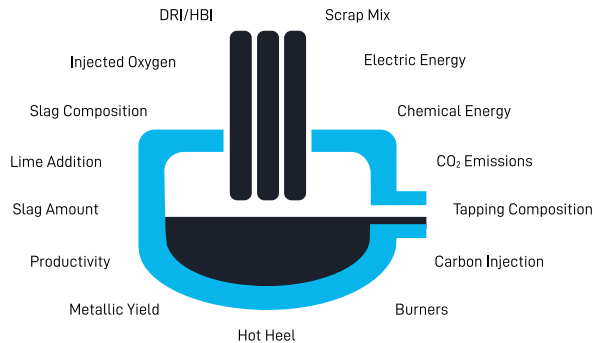
” The best system on the market to ...

Our Software Modules

1 Material Characterization

This module automatically determines the scrap quality of each scrap on the scrap yard in real-time without the need for any additional sensors or physical equipment to be installed.

- Chemical Composition [wt.-%]
- Energy Consumption [kWh/t]
- Metallic Yield [%]



2 Charge Optimization

This module automatically determines the ideal charge mix for a melting furnace considering all relevant production parameters and cost drivers.

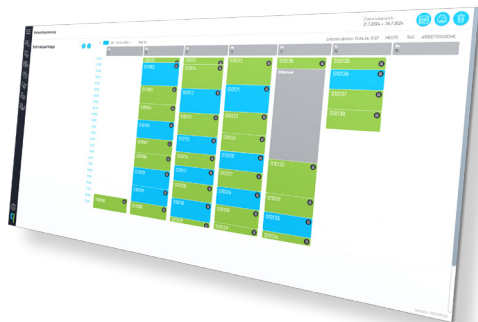
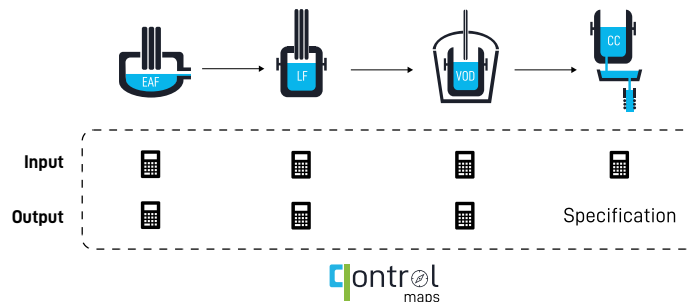
1 determine your scrap quality,

2 optimize your melting performance,

Tailored to your Requirements

3 Heat Optimization

This module automatically determines the ideal charge and alloying strategy along the complete steelmaking route from melting to casting.



4 Campaign Optimization

This module automatically optimizes entire production campaigns (consisting of a sequence of multiple heats) based on variable energy prices, raw material availabilities, and other parameters.

3 improve your secondary metallurgy

4 and reduce your production cost.

System Highlights

- Easy system integration in existing IT infrastructures.
- Real-time determination of scrap quality.
- Optimization of the complete production route (BOF, EAF, IF, LF, AOD, V(O)D, etc.).
- Optimization based on current availability and cost of raw materials and energy.
- Consideration of metallurgical reactions and chemical energy.
- Optimization of electrical and chemical energy.
- Consideration of utilities (oxygen, lime, etc.).
- Full CO₂ emission audit (scope 1, 2 and 3).
- DRI/HBI and hot heel model included.
- Facilitation of raw material resource planning.
- Optimization of production sequences and campaigns.
- Substantial savings in cost, energy, and CO₂ emissions.

The screenshot displays the qontrol maps software interface, which is used for optimizing steel production processes. The interface includes several key sections:

- Top Bar:** Contains icons for adding, saving, and other functions. Below the icons are toggle switches for "Consider Energy" and "Consider CO₂", both of which are currently turned on. A "Comment" field is also present.
- Results Panel:** A table titled "Reactions" showing various chemical reactions and their status.

Reaction	Consider
$2C + O_2 \rightarrow 2CO$	<input type="checkbox"/>
$Si + O_2 \rightarrow SiO_2$	<input type="checkbox"/>
$2Mn + O_2 \rightarrow 2MnO$	<input type="checkbox"/>
$4Cr + 3O_2 \rightarrow 2Cr_2O_3$	<input type="checkbox"/>
$4Al + 3O_2 \rightarrow 2Al_2O_3$	<input type="checkbox"/>
$2Fe + O_2 \rightarrow 2FeO$	<input type="checkbox"/>
- Material and Energy Data:** A table showing material flows and energy costs.

Material	Calculated [kg]	Critical Elements
HMS1	49.600	--
Rail Scrap	47.300	--
Turnings	17.100	--
Alloys (2)	125	
- Mass/Volume Constraints:** A section for defining constraints on the production process.

Min. Bulk Mass [kg]	Max. Bulk Mass [kg]
<input type="text"/>	<input type="text"/>
Min. Melt Mass [kg]	Max. Melt Mass [kg]
<input type="text"/>	<input type="text"/>
Min. Bulk Volume [m ³]	Max. Bulk Volume [m ³]
<input type="text"/>	<input type="text"/>
Min. Slag Mass [kg]	Max. Slag Mass [kg]
<input type="text"/>	<input type="text"/>
- CO₂ Emissions:** A section showing CO₂ Scope 3 emissions of 205.351 kg.

qontrol maps is designed to reduce cost, energy and CO₂ emissions.



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