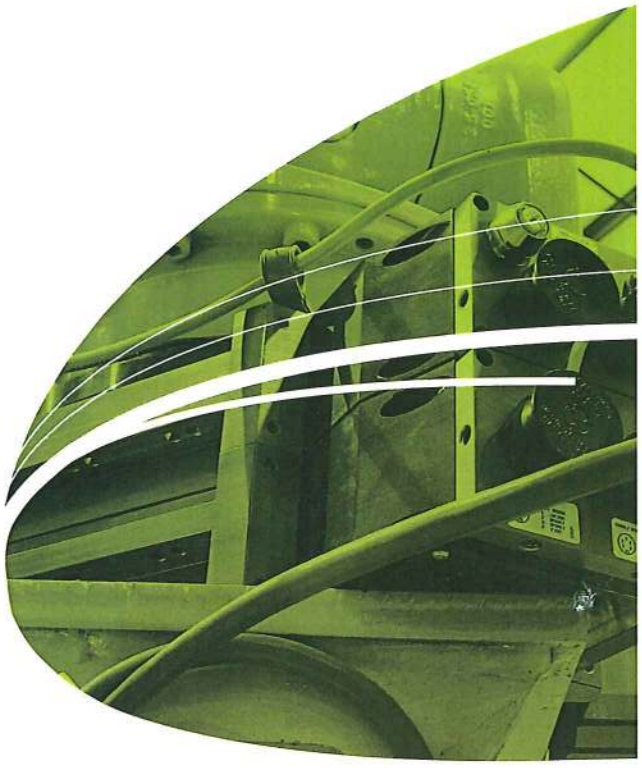
# Increasing efficiencies. Optimizing performance.

Applied Robotics' Product Solutions Guide



Applied Robotics™
Solutions in reach



## Utilizing flexible assembly to maximize productivity.

**General Industry**

**Problem defined.**

A prominent aerospace manufacturer was experiencing significant slowdown on a dedicated assembly line. Considering the inflexibility and related cost ramifications of their current process, a more efficient solution was needed that could:

- Place a relatively heavy base part into a nest before a much lighter second part was assembled
- Handle components that varied widely in weight and size
- Overcome current problems of speed, efficiency and timing (as well as damage to parts)
- Secure parts in place during assembly, while simultaneously verifying correct assembly

**Solution in reach.**

Parts with differing weights can pose unique challenges on a line. To gain efficiencies, Applied Robotics developed a solution that allowed for creation of a flexible assembly line – giving the manufacturer the capability of performing multiple operations in less space.

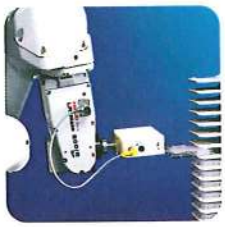
Key Applied Robotics technologies included:

- QS & QSAW Collision Sensors – allows heavier parts to be placed with greater care and accuracy while providing for maximum insurance and uptime

- Sigma 3.1 Tool Changer – works with the collision sensor and a proximity switch, wired in parallel for accurate and convenient tool changing

- I/O Module – incorporates I/O functionality into the tool changer, allowing for use in a wider range of applications

- Tool Stand – creates dedicated, customized storage and protection for each part


## Improving handling and precision to optimize resources.

**Life Sciences Industry**

**Problem defined.**

A major laboratory needed to manipulate different containers before presenting, securing and tracking select carts of biomaterials into a workstation – often unattended. Considering the cost and delicate nature of the laboratory environment, the solution needed to be:

- Fully automated for guaranteed repeatability
- Capable of handling a wide variety of materials, including microtiter plates, lids, vials and test tubes
- Precise and exact, as some assays contained potentially bio-hazardous materials costing thousands of dollars per vial

**Solution in reach.**

Applied Robotics engineered a complete solution capable of handling an immense variety of sizes, shapes and materials.

Key Applied Robotics technologies included:

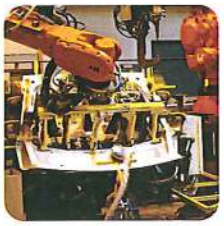
- Servo Gripper – features specially designed fingers and force control, allowing it to handle tubes, vials, plates and lids delicately, while still guaranteeing repeatability

- QS7 Collision Sensor – operates on air pressure to allow dynamic flexibility in range and provide insurance against any outside interference

- MXC5 Tool Changer – increases efficiency of frequent connection or disconnection of utilities

- Modules – accepts I/O communication and other multiple utility connections, allowing progress to be tracked and recorded, while permitting air and water to pass through automatically





## Better tool changing to drive efficiency.

**Automotive Industry**

**Problem defined.**

A major automotive customer's production/assembly line needed to be able to support varying types of car bodies. Considering the complex nature of this requirement, the solution needed to be:

- Capable of switching quickly from one type of tooling to another
- Adept at handling everything from large sheets of metal to individual rivets
- Accommodating of various types and sizes of spot-welding and stud welding guns

**Solution in reach.**

Applied Robotics developed a solution around an innovative suite of products that allowed for quick, secure changes and greater efficiency in performance.

Key Applied Robotics technologies included:

- Sigma 5.1 Tool Changer – minimizes component count and reduces time to switch between stud guns, spot-weld guns, sheet metal grippers and rivets to a matter of seconds

- QS800 Collision Sensor – works to ensure optimal protection of resources while supporting the intense heat and welding conditions of the various weld guns

- Pneumatic Gripper – allows for greater efficiency and repeatability through more precise handling of materials

- Clamp – incorporates custom designed clamps to reinforce performance

# The sum of our parts.

When the situation demands next-generation production and efficiencies, Applied Robotics can help you make it all come together. Faster. Stronger. Better.

Our industry-specific, application-specific tooling solutions are hard at work just about everywhere you look. Life sciences laboratories. Industrial manufacturing plants. Automotive assembly lines. We're the company that proves time and again, it doesn't matter how difficult an automation situation may seem, the solution is in reach.

See for yourself, as we examine a few of these solutions – showing how Applied Robotics uses innovative products and key industry expertise to overcome particular challenges while meeting specific customer needs.

**Do you have a specific application challenge?**
Call **518 384 1000**, or visit us online at **www.arobotics.com.**