

Case Study



Reference Hardinge Kellenberger AG,
Switzerland: Vertical Lift Module as a
game changer in small parts storage
for assembly

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In order to be able to continue producing lucratively in Switzerland in the future, Hardinge Kellenberger AG decided to take a significant step towards digitalization and modern warehouse logistics with optimized use of space. The intralogistics concept from SSI SCHAEFER was convincing and was implemented on schedule.



Tangible Requirement: Double it!

That was the management's brief. The aim was to double production capacity, consolidate the four existing production sites in a new building in Goldach and digitize the logistics processes to make them highly efficient. The aim was to achieve a lean and transparent material flow in Hardinge Kellenberger's synchronized machine assembly.

Following the move to the new plant in 2023, all employees and the products of the KELLENBERGER, VOUMARD, HAUSER and TSCHUDIN brands are now bundled at one location. This will allow synergies to be exploited in a time- and cost-efficient manner and valuable expertise and experience to be centralized.

The grinding machines from the Swiss company Hardinge Kellenberger AG are accurate to a thousandth of a millimeter. The manufacture of precision grinding machines is the core competence of the company, which is part of the Hardinge Group.



The Solution – Maximum Storage Density and Highly Efficient Processes

SSI SCHAEFER Vertical Lift Modules play a key role at the new site. Thanks to the compact vertical design of the SSI LOGIMAT® Vertical Lift System and the use of the hall height, an enormous storage density was achieved, and the total logistics area was reduced by 35%. A total of 6 Vertical Lift Modules and the WAMAS Lift & Store software were integrated, which help to digitize the processes and optimize the material flow for assembly supply. The additional installation of cantilever and PR 600 pallet racking created further compact storage space for pallets and long goods.

Challenges

- Integrate Vertical Lift Modules into existing ERP warehouse applications
- Integrated Vertical Lift Modules can be operated simultaneously for different processes (storage, picking, retrieval) can be operated simultaneously
- Optimum use of space, easy maintenance, individual operation
- Fast delivery to production

By optimizing our warehouse logistics, we have achieved a significant improvement in production processes and a more efficient supply to our production lines. As a result, we are already achieving significant increases in capacity and efficiency. The Vertical Lift Modules are currently around 60% full. We expect the ongoing

optimization to increase efficiency by up to 20% in the coming months.



Viktor Gaspar
CEO of Hardinge Kellenberger AG





Maximum use of the hall height thanks to the SSI LOGIMAT Vertical Lift Modules. They supply production with replenishment, are interlinked and yet can be controlled independently. The WAMAS Lift & Store software from SSI SCHAEFER controls the Vertical Lift Modules, combines master data, order and inventory management in a single software package and communicates with the existing ERP system.



Optimum article availability instead of intuitive mixed pallets

Before moving into the new production facility, employees in the assembly area spent too much time searching for items in different locations and on several floors. In addition, errors occurred when, for example, the number of items in the warehouse did not match the ERP system. Stocktaking was also becoming increasingly time-consuming and inefficient. With the small parts storage of around 8,000 different components consolidated in the Vertical Lift Modules, fast material availability is guaranteed in future.

The components required for assembly at Hardinge Kellenberger are particularly suitable for storage in a Vertical Lift Module system, as they vary greatly in size and weight and are often highly precise and sensitive and therefore need to be stored and handled in a particularly clean and protected manner.

High demands on intralogistics

The new Hardinge Kellenberger AG plant in Goldach is designed for future growth. The production hall extends over 18,000 m² and is supplemented by 5,000 m² of office space. One section of the hall is designed to meet special requirements, such as production in clean rooms for certain customers. When supplying the SSI LOGIMAT Vertical Lift Modules with the WAMAS Lift & Store software, specific requirements had to be taken into account:

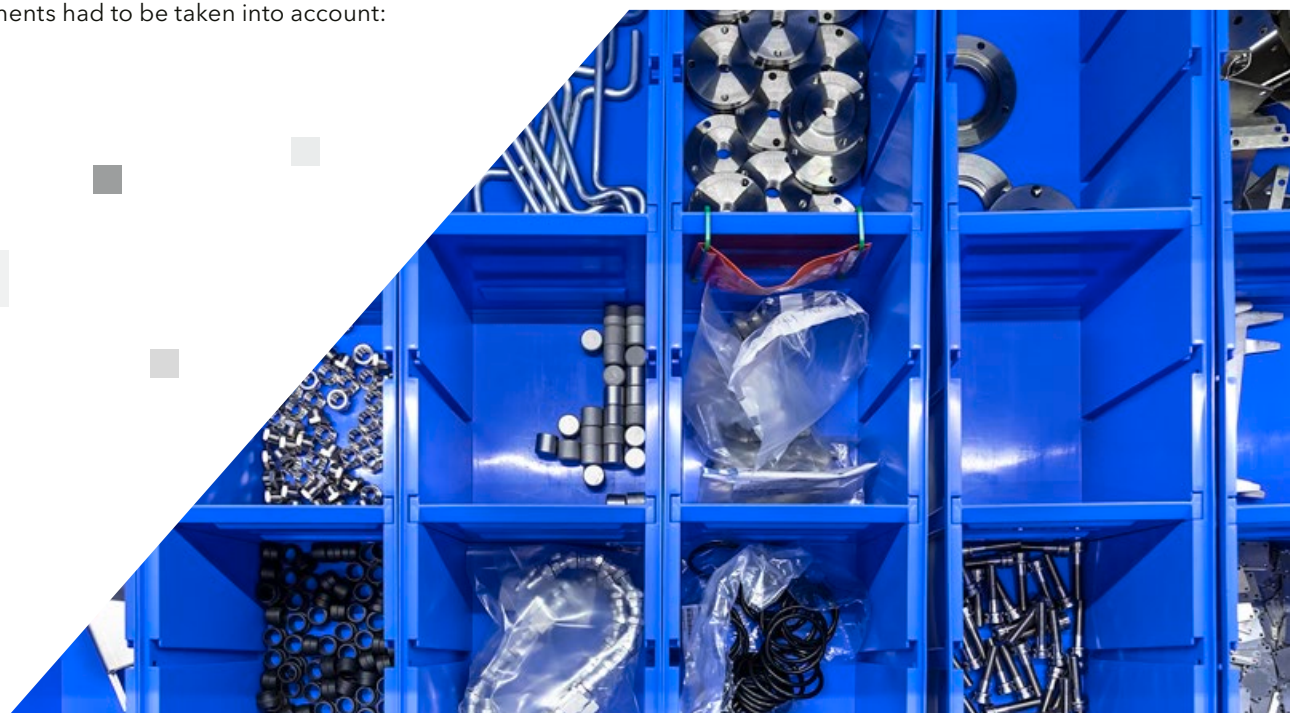
Space optimization: The Vertical Lift Modules were designed to be placed side by side to make the best use of the available space. This enables maximum utilization of the storage area. Due to the vertical design, the hall height is used optimally anyway.

Flexibility: Particular attention was paid to the flexibility of the system. The ability to easily reposition the Vertical Lift Modules was taken into account in order to meet the warehouse layout requirements.

Floor load: The Vertical Lift Modules were designed to have no more than 3.0 t/m² of floor load to maintain the structural integrity of the building while ensuring safety.

Accessibility for maintenance: Special care has been taken to ensure accessibility for maintenance work. Vertical Lift Modules are designed so that maintenance personnel can easily access all major components.

Smooth processes: With its built-in laser pointer, the LOGI POINTER ensures that the product to be removed is marked, making incorrect removal virtually impossible. The entire process is confirmed with a continuous confirmation light barrier under the operating opening (LOGIBAR).



Ergonomics: LOGITILT has improved ergonomics. In addition to the individually adjustable removal height, the trays in the removal area can also be tilted by up to 30° to make it easier to remove parts from the rear tray areas.

Safety: The Vertical Lift Modules are equipped with advanced safety functions, including weight and height monitoring. These functions make it possible to detect potential hazards and trigger notifications if load weight or height exceedances occur on the trays to ensure the safety of the operating environment.

Seamless integration into WAMAS

The "Introduction of Vertical Lift Modules & Software" project was launched with the aim of creating a lean and transparent material flow in the clocked, day-based machine assembly.

The Vertical Lift Modules were consistently designed for smooth, uninterrupted production processes. They can be operated simultaneously for different processes (storage, picking, retrieval). An outstanding feature is the intelligent distribution of the same items to several Vertical Lift Modules to ensure that access to the required items is guaranteed even in the event of a Vertical Lift Module failure.

Troubleshooting is extremely user-friendly, as trained personnel can rectify most problems independently. Error messages are shown directly on the Vertical Lift Module display, enabling quick identification and resolution.





Seamless integration into the existing ERP system is a given: WAMAS Lift & Store combines master data, order and inventory management in a single software package. Integration takes place in real-time and, thanks to the direct connection and communication with the ERP system, inventory management, material planning and bookings can be carried out in one central location. This ensures optimal and efficient management that meets the requirements of modern warehouse logistics and includes inventory and reporting functions.

The comprehensive integration into WAMAS not only underlines the performance of the Vertical Lift Modules from SSI SCHAEFER, but also demonstrates the seamless adaptability to already established warehouse management systems and processes. When implementing the 6 Vertical Lift Modules for Hardinge Kellenberger AG, a solution was developed that focused on short response times and fast access to spare parts. With the new production halls and the fast delivery of spare parts an optimized assembly process with high capacity could be established. This in turn benefits Hardinge Kellenberger's customers.

Precise adherence to deadlines

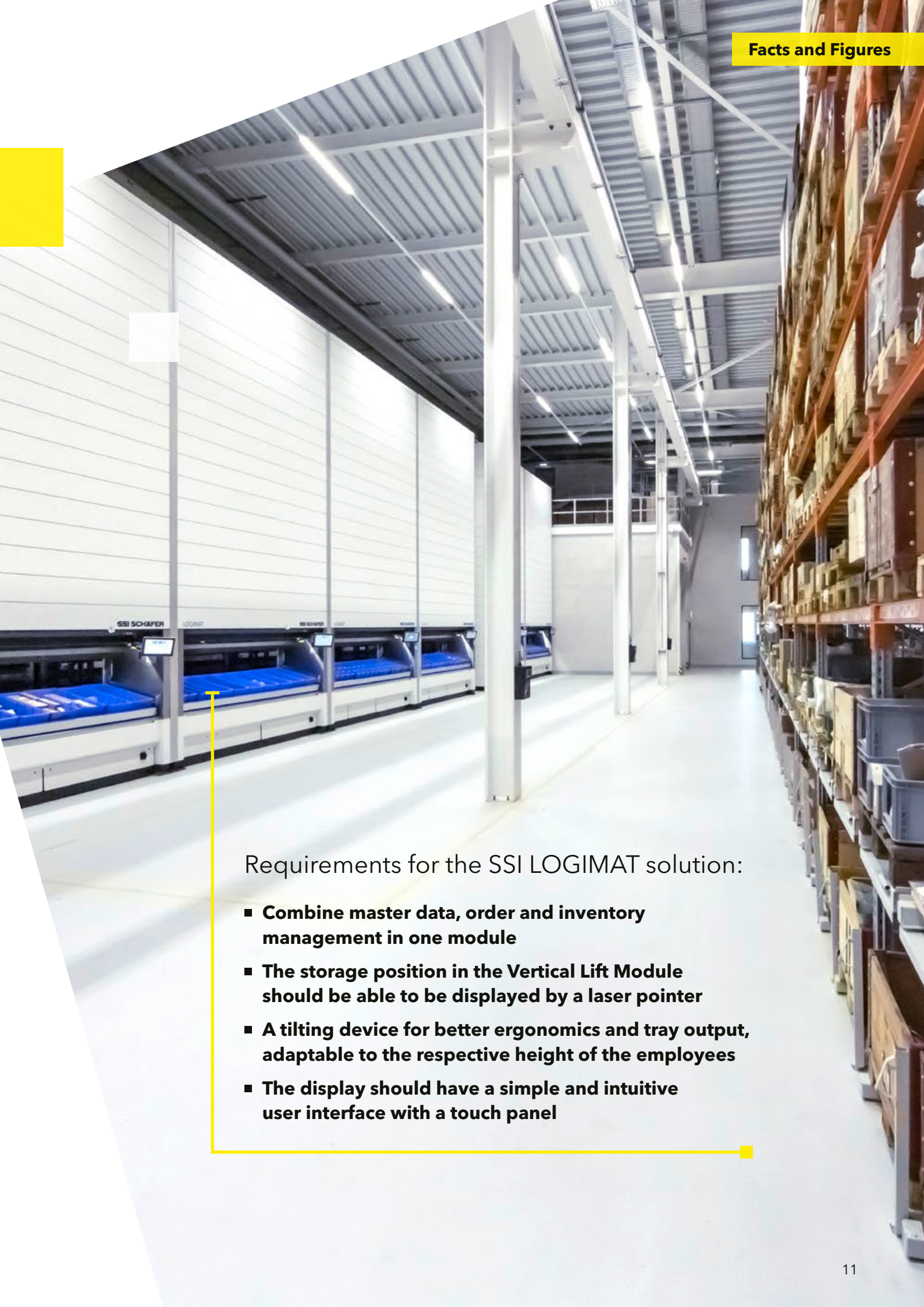
Hardinge Kellenberger had set itself the goal of carrying out the relocation during ongoing operations without any loss of production. This not only placed high demands on the project management but also on the reliability of the contracted companies. SSI SCHAEFER was able to meet the required time frame precisely - thanks to flexible and cooperative collaboration. Only six weeks passed from the start of installation to handover, including software training.

Facts and Figures

SSI LOGIMAT®	6
Height	7,450 mm
Total width	24,670 mm
Depth	3,092 mm
Footprint total	76.3 m ²
	12.79 m ² per SSI LOGIMAT "Starter"
	12.67 m ² per SSI LOGIMAT "Add-On"
Max. usable height	12,350 mm
Max. machine payload	35 t
Single access Ø	20 s
Tray change max.	52 s
Tray change Ø	90 changes per hour
Software	WAMAS Lift & Store (incl. order handling)

High bay warehouse	Pallet Racking PR 600
Height	6,600 mm
Depth	1,050 mm (single) / 2,350 mm (double)
Capacity	1,080 pallets

Cantilever racks	
Height	5,000 mm
Depth	1,800 mm (single sided)
Width	8,500 mm
Cantilever arm load capacity	1,170 kg
Load capacity upright	3,250 kg
Load	Pallets 1,200 x 800 mm / max. 500 kg
Rack arrangement	1st level on the floor
	2nd to 4th level on cantilever arms with grid



Requirements for the SSI LOGIMAT solution:

- **Combine master data, order and inventory management in one module**
- **The storage position in the Vertical Lift Module should be able to be displayed by a laser pointer**
- **A tilting device for better ergonomics and tray output, adaptable to the respective height of the employees**
- **The display should have a simple and intuitive user interface with a touch panel**



Six Reasons for Choosing SSI SCHAEFER

■ **Stability**

As a financially independent family business, SSI SCHAEFER is committed to long-term solutions. You can trust that our team of experts will be there for you today, tomorrow and in years to come.

■ **Efficiency**

SSI SCHAEFER solutions are scalable and able to grow with your business. You can always upgrade or retrofit.

■ **Quality**

As a systems specialist and original equipment manufacturer, SSI SCHAEFER provides tailor-made and high-quality solutions from a single source, specifically designed to meet your challenges.

■ **Reliability**

Thanks to our worldwide Customer Service & Support network, SSI SCHAEFER ensures smooth operation of your system, both during and after installation.

■ **Know-how**

SSI SCHAEFER solutions are always up-to-date with the latest technological standards and can be easily integrated into an existing (IT) landscape.

■ **Internationality**

As a global organization, SSI SCHAEFER has local offices worldwide. With over 70 operative subsidiaries, our team of experts speak your language.

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