



CASE STUDY

NAI PROVIDES RUGGED INTERCONNECT SOLUTIONS FOR MAJOR INDUSTRIAL ROBOT OEM



PROBLEM

A large global manufacturer of industrial robots has been experiencing robust growth and demand for its products. Its legacy interconnect supply base is unable to provide the capacity, ramp-up speed, and production volume that the manufacturer now requires to meet its increasing demand. This forced the robot OEM to seek out alternative sources for its interconnect requirements.

SOLUTION

The robot manufacturer selected NAI to produce cable assemblies and harnesses for several key reasons:

1. NAI's global footprint provided this customer with alternative production capacity and locations to meet its interconnect volume requirements now and in the future.
2. NAI's Gaylord MI USA plant is located near the customer's warehouse and its other locations in Michigan, allowing for efficient shipping of final goods.
3. NAI provided fast decision-making to invest in new tooling and equipment needed to ramp-up for this new customer. The investments were made, and production capacity was established in a matter of weeks. NAI's ability and willingness to expand and scale quickly was paramount to the robot manufacturer.
4. With NAI's expertise in manufacturing harnesses and its utilization of automotive industry quality practices, the customer had a strong comfort level with NAI. NAI uses Advanced Product Quality Planning (APQP) as a routine process in its production operations. NAI was also able to use the Production Part Approval Process (PPAP), another derivative of automotive quality practices, on an as-needed basis.
5. The depth of experience NAI has in manufacturing harnesses for harsh environments was also very appealing to this robot manufacturer. NAI has supplied rugged interconnects for many industrial applications that require durability to withstand the environmental conditions in factories, including IP-67 and IP-68 rated products.
6. The robot manufacturer felt NAI was well suited to grow along with them to meet the expected long-term demand for its robots.





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CUSTOM INTERCONNECT SOLUTIONS FOR INDUSTRIAL ROBOTS

NAI BUILDS RUGGED CABLE ASSEMBLIES AND HARNESSES FOR MAJOR ROBOT MANUFACTURER

The initial orders placed by the robot manufacturer included over 50 cable assembly and harness part numbers. The orders were for both cable assemblies and harnesses, ranging from simple patch cords to complex harnesses with a variety of circuits and connectors. In addition to being used on the robots themselves, some harnesses will also be used for the robot controllers.

This project reflects NAI's unique agility to make investment decisions and ramp-up very quickly with necessary tooling and equipment to meet the production and capacity requirements of our customers. NAI is willing and able to invest and scale alongside this robot OEM customer to support its future growth.

NAI's familiarity with automotive industry quality practices was important to the robot manufacturer since they provide robots for their automotive OEM customers. While initially working with the robot manufacturer's build-to-print projects, NAI has been able to make suggestions to improve quality, production processes, component parts, costs, and deliveries.

Once NAI was selected as a supplier for this robot OEM, the interconnect company produced First Articles for inspection and evaluation.

More orders for other assemblies and harnesses for other robot and controller models are anticipated. NAI is willing and able to invest and scale alongside this robot OEM customer to support its future growth.

ABOUT NAI

NAI designs and manufactures custom rugged cable assemblies and harnesses for a variety of industrial applications for mining machinery, construction and agricultural equipment, robotics, machine tools, material handling equipment, instrumentation & control, and other industrial technologies with demanding requirements. The company also produces custom interconnect solutions for the medical industry, manufacturing high-reliability assemblies for critical-to-life surgical devices and medical equipment. In addition, NAI produces interconnects for the telecommunications industry for wireless applications on cell towers and in base stations, as well as for connections in data centers. Broad design capabilities, a global manufacturing footprint, rigorous Quality Management Systems, along with the ability to make things happen very quickly, combine to make NAI a unique and attractive supplier for interconnect solutions.

NAI has strategically established its production facilities to be near customer manufacturing locations to optimize shipping and logistics.

NAI Cable Assemblies and Harnesses Produced for Robot Manufacturer

