



Building a modern, smart warehouse for Life Sciences

Enabled by Microsoft technology



Life Sciences supply chains continue to evolve and transform to address the volatility and growth the industry expects. We are seeing an unprecedented acceleration of end-to-end supply chain digitalization as organizations endeavour to enable data-driven, intelligent, resilient, responsive, and agile supply chain operations. However, most of today’s Life Sciences supply chains still operate like analog machines trying to solve problems in a digital world.

In response to today’s challenges, building a modern, smart warehouse is a critical need for Life Science organizations. The ever-evolving nature of the industry has created a state of flux in supply chains and warehouse operations, demanding organizations to rise to the accelerated pace of digitalization. To deliver the next generation of patient care, it is essential for Life Sciences organizations to embrace emerging technologies to help accelerate the digital adoption while maintaining economic viability. However, legacy warehousing systems and processes are making these challenges more difficult than they need to be - organizations need to overcome their heavy reliance on the paper-based and manually intensive processes that are still the backbones of Life Sciences supply chains today.



Key drivers forcing organizations to modernize warehousing capabilities:



Significant amount of tech debt and fragmented solutions due to legacy systems and outdated processes hindering lack of real-time visibility (i.e. inventory, order, lead times) at warehouse level and achieving operational agility



Labor and talent shortage forcing warehousing personnel to work smarter and more efficient to keep up with the demand of an increasingly competitive market



Increased need to enable data driven operations and agile decision support leveraging big data and analytics (i.e. warehouse data, labor data, transport data, inventory data, optimized cost per unit)



Immense pressure to keep up with customers/patients’ personalization and customization expectations and growing need for speed



Evolving product portfolio requiring late-stage customization and secure temperature cold capabilities



Increased risk of errors and non-compliance due to increased growth volume and rising workflow complexity

Supply chains must shift from legacy systems to modern solutions, including intelligent automation and robotics, taking advantage of new technologies to modernize operations and build state of the art warehouses that will enable Life Sciences companies to overcome today’s challenges. Transforming legacy systems and facilities to realize the potential for smart warehouses will take time and will require organizations to formulate a long-term vision.



Smart warehouse

KPMG LLP (KPMG) has recognized the need for Life Sciences organizations to overcome these challenges and has built a smart warehouse offering that leverages Microsoft Dynamics 365™ technology. This offering is designed to enable warehouse operations in Life Sciences to be increasingly cost-effective, enable greater levels of visibility, utilize data to a greater extent and orchestrate operations within the 4 walls to ensure every asset and worker is visible, connected and fully optimized.

This modern, flexible offering provides a secure, scalable, and production-ready warehousing system that can be adapted as organizations respond to the evolving industry demands to best serve and protect customers and patients.

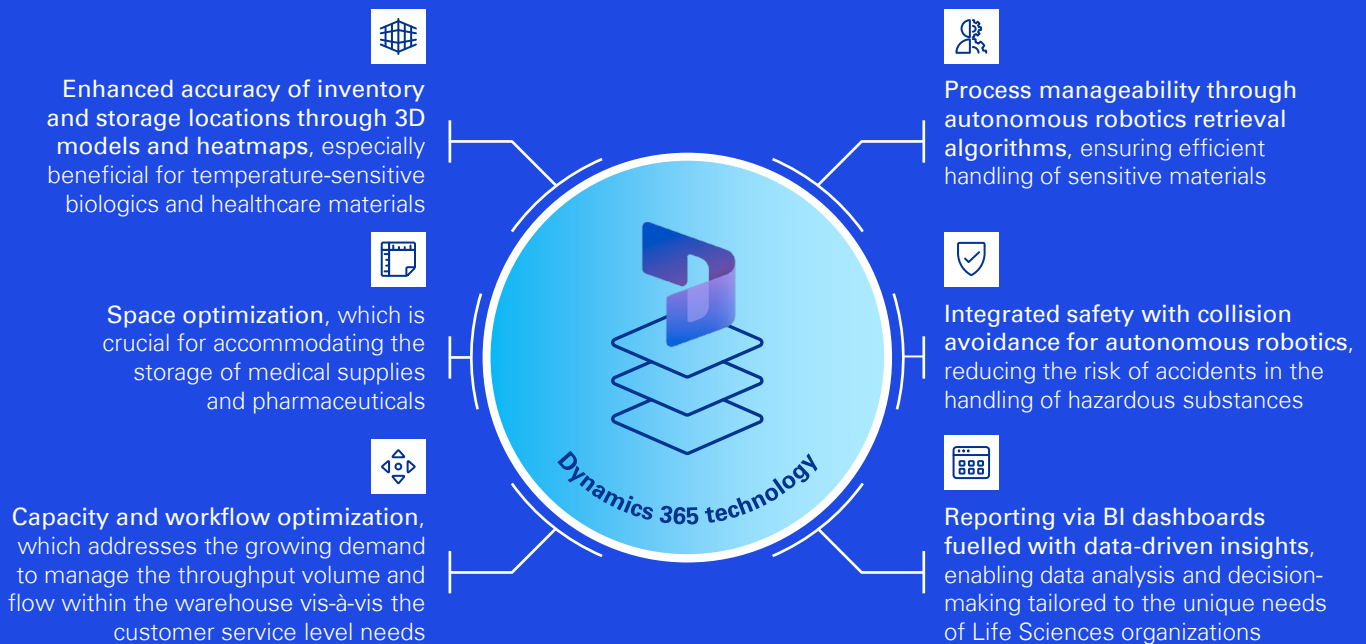
By integrating technology across warehouse processes and systems, this solution optimizes productivity and digitizes supply chain processes for Life Sciences organizations. It enhances product tracking, ensuring that they can easily audit, trace, and report on their inventory, which is crucial for maintaining the quality and integrity of pharmaceutical and healthcare product therapies.

This integrated solution collects real-time data throughout processes and arms organizations with actionable insights required to make real time intelligent decisions.



Modern capabilities

Modern warehouse capabilities provide Life Sciences organizations with the means to improve safety, optimize warehousing and increase operational efficiency. The integration of Microsoft Dynamics 365 technology allows for:



Achieving highly intelligent and fully automated operations at the warehouse level will enable Life Sciences organizations to create more scalable and resilient operations that can support and deliver sustainable growth.



A fully connected warehouse system

A start to finish modular system with a suite of modern capabilities that support the unique needs of this industry



Automated conveyance and transport

Automation of warehouse operations and data-driven support for efficiency gains transforms logistical operations to help ensure that each location can consistently exceed service level requirements.

Within Life Sciences organizations, automated conveyance and transport systems help ensure the safe and efficient movement of sensitive materials and products, such as vaccines, pharmaceuticals, and research samples, reducing the risk of contamination and improving overall supply chain efficiency.



Digital inventory management

Leave stationary workstations behind with mobile, on-demand warehouse management applications. "One app for all" provides access to warehouse functions from receipt to shipping through one application, reducing complexity for the end user. Specifically in the Life Sciences industry, digital inventory management simplifies the tracking of crucial items such as medical equipment, lab supplies, and delicate samples, enabling better resource allocation and reducing the likelihood of stockouts or surplus inventory.



High density robotics storage solution

Uses artificial intelligence-driven "warehouse in a box" technology. This autonomous inventory orchestration increases capacity for other tasks and can increase storage efficiency for a vast array of Life Sciences consumables, instruments, and samples, allowing for faster retrieval and optimized space utilization. This, in turn, enhances the overall productivity of the supply chain and supports the organization's research and development efforts.



Digital asset tracking

RFID-labelled inventory enables live tracking of inventory movements throughout the warehouse as well as autonomous robotic inventory counts. The real-time visibility and traceability are essential for high-value Life Sciences assets, such as medical devices and sensitive research materials, ensuring compliance with industry-specific regulations and enhancing security measures.



Optical character recognition

Allows you to digitize and search receipt paperwork using a machine learning mobile application, which is essential for maintaining meticulous records in the Life Sciences.

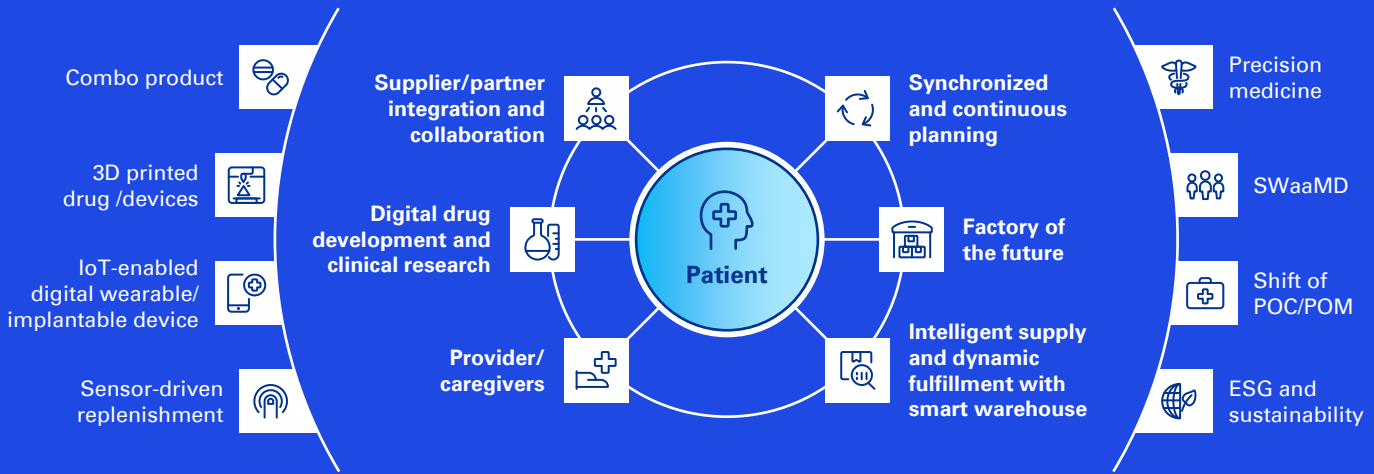


Warehouse storage optimization algorithm

Utilizes available storage space effectively and with consideration for product demand and value. This is essential for Life Sciences products that are required to be stored in temperature sensitive facilities, such as vaccines and biological samples, ensuring their placement in optimal conditions to maintain efficacy and minimize product loss or degradation.



The Connected Supply Chain – A dynamic interconnected healthcare ecosystem



Delivering results that matter

In conclusion, the smart warehouse offering, powered by Microsoft Dynamics 365 technology, provides Life Sciences organizations with the means to modernize their supply chain and warehouse operations, ensuring they are cost-effective, accurate, and transparent. This solution supports intelligent data-driven decisions and, most importantly, ensures the timely delivery of safe and effective products to patients, addressing the unique challenges and requirements of the Life Sciences industry. More specifically it can help modernize your supply chain and warehouse operations, enabling your organization to become efficient, integrated, and resilient.



Cost effective and sustainable

The smart warehouse solution powered by Microsoft Dynamics 365 helps organizations streamline their supply chain processes, optimize resource usage, and reduce waste. By automating labor intensive tasks, Life Sciences companies can lower operational costs and invest more in research and development, ultimately promoting sustainability and greater efficiency within the industry.



Accurate and transparent

Accuracy and transparency are vitally important in Life Sciences, as they directly impact patient safety and regulatory compliance. The smart warehouse solution enables Life Sciences organizations to maintain accurate inventory data, monitor the movement of sensitive materials, and facilitate traceability throughout the supply chain. This level of transparency supports compliance with strict industry regulations and reduces the risk of product recalls or liability issues.



Data driven and intelligent

In Life Sciences, making well-informed decisions can profoundly impact scientific breakthroughs and patient outcomes. The smart warehouse solution collects and analyses valuable data, enabling Life Sciences organizations to optimize their supply chain and logistics strategies. This data-driven approach helps organizations efficiently allocate resources, prioritize research efforts and support late-stage customization decisions, and make other critical decisions that support their ongoing mission to deliver the next generation of patient care.



Timely and effective

One of the most important objectives for Life Sciences organizations is to ensure that patients receive the necessary therapies in a timely manner. The smart warehouse solution aids in achieving the objective by streamlining supply chain processes, closely monitoring product conditions, and automating the transportation of critical goods. By ensuring that safe and effective products reach patients on time, Life Sciences organizations can ultimately save lives and improve the quality of life for countless individuals.



Getting Started

Through the adoption of advanced technologies, like Microsoft Dynamics 365, Life Sciences organizations can transform and reshape their supply chains to meet the needs of their customers. To prepare for transformation, a strategic framework is required to seamlessly integrate new technology into current processes. Four practical steps that Life Sciences organizations can take to get started include:



Articulate a vision and strategy

Define a strategic vision that incorporates a patient centric perspective. Think about all that is involved in getting a single therapy from production to the end patient and customer, and the role your warehouse, distribution, or fulfilment centre plays, including the core capabilities and foundational building blocks required for the established vision and value to be realized.



Assess your digital foundation readiness

Evaluate the current state of your supply chain and the digital and data infrastructure maturity that exists. Compare the current state with your future state vision and consider whether your organization's current processes able to adapt to accelerate the adoption of digital and emerging technologies? Can the infrastructure support the volume of structured and unstructured data needed to drive actionable business insights? Are business processes optimized and ready to benefit from automation?



Pilot fast, scale and upskill to sustain

Piloting the adoption of advanced technologies at a scalable level will provide a low-risk opportunity for organizations to test the solution. It assists with demonstrating feasibility and value of the concept and solution, while building confidence across the organization in a wide scale deployment. The adoption of a change management strategy is critical to enable organizational readiness, drive the adoption of the identified capabilities and providing support throughout the transformation.



Focus on value realization and continuous innovation

Monitor and measure the solution's performance against the desired business outcomes. Continuously refine the solution based on feedback and data to ensure ongoing optimization and success within your Life Sciences organization.



Why KPMG and Microsoft

KPMG and Microsoft are committed to providing business and industry expertise, a proven track record in building logistics systems, and using Microsoft technologies to back up our commitment to delivering innovative technology solutions.

Together, we help Life Sciences organizations to solve some of their most pressing logistics and warehouse challenges.

For more information on how we can help you build a modern, smart warehouse contact:

Chris Alagna

Principal, KPMG LLP
Business Applications Leader
E: calagna@kpmg.com

Stephanie David

Principal, KPMG LLP
LS Supply Chain Practice Lead
E: stephaniedavid@kpmg.com

Yatish Desai

Principal, KPMG LLP
Logistics & Distribution Lead
E: ydesai@kpmg.com

kpmg.com/socialmedia



Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates or related entities.

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.

© 2023 KPMG LLP, a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved. The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organization.

Microsoft, Microsoft Dynamics 365, and Microsoft Power BI are trademarks of the Microsoft group of companies.