

SERVICE FEATURE / **ROBOTICS AND AUTOMATION**

INTEGRATING ROBOTICS INTO EXISTING PROCESSES

Industrial automation through robotics is now more accessible than ever. Today's robots perform human-like functions, from assembling and testing products to picking and packaging them for distribution. This makes them more applicable to a variety of industries and easily integrated into your existing operations.



ENGINEERING A COMPETITIVE ADVANTAGE INTO YOUR PROCESS

Until recently, many manufacturers and distributors couldn't justify the investment or risk associated with the automation process. However, as robotic technologies grow smarter and cheaper, more manufacturers and distributors are finding that the benefits of automation now far outweigh the risks, making processes safer, faster and more reliable.

If your facility has reached this point, engineering, procurement and construction support can provide you with an upgrade to your existing processes by offering automated solutions that support your goals for safety, quality, dependability and cost.

CANDIDATES FOR AUTOMATION

Robots can provide a competitive edge in many manufacturing and distribution processes. High-speed operations that require repetitive, monotonous movements, especially those that can be a frequent source of worker injury, are well-suited for robotic integration.

Once considered accessible only to larger companies, robotic technologies are now being deployed by companies of all sizes on an increasingly wide range of machine processes and applications. Finding the right solution can increase productivity and reduce costs.

WHY AUTOMATE NOW?

BENEFITS

Improved profitability

Automation lowers manufacturing and distribution costs; ROIC ranges from three months to three years.

Greater reliability

With 100,000 hours mean time between failures typical, robots create predictable performance.

Higher quality

With high accuracy and a repeatability of +/- .02 millimeters, robots are able to produce higher-quality, consistent results.

Higher flexibility

Most modern robots include six axis movements as standard and are able to carry loads ranging from .5 to 2300 kilograms.

Safer operations

By eliminating tasks associated with common workplace injuries and offering built-in redundant safety features, automated processes reduce human injuries.

Faster controlled production

With process automation, on-demand production with one-half-second pick-and-place rates are possible.



A COMPREHENSIVE APPROACH TO AUTOMATION INTEGRATION

Whether you are introducing a new process or automating an existing one, a team with a holistic understanding of the solution and how it fits into your overall process is a powerful asset. Beginning with an approach that includes design, construction and industry-leading equipment and technology suppliers will help to develop a comprehensive solution. Often, this approach will allow integration to take place seamlessly, without halting your existing production to save time and cost.

EVALUATION

Bring in a specialist for an evaluation to confirm or put to rest any concerns you may have before making an investment. Equipment and technology suppliers often have a network of consultants available to assist in the evaluation of your operation. These specialists should begin by gaining an understanding of your needs, budget and schedule requirements, learning

your capabilities and recommending when and where automation is appropriate.

EDUCATION

A consultant will also create a business case for your automation solution, including assisting you in understanding system capabilities and cost benefits, with primary focus directed toward investment capital. Automation solutions can typically be cost-justified when the workforce they are replacing have labor rates of \$15/hour and above.

ENGINEERING

We do this using Lean Six Sigma and the application of DMAIC (Define, Measure, Analyze, Improve and Control). This drives problem-solving as we engineer your solution to integrate seamlessly with your existing operations. Along with concept development and system engineering, we recommend that you ask your consultant to provide an opinion of probable costs.

CONTRACT/CONSTRUCT/ COMMISSION

When engineering, procurement, construction and commissioning professionals are all on the same page, they are able to deploy complex, fast-track approaches that will ultimately help you manage project risk, budgets and schedules. Look for a consultant who has experience integrating teams or has each discipline in-house. Become comfortable asking your integrator to consider post-construction activities, qualifying suppliers, issuing bid documents, and administering purchase orders and construction contracts.

CONCLUSION

These steps can create seamless integration and get you online and to market faster. To discuss integrating robotics and automation into a new or existing process, contact Brian Chatham at bchatham@burnsmcd.com or 405-200-0309.

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Burns & McDonnell employee and one of their own. And that's no surprise, considering that we, as employee-owners, carry the commitment of ownership: We succeed when you do.

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