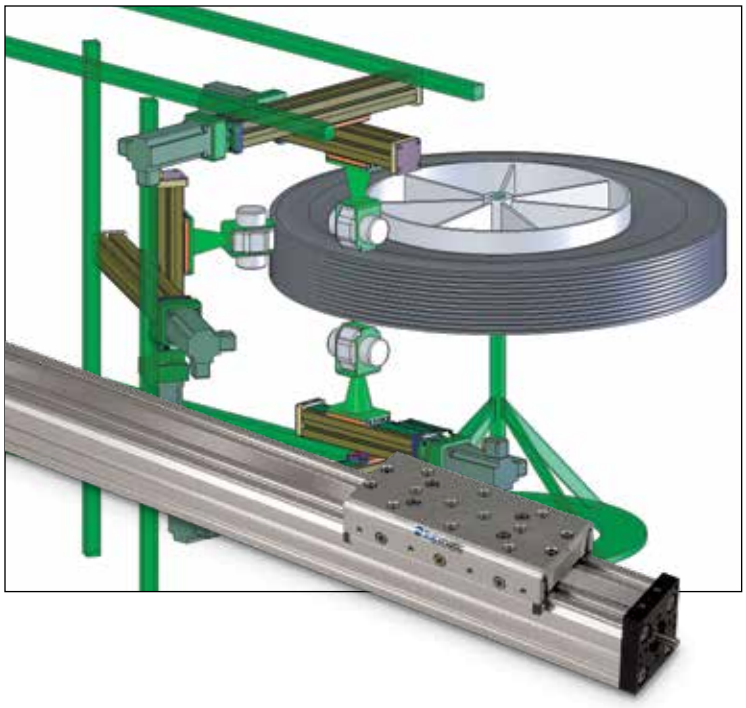
INSPM-007-E

APPLICATION SOLUTION:	Tire Geometry Inspection



Product Family: Electric
Product Used: MXE25S Rodless Screw Drive Electric Actuator with Solid Bearing
Product Type: Modified Standard

Application Requrements:
Speed: 130 mm/sec (5 in/sec)
Load: 7 kg (15 lb)

Application Description:
Laser measurement and inspection during tire manufacturing.

Challenge:
A TGIS (Tire Geometry Inspection System) spins tires and checks sidewalls for anomalies such as bulges or compressions. The TGIS also checks full radial tread width, measuring the tread run out for anomalies. Laser heads on the TGIS must be accurately positioned for measurements. Previous actuators were stalling intermittently in the field. Any replacement had to work with their selected stepper motor and operate in a vertical position. Zero back drive was required while applying 25% motor holding torque.

Tolomatic Solution:
The TGIS required two different size actuators: One with 200 mm (8 in) stroke and two actuators with 325 mm (13 in) stroke per system. Each actuator received modifications for zero backlash to improve position repeatability. The chosen Tolomatic MXE25S rodless screw drive electric actuators with solid bearing provided reliable positioning performance of the laser heads for the measuring operations.

Customer Benefit:
- Improved position accuracy and repeatability for better process control
- The bearing system of the MXE-S electric actuator easily handled the small loads while staying within budget