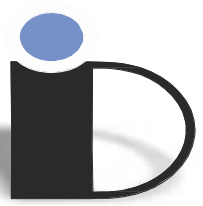


Dadu
Industries
Robotics & Automation





Introduction



DADU INDUSTRIES
Industrial Robotics & Automation
Solutions and Services

Dadu Industries

Sumeet Goyal
BE Mechatronics

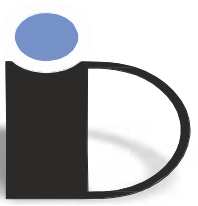
326, Madhav Darshan, Waghawadi Rd,
Bhavnagar, Gujarat 364001, India
0278 2420182 ☎ 0278 3001151
sumeet@daduindustries.com ✉ +91 9824224333
www.daduindustries.com

- Robotic Applications
- Turnkey Projects
- Welding SPM
- Slides & Gantries
- Low-cost Automation
- Industrial Robot Training
- Robot Spares



Scan to view our Website!





DADU
INDUSTRIES

INNOVIC
TECHNOLOGY

ROBOTIC
APPLICATIONS

WELDING SPM

ASSEMBLY
SPM

LCA
PROJECTS

SERVICES

- Arc Welding
- Spot Welding
- Plasma Cutting
- Palletizing
- Handling

- Rotators
- Positioners
- Column Boom Manipulators

- Bush Pressing
- Pop Riveting
- SPR
- SEF

- Stud Counter
- Pokayoke Panel

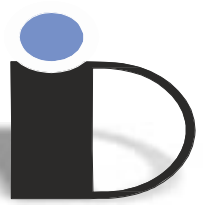
- Retrofit
- Used Robots
- Robot Training
- Preventive Maintenance
- Line Relocation



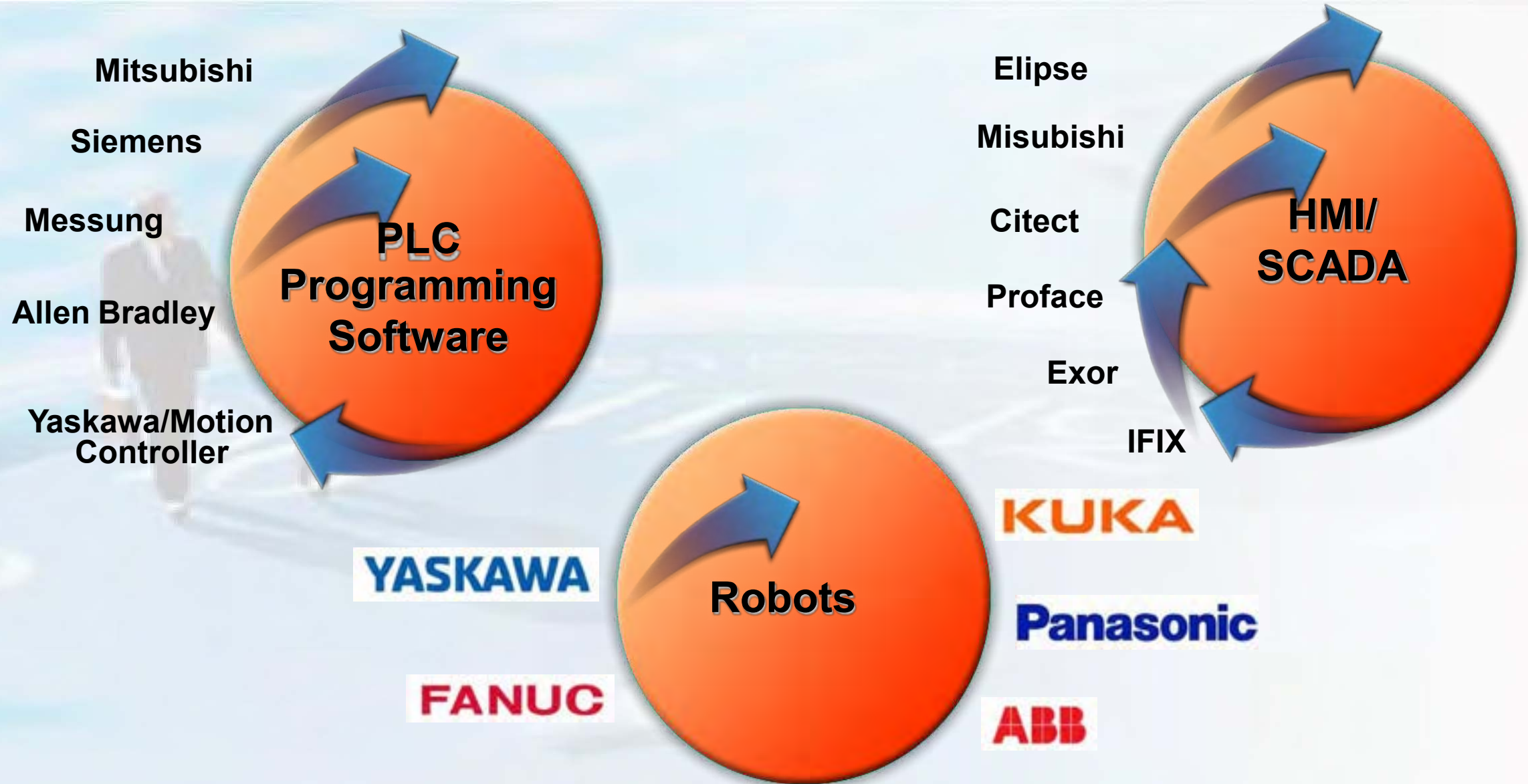
STANLEY

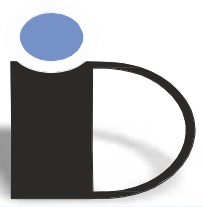


Please visit www.daduindustries.com for more details



Working with the following Automation components

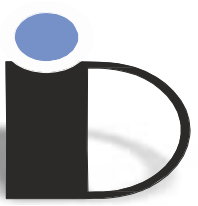




Our Offerings to the Industry (Target Industry)

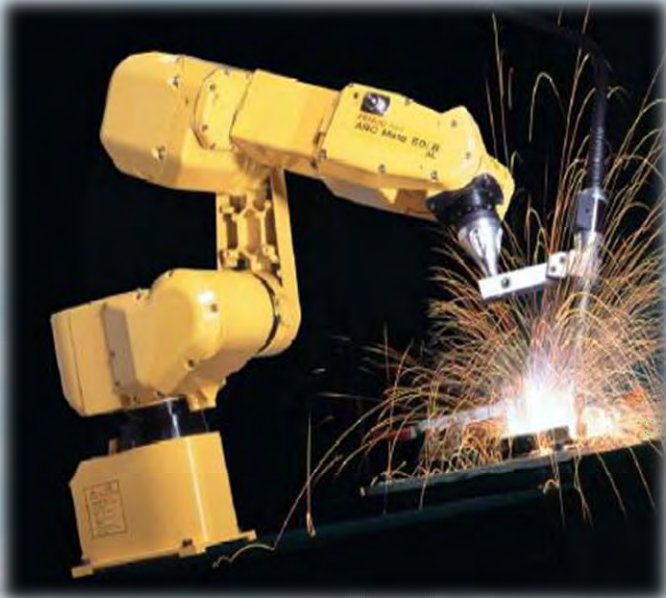
**DI contributes towards
manufacturing of following**





Robotics Application Expertise

Turn-Key Solutions



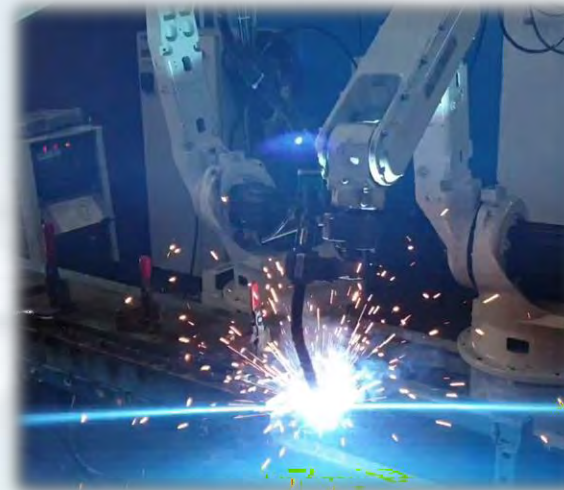
Arc Welding

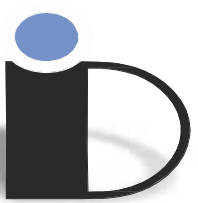
Spot Welding

PLASMA Cutting

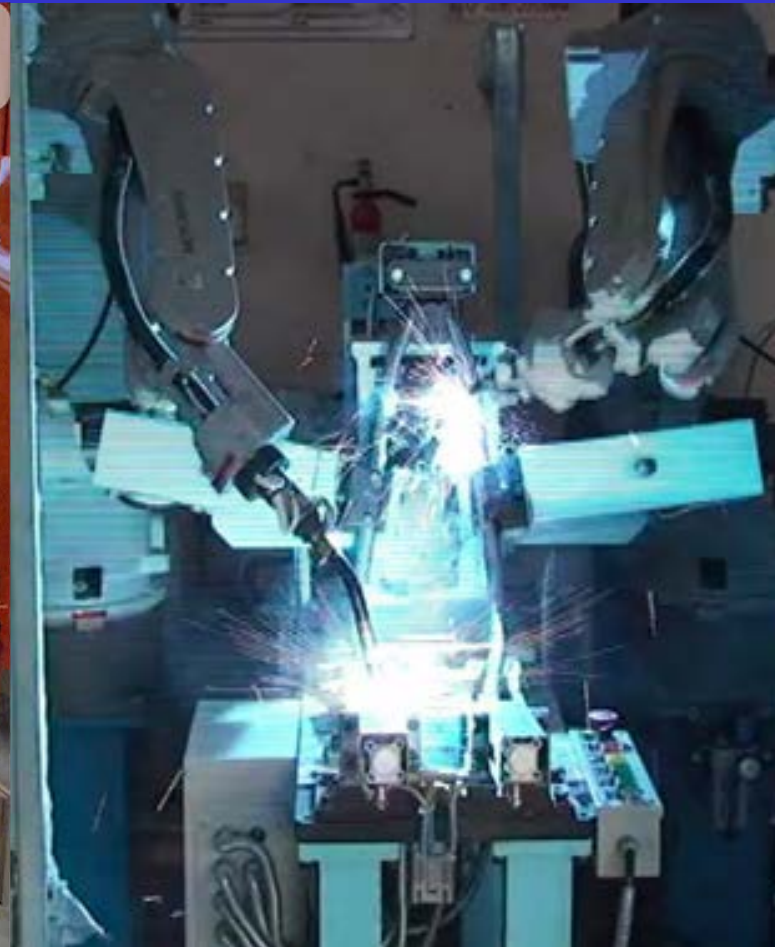
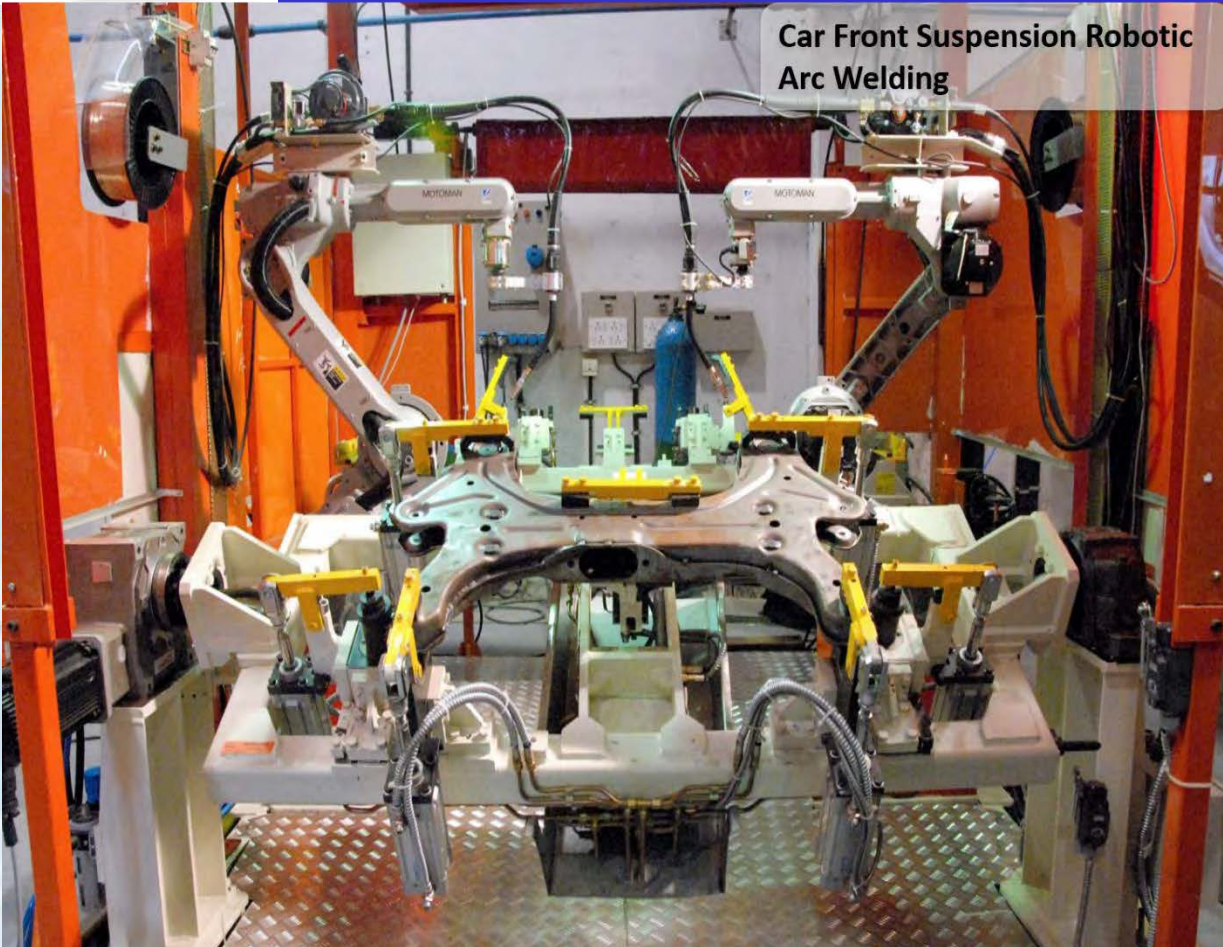
Material Handling

Palletizing





Robotic Arc Welding



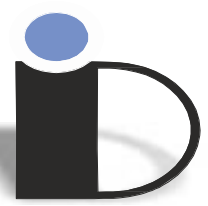
PART NAME		WELDING PENETRATION TEST RESULT REPORT					
SR. No.	Section No.	Photo of Section	Description of Parts	Required Value/Min	Actual Value	Result	
1	1 LH		Pipe Bush Trailing Arm (1*2.0)	a * WMT	2.100	4.127	OK
				b * NPW	2.100	5.095	OK
				av * NPCh	0.360	1.001	OK
				ah * NPW	2.100	5.468	OK
2	2 LH		Trailing Arm (1*2.7)	ah * NPCh	0.360	0.701	OK
				a * WMT	2.100	4.255	OK
				b * NPW	2.100	6.141	OK
				av * NPCh	0.360	1.160	OK
		Trailing Arm (1*2.7)	ah * NPW	2.100	4.679	OK	
			ah * NPCh	0.360	0.701	OK	



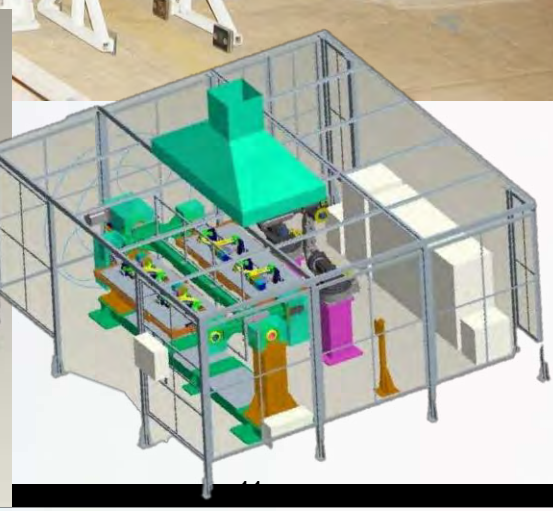
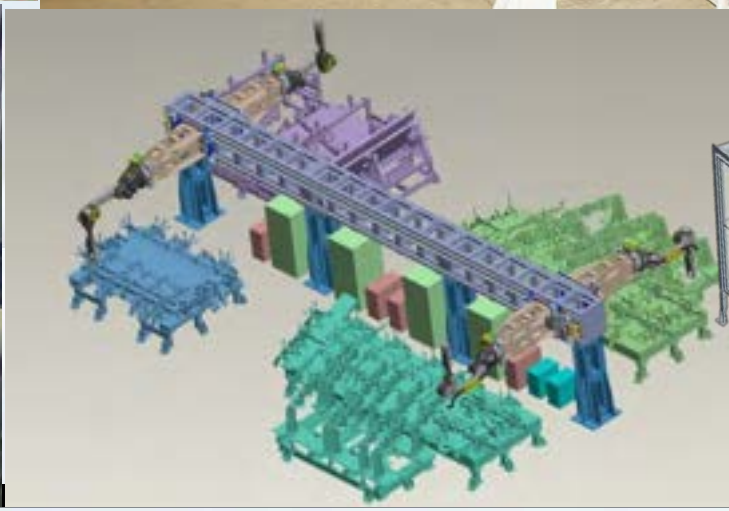
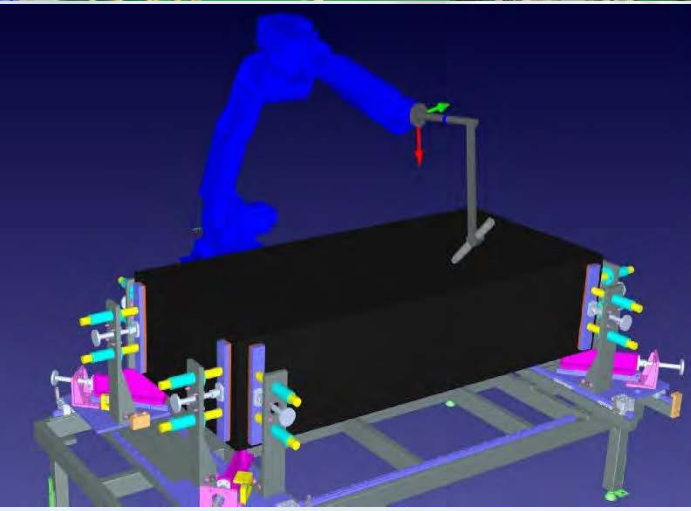
- Robotic Welding fixtures & Welding positioners
- Manual Welding jigs and fixtures
- MIG/TIG welding of Automotive, General Engineering & Structural components
- Experience with touch sensing and Seam tracking jobs

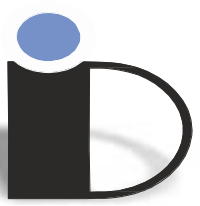
DI provides turnkey solutions in Robotic Welding (MIG, TIG) and complete production lines for :

Pedal Box, Rear & front suspension, Lower Control Arm, Chassis, 2W downtube chassis, Tipper Body and other various underbody, automotive and engineering components.

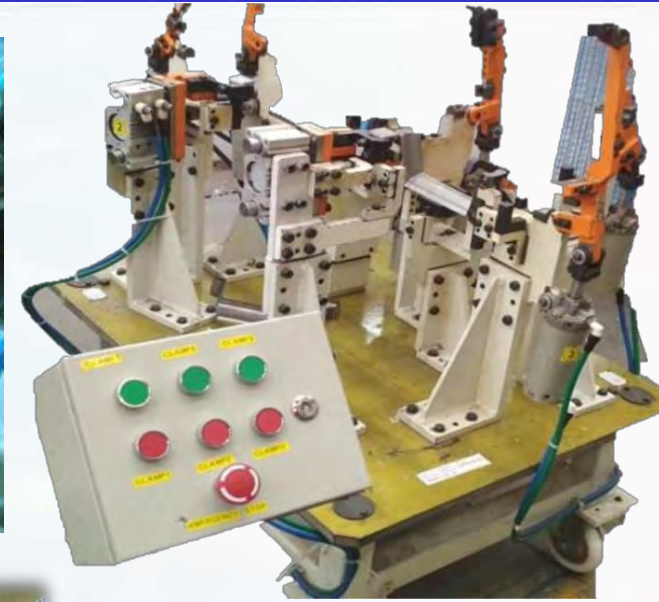


Robotic Welding (MIG, MAG & TIG)

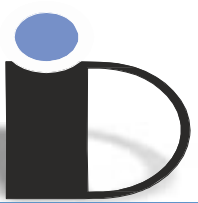




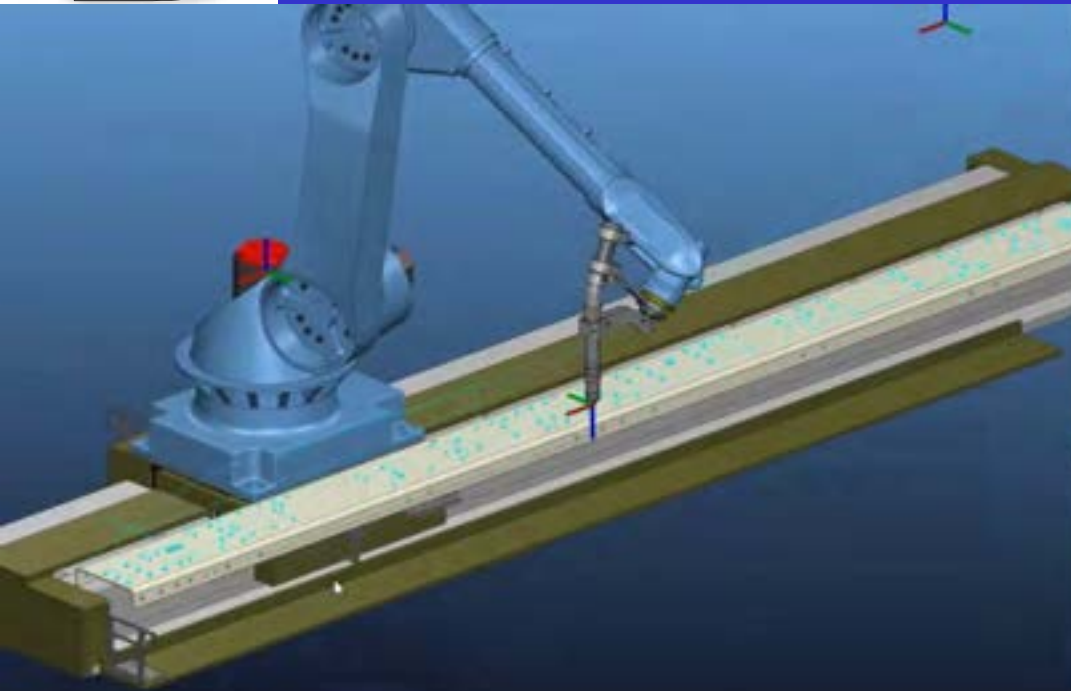
SPOT Welding



- **Weld Parameter Setting:**
Current, Voltage, air pressure, water flow/pressure, angle, squeeze & hold time
- **Weld Quality:**
Tear-off tests, nugget diameter
- **Application based:**
Air gun, servo gun, pressure switch, proportional valve, filter, shutoff valve, Tip dresser unit

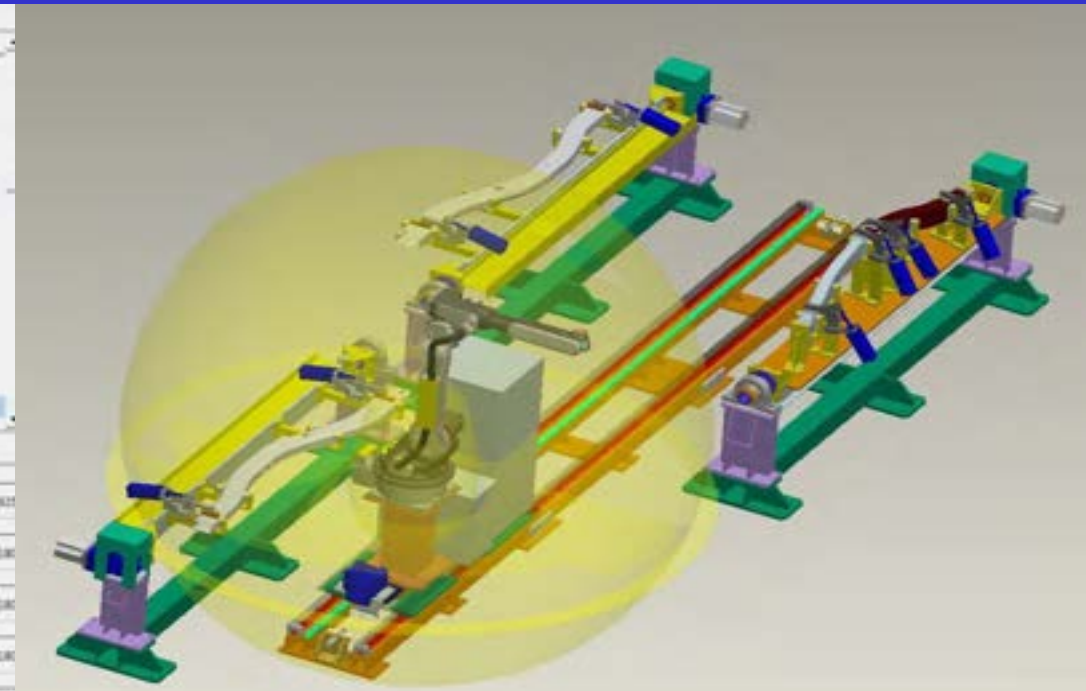


Robotic Plasma Cutting

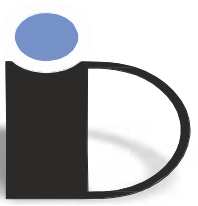


Points List	Register	Point
<input type="radio"/>	P1157	C: K3027 V30.5, Z37 Rad Ryo Ra180
<input type="radio"/>	P1158	C: K3030 V3.190, 46.237 Rad Ryo Ra180
<input type="radio"/>	P1159	C: K3011 V32.5, Z37 Rad Ryo Ra280
<input type="radio"/>	P1160	C: K3013, 27 V36.5, Z37 Rad Ryo Ra280
<input type="radio"/>	P1161	C: K3022 V30.5, Z37 Rad Ryo Ra180
<input type="radio"/>	P1162	L: K3017 V30.5, Z37 Rad Ryo Ra280
<input type="radio"/>	P1163	J: K3017 V30.5, Z30 Rad Ryo Ra180
<input type="radio"/>	P1164	J: K3012 V87.5, Z30 Rad Ryo Ra180
<input type="radio"/>	P1165	J: K3012 V87.5, Z45 Rad Ryo Ra-180
<input type="radio"/>	P1166	L: K3012 V87.5, Z37 Rad Ryo Ra280
<input type="radio"/>	P1167	L: K3010 V87.5, Z37 Rad Ryo Ra280
<input type="radio"/>	P1168	C: K3028 V87.23, Z37 Rad Ryo Ra280
<input type="radio"/>	P1169	C: K3028 V85.5, Z37 Rad Ryo Ra180
<input type="radio"/>	P1170	C: K3034, 27 V76.94, Z37 Rad Ryo Ra180
<input type="radio"/>	P1171	C: K3042 V85.5, Z37 Rad Ryo Ra180
<input type="radio"/>	P1172	C: K3035, 73 V92.46, Z37 Rad Ryo Ra180
<input checked="" type="radio"/>	P1173	C: K3018 V85.5, Z37 Rad Ryo Ra180

Axis	Frames
E1	
K320.004	0
J1	104.201 -180
J2	8.979 -180
J3	-26.724 -180
J4	49.421 -300
J5	



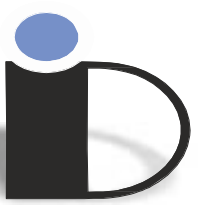
- **Parameter Setting:** Current, Voltage, Speed, air pressure, piercing time, angle, lead in/out
- **Cut Quality:** Visual Aid, HAZ, Flakes, taper
- **Critical:** Remote/Local control, cutting source calibration, consumable life cycle, Register-based teaching



Material Handling

- **Parameter Setting:**
 - TCP shift, User Frame creation, End of Arm tooling, Weight-Calibration check
- **Gripper/EOA tool Quality:**
 - Ensure job safety, proper material selection
- **Critical:**
 - Robot Moment of Inertia check, EOA I/O interface, Defining Interference areas





Palletizing

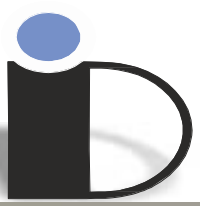


- Bag Palletizing
- Hot material handling
- Tractor Roller rim Palletizing

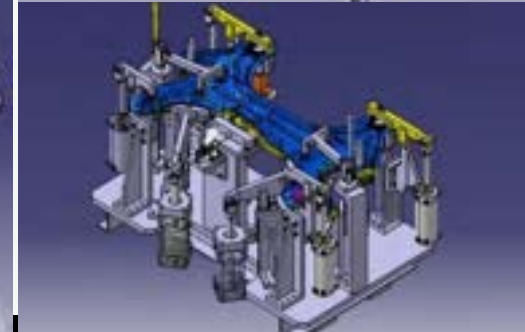
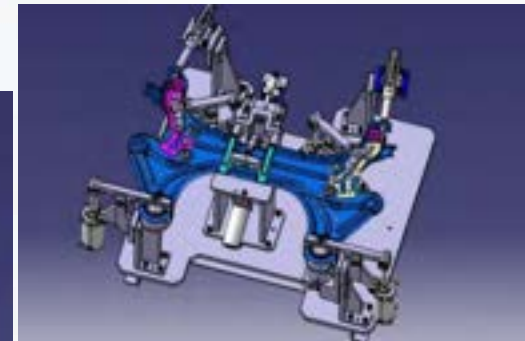
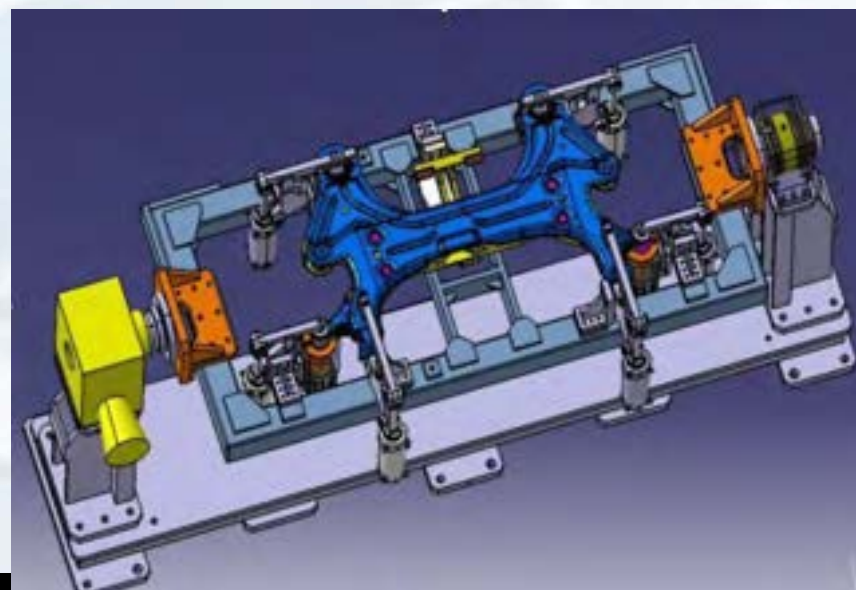
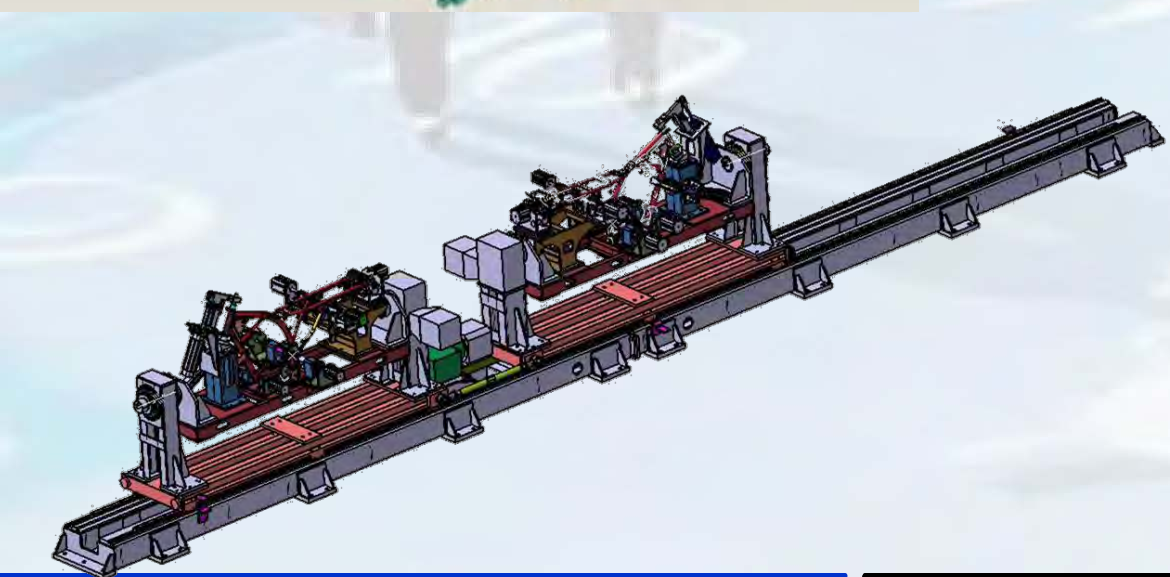
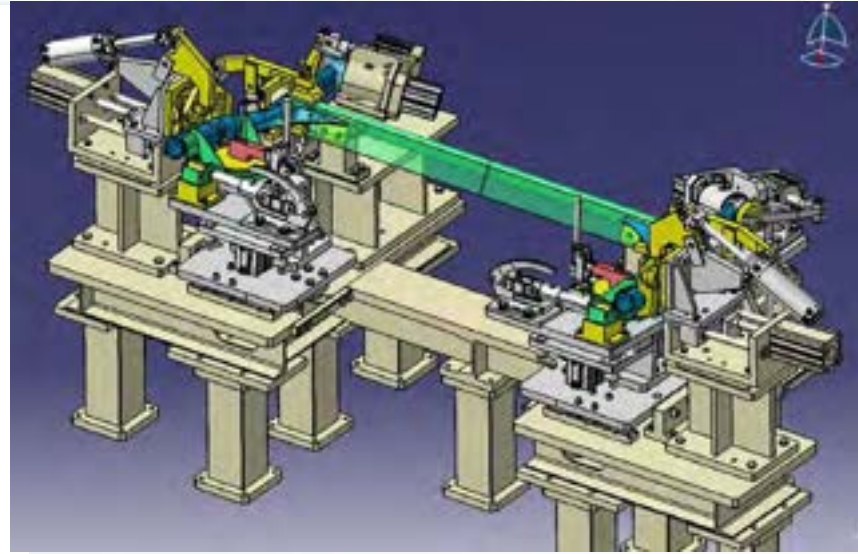
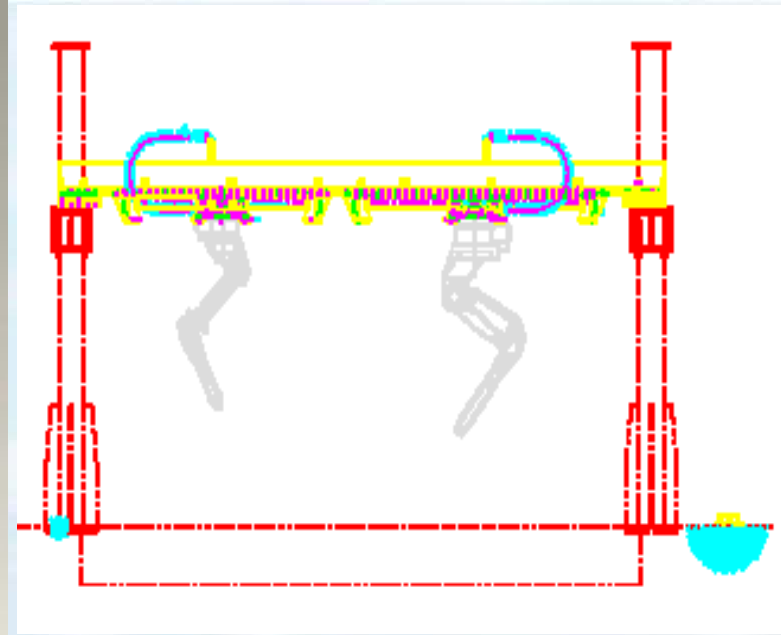
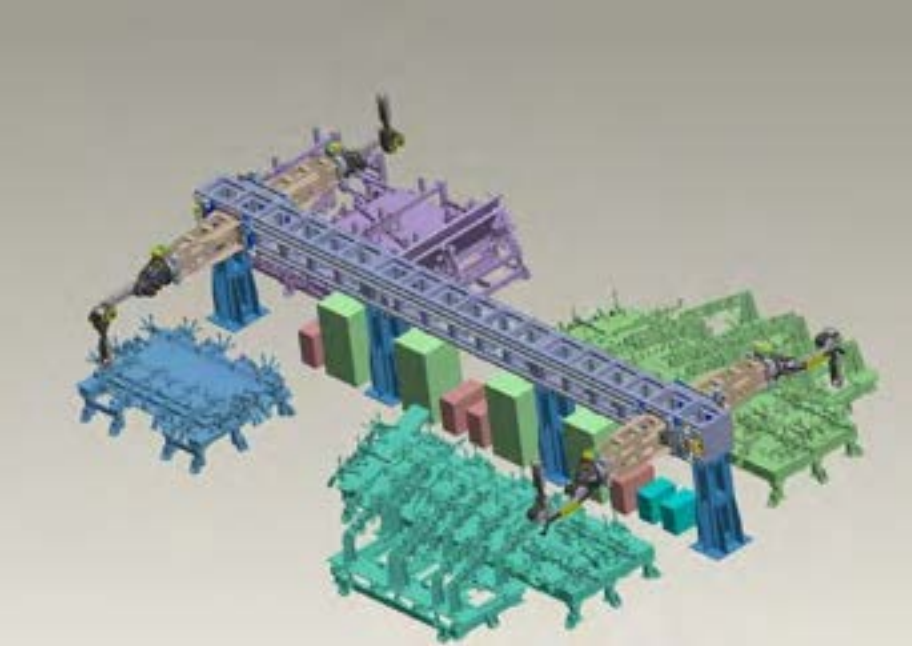
Parameter Setting: Palletizing register/program, declare Row-Column-Layer, patterns, approach/retract points + Handling setting

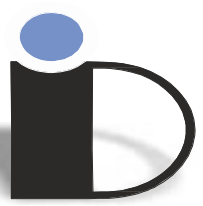
Gripper/EOA tool Quality: Ensure job safety, proper material selection, fit for all variants of component to be palletized

Critical: Sequence, bottom points, recurring shift, palletizing/depalletizing coordination

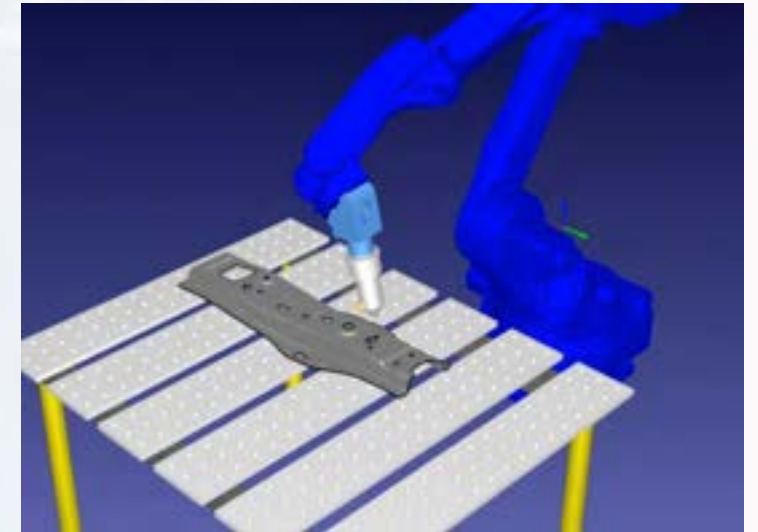
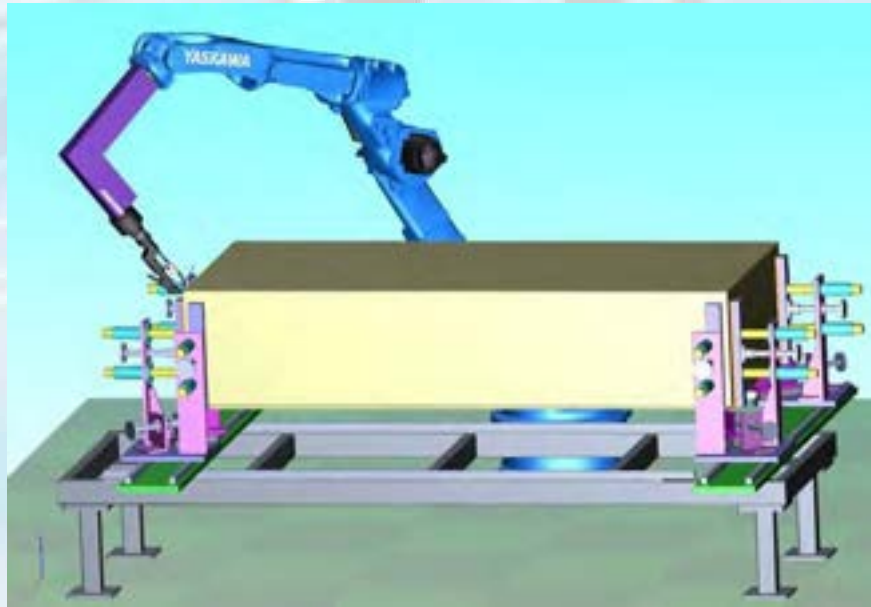
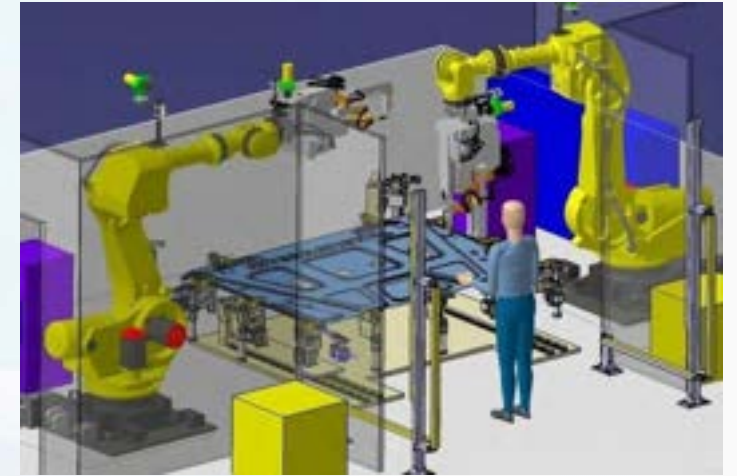
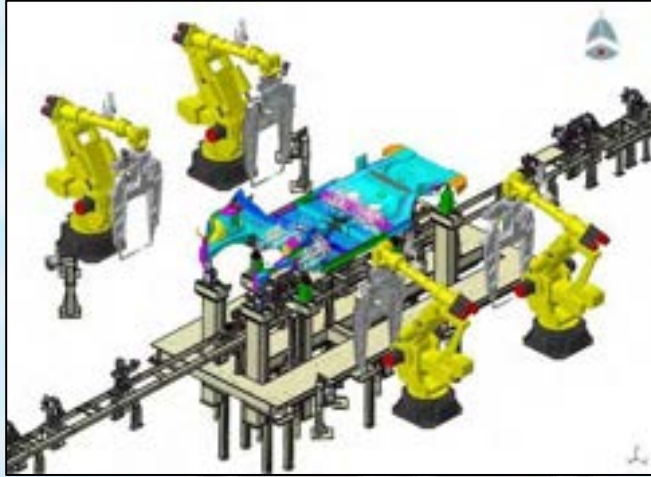


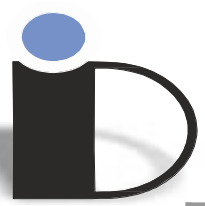
Transfer & Gantry/Slide Systems, Front & Rear Suspension, Chassis line, Fixtures





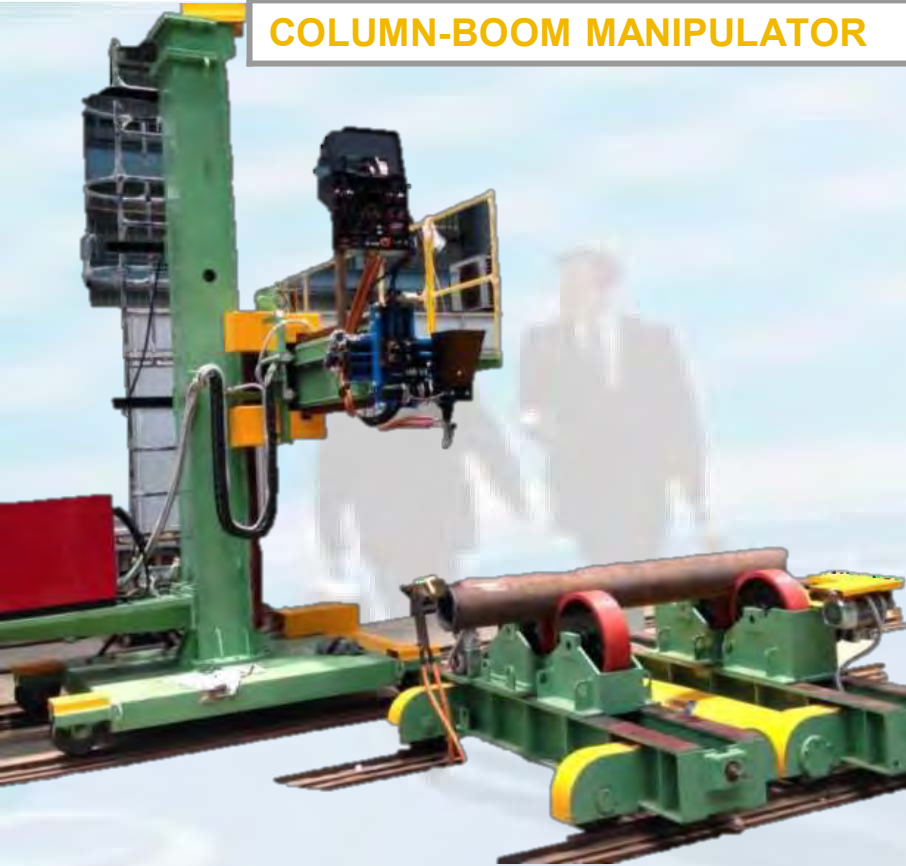
Simulation & OLP





Heavy Engineering & Welding Spm

COLUMN-BOOM MANIPULATOR



DRILLING/MILLING SPM

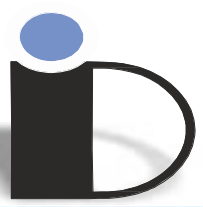


WAGON FIXTURES



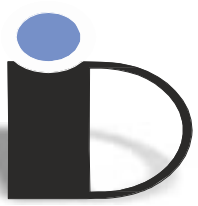
CONVENTIONAL ROTATOR

CONVENTIONAL POSITIONER



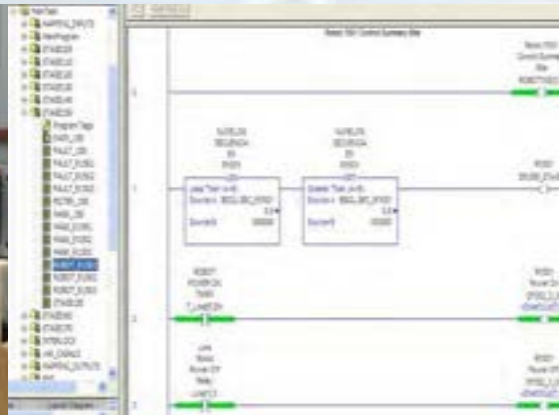
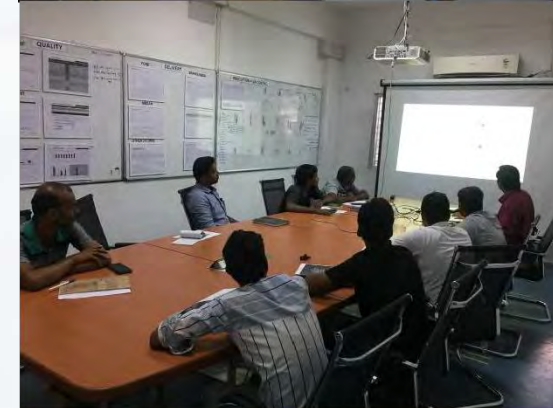
Conveyors, Assembly lines & SPM

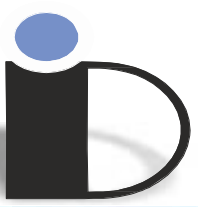




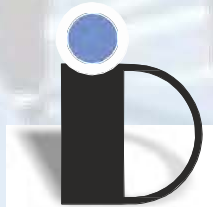
Services

- **Used Robots Commissioning, Retro-fit, Line relocation**
- **Engineering Design Consultancy - At every stage of the project cycle**
 - Complete Concept & mechanical design, Finalising the BOM, Building Automation scheme, Integration & execution, supervision, commissioning, trials
 - Poka yoke suggestions, Increasing the level of automation to avoid rework and reduce rejection, optimizing cycle time
- **Training Services**
 - Robot O&M training, Application specific training
- **On-site Programming**
- **Simulation & OLP support, Jig & Robot logic/programming**





Our Association with Stanley Black & Decker Group....



Dadu
Industries



STANLEY



STANLEY

Fastening Technology



Avdel[®]
 Dodge[®]
 GRIPCO[®]
 HeliCoil[®]
 iForm[®]
 MASTERFIX[®]
 NPR[®]
 POP[®]
 Spiralock[®]
 TUCKER[®]
 WARREN[®]

Tooling & Automation

Assembly Technologies
 Avdel[®] POP[®] TUCKER[®]
 HeliCoil[®]



DC NUTRUNNERS & RIVETING TECHNOLOGY



Hydro-pneumatic Blind Rivet Nut Tool

High speed power tool with flexible pull-to-stroke & pull-to-force setting.

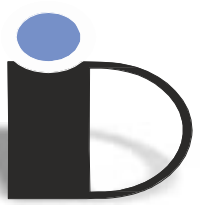
NEW

FLUID
Easy adjust - tool free Stroke, Pressure and Mandrel adjustment

LIGHTER
Only 1.5kg (3lb) equipped

STRONGER
11,000 Kg Force on straight wire

FAST
Less than 1.5 sec. per complete setting



Nutrunner Monitoring SCADA system

Heavy Equipment OEM

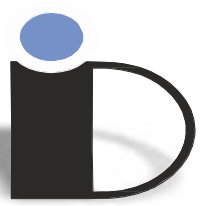


Tool Station complete with Stanley PSI controller, FRL, Barcode scanner, Ethernet switch, Towerlamp, etc



Main Control Panel housing PLC, PC & SCADA





AUTOMATION CONCEPT

PC: Eclipse E3 Scada, Data Monitoring, Data logging, Report generation



Siemens PLC: S7-300 series PLC with 64DI/64DO, ethernet port

- PC/Scada communicates with PLC via Ethernet
- PC communicates with all tool controllers and Barcode scanners via Ethernet
- 2 cables go from Main panel to every station:
 - a) Ethernet cable for tool controller and barcode scanner comm.
 - b) Multicore cable

2pt ethernet switch

Ethernet CAT5 cable

Multicore cable



STATION: Each station houses a tool controller, barcode scanner, 2pt ethernet switch, towerlamp, FRL unit, 4pt relay board, power socket, 4DI, 4DO

NUTRUNNER AUTOMATION

STATION NO. 01 - GROMMET

DATE TIME: 2019-01-05 16:07:22

TORQUE (Nm): 48.1

TORQUE CONTROLLER NAME: GROMMET

TORQUE STATUS: OK

BATCH SIZE: 8016

TORQUE MIN LIMIT (Nm): 39.9

BATCH COUNT: 8016

TORQUE MAX LIMIT (Nm): 58

TIGHTENING STATUS: OK

TORQUE FINAL TARGET (Nm): 87

BATCH STATUS: COMPLETED

BAR CODE:

Current Alarm displays

To open Park break application screen, press here

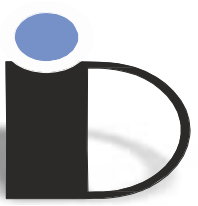
OVERVIEW	ALARM	REPORT	GROMMET	PARK BREAK	PROP. SHFT	YOKE PLATE	TORQUE	CABLE	NEAR TYP	FRONT TYP	STATION 01	STATION 02
TIGHTENING STATUS	OK	NOT OK	OK	OK	OK	OK	NOT OK	OK	OK	OK		
TORQUE STATUS	OK	HIGH	OK	OK	OK	HIGH	OK	OK	OK	OK		
TORQUE	48.1	397.9	118.1	189.4	432.8	395.8	692.8	725.8				
TORQUE MIN LIMIT	39.9	179	100	130	300	179	179	179				
TORQUE MAX LIMIT	58	241	138	168	481	241	782	782				
TORQUE FINAL TARGET	87	218	118	160	400	218	680	680				

It shows the status of tools. If tool is disabled it will show in Red colour.

NUTRUNNER AUTOMATION REPORT

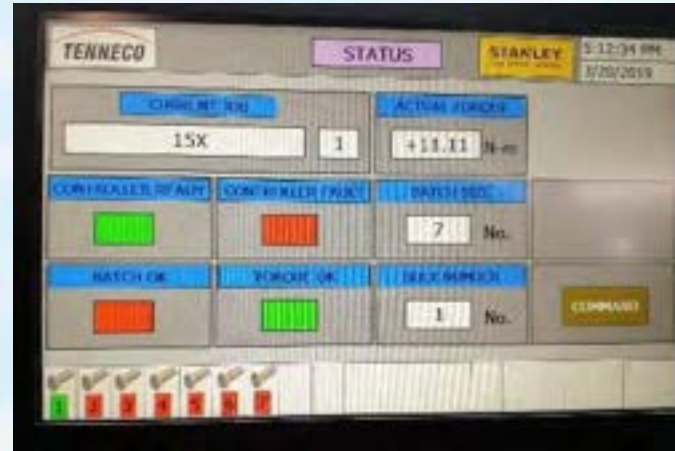
DATE TIME	APPLICATION	BARCODE	BATCH ST	TIGHTENING	TORQUE S.	BATCH NO.	BATCH CO.	ACTUAL TARGET	FROM DATE TIME	TO DATE TIME
2019-01-05 17:01:21	YOKE PLATE	NA2003503299240	COMPLETED	OK	OK	4	4	159.4		
2019-01-05 17:01:19	YOKE PLATE	NA2003503299240	RUNNING	OK	OK	4	2	151.5		
2019-01-05 17:01:08	YOKE PLATE	NA2003503299240	RUNNING	OK	OK	4	1	152.1		
2019-01-05 16:07:30	GROMMET	NA2003503299244	COMPLETED	OK	OK	16	16	48.3		
2019-01-05 16:07:16	GROMMET	NA2003503299244	RUNNING	OK	OK	16	15	47.2		
2019-01-05 16:07:06	GROMMET	NA2003503299244	RUNNING	OK	OK	16	14	46		
2019-01-05 16:07:01	GROMMET	NA2003503299244	RUNNING	OK	OK	16	13	46		
2019-01-05 16:06:52	GROMMET	NA2003503299244	RUNNING	OK	OK	16	12	47.9		
2019-01-05 16:06:46	GROMMET	NA2003503299244	RUNNING	OK	OK	16	11	46.2		
2019-01-05 16:06:34	GROMMET	NA2003503299244	RUNNING	OK	OK	16	10	47.6		
2019-01-05 16:06:28	GROMMET	NA2003503299244	RUNNING	OK	OK	16	9	46.4		
2019-01-05 16:06:13	GROMMET	NA2003503299244	RUNNING	OK	OK	16	8	47.6		
2019-01-05 16:06:06	GROMMET	NA2003503299244	ALARMING	OK	OK	16	7	48.2		

28



Industry 4.0 Tightening Station

(Smart Work station with Scada-like interface & label printer)



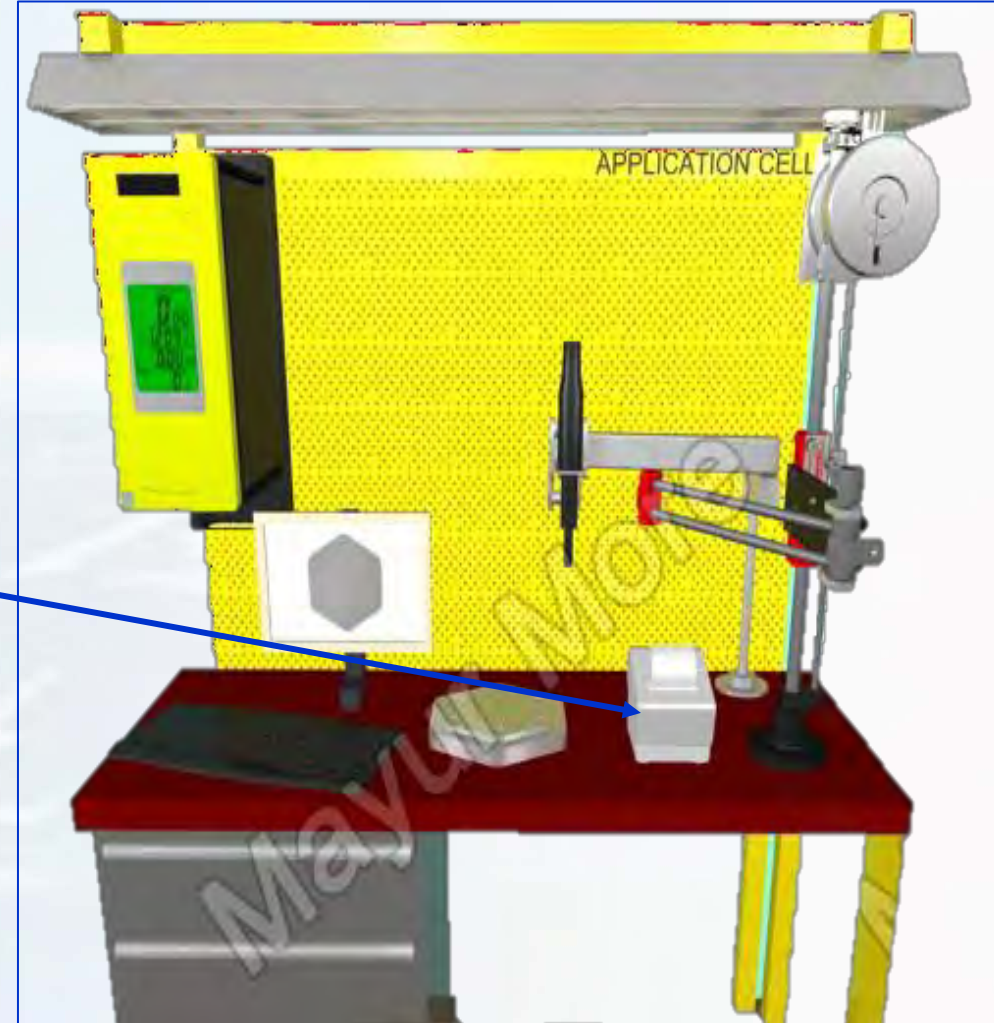
Label Printer:

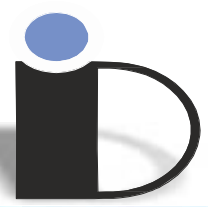
Tightening
Confirmation label
with customizable
data like date/time
stamp, torque, etc

Complete Solution for Job selection,
Displaying real-time torque, tightening
status OK/NOK, batch/bolt count, etc
information with tower lamp integration to
aide the operator for smooth error-free
production cycle

Handshaking with controller over Modbus
TCP and open protocol

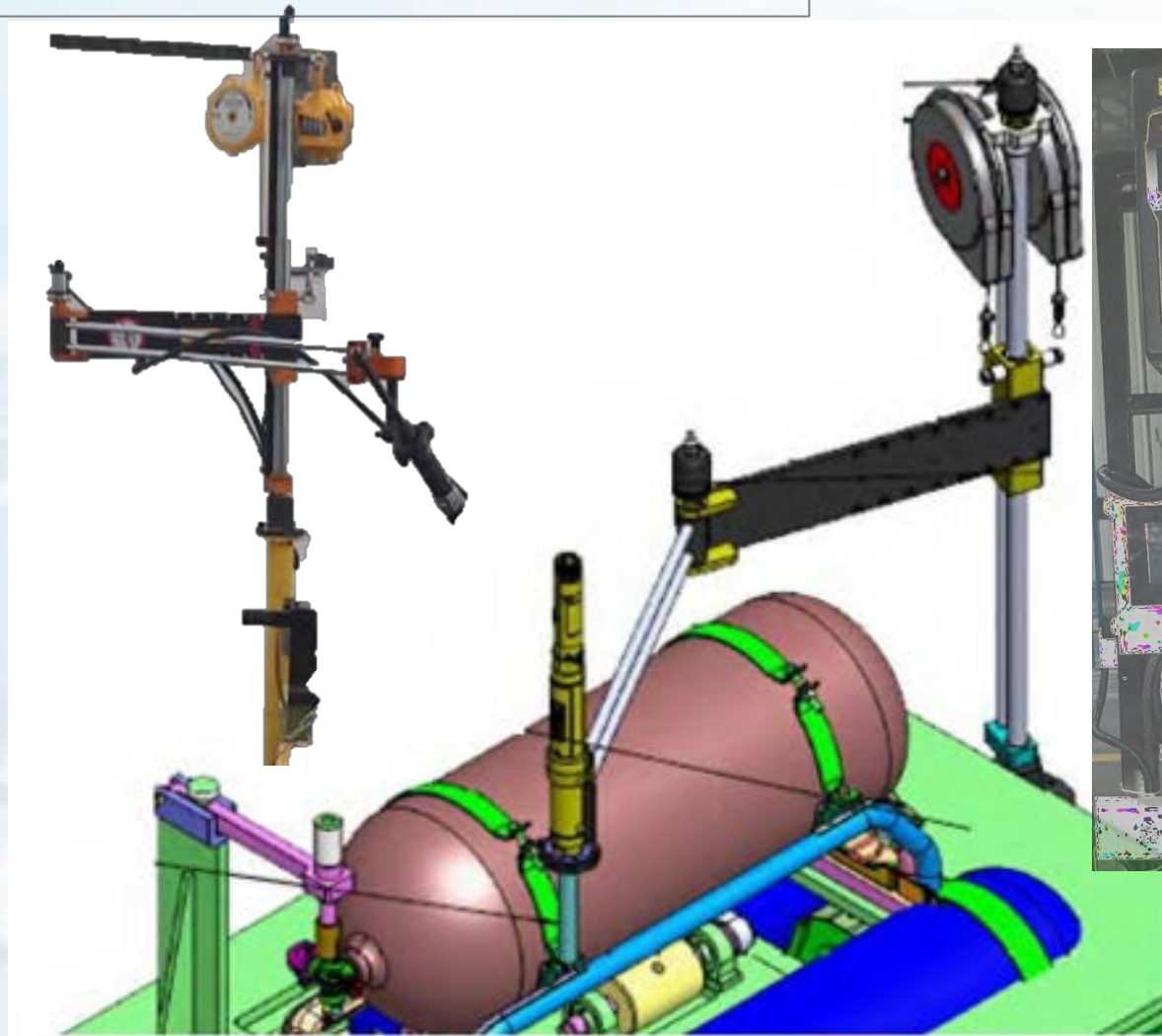
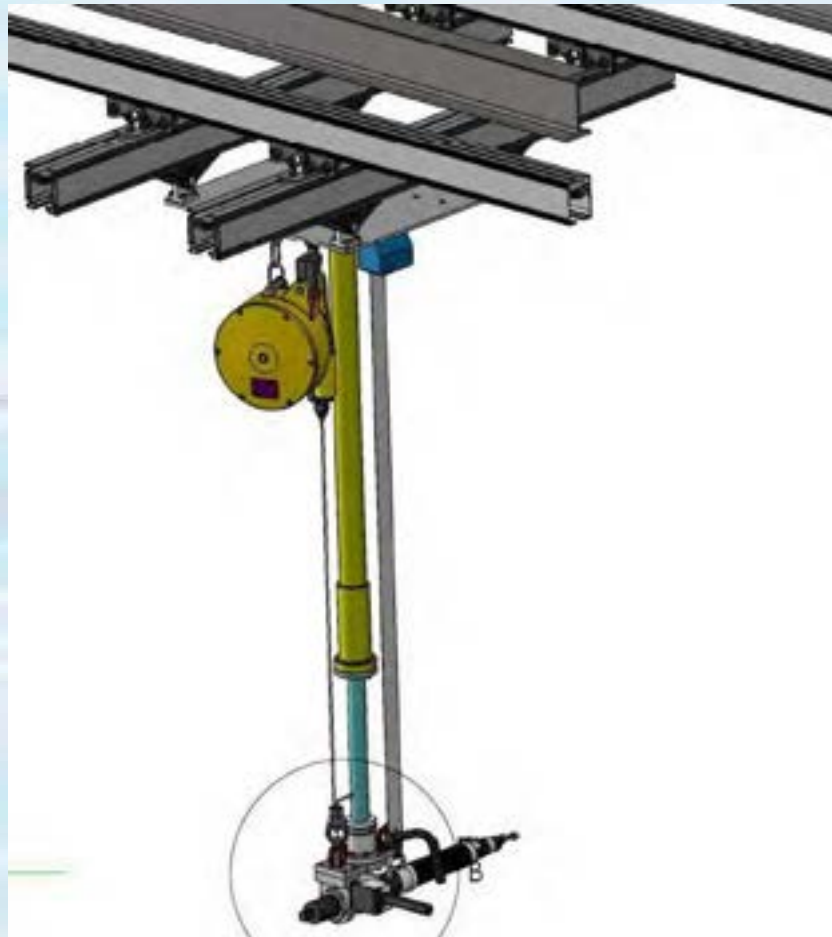
CONCEPT





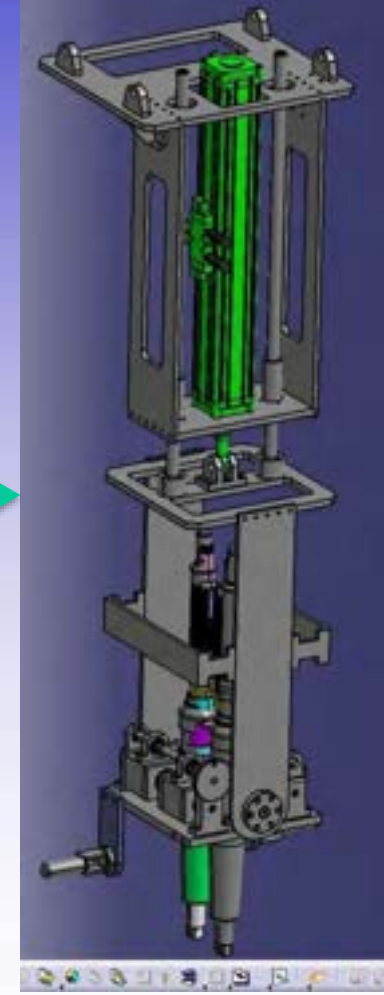
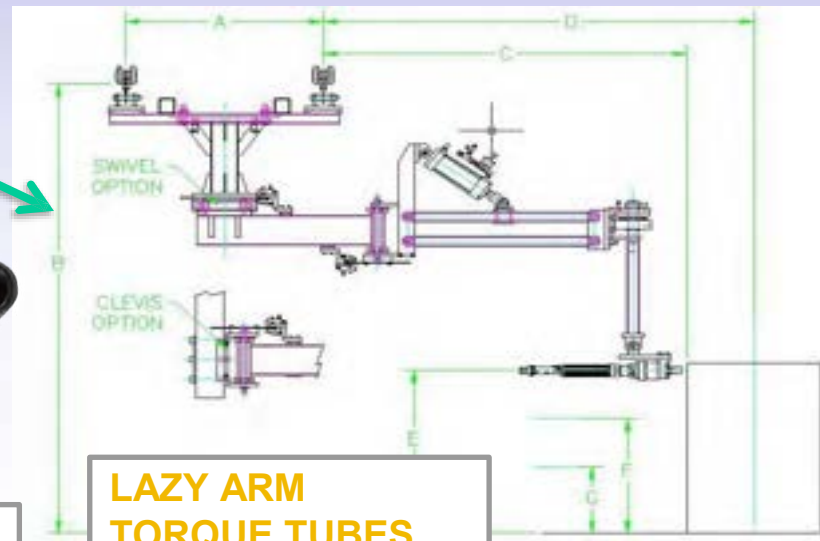
New Projects done for Stanley Recently

❖ Torque Tube and Encoder Torque Arm with Smart Controller





TorqueDash/TorqueDeck
Data Logging & Monitoring
Report Generation

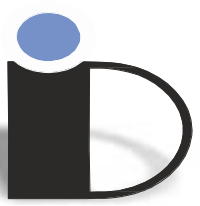


SPM WITH HMI & PRINTER

SOCKET TRAY/SCANNER

LAZY ARM TORQUE TUBES

MULTI-SPINDLE JIGS & FIXTURES



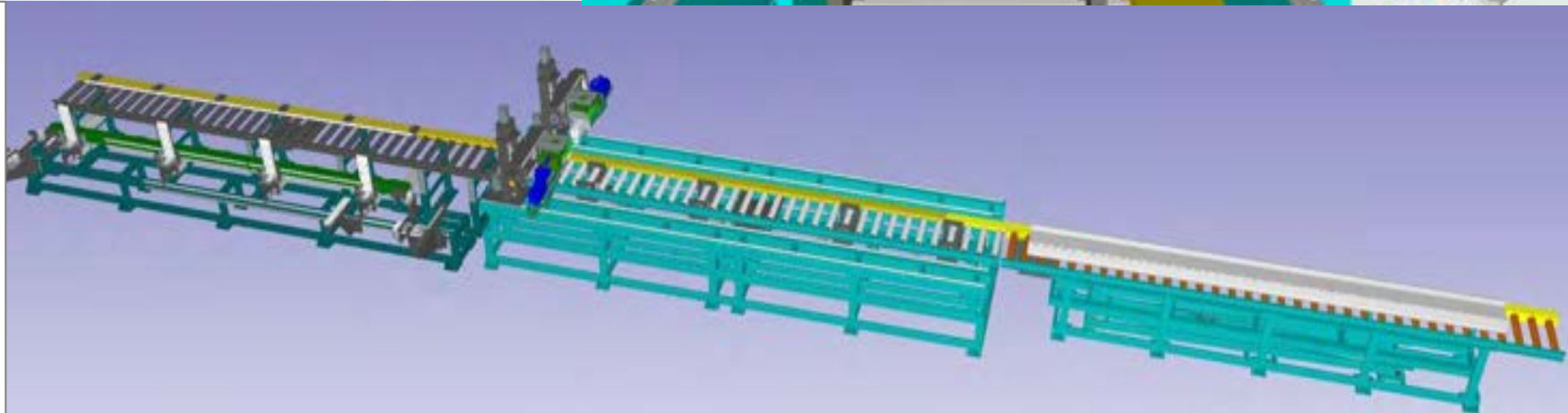
Automatic Busbar Riveting line – Abu Dhabi & Egypt

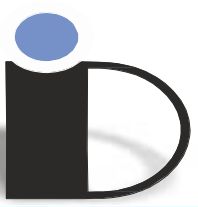
Self Piercing Rivet (SPR) line for Copper busbars stacked in an Aluminium housing.

Widths: 50mm to 300mm, Length: 400mm to 4000mm

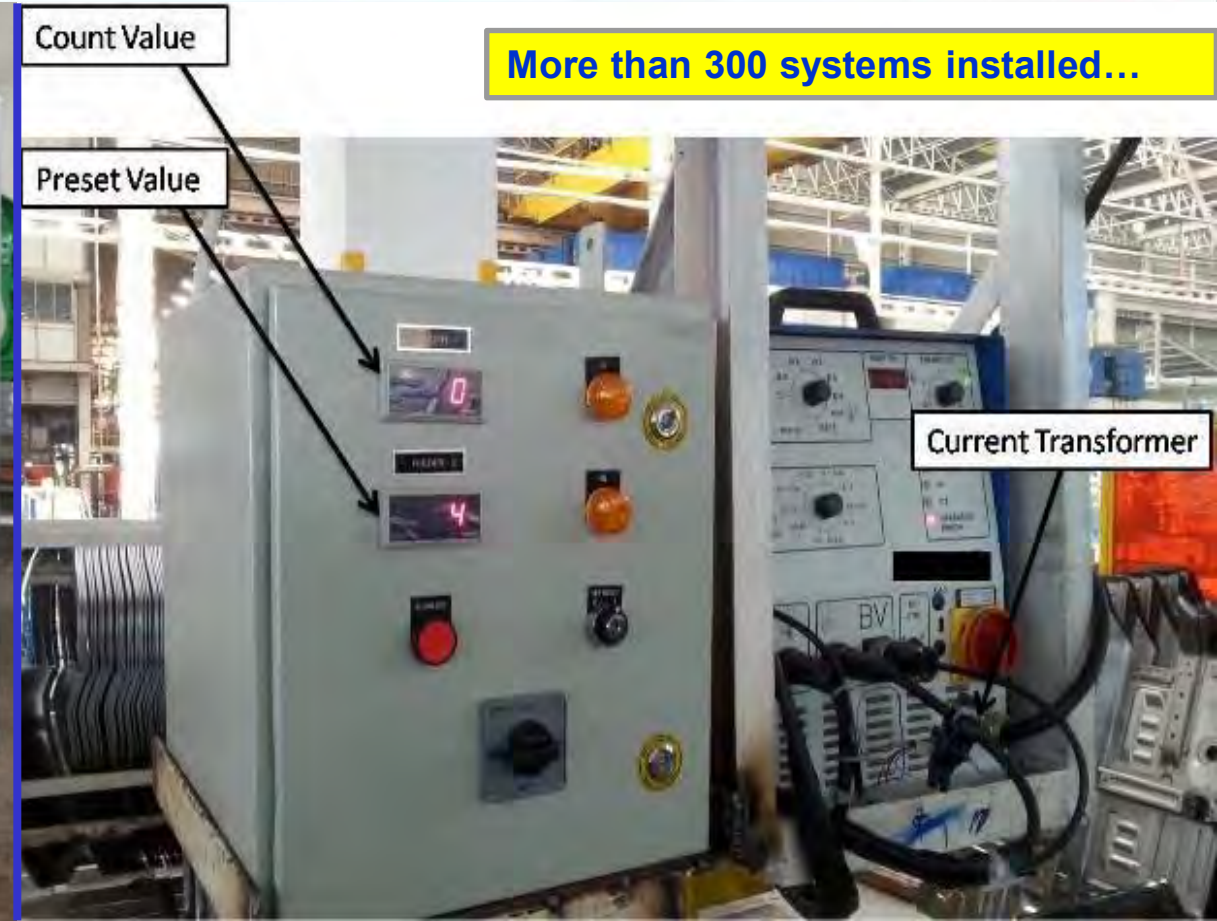


- Complete Assembly line of 30 meter length with conveyors and 3 axis Servo controlled SPR tools





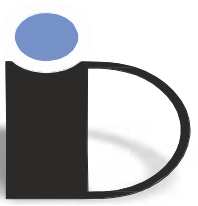
STUD COUNTER SYSTEM



5 Feeder counter systems and Single/Dual feeder counter systems supporting multiple variants

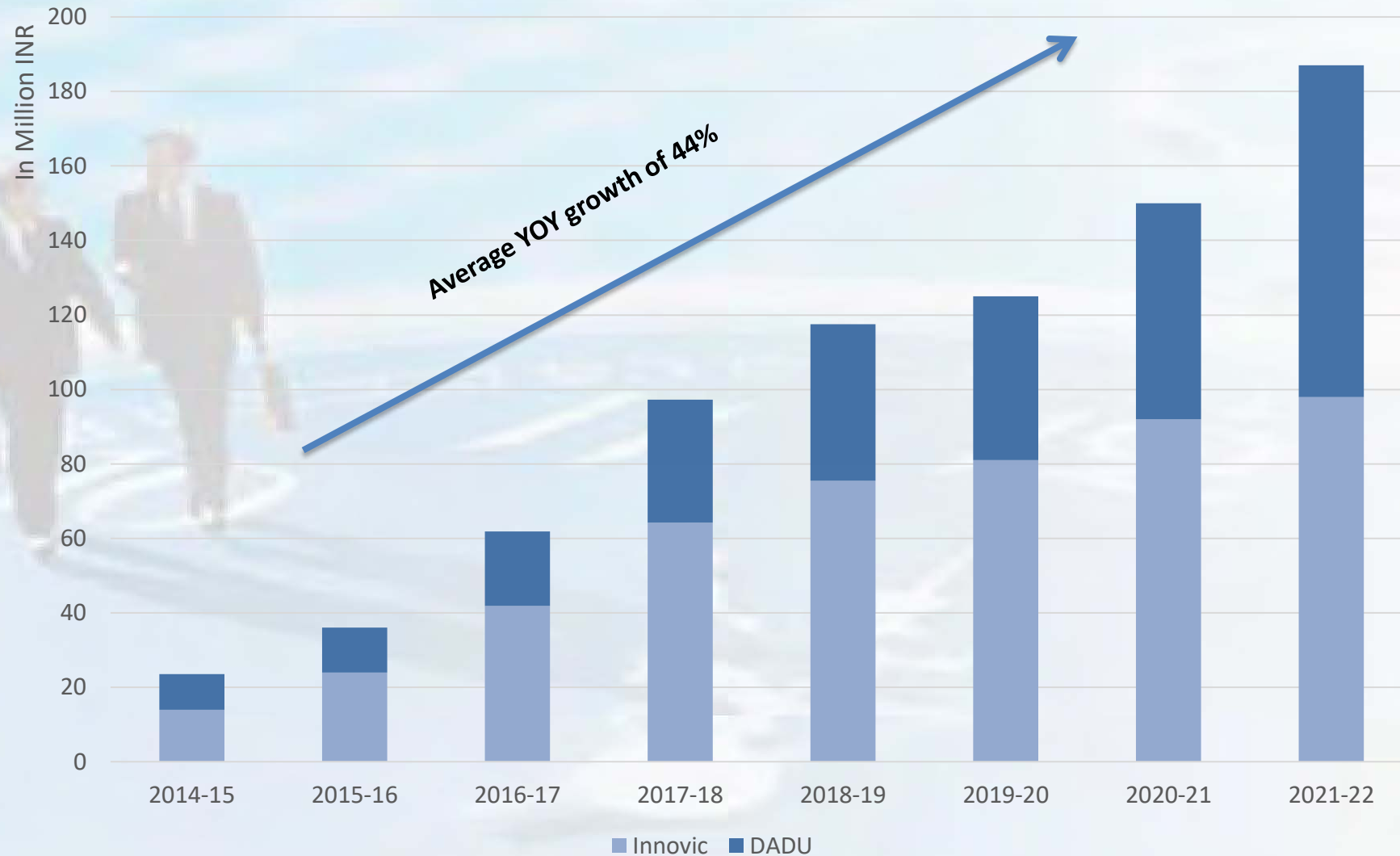
Main Display Panel Mounted on a stand of 1meter height same as Stud controller height. HMI display shows the Preset Number of studs to be welded as per selected model/variant and counts the Studs while operator is welding

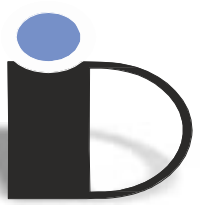
Push Button Box mounted on the fixture for Operator to select the appropriate model/variant



Company Growth

Consolidated Turnover





ESTEEMED CLIENTS

STANLEY
Engineered Fastening

TATA
TATA MOTORS

SHAKTIMAN
MAKING AGRICULTURE MORE ECONOMICAL

caparo

LARSEN & TOUBRO

ABB

GUNNEBO
For a safer world

metso

RENAULT NISSAN

satyam
auto components pvt ltd

KLT Group

MA SpA | **JBM Group**
Our milestones are touchstones

adani

Gestamp

VIG
AUTOMOTIVE PARTS

MOT
Motherson Sumi
Systems Limited

MAGNA
COSMA INTERNATIONAL

ALF
ALF ENGINEERING PVT LTD

SUZUKI

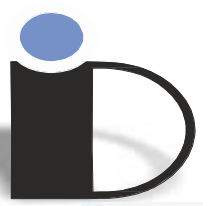
SUNGWOOHITECH

MUNGI
Engineers Pvt. Ltd.

vikramsolar

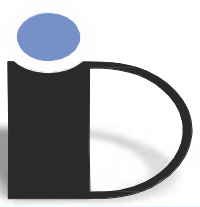
Lucy Electric

federal transformers co. l.l.c.



PAN India Presence

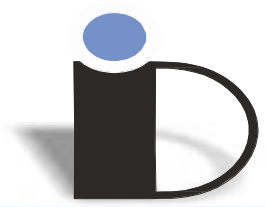




Shopfloor for Trials and Training



- Epoxy coated covered shopfloor for FAT, testing, Training
- Compressed Air, 200 KVA Power connection
- Loader, Lifter for Material handling
- FANUC & Yaskawa Welding Robot (1.4m reach, 12 kg PL) with 350A Weld PS for customer trials
- Demo PLC, HMI, test setup for trials
- All major PLC softwares for programming



Thank you