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A Machine Solutions Company

CHECKLIST AND GUIDE:

HOW TO SELECT A PARTNER FOR CUSTOM AUTOMATION, SPECIALTY EQUIPMENT, DESIGN & BUILD FOR MANUFACTURING PROJECTS

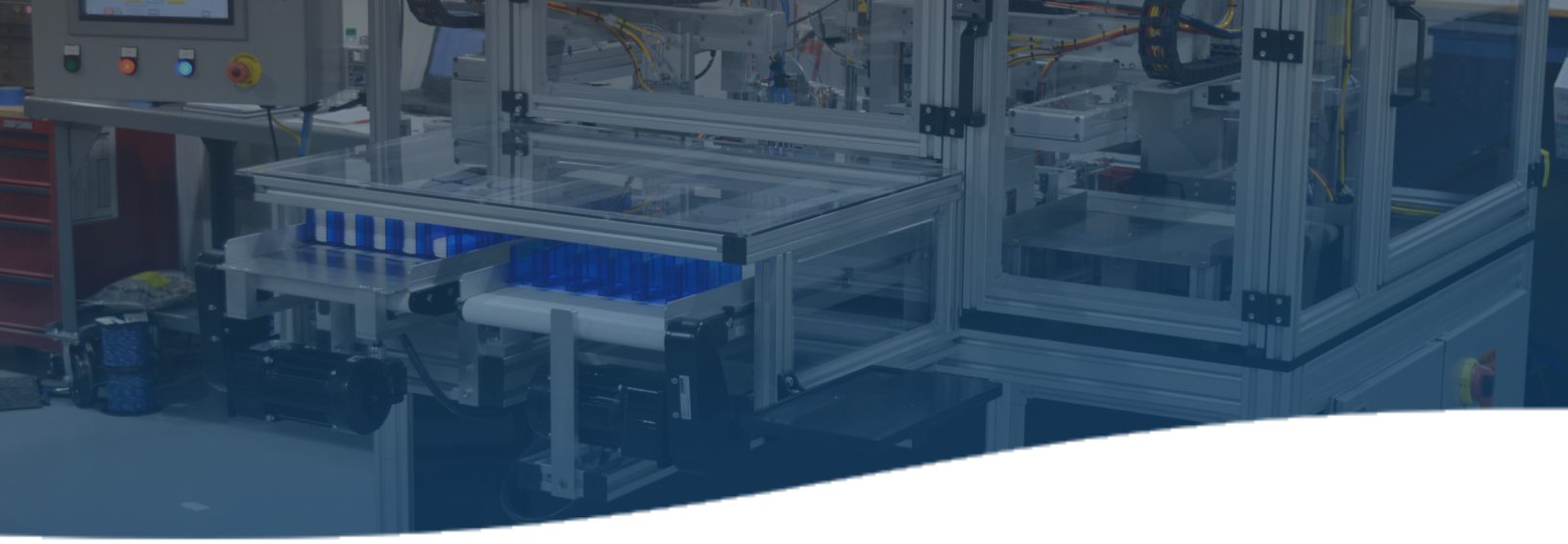
INTRODUCTION

Industrial automation is a defining technological trend that covers the entire manufacturing sector. Increased demand for sophisticated products and devices paired with a dwindling talent pool of artisans, fabricators, and specialist tradespeople are forcing organizations to look for new ways to increase throughput, maintain quality, and develop cost-effective manufacturing techniques.

McKinsey predicts that the future of manufacturing could include robots that program themselves, libraries of digital twins that track each product's precise manufacturing journey, and automated assembly cells that learn to improve production processes over time.

Technical innovation is about making bold moves while preserving options for future expansion. Manufacturers that can balance these two goals will become the leaders of their industry.
Source: McKinsey

The need to define, design, and implement automated manufacturing technologies will only increase over the next decade. Choosing what technologies and automated systems to deploy is a complex process. You have to understand the underlying deficiencies that are limiting your production capacity and plan for future scalability.
This guide will discuss a checklist of items to consider if you are looking for a partner to implement automated manufacturing solutions for your production lines.



CHECKLIST OF CONSIDERATIONS FOR IMPLEMENTING AN AUTOMATED MANUFACTURING PROCESS

For an automation project to be successful, organizations have to meet three goals:

1. Recuperate the cost of the investment by increasing production capacity and limiting labor costs
2. Match or exceed the quality of the products that are currently produced manually by skilled operators
3. Include considerations for expanding the system's automated capabilities as product demand increases in the future

The checklist items below will help you determine what integrator to choose and what competencies to look for if you want to ensure the successful execution of an automation project.

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1 HOW MUCH VERTICAL INDUSTRY EXPERIENCE DO THEY HAVE?

Knowing the ins and outs of your industry is crucial when designing, building, and optimizing an automated solution. To solve your unique application challenges, your integration partner will need vertical industry experience, not only to avoid common pitfalls but also to bring the best engineering expertise to the project.

Customized automation solutions are complex systems and components that have to integrate seamlessly to deliver value for money. To ensure you get the most out of your custom machine builder, ask about their vertical industry experience.

Intec Automation has delivered projects across all major industries. Here are some of our latest examples.

Medical and Life Sciences Projects

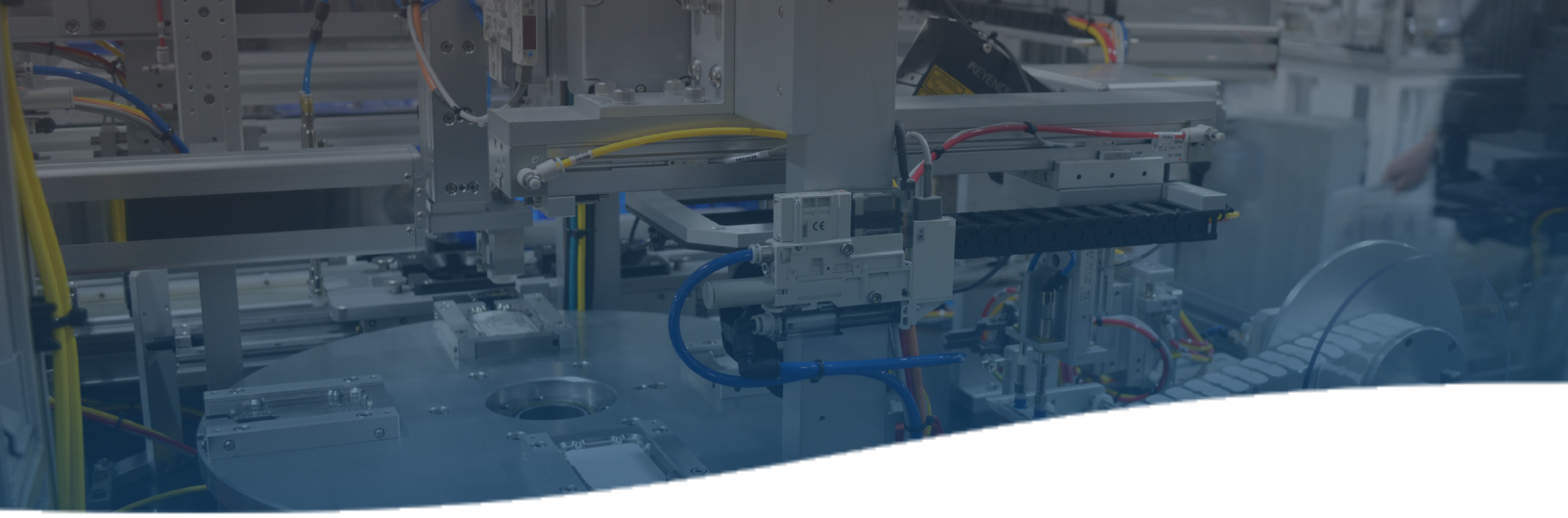
- Fully automated needle-making machines that include all processes like bending, drilling, point grinding, polishing, welding, and plating
- Sature manufacturing solution to form, wind, barb, package, and RF weld automatically
- PCR tube handling system to inspect, plate, rack, fill, load, and unload 96-well plates

Aerospace Projects

- Automated riveting and fastening systems for aircraft assemblies and structural joining
- Shot peening solutions and deburring machines for advanced assembly processes
- Fastener insertion systems and automated drill & fill with C'Sink, inspection, and fastening capabilities

Automotive Projects

- Component assembly systems for glove box doors, armrests, steering columns, and body side molds
- Interior and exterior molding systems that include tape application, inspection, and robotic de-molding
- Needle gauge and sensor assembly systems with test and inspection processes



2 DO YOU KNOW WHAT YOUR ALL-IN PRODUCTION COSTS ARE?

To achieve the ROI you want, you need to have firm numbers available that reflect your current production efficiency and associated costs. The all-in production costs of your current manufacturing process will include the raw materials, consumables, labor, and general overheads.

When you know your cost-per-unit, you can evaluate any proposed solution and set automated manufacturing targets accurately. Integrators shouldn't just match your current production targets but also have to find innovative ways to reduce costs.

To assist our customers, Intec Automation developed an ROI calculator that uses the exact process parameters to determine an investment amount suitable for your project.

This ROI calculator will:

- Capture your manual process characteristics and evaluate your current output against the increased throughput available from an automated solution
- Establish an all-in investment cost with the required payback period to accurately define the ROI
- Give you hard numbers to help justify moving to an automated assembly solution to your C-Suite

You can check out how Intec Automation's interactive ROI calculator works in this video.

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3 CAN YOUR INTEGRATOR SCOPE THE PROJECT CORRECTLY?

Not balancing the requirements against the investment costs is one of the fundamental mistakes manufacturers make when initiating a project. Some integrators and machine builders will oversell a solution that increases the project costs without focusing on the core requirements.

Your integrator should work with you from day one to understand your current manufacturing process and only propose a solution that will solve those challenges. It's better to start with a core solution and continue expanding the automated system as requirements change.

Before we propose any tailored solution, Intec Automation spends time to understand our customer's precise requirements. By defining the process requirements clearly, we ensure you get a system that does exactly what you need without overcomplicating the solution.

4 DOES YOUR POTENTIAL INTEGRATION PARTNER HAVE A SUCCESSFUL PROJECT EXECUTION RATE?

Automation projects are hard to define, build, test, and execute. The partner you choose needs to have a demonstrated track record of success in your industry. Choosing the wrong partner doesn't just waste time and resources, it could also affect your ability to produce the products that generate your revenues. Due to the cost involved in these projects, a failed execution could put jobs at risk.

Any machine builder you partner with needs to know how to avoid all of these issues and guide you through the correct project requirements definition, design, build, and test phases. This will ensure you don't miss deadlines and achieve your ROI objectives within the shortest project runway possible.

Most process automation projects fail because of design complexity, scope creep, scheduling delays, and human error. The way to avoid this is to implement Front End Engineering Design (FEED), reduce complexity, use standardized configurations, perform robust testing procedures, and validate requirements often.

Source: International Society of Automation (ISA)

For more than 25 years Intec Automation has been serving as a systems integrator providing custom automation through designing and building completely modular solutions. Our new 30,000-square-foot manufacturing hub allows us to be a one-stop shop for our customers, we are far more than a machine builder. We provide each customer with a turn-key solution, solving complex problems and are proud to have maintained a 90% customer retention rate.

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5 WHAT IS THE TYPICAL LEAD TIME FOR AN AUTOMATION PROJECT?

Although this depends on the machine cells' design complexity, a good partner will have a proven process to shorten the lead time of the project. The length of the project will affect the cost and the time it takes before you realize the ROI.

To reduce the lead time of the project, your integrator has to spend time understanding the needs of the company beyond the User Requirement Specification (URS). Your integration partner needs to study the requirements, understand the goals of the project, and collaborate extensively to deliver an automated process that ensures future success.

Intec Automation has the experience and a large supplier network, along with partnerships across the industry, to deliver projects within the shortest possible lead times.

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6 CAN YOUR AUTOMATION PARTNER GUARANTEE THE ROI OF THE SOLUTION?

Determining the ROI is vital to ensure a successful project. How your automation partner calculates the potential ROI will define the feasibility of the project and set the budget. Ideally, your integrator will have an ROI calculator that uses your process data to determine an accurate payback period.

Any ROI calculation should include your reduction in labor dependency, the specialty equipment cost, design, and build of the project. Integrators may want to automate more processes than needed, which will decrease the ROI without achieving the project's initial goals.

Companies that invest heavily in process automation can reduce operational costs more than twice compared to laggards.
Source: Bain & Company

Here is a resource that will help explain and compare current manual or inefficient process parameters to an Intec automated solution. You can then see the ROI available along with a recommended investment amount. Factors used include human operator costs, production speed, and considerations about your improved Overall Equipment Effectiveness (OEE) to maintain profitability.

7 HOW IMPORTANT IS COLLABORATION AND COMMUNICATION TO YOUR AUTOMATION PARTNER?

Ensuring the project is successful will depend on the ability to collaborate and communicate effectively from receiving the first proposal until start-up. Automation partners should be able to quickly identify issues that may delay the project and increase costs.

With effective communication, your team and your integrator can iterate the design and schedule while limiting costs to find a solution that will ensure success. The partner you choose should keep you engaged and informed for the entire lifecycle of the project.

With a well-defined technical specification to guide the entire project, and clear communication between all the parties, Intec Automation ensures that our customers are always informed and supported, even through post-sale support.

8 WHAT ADDITIONAL VALUE DOES YOUR AUTOMATION PARTNER BRING TO THE TABLE?

While the project will have specific goals, there are additional considerations that your integrator needs to address during the project. This includes the maintenance requirements, operating instructions, quality validation procedures, and technical support before and after start-up.

Combined with these considerations, your automation partner should be able to advise you on the potential for future expansion. Increasing production capacity to meet changes in demand will require a solution that can adapt to the needs of the business.

Intec Automation has a network of partner companies that enables us to deliver completely automated assembly and manufacturing systems, with end-to-end integration and quality validation included. By partnering with us, you have access to the world's most innovative and efficient automation systems.

CONCLUSION

Executing a successful automation project has the potential to increase your production throughput, reduce operational costs, and ensure product consistency. Given the current economic environment, every reduction in costs and labor dependency can set up your organization for future success. Intec Automation are specialty equipment builders with a history of successful project execution. We understand the demanding specifications that organizations have to comply with and where opportunities for improved manufacturing techniques can provide the biggest benefit to your company. To discuss your project with our automation experts, get in touch today.

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2. DO YOU KNOW WHAT YOUR ALL-IN PRODUCTION COSTS ARE?
3. CAN YOUR INTEGRATOR SCOPE THE PROJECT CORRECTLY?
4. DOES YOUR POTENTIAL INTEGRATION PARTNER HAVE A SUCCESSFUL PROJECT EXECUTION RATE?
5. WHAT IS THE TYPICAL LEAD TIME FOR AN AUTOMATION PROJECT?
6. CAN YOUR AUTOMATION PARTNER GUARANTEE THE ROI OF THE SOLUTION?
7. HOW IMPORTANT IS COLLABORATION AND COMMUNICATION TO YOUR AUTOMATION PARTNER?
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