



PHASE 5> FINALIZE YOUR PROPOSED AUTOMATED SOLUTION DESIGN

Destination Ahead

Embark on an Automation Journey to Surpass Your Competitors

The Need For More



In our previous [Destination Ahead](#) e-books, we covered your need to outpace your competition to achieve your vision, and how to start planning for your journey. With the plan and team in place, we explored the wide worlds of hardware and software.

Equipped with wisdom and careful planning, now is the time to make informed decisions and make sure that no detail is overlooked before forging ahead with your automated system commitment.

With your plan and team in place, informed and detailed decisions can now be made.



So how can you maximize your organization's efforts and surpass those of your competitors?



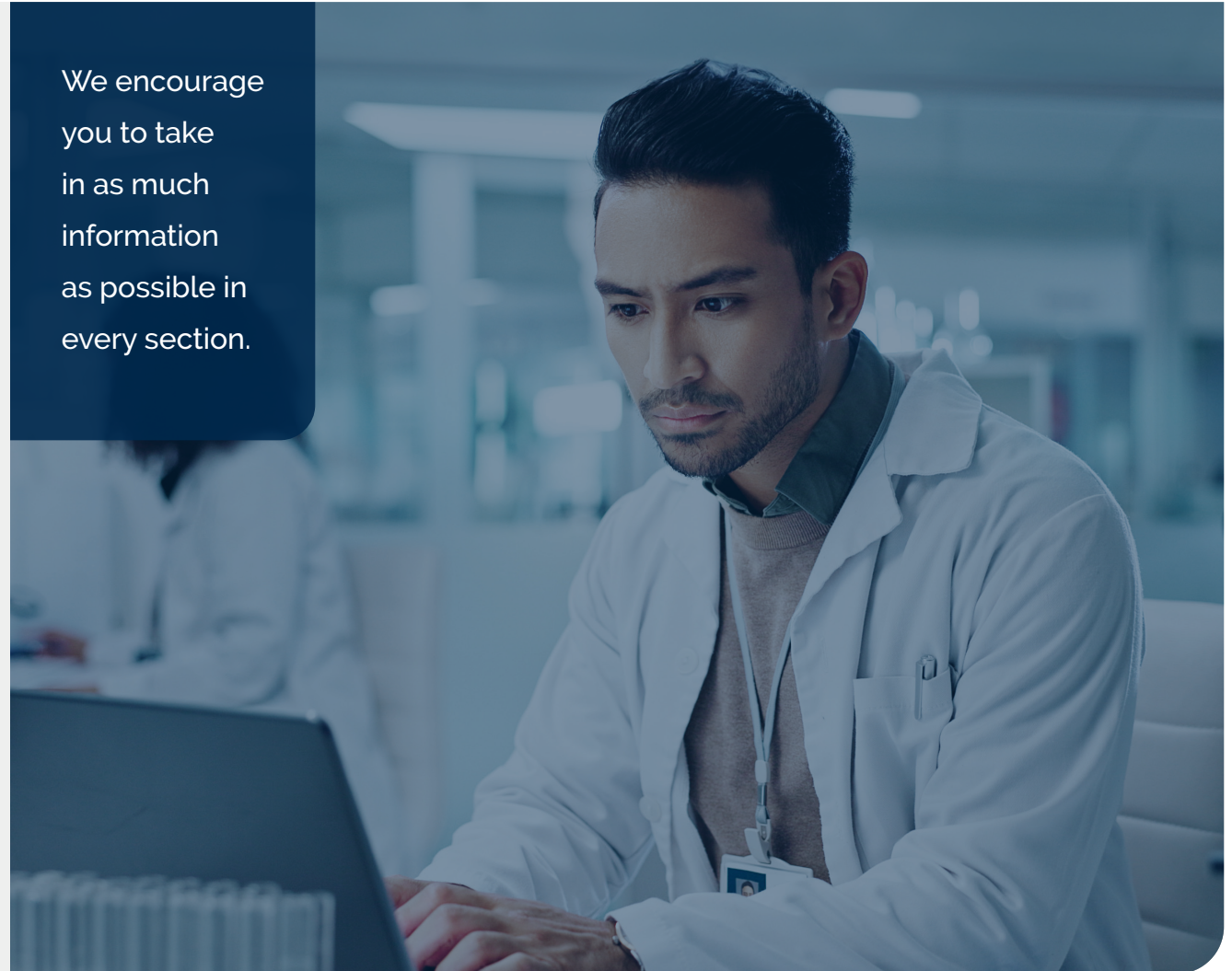
What To Expect

In this seven-part [Destination Ahead](#) e-book series, we'll guide you through major phases that you can expect of your automation journey.

For those well-experienced with automated solutions, you may want to read a few sections to refresh your memory.

On the other hand, for those new to or lightly familiar with automation, and especially whole lab workflow automation, we encourage you to take in as much information as possible in every section.

We encourage
you to take
in as much
information
as possible in
every section.



The Destination Ahead e-book series will cover:

PHASE 1

The Beginning & End

Journey from status quo lab workflows to the land of whole lab automation for opportunity and a competitive edge. Whole lab workflow automation experts like HighRes Biosolutions serve as your North Star and personal escort along the way.



PHASE 2

Understand Your Situation, Your Goals, and Your Team

Introspection and a first-class crew make short work of pre-journey planning. Gather and organize your thoughts, and the thoughts of others, as you assemble your goal guideposts.



PHASE 3

Dive Deep into the World of Hardware

Hardware Harbor encompasses a large area. Learn helpful tips to traverse through seemingly endless devices and capabilities. Narrow capabilities and features to those best-suited for your budget as well as your current and future needs.



PHASE 4

Immerse Yourself in the World of Software

The Port of Software is an amazing destination along your journey. Gain an overview of data flow and software types and how to orchestrate all through a single, high-functioning information virtuoso. Then determine which platforms stack up to meet your needs.



YOU ARE HERE

PHASE 5

Finalize your Proposed Automated Solution Design

Did you chart the right course, or is a major correction in order? Before committing to a final whole lab workflow automation design, review the project overview and details from multiple perspectives.



PHASE 6

Set the Project Build in Motion

It's time to navigate from vision into reality. Get your teams and your site ready with close communication, detailed planning, and rigorous testing.



PHASE 7

Deploy!

Your automation journey isn't finished once the automated solution is in place. Prepare users and your new whole lab workflow automation system with knowledge transfer and system optimization. Put it to the ultimate battery of tests in your environment and with your samples and a host of quality and regulatory guidelines.



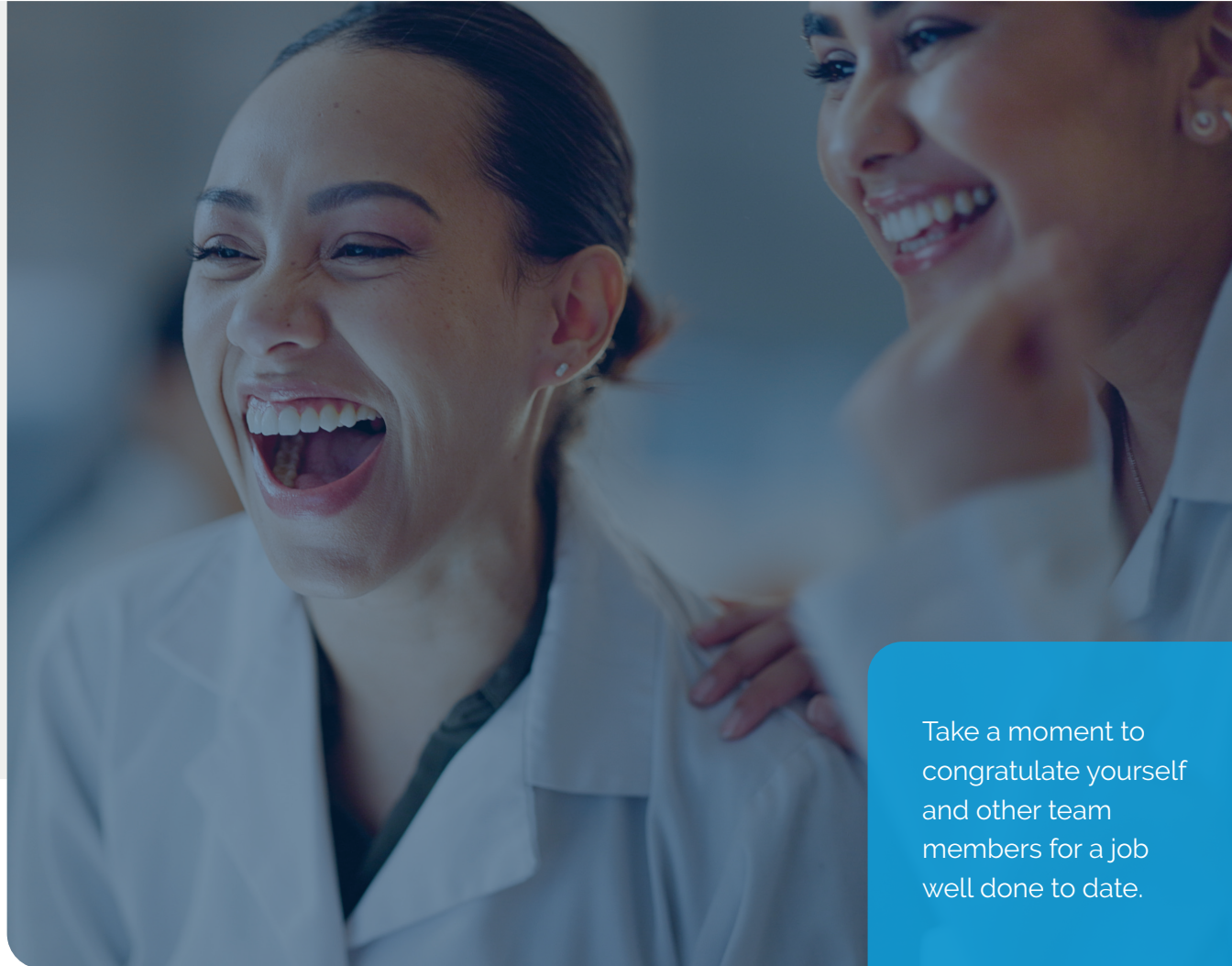
A close-up, low-angle shot of several people's hands gathered around a large tablet computer. The scene is dimly lit with a strong blue color cast. One hand in the foreground holds a blue pen, pointing at a circular graphic on the tablet's screen. Other hands are visible, some resting on the tablet and others holding glasses, suggesting a collaborative meeting or presentation. The background is blurred, showing what appears to be an office or conference room setting.

One Last Look
Before Go Time

At this point, you are armed with significant knowledge regarding automated devices, software platforms, and helpful support and services through people.

This detailed exploration, including researching, compiling, discussing, and analyzing endless options is no small feat, especially when added to an already busy workload. In fact, these efforts and experiences lay a solid foundation upon which you can make the most informed choices about your proposed automated system's framework and components.

Before the metamorphosis of proposed to actual, now is the time for a brief sanity check.



Take a moment to congratulate yourself and other team members for a job well done to date.



Does the Proposed Solution
Align with your Goals?



Revisit your goals for the automated system. In the time that it took to amass information on hardware, software, and providers, have your business or scientific goals shifted or expanded?



Can you clearly articulate how the system, including its individual hardware and software components, will help your lab or enterprise to meet its goals?

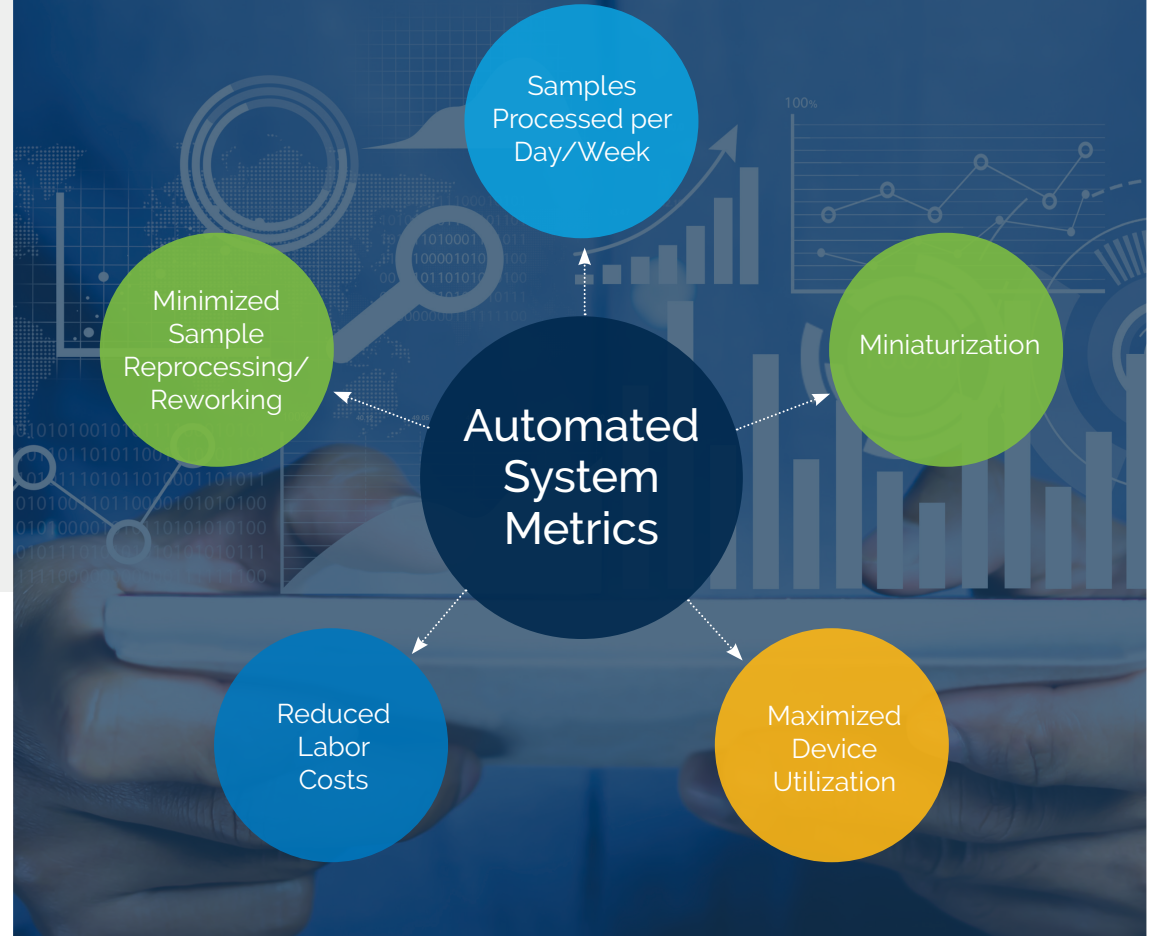


How can you extend its value to other assays, projects, or laboratories?

Your organization's executive leadership will be keen to understand these details as well as the specific key performance indicators (KPIs) that the team agreed upon to measure progress.

Even more so, leadership will be especially interested in the return on investment (ROI) on precious funds that they invested in this capital, cross-functional project. This ROI may extend into adapting the automated system to new tests and projects down the road.

HOW WILL YOU QUANTIFY PROGRESS AND VALUE?





Where are You on Budget?



Speaking of money, before you approach the executive team with an update, **ask each potential provider for a quote on their hardware, software, and services.** Depending on the project scale, one vendor may provide all components and integration services, or multiple vendors may be involved.

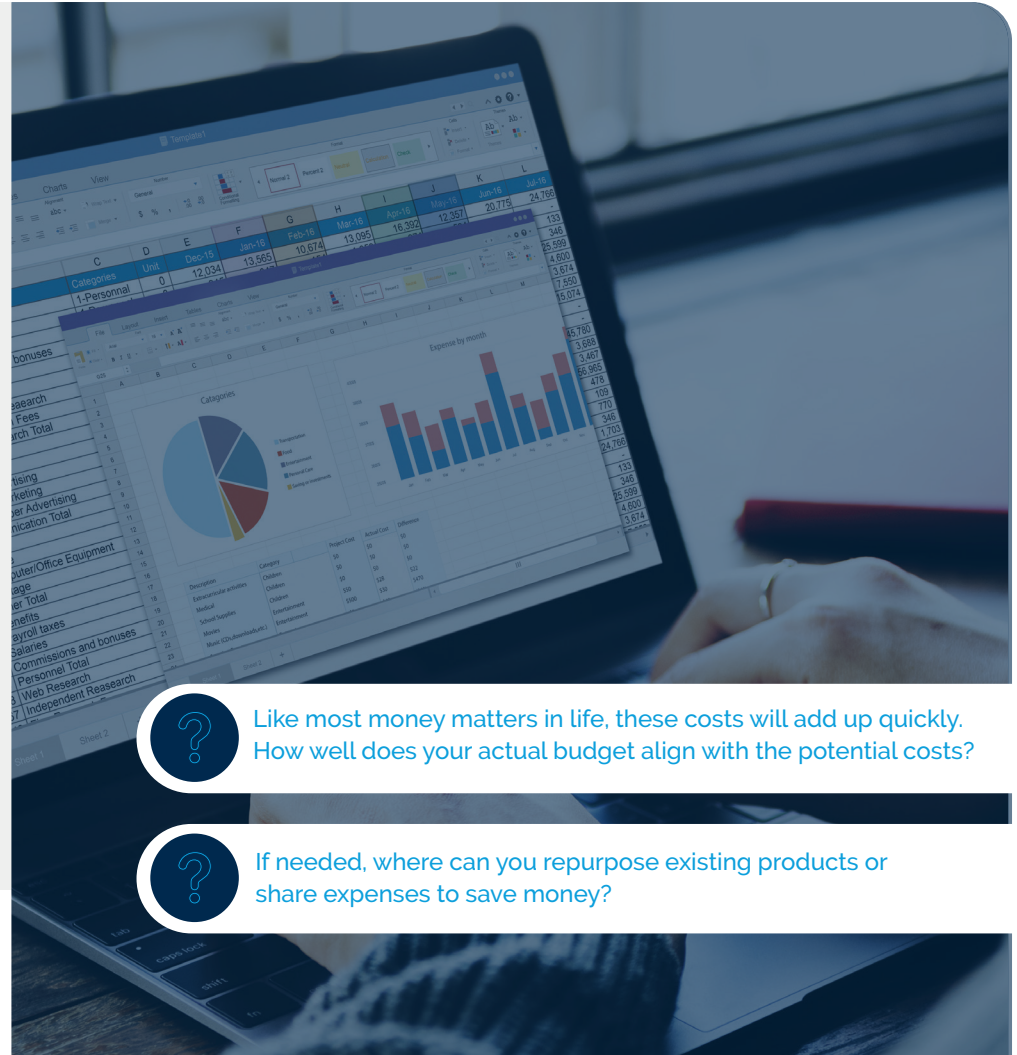


When comparing similar products, **weigh capabilities and benefits against price.** Remember to include redundant devices to support continuing operations if something goes offline.



Assemble a list of these costs as well as potential supporting costs like training and testing services, consultation fees, and ongoing service contracts. Even costs related to automation-friendly consumables, additional computers, travel, and shipping should be factored into the overall budget.

For a larger list of potential cost sources to consider, read ***“Understand Your Situation, Your Goals, and Your Team”***.



Like most money matters in life, these costs will add up quickly. How well does your actual budget align with the potential costs?



If needed, where can you repurpose existing products or share expenses to save money?

Do you have the right
protocols at the ready?



The proposed automated system will undergo a battery of tests to ensure functionality and performance. In preparation for this testing, device protocols should be developed and finalized. Device protocols are a series of device commands that can be executed directly on the device or through a driver.

At a minimum, device protocols should test device driver functionality to ensure that it is fit for purpose. Beyond that, the device protocols can replicate a simple benchtop process or check cross-functionality of different integrated software.

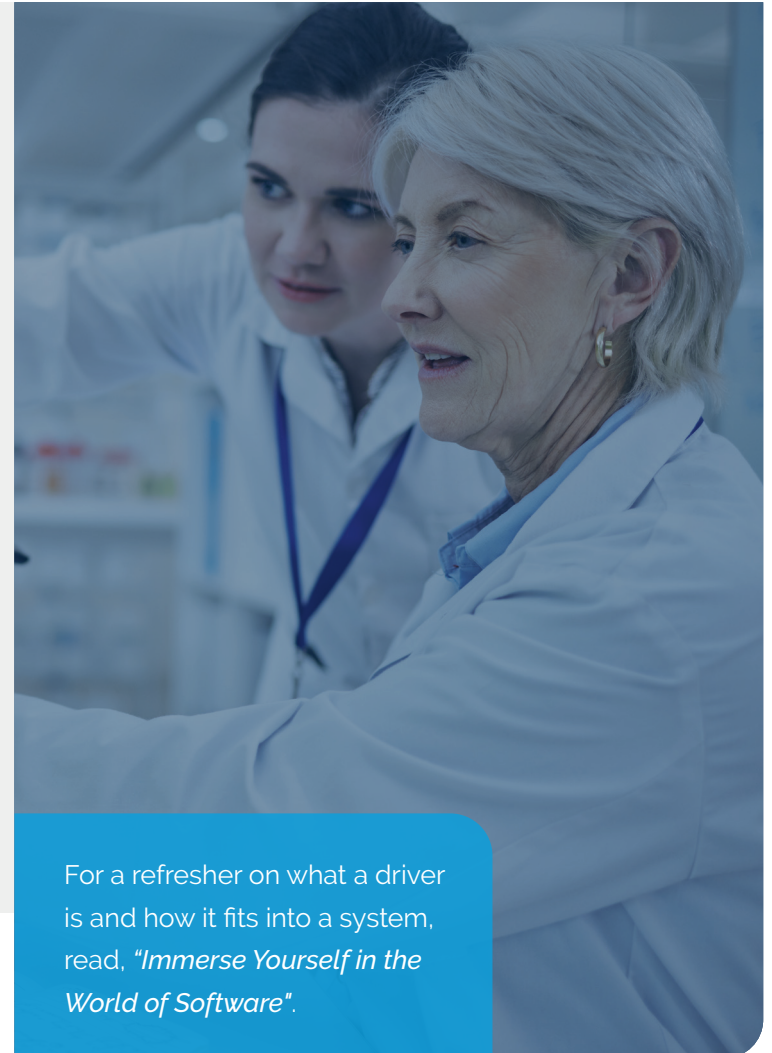
If your team is automation-savvy or has access to internal resources, device protocols can be written and personalized based on new or existing processes. On the other hand, if the team has limited automation experience, or simply doesn't want to develop protocols in-house, you may outsource the device protocol development to vendors on the automation project team or other third parties.

When opting for outsourced device protocol development, be mindful of the potential impact on time, budget, and quality.



Does the delivered protocol meet your expectations, and can it be adjusted to fit real applications?

And don't forget to include this outsourced work in your overall proposed spend.



For a refresher on what a driver is and how it fits into a system, read, *"Immerse Yourself in the World of Software"*.

How Does Your Physical Space Look?





Conduct a formal review of the intended physical space. Is the proposed solution situated in proximity to upstream and downstream steps for maximum efficiency?



Are teams in these areas informed of your intentions and timelines?



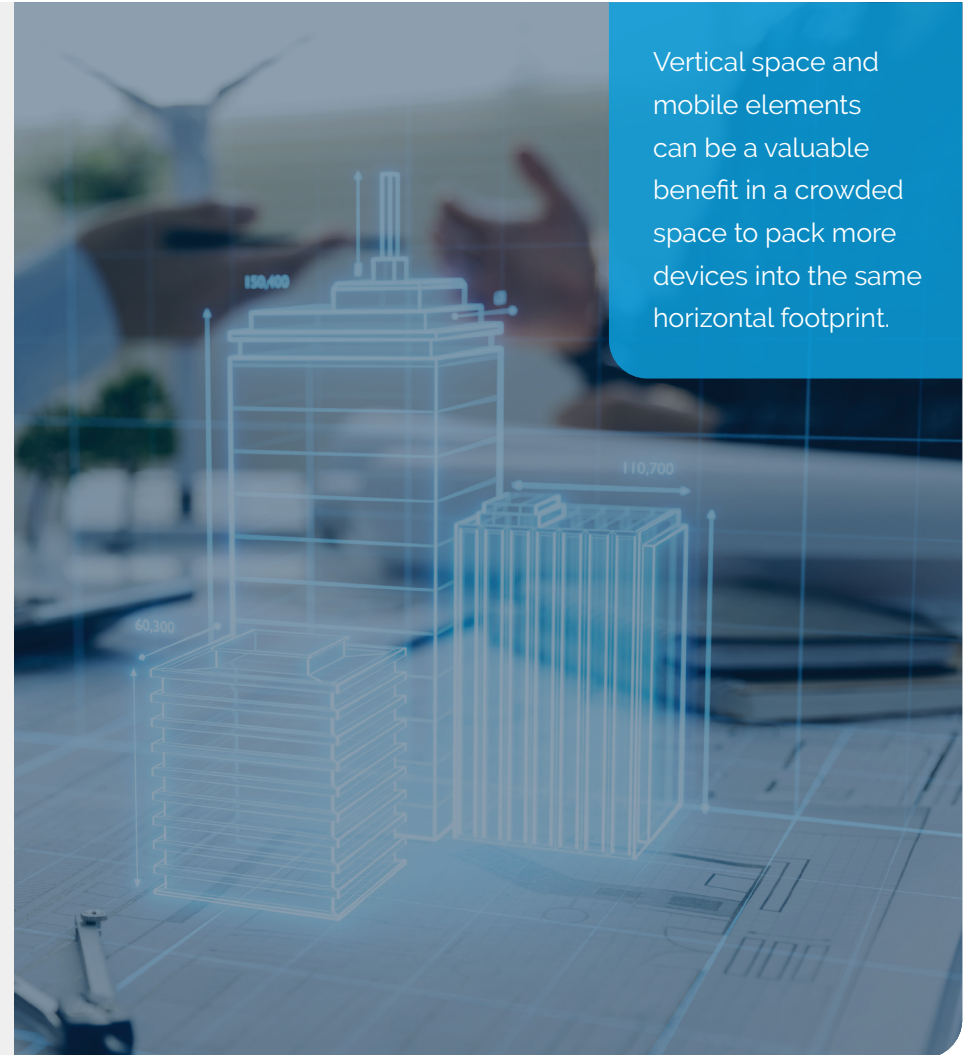
Are they prepared for temporary disruption while the system is installed and tested, and are they taking steps, if necessary, to accommodate changes that may result from the automated process once in production?



What, if any, modifications are needed in the space?

Be mindful to allot flexibility for future space or system expansion. Vertical space and mobile elements can be a valuable benefit in a crowded space to pack more devices into the same horizontal footprint.

As you build a blueprint for how the system will sit in the space, check that any necessary staging areas near the system are accommodated. Map out how people will flow through the lab space to ensure efficient yet safe and comfortable movement.



Vertical space and mobile elements can be a valuable benefit in a crowded space to pack more devices into the same horizontal footprint.



How does this compare to the original map of people flow using the original way of working?

Block out where devices, including waste streams, are situated to ensure that they fit in the space while also complying with fire safety and building codes. Adjust as needed so that electrical and gas connections and even heating, ventilation, and air conditioning (HVAC) systems are best utilized. This will also help to determine ceiling drop locations and ensure efficiency during installation.

Add a layer to the blueprint for network and data connections as well as each device connection type. Note any adjustments your IT department must make to accommodate communications or data flow.



If positive or negative pressure environments are necessary, is your climate control system capable of changing the air flow a minimum of twelve times per hour?

If not, a climate control vendor should be brought into the project, and their fees included in the overall budget.

Make a list of any building permits that are necessary before installation. Factor in the time it takes to receive the permits, conduct the work, react to inspection findings, and pass the inspections.



A close-up photograph of a hand placing a white puzzle piece into a larger assembly of white puzzle pieces. The background is a gradient of blue. A semi-transparent white banner is overlaid on the right side of the image, containing the text "Are You Making the Most of Productivity?".

Are You Making the
Most of **Productivity**?

When converting your proposed automated system into reality, disruptions are inevitable. In fact, plan for the plan to change.

The extent of disruption during critical steps like installing, testing, and validating depends on the project size and scope.

Find ways to minimize disruption and maintain productivity so your overall project doesn't fall behind.



What hardware, software, and peopleware resources are available to maintain productivity while the automated system is being assembled and coming online?

If the system will be housed in an existing laboratory, ask if you can temporarily share space with another lab or split space across several labs.

For new systems using some of your existing devices, make sure the devices can be accessed as long as possible during the system build and deployment. If they cannot, determine if you can use alternative devices, share with another lab, or outsource the work to another site or company without disruption.



...plan for
the plan
to change.



REMINDERS



Communicate Often



Evaluate Timelines



Review Budget

A great benefit of automated systems is their ability to process samples outside of traditional business hours. If you are taking advantage of this productivity-boosting opportunity once the system is fully operational, be mindful that it should be accessible remotely by authorized team members, and it should send real-time notifications of status or errors.

As a key aspect of stakeholder confidence, data points produced in the automated system should be comparable to data points produced previously in the manual or less automated workflow. Be mindful, however, that overall results produced in the optimized automated process may be identical to those from your previous process.



Communicate to your team that any differences in results are expected from, rather than a consequence of, the automated process. What is your acceptable deviation?

A close-up photograph of two hands interacting with a document on a wooden desk. One hand holds a black pen, poised to sign, while the other hand points to a dotted line on the paper. The document has some faint text and lines. A semi-transparent white banner is overlaid on the top half of the image, containing the text 'Are You Ready to Sign on the Dotted Line?'.

Are You Ready to Sign
on the Dotted Line?



You've selected the vendors. Now take a close look at how your requirements line up with each of those vendors and make sure that all are clear on the information outlined in the user requirement specification (URS). Do their deliverables, timelines, and commitments align with your expectations?



Read "[Understand Your Situation, Your Goals, and Your Team](#)" for more information on URS.



Clear communication is of the utmost importance. In fact, ambiguity and assumption can be impediments to success in lab automation projects of any size or scope. If you cannot explicitly articulate your wants and needs for the project or process, you can face costly delays down the road as you try to correct issues.



Concurrently, if any vendor cannot articulate specifications, limitations, processes, and timelines, the timely success of your project may be jeopardized.



Confirm that the selected vendors have signed a non-disclosure agreement (NDA) or confidential disclosure agreement (CDA) if your organization requires one. This protects your organization's intellectual property and trade secrets.



Affirm that the team fully understands and agrees to the commercial terms and conditions in each product and service contract, and that the contracts have gone through legal review, if necessary.



With all these details buttoned up, it's time to sign contracts, issue purchase orders, and prepare for your automated vision to become a reality!

Connect with Us Before you Take the Next Step

Embarking on an automation journey? Depend on HighRes Biosolutions to be a friendly and experienced team member! Our multi-faceted experts are on hand to provide personalized guidance, helpful insights, and actionable tips through each phase of your unique journey.

Before you take that next step into automation, including whole lab workflow automation, reach out to us at sales@highresbio.com.

North American Headquarters

102 Cherry Hill Drive
Beverly, MA 01915 USA
Tele: 781-932-1912

European Headquarters

Unit D2, Broadoak Business Park
Ashburton Road West
Trafford Park, Manchester
M17 1RW UK

©2024, HighRes® Biosolutions. All Rights Reserved
EB-DIG-240203-06 RevA



Learn More

We invite you to read the sixth e-book in this Destination Ahead series.

"Set the Project Build in Motion". With the design finalized and the contracts signed, it's time to enter a new phase based on communication, assembly, copious testing, and more.

