Southwest Research Institute® (SwRI®), a world leader in the field of robotics, has been developing and providing advanced manufacturing and robotic technologies for more than 35 years. SwRI’s custom advanced integration solutions bridge the gap between technology readiness levels (TRLs) 3 and 7.

Capabilities
SwRI offers a wide range of capabilities for industrial robots, including:

- **Custom mobility solutions**
  - Confined space navigation and access to traditionally inaccessible locations due to:
    - Height
    - Lack of ground access
    - Harsh environmental conditions
  - Custom robotic design for varying scales:
    - Confined space
    - Large workspace
  - Real-time path planning
  - Autonomous mobile robots (AMRs)
- **Application-specific robotics and automation**
  - Perception for process feature detection
  - Precision metrology for large, open workspaces
  - Advanced sensing and instrumentation onboard autonomous platforms
  - Process development and intelligent manipulation
  - Class 1 Division 1 robots and equipment
- **Advanced integration services**
  - Delivery of turnkey systems
  - Maintenance contracts and on-site training
  - PLC (programmable logic controller) development
  - Integration of all common commercial automation products
- **Large-area integration and testing facilities**

Applications
Some applications of SwRI’s robotic solutions include:

- Painting/coating/depainting for numerous applications:
  - Gantry-based or mobile
  - Known or unknown geometries
  - Laser technology for selective stripping
- Inspection/machining/material-handling robots with mobile bases
- Path planning for blending and machining

Additional Services
As an independent, nonprofit institution, SwRI also provides unbiased, third-party input on:

- Opportunities for process enhancement through automation
- Return on investment investigations and calculations for process automation
- Services not restricted to a specific commercial equipment brand
We welcome your inquiries.
For more information, please contact:

**Cody Porter**
Manager, Intelligent Machines
210.522.6634
cody.porter@swri.org

**Manufacturing Robotics Technology Department**
**Intelligent Systems Division**
Southwest Research Institute
6220 Culebra Road • PO Box 28510
San Antonio, Texas 78228-0510
robotics.swri.org

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**Scan-N-Plan approach for intelligent sanding process**

- Enables real-time adjustment to as-built condition
- Eliminates manual programming — operator just specifies tasks
- Enables process feedback/adaptation via automated inspection

**Future State**

- Sensor Data
- Smart Automation
- Good Part
- Inspection
- In-Process Feedback

**Good Part**

- Enables real-time adjustment to as-built condition
- Eliminates manual programming — operator just specifies tasks
- Enables process feedback/adaptation via automated inspection

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SwRI-developed gantry robots for depaint

Paint booth installation at Red River Army Depot

21,000 ft² open workspace with 100-ton crane