



START MOVING

**Equipment & Intelligence
Modern innovative plant solutions**

AMOVA
SMS group



IWCC Legal Disclaimer

The purpose of this presentation is to guide programs benefiting the copper industry and to provide attendees with information to make independent business decisions.

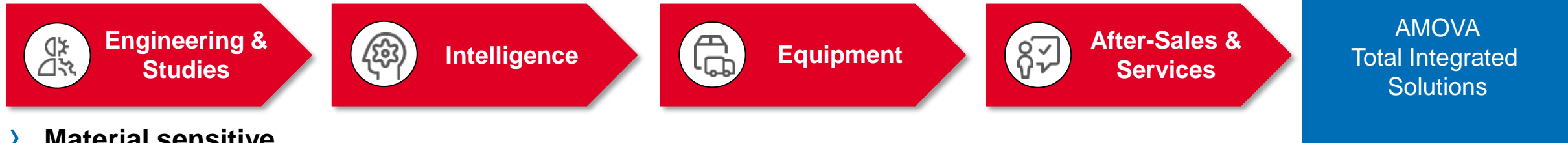
A Subsidiary of SMS Group

AMOVA GmbH, a distinguished member of the SMS Group, specializes in providing innovative material handling and logistics solutions. With a commitment to excellence, AMOVA serves a diverse range of industries, including aviation, automotive, and metals, ensuring efficient and safe handling of materials.

Key Highlights:

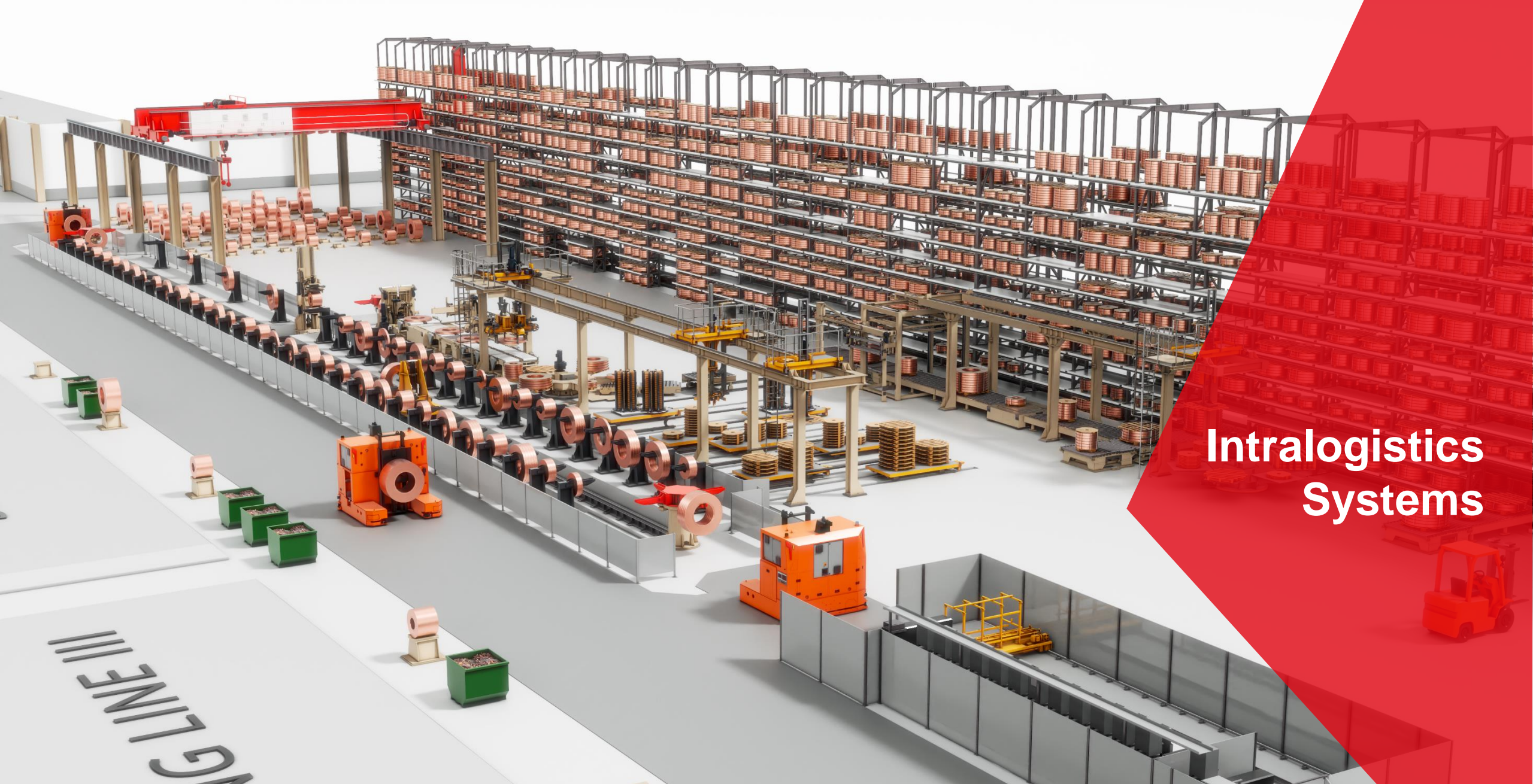
- › Innovative Solutions: Cutting-edge technology for automated storage, retrieval, and transport systems.
- › Industry Expertise: Extensive experience in tailored solutions for complex logistics challenges.
- › Global Reach: Serving clients worldwide with a focus on quality and reliability.
- › Sustainability: Dedicated to developing environmentally friendly and energy-efficient solutions.

AMOVA's integration with SMS Group enhances its capabilities, leveraging a legacy of engineering excellence and industry leadership to drive forward-thinking solutions in material handling.



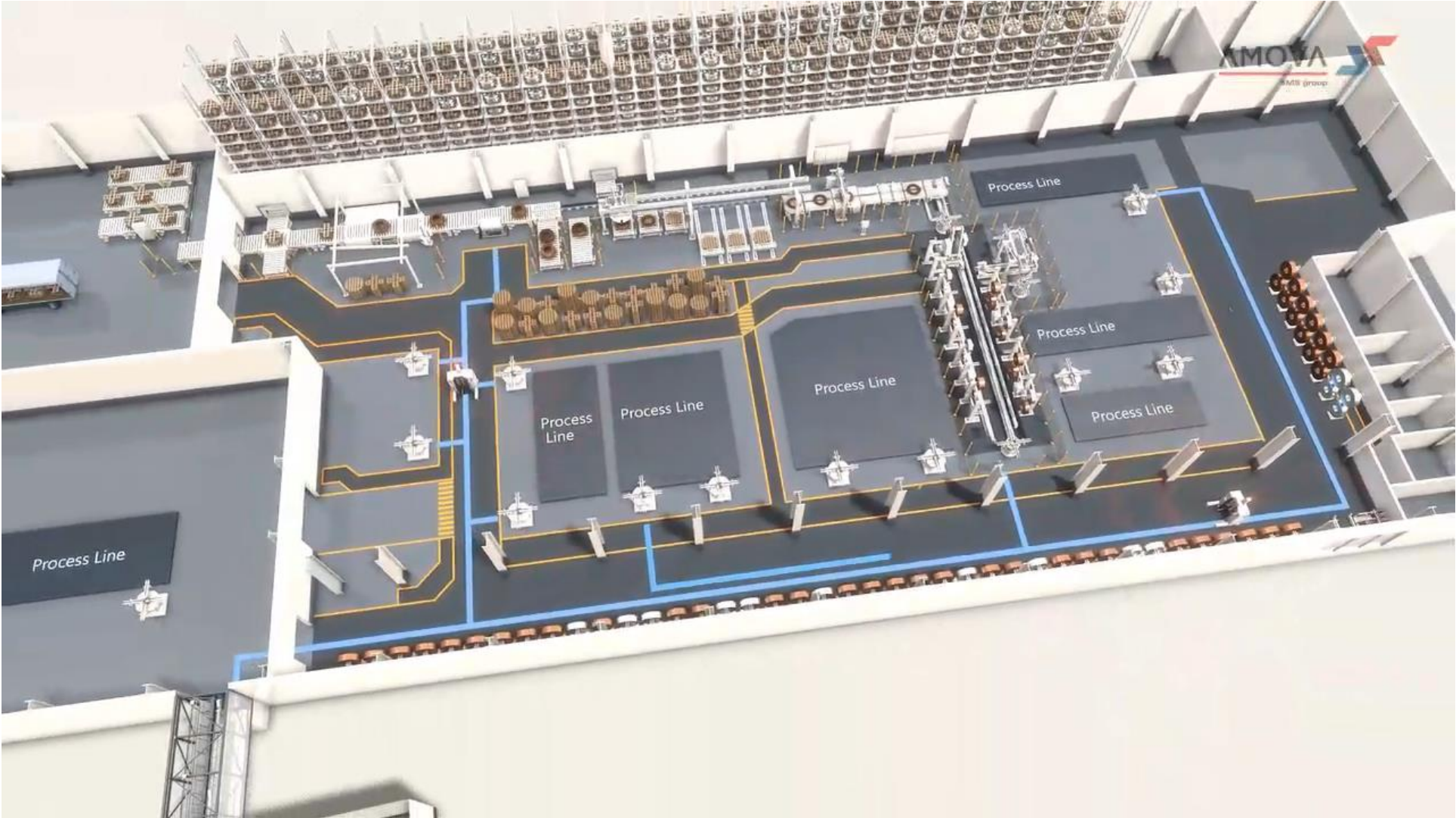
- › **Material sensitive**
 - › handling and storing of coils without damages
- › **Increased process and storing capacity**
 - › maximization of space due to intelligent transportation routing and vertical storing capacity
- › **Improved efficiency**
 - › for quick and efficient handling and storage of coils, reducing time and labor
- › **Enhanced safety**
 - › reducing the risk of injury due to manual handling and ensuring safe handling and storing of heavy material
- › **Better organization structure**
 - › allow for proper organization and categorization of different types of coils, improving transport and inventory management with help of AMOVAs own material tracking and warehouse management software (MTS/WMS)

"Our integrated SMART Intralogistics Solutions offer a cost-effective solution for connecting processing lines and storing materials, resulting in increased efficiency and reduced manual labor, ultimately saving money."



Intralogistics Systems

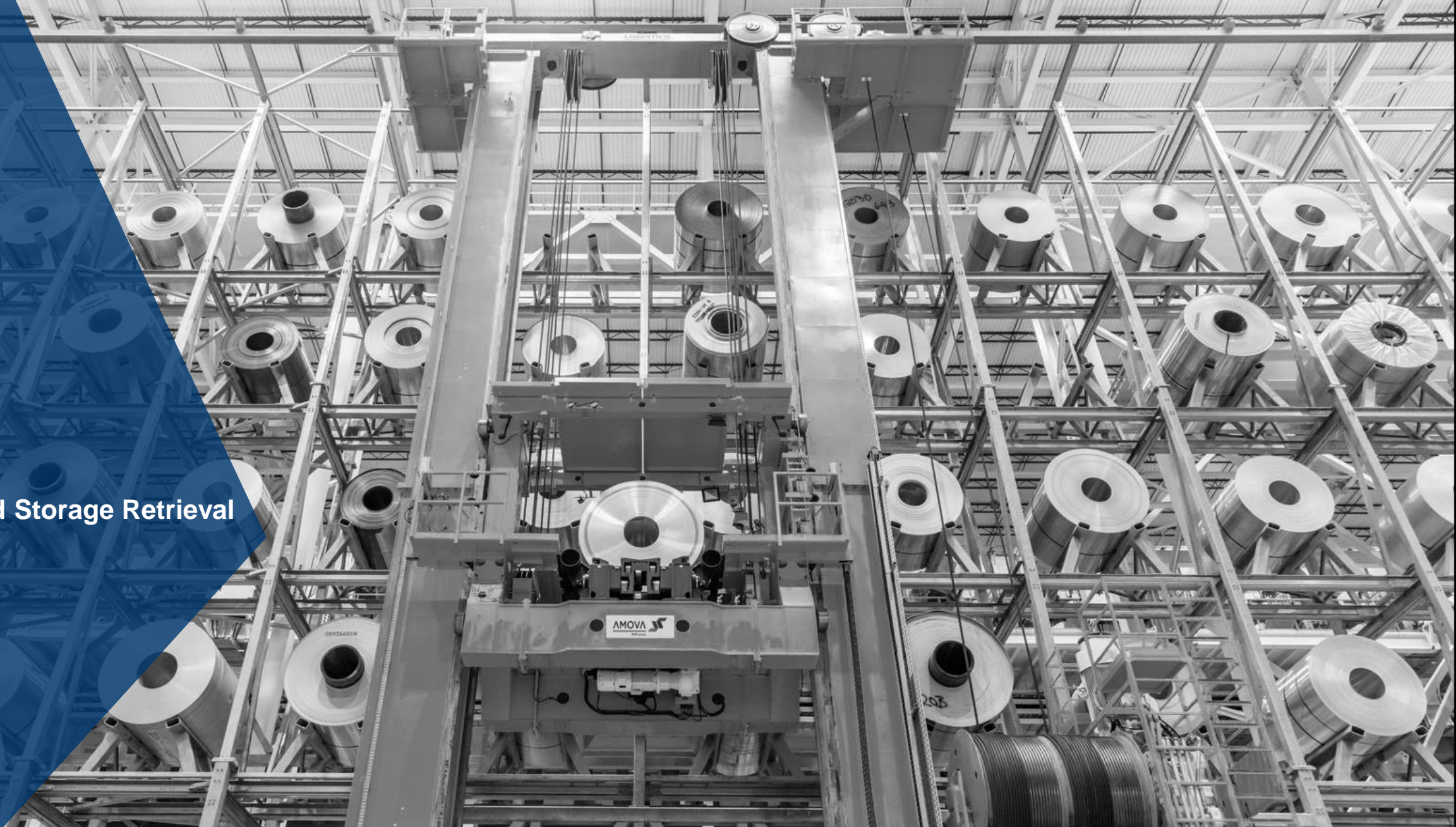
Fully Integrated Logistic System, Kemper, Olpe, Germany



SCAN or CLICK to access video

ASRS

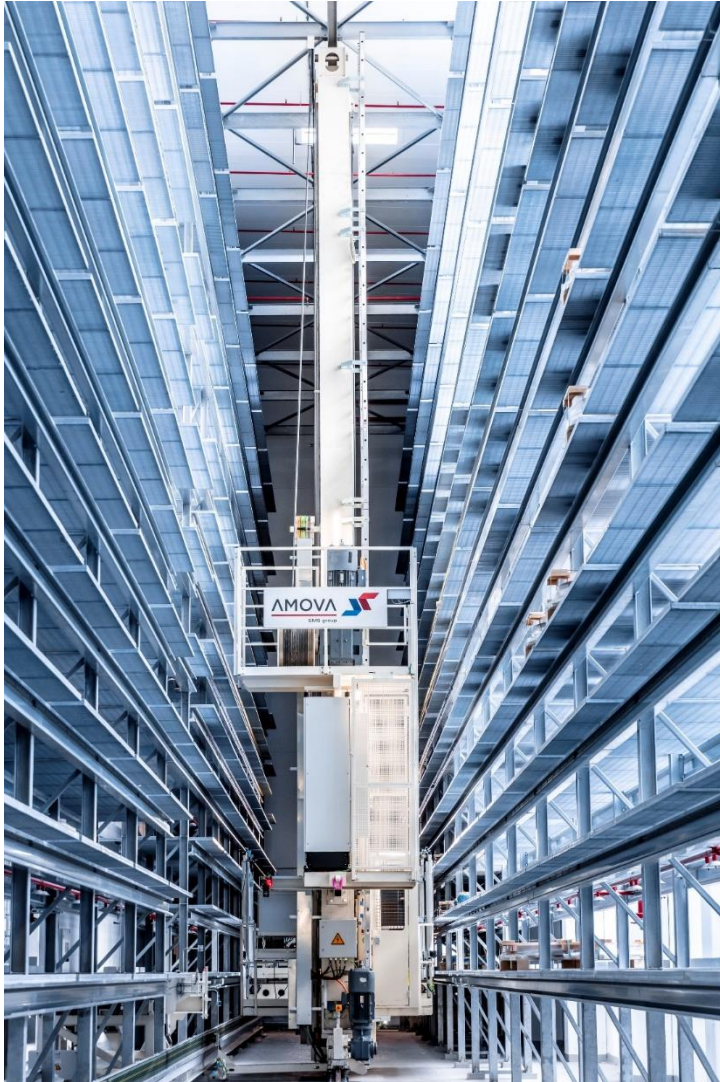
(Automated Storage Retrieval System)



High bay storage | Commonwealth Rolled Products, USA



High bay storage | finished goods



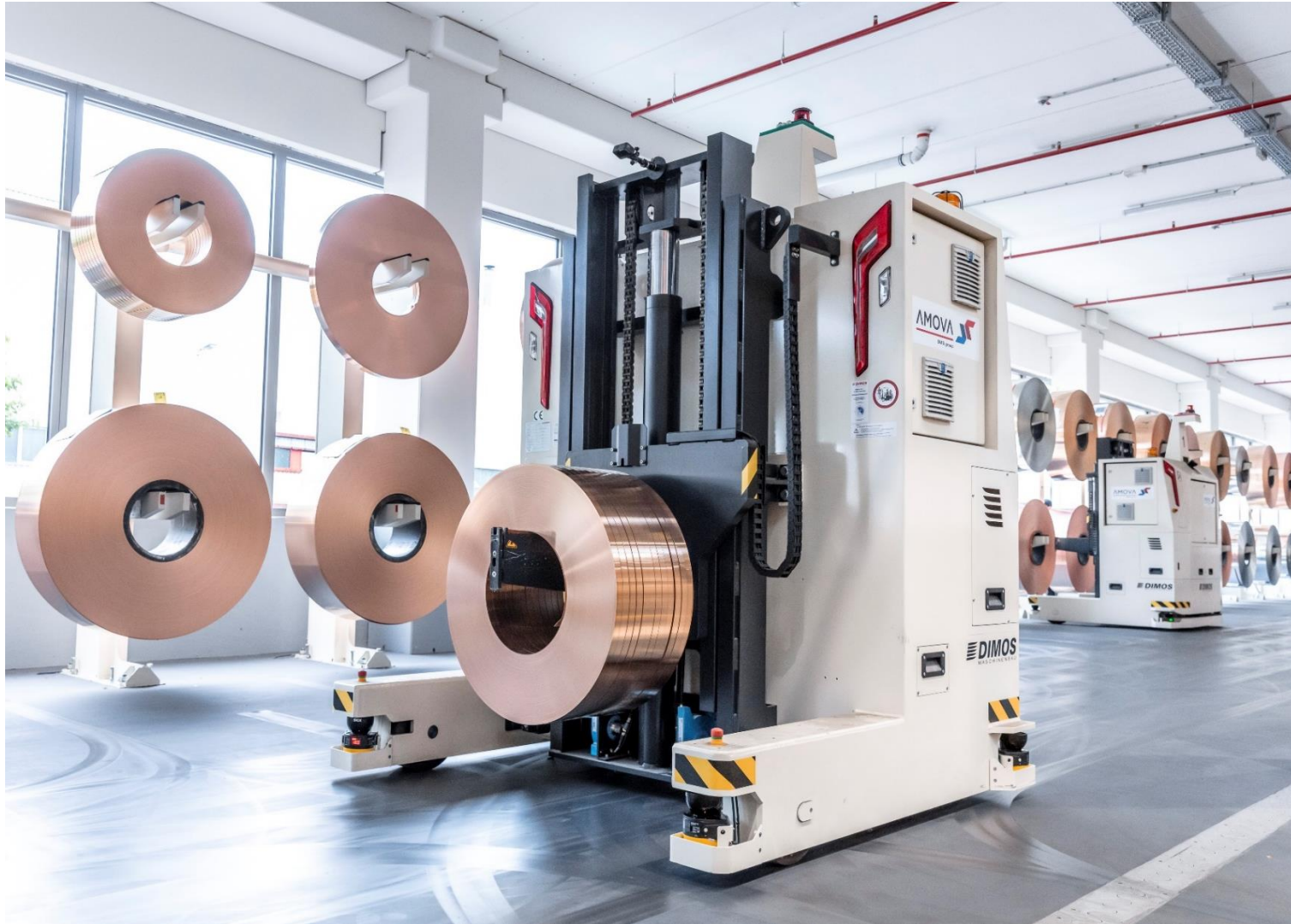


Low bay storage

Cantilever storage | Kemper, Germany



Low bay storage | AGV type



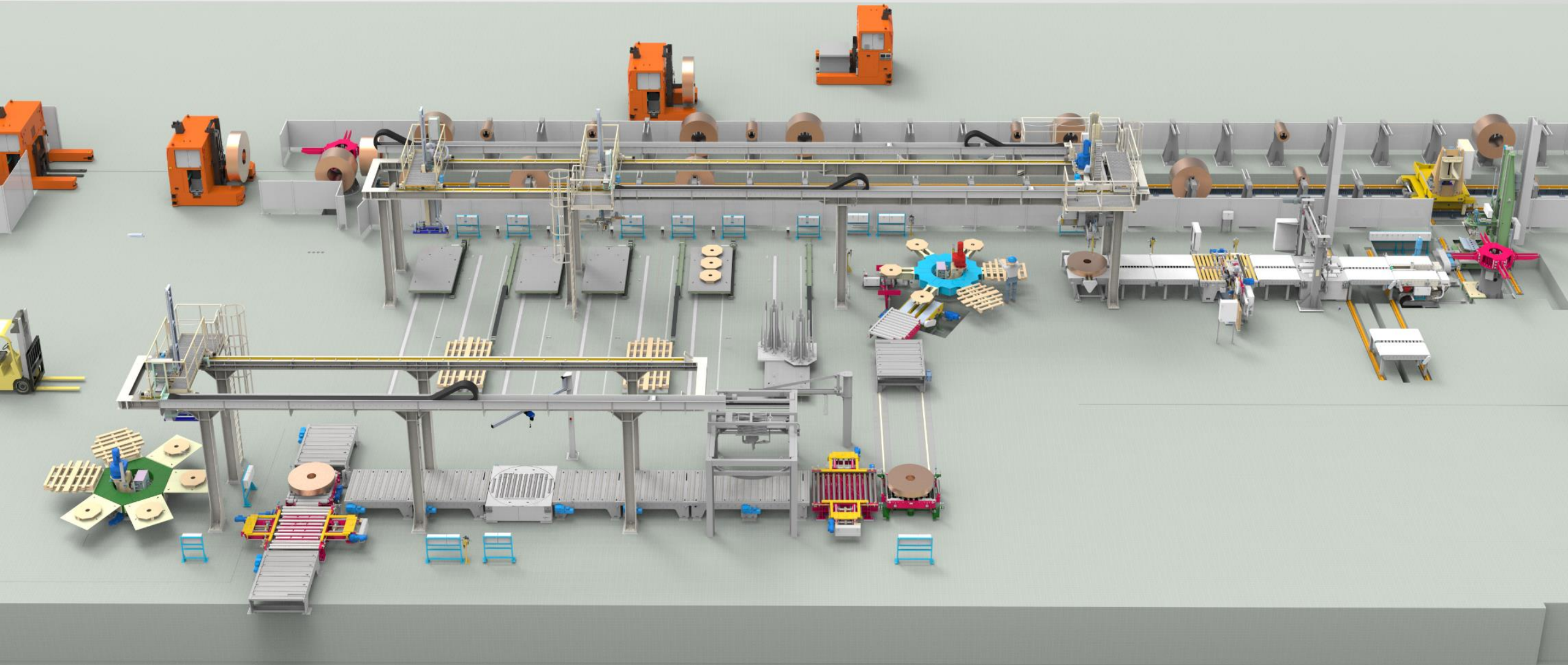
Packaging Solutions



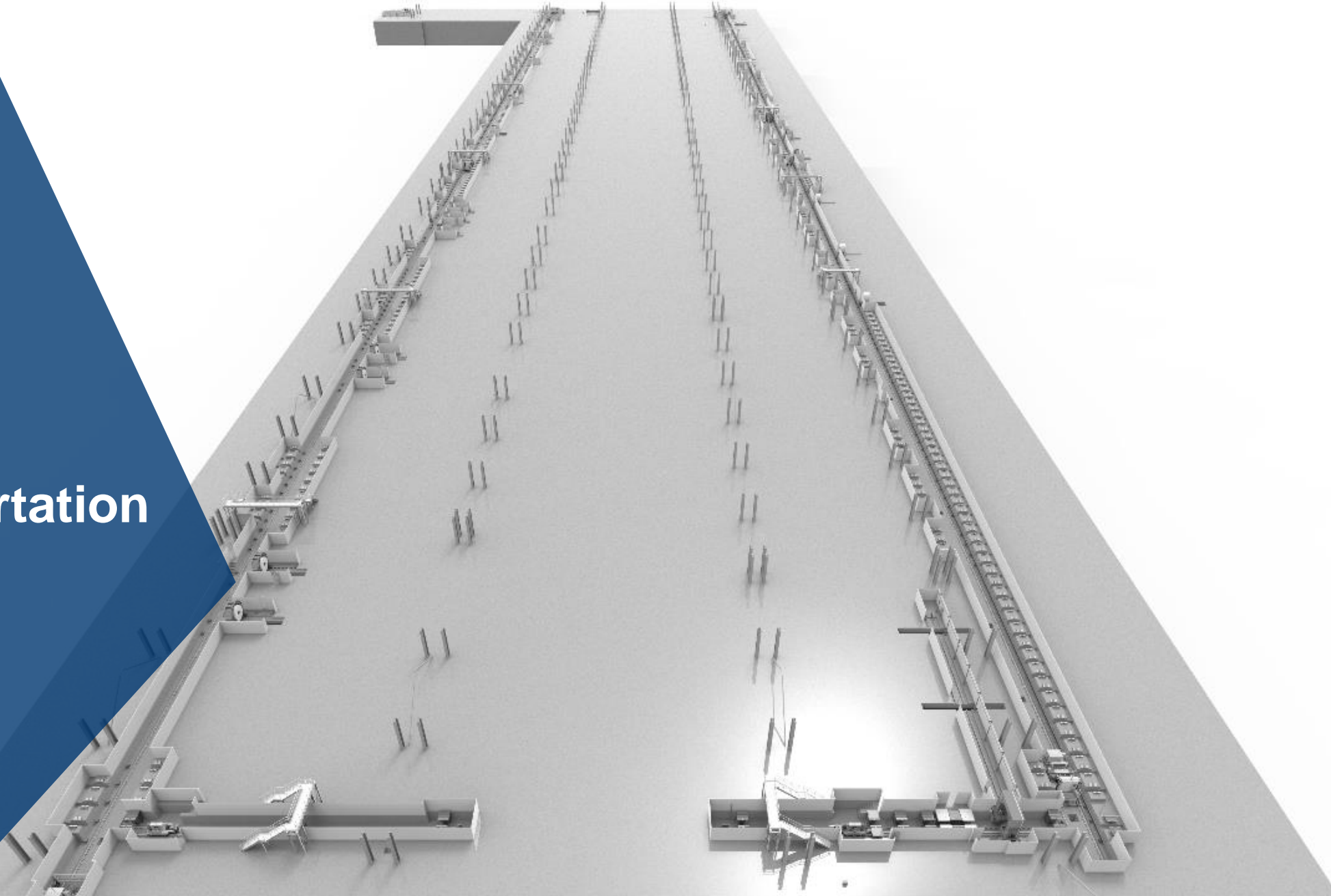
Slit coil packaging line | Kemper, Germany



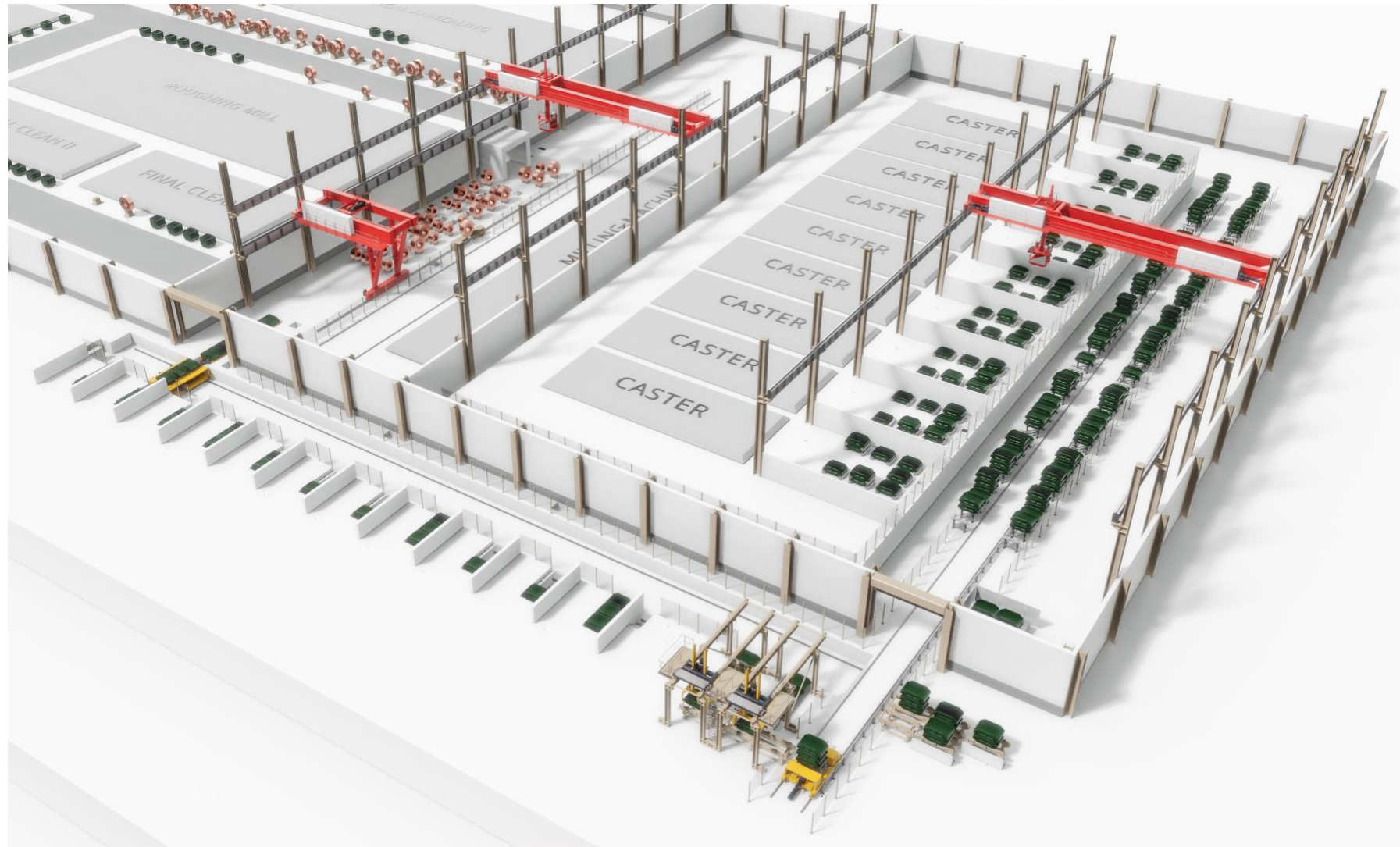
Slit coil packaging lines | Customer project during quoting process



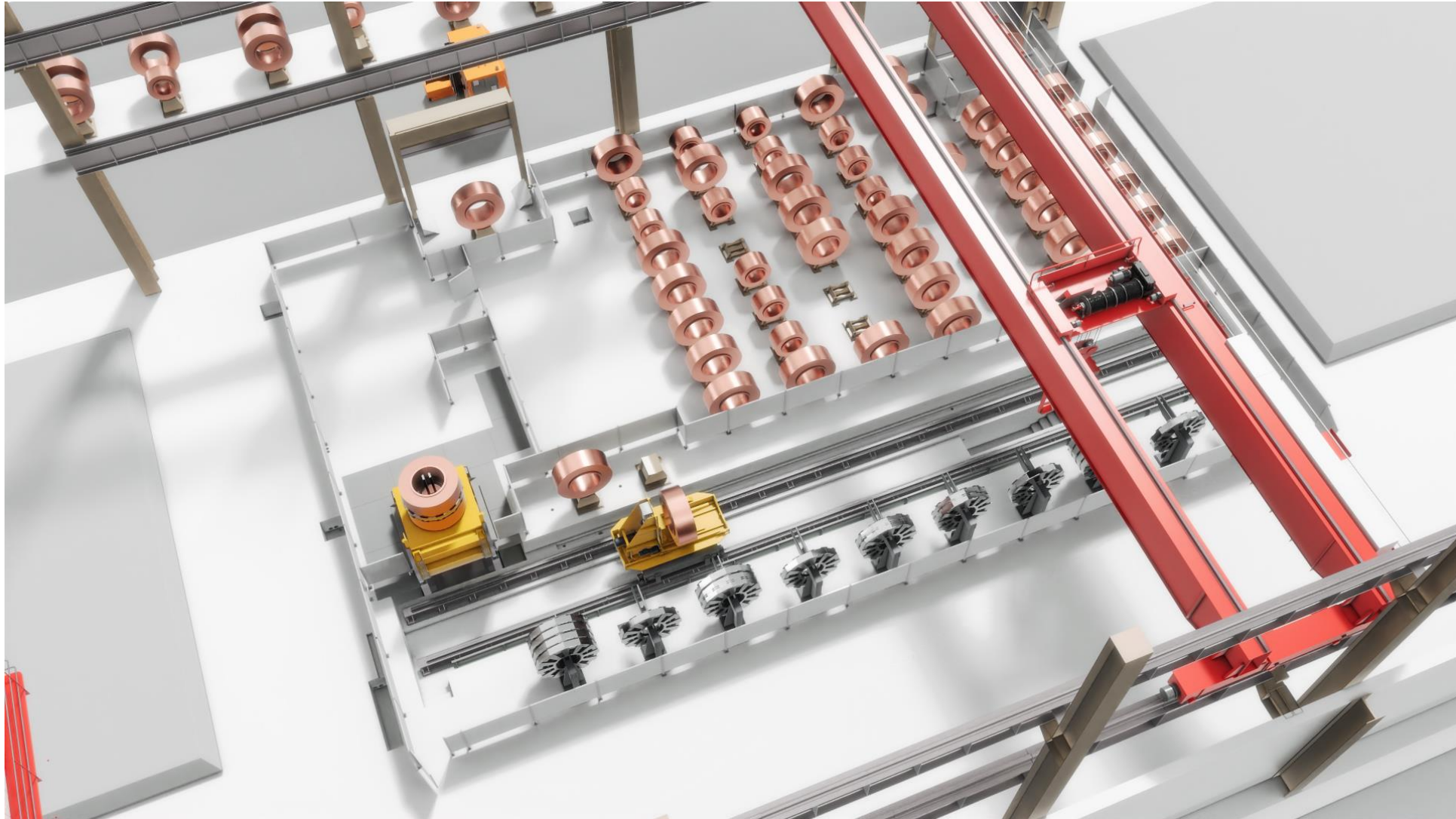
Transportation Systems



Transportation system | raw material

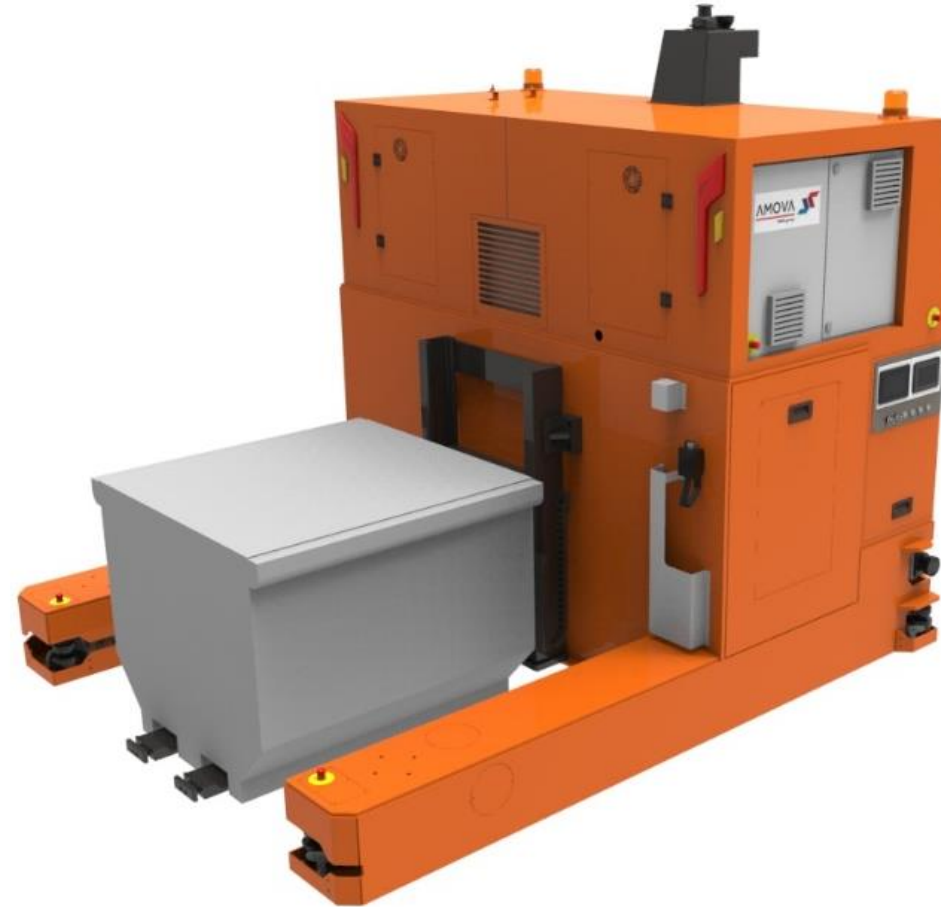


Transportation system | automatic flat storage for bell annealing



ACT[®] AGV Systems





Reference plant: Kemper, Germany - A.C.T.® 5 F





SCANNING

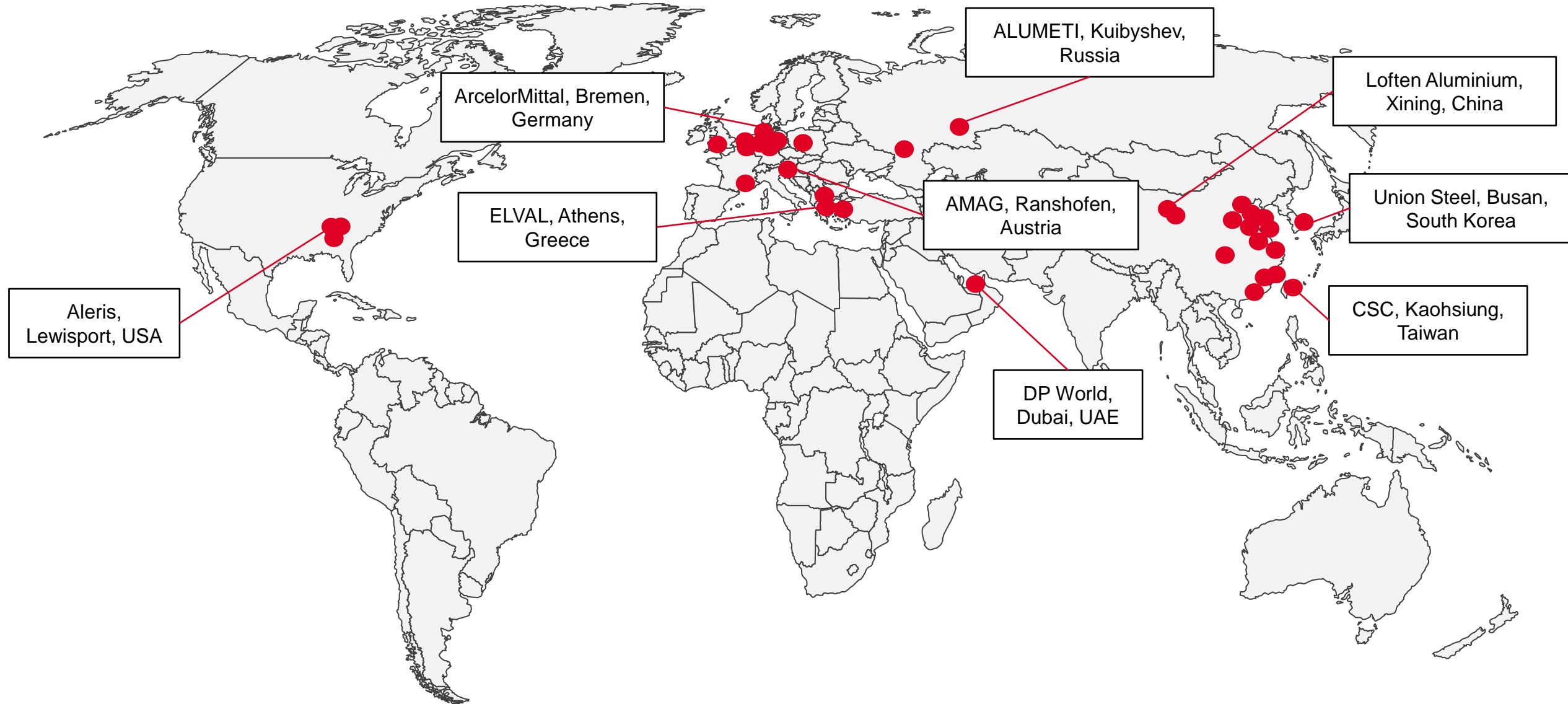
Software

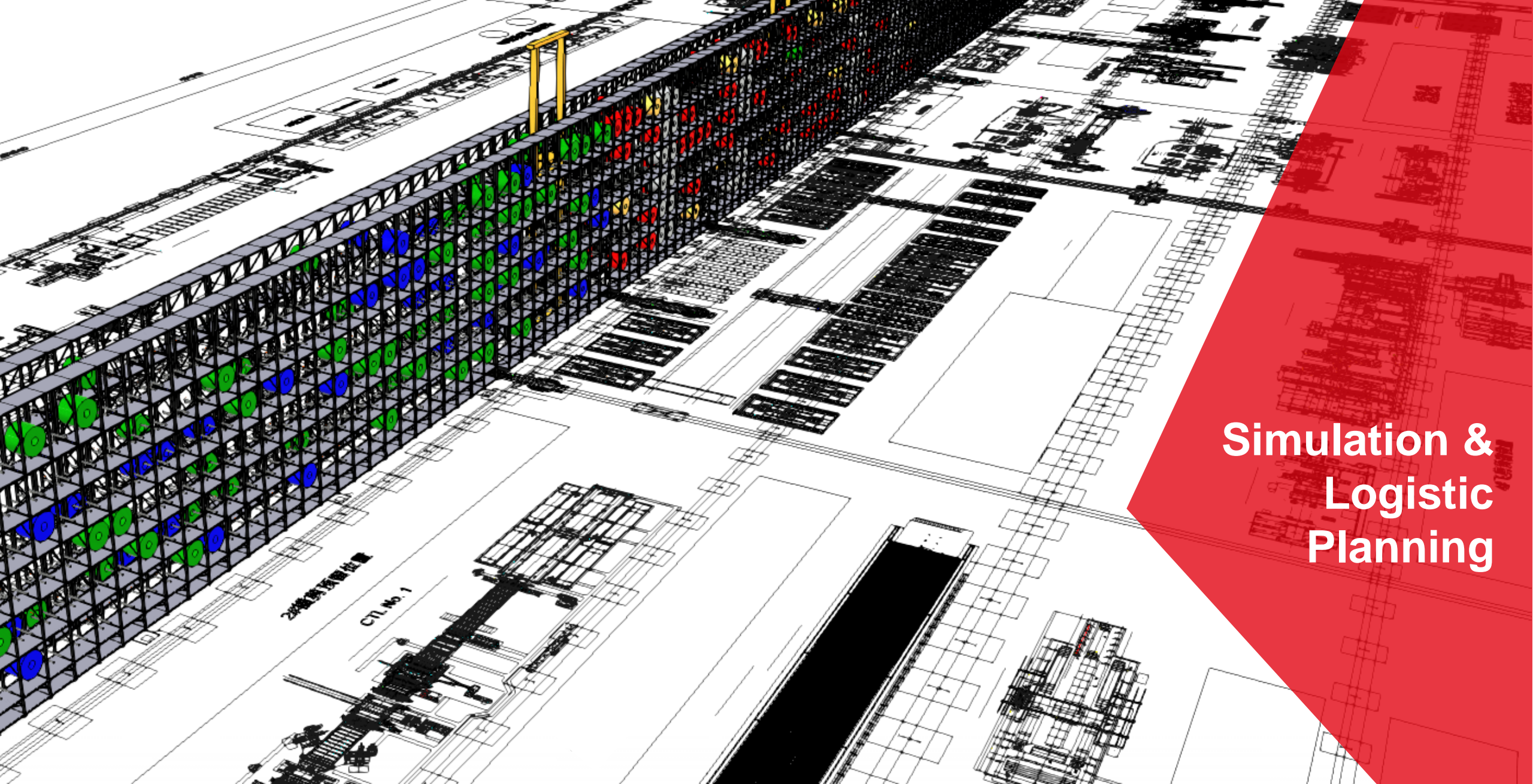
WMS/TMS main tasks & 3D visualization

- › Automatic transport management
 - › no additional labor
 - › no lost orders
- › Optimized place and route determination
 - › Just in time delivery
 - › minimization of internal buffer areas
- › Reliable material tracking
 - › uninterrupted product information
 - › no “human-factor”
- › 3D visualization
 - › operator support
 - › intuitive workflow



WMS/TMS | 30+ Applications over the last 30 years





Simulation & Logistic Planning

Simulation-based throughput maximization

Simulation at AMOVA

- › Developing digital twins of real systems
- › Experimentation in a virtual environment
- › Analysis of dynamic system behavior

Advantages through simulation

- › Increased transparency in projects
- › Reduction of risks
- › Optimization through e.g. bottle neck search
- › Consideration of complex interactions, such as e.g. collision avoidance and coil transfer



THANK YOU.



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