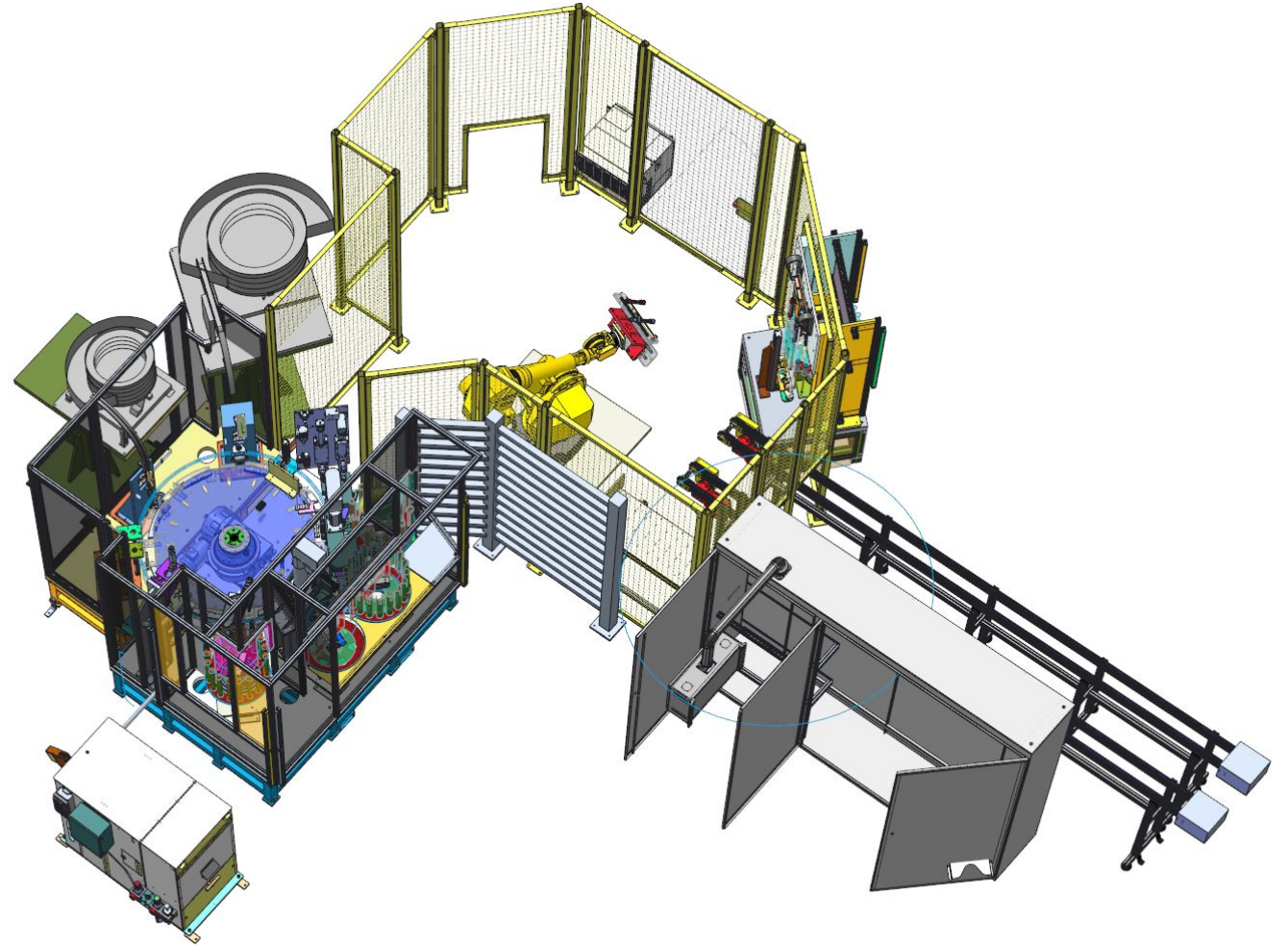


+Vantage Case Study: Assembly Lines

Fully Automatic Balance Shaft Assembly
System



Assembly Line Case Study



- Parts:

- Balance Shaft

- Customer Problem:

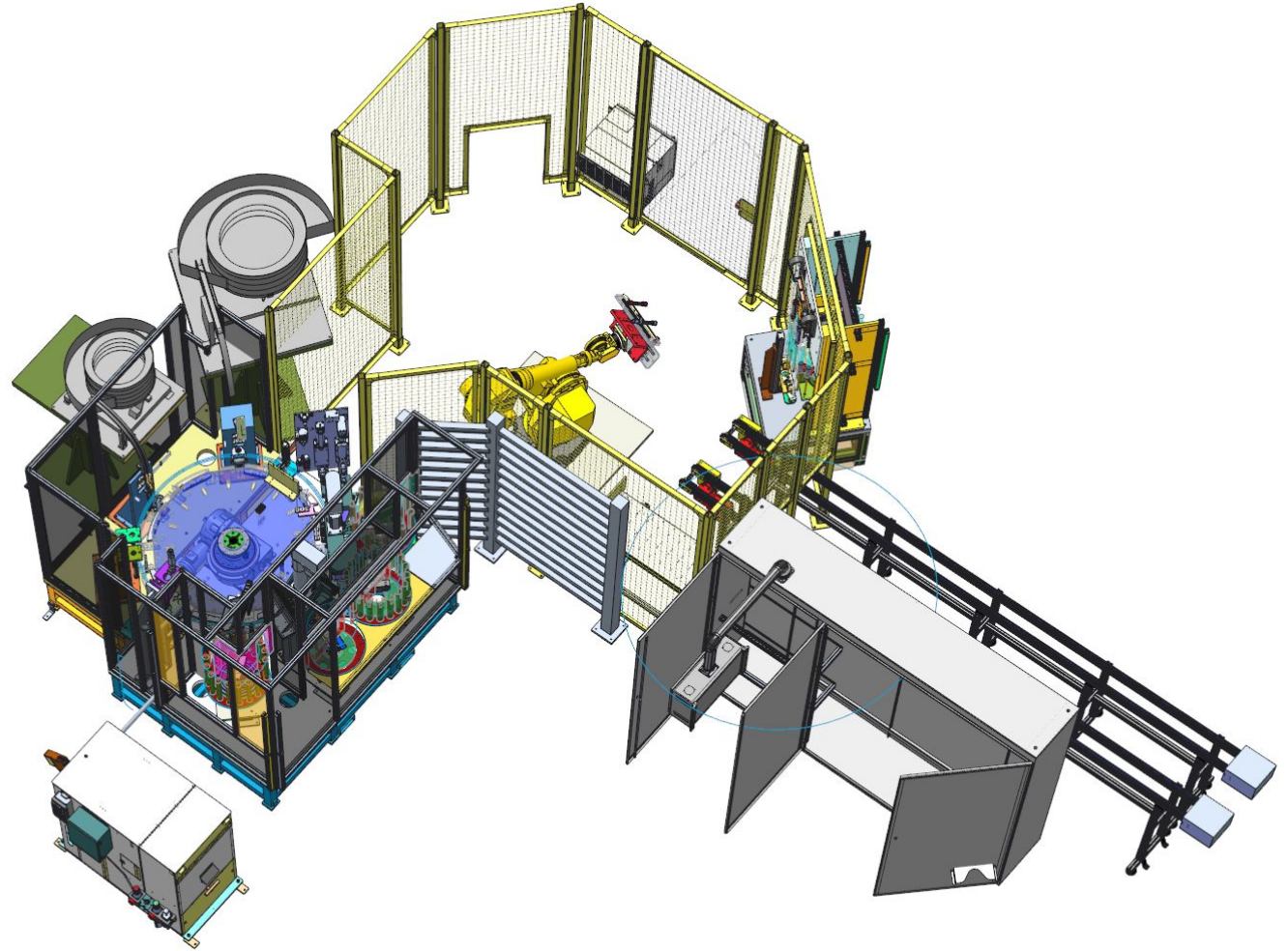
- Cycle time & production demand was too high for manual process
- The assembly process was too labor intensive for material handling
- Multiple high force presses required
- Multiple torque operations required
- Multiple subcomponents needed to be bulk fed into the system to allow for hours of unmanned production

- The project:

- This system consists of complete automatic assembly of Balance shaft. Through a multistage assembly process Washers, Gears, Sprockets, Bearings and various components are assembled onto Balance Shaft. Balance shafts are loaded onto an exit conveyor completely assembled and ready for installation

- Process:

1. Indexing Table
2. Robotic Material Handling
3. Servo Presses
4. Automatic Torque Drivers
5. Assembly Verification
6. Cell full integrated, debugged, and assembled

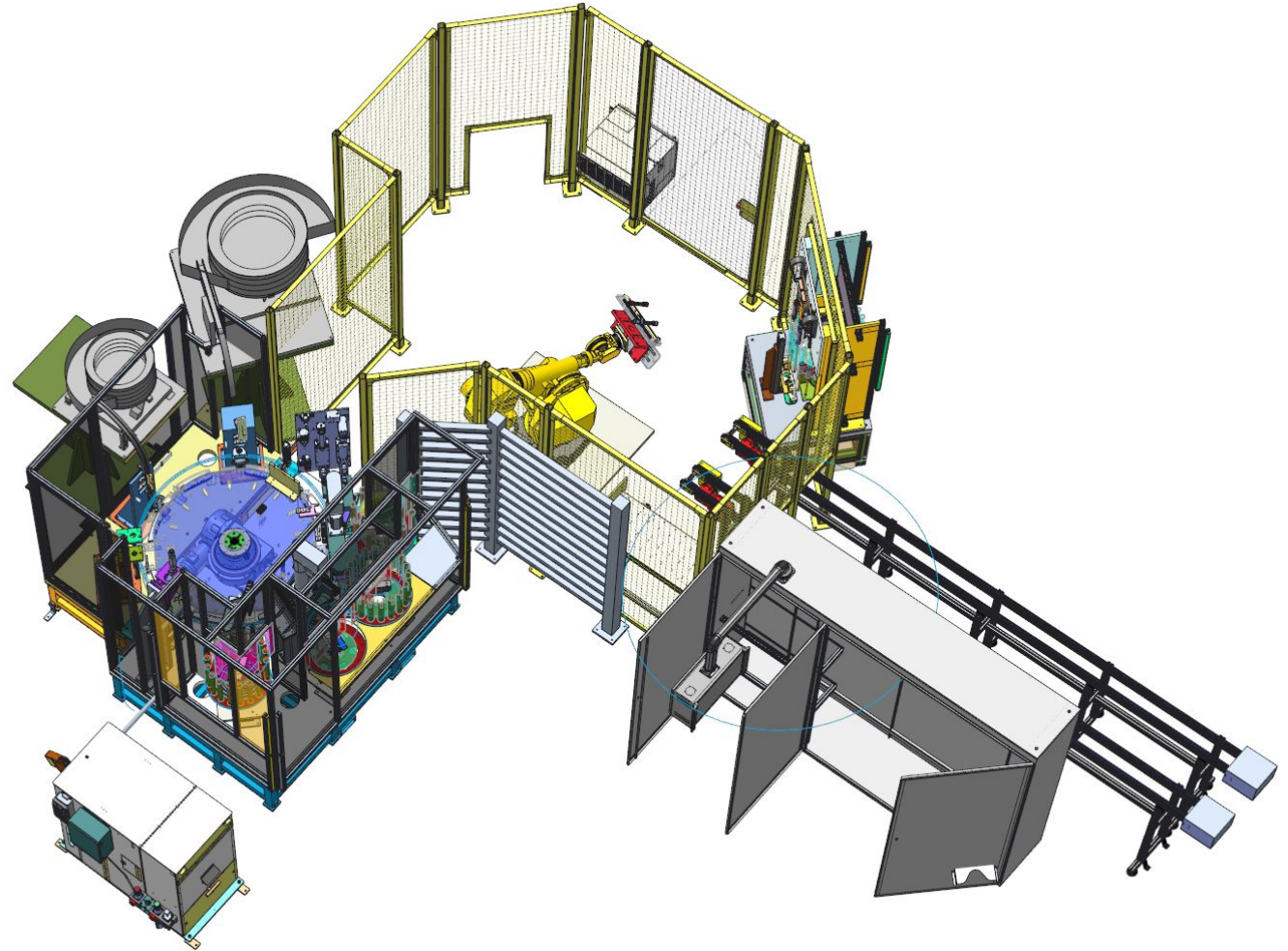


Assembly Line Case Study



- Components:

- Powered Conveyor
- Stelron Indexer
- Fanuc Robotics
- Custom EOAT
- FEC Servo Press
- FEC Torque Drivers
- Futek Torque Sensor
- Allen Bradley Servo Motors
- Feeding Concepts Bowl Feeders
- IAI Servo Drive
- Cognex Vision Inspection
- Safety interlocks
- Allen Bradley Controls Structure

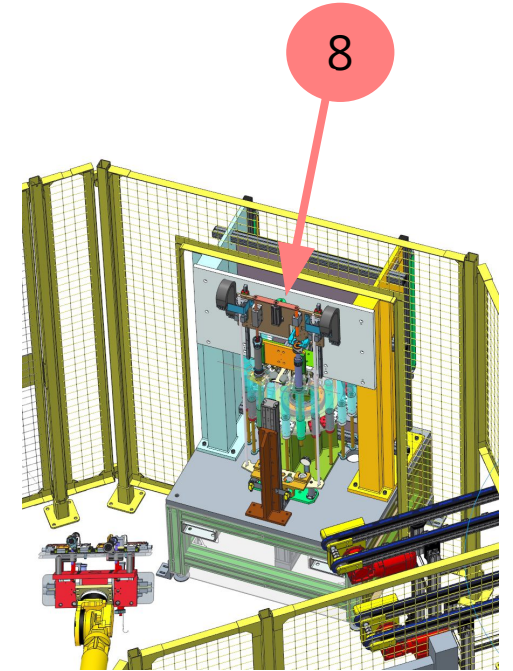
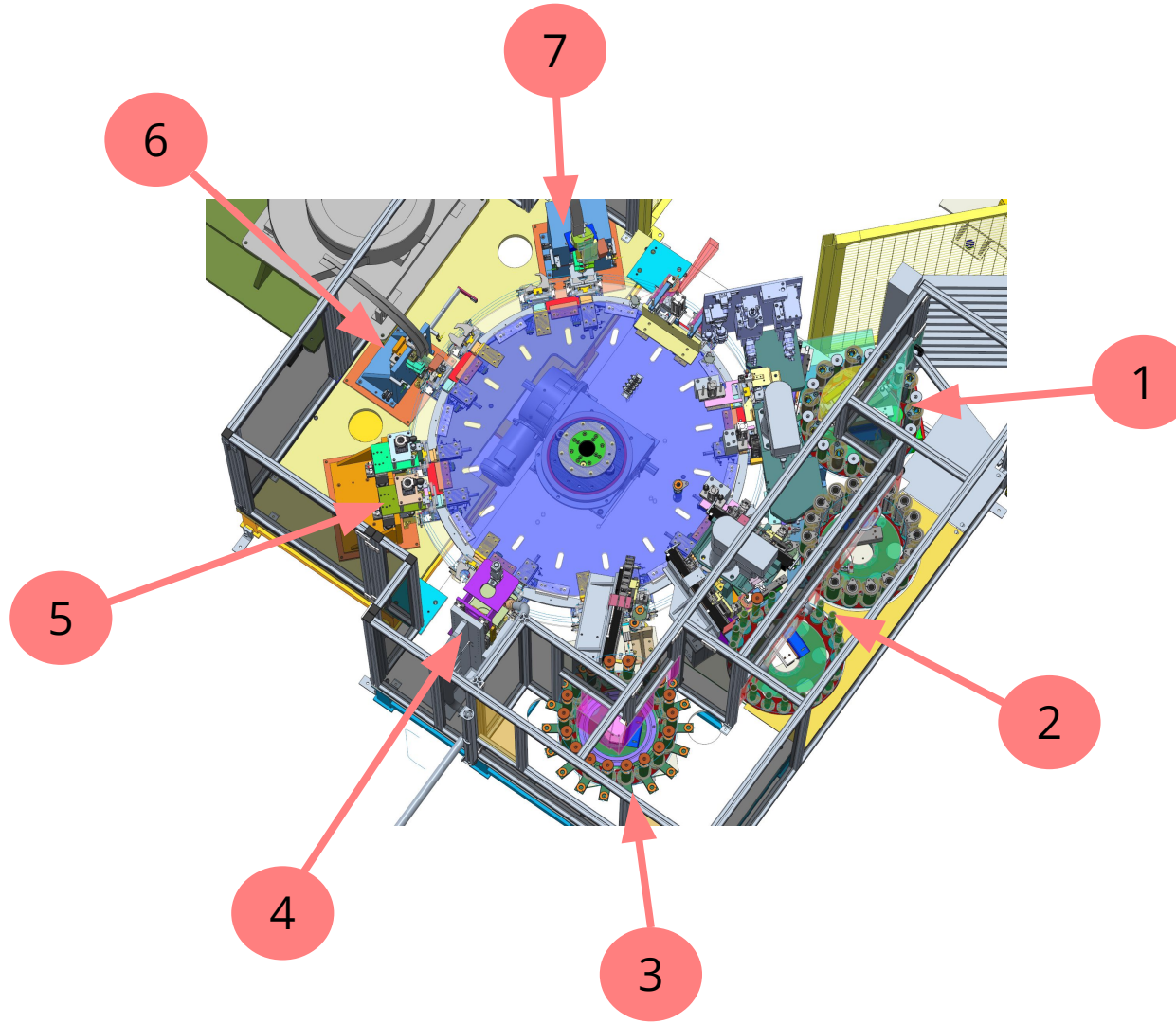


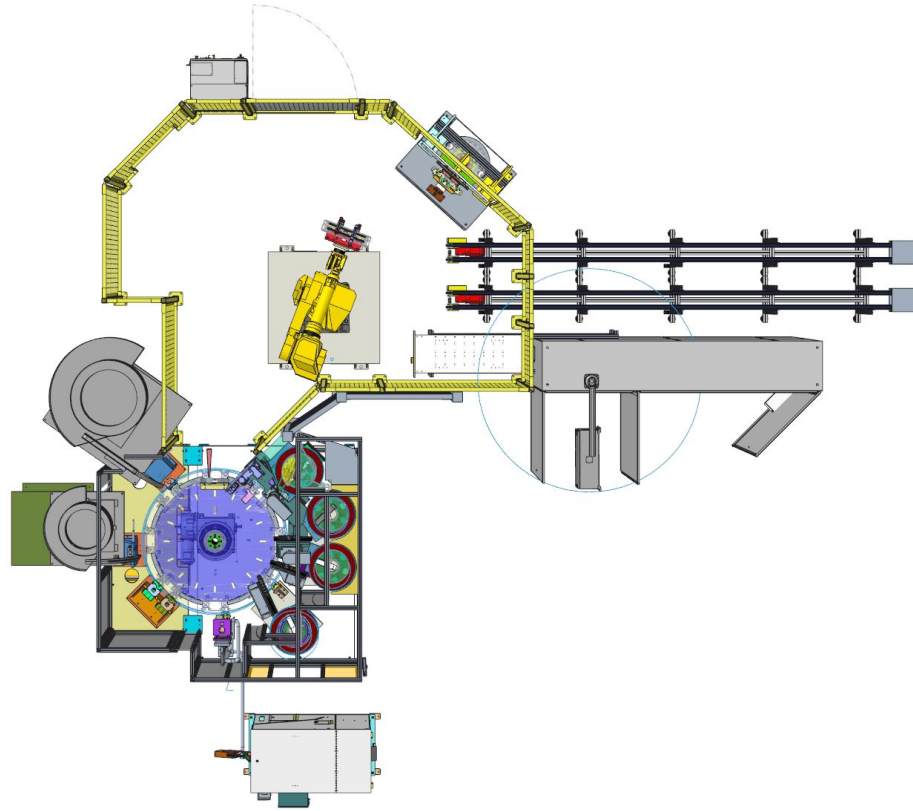
Assembly Line Case Study



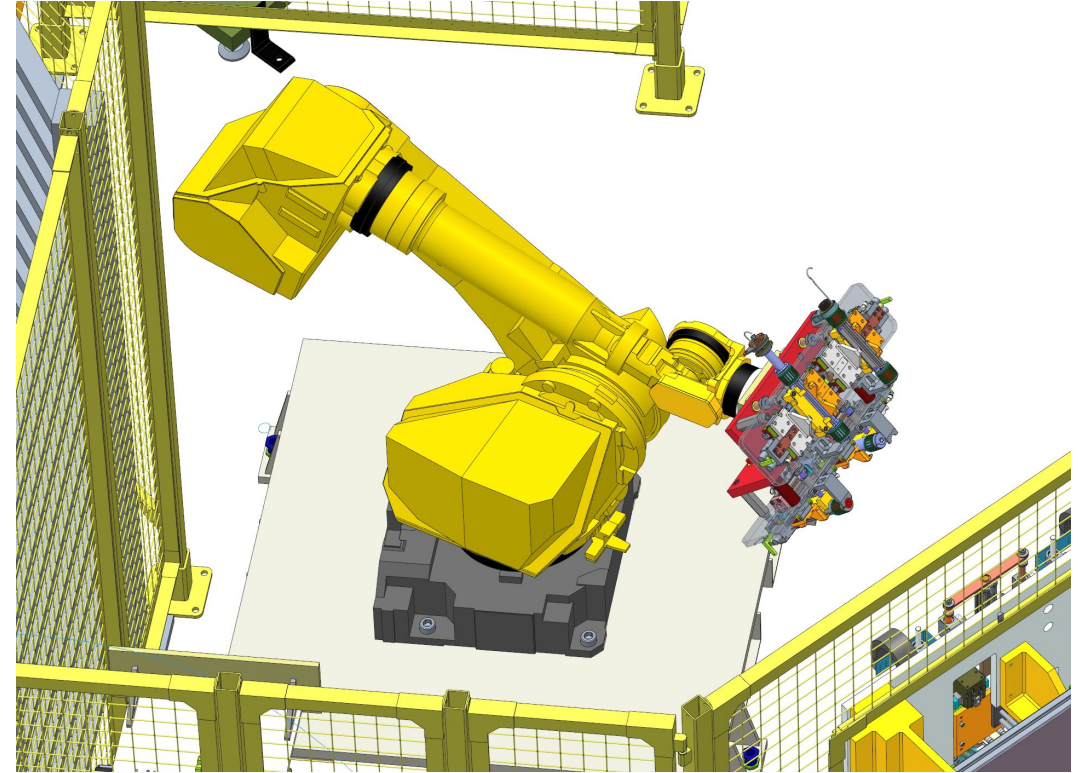
- Processes :

1. Washer Assembly Station
2. Input Gear Assembly Station
3. Sprocket Assembly station
4. Torque Station
5. Torque inspection Station
6. Pin Assembly Station
7. Pin Assembly Station
8. Bearing Assembly Station

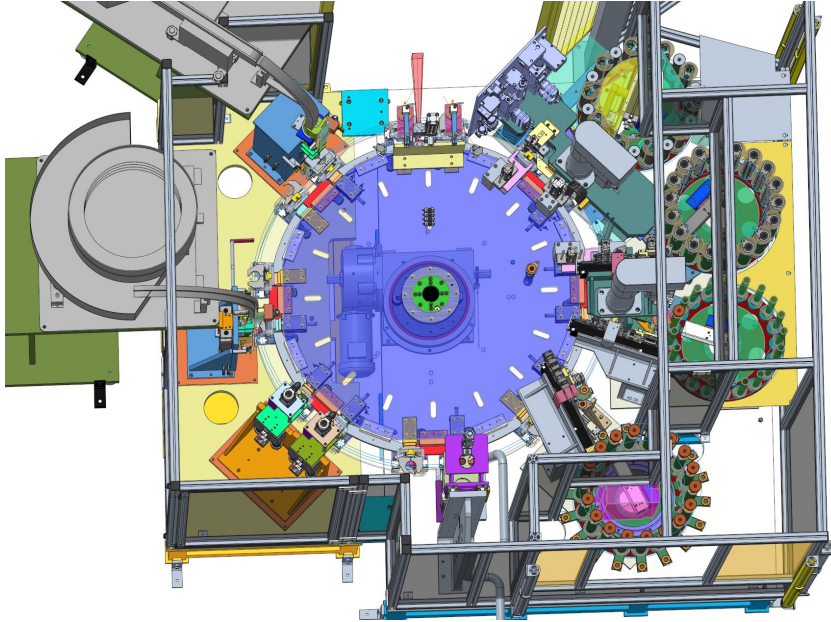




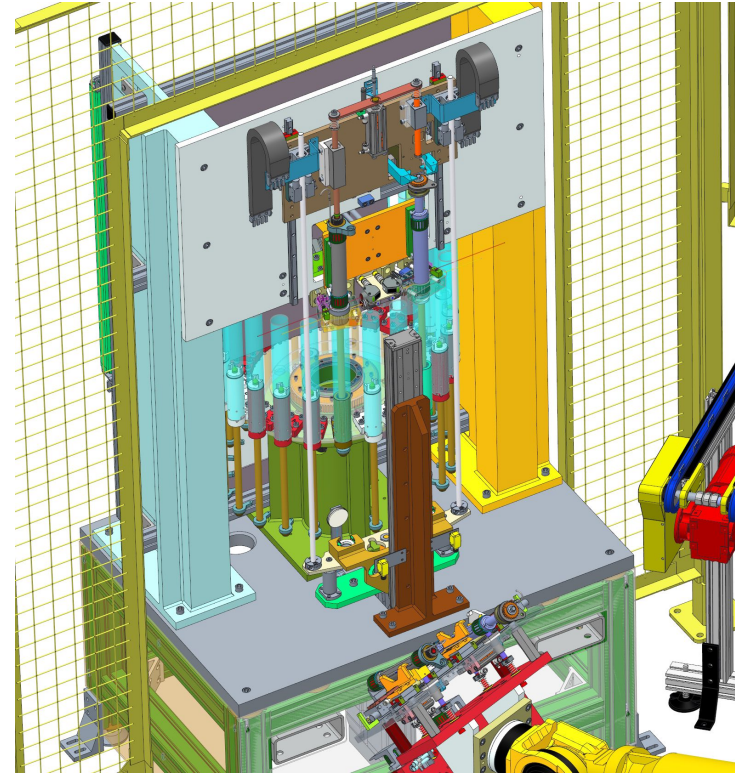
Layout

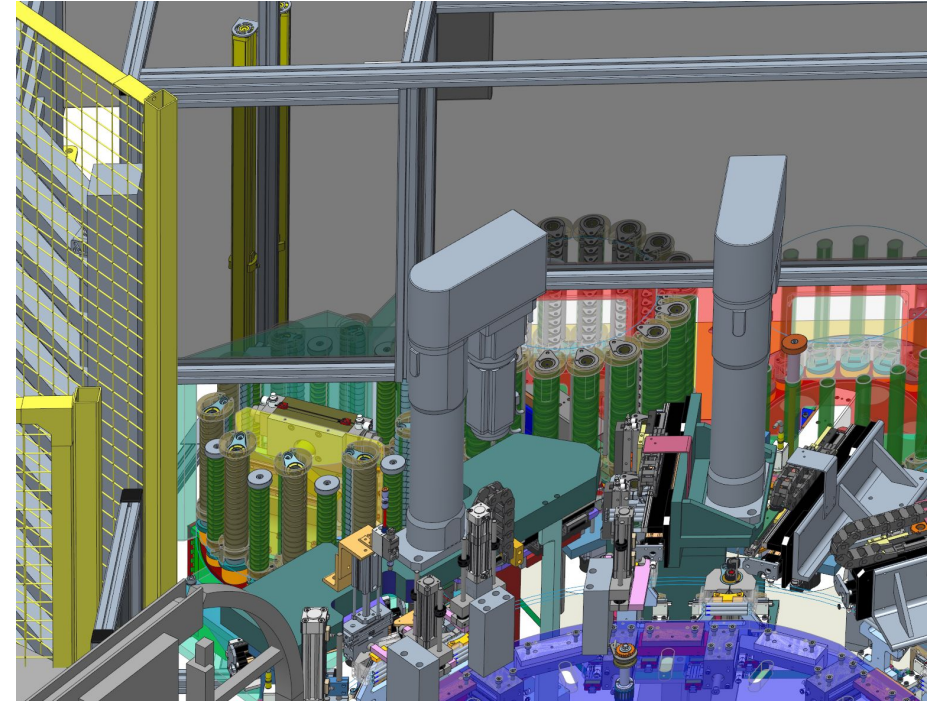
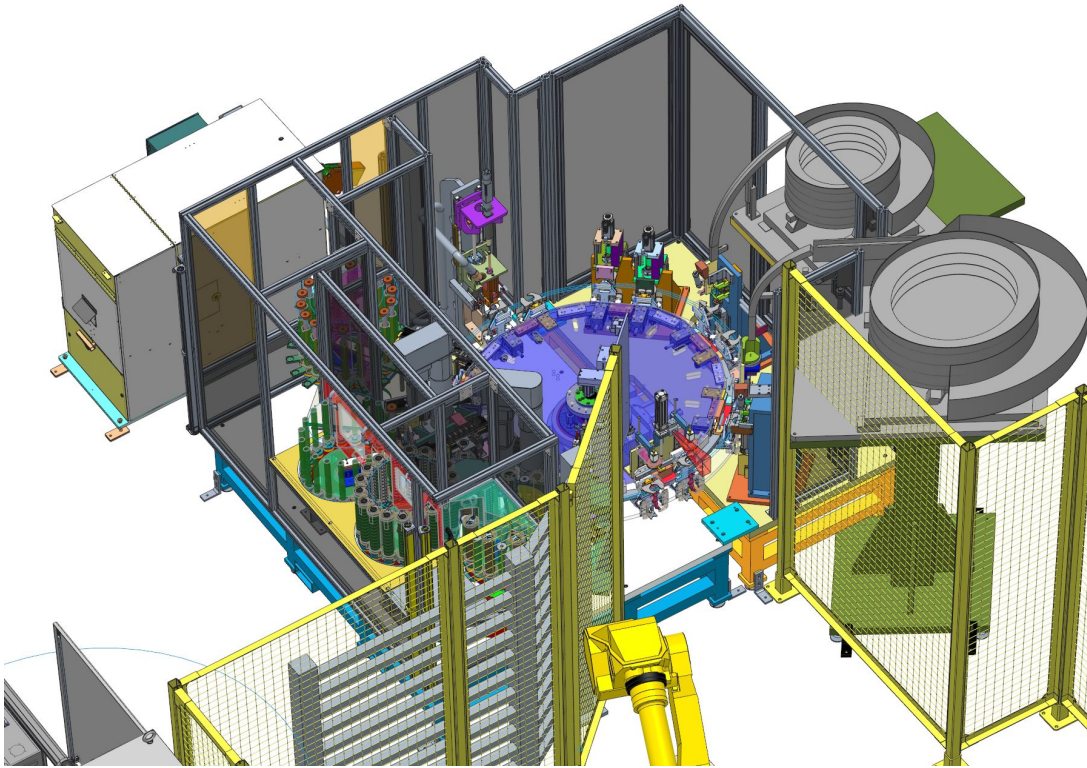


Robotic Material Handling



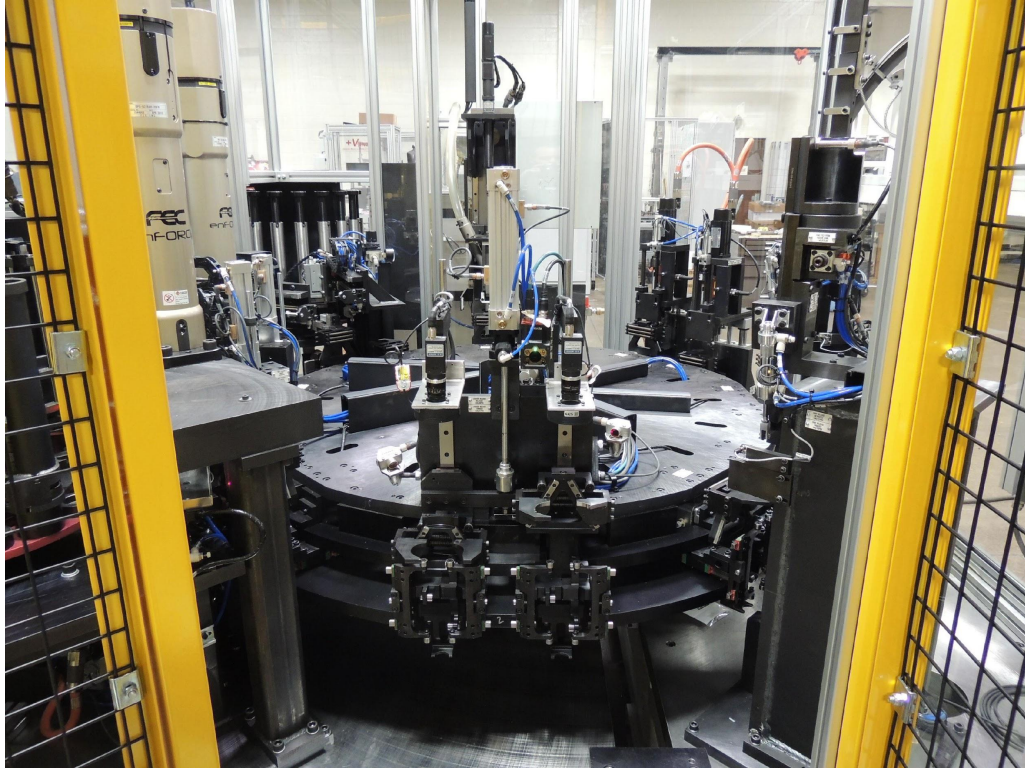
Automatic Assembly



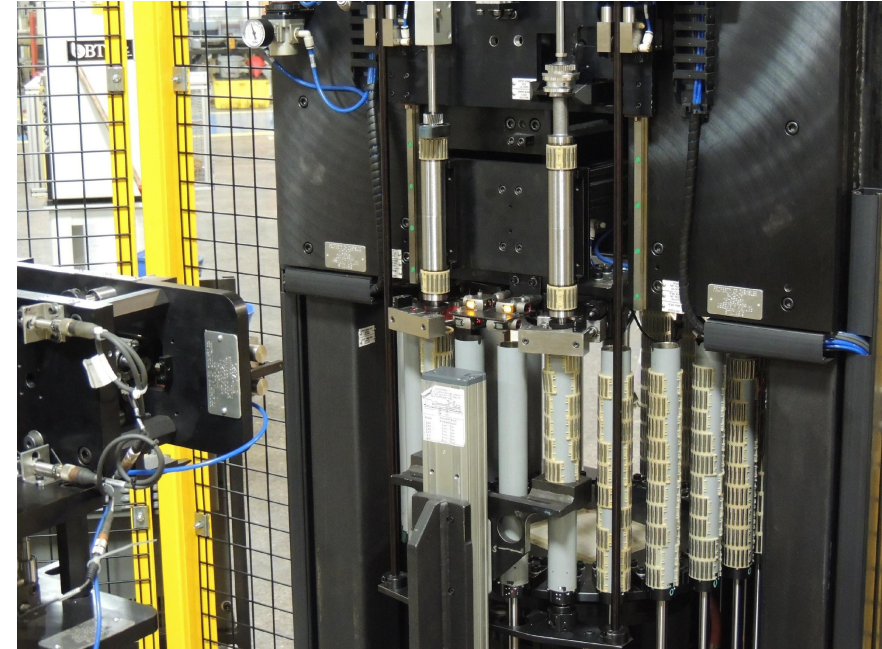




Assembly Line Case Study



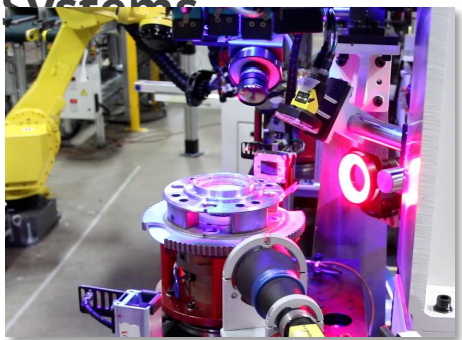
Assembly Line Case Study



Core Product Overview



Inspection Systems



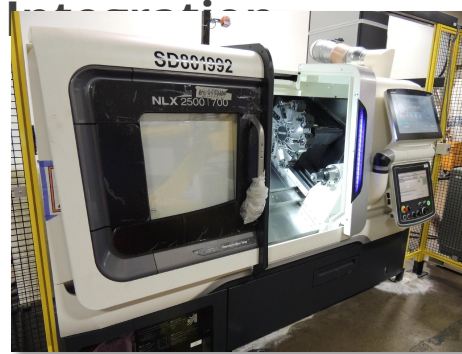
Vision, Laser, Pneumatic, Dynamic, Torque, as well as Classification and Identification

Automation & Robotics



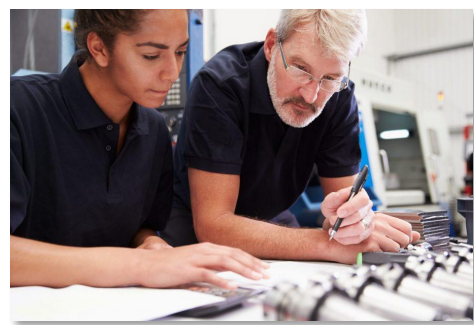
Fully automatic systems to streamline your manufacturing process and increase production

Systems Integration



Custom design or upgrade/retrofit existing lines with the latest sensors and manufacturing technology

Engineering & Service



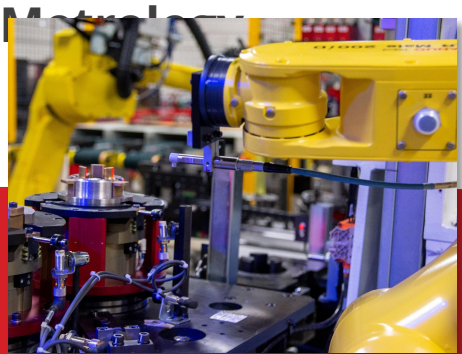
Let the +Vantage team's decades of experience solve your manufacturing challenges

Assembly Systems



Manual and semi-automatic multi-station assembly systems for pressing, torqueing, & riveting

Industrial Measurement



Contact and non-contact gages for precision measurements. In-line and audit room.

Automation Made Seamless

Global Customer Reach



1,500

MACHINES BUILT

250

YEARS COMBINED EXPERIENCE

12

SYSTEMS INSTALLED IN +12 DIFFERENT COUNTRIES



USA (HQ)

12651 Newburgh Rd
Livonia, MI 48150
tel: [+1 734 432 5055](tel:+17344325055)

Canada

London, ON Canada
tel: [+1 226 234 1515](tel:+12262341515)

Mexico

Micro Parque Finsa Eje 2 #470-2
Ramos Arizpe, Coah. 25210
tel: [+52 1 844 270 9389](tel:+5218442709389)

China

14/F Suncome Cimic Tower
800 Shangcheng Rd
Pudong New District Shanghai. 200120
tel: [+86 137 7103 2628](tel:+8613771032628)



Company Overview



Company Size

- 70 Employees Globally
- 100,000 sq. ft in Livonia
 - Additional office space globally

Certifications

- ISO 9001:2019
- Coherix System Integrator
- Fanuc Authorized Integrator
- Q-DAS ASCII Certification
- Schunk Official Partner
- Solartron Orbit 3 Integrator



+VANTAGE

Project: Camcor 200752 Assembly System

+VANTAGE

Activity	Duration	Start Date	End Date	Completion %
Customer approval for Electrical/Pneumatic design	3 days	Mon 5/6/21	Mon 5/10/21 17	0%
Utility information with Camcor	0 days	Mon 5/10/21	Mon 5/10/21 18	0%
Electrical build	4 days	Tue 5/11/21	Fri 5/14/21 19	0%
Wiring	20 days	Mon 5/17/21	Fri 6/11/21 20	0%
Assembly	73 days	Tue 4/20/21	Thu 7/29/21	0%
Manufacturing	35 days	Tue 4/20/21	Mon 6/7/21 14	0%
Electrical/Pneumatic items	5 days	Mon 5/31/21	Fri 6/4/21 20FS+10 days	0%
Parts from Customer for Setup and Runoff	0 days	Tue 6/1/21	Tue 6/1/21 24FS-5 days	0%
Press from Customer	0 days	Tue 6/1/21	Tue 6/1/21 24FS-5 days	0%
Assembly	19 days	Tue 6/8/21	Fri 7/2/21 24	0%
Gate programming and debug	19 days	Mon 7/5/21	Thu 7/29/21 28	0%
At Vantage	1 day	Fri 7/30/21	Fri 7/30/21	0%
Off	1 day	Fri 7/30/21	Fri 7/30/21 29	0%
Mer Acceptance	1 day	Fri 7/30/21	Fri 7/30/21 29	0%
Package/Ship	2 days	Mon 8/2/21	Tue 8/3/21	0%
n	1 day	Mon 8/2/21	Mon 8/2/21 33	0%
	1 day	Mon 8/2/21	Mon 8/2/21 33	0%
/21	1 day	Tue 8/3/21	Tue 8/3/21 37	0%

+V

Automation Made Seamless

Proud Partners of:



Robotics



Vision Systems



Marking Systems



PLC

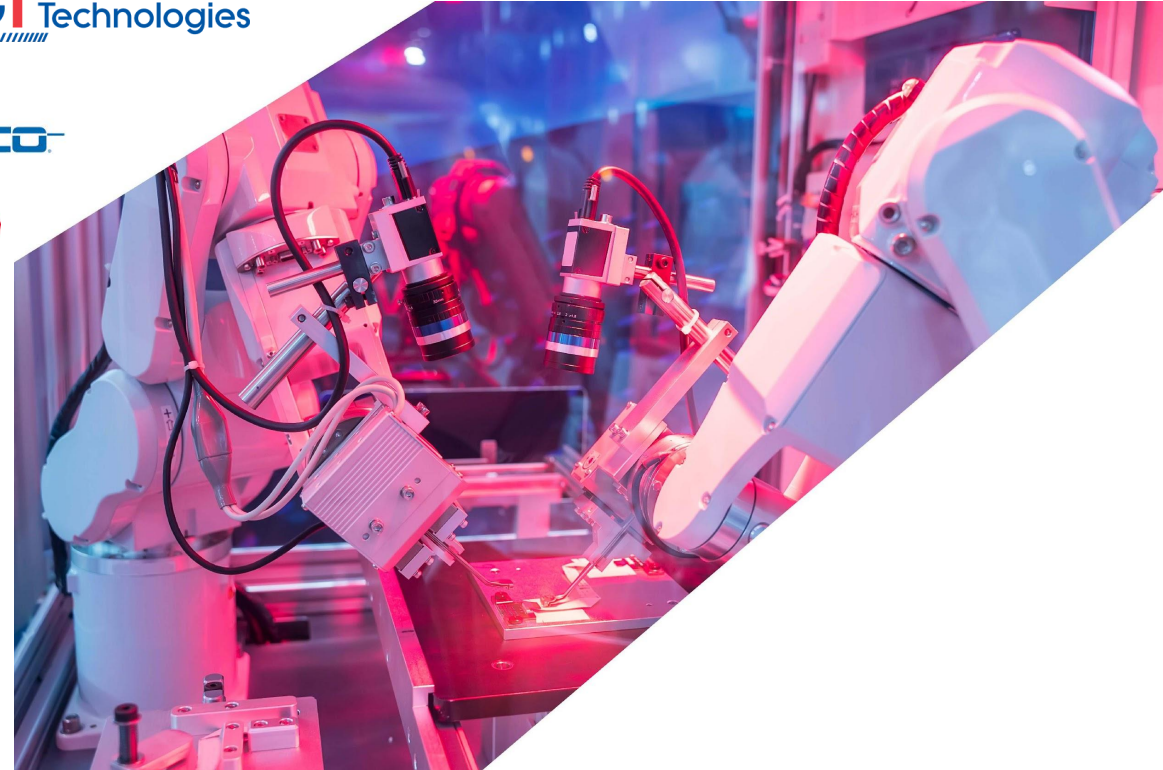
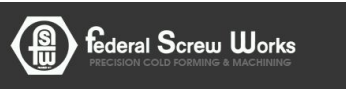


Torquing/Pressing



Our Featured Customers

+VANTAGE



On-Site Service & Support



100% Dedication to Customer Service

Global Support On-Site Representatives

Quick Response Unit and Down Time Recovery

Remote Log In Service in a Moments Notice

24/7 Service Support

On-site Contracts Available

Highly Trained Staff of Engineers & Technicians



USA

12651 Newburgh Rd
Livonia, MI 48150
tel: +1 734 432 5055

Automated Inspection

Mexico

Micro Parque Finsa Eje 2 #470-2
Ramos Arizpe, Coah. 25210
tel: +52 1 844 270 9389

Quality Assurance

Canada

London, ON Canada
tel: +1 226 234 1515

Zero Defects

Thank You for Reading!

China

14/F Suncome Cimic Tower
800 Shangcheng Rd
Pudong New District Shanghai. 200120
tel: +86 137 7103 2628

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Metrology & Assembly Solutions