

Automating
in an
automated
world;
protecting
profit in the
long run.

NUTEC



Agenda

Why Automation?

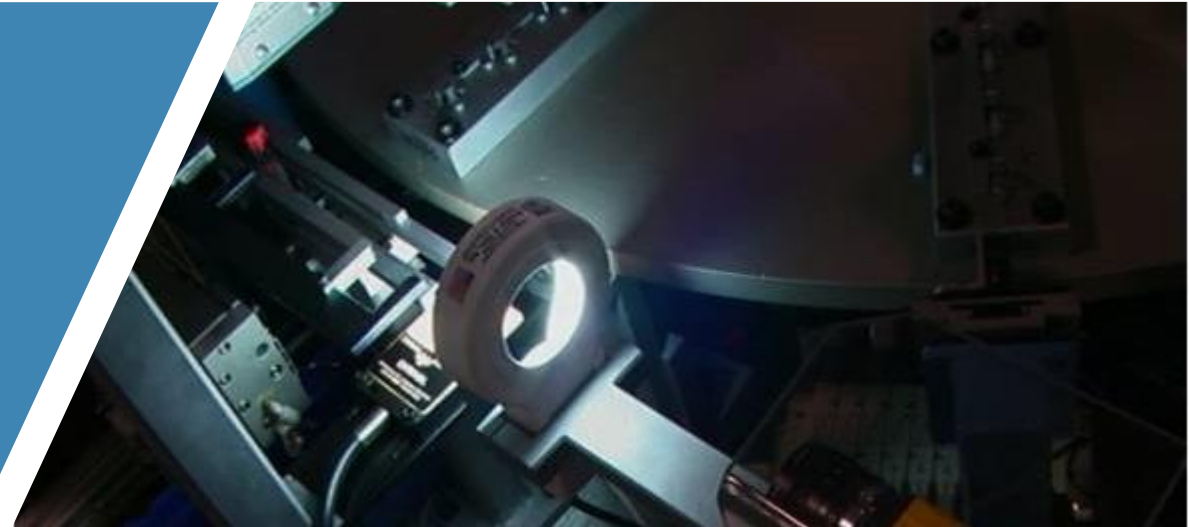
Plan for Success

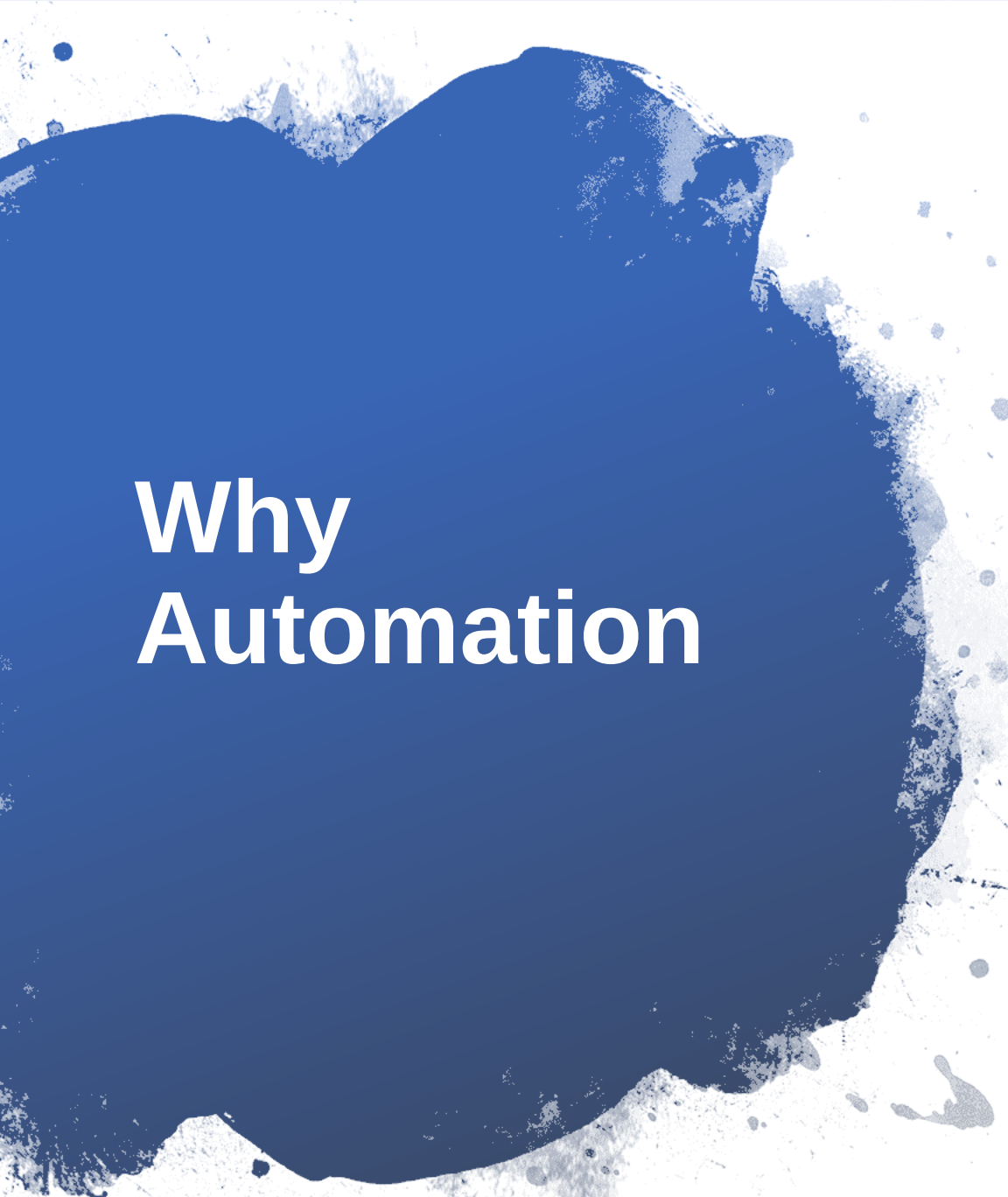
RFQs & Proposal Expectations

Project Tools & Milestones

Examples & Creative Solutions

Q & A





Why Automation

- Protects profits – cost of operation remains more consistent YOY (with the exception of associated human operators). It allows true production cost to be more accurately calculated which in turn allows more confident decisions can be made.
- Can provide a competitive advantage and/or helps manufacturers to remain relevant in a competitive global market - automation helped companies in the US to better compete with global low-cost manufacturing centers
- Cost avoidance in the areas of scrap, non-conformances at the customer level, etc.
- Provides consistent quality and output
- Risk mitigation – can remove human error from the equation in the areas of production AND documentation/record keeping (especially important in med device/pharma industries)
- Supports growth

Why Automation- *for New Launches*

- Integrated Plans
 - Concurrent Engineering
 - Design Checks & Pilot Runs
- Volume & Output
- Cost Control
 - Predictable costing
 - Combining of Processes (Press-side, packaging)
- Quality Assurance
 - 100% inspection
 - Functional Inspection
 - Data Records



Why Automation- *for Enhancements*

- Product Upgrades
 - Next generation, new size
- Challenging Processes
- Quality Assurance
 - 100% inspection - consistent
 - Functional Inspection
 - Data Records
- Cost Control
 - Predictable costing
 - Combining of Processes (Press-side, packaging)
 - Re-shoring (avoid shipment cost and delays)





Plan for Success

Coordinates inputs, outputs, processes, product design, safety, cost

Identify Inputs & Outputs

Typical Flowchart

>What do you want it to do?

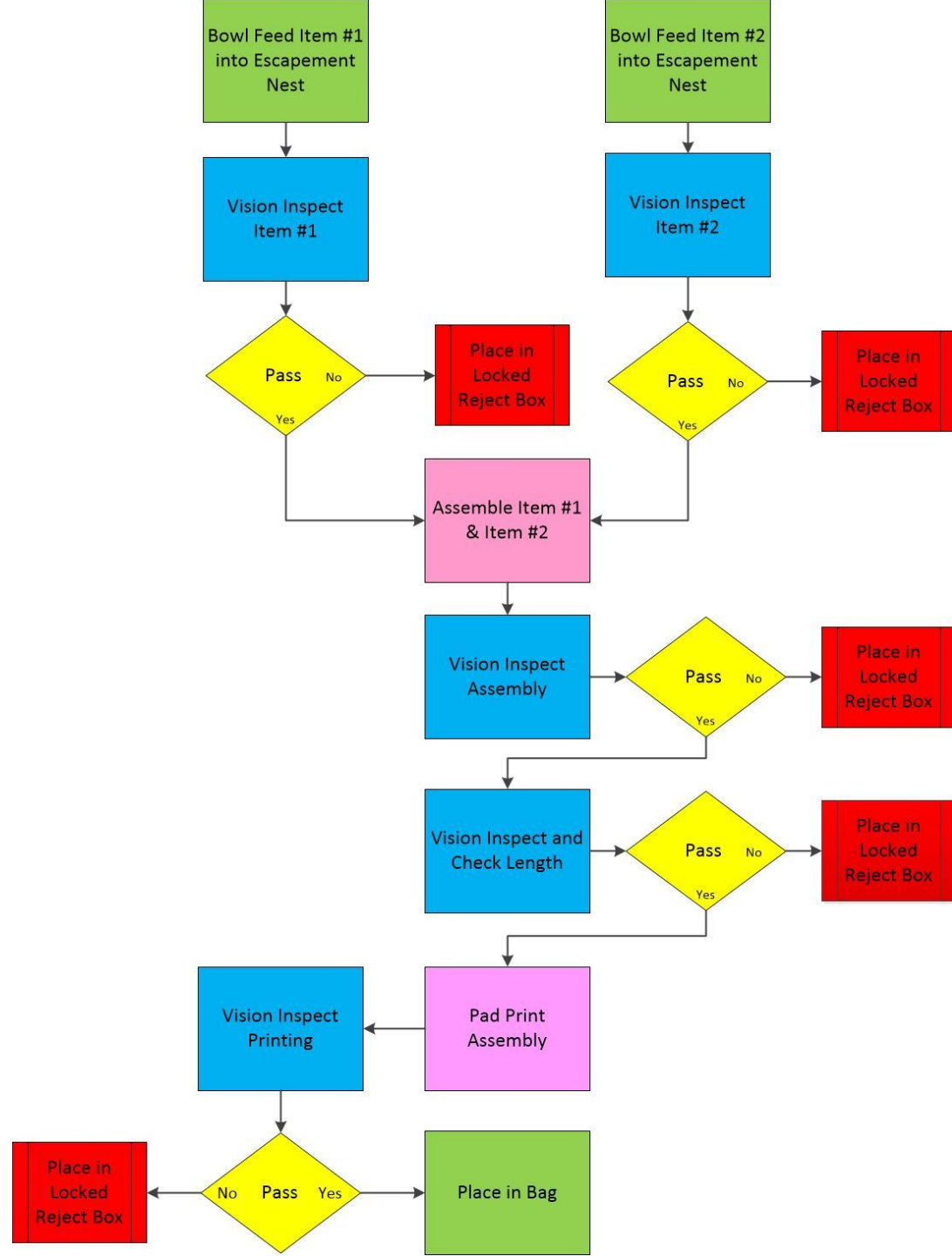


TABLE OF CONTENTS

1 PROJECT INFORMATION

2 REVISION TRACKING

3 EXTERNAL AGREEMENT

4 INTERNAL APPROVAL

5 EQUIPMENT DESCRIPTION

6 SCOPE

7 REFERENCE

8 PERFORMANCE

8.1 Regulatory Standards

8.2 Cycle Time

8.3 System Generated Scrap

9 DESIGN FEATURES (GENERAL)

9.1 Power

9.2 General Sensing

9.3 Controls

9.4 Wiring

9.5 Safety

9.6 Interface and Alarms

9.7 Compressed Air Quality and Filtration

9.8 Materials

9.9 Cleanliness

10 PROCESS FLOW CHART

11 DESIGN FEATURE

11.1 Carrier Block

11.2 Magazine Unloading/ loading

11.3 Lubricant Dispensing

12 SITE ACCEPTANCE

13 SYSTEM INSTALLATION

14 WARRANTY

15 DOCUMENTATION

User Requirement Specification (URS)

Example

Request for Quote & Proposal Expectations

What the vendor will need.

User Specification

Drawings and Details

Samples

Discussion Opportunity

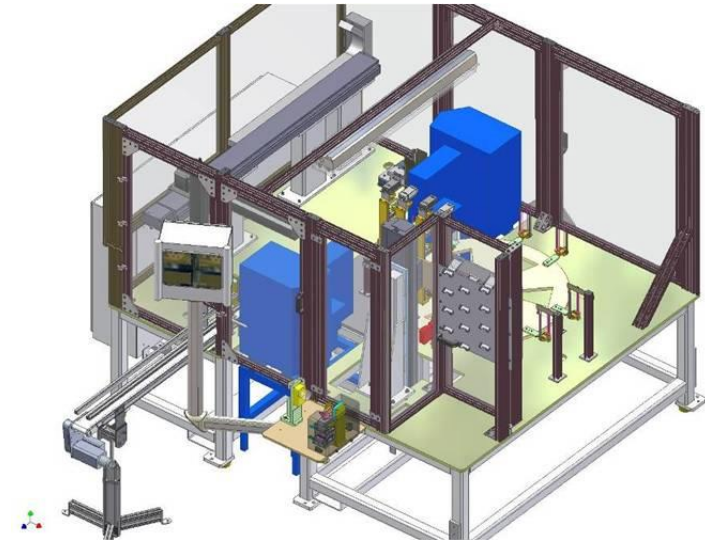
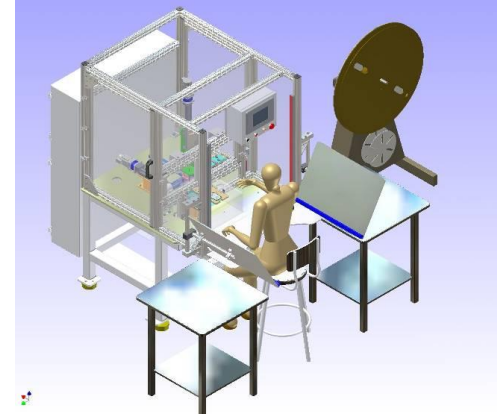
Timeline for Quote and Project

Process Details

Validation Protocols

Proposal Review

- Functional Design meets your needs
 - URS vs proposal
 - Concept drawings
 - Homework—did they build your confidence
- Selection considerations beyond \$
 - Apples & Oranges
 - Look for the “wow” factor



Equipment Platforms

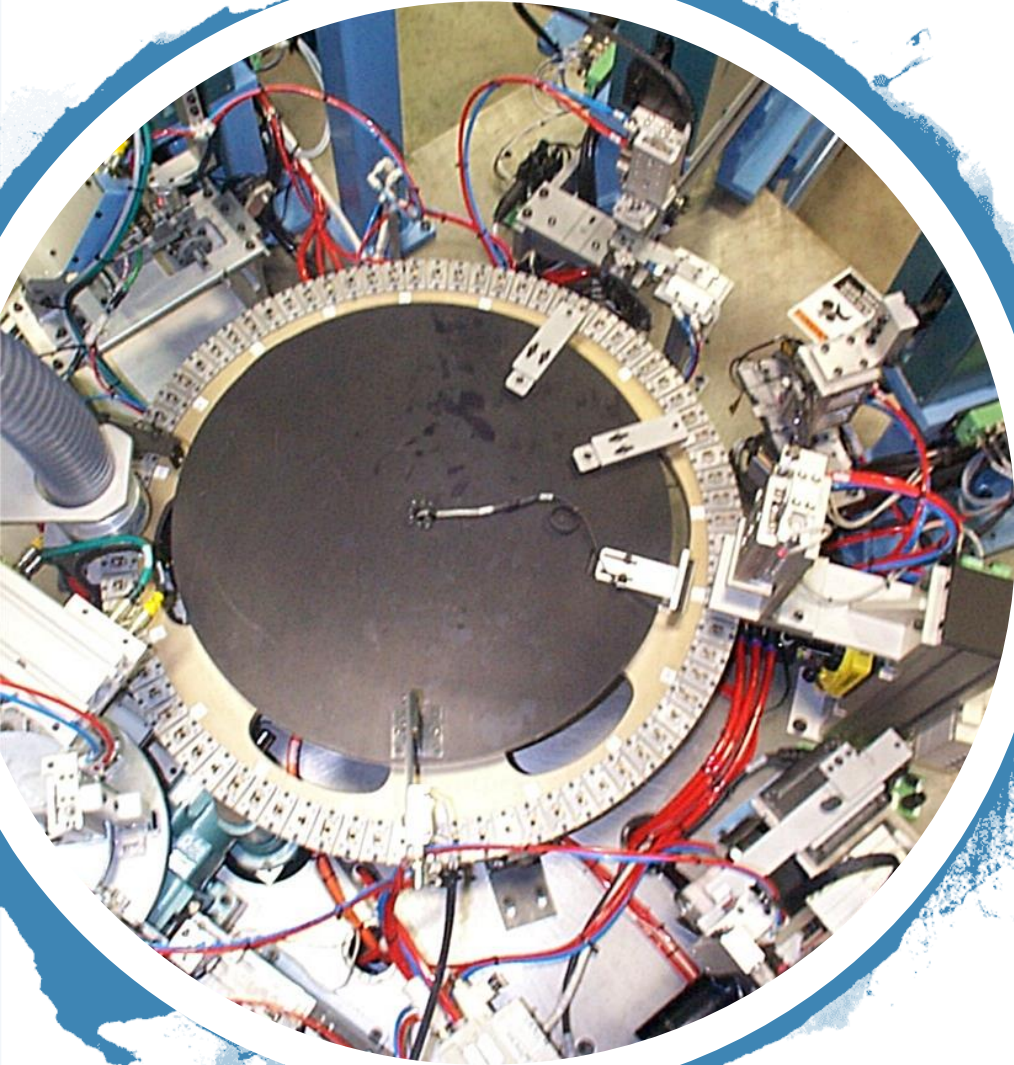
- Power and Free Equipment
- Synchronous In-Line Indexing
- Synchronous Rotary Indexing
- Press-side
- Continuous Rotary Motion
- Asynchronous Indexing
- Walking Beam
- Robotic Cell
- Semi-Automatic Work Stations
- Lean Work Cells





The image shows a close-up of four PowerFlex 40P drives installed in a rack. Each drive is a light beige color with a 'DriveGuard' logo and a model number (DR-075, DR-125, DR-175, and DR-225). They have ports for PORT, MOD, NET A, and NET B. Below the drives, there are copper-colored terminal blocks with purple cables connected to them. The cables are labeled with 'CBL-175', 'CBL-125', and 'CBL-175'. A large orange circle with a white center is overlaid on the left side of the image, containing the text 'Controls Engineering'.

Controls Engineering



Include Controls Engineering Experience

- In-house turn-key electric, pneumatic and hydraulic control system design and build
- PLC, motion control, robotics and operator interface programming
- Vision System Programming
- Data Acquisition and SPC programming and storage
- Complete Schematics and Panel Layouts
- Controls Bills of Material



Project Launch

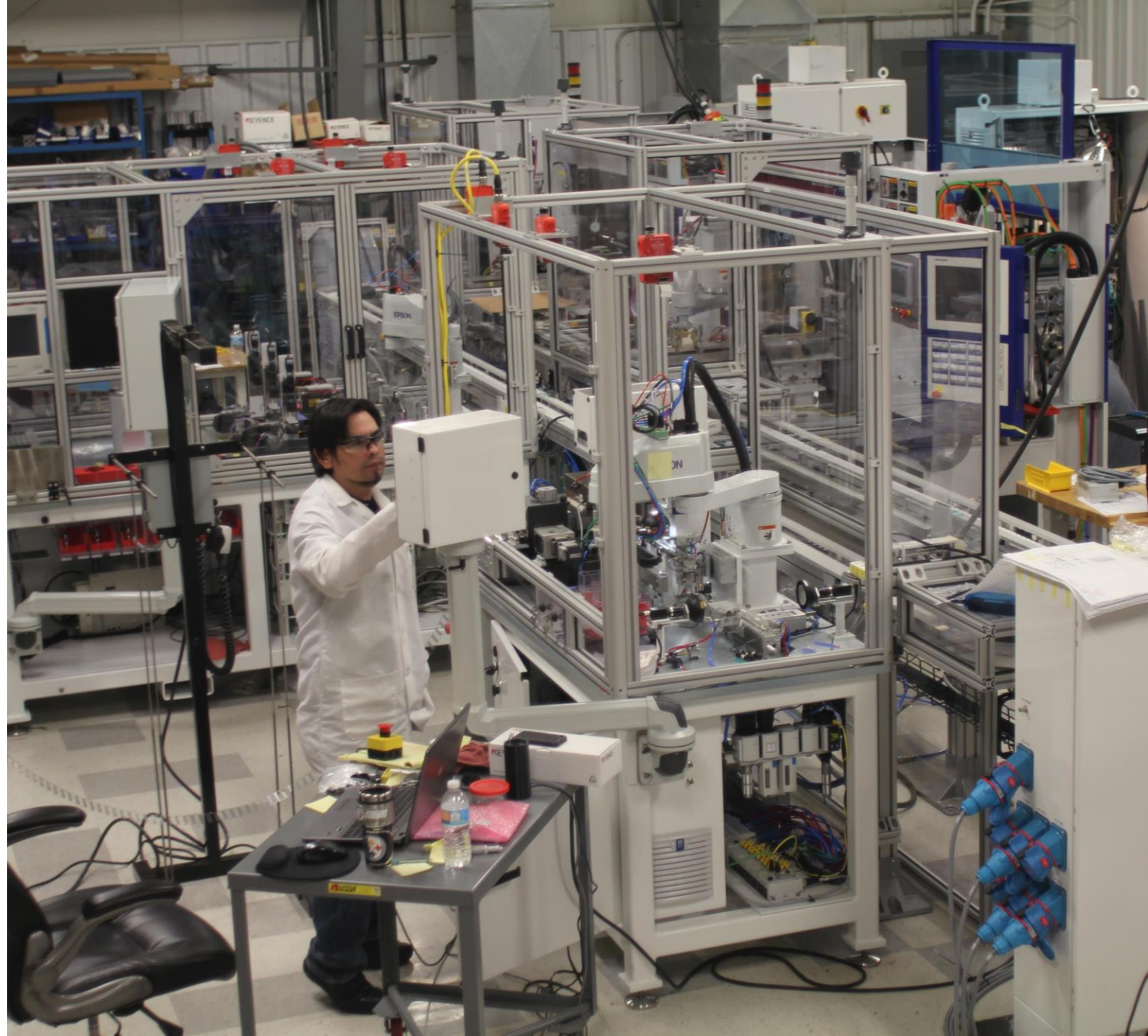


Project-Based Tools

- Kick-off meetings
 - Gantt Charts & Updates
 - DFM
 - PFMEA's
 - Risk Assessments
 - Mechanical / Electrical Interface
 - CE Facilitation
 - Validation Protocols
-

Project Management

- Single Source Project Manager
- Primary liaison for technical and commercial issues. Includes providing periodic written project status reports to clients.
- Responsible for monitoring and planning resources, costs and status, of all project aspects, including adherence to customers specifications.
- Organizes and maintains all project documentation.



**Assembly
and Factory
Acceptance
Plan Early!**





Examples & Creative Solutions



“Out-of-the-Box” Automation

Packaging Equipment





- Standard NuTec Machine Design
- Machine Tending and automation of Tray Load and Unload functions
- Capable of Secondary Operations such as inspection, marking, assembly, insert loading, coating, etc.
- Ideal for integration with Mold Machines, Machining Centers or other automated processes and assembly equipment

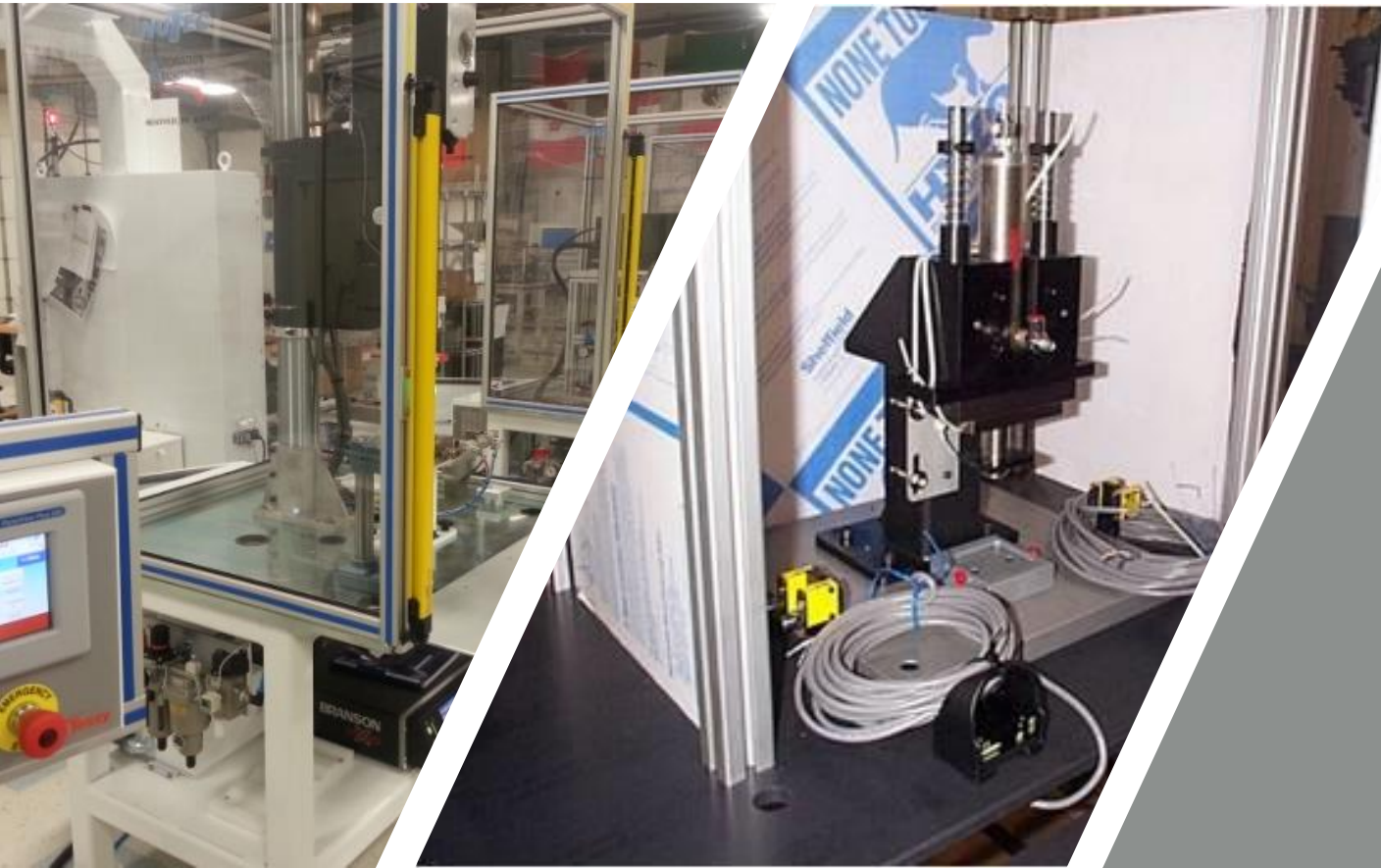


Pre-designed Robotic Tray Handling Machine

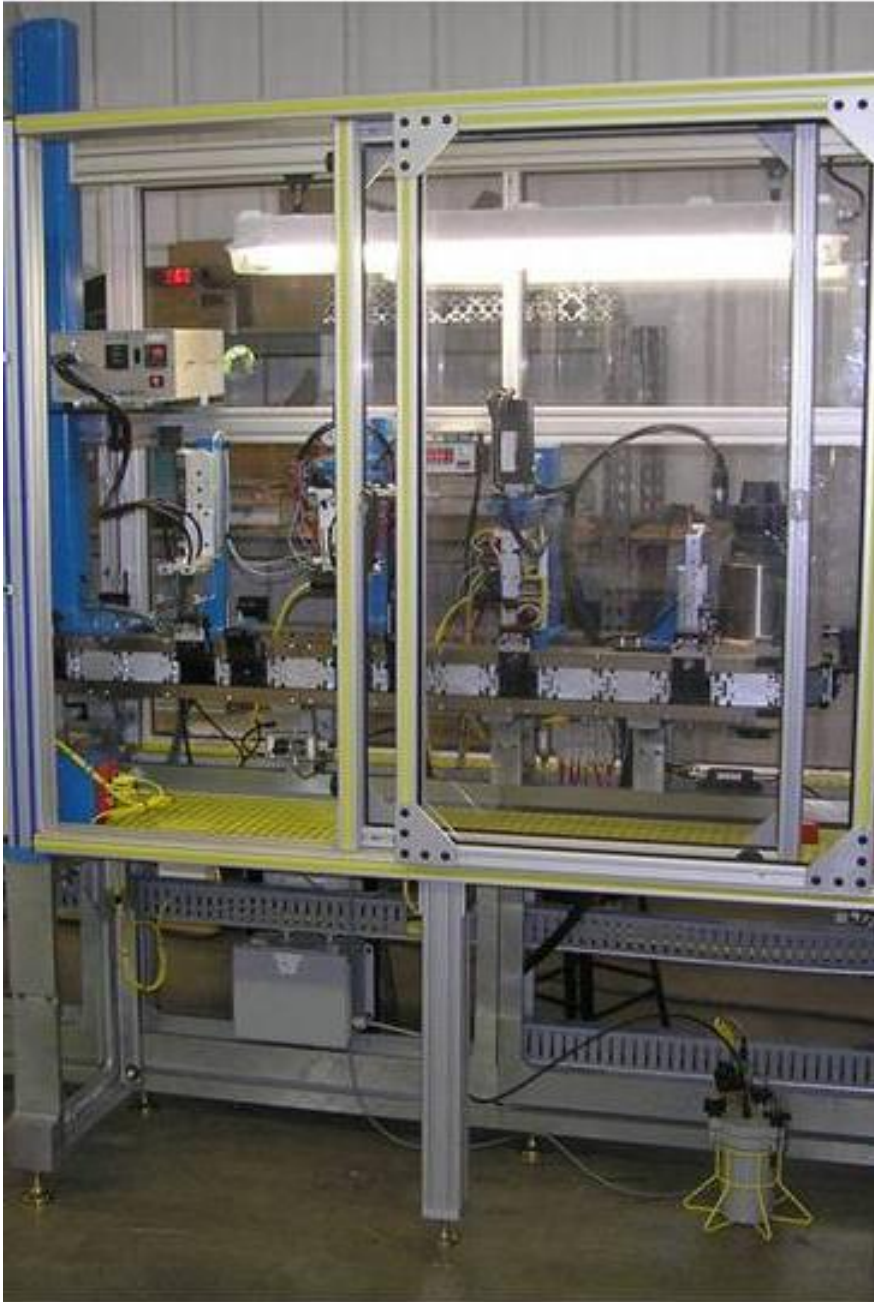




Move
towards
Custom
Solutions



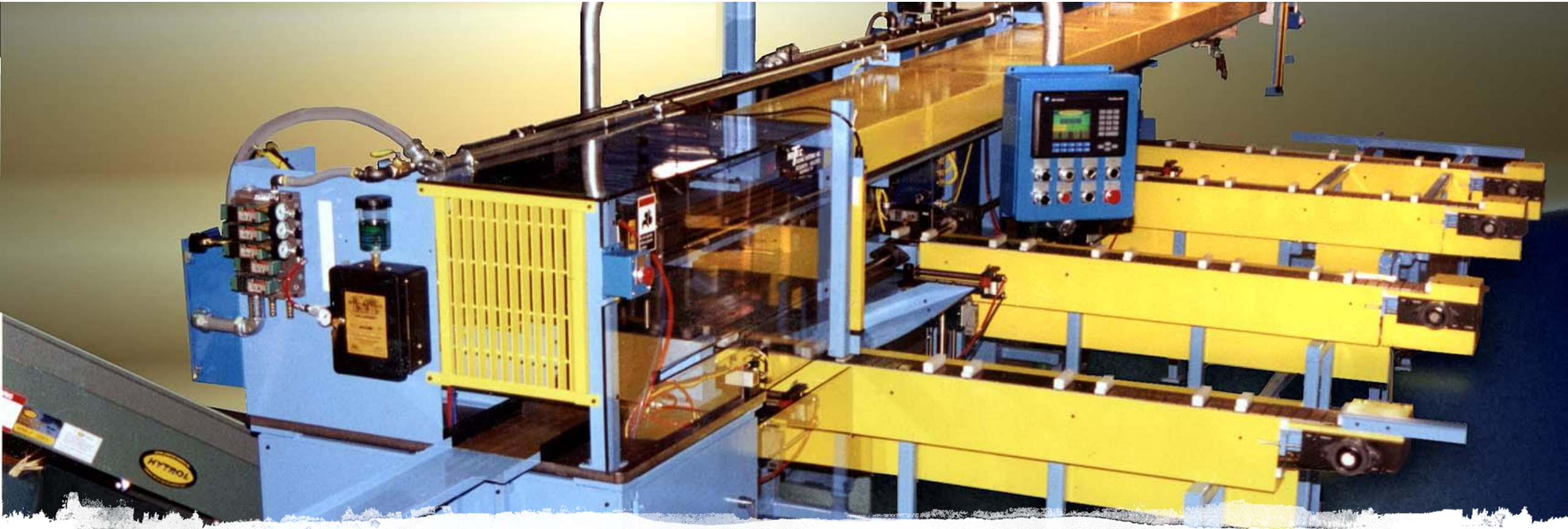
Lean Work
Stations—Low
Volume or
Prototyping



Small Inline Indexing

Semi-automated Ultrasonic Weld and Vacuum & Leak Test Workstations





Material Handling/Processing

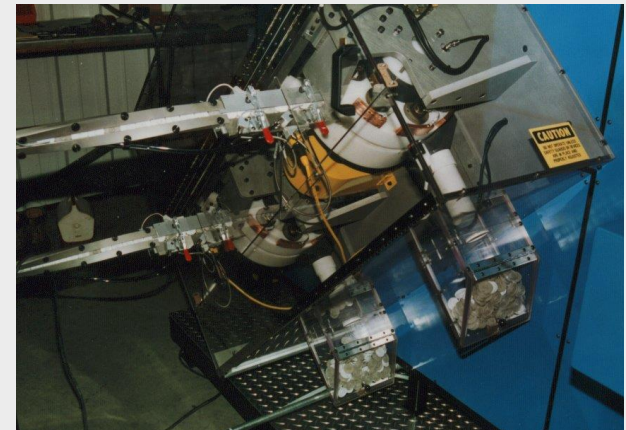
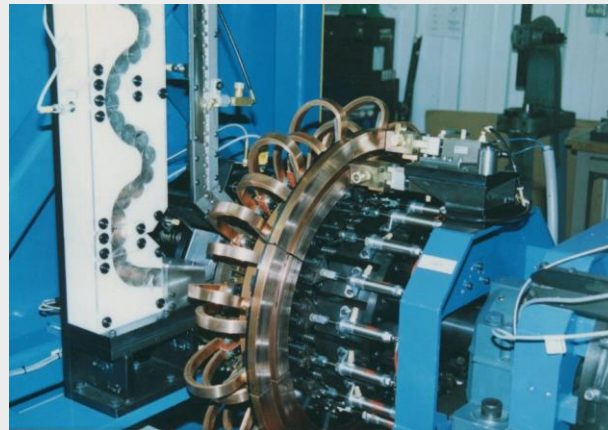
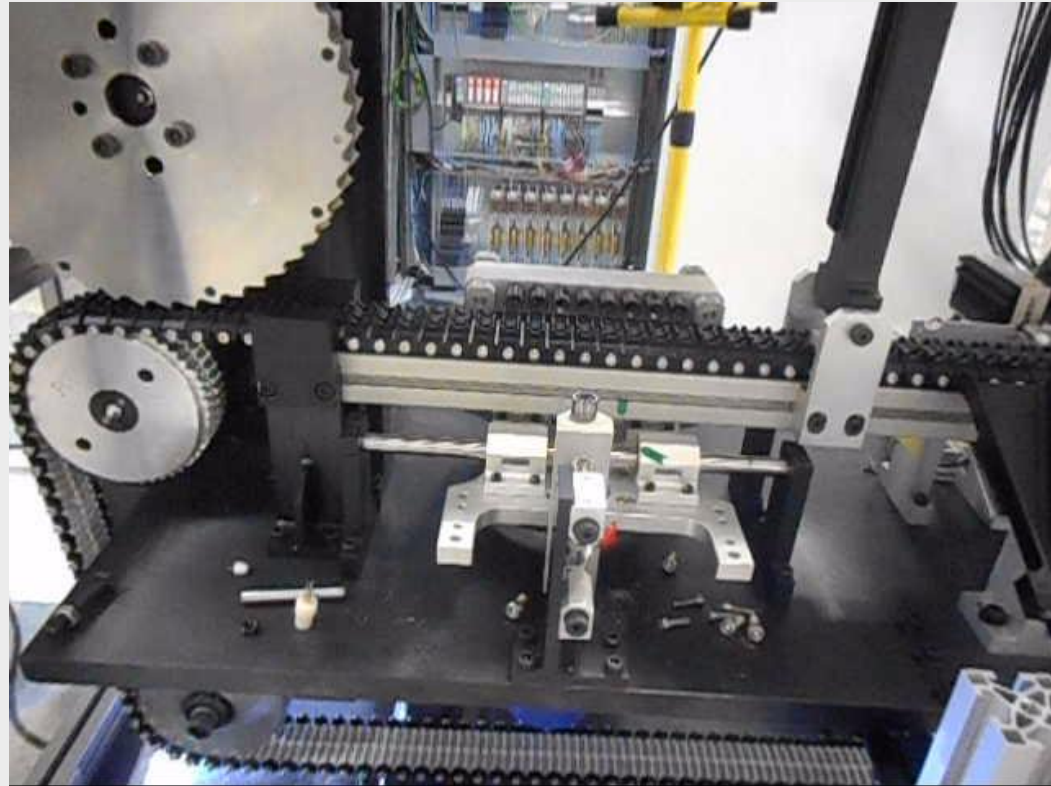
Advanced & Custom Solutions





High Speed Assembly Line

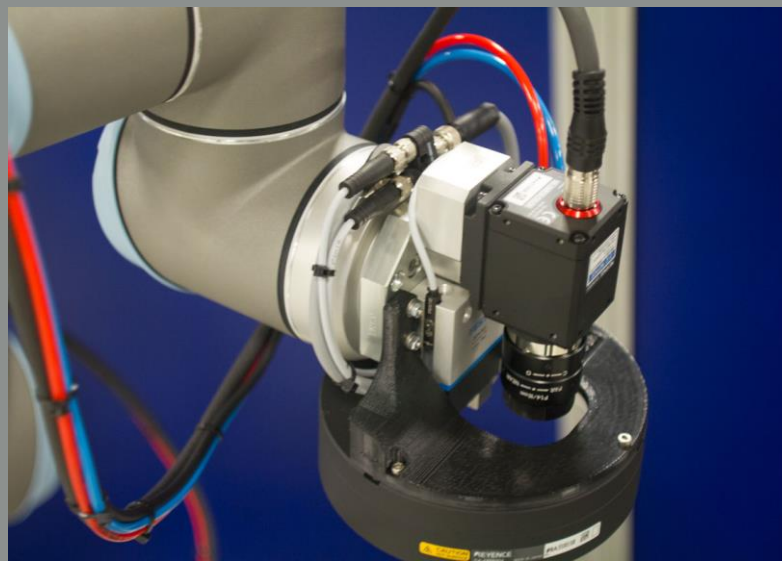
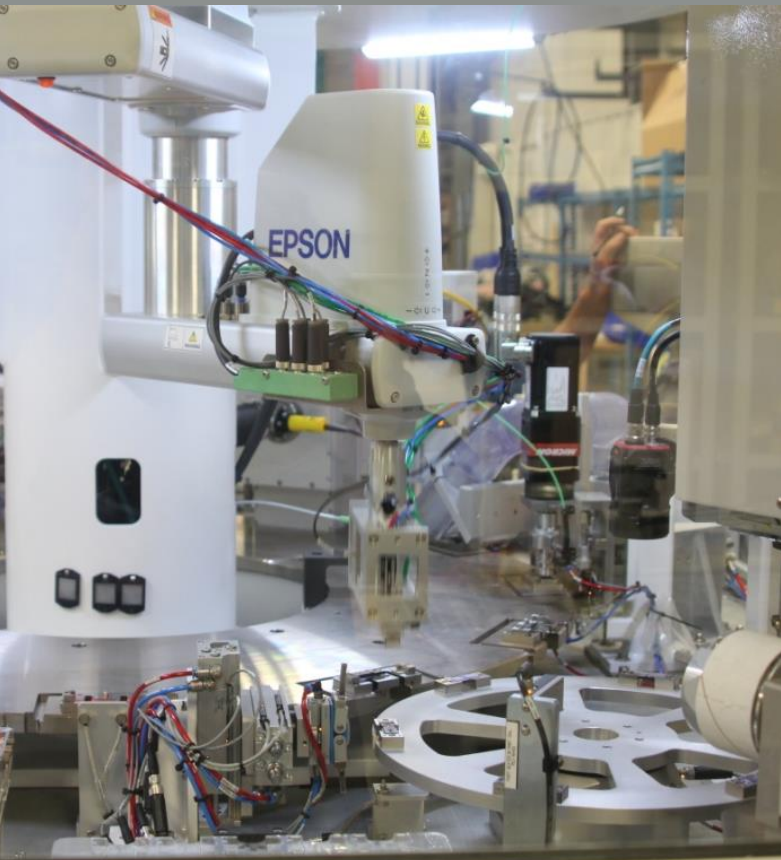
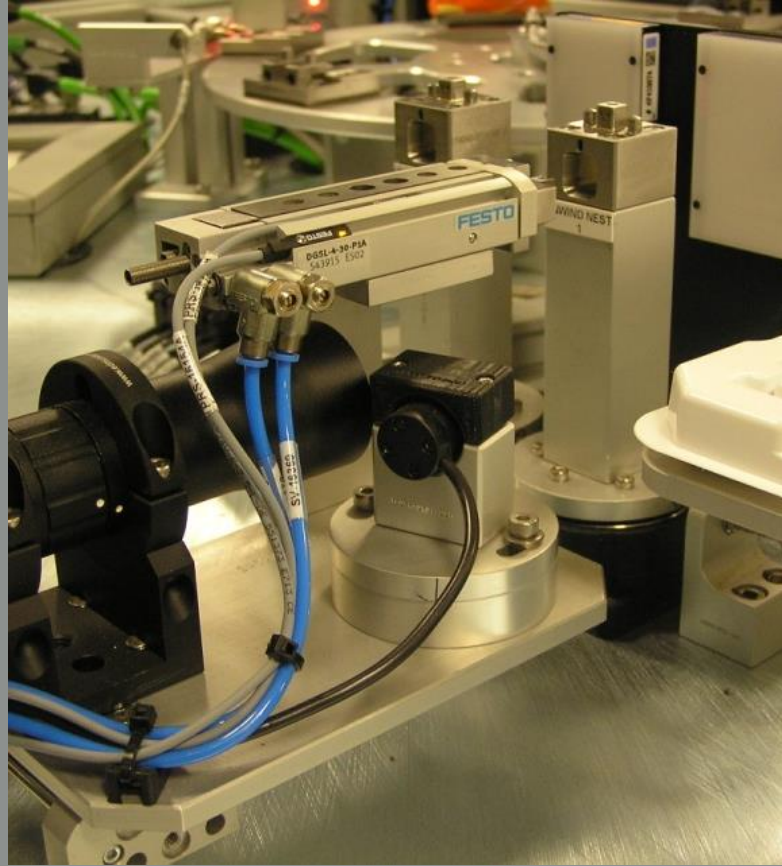
Continuous Motion Equipment



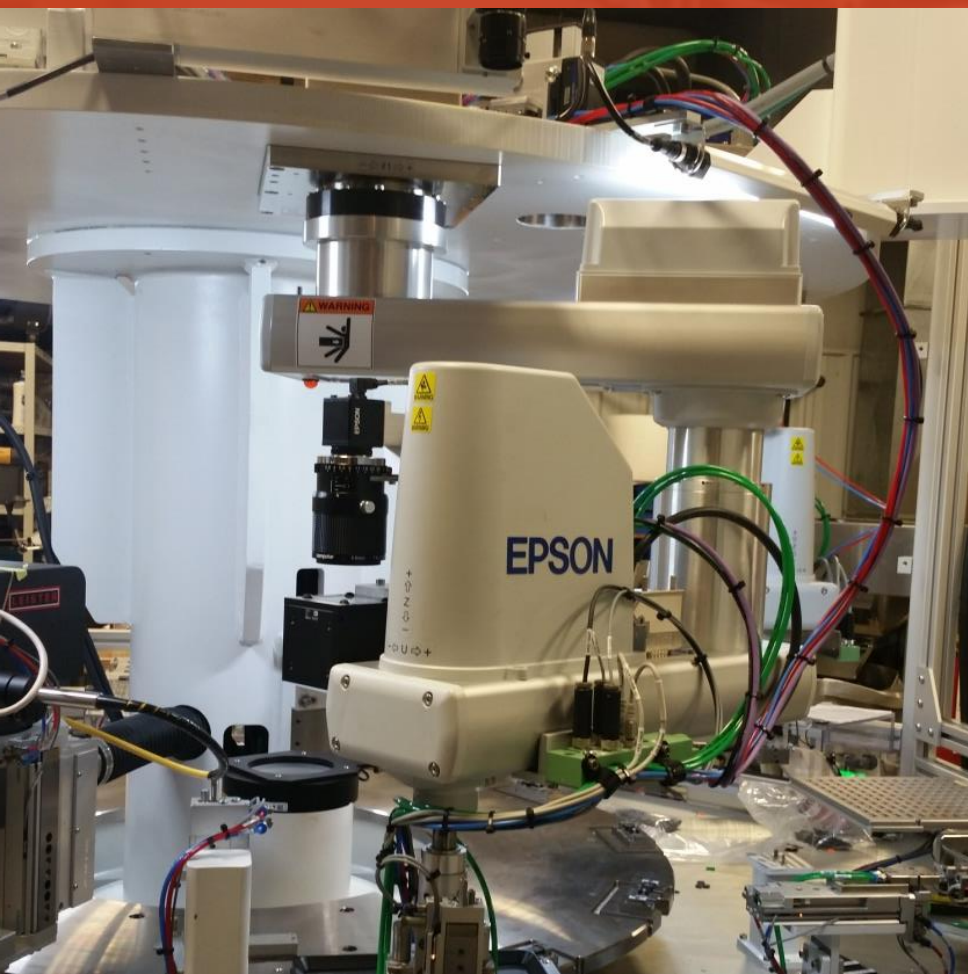


Ultra Precision Small Part Assembly and Inspection

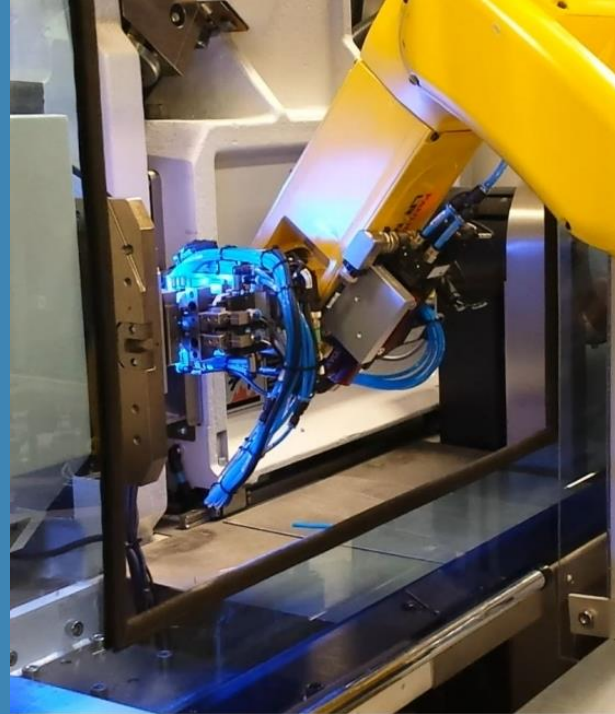
Medical / Clean Room Equipment



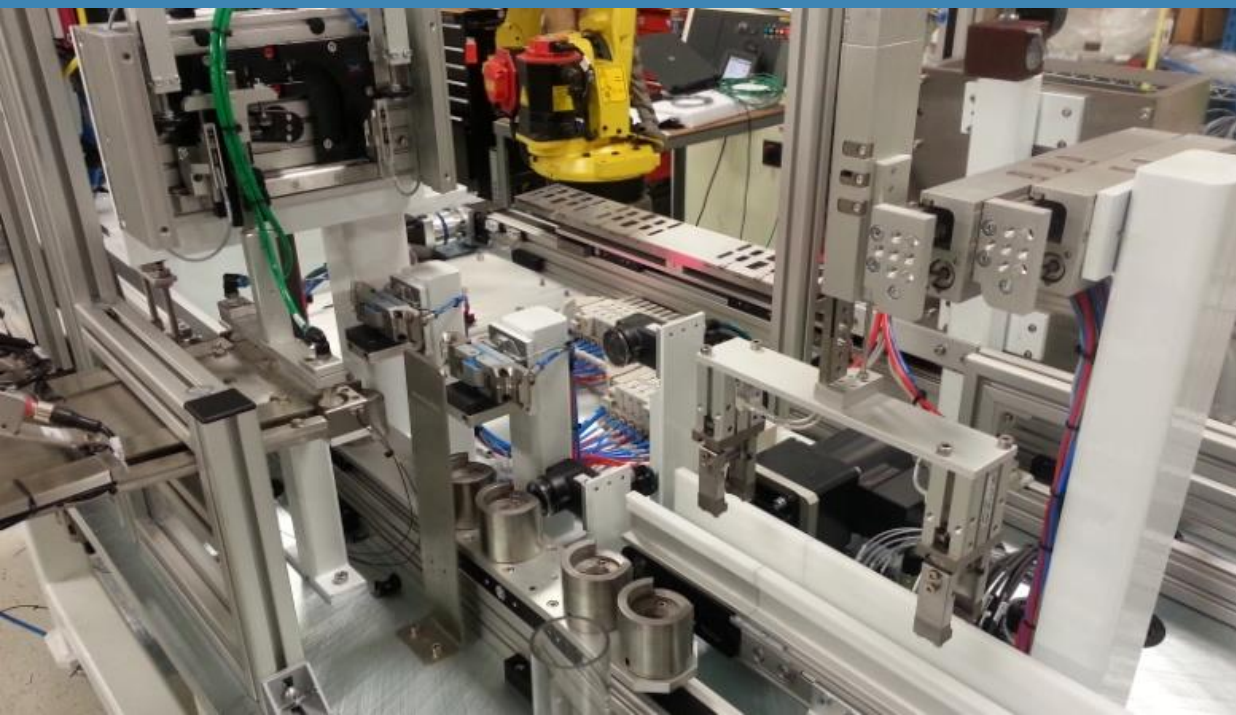
High-Tech Vision Systems



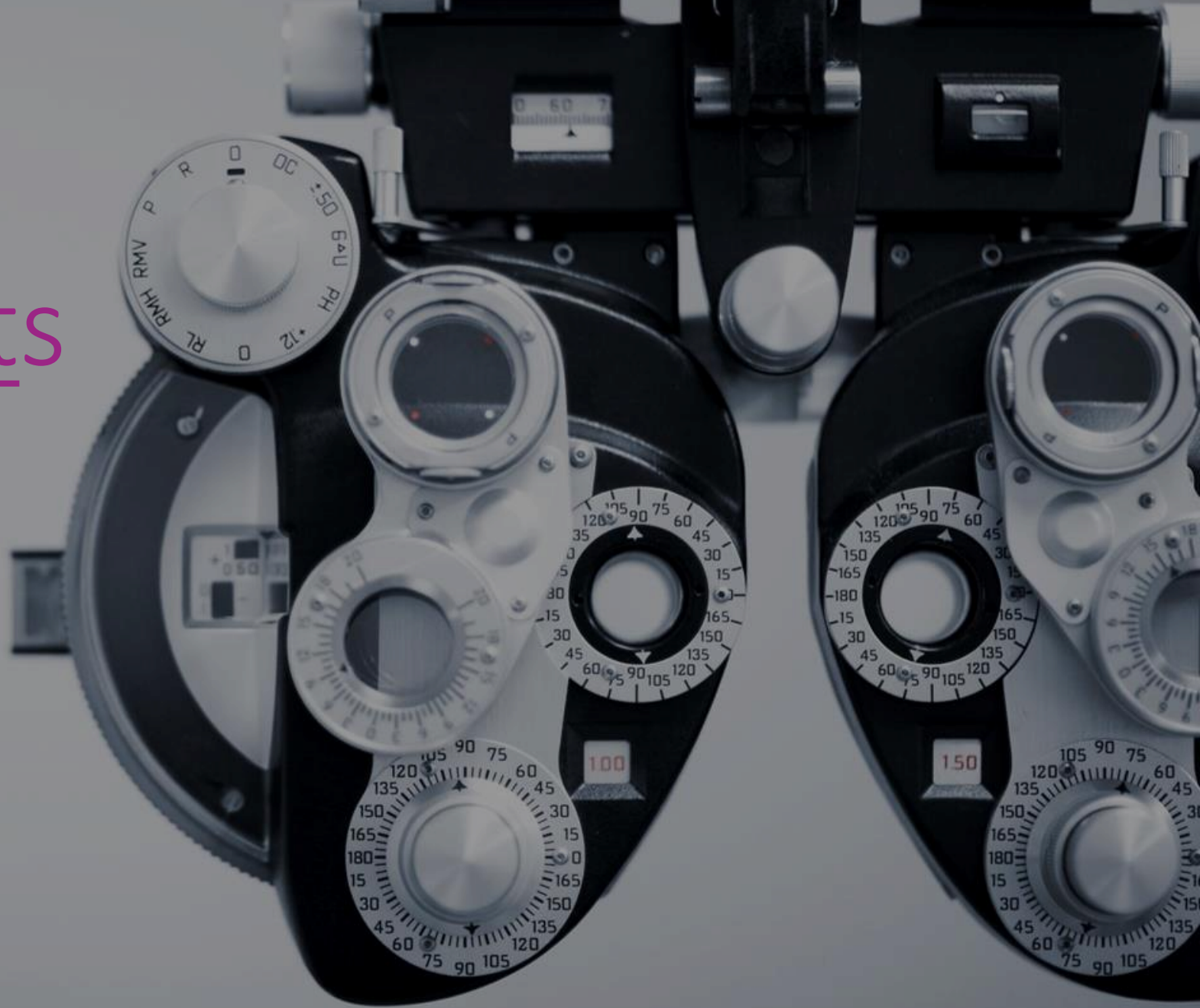
Vision Guided Robot & Collaborative Robots

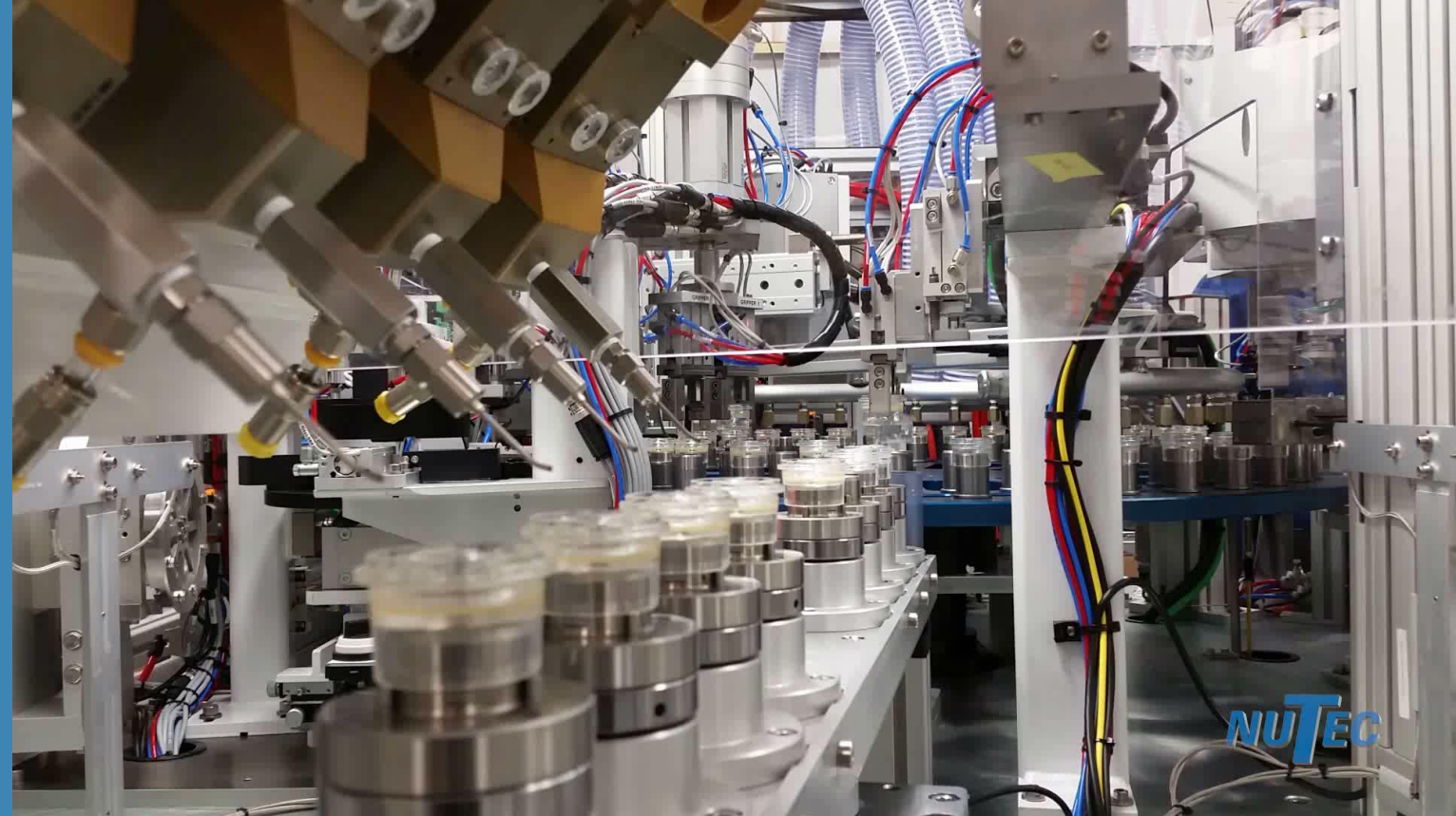


Press-Side Automation



Creativity Starts with a Vision





Medical Disposable Assembly

Migration from Pilot Machine to Press Side Full Automation



Clean Room Applications



Medical Device Assembly



Pharmaceutical Device Processing



Synergy – Teamwork



MOTION & CONTROL
NSK

Sodick

KEYENCE



Allen-Bradley

DURACELL®

FESTO



Graver Technologies



EPSON®

Names you
can Trust



FANUC
Robotics

COGNEX

KAMAN





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Measure
Success.....

Job Well
Done!



Customer Testimonials

“ I can honestly say that of the five automated machines we built for this project, the one from NuTec went the smoothest and is the most functional and user friendly. I am looking forward to working with you again on future projects.”

“I want to express my sincere appreciation to the NuTec team for all of the activities we did last week [during VAT]. The dedication and passion shown was impressive.”

“That’s one impressive cell. It was fascinating to watch and I marvel every time I walk by various complex automated cells here and then consider the amount of expertise it takes to make these things hum. Hats off to you guys”

“By the way, the MB Machine looks really nice especially the layout and wiring in the main control cabinets. Comparing it our existing machines and some recent ones we have had built by other vendors, the workmanship of your machine stands out.”



Customer Testimonials

“The expertise and excellence that your staff exhibited were key to our successful development and scale-up of two new prismatic products. The equipment arrived at our facilities and was debugged / qualified in record time. The units operated at an incredible 98% efficiency at start-up.” – Sr. VP of Manufacturing, Fortune 500 Consumer Products Company

“That’s one impressive cell. It was fascinating to watch and I marvel every time I walk by various complex automated cells here and then consider the amount of expertise it takes to make these things hum. Hats off to you guys.” – Engineer Director, Medical Device Supplier

“It was refreshing to work with people who were courteous, professional, and committed to the project. ...I was impressed the level of knowledge and consistent effort.” – Director of Engineering, Industrial Filtration Manufacturer



Thank You!

NUTEC

Sodick

Q & A

Sodick

NUTEC

