



Press release

Servus Intralogistics GmbH

Heron Innovations Factory

Heron was founded in 1987 as a special machine construction company by Christian Beer. The owner-managed family business developed and built customized assembly machines. From this original company, four companies were formed: Heron CNC-Technik GmbH, Robotunits GmbH, Servus Intralogistics GmbH as well as Vertic Greens GmbH. While the parent company Heron Innovations Factory handles all administrative activities for the entire group, the operating subsidiaries act completely independently in the marketplace.

Heron CNC-Technik GmbH

Perfection by conviction

The company: CNC-Technik specializes in machining techniques and manufacturing prototypes as well as producing serial parts out of aluminum, steel and plastic in batch sizes from 1 to 10,000 in its state-of-the-art CNC machining centers. With its many years of comprehensive know-how, Heron CNC-Technik supplies customers from a wide range of industries. Medical technology, special machine construction, automotive suppliers and semiconductor technology are a few examples.

Robotunits GmbH

Ingeniously simple - simply ingenious

Based on a multi functional and modular automation kit, Robotunits develops, produces and supplies versatile, high-quality, plug-and-play, conveyor technology, linear motion and safety fence systems as well as an extrusion technology. Thanks to the high degree of standardization, all elements of the modular system can be easily interconnected. Highly precious components create a rigid and vibration-proof solution without any drilling or milling required. Decades of project experience and personal customer service guarantee time and cost savings for customers.

Vertic Greens GmbH

The Vertical Farming System

Based on the Servus technology, Vertic Greens GmbH develops and produces efficient vertical plant growing systems that are characterized by the highest levels of automation and unmanned production. The overall goal is to produce healthy and sustainable food without harming the environment. To this end, the Vertical Farming System is being developed to follow the principle of a circular economy.



Servus Intralogistics GmbH

Serves you more

Servus is the world's first intralogistics supplier to provide a seamless automation system for the entire warehouse and production logistics.

Servus develops and implements customized, turnkey solutions for intralogistics, ASRS, order picking and assembly automation. The core of the Servus system is the intelligent and autonomous transport robot ARC (Autonomous Robotic Carrier).

Servus provides intralogistics solutions based on a modular design for customized products and processes for companies in production logistics, retail and e-commerce distribution as well as medical and health-care industries. This modular design makes it possible for Servus to develop a concept that is tailored to the customer's needs and seamlessly maps the entire material flow. Thus, a single system can integrate all internal logistics from inbound to storage, quality control, production, assembly or picking, and finally to outbound in one optimal flow process.

Innovation

"Innovation is the one thing that makes society richer. Everything else is just redistribution," is an essential principle of company founder and owner Christian Beer. This sentiment is executed throughout all levels in the Heron Innovations Factory. It is even reflected in the "open building" floor plan, which provides space for the use of synergies across companies. The exchange of internal know-how paired with sustainable, resource-conserving actions and investments in future generations enable a long, regional value chain. We owe our innovative spirit to the fact that 15% of our employees work in research and development. We believe that it is not only companies that benefit from innovations, but society as a whole.

Sustainability

The Heron Innovations Factory in Dornbirn, Austria was built to meet industrial passive house standards. Instead of fossil fuels, geothermal energy is used. Heating and cooling are provided by a sophisticated heat pump system. Geothermal probes are embedded in the 380 pilots on which the building stands. Controlled ventilation and exhaust are another integral part of the energy concept. Surplus energy from the waste heat of air compressors is recovered for water heating and also fed into the building heating system.

An intelligent shading system enables optimal use of daylight. On the green roof, photovoltaic systems provide an energy supply of up to 480 kW/peak.

Regional cooperation, careful and conscious use of resources, short value chains as well as environmentally conscious actions and a cross-generation mindset are main green principles at Heron. Long term sustainability is fundamentally important to Heron in terms of both products and processes. Heron therefore focuses on space-saving processes, lean management as well as sustainable efficiency.

Training with a future perspective

What will matter in the future? For Heron, it's innovative technologies and products. These innovations are developed by our outstanding technicians. Therefore we attach particular importance to the first-class training of our apprentices - both on a professional and personal level. At the Heron Innovations Factory, roughly 40 apprentices are currently being trained in six trades - with an additional focus on independence, initiative, solution-oriented work and communication skills. From the very beginning, the development and implementation of new ideas is encouraged, because this is precisely the art of entrepreneurship we desire.





Facts and figures of the Heron Innovations Factory

Company founded: 1987 "Heron Sondermaschinenbau"

Headquarters: Dornbirn, Vorarlberg (Austria)

Global activity: Subsidiaries on 3 continents (Europe, USA and Australia)

Employees worldwide: 520

Sales: 125 million

Export rate: 85 %

Apprentices:
(Trainees) 40 in 6 trades

Servus Intralogistics

Servus being part of the Heron Innovations Factory group and its relationship with sister companies, Robotunits, Heron CNC-Technik and Vertic Greens provides the 'technology pioneer' headquartered in Dornbirn, Austria with an enormous level of added in-house value. For Servus customers, this means that they will benefit from a fast-acting and innovative partner. With additional locations in Austria, Germany, the USA, Australia and Italy, the group can quickly gain access to materials and components, guaranteeing customers fast response times and highly reliable product delivery.

Intelligent transport robots

The core of the Servus system is the ARC. (Autonomous Robotic Carrier) The world's most energy-efficient transport robot. He transports any load overhead, safely and quietly. Configurable in terms of size, performance and load handling device, ARCs transport everything from simple cardboard boxes, plastic totes and trays to bulk material or workpieces with a payload of up to 50 kg.

The ARC is no ordinary shuttle. As an independently operating swarm robot, it delivers its loads at the right time (just-in-time) on the shortest route to any desired destination within a company's facility. Therefore, inventories, an unnecessarily tied-up capital are significantly reduced.

Process reliability through decentralization

The decentralized nature of the Servus system virtually eliminates any failures in the automated storage. This guarantees customers maximum system reliability. By just adding more transport robots, the performance of a Servus system can be increased without having to undertake any additional construction work. Depending on the equipment, size or load handling device, everything from simple cartons or boxes to bulk goods or customized workpieces can be transported. In addition, the versatile transport robot can be adapted to individual customer requirements with supplemental structures such as reticulating arm robots, bulk material hoppers, rotary units, workpiece carriers or customized attachments.

Software tailored to your needs

Servus' software offering is as flexible as the mechanical system. Servus delivers software packages that are tailored exactly to the customer's needs. If desired, Servus software can manage the entire warehouse and optimize the material flow. Servus' software can also seamlessly integrate with existing warehouse management systems.

The Servus Portal gives customers a quick and clear overview of their system at all times. All processes and the overall system status are logged in real time and clearly structured in apps. This allows operators and system supervisors to view this information directly at their workstations or on mobile devices.



Uncompromising service

Servus Intralogistics provides a customized support and maintenance program for each customer. To meet the demands of our customers, we strive to optimise the efficiency and added value of the systems throughout their entire service life.

From support and spare parts management to predictive maintenance, we offer customer-oriented support to ensure maximum system availability. Competent service staff are available at all times to provide immediate assistance. In addition, Servus offers an effective remote access support service (through a VPN) which

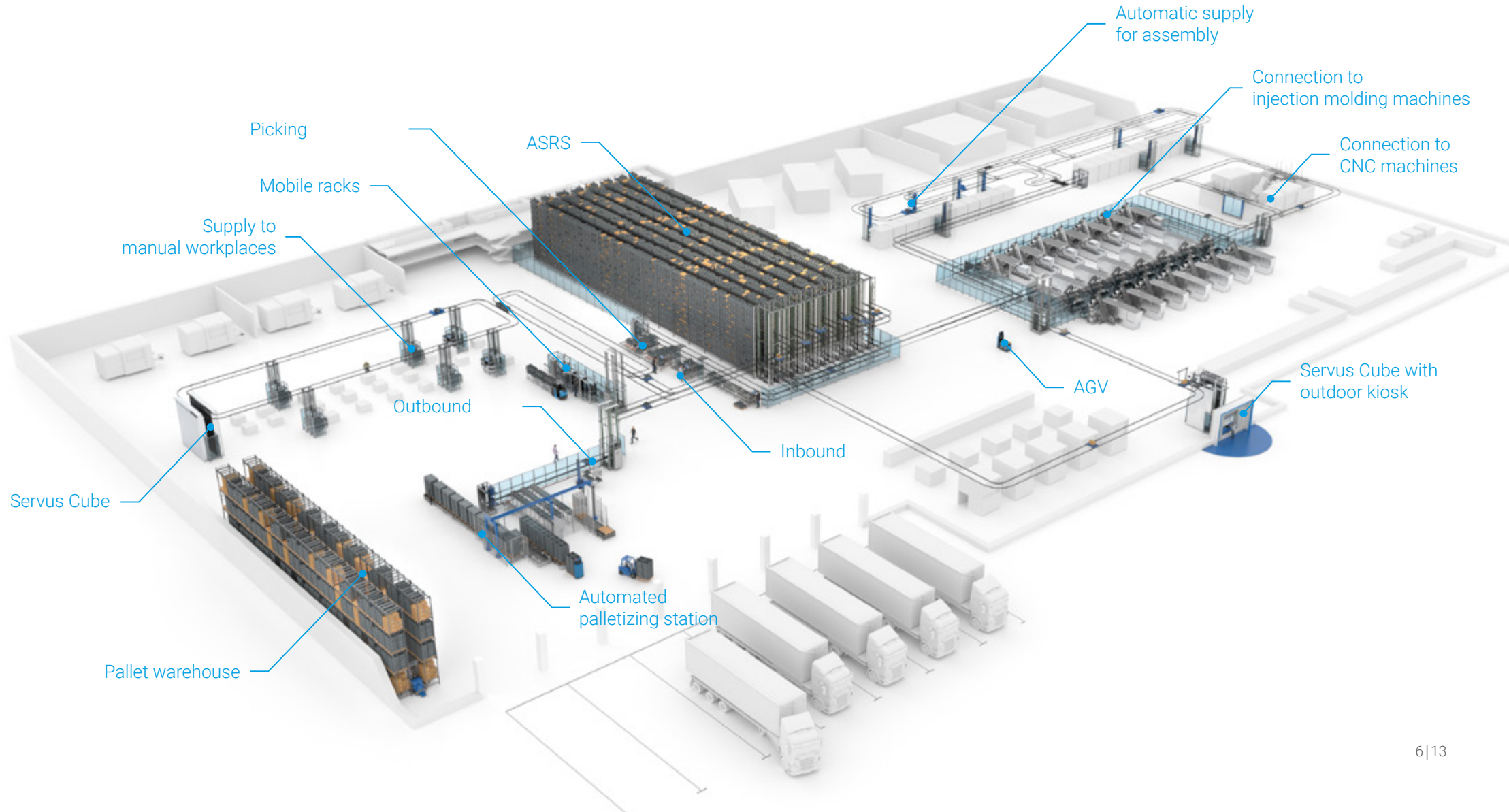
makes the Servus system operations even more robust.

With real-time data and state-of-the-art machine data collection, customers are always up-to-date with regards to the system status. Basic data such as speed and battery status as well as diagnostic information from sensors and encoders are available at all times, even in stand-by mode.

This enables customers to have full control over maintenance scheduling, which enables them to minimize downtime through predictive maintenance and therefore increase their productivity.

A single system for the entire in-house value chain

Servus is the first company to provide seamless connection of the warehouse and production with a single system. How? Our autonomous transport robots integrate all in-house logistics processes using the pull principle. The result is an efficient, simple interface flow in which warehouse and production merge into a single dynamic process, thus raising efficiency and productivity to a new level.



All the facts at a glance

A tailored concept for individual intralogistics requirements

Individuality

- Fully customizable due to the diversity of the modular Servus system
- Material-friendly load handling devices with various supplemental structures for single piece transport of goods
- Optimal utilization of warehouse space due to high storage density
 - Savings in storage space: Storage possible to just below the ceiling
 - Totally accessible storage system
 - driving track can be used for additional storage

Flexibility

- A single, flexible system for a company's entire intralogistics process
- Complete versatility through adaptation and optimization of individual processes
- A routing system that adapts to the structure of the building
 - Driving track at working height, on the wall or suspended from the ceiling frees up space for productive processes
- Flexible adaptation and economical handling of different assembly products or in case of future product changes
- Flexible software connections
- No more waiting - workstations are served just-in-time

Scalability

- Unique combination of direct access and high storage density
- Track expansions: more ARCs, increased performance, higher storage capacity
- Easy and flexible adaptation to the workload while expandable at any time
- Up to 90 % energy savings compared to conventional conveyor technology
- Highly reliable system due to a redundant, decentralized design
- Power and controls are located on the ARC and at routing decision points - the track is a static profile and is therefore easy to modify, expand and service
- Minimal wear, low maintenance

Benefits

- Less on-site inventory or temporary storage areas needed
- Space savings on the production lines
- Optimized material flow helps reduce working capital and therefore tied-up capital
- Increased throughput of goods
- Less waste
- Error reduction due to one system handling all processes
- Very quiet system



References

Servus in use at Hirschmann Automotive

Initial situation

Increasing machine density and production output, monitoring warehouse capacity, recording the material flow and inventories in real-time, while ensuring economical and efficient production, even in the future - were the requirements Hirschmann Automotive faced in its cross-site digitalization project. Their clear goal was fully automated "unmanned production" with efficient linking of all production processes up to the sustainable regrain preparation.

The system at a glance

The Servus system automates the in-house material flow at Hirschmann Automotive Vsetin. It seamlessly connects incoming goods, carton erector, injection molding, assembly, outgoing goods, return line, and an automated storage and retrieval system. In particular, the autonomous and intelligent Servus transport robots automatically transport the injection-moulded parts from all machines to the packaging area and outbound. The system increases throughput and storage capacity.

The Servus System

- 33 ARCs (Autonomous Robotic Carriers)
- 245 transport orders/h
- 30,240 ASRS spaces
- 27 ASRS levels
- 4 Hopper ARCs (55 transport orders/h)
- Year of construction: 2019 (extension in 2022)

Servus ASRS (automated storage and retrieval system)

- Length: 39.5 m, width: 15 m, height: 16 m
- 7 aisles with 25 storage levels
- 27,300 storage locations
- Storage location size: 610 x 410 mm
- Load: Cardboard boxes 600 x 410 mm
- Trays: 600 x 400 mm
- Tote heights: 150 mm, 320 mm, 540 mm
- 7 highly dynamic ARC lifts



References

Servus in use at Hamilton Medical AG

Initial situation

Hamilton stands for technology, quality and precision in various markets in the food, pharmaceutical, biotechnology and medical technology industries. The company excels in high-precision dosing and measurement of liquids and gases. Hamilton is now one of the world's leading suppliers of respiratory equipment.

Their growing success presented Hamilton with new challenges. It was necessary to efficiently supply the various assembly and production areas, which over time had spread to several floors. A new building was therefore planned to optimize these processes.

The Hamilton system at a glance

The customized Servus solution ensures automated in-house material transport and connects incoming and outgoing goods, picking, assembly, quality inspection, the injection molding area, the ASRS and the 'consumables' station with a single, seamlessly interconnected system. In this process, the goods are brought to the right place at the right time, in the right quantity, according to the pull principle.

The Servus System

- 28 Smartloader ARCs
- Track width: 901 mm | Length: 730 mm
- Tote size: 600 x 400 mm
- Maximum payload: 35 kg
- System performance: 359 storage and retrieval operations per hour

Servus ASRS (automated storage and retrieval system)

- Length: 36 m, width: 15 m, height: 16 m
- 7 aisles with 25 storage levels
- 27 300 storage locations
- Storage location size: 610 x 410 mm
- Load: Cardboard boxes 600 x 410 mm
- Trays 600 x 400 mm
- Tote heights: 150 mm, 320 mm, 540 mm
- 7 highly dynamic ARC lifts

Convincing Servus benefits

- The material flows from the warehouse and production are seamlessly combined.
- Tailor-made solutions for any customer requirements
- Maximum process reliability and 24/7 availability
- Optimized energy consumption and minimal wear due to simple, robust and low-maintenance mechanics
- The material flow along the entire value chain is optimized and automated.
- Future-proof: guaranteed investment security and profitability for many years



References

Servus in use at Miele

Initial situation

- long transport routes between warehouse and production created too many manual transports
- the requirement: automate assembly line supply to ensure just-in-time provision of picked goods
- decoupling of picking activities from the milk-run cycle

The solution provided by Servus Intralogistics

The Servus system includes an Automated Storage and Retrieval System (ASRS) with an automated inbound cell which is equipped with a depalletizing robot, and three picking stations along the line. At the backside of the ASRS, the Servus system supplies material to an automatically replenished supermarket. From there, the tugger trains are loaded manually using pick-by-light. These tugger trains then transport the required material to the production lines.

Added value for the customer

- Automated transport between incoming goods, warehouse and assembly
- Safe, flexible and efficient process by decoupling of picking and assembly
- Optimized use of picking
- Just-in-time material supply
- Minimized amount of material in circulation, i.e. as little material as possible in the production area

Miele has been using Servus to supply its assembly lines since 2014. Every day, 4,500 washing machines are manufactured. The materials, small parts and components required for this are stored by the Servus system in an ASRS and supplied where needed in the right quantity, at the right time. The system is continuously adapted and expanded to reflect changing requirements and to increase the efficiency of the production logistics.

Servus Intralogistics at Miele

- 26 ARCs
- 3 picking stations
- 13,000 storage locations in the ASRS: 50 meters long, 21 levels high, 3 aisles
- 8000 transport orders per day
- automatic supermarket



References

Servus in use at Röchling

Initial situation

Thanks to Röchling, cars are getting lighter, medicine packaging safer, and industrial applications better. Around 11,000 employees are working on this at 90 locations in 25 countries. At the 'Neuhaus am Rennweg' site, pharmaceutical primary packaging solutions, components and medication administration systems are developed and produced for wide variety of pharmaceutical applications.

As part of a new building and the associated comprehensive modernization, the redesign of the intralogistics systems was also on the agenda at Röchling's Neuhaus site. Up to this point, two completely different conventional conveying technologies had been used for the production and packaging departments. The requirement was to merge both into a single system. This is where Servus came into play.

The Röchling system at a glance

The customized Servus solution automates the internal flow of materials in the clean-room. It seamlessly connects the ASRS, production and packaging areas and transports clean packs and aluminum trays. In this process, the goods are brought to the right place at the right time and in the right quantity, according to the pull principle.

Servus transport robots

- Load handling devices:
- 3 Smartloader ARCs
- 5 ARCs with conveyor belt loaders
- Track width: 1151 mm
- Length: 730 mm I 1330 mm

Particularities in the clean room

- Track length: 121 linear meters in the clean room
- ASRS with inert gas fire suppression system.
- A special airlock system allows passage of the ARCs while preventing nitrogen from entering the clean room 5 in the event of a fire.

Convincing Servus benefits

- The material flows from the warehouse and production are seamlessly combined.
- Tailor-made solutions for any customer requirements.
- Flexibly scalable and expandable: can be easily and efficiently adapted to changes in the customer needs.
- Maximum process reliability and 24/7 availability
- Optimized energy consumption and minimal wear due to simple, robust and low-maintenance mechanics.
- The material flow along the entire value chain is optimized and automated.



References

Servus in use at Halder

Initial situation:

The product portfolio of Erwin Halder KG in Achstetten-Bronnen includes fixturing systems, the versatile multi-vice and conventional clamping devices. A vast range of standard parts with over 8,000 items from stock, hand tools and aviation products round it off.

To manage this wide range of products with ready-assembled parts and semi-finished products, Halder previously used a semi-automated combination of pallet racks and warehouse lifts. However, with the continuous additions to the product range, warehousing with this system became increasingly costly. In addition, an expansion of the storage capacity became absolutely necessary. A new intralogistics system was needed.

The solution by Servus Intralogistics

Erwin Halder found the ideal solution in the intelligent, autonomous transport robots from Servus Intralogistics. Halder is now able to save time and space by getting the goods delivered to the employees or to a machine just-in-time according to the pull principle while at the same time making the most efficient use of the available space. The new system includes all workstations such as picking, assembly, inbound and outbound with the corresponding I-Points (human-machine interface), as well as the automated small parts warehouse (ASRS) including warehouse management software.

This gives Erwin Halder KG not only the highest storage density but also the advantage of a possible storage filling level of over 99 percent: which means more items can be stored without having to enlarge the hall.

Customer benefits:

- Transition from man-to-goods to goods-to-man according to the pull principle
- Minimizing the non-value-adding activities
- More items can be stored in the same amount of space
- Less material in circulation, and the waiting times have been significantly reduced by just-in-time delivery
- Space is used much more efficiently: no more paternoster storage towers required thanks to the efficient storage and transport system.

Facts and figures:

- 16 ARCs
- ASRS with direct connection to workstations
- Loading and unloading places for assembly
- 21,120 storage locations in the ASRS
- 2 ARC transporters
- Pick-by-Light
- 208 storage and retrieval operations per hour



Service

Further information is available on the website:

www.servus.info

Our social media channels:

Facebook: <https://www.facebook.com/servuservesyoumore>

LinkedIn: <https://at.linkedin.com/company/servus-intralogistics-gmbh>

All members of the Heron Group:

www.heron.at

www.robotunits.com

www.heroncncteknik.com

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