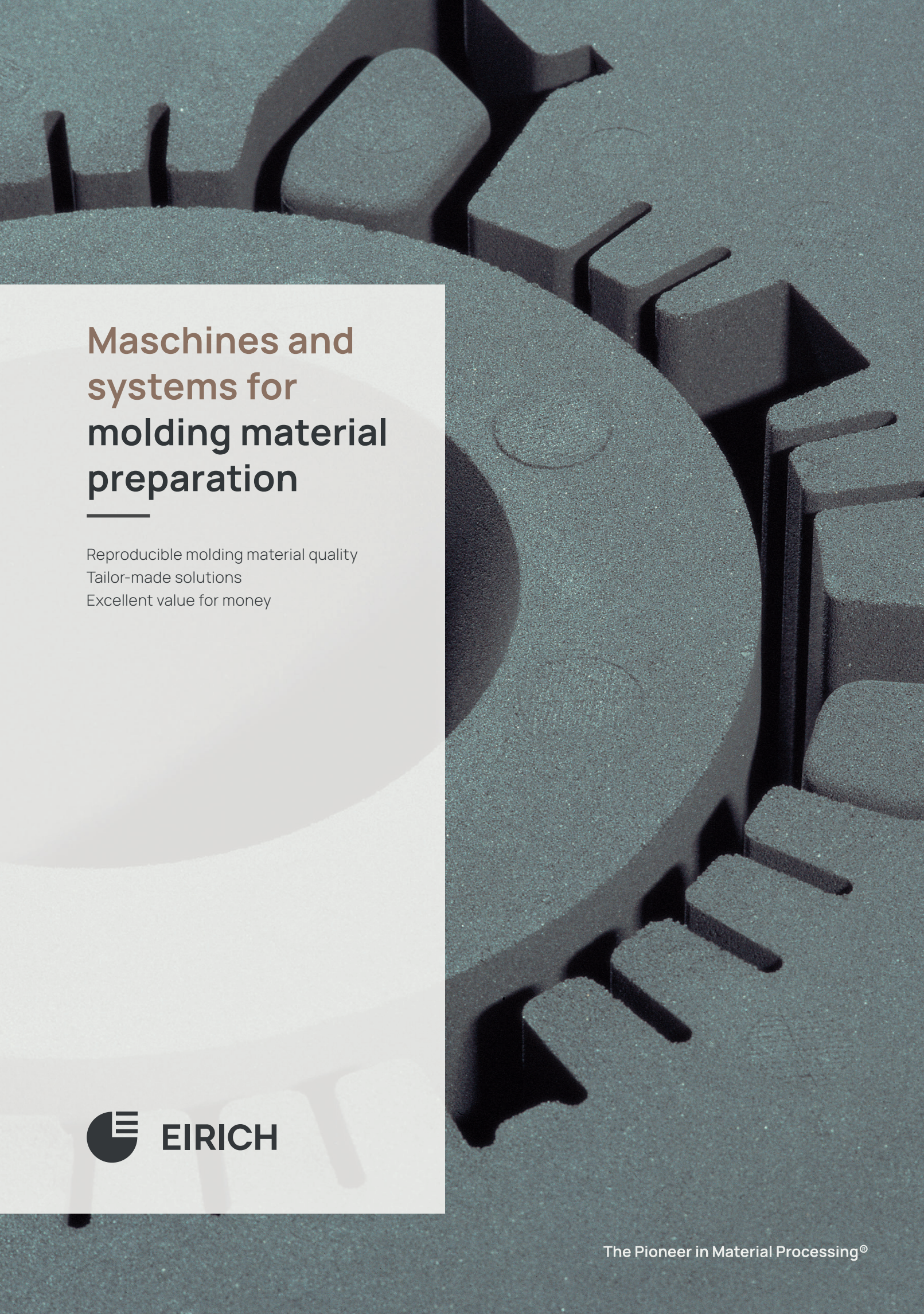


Maschines and systems for molding material preparation

Reproducible molding material quality
Tailor-made solutions
Excellent value for money

EIRICH

The Pioneer in Material Processing®

Eirich-Molding material

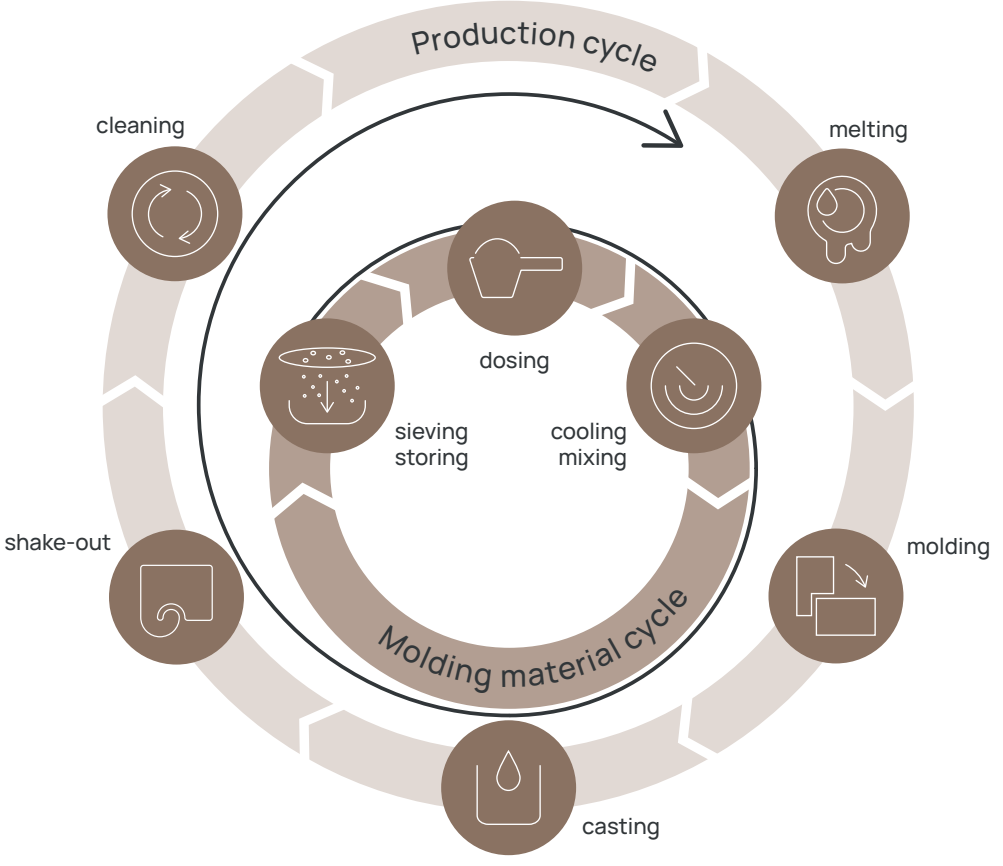
For many decades, Eirich has been working closely with foundries, mold makers, raw material suppliers, and research institutions.

The performance potential of a modern molding line can only be unlocked with first-class, consistent quality of the molding material **– and this is exactly what the name Eirich stands for.**


EIRICH
Anlagenbau

Molding material preparation – the driving force behind the production cycle of a foundry

Get your production cycle really moving with a molding material preparation system that supplies exactly the molding material you require, whenever you need it.



1

Eirich molding material
quality for optimum results

The Eirich range of products and services :
everything you need for reliable processes
– from a single source

2

3

Eirich molding material mixer:
for all performance requirements and line sizes

The EvacTherm® process:
the fast track to production

4

5

Modernization and retrofitting:
solution for unrivaled cost efficiency and superior quality

Control solutions
for molding material preparation

6

Eirich molding material quality for optimum results

The unique advantages of the Eirich mixing system deliver reproducible molding material quality to the highest standards.

Modern foundry requirements for molding materials

Quality
- Consistency and reproducibility under changing loads

Productivity
- Ensuring the supply of molding materials to high-productivity molding lines
- Highest-possible line availability

Environmental
- Reduced emissions and increased environmental sustainability

Costs
- Robust processes with plannable costs
- Frugal use of raw materials and energy

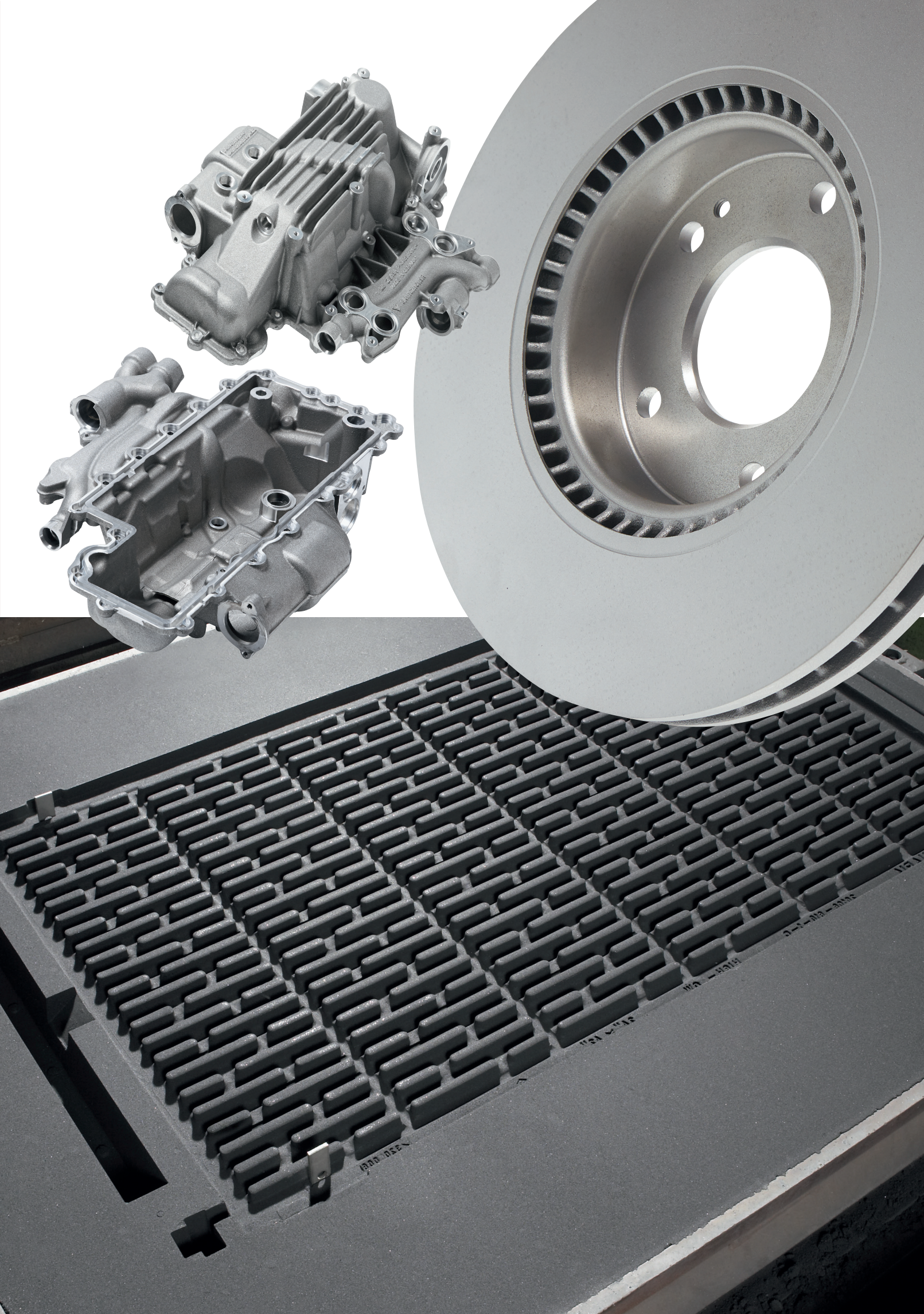
Eirich molding material systems meet all these requirements. In particular, they offer:

Quality
- Perfect homogenization of return sand, new sand, and additives
- Fast and complete distribution of the water added to the mix
- A sufficiently long wet mixing time is ensured
- The bentonite is completely dispersed and forms a uniform coating on the grains of sand

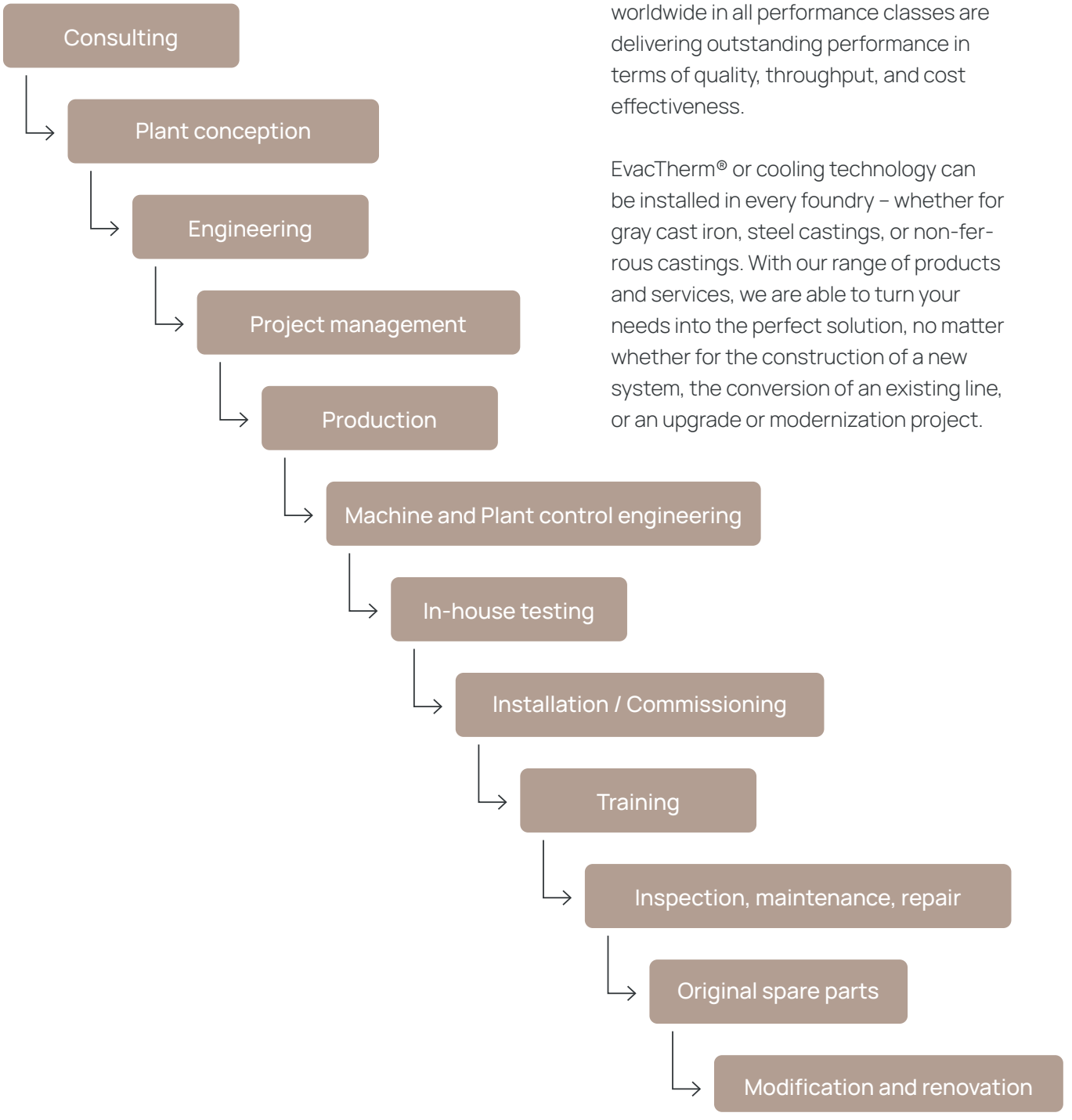
Produktivity
- 98% line availability
- Intelligent prepared sand distribution Continuous control over the mass flow rate of the prepared sand

Environmental
- Approx. 40% less exhaust air with an EvacTherm® mixer/line
- Reduced need to dispose of filter dust with an EvacTherm® mixer/line
- Noise emissions dramatically reduced thanks to the torque drive
- Smaller footprint of the EvacTherm® line compared to a conventional system with cooler

Costs
- 25% energy savings through torque drives
- Reduction in the consumption of additives through intelligent additive management system
- 40% reduced landfill costs with the EvacTherm® system
- Significant reduction in maintenance costs for dust extraction from pipes with the EvacTherm® system



The Eirich range of products and services **everything you need for reliable processes – from a single source**



Over 2500 preparation lines installed worldwide in all performance classes are delivering outstanding performance in terms of quality, throughput, and cost effectiveness.

EvacTherm® or cooling technology can be installed in every foundry – whether for gray cast iron, steel castings, or non-ferrous castings. With our range of products and services, we are able to turn your needs into the perfect solution, no matter whether for the construction of a new system, the conversion of an existing line, or an upgrade or modernization project.

From the control system, dosing system, and the individual mixer to the complete line – everything is from a single source: Eirich

Machines and systems for molding material preparation: Eirich offers the complete solution

Eirich – the right partner for all the components that make up a preparation line:

- Molding material mixer – the heart of the system for optimum preparation of the molding material
- Cluster of weighing balances for return sand, additives, new sand, and water
- Control modules for optimum management of molding material quality
- Industry 4.0
- Moisture probe for moisture level correction
- QualiMaster AT1 sand tester for inline testing and closed-loop control of molding material quality
- Table feeder for demand-driven material flow downstream of the mixer
- Storage and conveyor systems
- Return sand conditioning equipment (screens, cooling, separation of ferrous and non-ferrous materials)
- Dust extraction filters
- Steel structure / buildings

Molding material mixers for all performance classes

Conventional molding material preparation

Hourly output approx. t/h [2]	Hourly output m³/h [1]	Batch size/ liters	Drive power (kW) Rotor / mixing pan	Mixer type
1,65-1,75	1,95	75	5,5 / 1,5	R08
3,3-3,5	3,9	150	11 / 3	R09
5,5-5,8	6,5	250	22 / 5,5	R12
8,8-9,3	10,4	400	37 / 7,5	RV12
13,3-14	15,6	600	37 / 7,5	R16
20-21	23,4	900	45 / 9,2	RV16
24,6-26	29	1.125	75 / 15	R19
33-35	39	1.500	90 / 18,5	RV19
50-53	58,5	2.250	110 / 2x15	R24
66-70	78	3.000	132 / 2x22	RV24
88-94	104	4.000	160+90 / 30	R28-41
110-117	130	5.000	160+110 / 2x22	R28-51
133-140	156	6.000	200+132 / 2x22	R33-61
155-164	182	7.000	250+160 / 2x30	R33-71

[1] with 26 batches/h
[2] with a bulk density of the molding material of 0.85 - 0.9 t/m³

EvavTherm® molding material preparation

Hourly output approx. t/h [4]	Hourly output m³/h [3]	Batch size/ liters	Drive power (kW) Rotor / mixing pan	Mixer type
7,65 - 8,1	9	375	45 / 7,5	RV11VAC
15-16	18	750	55 / 9,2	RV15VAC
31-32,5	36	1.500	90 / 22	RV19VAC
61-65	72	3.000	160 / 2x22	RV23VAC
102-108	120	5.000	2x160 / 2x22	R32VAC
143-151	168	7.000	2x200 / 2x30	RV32VAC

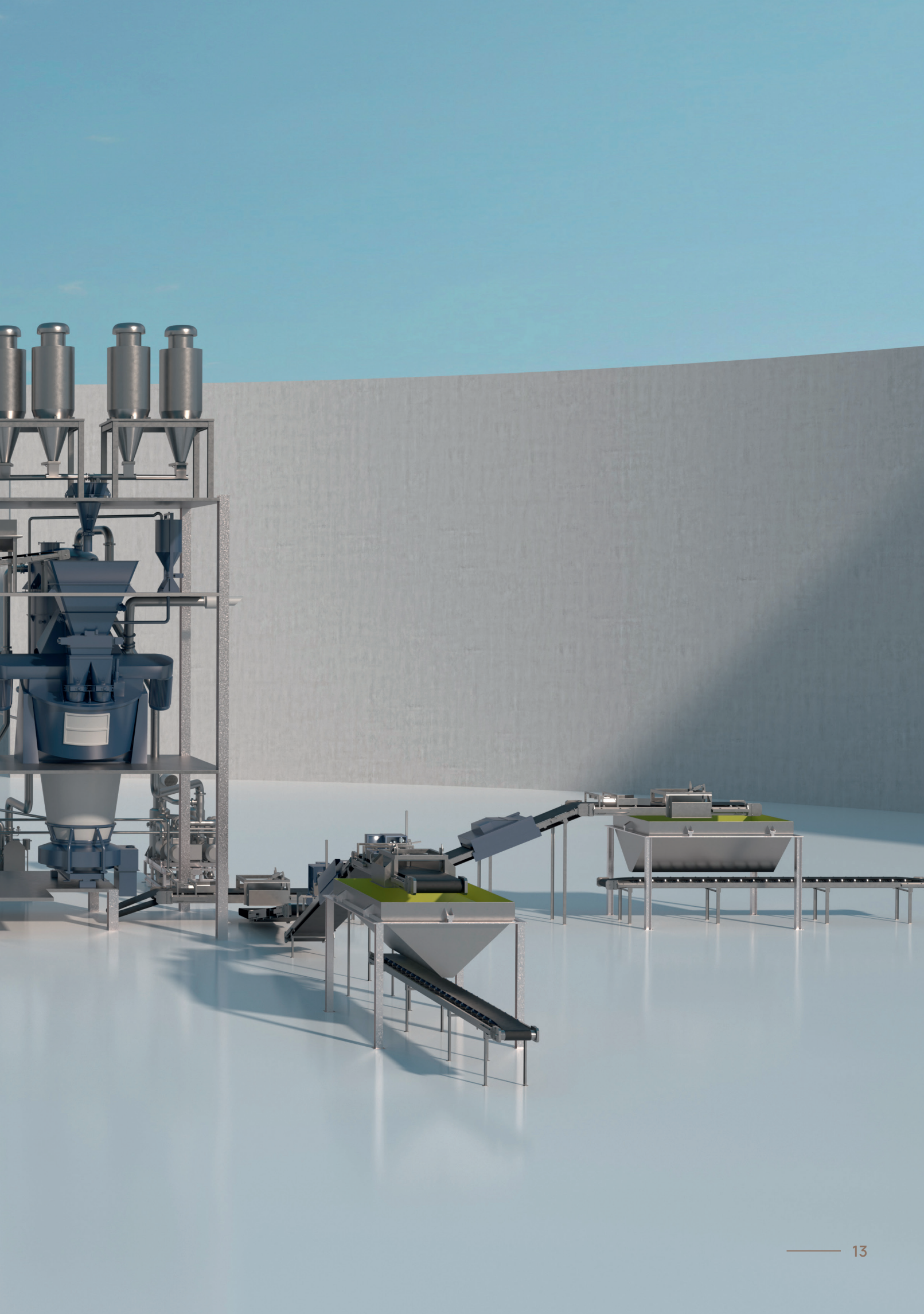
[3] with24 batches/h
[4] with a bulk density of the molding material of 0.85 - 0.9 t/m³


EIRICH


EIRICH


EIRICH
EIRICH


EIRICH
EIRICH
EIRICH



The EvacTherm® process: an excellent solution for outstanding efficiency and quality

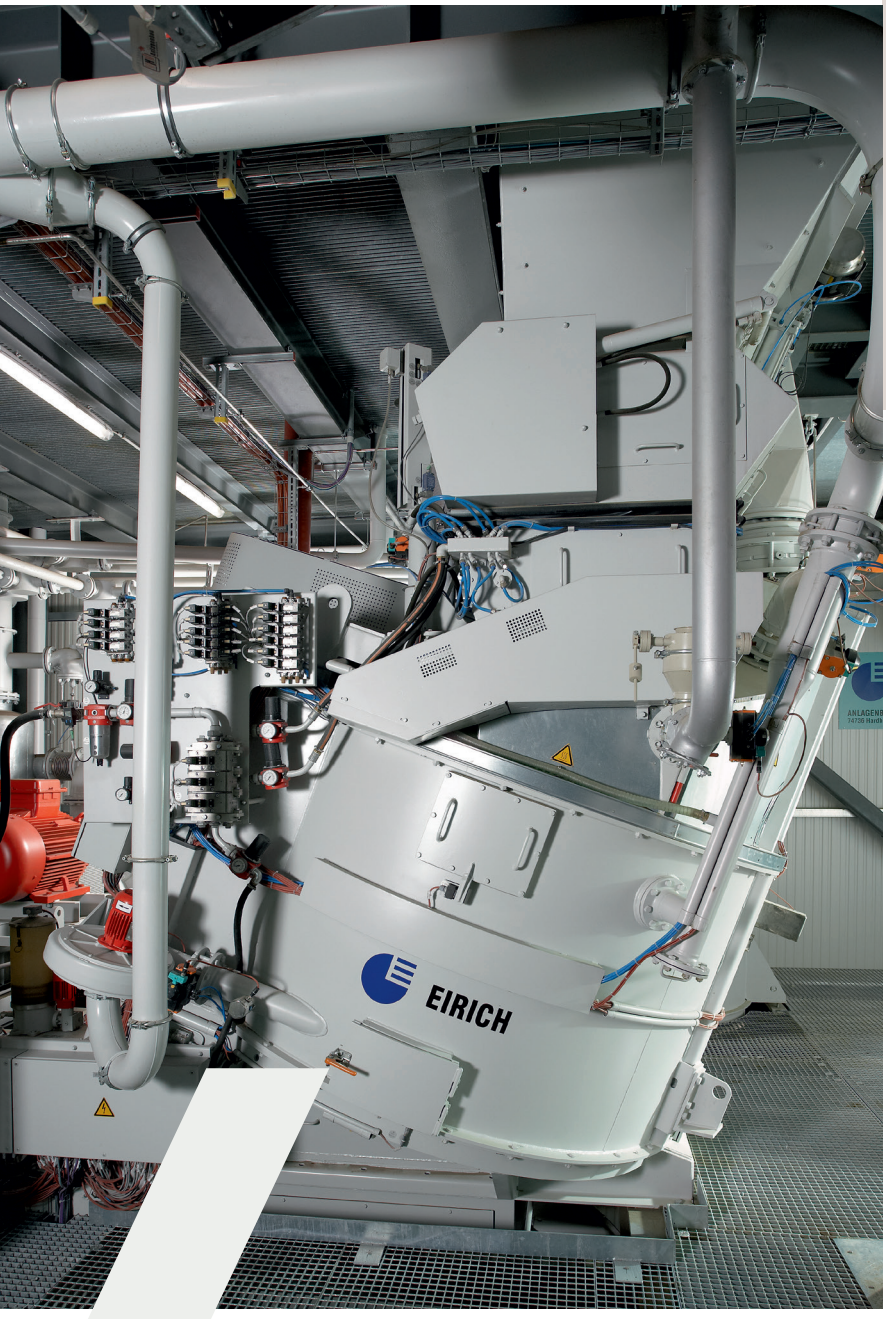
The process developed by Eirich is totally unique, and like no other it guarantees consistent, reproducible molding material quality – despite the variability that can be present in terms of starting conditions.

Large volume for steam –
1 liter of water produces 1673 liters of steam

Surface tension

The EvacTherm® process:
mixing and cooling in a single machine

- Fast bentonite activation through the presence of a steam atmosphere and temporary over-humidification
- Constant temperature of the prepared sand, regardless of climatic conditions
- Potential reduction in the volume of sand circulating in the system
- Significantly reduced amounts of exhaust air, smaller dust extraction system
- Small footprint
- Reduced requirements for conveyor technology
- Recirculation of process water as condensate, with resulting reduction in salt input and reduced deactivation of the bentonite
- Excellent options for energy recovery



Reports from Eirich customers:

- Savings of binders, in particularly bentonite
- Significant reduction in preparation costs per ton of molding material
- Improved product quality through reduction in the number of casting flaws due to the molding material temperature
- Reduced reject rates
- Reproducible molding material quality thanks to the interplay between the moisture correction sensor and QualiMaster AT1
- High availability of the machines and lines

For synthetic molding sand
For semi-synthetic molding sand
For natural sand

Modernization and retrofitting

Performance features:

- Professional support and advice provided directly on-site by an Eirich service technician
- Analysis of the current status of your machine/system
- Information about new technical developments
- Preparation of a detailed optimization proposal
- Support during implementation and commissioning, incl. supply of documentation
- Training of operating staff

Advantages

- Expert support directly from the manufacturer
- Increased effectiveness and cost-efficiency
- Fast and straightforward conversion to state-of-the-art technology

New control technology (including for non-Eirich molding sand preparation: systems) for performance optimization of existing lines

Swap old for new!

Retrofitting of the testing/quality system QualiMaster AT1

Take full advantage of all the options available with the inline tester QualiMaster A1:

- Modular layout, with the option to upgrade at any time
- Web interface with integrated ProView process data visualization for viewing on portable terminal devices
- Measurement options (compactibility, shear strength, springback, temperature, gas permeability, deformability)
- Platform-independent communication via OPC UA
- Rugged design for demanding conditions
- Reduced measurement time for stable closed-loop process control

A look at a QualiMaster AT1
ProfiPlus system

5 Modernisierung Nachrüstung

Visualization of the measurement results of the QualiMaster AT1 ProfiPlus

Control solutions for molding material preparation – everything from a single source!

Assured quality
Enhanced productivity
Improved performance

Quality

Closed-loop process control

The path to perfect molding sand in 4 steps

1. Moisture measurements
2. Compactibility control with QualiMaster AT1
3. Shear strength control with QualiMaster AT1
4. Preventive molding sand control with SandExpert

SandExpert

Perfect software tool for quality assurance

- Preventive molding sand control based on mold model data and wear factors
- Basic version available as SandReport for continuous measurement and analysis of batch data

Communication

Process visualization

- Simple operation and graphical overview of the machine/system
- Detailed status display for all sensors and actuators of mixers and system components
- Standard features include formula management, batch logging, recording of measured values, and many others

Distribution of molding sand

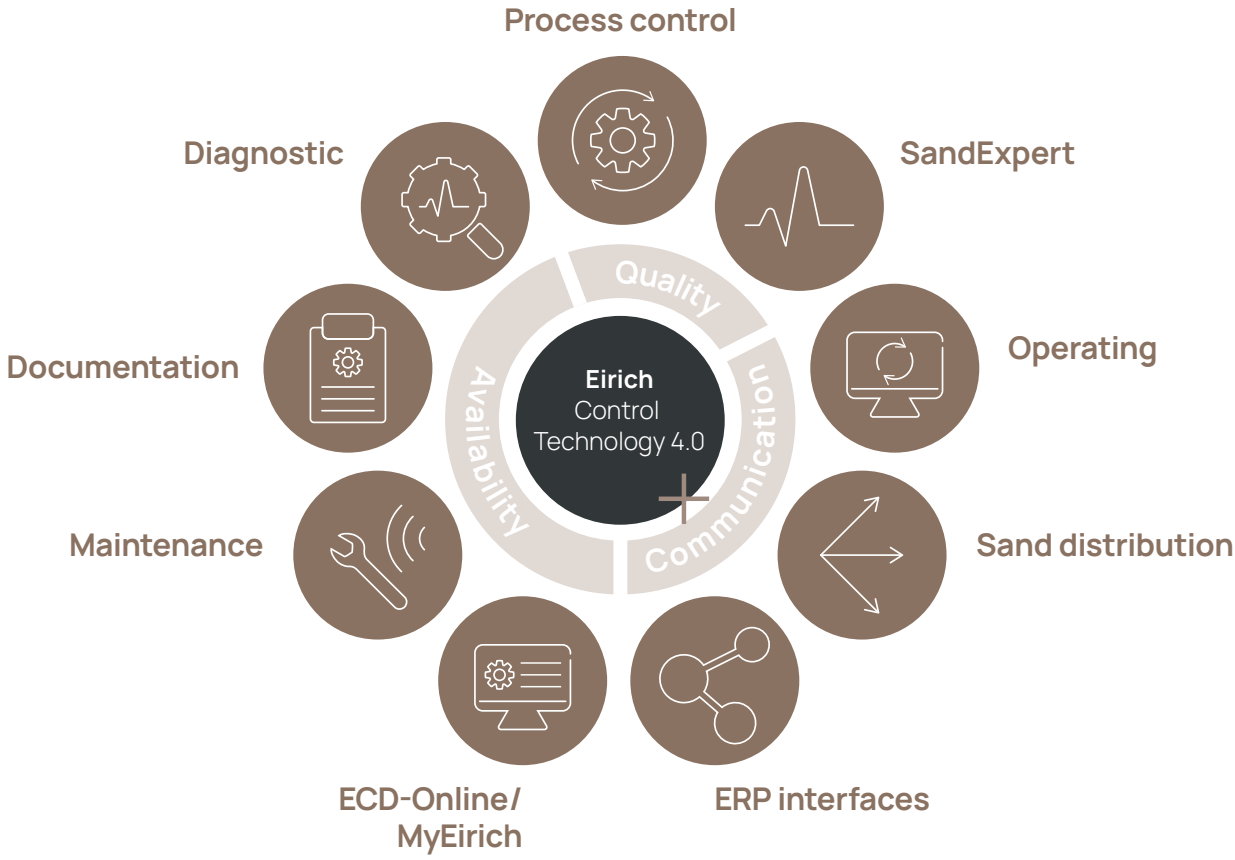
- Online measurement and visual representation of the prepared sand distribution on the entire conveying system
- Improved preservation of molding material properties through demand-based filling of the machine silos.
- Reduced wear on belts and scrapers

ERP interfaces

- Direct data exchange between SandExpert and ERP databases
- Support for all current database systems and data file formats
- Batch logs, mold data, formulas and laboratory data can be transmitted

Quality

Communication



Availability

Diagnostics
- Modules for online status monitoring of your machine
- Avoidance of unscheduled downtime
- For just-in-time procurement of spare parts – and therefore reduced warehousing requirements

Documentation
- Identification of installed components through graphical navigation in the flow diagram
- Simplification of spare parts inquiries and ordering processes
- Faster access to the full documentation of all components and machines supplied by Eirich

Remote service / maintenance
- Remote servicing module for machines and systems
- Efficient technical support
- Faster reaction times resulting in increased line availability

ECD-Online / MyEirich
- Clear presentation of original Eirich parts
- Easy identification of installed machines, equipment and original Eirich parts
- Shopping cart function
- Customer-specific machine data is continuously updated – and up-to-date details are always available for the customer via the web portal

EIRICH

The Eirich Group, with Maschinenfabrik Gustav Eirich as its strategic center in Hardheim/Germany, 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 from 16 sites around the world.

For more information please visit:
www.eirich.com

GI1928-1 en 05/23 I Printed in Germany. Subject to change without notice.