

Intralogistics



You can find further information about CTI Systems and the solutions we offer in the following brochures:



Aviation MRO



Aviation OEM




Paint Systems



Intralogistics



Software & Automation (WMS & MES)

A large industrial warehouse interior with a high ceiling, featuring yellow overhead cranes and metal shelving units. The floor is concrete, and the structure is made of steel beams. The lighting is bright, coming from skylights in the roof.

Automated and tailor-made intralogistics solutions for heavy/bulky products: High-bay, stacked, floor and suspended warehouses for heavy weights of up to 50 tons (slabs, wire coils, pipes, plates, goodpacks, molds and many more).

CTI Systems

The Luxembourg-based company with about 200 employees has over 60 years of experience in the field of intralogistics, with further divisions operating in the fields of aviation and surface treatment.

CTI Systems is a leading supplier of automated storage and handling systems, with a specific focus on heavy/bulky articles not catered for by standard systems. Backed by a proven portfolio of installations throughout the world, our highly-skilled employees design, manufacture, install and commission state-of-the-art turnkey solutions to specific customer requirements.

As a company, CTI Systems is large enough to provide highly complex turnkey installations, yet small enough to have direct management contact allowing quick and dependable decision-making.

Production plants in the different sectors benefit from CTI Systems intralogistics solutions. Optimising available floorspace and minimising manual handling, our solutions will help you reduce your costs and boost your competitiveness.



Automated intralogistics solutions for heavy/bulky products

CTI Systems offers the perfect solution to match your specific requirements for automated material flows (receiving, storing, retrieving and shipping goods) and the associated data flows. Automated up to level 2 (WMS) or level 3 (MES), our solutions interact with other facilities and/or an existing ERP system.

Why choose a CTI Systems intralogistics installation?

Your handling requirements:

- Heavy / bulky non-standard articles
- Large quantities
- High throughput
- Seamless automation based on WMS and MES standards

Why CTI Systems?

As a one-stop supplier, CTI Systems provides tailor-made solutions for the automated handling, transport and storage of heavy goods. While many of our installations are easily configured, others require more innovative ideas, know-how and engineering.

Digitalisation is here to stay. Under the buzzword Industry 4.0, production processes are becoming increasingly automated, with processes now dependent on robust data and algorithms.



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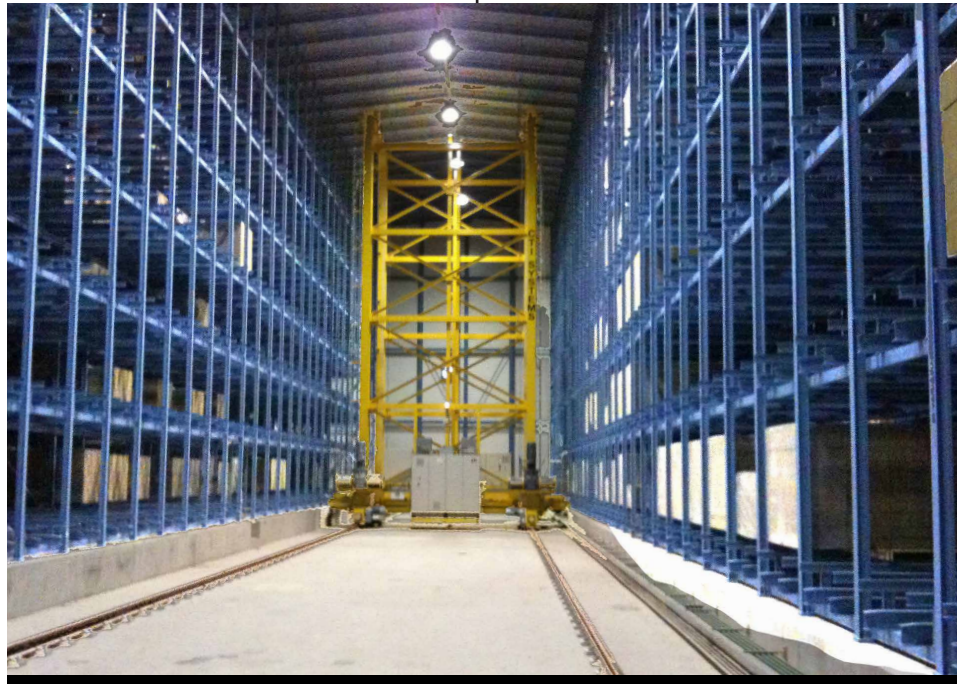
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**Get the maximum
out of limited
floorspace**

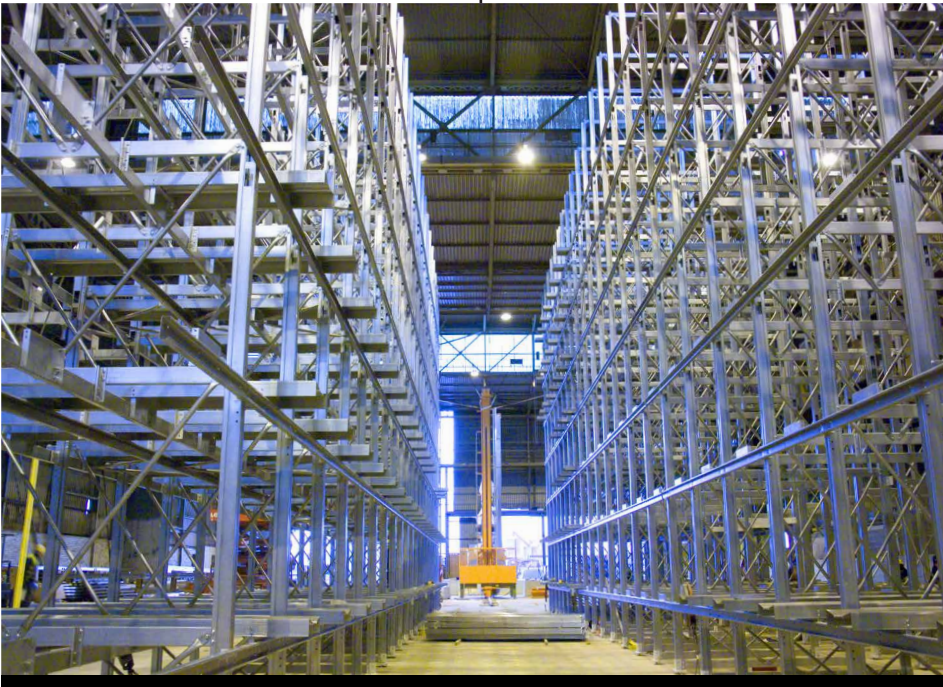




Storage systems

In many cases, industrial floorspace is at a premium. The essence is thus to optimise space in all three dimensions, attempting to make use of every cubic meter of storage. Dependent on the products to be stored (dimensions, packaging, stability), the walls and roof of your storage building are our limits.

Our high-bay systems provide side access to storage racks rising up to 40 m above floor level, while our automated overhead crane systems access stacked products from above. No matter how heavy or bulky your products are, we will provide you with the best intralogistics solution, taking specific account of your requirements.



HIGH-BAY WAREHOUSES

With a custom-built high-bay storage system from CTI Systems, whether in an existing building or as a clad-rack extension, your products can be stored with a minimum footprint and to a maximum height of 40 m. Layouts can be designed to match your physical site conditions and throughput requirements: single aisle, multiple aisles, direct or semi-direct access, honeycomb, channel storage, etc.

High-bay storage systems are suitable for many different sectors and types of goods: long products like steel sections or plates, aluminium profiles, sandwich panels; smaller but heavier products like wire coils, paper reels, goodpacks, or bulkier products like machine tools or airplane parts.









STACKED WAREHOUSES

Depending on your product and throughput requirements, stacked storage may be the best solution. Products may be stacked directly or in cassettes.

Typical stacking heights are 6 or 7 levels, always depending on the specific product. Weight is not a limiting factor in most cases. If FIFO-access is required, then any relocation movements are executed automatically.

Stacked storage is very cost-efficient, as no racking structure for storing the products is required. Provided throughput requirements can be met, they are also the most compact storage solution.





FLOOR WAREHOUSES

If the building is too low to serve as a high-bay storage or as a stacked storage, CTI Systems can offer floor warehouses, in which the product is automatically stored directly on the ground. Floor warehouses are suitable for many different industries and products and usually serviced by automatic overhead cranes. Like high-bay warehouses, they offer a fast and direct access and may be designed to best suit your actual site conditions and throughput requirements.



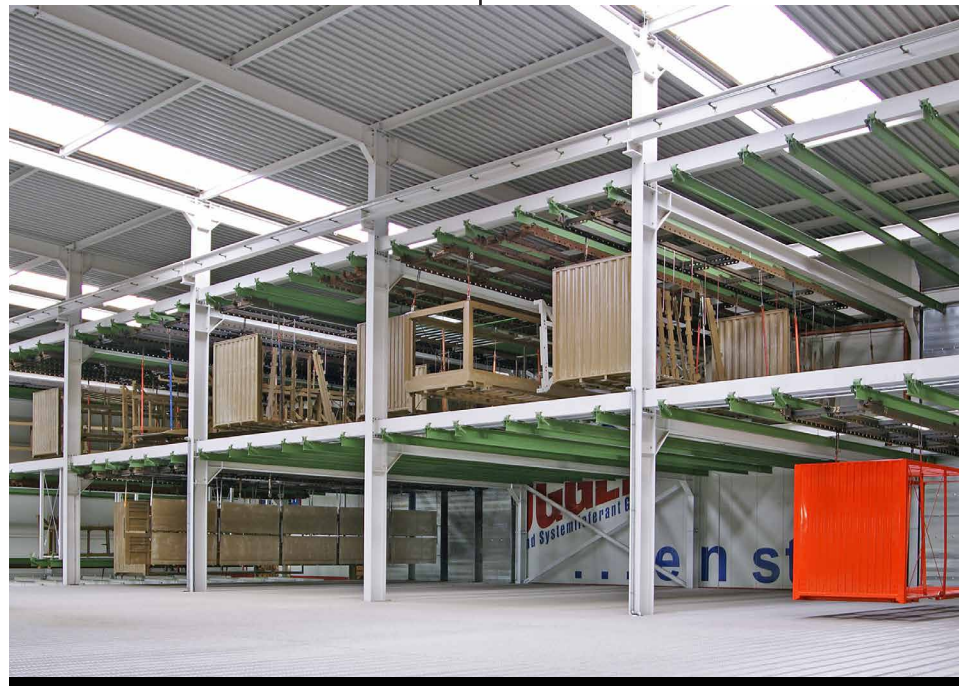


**Put existing buildings
to best use**



**A single system for storing,
transporting and handling
products**





SUSPENDED WAREHOUSES

Suspended material flow and storage is adequate for many different products, whether long (chassis, trailers, etc.), wide (buses, truck cabins, etc.) or high (milk powder silos, etc.).



Storage location

Our storage solutions can be installed in new, custom-built buildings or in existing buildings, whether specifically designed for storage purposes or not. While a new building allows an optimal design fully integrated into a company's operations, it will also involve the cost constructing the building, as well as of possibly acquiring the necessary land. It might therefore be more cost-efficient to make use of an existing building on site, even if not originally designed for storage purposes. Finding the optimal solution for such buildings is a challenge we love. Our experts will measure out the building, ascertain your handling requirements and then come up with the solution best suiting them.

Where stacked storage is required in a building with a low ceiling, this might require installing overhead cranes in very limited space. No problem for our skilled engineers!

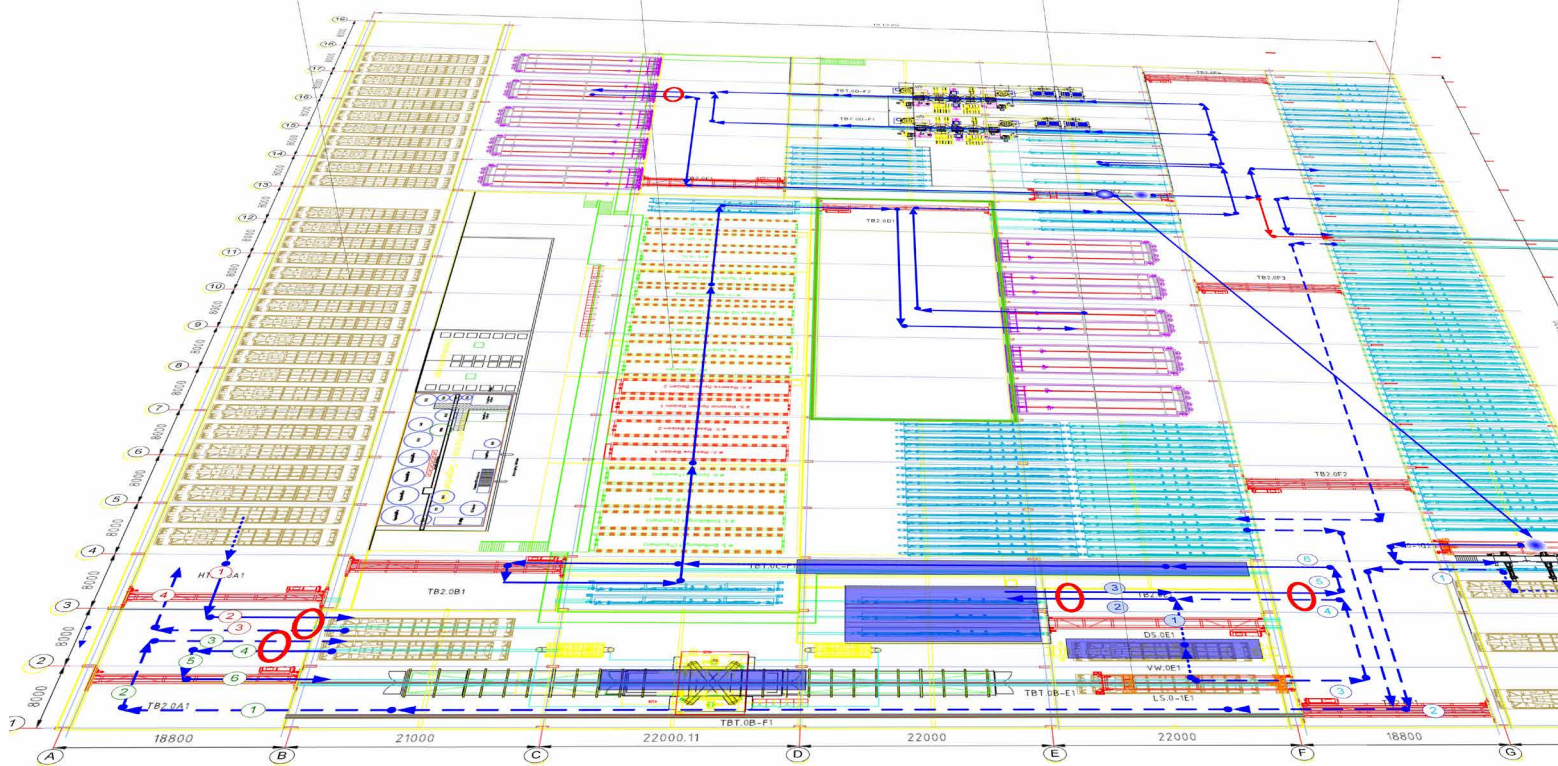
Product retrieval

The products themselves are always the key focus of any intralogistics solution provided by CTI Systems. The products we deal with – for instance reels of sensitive paper weighing up to 5 tons or premium wire coils in a similar weight range – require very careful handling to avoid damage.

The stacker cranes used in our high-bay storage systems and our automated overhead cranes used for accessing stacked products are fitted with picking mechanisms adapted to the specific product, ensuring damage-free handling. In contrast to most manual storage solutions, the products we deal with are generally only handled once or twice, thus minimizing unnecessary operations.







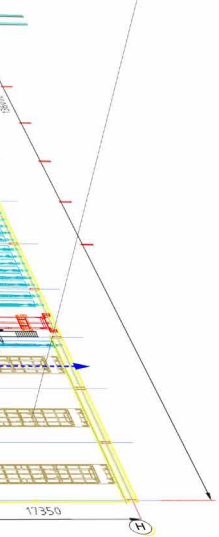
Seamless material flows

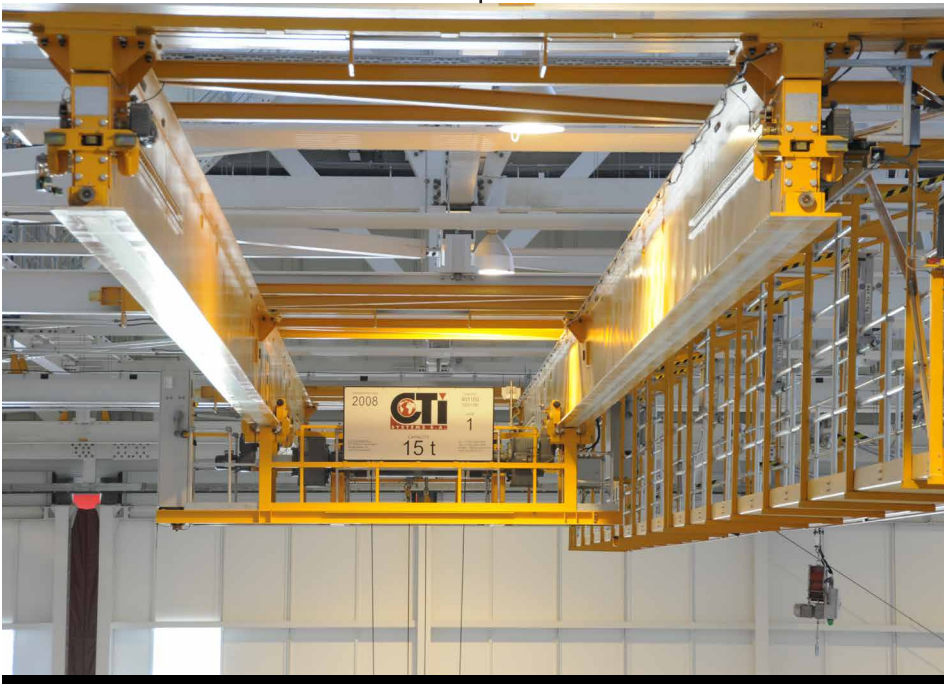


Optimising storage is just one half of the coin. Our customers want the products arriving from external suppliers to be taken to storage as seamlessly as possible, ready for retrieval at any time. Similarly, they want retrieved products to be transferred to their production lines on the same site, wherever possible without manual handling. Such material flows are the other side of the coin. Storage and intra-site material flows can be very complex, involving many intermediate steps. These may mean that products may have to go in and out of storage many times.

Whenever a product has to be handled manually, time and labour costs are incurred, as well as the risk of damage to the product. This is why our focus is on achieving the highest degree of automation possible. On the basis of WMS and MES standards, our system engineers design material flow systems optimising intra-site product movements. Storage locations for instance are positioned in relation to upstream and downstream processing requirements, with throughput parameters determining the numbers and types of picking and transport devices.

Intra-site transport systems can be either floor-mounted or overhead. While floor-mounted systems involve lower initial installation-related costs, they have the disadvantage of taking up valuable floorspace. Conversely, overhead systems, though costlier, are much better at optimising space, i.e. making use of the unused space above production facilities.





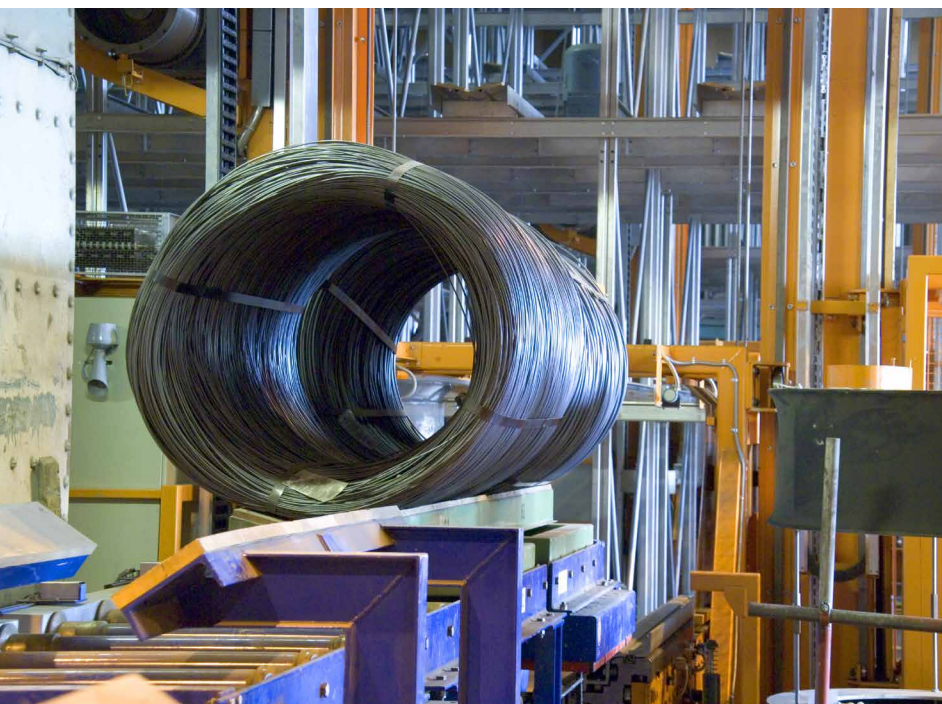
OVERHEAD CRANES/MANIPULATORS

CTI Systems' cranes are designed in view of automating your internal transport and handling for heavy/bulky products. In addition, we offer suitable equipment operating in potentially demanding environments (high or low temperature, etc.). Products may be automatically transferred from one crane to another in different building bays, cranes may be fully electrically isolated, transport devices and grapples are adapted to your product and – if required – products may be rotated, tilted, etc. during transport.





Coordinate production steps by automating on-site transport and handling

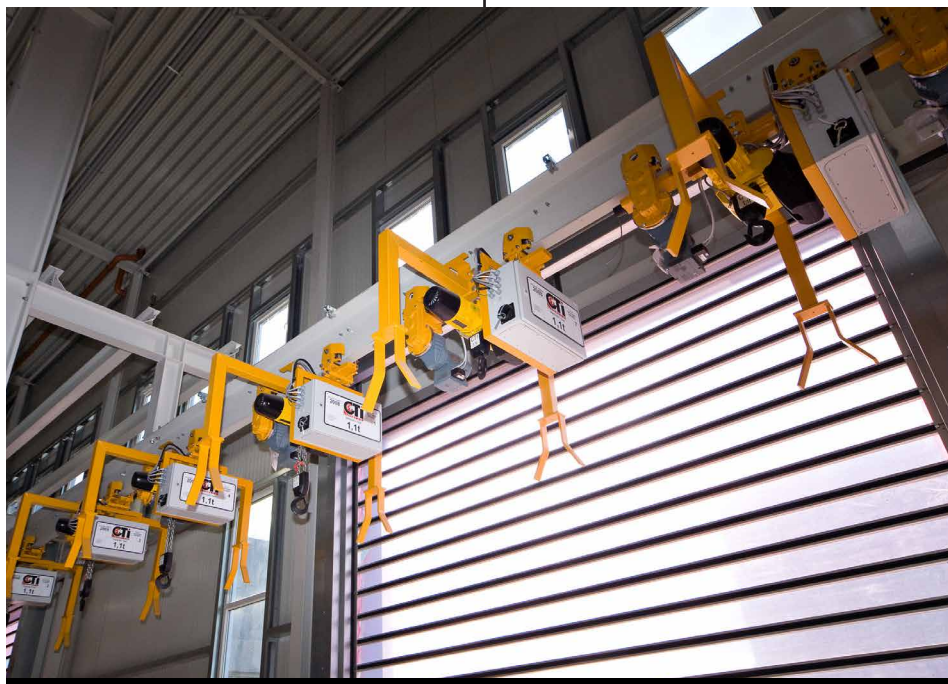




FLOOR-MOUNTED TRANSPORT SYSTEMS

With its large portfolio of floor conveying equipment for heavy/bulky loads - either rail-bound or free-running, CTI Systems will provide you with the solution best matching your specific requirements and site conditions. Roller conveyors, chain conveyors, walking beam conveyors, floor shuttles, etc. are all possibilities, just as AGVs (Automated Guided Vehicles) for longer distances and flexible/ varying workstation locations.





OVERHEAD TRANSPORT SYSTEMS

CTI Systems offers a large range of customised overhead transport products. At the starting position, goods are lifted straight up to ceiling level or any other suitable height. Once they have been conveyed to the required position, they are then lowered down.

We use monorail or bi-rail systems, depending on the characteristics of your specific product. Transport devices and grapples are also adapted to your product and – if required – products may s well be rotated, tilted, etc. during transport.

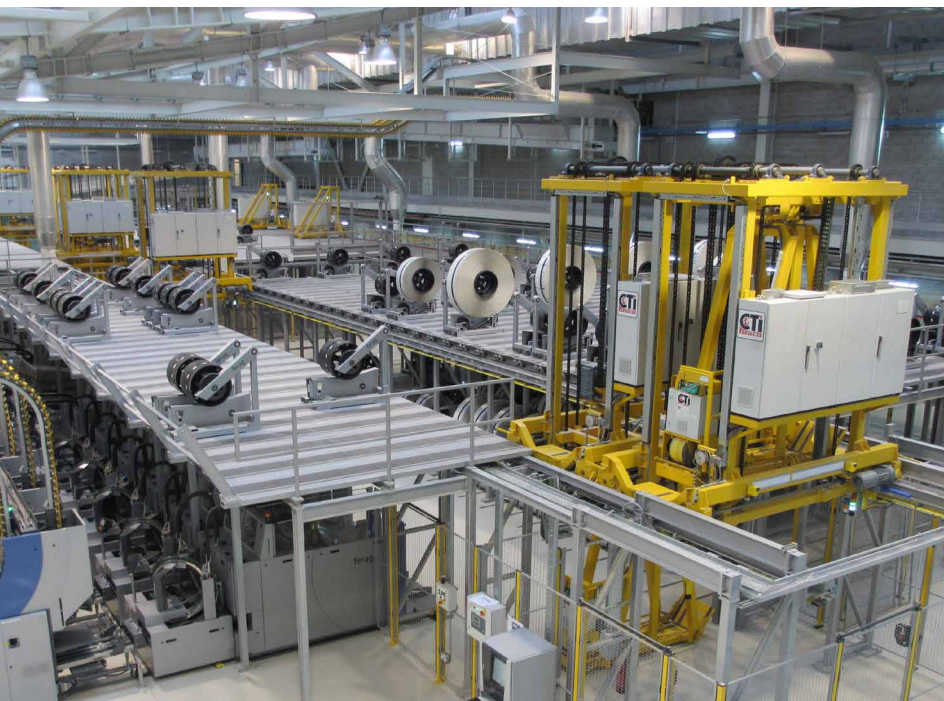


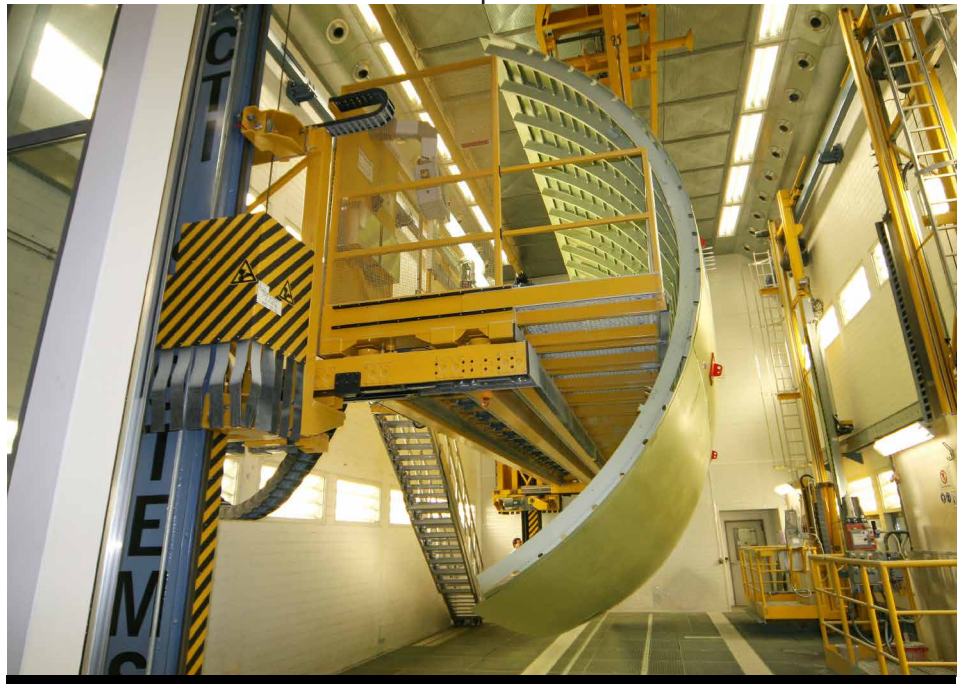


**Avoid shopfloor
congestion by adding
a new dimension:
overhead transport**



**Increase safety and
efficiency by handling
products automatically**





General handling

SOLUTIONS FOR SPECIFIC REQUIREMENTS

CTI Systems provides tailor-made solutions for the automated handling, transport and storage of heavy goods. Many of our installations fall in the general categories as described on the previous pages. Others require even more innovative ideas, knowhow and engineering.

Be it using a robot on board of a stackercrane to assemble shipping pallets within the warehouse, storing 60.000+ rolls upright by a special picking mechanism, handling newspapers wound on disks, etc.: many creative and innovative applications and concepts have thus been created by our staff throughout the history of CTI.

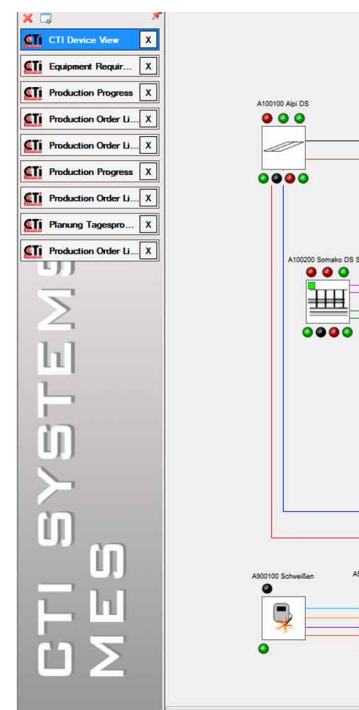


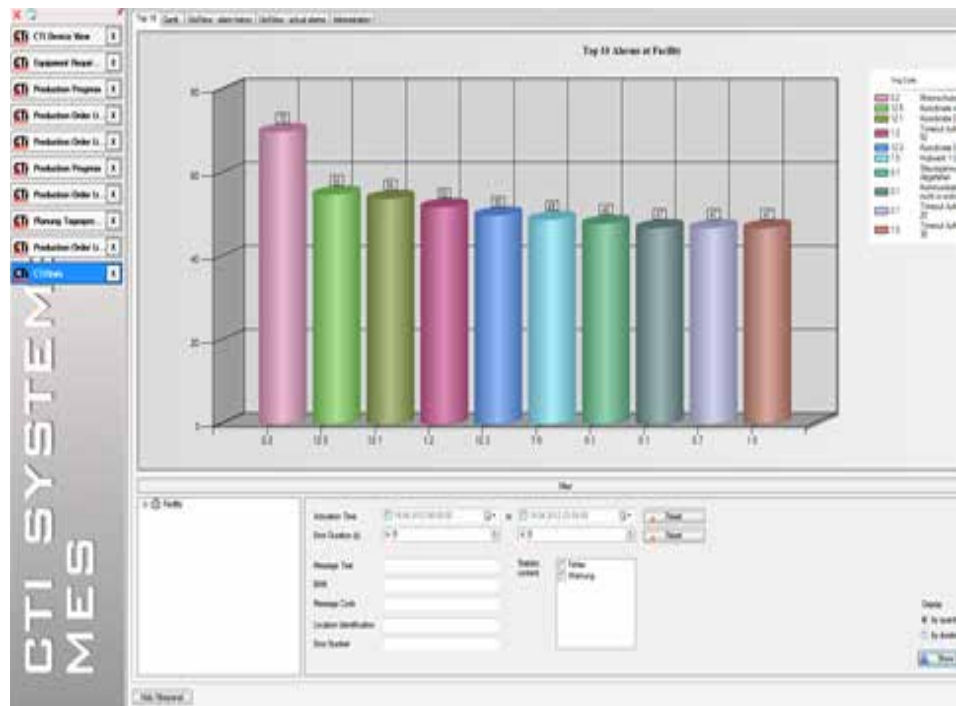
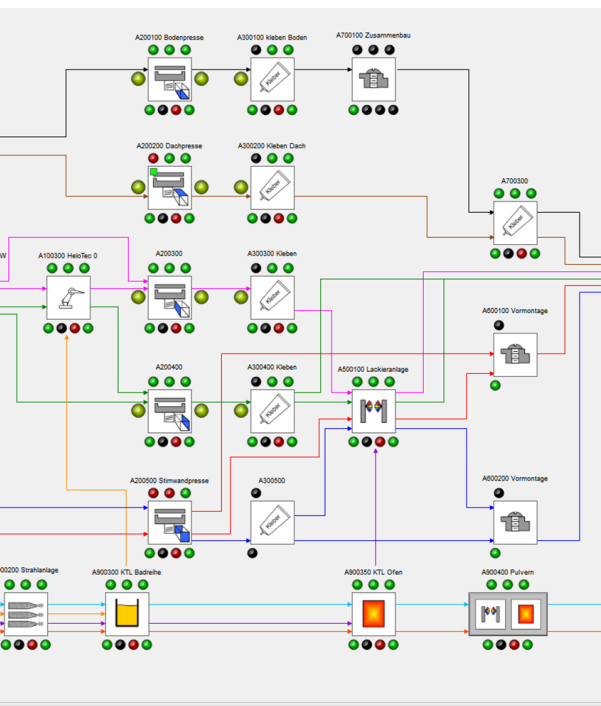
Software & Automation

These days, a reliable and efficient material flow is a sine qua non for any production plant. However, the related data flow is just as important. With throughput times getting shorter and shorter, product customization increasing, quality and permanent traceability becoming ever more important, maintenance and down-times needing to be minimized, secure and seamless data management is of key importance.

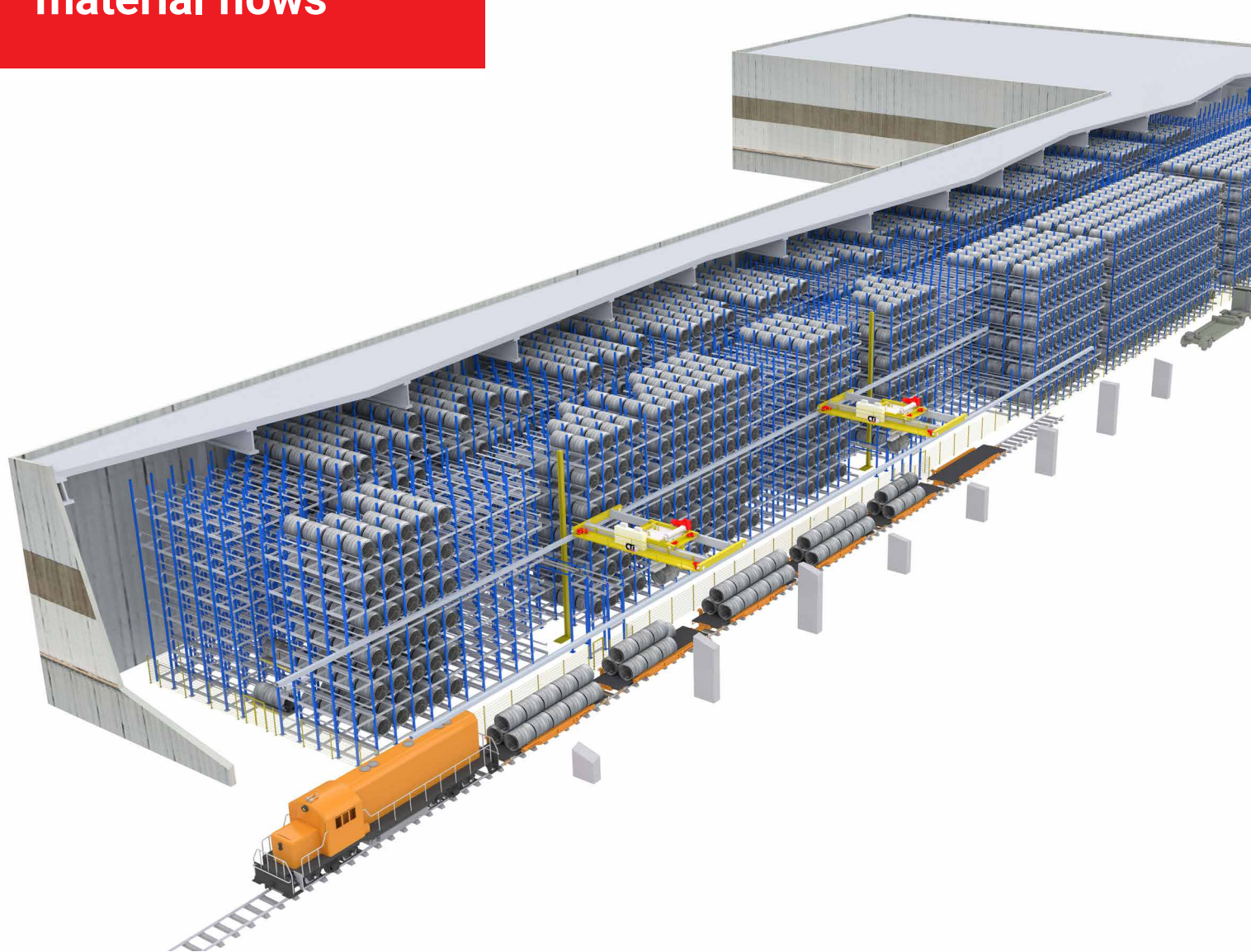
This starts with the acquisition of data, either directly from the product (RFID, datamatrix, barcode, etc.) or via data interfaces (Profinet, etc.) with other involved production equipment. Further tracking and tracing data are gathered as a product moves through production steps. All data has to be securely stored in a high-availability IT environment. Data management also includes interfaces to higher-level systems (SAP, etc.), providing the necessary reports and permanent inventory information to allow efficient production planning. And, last but not least, efficient and high-performance algorithms are required to optimize processes.

Our IT specialists have a high degree of expertise in these fields, ensuring the highest level of storage and handling automation and full integration into your company's overall IT landscape.



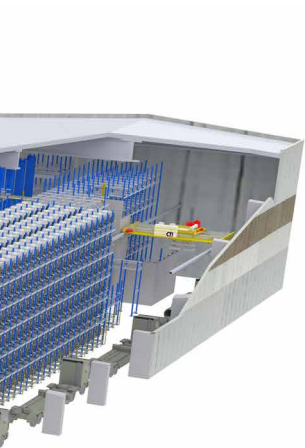


**Cut costs by
optimising and
integrating on-site
material flows**



System design

GETTING THE MAXIMUM OUT OF YOUR EQUIPMENT



At the start of any new project, ideas and concepts may be quite vague. In many cases, only the overall targets and the given site conditions can be taken for granted. One of the most important steps of any project is therefore to analyse the exact requirements and to determine the best way of achieving the envisaged goals. This requires a sound understanding of your production processes.

Based on the experience of our staff and backed by our large product portfolio, CTI Systems' engineers will – together with you – analyse your material flow requirements, discuss the various alternatives and come up with a well-defined concept using proven equipment, best suited to specific site conditions. 3D animations and/or simulations may be provided to give you a better understanding of the proposed solution.

Contact data

Whatever your sector, whatever your product – if you need to store, handle and transport heavy or bulky products, please do not hesitate to contact us at CTI Systems. Together we will find the solution best suiting your specific needs.

We look forward to hearing from you.

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