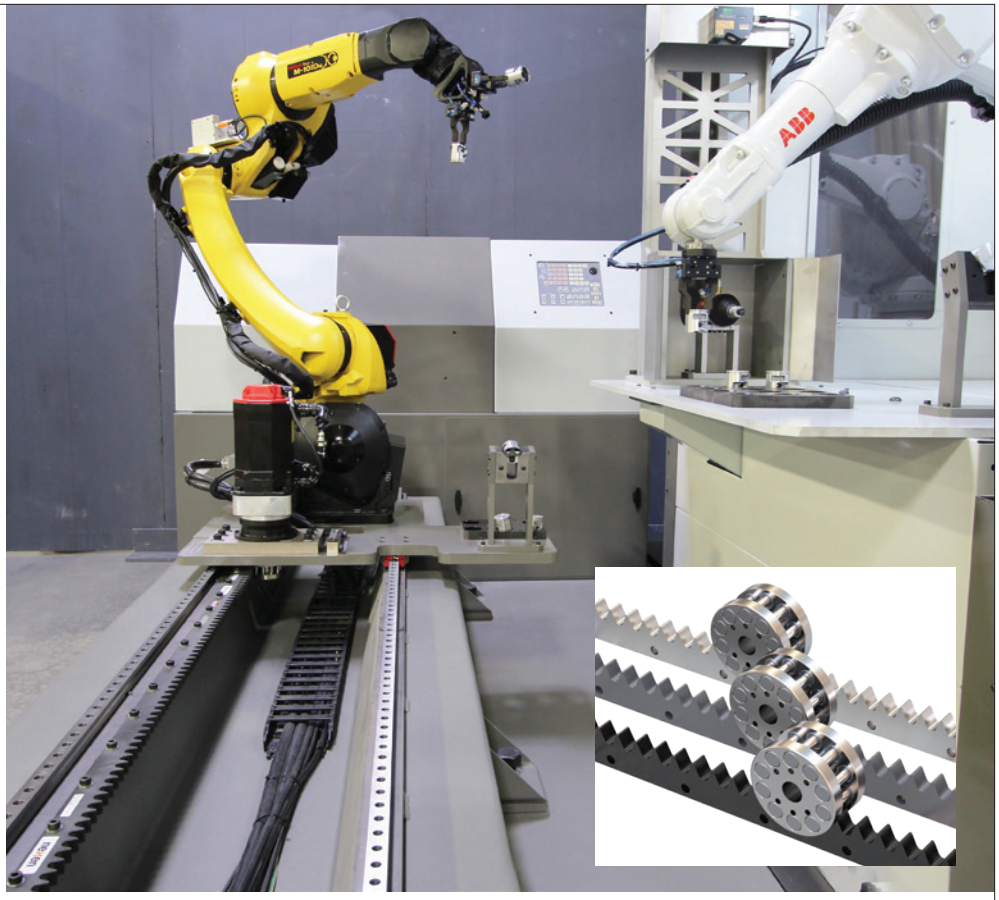
nexen

MESH automation



The Best Fit & Superior in All Technical Aspects

MESH teams with Nexen for superior positional accuracy & repeatability

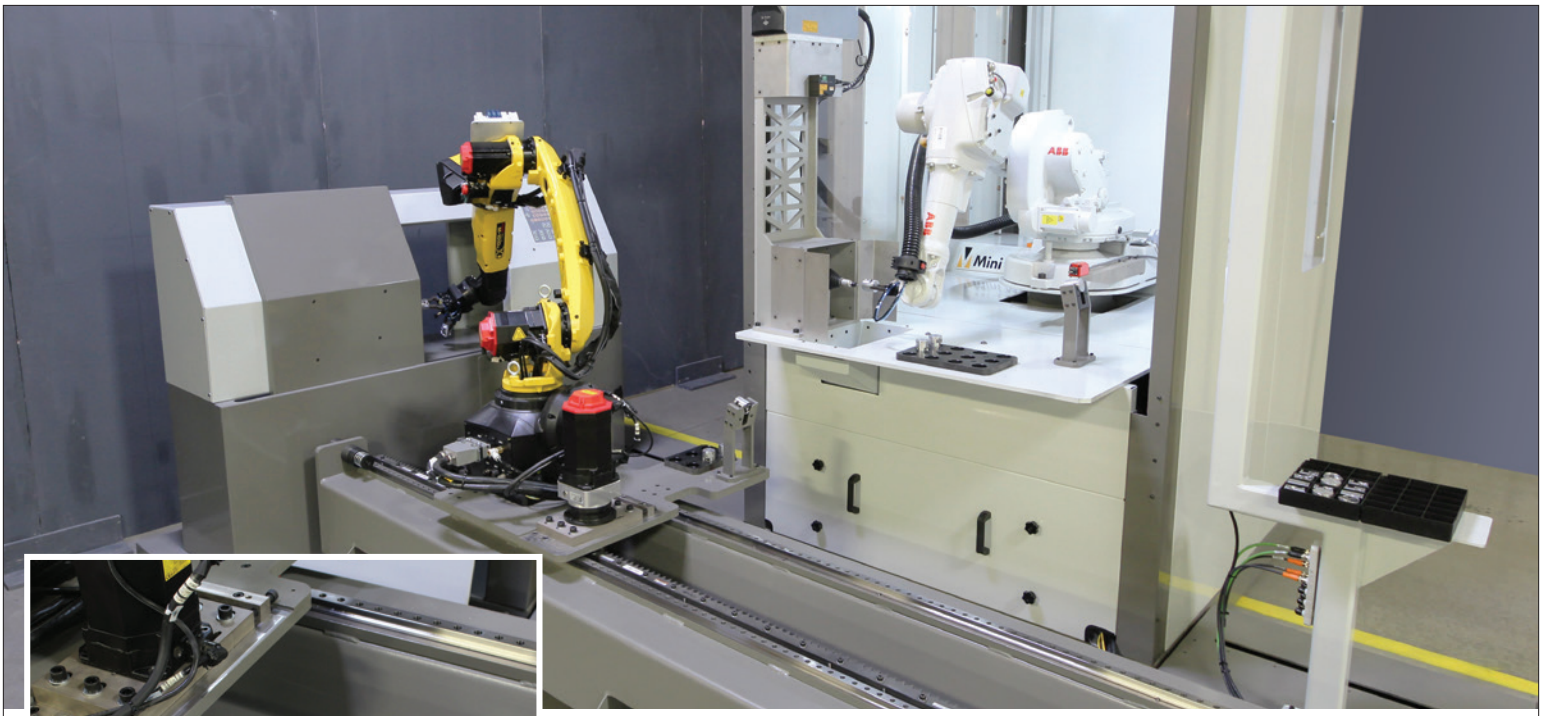
MESH Automation, located in Dawsonville, Georgia, USA, builds custom automation equipment and offers a standard line of pre-engineered modules that make up the backbone of its system. MESH uses robots and motion controlled linear systems to move raw materials or finished goods throughout their processes. During the development of their robot transfer unit for medium payload robots (<75kg), MESH specified speeds of 4m/s with acceleration of 3m/s2, high moment loads (up to 10,000Nm) on the robot carriage, path accuracy of .025mm, repeatability of .005mm and positional accuracy of .03mm. Additionally, MESH applies their equipment in many dirty environments typical of fabrication processes such as welding, grinding and finishing.

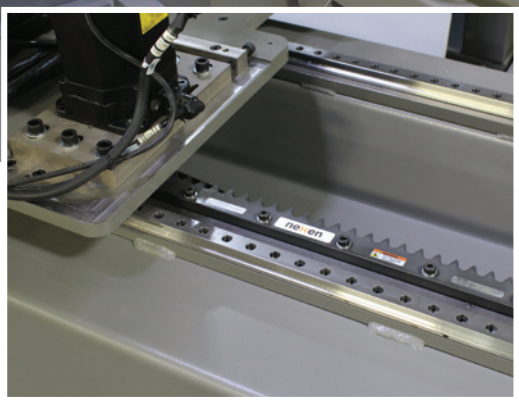
During their search for the right components and system design MESH contacted Nexen and inquired about their modular **RPS Roller Pinion System**.

> "Nexen's application engineering department was very professional, responsive and offered various solutions including custom designs if needed. Additionally, we required competitive commercial requirements and long-term availability of components. It was a plus that Nexen manufactures in the US with a convenient location to an international airport. Nexen's RPS product eventually won the business due to their product being the best fit and quite superior in all technical aspects, ease of maintenance and superior longevity before deterioration of the positional accuracy and repeatability."
>
> **— Mitch Larson, President, MESH Automation**

The result is a robot transfer unit for medium payload robots that MESH offers to their customers at an attractive and competitive price. They chose the size 25 for most of their applications but, due to Nexen's product line and design, they can easily upsize for those very demanding applications requiring the highest torques. The design is easily customizable for length (up to 40') is elegantly simple, can accommodate any robot manufacturers' motor and has a some configurable options such as way covers, auto lubrication, on-board regrip station, weld power supply carriage and a work-in-process tray. MESH will be showing their robot transfer unit in booth 9117 at the Automate 2019 Show at McCormick Place, Chicago, IL.

*** Positional accuracy as good as +/-30um and repeatability as good as +/-5um.**





MESH's Robot Transfer Unit for Medium Payload Robots

— Featuring the Nexen RPS Roller Pinion System

The Nexen Advantage — Overcoming Common Problems Found in Traditional Drive System

INDUSTRY PROBLEMS	Ball Screws	Traditional Rack/Gear & Pinion Systems	Belt Drives	Chain Drives	Linear Motors Direct Rotary Stages Direct Drive Motors	nexen ROLLER PINION SYSTEMS
Low Accuracy			✓	✓		High Positional Accuracy
Backlash/Vibrations	✓	✓	✓	✓		Near-Zero Backlash
High Cost	✓	✓			✓	Economical, Efficient Components
Dirty Operation	✓	✓	✓	✓		No Dust Emissions
High Maintenance	✓	✓		✓	✓	Little to No Maintenance
Low Load Capacity			✓		✓	High Load Capacity
Noisy	✓	✓	✓	✓		Quiet: Pinion Rollers Glide Smoothly Along Teeth
Low Speed	✓	✓				High Speeds (Up to 11 m/sec)
Magnetic Field					✓	No Magnetic Field
High Wear/Low Life	✓	✓	✓	✓		Long Life (Up to 36 million meters)
Limited System Length/Size	✓		✓	✓		Custom Rack Sizes & Modular Components

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