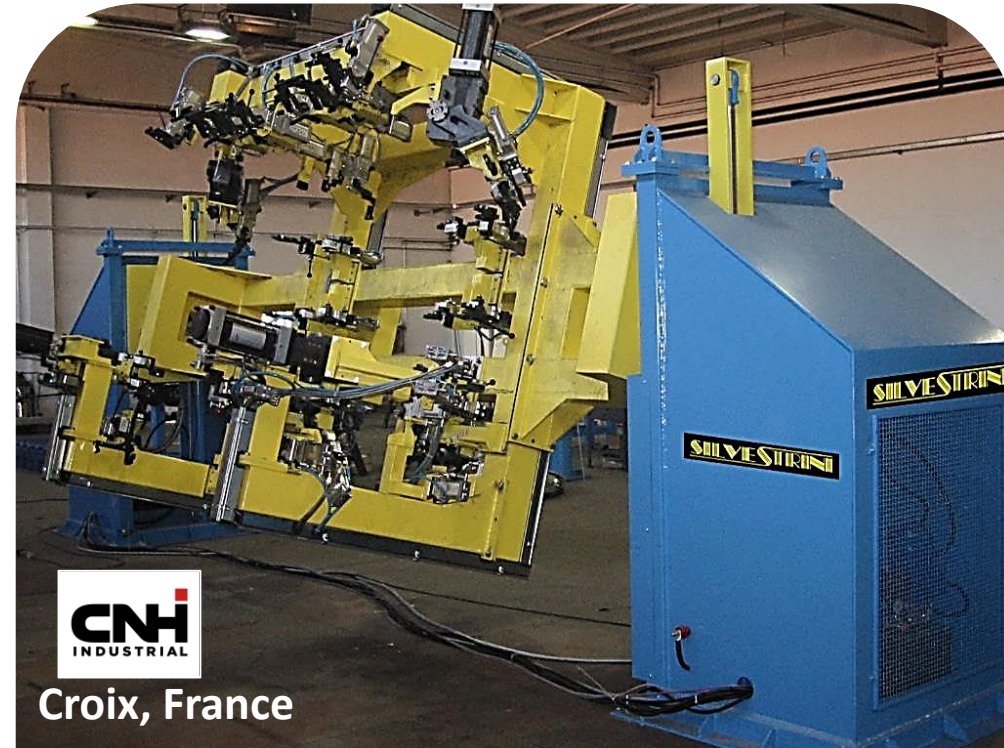
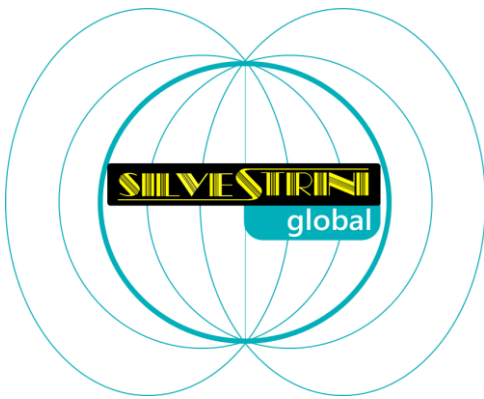
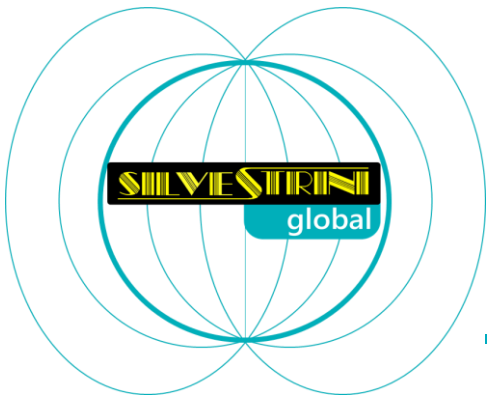




Introducing the SILVESTRINI organization

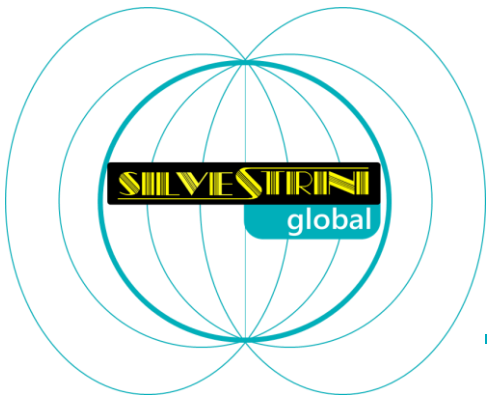
January 2022



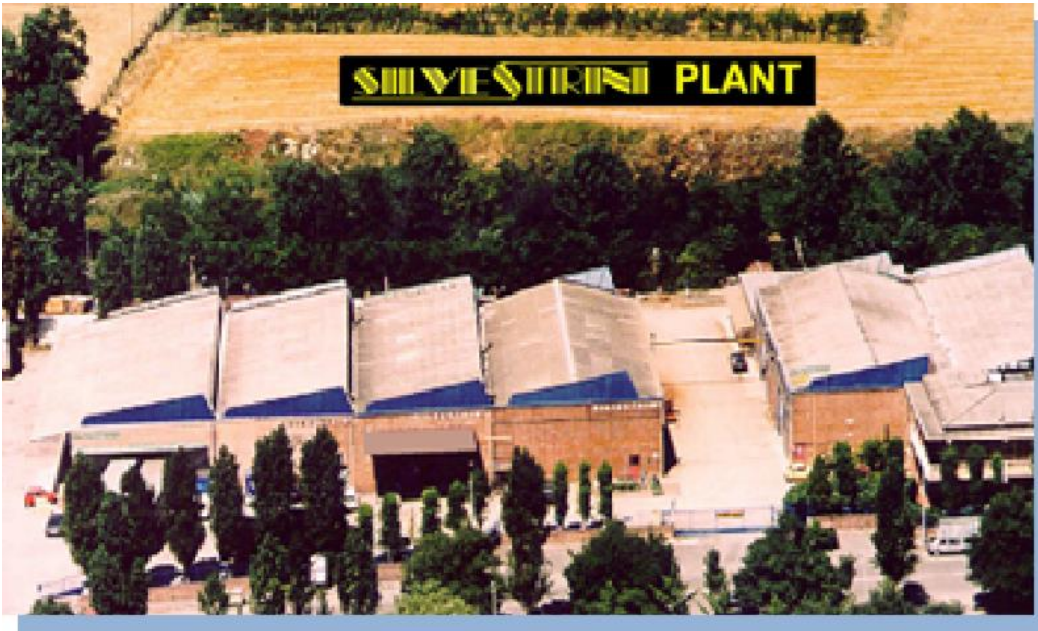


Agenda

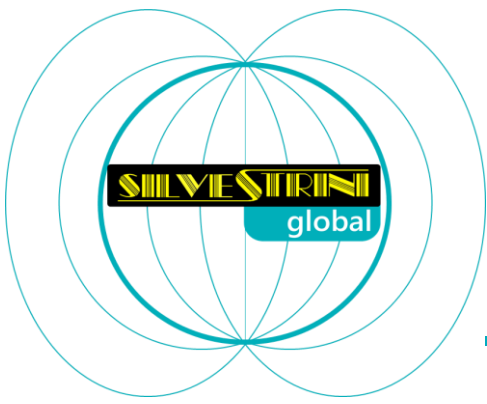
- Introductions
- Brief company history
- Company structure
- Main line of products – Applications
- Customized products
- Competitive advantages
- Q&A



Company History



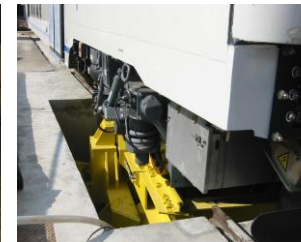
- *IMPIANTI SILVESTRINI* was founded in 1905 by Domenico Silvestrini, great-grandfather of Sandro Silvestrini, current CEO
- Four generations of accumulated know-how in industrial equipment manufacturing
- Mid 60's - Expanded buildings and offices into a 5-acre lot (20,000 m²), strategically located in Bologna, near railway station, highway, and international airport
- The mechanical and metal work sector expanded, and the successful Welding Positioner systems were launched
- Late 70's to Mid 80's – Introduced Welding and Manipulator Robotic systems as part of automation projects for the automotive and earth-movement sectors
- Early 90's – Started automation projects within the international railway sector, using state-of-the-art technology for building welding, positioning, and testing equipment
- Cont...



Company History



- **Since 2000** the Company has maintained a continuous improvement in performance:
 - **Certified ISO 9001.** Solid record on Quality System audits and customer satisfaction
 - Innovative product development, tailored to cutting edge customers' needs
 - Improved design efficiency using 3D CAD and FEA
 - Continuous upgrades to the equipment portfolio through improved performance, enhanced Safety Protocols, and the adoption of World-Class Maintenance system, etc.
 - **Main Projects over recent years** include the build and commission of:
 - Wheel Loader assembly line at CNH Turin, Italy
 - Three assembly plants for tractor cabs at CNH Jesi, Italy
 - Railway trolley manipulation and test system for rotation and pitch. 60 MT



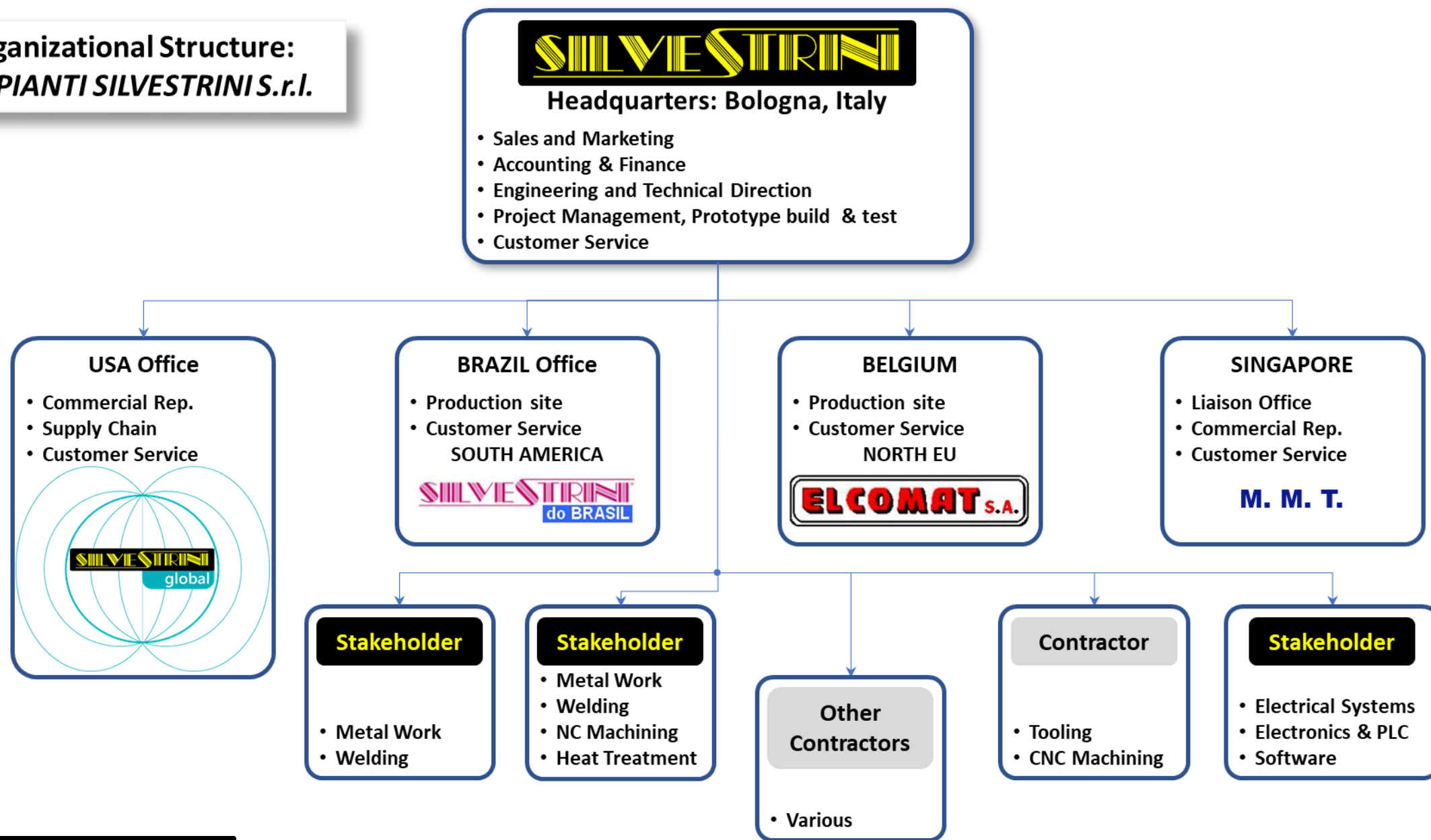
IMPIANTI SILVESTBINI S.r.l.
Via Della Cooperazione, 28/a,b/c,d,e
40129 BOLOGNA ITALY
Tel. +39 051 322273 Fax +39 051 327937
e-mail: info@silvestrini.com

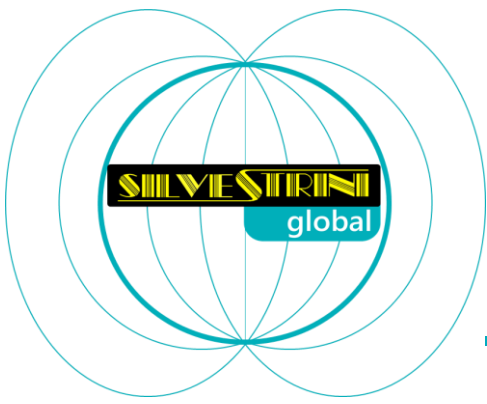


IMPIANTI SILVESTBINI S.r.l. VIA DELLA COOPERAZIONE, 28/a,b/c,d,e 40129 BOLOGNA		CE
Mod.	Revisione	
Matricola	Clienti:	
Anno di costruzione		

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Organizational Structure:
IMPIANTI SILVESTRINI S.r.l.





WELDING POSITIONERS

HEAVY DUTY HYDRAULIC WELDING POSITIONERS WITH ROTATING TABLE

Two-axis Positioners – Type: SA

Load Capacity: 0.1MT to 50 MT (0.1 to 55 ton)

Axes:

➤ **Rotation:**

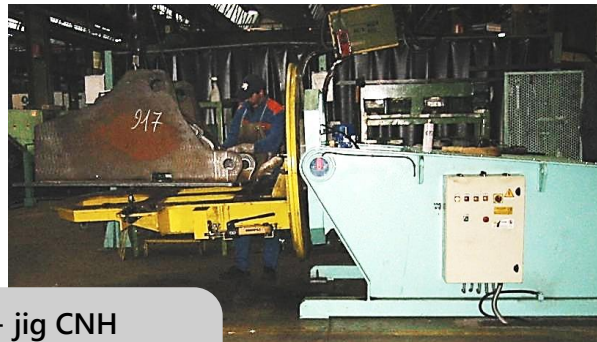
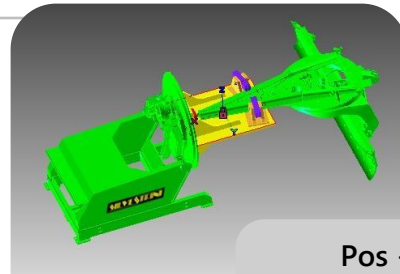
- Hydraulic or electric gear motor
- Self compensated on pressure / temperature valve
- SILVESTRINI Patent
- Provides Constant Torque at very low to high r.p.m.

➤ **Tilting:**

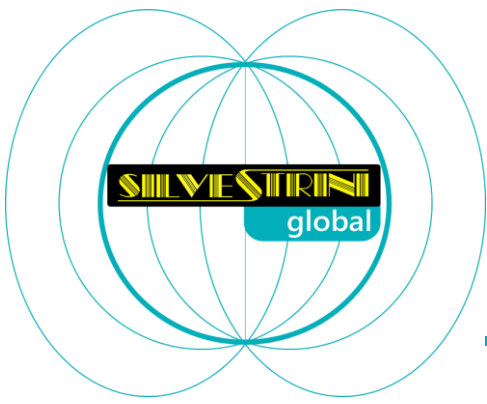
- Piston using proprietary (IP) valves
- A Fail-Safe System immediately stops the table from tilting, in case of a hydraulic hose or piston failure



50MT - Venice MOSE Project bulkhead positioners



Pos + jig CNH



WELDING POSITIONERS

HEAVY DUTY HYDRAULIC WELDING POSITIONERS WITH ROTATING TABLE

Three-axis Positioners – Type: AVSA and ORBIT

Load Capacity: 0.1MT to 40 MT (0.1 to 44 ton)

Axes:

➤ **Rotation:**

- Hydraulic or electric gear motor
- Self compensated on pressure / temperature valve (SILVESTRINI proprietary)
- Provides Constant Torque at very low to high r.p.m.

➤ **Tilting:**

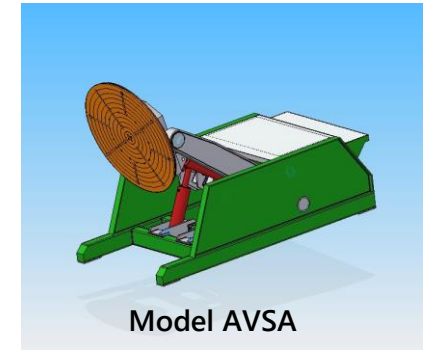
- Piston using proprietary (IP) valves or gearbox
- A Fail-Safe System immediately stops the table from tilting, in case of a hydraulic hose or piston failure

➤ **Vertical Displacement a.k.a Lifting**

- Piston using proprietary (IP) valves
- A Fail-Safe System immediately stops the table from moving, in case of a hydraulic hose or piston failure



AVSA Doosan car body



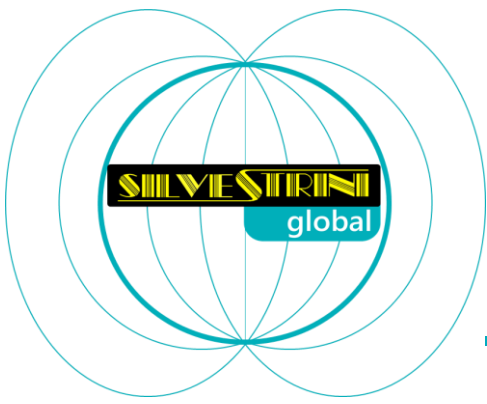
Model AVSA



AVSA Car body positioner cell CNH



AVSA 280 Turbine Positioner



WELDING POSITIONERS

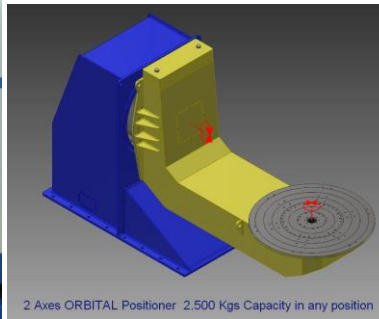
HEAVY DUTY HYDRAULIC WELDING POSITIONERS WITH ROTATING TABLE

2 / 3-Axis Positioners – Type: ORBIT

Load Capacity: 0.1MT to 20 MT (0.1 to 22 ton)



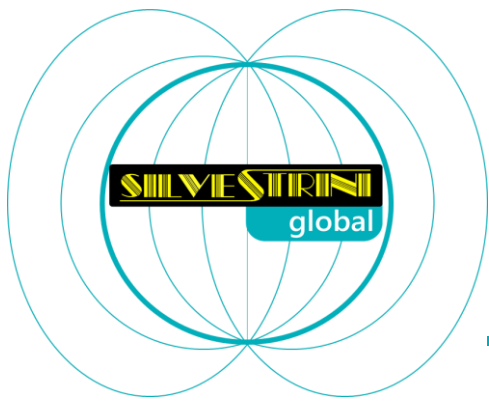
2-axis Orbit – Robot interface 2 MT



2 axes Orbit 2,5 MT



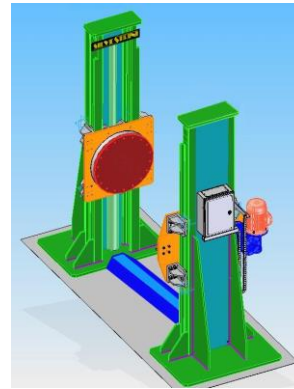
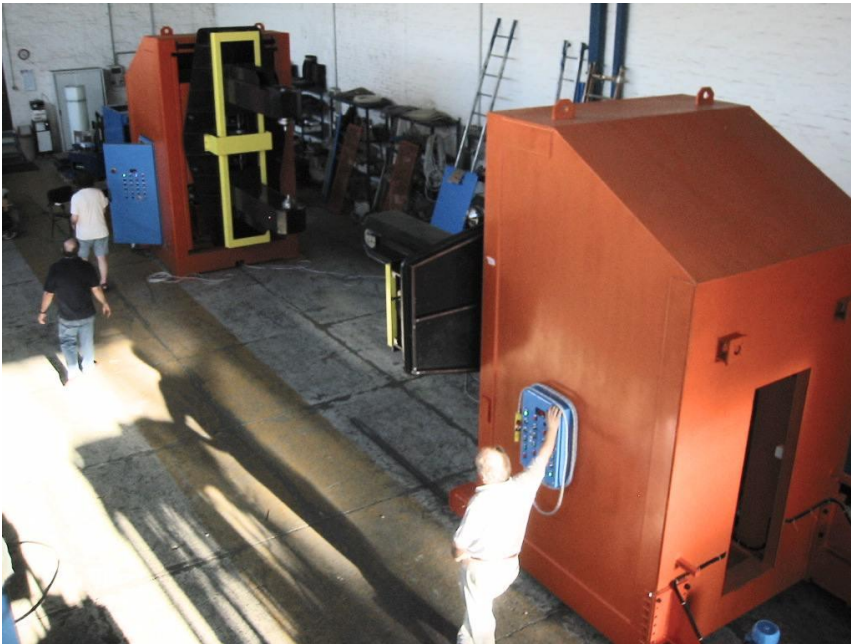
3-Axis Orbital Welding Positioner 10MT – Hitachi Car Body



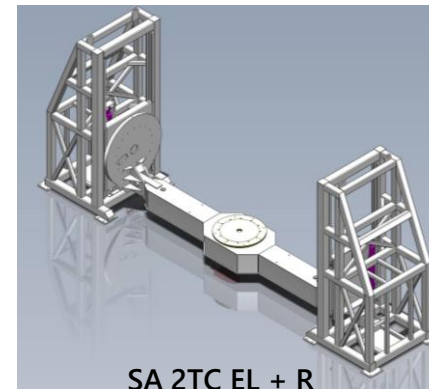
WELDING POSITIONERS

HEAVY DUTY HYDRAULIC WELDING POSITIONERS WITH ROTATING TABLE

2 / 3 – Axis Positioners – Type: SA 2 TC



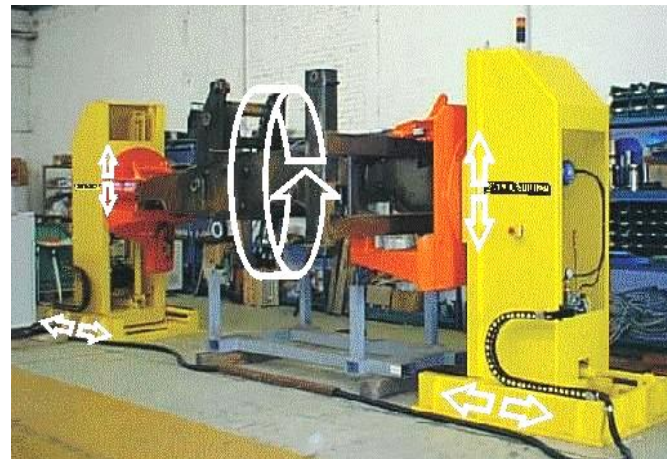
SA 2 TC EL 3,5 MT



SA 2TC EL + R
20 MT – ISO Structural



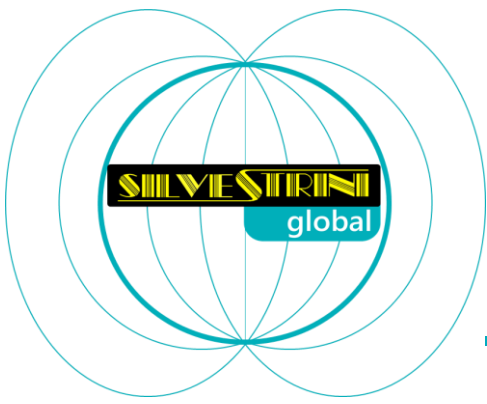
Car body 02 type welding positioner



Komatsu FKI Frame Assembly



Welding positioner Boom Line + jig CNH

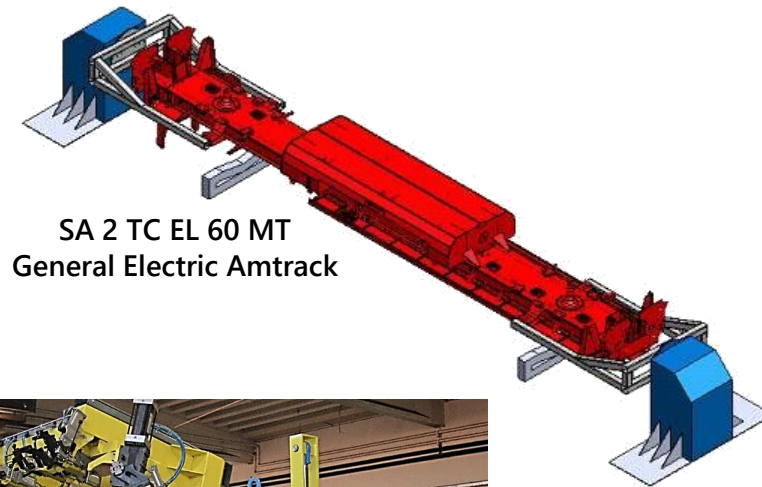


Special Customized POSITIONERS

CUSTOMIZED POSITIONERS FOR SPECIALIZED APPLICATIONS



SA 2 TC - Welding Big Boom positioner



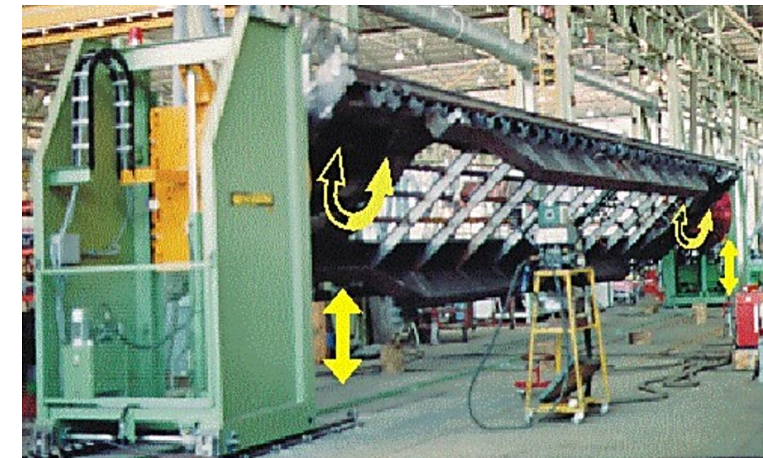
SA 2 TC EL 60 MT
General Electric Amtrack



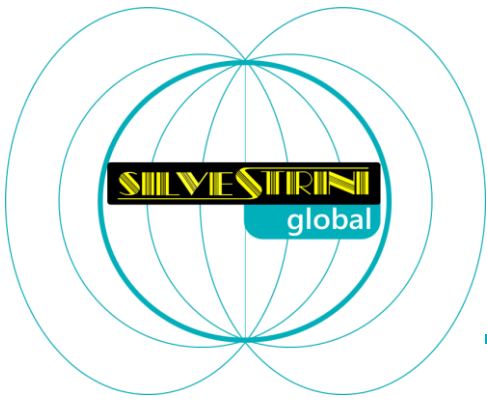
SA 2TC Cabin Robotic Welding positioner + Jig CNH



SA 2TC EL 30 MT positioner



SA TC EL 15 MT positioner



ROTATOR POSITIONERS

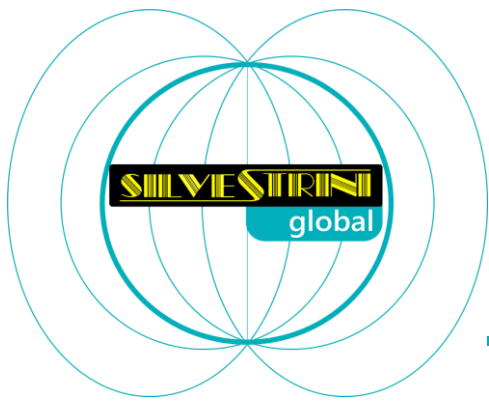
ELECTROMECHANICAL ROTATORS POSITIONER MODEL SARE

Load Capacity: 5 MT to 800 MT (5 to 880 ton)
Main Application: Large tanks and tubes welding



Rotator Positioner

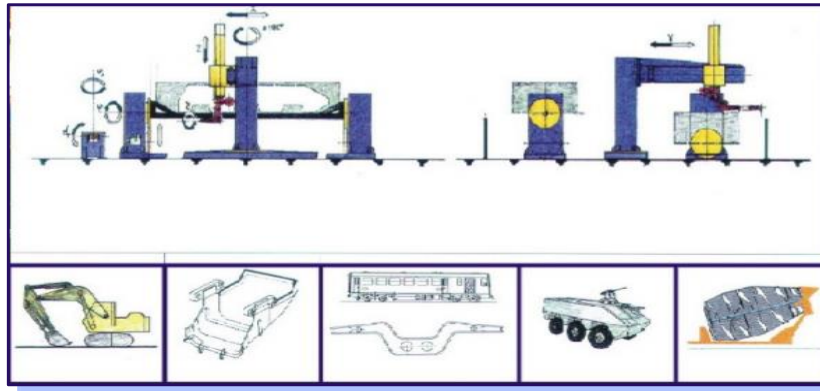




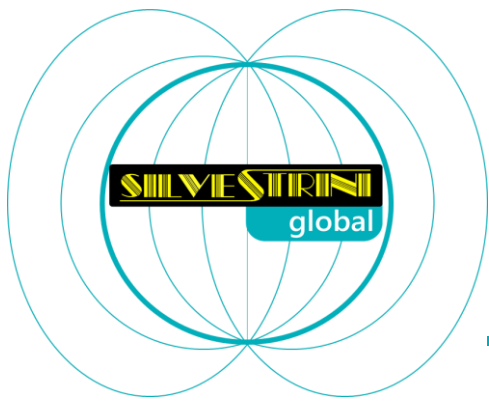
ROBOTIC SYSTEMS

ROBOTIC SYSTEMS FOR WELDING AND ASSEMBLING

- We have been Robotic Systems integrators since 1990 as first tier and second tier supplier to the Automotive and Defense industry
- As a reference, some of our customers and projects include:
 - RIVA TECHINT: Laser welding
 - FIAT Group (Cromodora): Catalytic silencer
 - FIAT, Renault, Peugeot, Jaguar, Yamaha: Manufacturing Manipulation Cells
 - ALCOA, ALSTOM, ALENIA/OTO MELARA, FIAT SAVIGLIANO, LEMMERZ, and others: Robotic Cells for Earth-Moving equipment and Welding systems for Defense applications
- We use the best Robotic equipment available, as: ABB (ESAB), Kuka , Fanuc, Hitachi, and other as required by customer



Biggest EU robotic installation for Defense

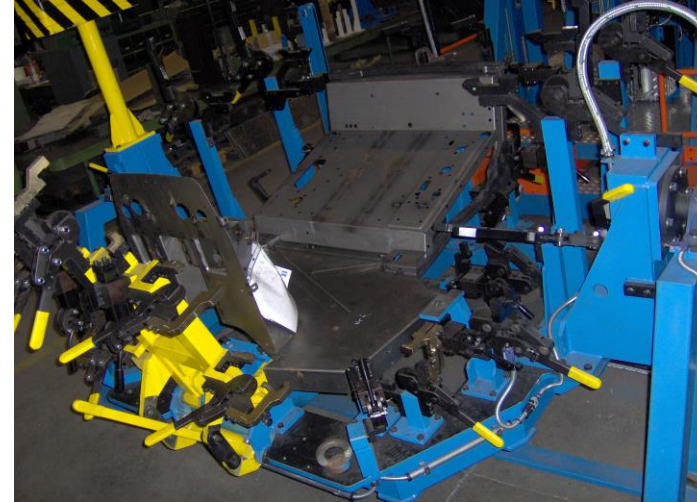


ROBOTIC SYSTEMS

Gauge Control

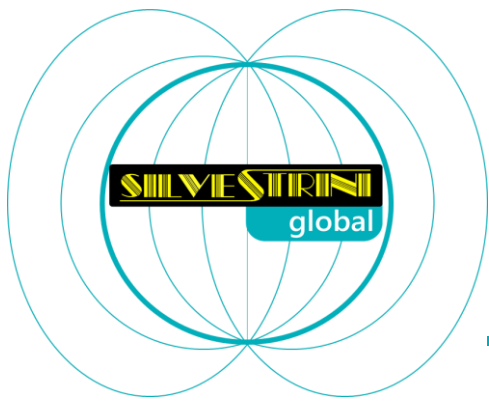


**Platform
Preparation
Equipment**



**Harvester
Assembly
Equipment**





ROBOTIC SYSTEMS

WHEEL LOADER ASSEMBLY LINE

Load Capacity: 10MT

CNH
INDUSTRIAL
Torino, Italy



Wheel loader part loading and unloading,
including transport cart

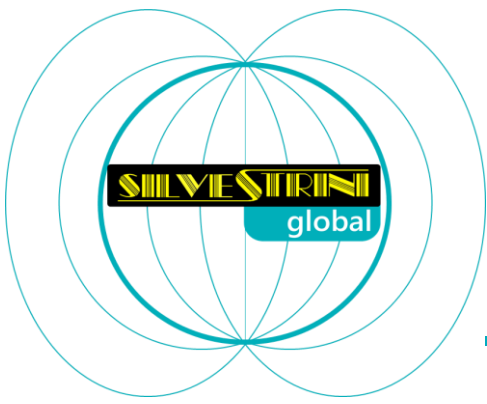


Wheel loader - Universal service cart –
All types



Wheel loader assembly line – initial step

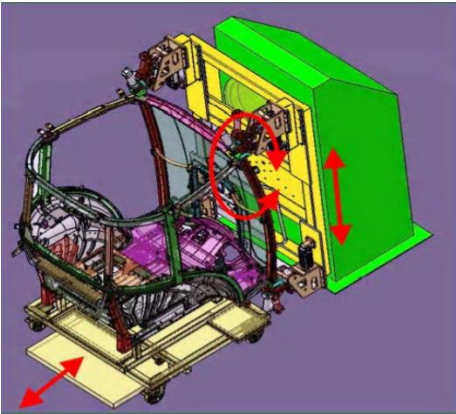
SILVESTRINI



ROBOTIC SYSTEMS

AGRICULTURE TRACTOR CABIN ASSEMBLY LINE

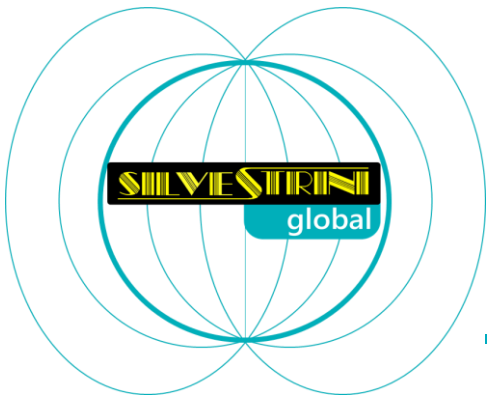
CNH
INDUSTRIAL
Jesi, Italy



Positioner and Gripper

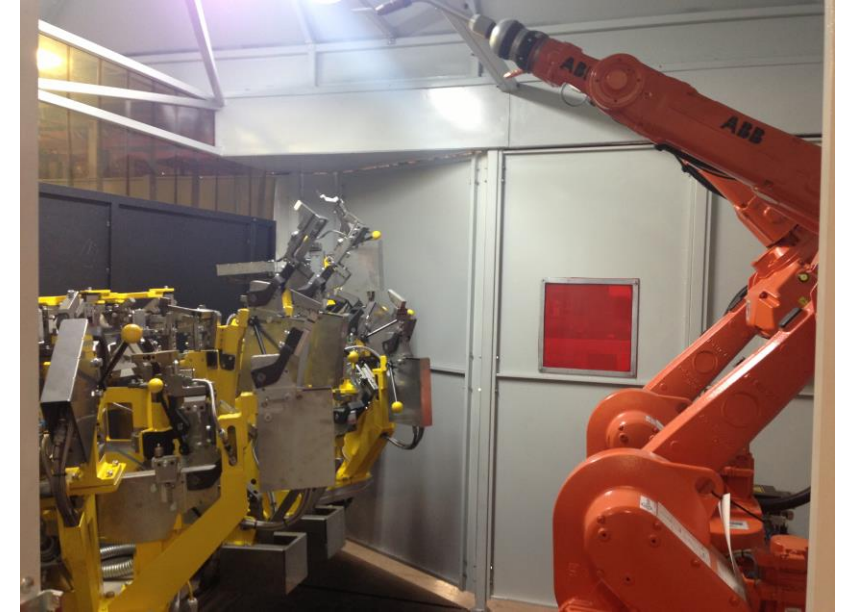
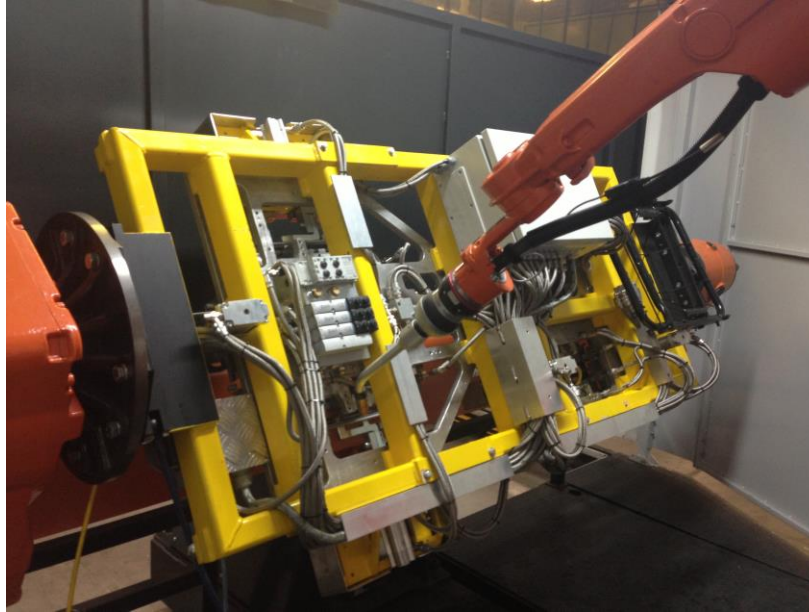


Cart



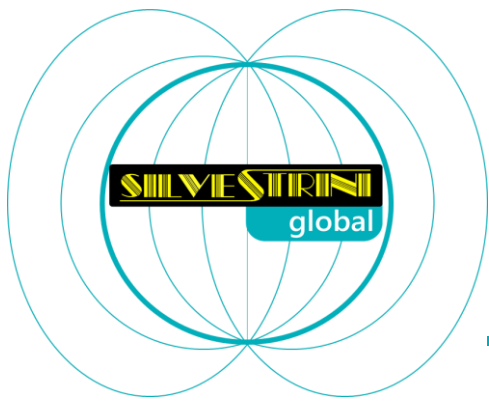
ROBOTIC SYSTEMS

CO₂ Welding Cell



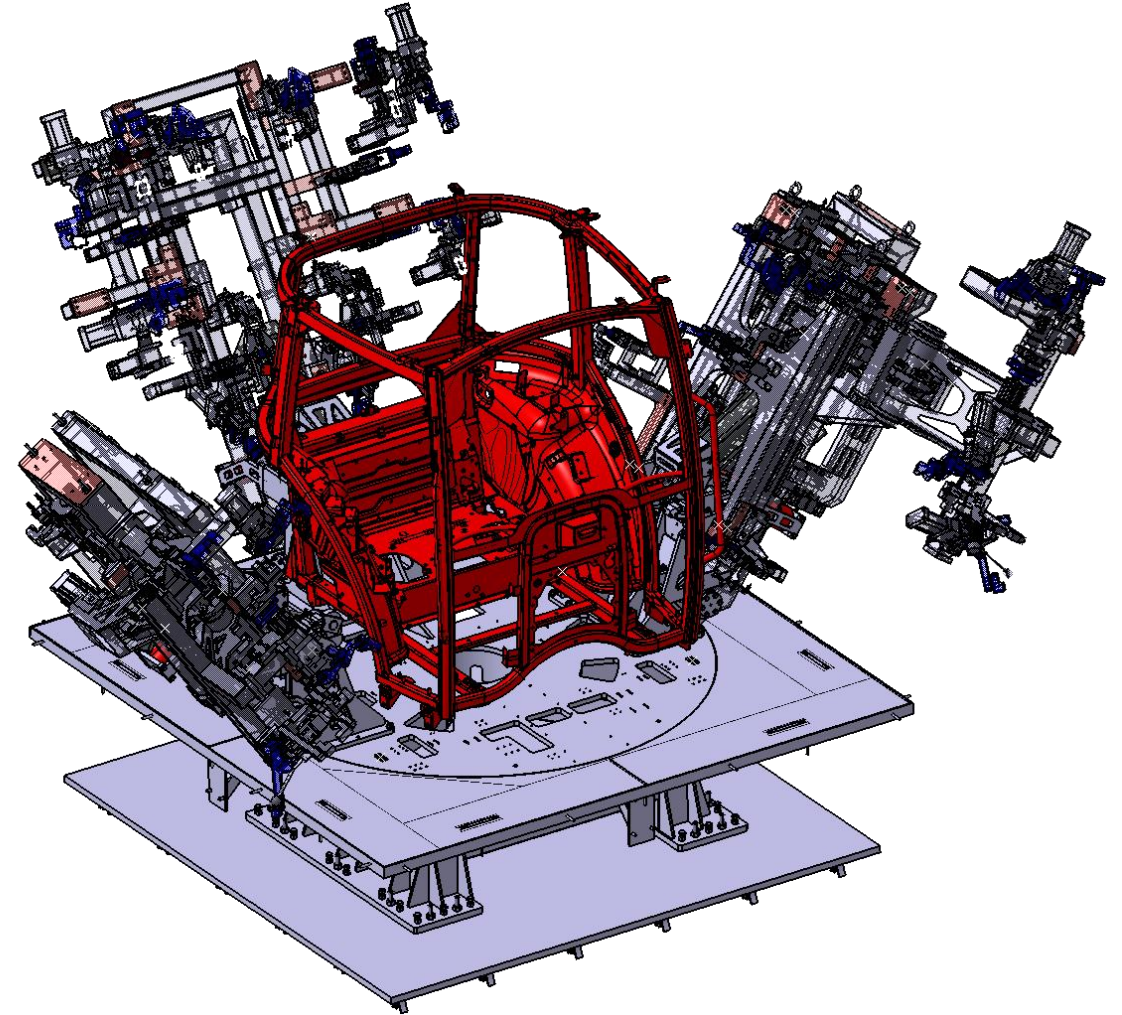
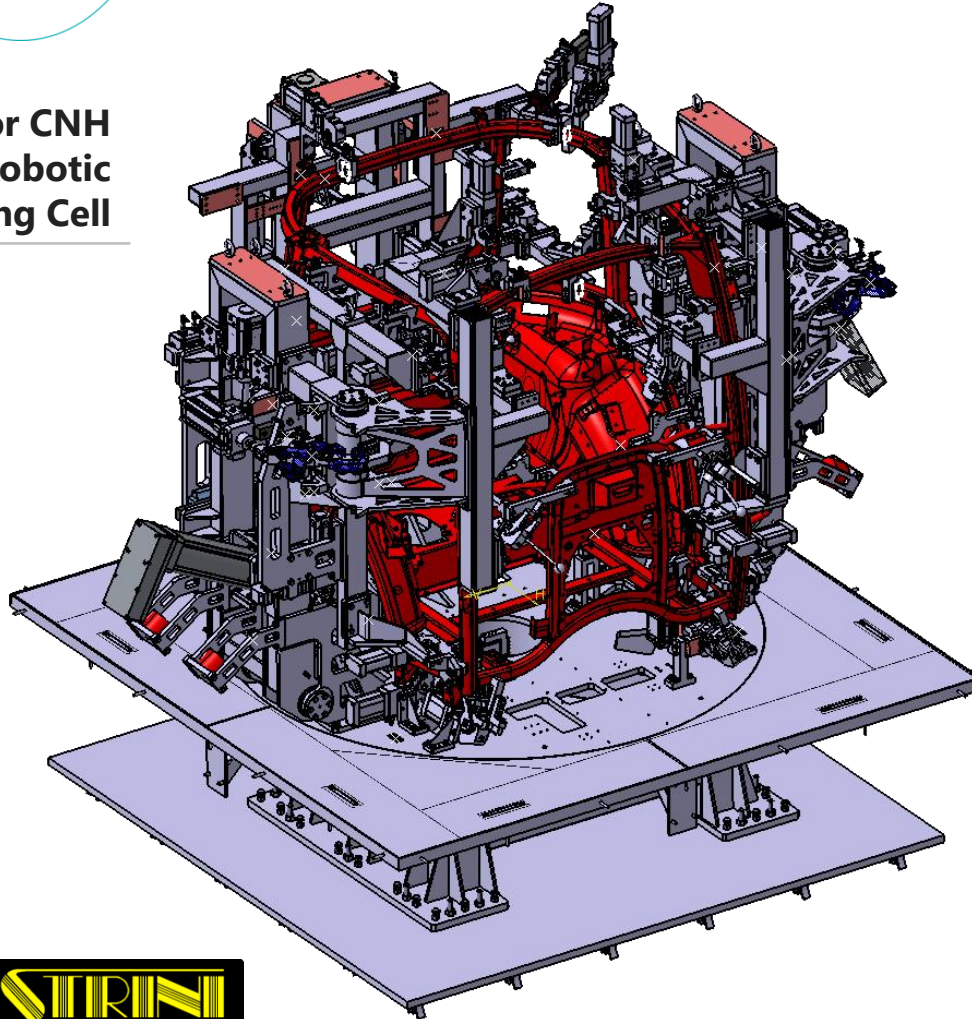
Among our main customers:

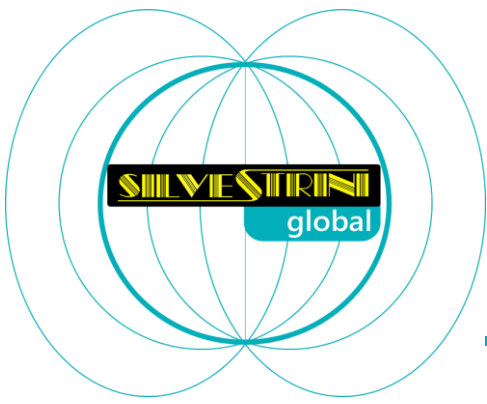
- **IVECO** **Group**
- **CNH** **Group**
- **AGCO** **Group**
- **SAME DEUTZ - SDF** **Group**



ROBOTIC SYSTEMS

Equipment for CNH
Cabin Robotic
Welding Cell

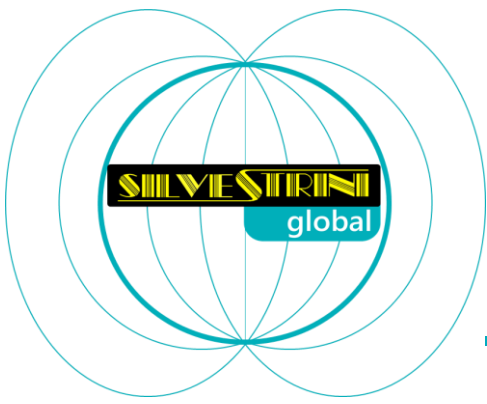




Special Vehicles: Defense

Support on Design and Technical Documentation in different platforms for prototype build





POSITIONERS

CUSTOMIZED POSITIONER



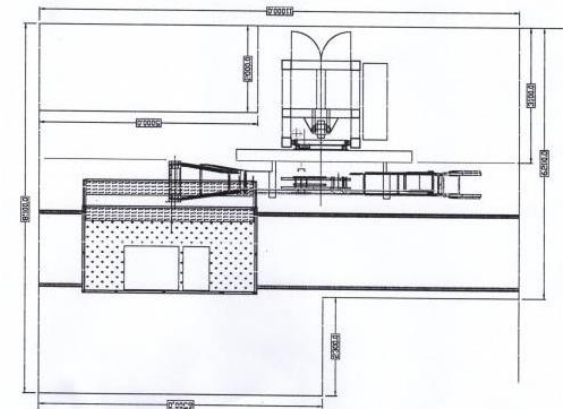
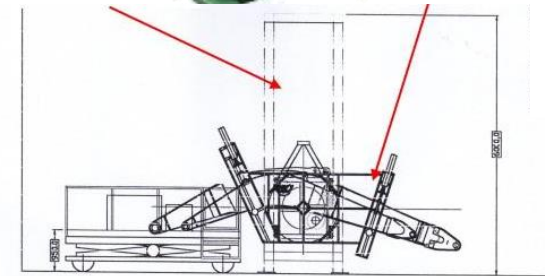
SA 2 TC EL Boom Welding positioner +
Jig CNH



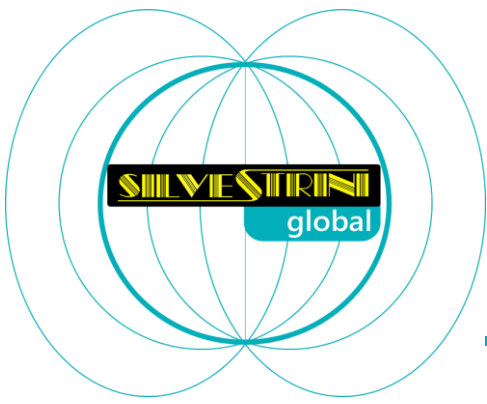
Special_barrel type_SAR E CD
CNH



Welding positioner + jig CNH



Special_barrel type_positioners CNH

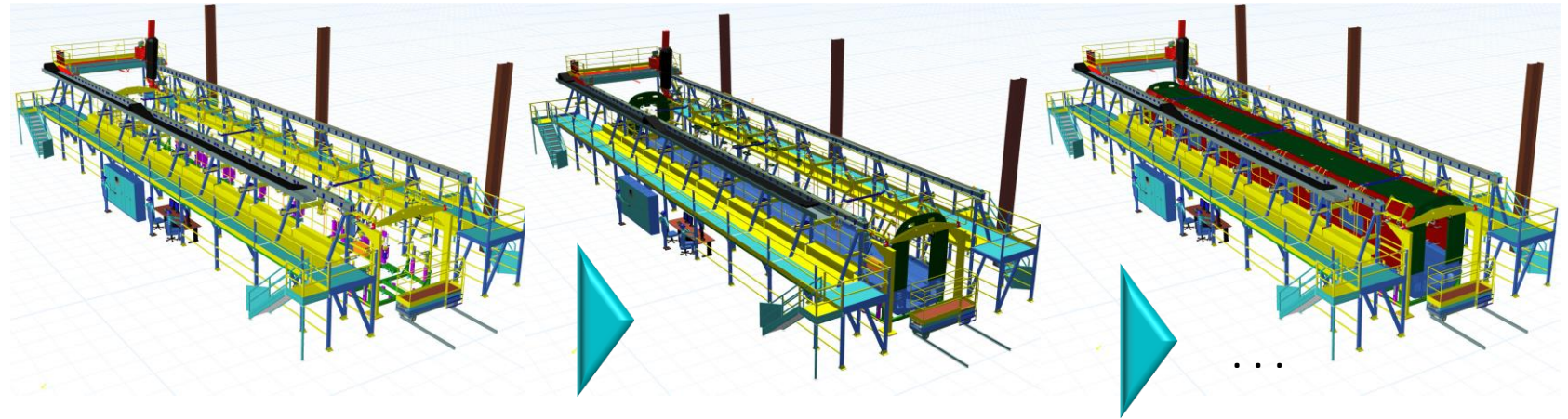


ROBOTIC SYSTEMS

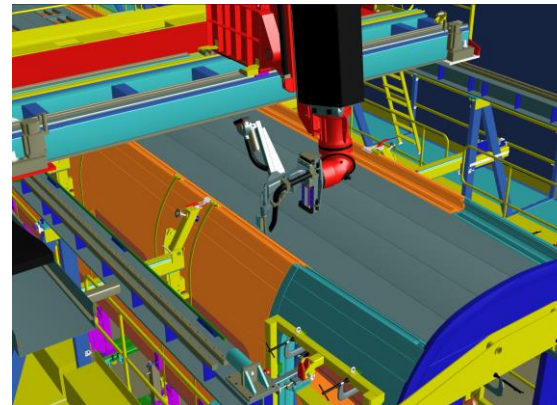
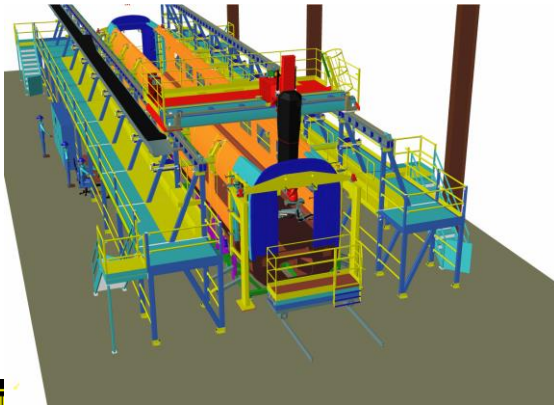
RAILROAD COACH SPOT WELDING ROBOTIC SYSTEM

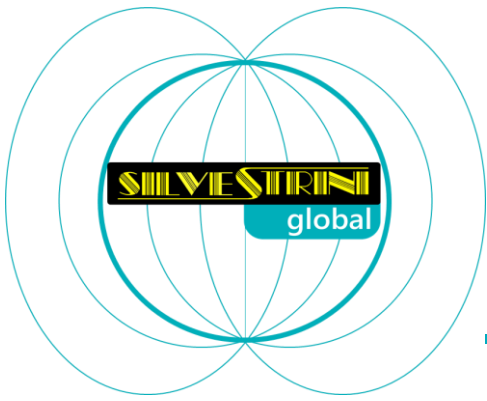
Special Railroad application includes:

- Robot
- Jig Assembly Coach
- Complete “Cathedral” in collaboration with Bisiach & Carrù



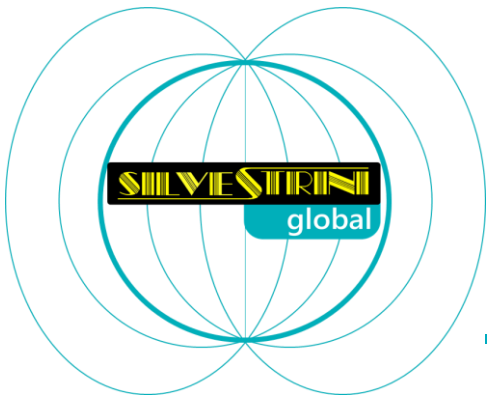
...





Competitive Advantages

- More than 100 years servicing our customers, with excellent performance
- Global presence and customer assistance
- Outstanding product quality supported by an accredited documentation system and standards
- Proven high equipment reliability and longevity, according to customer feedback, while operating at rated capacity



Contact us

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+39 (335) 847-2477

Brazil: Marcelo Luchetti
+55 1999 157-7452

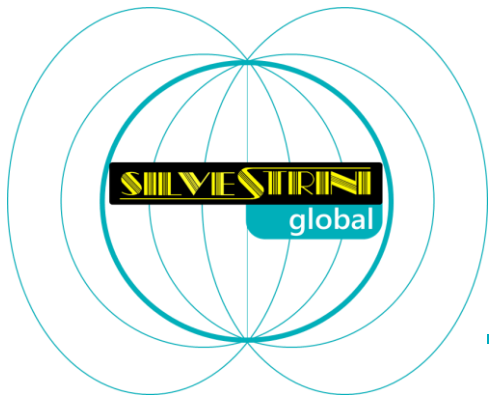
E-mail: info@silvestrini.com

Visit our webpage:
www.silvestrini.com

Reference links:

<https://www.youtube.com/watch?v=NAGDLSGFAD0>

<https://www.youtube.com/watch?v=Bsrml8hw1Ew>



Q&A

THANK YOU !

Grazie