



**Rockwell
Automation**

THE FACILITY OF THE FUTURE

**Flexible, scalable, agile: The future of
manufacturing for the Life Sciences industry**



Why does flexible, scalable manufacturing matter **NOW?**

The biopharmaceutical manufacturing industry must be more agile and flexible than ever before. With a continuous need to manufacture blockbuster drugs, like GLP-1 analogs, manufacturers must now manufacture highly complex and personalized therapies as the market demands.

Manufacturers are facing extreme challenges like exclusivity loss, price restrictions, market uncertainties, and more, which creates a shortened timeframe for profitability. With more pressure to lower cost of goods while increasing operational efficiency, implementing local production can help maximize access, minimize supply chain risks, all while combating yield, cost, and efficiency challenges.

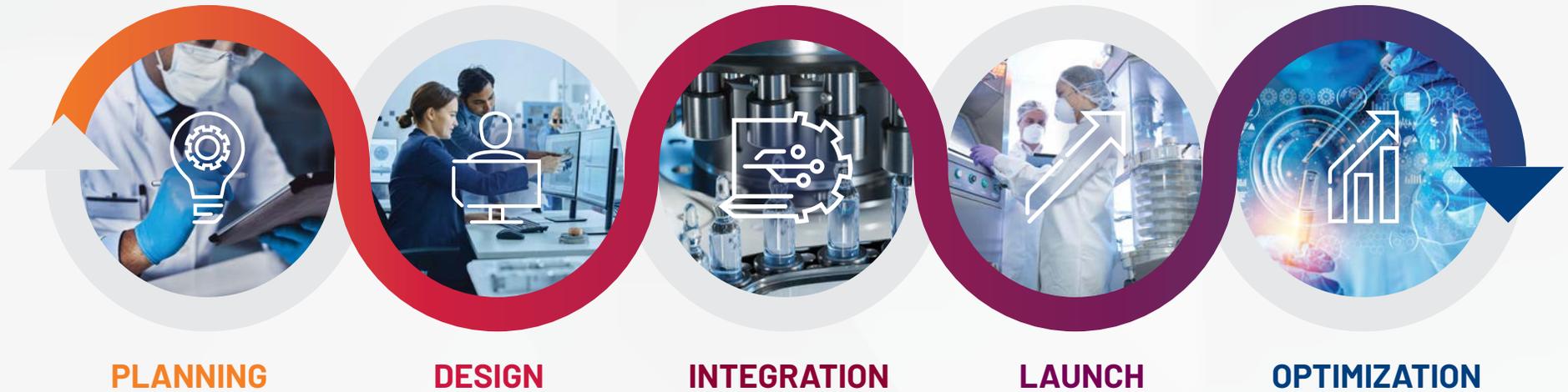
Today, manufacturers need their facilities to be agile, execute near-seamless change-overs and quickly adapt to changes in demand.

At Rockwell Automation, we can help you build your future today.

Before you break ground

We partner with organizations at the earliest stages of facility development, starting well before construction begins. Through our comprehensive [EPC PartnerNetwork™](#), we deliver sophisticated project management that transforms your vision into reality. Our engineering teams work strategically at every phase- from initial design concepts through final implementation- to create measurable efficiencies and optimize your investment.

What sets us apart is our systematic approach to building manufacturing solutions that serve your needs today, while anticipating tomorrow's demands. We integrate advanced technical expertise with proven methodologies to develop facilities that are both cost-efficient and adaptable. The result? A manufacturing environment precisely engineered to your specifications, with the built-in flexibility to scale as your operations evolve.



Design and test virtually before implementing

When time is of the essence, your facility and processes must be flexible and agile to quickly adapt to changes in demand. By using the Emulate 3D™ Digital Twin software, you can virtually design your facility and production processes to be sure that when you invest in the physical world, it will stand up to the test.

- Reimagine the design process by using virtual design and prototyping
- Establish early connections between your machinery and control systems, helping to resolve operational and sequencing issues before on-site deployment
- Improve production with faster-than-real time 3D simulation to help identify optimal design layouts and configurations

OEMs and the Role of Digital Twins

For OEMs looking to aid end-users in their pivot to flexible manufacturing, providing digital twins with your machinery, you can help users integrate seamlessly while improving the training experience and startup time.



Emulate 3D Digital Twin Technologies cuts install and commissioning time by up to 50%

[Read the case study](#)

Integrated Architecture:

The backbone of flexibility

When your goal is to be agile, islands of automation can impede your progress. Your systems need to work in harmony – even legacy systems. Our [Integrated Architecture](#)® framework doesn't just connect your systems; it unifies them into a seamless ecosystem where control, design, cybersecurity, and intelligence work as one.

This unified approach means your operations can adapt and grow without constraints. As your needs evolve, your architecture scales with you, protecting your investments while enabling new capabilities. It's not just about handling today's needs; it's about building a foundation strong enough to support tomorrow's innovations.



Choosing the right Distributed Control System

As a part of your integrated architecture, it's imperative to have a DCS that supports your goals. The system you deploy directly impacts the level of connectivity, productivity, flexibility, and quality achievable in your facility.

Traditional DCS: Facility of the Past

- Built on proprietary technology, disparate from other control systems
- Uses outdated fieldbus protocols not suitable for plug and play operations
- Complex physical design criteria



Modern DCS: Facility of the Future

- Built on open, unmodified Ethernet for smart docking stations and seamless connectivity
- Supports scanning of materials and components to confirm correct operations
- Mitigate human error and save validation time

Biopharmaceutical Industry Environmental Monitoring and HVAC Validation

Our unified, scalable, qualified building automation system, powered by PlantPAX® and Integrated Architecture, eliminates the need to validate disparate platforms. Pre-engineered and pre-tested HVAC control modules, library and templates help provide a unified data structure, reduce validation and documentation, and improve time to market.

Ask more of your MES

Paper-based processes belong in the past. Today, manufacturers need agility, precision, and the power to scale without compromise. [PharmaSuite® MES](#) adapts to your unique production needs while maintaining the strict compliance standards that define the Life Sciences Industry. Whether you're mass-producing a single product, or expanding your portfolio to manufacture new modalities, PharmaSuite grows with you.

Turn Production Challenges into Opportunities

- Scale production volumes without adding complexity
- Maintain consistent quality across multiple production lines
- Respond quickly to changing market demands
- Ensure compliance at every step of the manufacturing process

By combining robust batch management, sophisticated cold chain tracking, comprehensive security and unlimited scalability, PharmaSuite enables manufacturers to meet current demands while preparing for future growth.

PharmaSuite MES + PlantPax DCS

The Seamless integration of two core solutions can increase the benefits of connectivity and flexibility, preventing islands of Automation and enabling a true Facility of the Future.

- Enhanced data flow
- Streamlined operations
- Improved production monitoring and control
- Advanced automation capabilities
- Real-time decision making

Enabling your workforce

As skilled labor shortages continue to affect the Life Sciences Industry, manufacturers are looking for ways to amplify their workers training and knowledge. When operators can access critical data anywhere in your facility, they make faster, better-informed decisions, resulting in a more agile operation where your team can spot issues, make adjustments, and optimize performance.

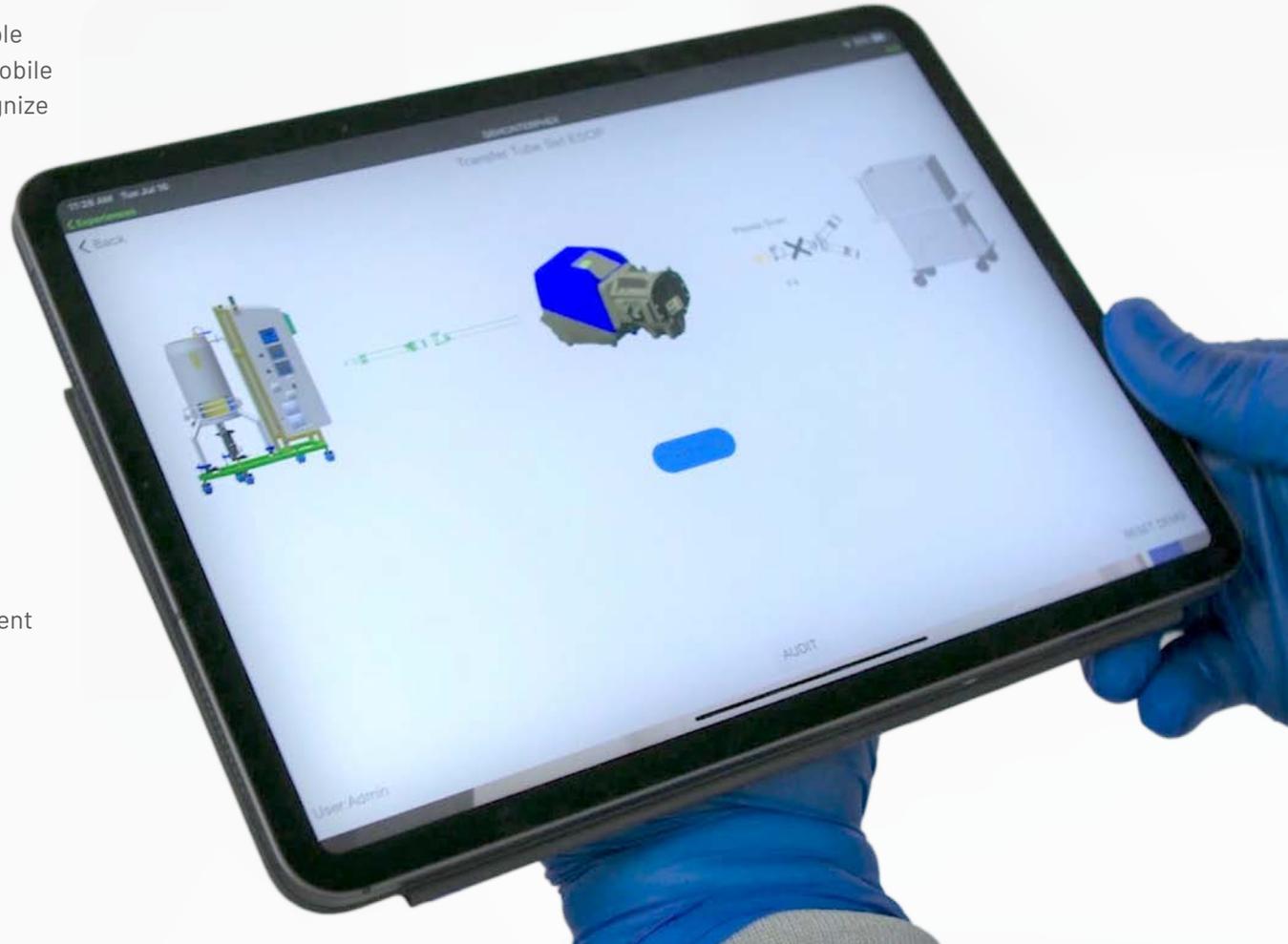
Mobile Enabled

[Thin client](#) technology makes mobile visualization possible and helps reduce the risk of error that can accompany mobile equipment. Location-based mobility solutions can recognize an operator's location and enable relevant screens and applications, while disabling others. It can also use location resolvers like QR codes, Wi-Fi, GPS and Bluetooth beacons, to help make sure that mobile users and devices only receive content in authorized areas.

Guided by AR

Training resources are tightening while your workforce is asked to do more. Quick changeovers and increasingly complex tasks necessitate more digitized workforce enablement solutions. Imagine the ability for any technician to walk up to a connected device and receive hands-free, visual instruction on how to operate equipment or fix a problem.

Visualization technologies like [augmented reality \(AR\)](#) provide standard operating procedures directly to the operator. This advanced technology can help mitigate downtime events and quickly resolve incidents, while reducing risk of cross contamination.





Optimize, innovate, deliver, and protect starting today

The flexible, scalable facility of the future leverages single-use technology, information and connectivity, and modular and mobile design concepts to reimagine production. It can help you realize lower capital costs, faster facility startups, streamlined changeovers, and more efficient production. But the facility of the future isn't a concept for tomorrow. It is being proven around the world today, using enabling technologies designed with flexibility and scalability in mind. To learn more about making your facility of the future possible, [visit our website](#) or contact your local sales representative.

Connect with us.    

rockwellautomation.com — expanding **human possibility**[®]

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600

ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608

UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

Emulate3D, expanding human possibility, Integrated Architecture, ParterNetwork, PharmaSuite, and PlantPax are trademarks of Rockwell Automation, Inc.
Trademarks not belonging to Rockwell Automation are property of their respective companies.

Publication LIFE-SP002C-EN-P - March 2025 | Supersedes Publication LIFE-SP002B-EN-P - August 2020

Copyright © 2025 Rockwell Automation, Inc. All Rights Reserved. Printed in USA.