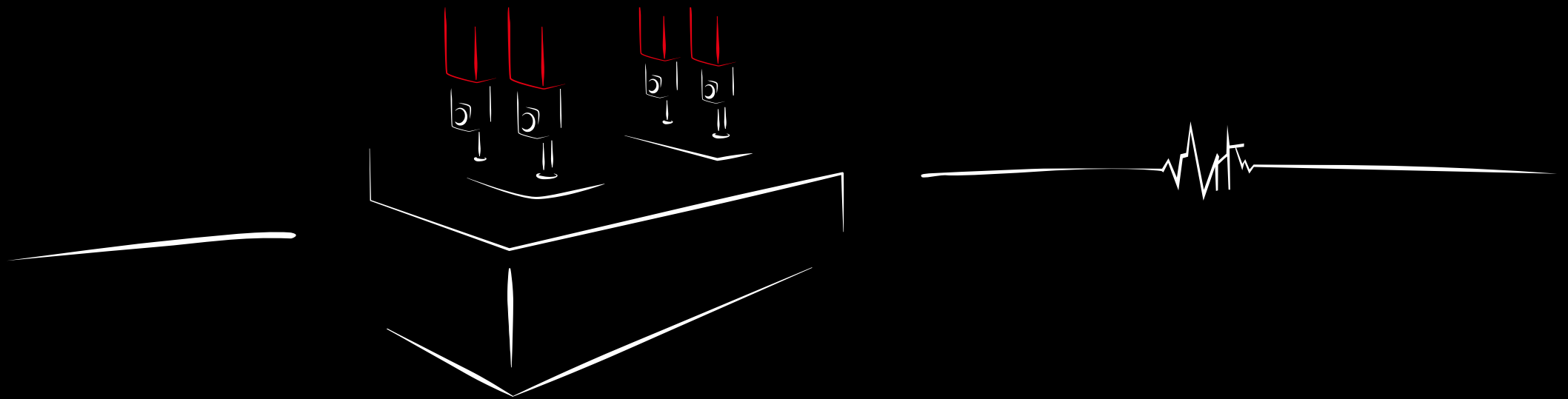


# The Art of *Economy*





Past Today and tomorrow

Laser-cutting system only

Manual handling of material only

Laser-cutting system with pallet changer

Manual handling  
No sorting

Laser-cutting system with loading/unloading unit

Automatic loading/unloading  
No sorting

Flexible laser production cell with ASTES4 sorting system

Fully automatic process

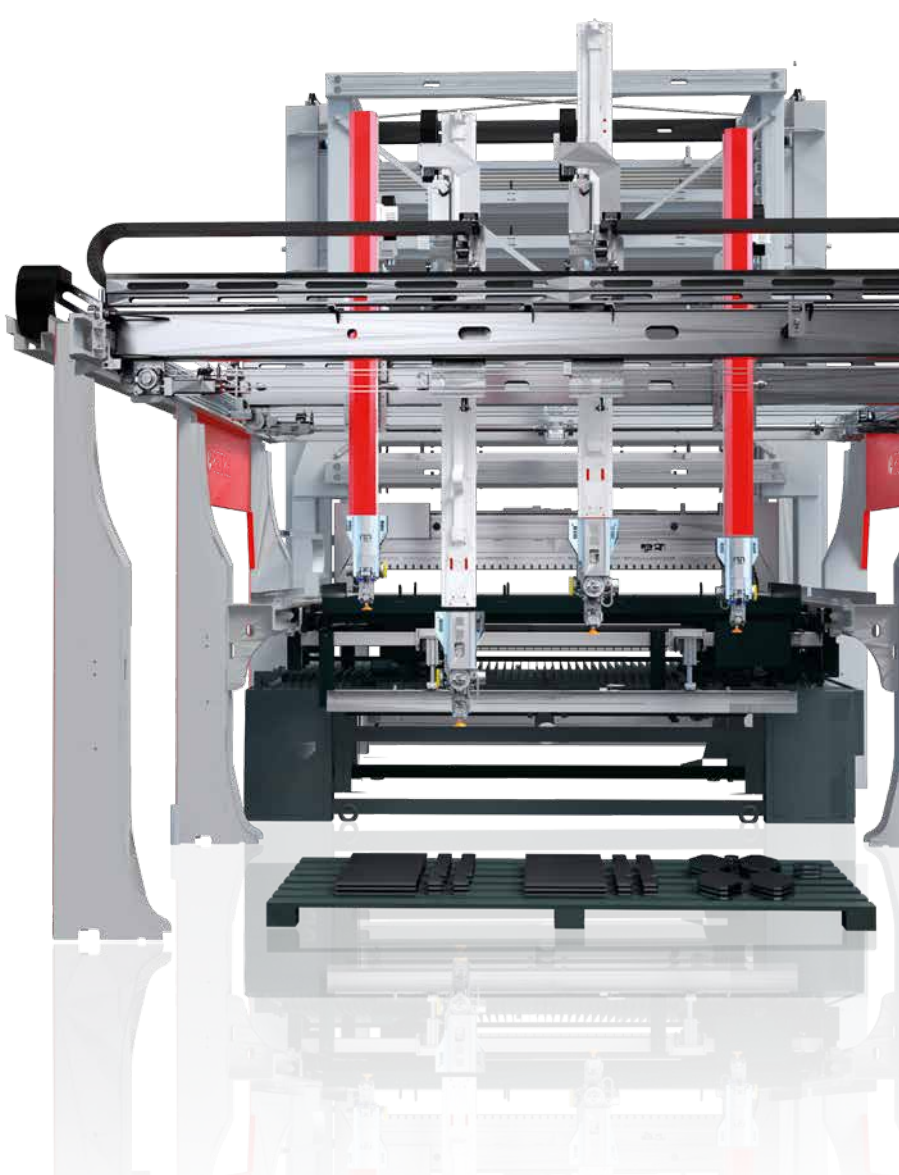


**If you Want to Make Money, Automate!**

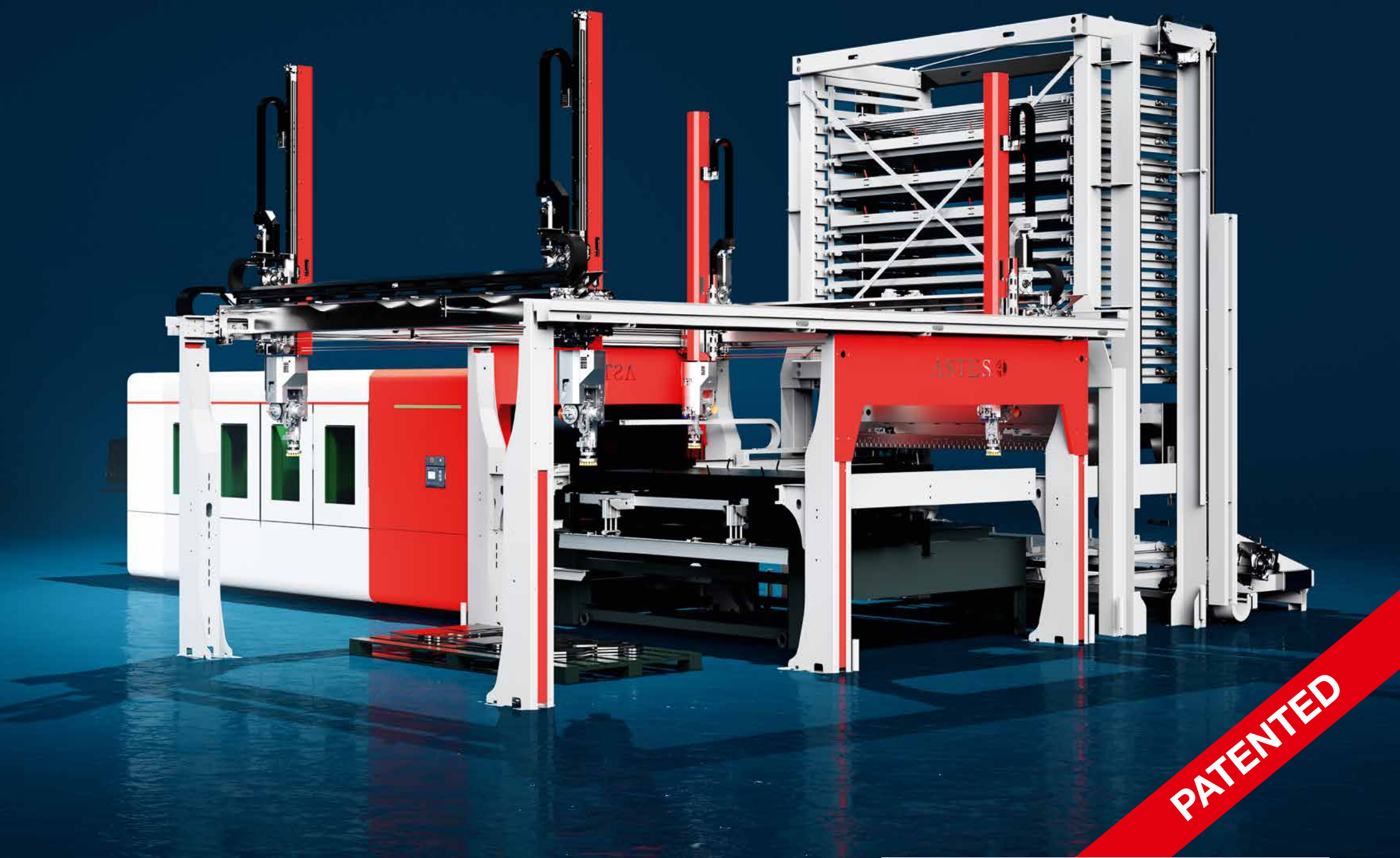
Since the beginning of laser cutting and automation, the sorting and storing of parts has always been a manual operation ... until now.

**Today and Tomorrow.**  
Automation Efficiency is measured in \$!

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## Lasers cut Metal – ASTES4 creates Profits...

Whatever the Colour of your Laser is... ASTES4 works with all of them.

This is what ASTES4 can do for you...



Ready for shipping results with minimum manpower and maximum profits.

Average return of investment for you



Reduce cost through automatization and be ahead of your competition. The employees so far responsible for physically demanding parts sorting can now be entrusted with more value-generating activities.

Average additional profit in 10 years







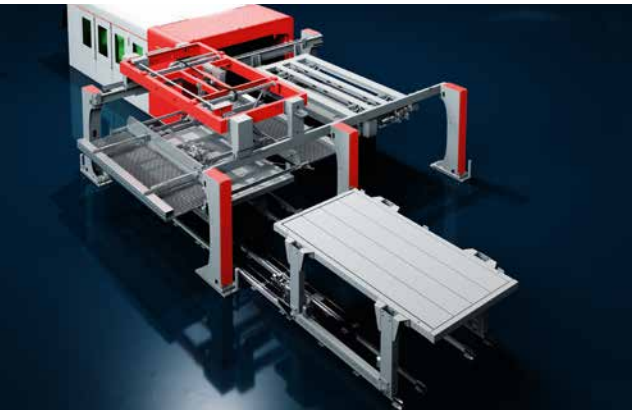
**ASTES4ModularAutomationSystem**  
**Fully modular system, you choose!**

**Clever Start – Rise Smart!**  
Low initial investment, expand as your earn more.

With intelligent and integrated automation solutions, the ASTES4MAS concept ensures that you will always have the suitable degree of automation to meet your production needs. It literally grows with your rising future demands.

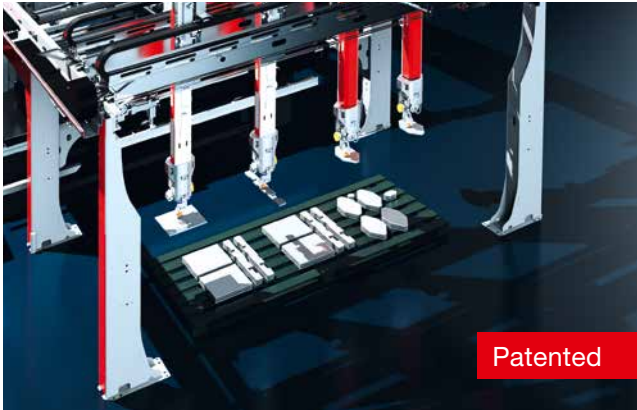
From a fast and efficient loading and unloading system to a high-speed sorting module that allows a fully automated handling process of cut parts, connected to a wide range of automatic storage systems. The modular design allows for an adaptation to your budget and space situation.

**ASTES4SkyWay – the clever start**



The very fast loading and unloading system SkyWay enables you to separate the processes between laser cutting and parts picking, allowing a significant increase in the utilization of the laser system. The SkyWay loads the laser system's pallet changer with raw material and unloads the cut sheets – all within 58 seconds!

**ASTES4SortPro – professional sorting at high speed**



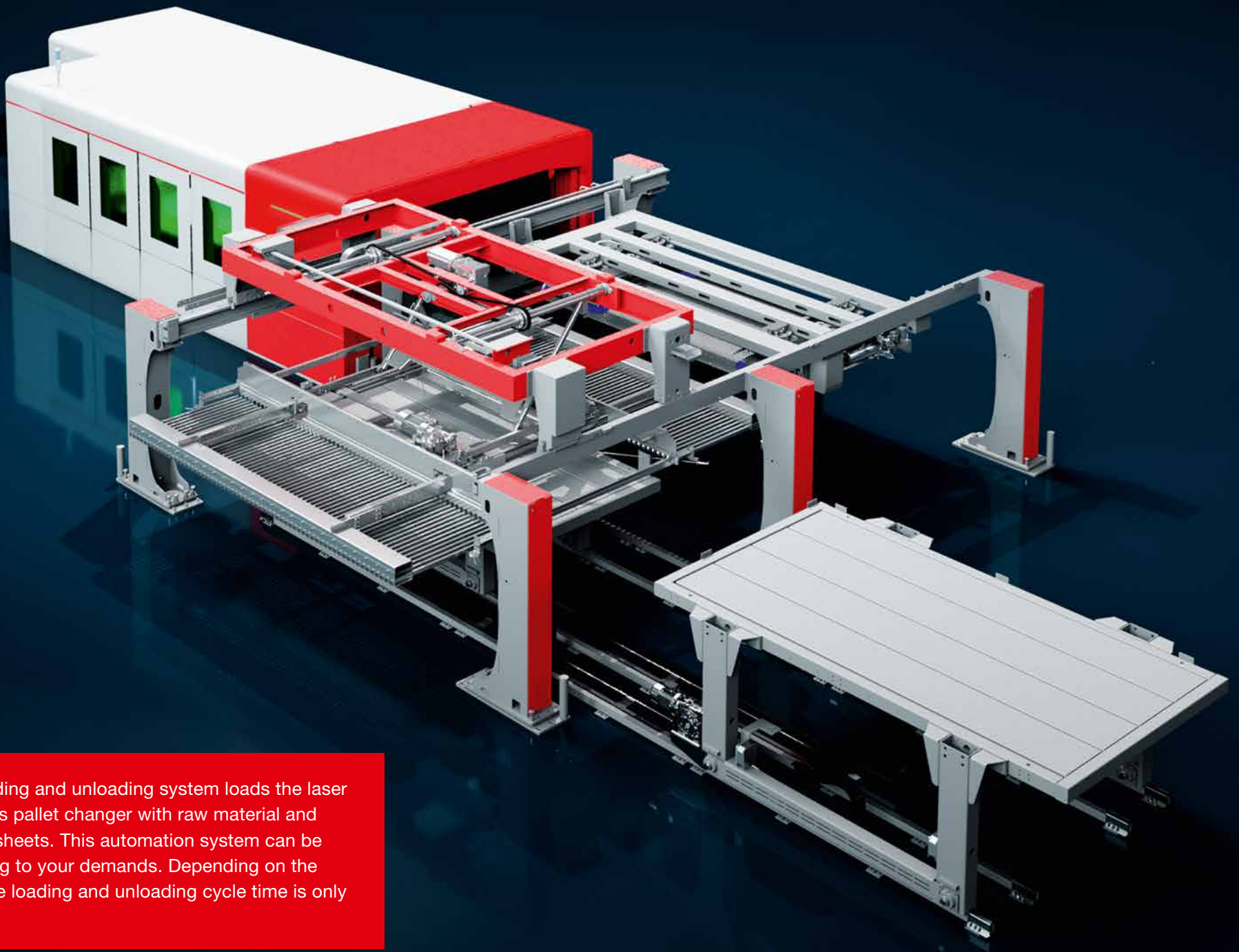
In combination with the SortPro sorting module, the automation system can even handle the individual parts picking process automatically. SortPro consists of four parts picking heads. These are each equipped with a patented revolving head that can access seven individual vacuum and magnetic picking tools. Maximum automation with maximum flexibility.

**ASTES4StoreGo – efficient sheet material storage**



The SkyWay can be connected to various types of storage systems. Whether single tower, double tower or multi-tower system – we adapt to your demands. To optimize the space requirement, the SkyWay can be integrated directly into an automatic storage system by allowing both manipulator units to move into the storage tower.



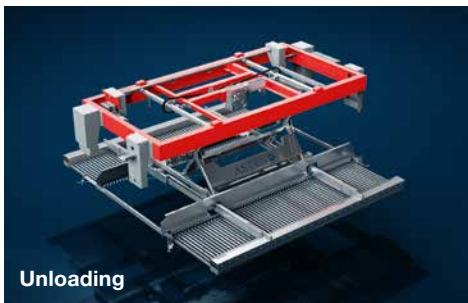
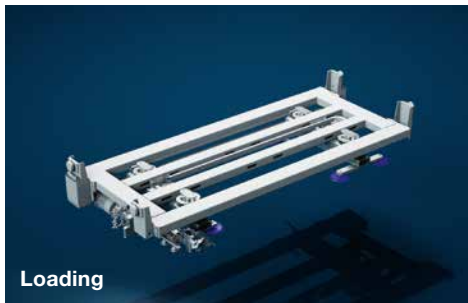


The SkyWay loading and unloading system loads the laser cutting machine's pallet changer with raw material and unloads the cut sheets. This automation system can be tailored according to your demands. Depending on the configuration, the loading and unloading cycle time is only 58 seconds.

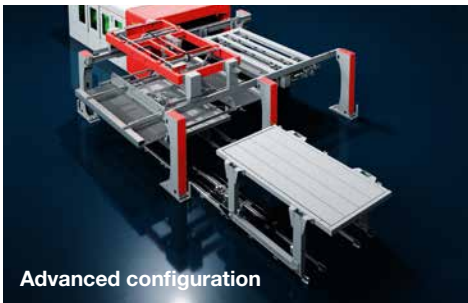
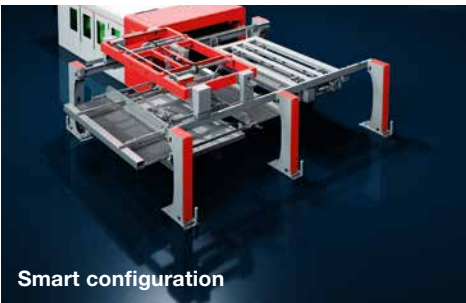
# 58 Seconds Cycle Time.

Wow, this gets your Beam-on Time up!

## 2 manipulator units



## Flexible configuration



The SkyWay consists of two separate manipulator units – one for loading and one for unloading. This way different operations can take place simultaneously which reduces the cycle time to the absolute minimum of 58 seconds (3015). The slats brushing device automatically brushes away debris left on the pallet of the laser system to ensure a stable automation process.

To adapt the SkyWay to your needs you can choose for its working area to be in front or behind the pallet changer. The configurations of the system start with the “smart configuration” which simply adds a table for raw material. The “advanced configuration” will add 2 carts moving in a 90° angle to the SkyWay operation. Finally, the SkyWay can be integrated in various types of automated storage systems. Choose what fits you best!



## Lasers get faster and faster

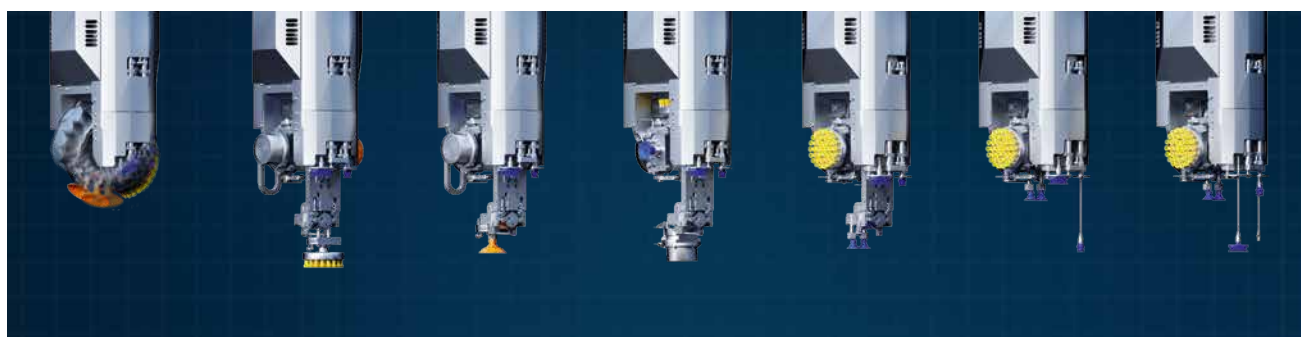
ASTES4SortPro revolver heads are ready for 30 kW and more



**PATENTED**

## Flexible as an Army Knife, but a lot more Convenient...

**28 sorting tools and no external tool change required – for maximum performance**



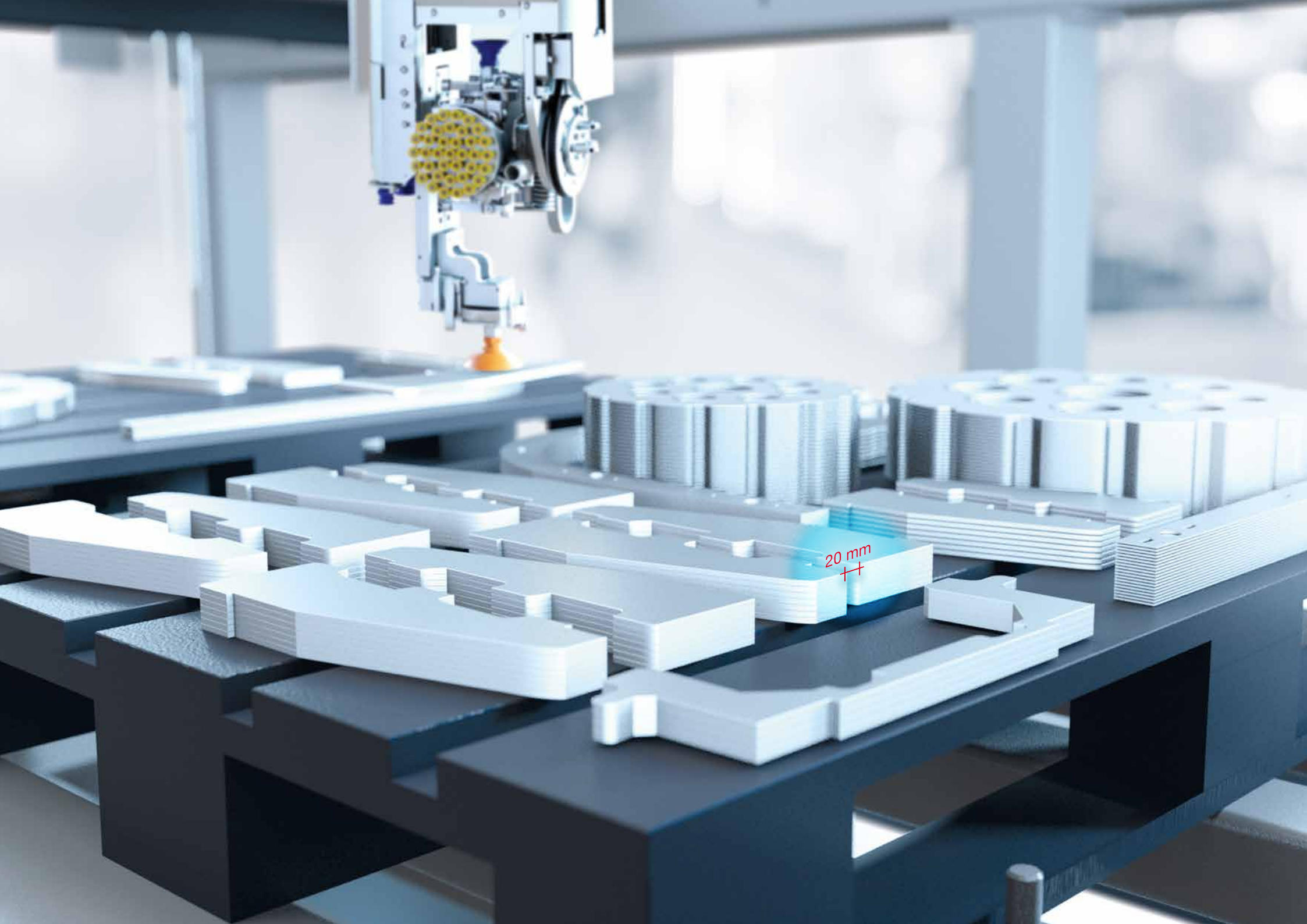
4 patented sorting heads with revolutionary automatic revolving tool changer always have the right tool on-board. There is no external and time consuming tool-change necessary anymore. Each head carries seven vacuum and magnetic tools of different dimensions and shapes. These tools are automatically changed depending on the part geometry and weight.

**Heavy parts up to 400 kg**



Each of the 4 sorting heads can handle part weights up to 100 kg. The heads can be used individually or together to move large or heavy parts. This way parts with a total weight of up to 400 kg can be sorted.





## Get More out of Storage and Pallets!

Higher Packing Density through Precise Stacking.

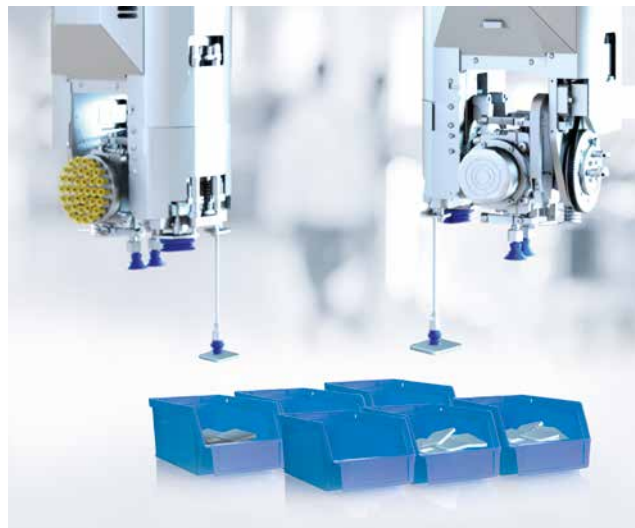
Mass production can be done by anyone... flexibility is what scores today! The ASTES4SortPro is significantly ahead of all currently available laser automation systems on the market – in terms of productivity and efficiency!

### Quantity 1 or 1,000,000?



The challenge for future-oriented laser automation is not the handling of millions of identical parts – day in, day out, but the ability to flexibly process countless different contours in different materials and sheet thicknesses in a reliable manner.

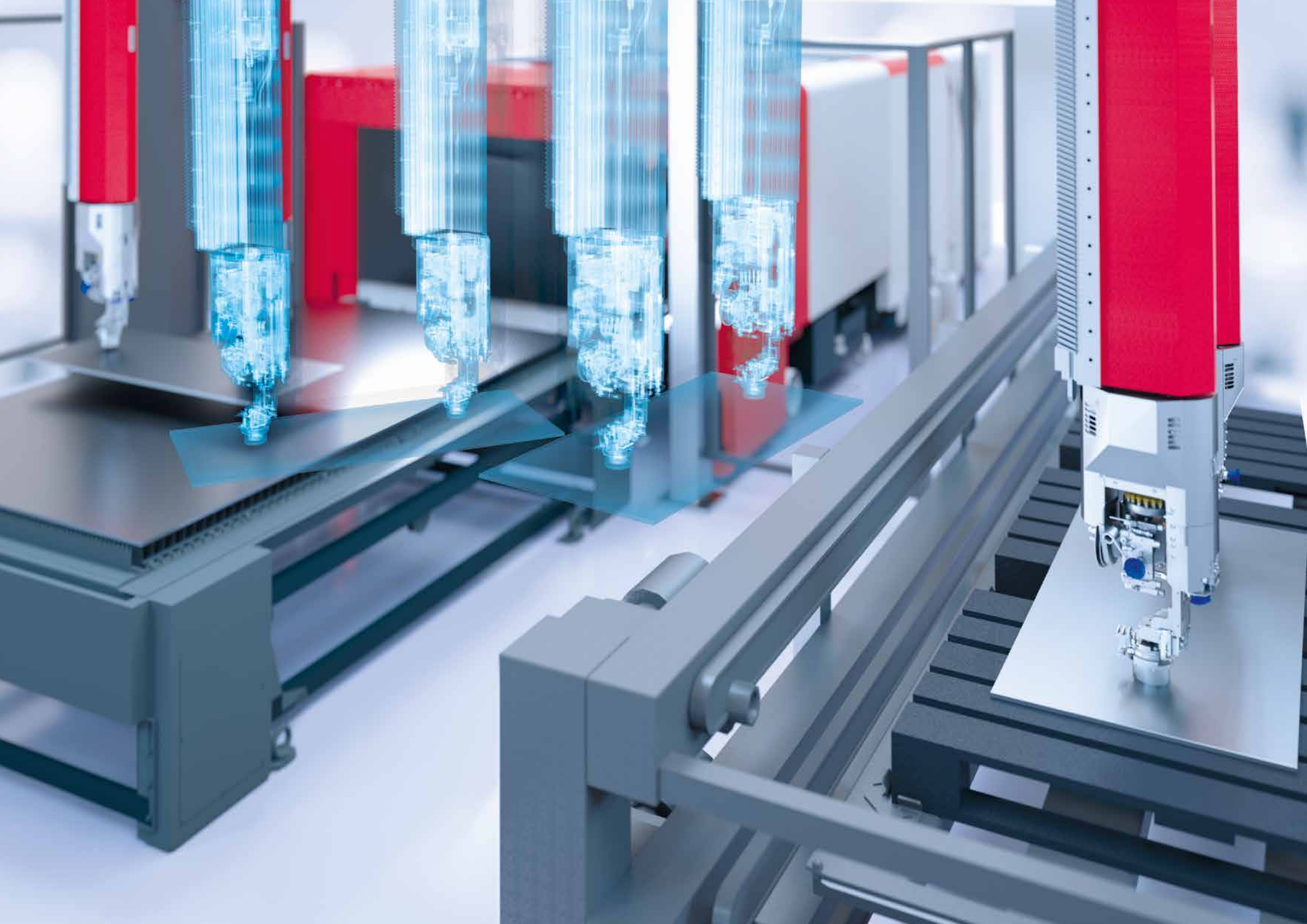
### Please specify destination



Where should the cut parts be placed? On pallets that are either located on the floor, on cross conveyors or longitudinal carts, or would you rather put them in lattice boxes or small parts boxes? No problem! Define your own load carrier. With the “Area Configurator” module (optional) it is possible to define specific load carriers. This way the system adapts freely and easily to your requirements.







## Economical Stacking

with additional Health & Safety Benefits!

### 360° head rotation



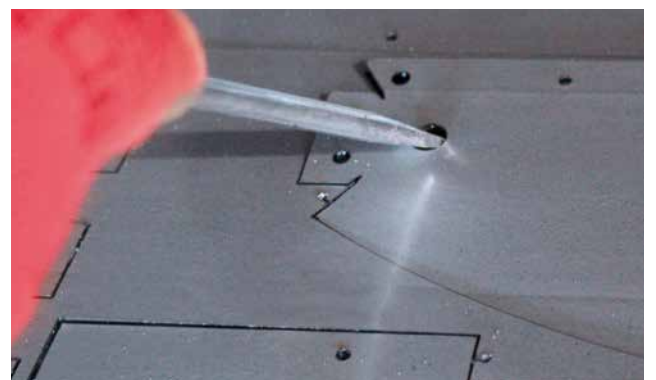
How economic may an automation system be that cannot sort all part geometries or cannot stack them in the same orientation? To place all the cut parts always in the required orientation, every head can rotate 360°. Also, long parts often have to be rotated 90° or even 180° in order to place them correctly or as desired. The ASTES4 sorting systems master this task using two sorting heads (one of each portal).

### Work accidents? Better to fight against causes!



In the rough everyday work of order picking employees, it is not seldom the case that minor work accidents occur, as the manual breaking out of hundreds or thousands of parts can take its tribute. In case of thicker sheets or larger part geometries, heavy weights have to be taken into account. The sorting system takes over the picking process and significantly reduces the risk of work accidents.

### (Almost) no micro joints!



In comparison to a simple loading/unloading system, which requires the micro jointing of parts to the skeleton to ensure process reliability, the sorting system expressly does not allow micro joints, as otherwise the picking-process would not be possible. This means, the subsequent process of grinding off the micro joints can be avoided, which reduces costs and improves part quality. The only exception are parts, smaller than 130 x 60 mm, which require „clustering“ using micro joints.





## One, two or 20? How many Storage Towers do you need? Exactly tailored to your requirements.

The ASTES4StoreGo automated storage systems optimize your logistic process – whether you just need a single tower system for the continuous supply of raw material to your laser system or you are looking for a huge multi-tower system to organize all your shop floor logistics. Our single, double or multi-tower storage systems can store pallets with raw material or cut and perfectly stacked parts but also cassettes with cut sheets or skeleton. Different layout options make sure that the system adapts to your needs and space requirements. We are at your disposal to find the most suitable solution for you.

### Fast elevator



The elevator of the StoreGo storage systems is equipped with an additional axis for picking the storage pallets/cassettes faster than conventional systems.

### Unpacking of raw material



For unpacking of raw material, a device with many pins is installed below the elevator. This allows to remove wooden bars with a max height of 100 mm, without the need of a separate unpacking station.





## Ready to Ship or Ready for further Processing.

Just as you like it!

### Fully automated storage system



StoreGo in combination with SortPro ensures optimum materials flow and continuous processes. Inventory check at the press of a button and a complete overview of all critical process data are thus possible.

Depending on the sorting strategy, load carriers with cut parts are ready to go directly to the subsequent production process.





**SortCAM**

**The brain makes the difference**  
Easy to use software

**PATENTED**

## Programming in 4 Clicks...

...it couldn't be simpler.

SortCAM automatically optimises and manages the production process through to storage, without the user having to intervene. The outcome is unsurpassed user-friendliness. The user only has to select the pallets being used and everything proceeds automatically as a single production order – management of various materials, part quantities, sorting and storage – based on purchase orders and deliveries.

### SortCAM stands for simplicity



The intelligent sorting software “SortCAM” stands for simplicity. A new program can be done in just 4 clicks. The intelligent algorithm of the software works perfectly in the background and supports the user to perform each production order in the most efficient way.

### Modular design. SortCAM grows with your demands!

Name	Standard	Option
SortCAM: Multi Layer	✗	
SortCAM: Picking Point Database	✗	
SortCAM: High Performance	✗	
SortCAM: Mixed Tool Sorting	✗	
SortCAM: Dynamic Group-ID	✗	
SortCAM: Stacking Similar Parts	✗	
SortCAM: Sort Area Configurator		✗
SortCAM: Pallet Template		✗

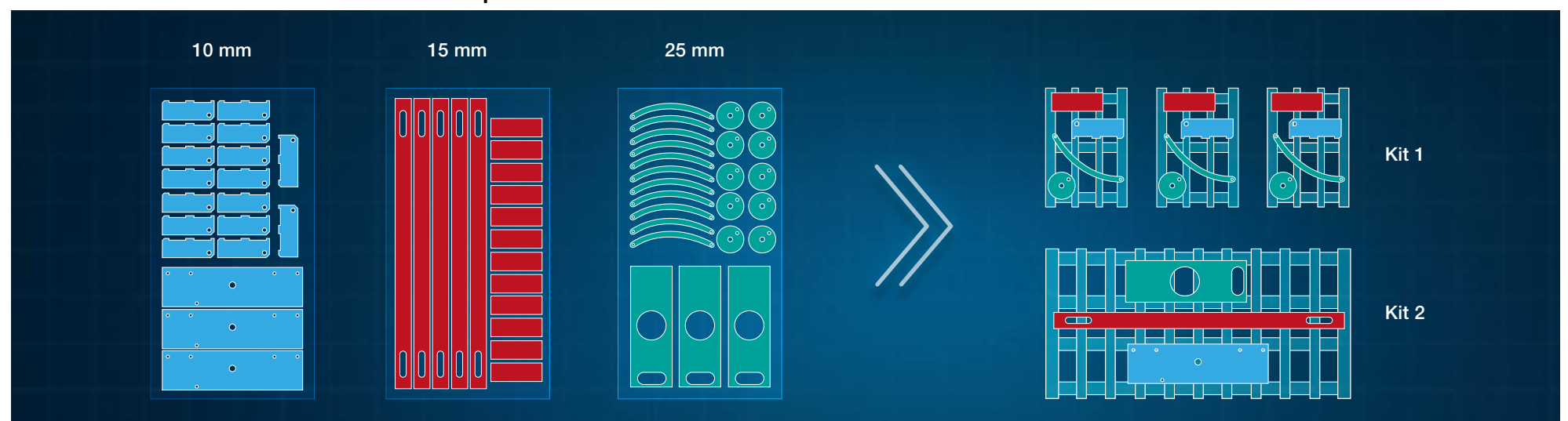
SortCAM is designed in such a way that you can program your ASTES4MAS to the full extent of the standard configuration. However, there may be some programming requirements that are not met by the standard configuration. Additional modules are available for this purpose. All additional modules are based on special customer requirements and have proven themselves in daily use. If you still need something that neither the standard configuration nor one of the modules can fulfill, please contact us. We always find a solution!





**Easy to use and masters even complicated processes**  
the first time right.

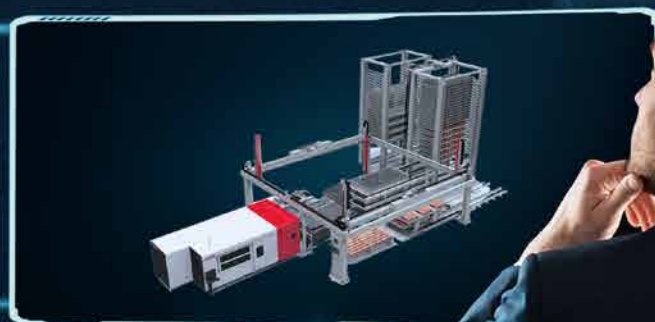
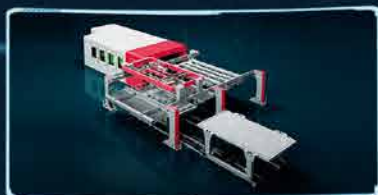
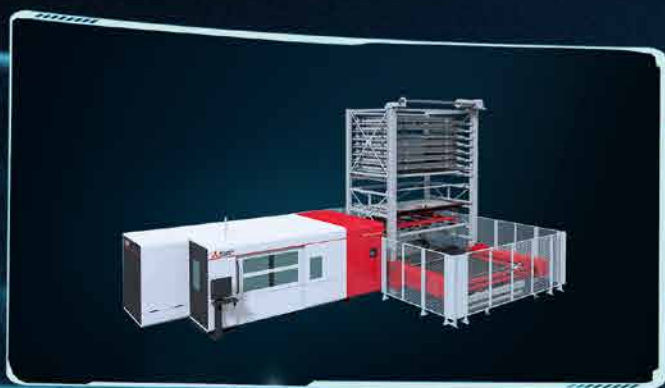
Three different thicknesses are sorted on four pallets



#### Not kidding, but kitting!

What is your production process like? Do you need many different parts made of different kinds of materials and material thicknesses, sorted by end customer, by drawing number, depending on the subsequent process, such as deburring, bending, welding, painting - or sorted according to your very own system? Your wish is a command for SortCAM. The ASTES4MAS creates kits according to your specifications. SortCAM receives the relevant data from the nesting software. Also ERP connection is available.





## A world of Choices for you.

Is a laser cutting system, maybe with a pallet changer, still not enough for you? With a higher rate of automation, you can boost machine capacity utilization and produce more parts per hour. Intelligent and customized automation solutions are available so that you can achieve the degree of automation that best serves your needs. The possibilities extend from loading and unloading systems through to the fully automated process solutions with automated sorting of cut parts and storage integration.

### **Modular approach!**

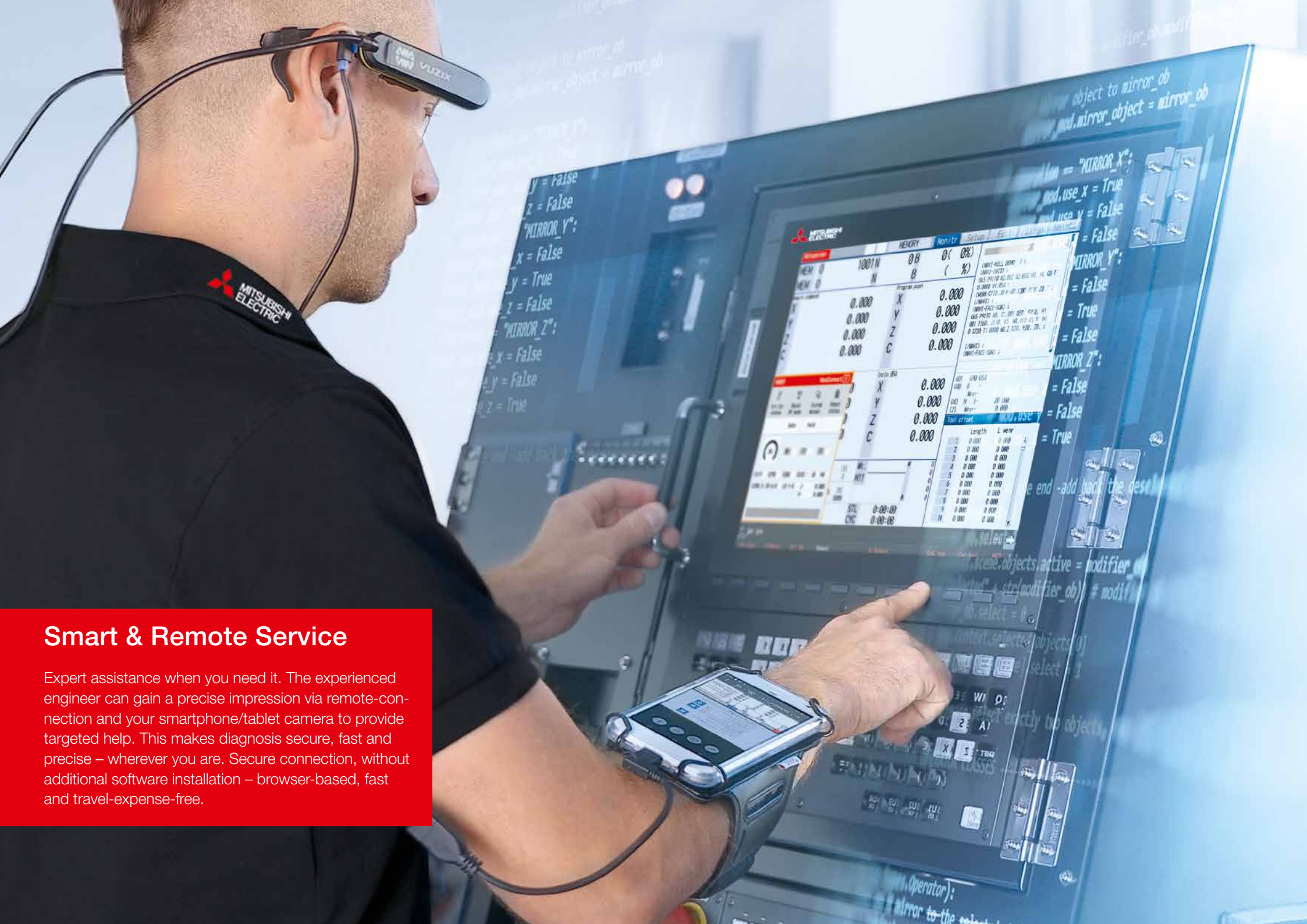
You still don't know what will await you in a few years' time and want to start on a small scale? No problem – start with our SkyWay cross loading/unloading system and the SortPro and/or StoreGo can be retrofitted at any time. Your automation degree can thus grow with your needs.



**See more**

[www.astes4.ch/products-sorting](http://www.astes4.ch/products-sorting)





## Smart & Remote Service

Expert assistance when you need it. The experienced engineer can gain a precise impression via remote-connection and your smartphone/tablet camera to provide targeted help. This makes diagnosis secure, fast and precise – wherever you are. Secure connection, without additional software installation – browser-based, fast and travel-expense-free.

## World Class Service!

For the most demanding customers...

### Installation, training & application support



To get a good start, everything must already be right when the laser cutting system is installed. Our experienced engineers ensure a professional installation. Users get operating and application training to acquire the necessary skills. Immediately after installation and at any time in the future if needed.

### Telephone & on-site service



Our service team consisting of our service helpdesk and field service engineers ensures your long-term success. Be it assistance over the phone, by email or personally on your site, you always receive reliable service from ASTES4.

### Control and intervention



The 4 cameras installed in various positions in the system provide a detailed and direct overview of the whole automation process so our service helpdesk can follow each operation individually and intervene at any time by remote control.





98.7 %

of the spare parts available in Europe

Delivery within 24 hours  
ex warehouse

167,000  
parts at the warehouse

## Consumables and Spare Parts.

*We are there for you – not only throughout Europe.*

### **Quality control**

*Consumables and accessories for laser technology are thoroughly inspected before release for sale and are subject to continuous quality control. Mitsubishi Electric imposes exacting standards on itself and its suppliers.*

### **Availability & shipment**

*167,000 parts are stocked for you at our warehouse. You usually receive your parts within a working day (shipment via forwarding agents excluded). Shipment by courier and collection by the customer are also possible.*





## ASTES4

is on the Forefront of Technology Innovation.



Alessandro Volta invented the electrical battery and pioneered electricity, with the unit of measurement being named after him. Also today, forerunning inventions are being developed in the shadow of the Alps.

ASTES4 is the leading pioneer of and specialist in laser automation and hence an synonym for advanced, cost-effective automation.

If you want to make a sound investment, choose automation from ASTES4 – the efficient and fully automated way from the raw sheet material to sorted and stacked parts. Regardless of whether you produce a quantity of 1 or 1 million.

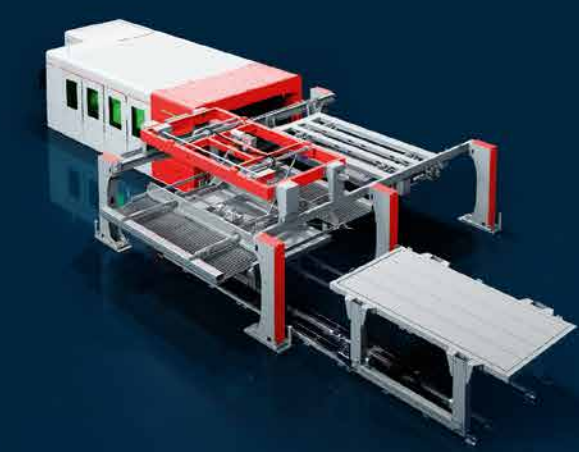
ASTES4 is a Group Company of Mitsubishi Electric Corporation.

Known from the  
trade media





ASTES4SkyWay



General Specifications	3015	4020
Cycle Time (Standard Configuration)	58 s	65 s

Raw Material Specifications	3015	4020
Sheet Thickness	0.8–25 mm	
Min. Sheet Seize	1,600 x 600 mm	
Max. Sheet Size	3,048 x 1,524 mm	4,064 x 2,032 mm
Max. Sheet Weight	900 kg	1,650 kg
Max. Stack Height	120 mm	
Max. Stack Weight	3,000 kg	5,000 kg

Cut Sheets/Skeleton Specifications	3015	4020
Max. Sheet Thickness	25 mm	
Max. Sheet Weight	900 kg	1,650 kg
Max. Stack Height	150 mm	
Max. Stack Weight	3,000 kg	5,000 kg
Max. Wooden Pallet Height	100 mm	
Required Pallet Changer Grid Pitch	50 mm	

ASTES4SortPro

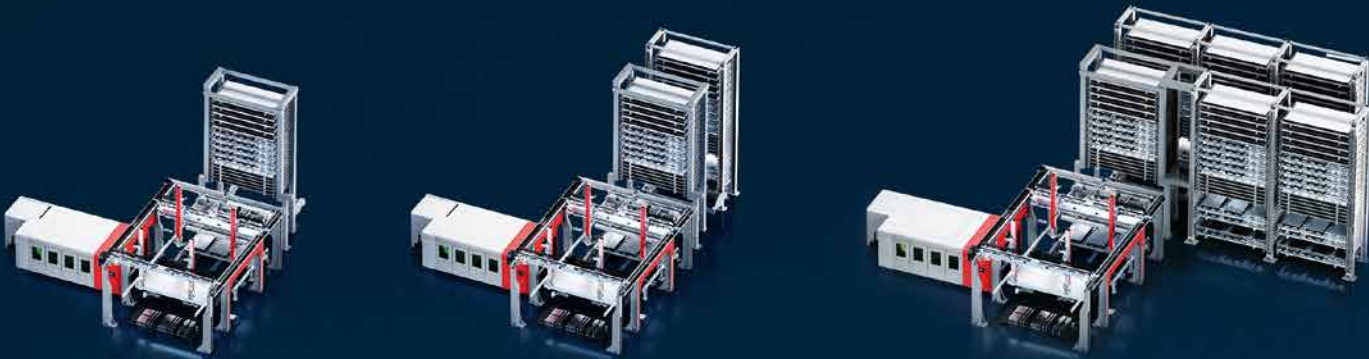


Specifications	3015	4020
Min. Sorting Time for up to 4 Parts	14 s (3.5 s per Part)	16 s (4 s per Part)
No. Sorting Heads	4	
No. Sorting Portals	2	
Max. Single Part Weight (Vacuum/Magnet Tools)	60/400 kg	
Min. Single Part Size	130 x 60 mm (Smaller Parts Require Clustering)	
No. of Revolver Tools per Head	5	
No. of Out-of-Center Tools per Head (Option)	2	
No. of Vacuum / Magnet Tools per Head	5/2	
Max. Part Rotation	360°	





ASTES4StoreGo

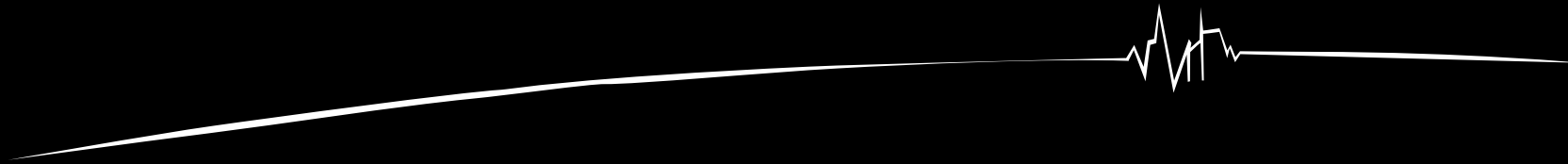


	Single-Tower Storage System		Double-Tower Storage System		Multi-Tower Storage System	
Specifications	3015	4020	3015	4020	3015	4020
No. of Storage Towers	1		2		upon request	
Min. Height (Standard)	4,920 mm	5,010 mm	4,920 mm	5,010 mm	upon request	
Max. Height (Standard)	8,040 mm	7,890 mm	8,040 mm	7,890 mm	upon request	
No. of Slots at Min. Height	11		28		upon request	
No. of Slots at Max. Height	27		60		upon request	
Max. Capacity per Slot	3,000 kg	3,000 kg (5,000 kg*)	3,000 kg	3,000 kg (5,000 kg*)	3,000 kg	3,000 kg (5,000 kg*)
Max. Loading Height for Raw Material	85 mm	50 mm (80 mm*)	85 mm	50 mm (80 mm*)	85 mm	50 mm (80 mm*)
Max. Stacking Height for Cut Sheets/Skeleton	150 mm	120 mm (140 mm*)	150 mm	120 mm (140 mm*)	150 mm	120 mm (140 mm*)
Max. Wooden Pallet Height for Cut Sheets/Skeleton	100 mm		100 mm		100 mm	
Required no. Slots for Raw Material	1		1		1	
Required no. Slots for Cut Sheets/Skeleton	2		2		2	

\* Option



## Partner



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