

EXPERTISE IN BATTERY KILN MANUFACTURING

Thanks to our extensive expertise we offer a broad, customizable, high quality equipment/solutions range for Lithium-ion battery materials.

HIGH MANUFACTURING QUALITY

- Well equipped workshops
- High level quality control management by Riedhammer/Sacmi
- Use of high grade materials and components
- Quality and performance validation in our workshop (FAT)
- ISO 9001 certified
- Production tolerances compliant with German manufacturing standards
- Continuous development/improvement of equipment
- Special/tailor-made solutions
- Reliable suppliers

HIGH EFFICIENCY

- Reliable long lifetime equipment
- Very low specific energy and media consumption
- High productivity
- Excellent temperature uniformity
- Strong, reliable sagger circulation and handling system
- Fully automated operation by PLC system
- Multiple temperature profiles available

EXCELLENT SERVICE

- High performance service
- Efficient operator training
- 24-hour response time for troubleshooting
- Remote control for fast technical support

LARGE NUMBER OF COMPLETED PROJECTS WORLDWIDE

- MORE THAN 250 BATTERY KILNS SUCCESSFULLY BUILT AND IN OPERATION!
- > 100 KILNS FOR HIGH O₂ OPERATION!
- > 130 KILNS IN ASIA!
- SUCCESSFUL PROJECTS IN CHINA, SOUTH KOREA, NORTH AMERICA AND EUROPE!
- SUPPLYING KEY PLAYERS IN THE BATTERY BUSINESS.



RIEDHAMMER
committed to your needs

a company of **SACMI**

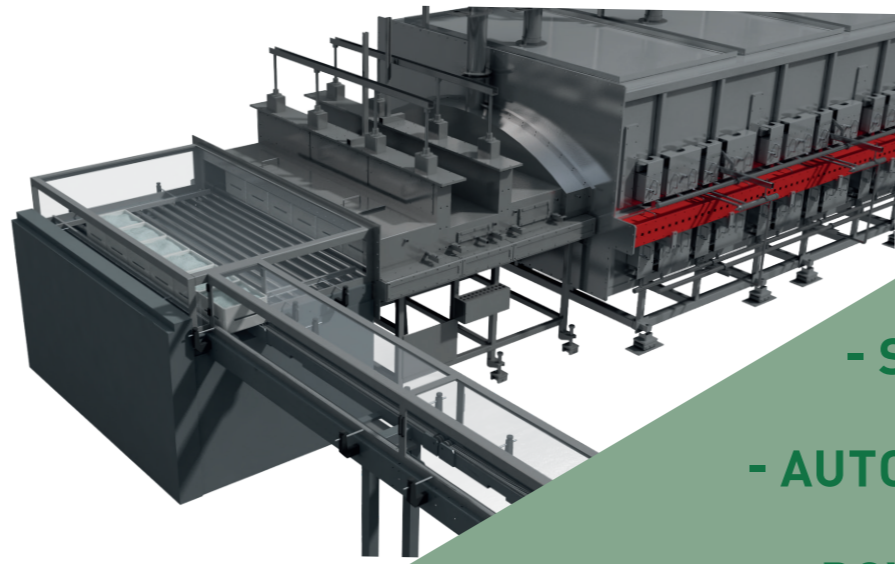
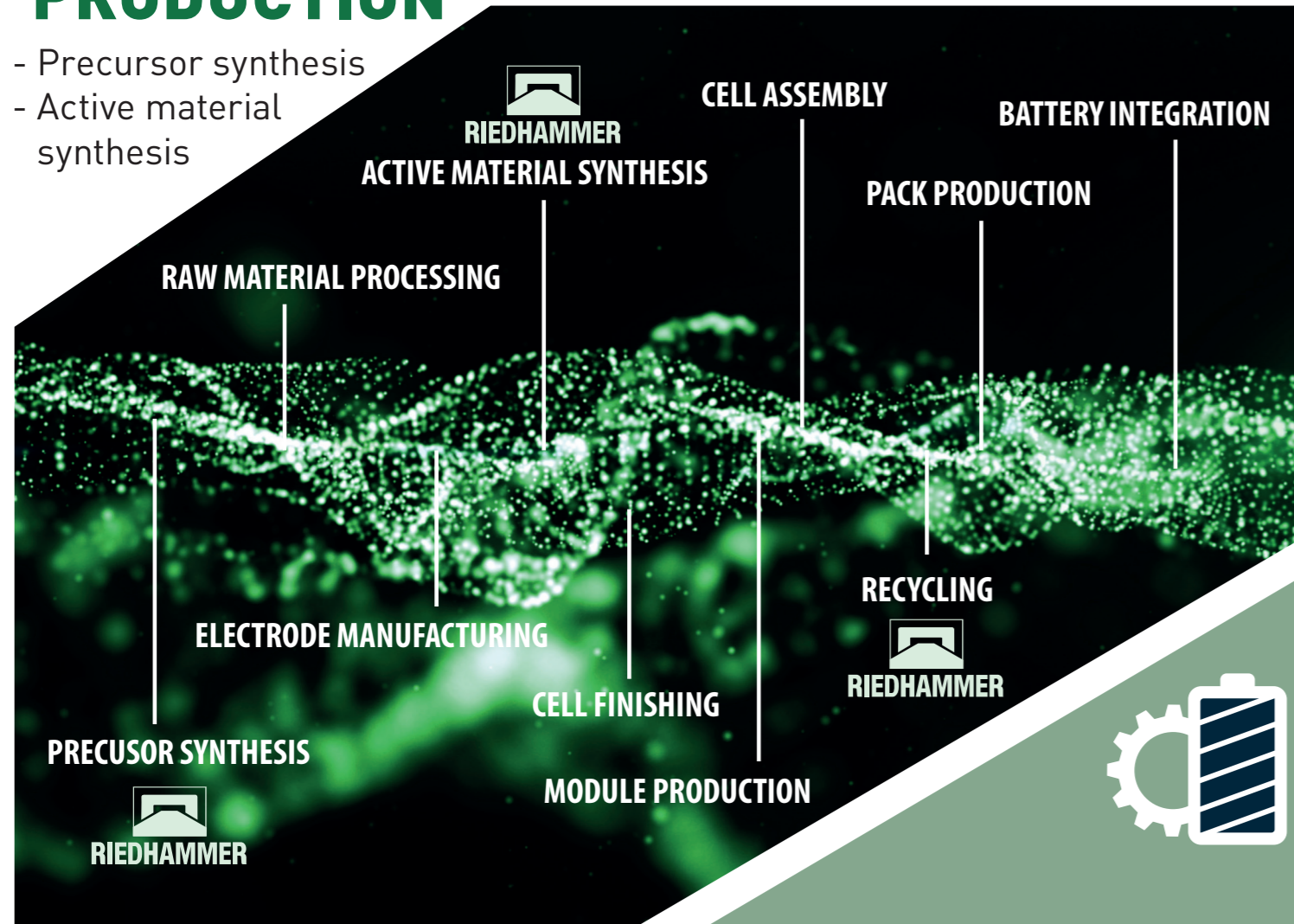
RIEDHAMMER GmbH // Klingenhofstraße 72 – 90411 Nürnberg – Germany
Tel: +49-911-52180 | Fax: +49-911-5218231 | E-Mail: mail@riedhammer.de
www.riedhammer.de



THERMAL PROCESS SOLUTIONS FOR THE LITHIUM BATTERY INDUSTRY

PROCESS CHAIN FOR LITHIUM BATTERY PRODUCTION

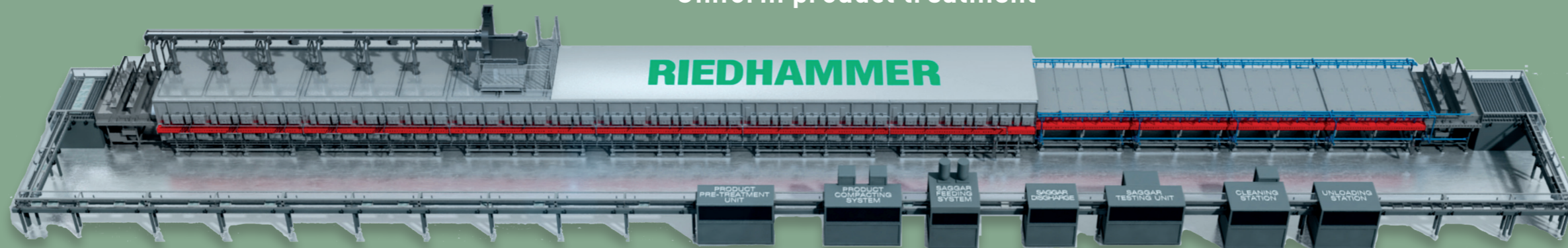
- Precursor synthesis
- Active material synthesis



- SAGGER CIRCULATION LINE WITH
- AUTOMATIC SAGGER HANDLING AND
- POWDER HANDLING SYSTEMS

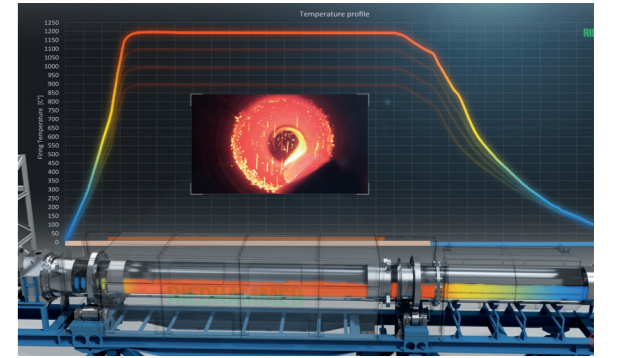
ROLLER HEARTH KILNS

- Tailor-made process requirements
- 4-tray, 6-tray width with multiple layer configuration
- High O₂ atmosphere > 99 %
- Inert gas atmosphere (N₂, Ar, CO₂ and others) < 30 ppm O₂
- Special atmosphere (H₂, CO, CH₄ and others)
- Optimal temperature distribution
- Length up to 150 m
- Gas-tight kiln casing
- Uniform product treatment



ROTARY KILNS

- No need for saggars or handling
- High output capacity due to excellent heat transfer and short cycle time
- Customized solution, tailored to your product
- Adjustable tilt and rotation speed
- Precise atmosphere adjustment inside rotary tube
- Gas-tight feed system
- Cooling tube



Wide range of powder calcination and sintering processes

- High O₂ atmosphere > 99 %
- Inert gas atmosphere (N₂, Ar, CO₂ and others) < 30 ppm O₂
- Special atmosphere (N₂CO, CH₄ and others) < 30 ppm O₂
- Air atmosphere



Services:

- Analysis of individual requirements
- Customized kiln solutions
- Design concepts
- Detailed offers
- Process engineering
- Production and testing
- Shipping, assembly, commissioning on site
- Documentation
- Production support

- Process analysis
- Maintenance
- Plant revamping

Support for related processes and equipment via a broad network throughout the LiB industry

