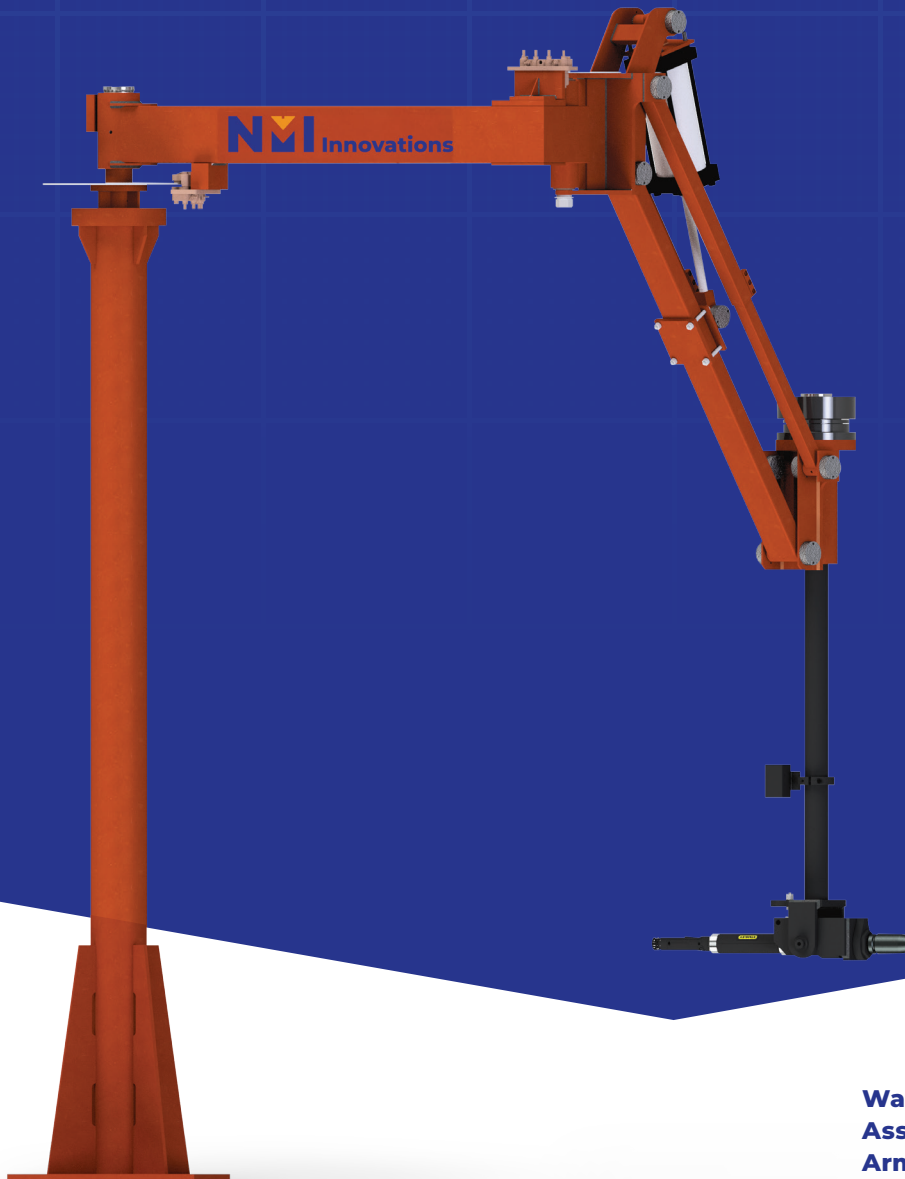


Lift Assist Torque Arm with 3D Spatial Positioning

Custom-engineered torque arm improves ergonomics, precision, and safety while reducing operator fatigue and assembly errors.



Watch the Lift
Assist Torque
Arm in Action



► CASE STUDY

Lift Assist Torque Arm with 3D Spatial Positioning



Challenge

Manual verification with torque wrenches and visual monitoring can cause quality inconsistencies and errors, leading to inefficiencies in assembly lines.

Solution

- **Torque Reaction Arm Integration:** Position encoders calculate the tool's 3D position, ensuring it is correctly aligned for each task.
- **Tool Function Control:** Automatically enables or disables tool functions based on its position to meet quality standards.
- **Customer-Configurable Sequences:** Position encoders enable programmable tightening sequences for precise assembly.
- **Guided Operation:** A software package and operator interface guide sequencing with operator badge or barcode inputs.
- **Complete Assembly Guidance:** Equipped with work instructions and sequence controls for enhanced precision.

Outcomes

The Lift Assist Torque Arm with 3D Spatial Positioning from NMI Innovations has delivered significant improvements in the following areas:

- **Ergonomics:** Zero-gravity balancing reduces operator fatigue and strain on hands and arms.
- **Quality and Precision:** Stabilizes tool orientation, preventing cross-threading and improving fastening accuracy.
- **Productivity:** Supports multiple fastener orientations, eliminating the need for repositioning and speeding up assembly.
- **Safety:** Absorbs torque reaction forces, reducing strain and preventing injuries.

Nothing is more critical than your facility's safety and efficiency. NMI collaborates with our clients to provide custom-engineered, ergonomic equipment that seamlessly fits into existing workflows. Our commitment to innovation and user-centric design has led to hundreds of assembly and handling solutions, all purpose-built for today's industrial workspace.



CONTACT US TODAY TO GET STARTED ON YOUR CUSTOM SOLUTION.