How to Get Started with Low-Cost Automation

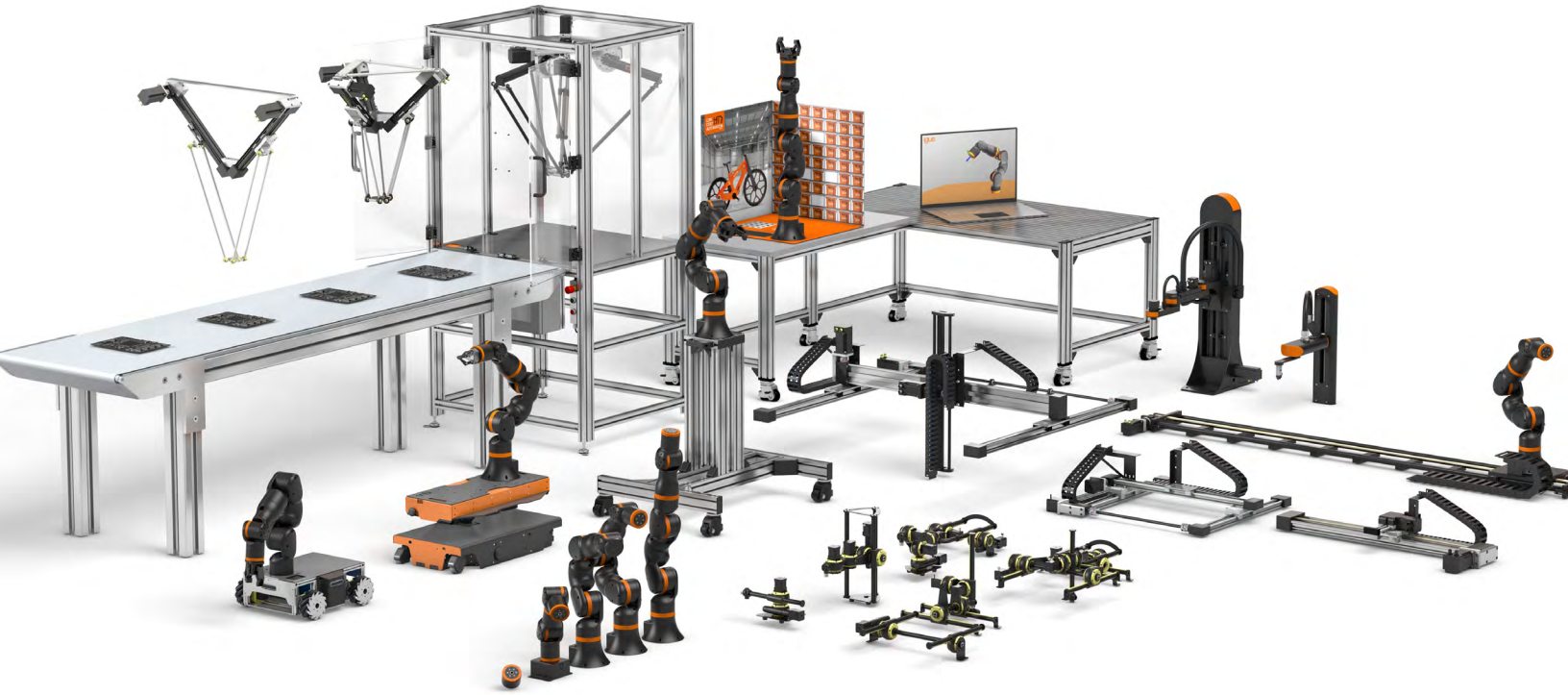
Key Strategies for Adopting Automation Without Breaking the Bank

Introduction & background

Industrial automation has long been seen as complex, expensive, and out of reach for all but the largest companies with the most extensive resources—and until recently, this was true. However, as technology advances, automation is becoming more accessible, offering businesses of all sizes a way to enhance productivity, precision, and cost efficiency.

Yet for small and medium-sized enterprises (SMEs) the path to automation can still seem overwhelming. Where do you start? What are the key considerations? How can automation be implemented affordably without extensive in-house expertise?

This white paper will serve as a comprehensive guide that answers these questions. It explores the essential steps for SMEs looking to integrate automation and highlights the importance and effectiveness of the service-based robotics marketplace RBTX.



The importance of strategic planning

Strategic planning is a cornerstone of effective robot implementation. Without a solid plan, companies risk costly missteps and underwhelming results. This can be catastrophic for smaller businesses that may not have the capability to withstand these losses, though opting for low-cost robotics solutions can significantly mitigate these risks.

The first step in strategic planning involves defining clear objectives. Companies need to determine what their primary goals are, whether it's to increase efficiency, improve safety, or reduce operational costs. These objectives will guide every subsequent decision.

Preparing your team for automation

Assessing organizational readiness

Before investing in robotics, companies must thoroughly assess their current capabilities. This involves evaluating whether the organization possesses the technical expertise needed to support and maintain robotic systems, or whether external support from organizations like RBTX will be needed.

Addressing workplace concerns

Managing change effectively is essential to easing employee anxiety about automation. Transparent communication about how robotics will enhance jobs rather than replace them is key. Hosting Q&A sessions and encouraging feedback can also build trust and support during the transition.

Training & upskilling employees

Automation should be embraced as an opportunity for workforce growth rather than a threat to job security. To prepare employees, businesses should offer comprehensive training on robot operation and programming.

Related: RBTX Robot Training

Creating a culture of innovation and continuous learning will help employees view robotics as a means of enhancing their roles, fostering a more positive environment and transition to automation.

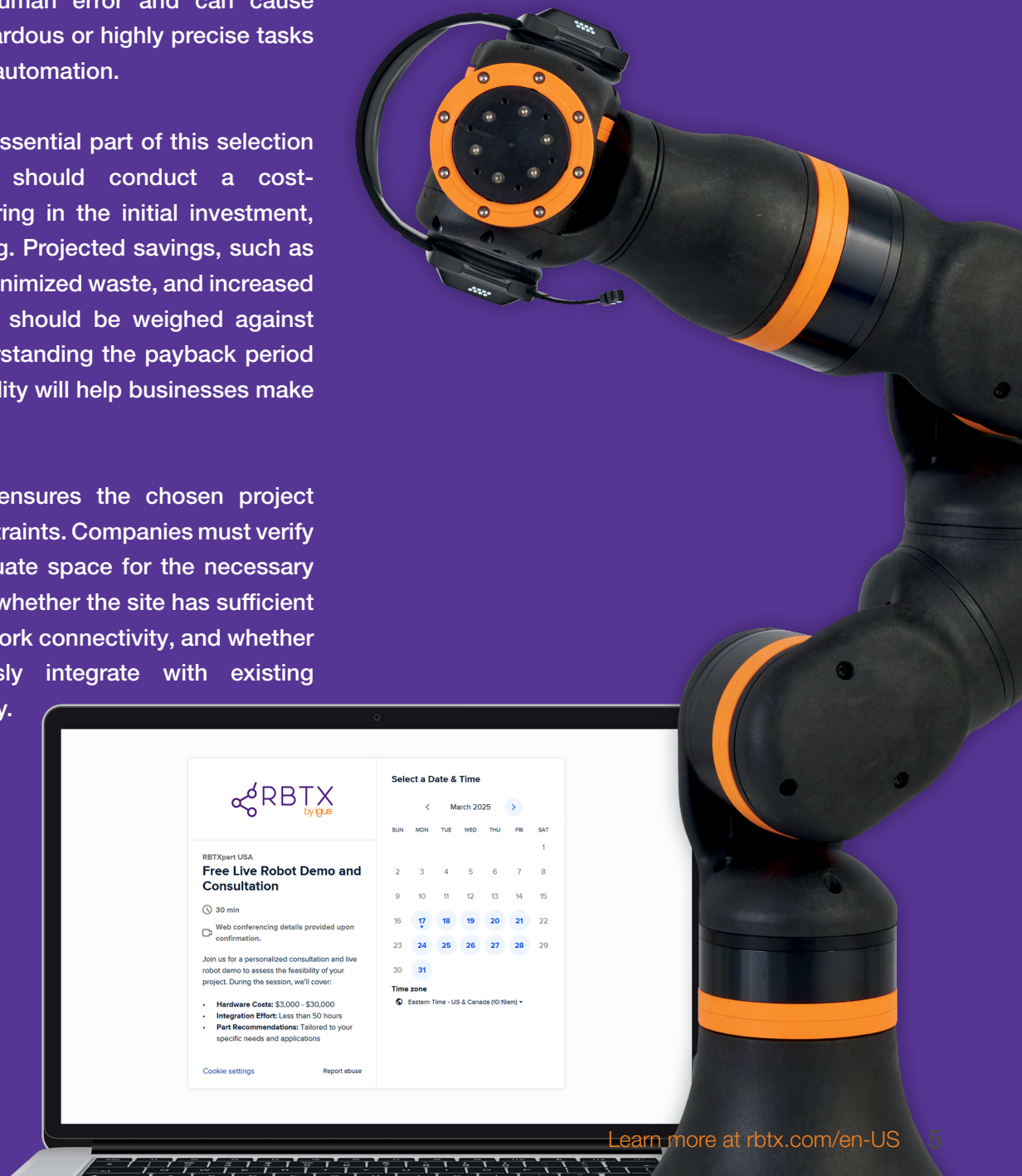
Choosing your first robot project

Selecting the right starting part is crucial to the success of a robotics initiative. The process should begin with identifying pain points within current operations. Focus should be placed on processes that are repetitive and monotonous, as these tasks are often prone to human error and can cause employee fatigue. Hazardous or highly precise tasks are also well-suited to automation.

Calculating ROI is an essential part of this selection process. Businesses should conduct a cost-benefit analysis, factoring in the initial investment, installation, and training. Projected savings, such as reduced labor costs, minimized waste, and increased production throughput should be weighed against these expenses. Understanding the payback period and long-term profitability will help businesses make informed decisions.

Feasibility evaluation ensures the chosen project aligns with facility constraints. Companies must verify whether there is adequate space for the necessary robots and work cells, whether the site has sufficient power supply and network connectivity, and whether robots can seamlessly integrate with existing software and machinery.

RBTX offers feasibility testing to help assist companies that may not have the necessary resources to still carry out their own testing. A video of the application in use, a fixed price offer, and cycle time are all provided once testing has concluded.



Basics of robot installation

A typical industrial robot system consists of several key components. The robot is the mechanical part that performs tasks, moving with precision and speed. The robot controller acts as the brain of the robot, managing its movements and operations according to programmed instructions. Sensors provide real-time feedback, ensuring accuracy and safety by detecting objects, distances, and other critical data. End effectors, such as grippers or welders, are attached to the robot to execute specific tasks.

The robotic integration process typically unfolds in four key phases: planning, installation, testing, and deployment.

Planning

The project's scope is defined, appropriate robots are selected, and the facility is prepared for implementation.

Installation

Hardware and software are set up according to design specifications.

Testing

Rigorous testing is conducted to validate robot performance and identify any issues.

Deployment

Robots are integrated into daily operations, ensuring they function seamlessly alongside human workers and existing systems.

Troubleshooting is another vital aspect of robot installation. Common challenges include calibration errors, software bugs, and integration issues. Addressing these challenges promptly minimizes downtime and optimizes robot performance.

Working with an external integrator throughout the installation phase can ensure many of these issues are diagnosed and fixed as quickly as possible, if not avoided altogether.

Leveraging external support: **vendor assistance & robotics consultants**

External expertise accelerates robot deployment and optimization. Facilities can benefit from engaging with robot vendors like RBTX, for example, for installation support, training programs, and software customization.

Robotics consultants can offer tailored automation strategies and conduct ROI assessments to ensure investments deliver tangible benefits. Some, like RBTX, offer not only expertise and consultations, but hardware and software along with the ability to integrate the two into an all-in-one automated system.

Service-Based **Robotics Success Stories**

Many companies are already working with RBTX to develop custom solutions at low costs. One such example of this is pharmaceutical company GSK, who recently implemented an automated vial shaking solution with the help of RBTX components and integration from RBTX partner Industrial Robot Help (IRH).

Other solutions like the “ChocoMatic” have benefited from this collaboration as employees aren’t required to have any robotics expertise, and can instead focus on restocking missing products. The solution combines parts from various manufacturers with complete compatibility for less than $10,000.

IRH | INDUSTRIAL ROBOT HELP

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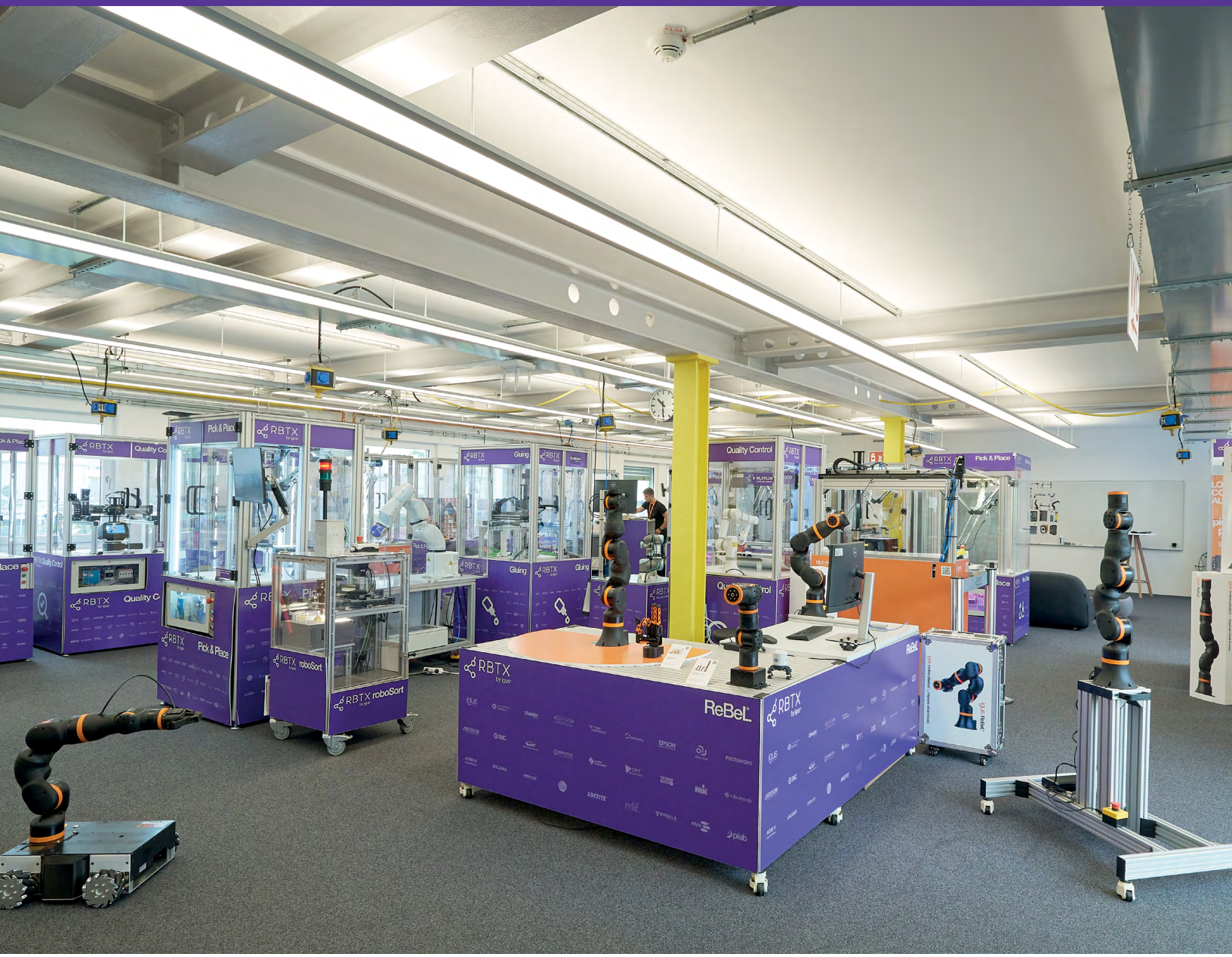
With RBTX and IRH handling the entirety of the design, construction, and implementation of the robotic solution, GSK was able to save significant time and money and ensure the solution they received would work right out of the box.



Conclusion

For SMEs looking to get started on their automation journey, RBTX stands as the ideal partner. With its accessible service-based robotics marketplace, expert consultations, and end-to-end support — from feasibility testing to installation and training — RBTX empowers businesses to embrace automation without the high costs and complexity traditionally associated with robotics.

By leveraging RBTX's innovative solutions, SMEs can streamline operations, enhance productivity, and confidently navigate the future of industrial automation. Automation is no longer just in the hands of the biggest companies — smaller businesses now have the tools to remain competitive in the face of increased competition.