

ASTES<sup>®</sup>4  
next technology



**ASTES4<sup>®</sup>** is an independent company based in Balerna, in southern Switzerland, which brings together the most highly qualified professionals with experience in the field of industrial automation, mechanical design and automation software development.

**ASTES4<sup>®</sup>** is the only provider of comprehensive FMS solutions for the cutting process. This thanks to an innovative and patented system, which, for the first time offers a real "**SORTING**" automation.

**Our system can be interfaced and integrated with all systems and brands of cutting machines.** **ASTES4SORT** is unique in its capability to use both magnetic tools and pneumatic suction cups, granting unequalled flexibility and efficiency to the material handling and sorting process. The entire sorting process is managed by a user-friendly software that does not require the use of a programmer.



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Steve Jobs succeeded in making our lives easier and more interesting. I hope that our cutting edge technology **solutions at ASTES4<sup>®</sup>** will do the same.

*Gianpaolo Palladini CEO & Chairman*

# TECHNOLOGICAL STRENGTHS AND PRODUCT LINES

## **MECHANICAL DESIGN**

simple, reliable, fast, flexible, modular, energy conscious, low maintenance and high safety focused.

## **DESIGN SOFTWARE**

our software package "**SORTCAM**" is capable of interfacing both with CAD/CAM systems that usually manage cutting machines and with management or ERP systems for production planning. This is possible by selecting the appropriate libraries to use for the specific solution.

In this way we are able to guarantee the operations of loading, unloading and sorting in every situation.

## **SYSTEMS ENGINEERING DESIGN**

ASTES4® Systems engineering has the task of identifying tailored system solutions for the specific needs of the customer.

## **AUTOMATION TECHNOLOGY**

the individuals working for ASTES4® bring more than 20 years of experience, allowing the integration into ASTES4® of complementary technologies.

## ASTES4SORT

### Sheet Metal Working

ASTES4SORT unattended sorting applied to sheet metal cutting technologies



## ASTES4HEAVY

### Heavy Industry Metal Processing

ASTES4HEAVY handling & sorting automation technology applied to large and thick metal sheet cutting



## ASTES4COMPO

### Composite Materials Processing

ASTES4COMPO automatic sorting for 2D cutting technologies



## ASTES4CORE

### Magnetic Core Assembly

ASTES4CORE the solution for the automatic assembly of magnetic cores



### ADVANTAGES

#### INTERFACING

A4SORT can be interfaced and integrated with most brands of cutting machines and warehouses, whether newly installed or existing.

#### COMPATIBILITY

A4SORT captures files in the standard formats (e.g. ISO, DXF, DWG etc.) generated by CAD-CAM systems.

#### FLEXIBILITY

A4SORT can also use magnetic tools in addition to the traditional suction cups. The different magnets used by A4SORT can lift up very thick metal sheets of any shape.

#### TIMELINESS

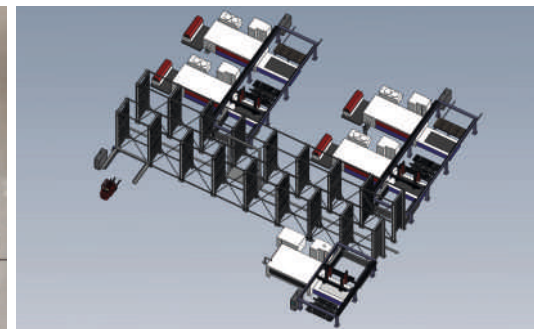
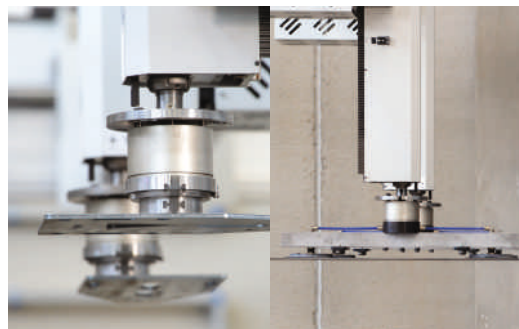
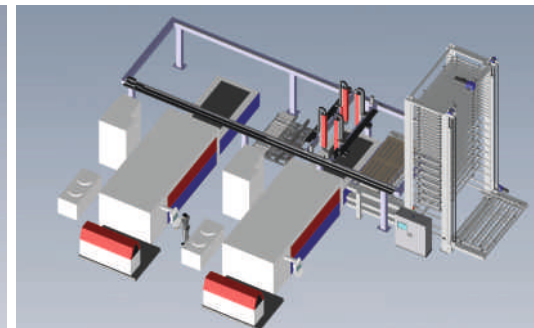
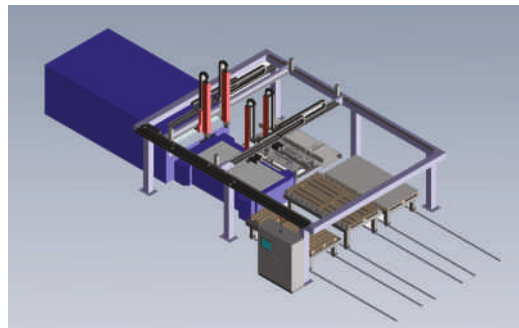
A4SORT ensures on-time delivery to the customer, due to reliable and predictable timescales, not affected by the work force human factor.

#### SIMPLICITY

The CAD-CAM independently optimizes nesting, improving its performance in making the best use of the materials to be cut.

**ASTES4SORT** (A4SORT) is an "Intelligent FMS" (Flexible Manufacturing System) - patented - specifically designed for sorting. **A4SORT** manages the loading of sheet metal up to 20 mm thickness and 8000 mm length and the sorting of single cut parts generated by 2D cutting machines. **A4SORT** is able to sort, move and stack cut parts of any shape, placing and kitting them for further use.

**A4SORT** can be fitted to new and/or already existing cutting systems. Due to its modularity, **A4SORT** can be easily installed in already-operative production sites. **A4SORT** effortlessly interfaces to automatic warehouses where sheet metal plates and cut parts pallets can be positioned.



**A4SORT** is applicable to all cutting processes where controlled, ruled and traceable production is required.

**A4SORT** is the combination of most advanced handling and picking technologies, managed by a powerful software able to grant maximum flexibility, productivity and repeatability integrated with ERP systems.



A4SORT easily integrates with the manufacturing process of different application fields. A4SORT is especially suited to complement laser-cutting system where specific request due to the increasing number of installations, flexibility in parts shapes and material thickness are required.

**ASTES4HEAVY (A4HEAVY)** is an "Intelligent FMS" (Flexible Manufacturing System) - patented - specifically designed for handling & sorting applications.

**A4HEAVY** manages loading of sheet metal over 20 mm thickness and over 8000 mm length and the sorting of single cut parts created by 2D Plasma cutting machines, CO2 and fiberlaser up to the thickness allowed by this technology.

**A4HEAVY** is able to sort, move and stack cut parts of any shape, placing and kitting them for further use.

## ADVANTAGES

### TRACEABILITY

Characteristic of the system is the ability to sort and mark the metal plates before cutting, ensuring the traceability of the cut parts before downstream further processing.

### SAFETY

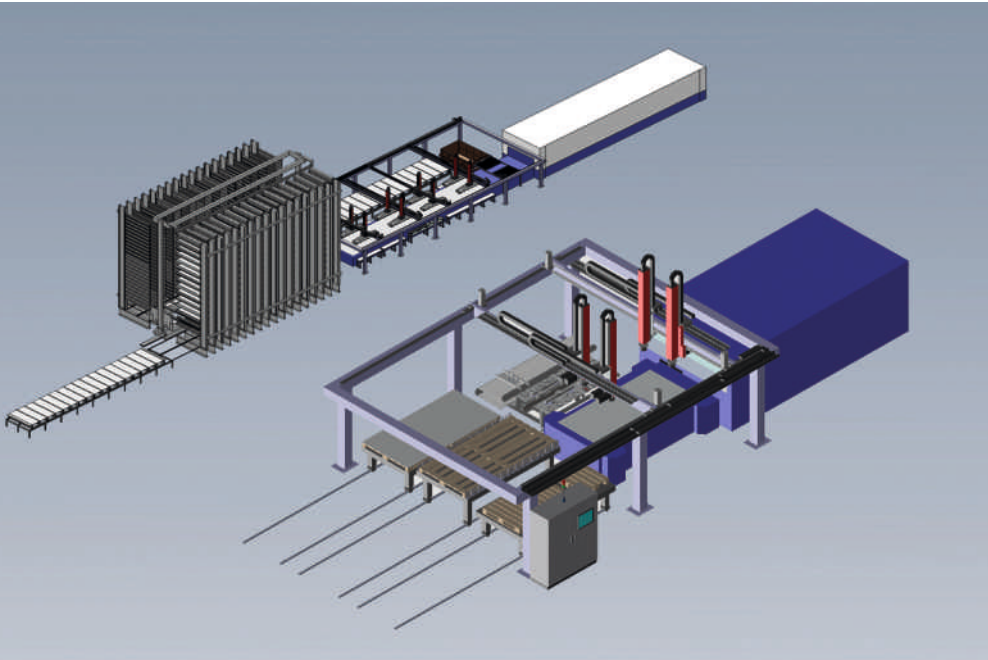
A4HEAVY ensures maximum safety for the handling of heavy parts involved in the cutting process.

### OPTIMIZATION

A4HEAVY, is able to manage multiple orders on the same plate nesting, together with the automated warehouses.

### COST-EFFECTIVENESS

A4HEAVY allows high autonomy of unmanned production. This means that the programming of cut can be made on 3 shifts.



Big metal plates used in heavy metal construction like bridges, shipbuilding, earth movement machines, oil & gas constructions are not a problem for A4HEAVY. A4HEAVY handles big plates with thickness over 50 mm and length over 18 meters and weights over 15 tons.

### ADVANTAGES

#### INTERFACING

A4COMPO can be interfaced and integrated with most brands of cutting machines and warehouses, whether newly installed or existing.

#### COMPATIBILITY

A4COMPO captures files in the standard formats (e.g. ISO, DXF, DWG etc.) generated by CAD-CAM systems.

#### FLEXIBILITY

A4COMPO is the only system using specially designed grippers for a safe and gentle grip of composite materials. This is necessary to avoid tensions and deformation of cut parts, ensuring high quality levels.

#### SUSTAINABILITY

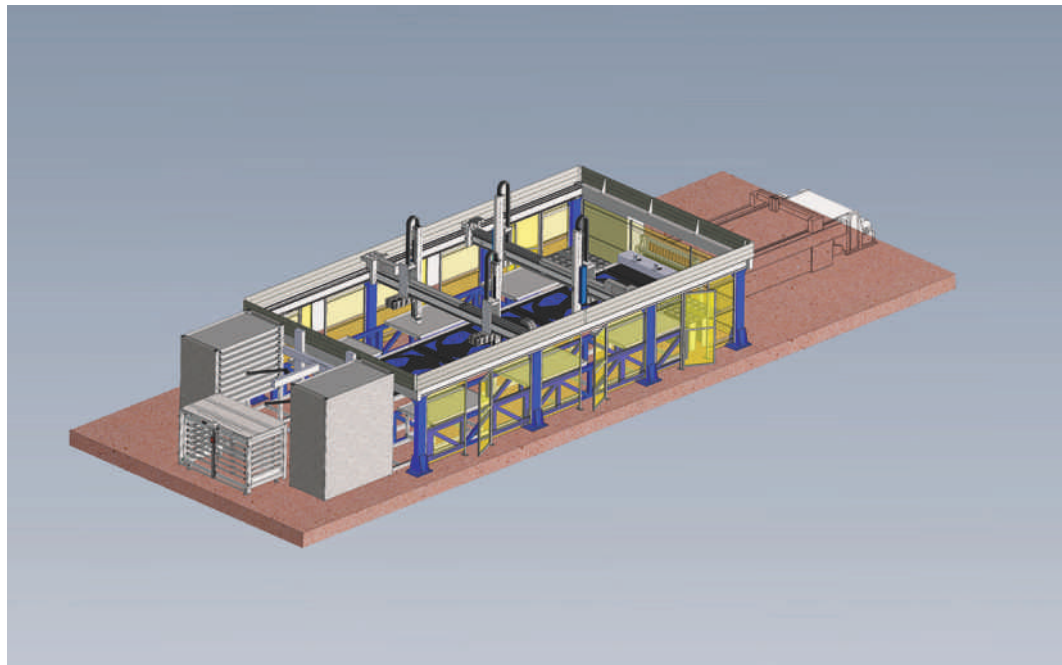
A4COMPO reduces energy consumption:

- Kinetic energy recovery
- Low compressed air consumption due to more tailored usage
- The speed of the loading and unloading cycle can automatically adapt to the speed of the cutting process, minimizing energy consumption.

**ASTES4COMPO** (A4COMPO) is an "Intelligent FMS" (Flexible Manufacturing System) – patented - specially designed for the sorting, kitting and stacking of dynamically nested plies.

**A4COMPO** can manage the sorting of single cut parts produced by 2D cutting machines in several application fields.

**A4COMPO** is able gently to pick up parts of any geometry, automatically sort, move and stack them for further processing.



**A4COMPO** represents the highest sorting and kitting technology ensuring maximum safety and quality of production.



A4COMPO is optimal for all industrial sectors in which composite materials are increasingly applied. For aerospace or automotive components, marine or train applications, technical textiles for sports or individual protection items, medical or electronic products.

**ASTES4CORE (A4CORE)** it is a fully automatic solution for the assembly of the single magnetic foils composing the cores of transformers and reactors, single phase and three phase and with 5 legs.

The assembly of the magnetic foils with **A4CORE** ensures a high degree of accuracy of the sequence with which the various cut parts are placed next to each other.

This grants better continuity in the ferromagnetic core, thus obtaining the best results in terms of total magnetic reluctance.



**ASTES4CORE** has been developed based on an exclusive ASTES4® property international patent.

## ADVANTAGES

### QUALITY

Improvement, repeatability and control of the building factor. Reluctance value and noise level limitation.

### EASY MANAGEMENT

On-line and off-line production. Touch screen control. Automatic model type change.

### PRODUCTIVITY

Stable efficiency and quality, controllable and repeatable.

### FLEXIBILITY

Set up time elimination, Automatic model change, No batch production constraint, fully automatic and real time gripping tools change and cut magnetic foils handling.



**ASTES4CORE** is applicable in the production of transformers of various types, such as distribution transformers, power transformers, traction transformers, furnace transformers, etc.



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PATENTED

