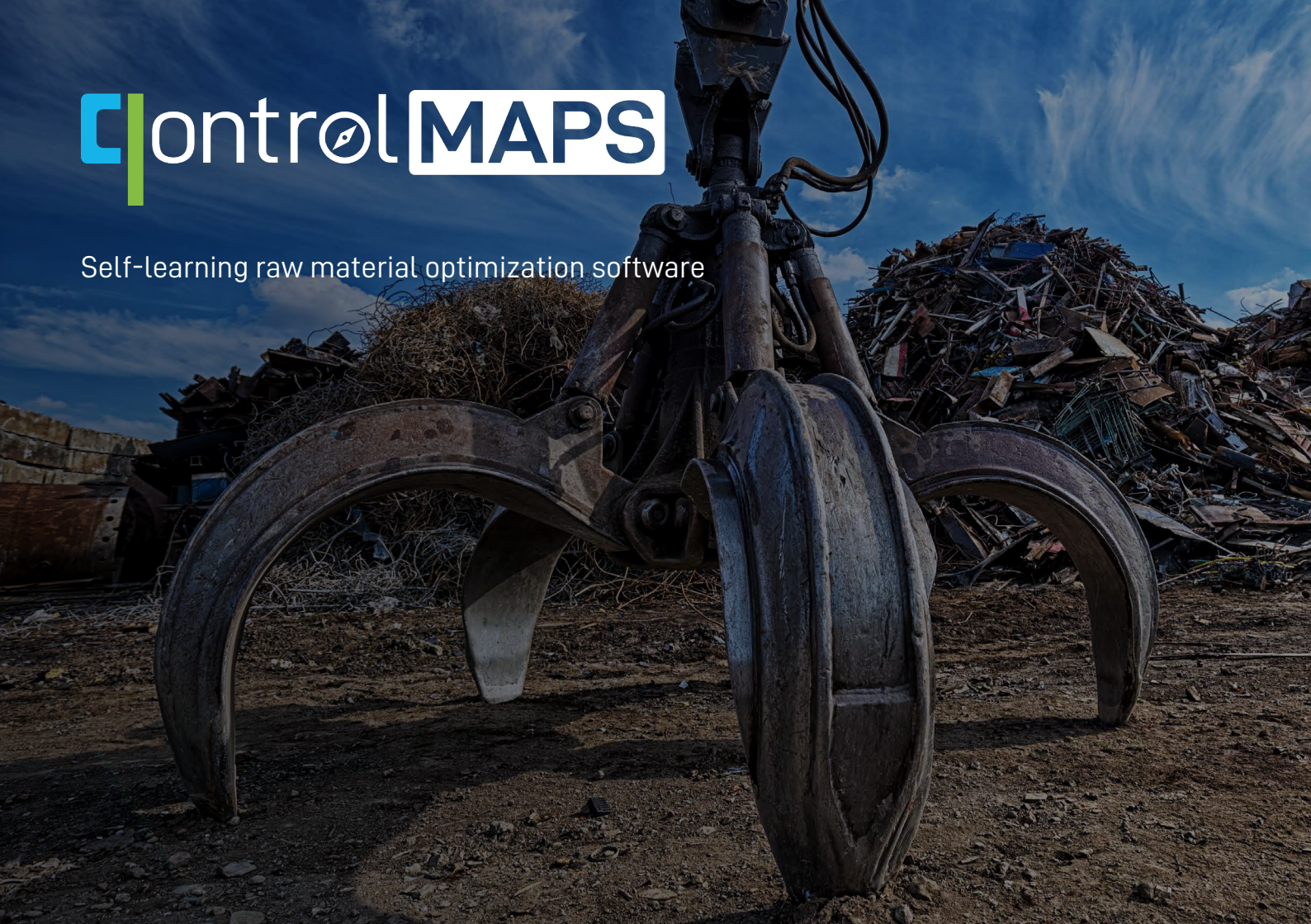




Self-learning raw material optimization software



better decisions. heat after heat.

qontrol MAPS is a self-learning raw material optimization system that improves the entire raw-material workflow:

1. Plan a Single Heat or an Entire Campaign
2. Get the Complete Raw Material Demand
3. Combine the Demand with Live Inventory
4. Optimize Production Cost and Productivity
5. Guide the Operators at the Shop-Floor Level
6. Learn from Every Heat

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The result is not just a better charge recipe, but an optimized workflow across the entire value chain that **minimizes total production costs.**



PLAN & KNOW

1 Plan a Single Heat or an Entire Campaign

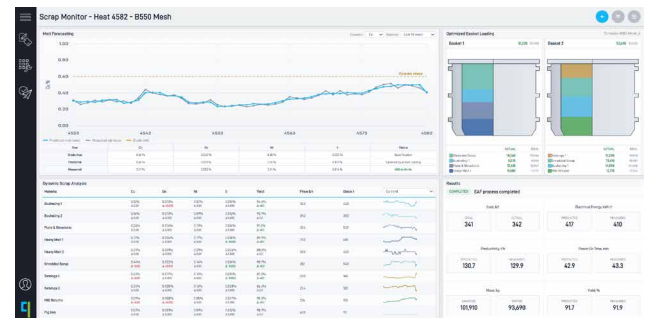
Optimize selected production orders individually or as one complete campaign. For campaigns, raw materials are allocated and reserved across all heats to avoid cherry-picking and use scarce materials where they create the greatest value. The system also determines the optimal amount of liquid steel to retain in the furnace between heats. The resulting hot-heel strategy supports slag-free tapping, reduces electrical energy demand and shortens melting times.

2 Get the Complete Raw Material Demand

Calculate the complete demand for scrap, DRI/HBI, alloys, fluxes and energy across all selected heats. Compare these requirements with available inventory and existing material reservations to identify shortages before they affect production. This provides a reliable basis for timely purchasing decisions and secures material availability throughout the campaign.

3 Combine the Demand with Live Inventory

Connect current stock levels, storage locations, deliveries and reservations directly to production planning and optimization. This ensures that every optimization uses only materials that are available and can be executed in practice.



EXECUTE & LEARN

4 Optimize Production Cost and Productivity

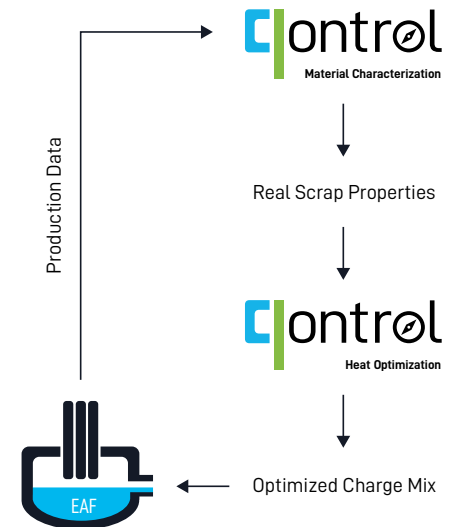
Optimize the entire production route as one connected metallurgical and economic system. Instead of providing the lowest-cost scrap mix for the furnace only, qontrol MAPS determines where and how much of the different raw materials should be used in each production step from melting to casting. Plant-specific operating constraints ensure that the resulting strategy is not only cost-optimal, but directly executable in production.

5 Guide the Operators at the Shop-Floor Level

Send approved, bucket-specific loading instructions directly to the scrap-yard cockpit. Crane operators are guided step by step through the required material, target weight and loading sequence. Alloying instructions can be sent directly to the dosing bunkers.

6 Learn from Every Heat

The system automatically learns the effective chemical composition and metallic yield of each scrap type directly from production data. Raw-material master data are continuously updated instead of relying on user-defined values, improving the optimization of every following heat.



CUSTOMER RESULTS



4 Weeks

from project approval
to software readiness and
first measurable cost savings.

-7% Production Cost

Scrap, DRI/HBI, alloys, fluxes and energy are optimized together in one integrated model covering the complete production route. This minimizes total production costs from melting to casting.

-90% Out-of-Specification Heats

A self-learning model derives actual scrap quality from production data instead of relying on static assumptions. More accurate melt predictions reduce out-of-specification heats and costly safety margins.

+5% Productivity

Electrical and chemical energy are optimized together. Optimized use of chemical energy reduces electrical energy demand and power-on time, increasing furnace productivity.



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