One of the world's largest healthcare companies adopts PAS-X MES on Azure

Leveraging MES architectural innovation to streamline maintenance and upgrade effort

Committed to be at the forefront of technological advancement, the customer, one of the world's largest and most diversified healthcare companies, together with Körber drives the migration of its MES to the cloud. Körber's NextGen PAS-X MES 3.3 has been successfully implemented in a research and development facility (R&D) in Europe, promising streamlined MES deployments in the future.

The healthcare company has been using PAS-X MES as its standard MES system in many plants around the world for more than 10 years. Over time, this has resulted in a heterogeneous landscape of different MES versions with various customizations. The R&D site – a major innovation hub, encompassing various activities ranging from the discovery and development of new medicines to state-of-the-art pharmaceutical production, the distribution of medicines and patient access – was chosen as the pilot and did not have an MES in place.

MES architectural innovation: Implementing PAS-X MES in the cloud

To further support efficiency gains, Körber implemented their NextGen MES solution, Werum PAS-X MES 3.3, hosted in an Azure cloud by Microsoft. The architecture was collaboratively developed by the customer and Körber, utilizing adapted microservices and automated delivery as part of Körber's RDA delivery model (Requirement-Driven Approach). This represents a significant improvement in efficiency. The deployment code can be used at different sites, and the entire system is pre-validated, ensuring more efficient and agile installations.

PAS-X MES in the cloud

Körber offers a flexible approach to PAS-X MES cloud deployments designed to meet customers' needs wherever they are on their journey to cloud. The technology group has partnered with two leading cloud service providers, Amazon Web Services (AWS) and Microsoft Azure, to deliver solutions that ensure security, reliability, and high availability. Whatever the cloud hosting preference – whether AWS/Azure cloud or fully managed as Software as a Service (SaaS) – Körber has a proven track record of delivering a mature, GMP-compliant MES solution in the cloud.

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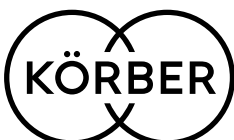
The functional scope of the cloud installation initially covers MBR, Material Flow, Weighing & Dispensing, EBR, and IPC sampling. The system seamlessly integrates with surrounding IT systems, including ERP, LIMS, and Historian, through standardized interfaces.

Strategic partnership with Körber

"The decision for this new architecture was a deliberate choice going into this project. Although it posed considerable challenges, I am firmly convinced that it was the right decision. Was it challenging at times, and did we face challenges no one faced before us because of being first? Absolutely, but as a team we wrestled through every single one of them," says the customer's Senior Manager Production.

"We are strategically collaborating with Körber to define and implement our cloud MES requirements. The go-live in our R&D facility was a first in many respects: the first NextGen MES implementation at our company, the first on the new PAS-X platform, the first in an Azure cloud environment."

Customer's Senior Manager Production

The healthcare company pursues a strategy centered around PAS-X MES as the core functionality, complemented by an open API architecture. The primary objective is to establish interoperability between MES and other applications, thereby minimizing the need for customizations in the MES. This approach enables seamless operations and ensures upgradability through Körber's continuous evolution stream, facilitating the continuous integration of new functionalities into production. In line with their "automation first" strategy, the customer seeks to automate various activities related to MES implementation, including validation and provisioning, with the aim of reducing deployment efforts. Another key strategic objective is to harmonize processes and MBRs to ensure consistency across different sites, ultimately striving for standardization.

Leveraging the advantages of cloud-based MES

"The implementation of PAS-X MES in the digital ecosystem of our drug product pilot plant provides us the typical controls and benefits of an MES, like enhanced controls on materials management, electronic batch records and release by exception, and is important to our R&D data strategy, accelerating tech transfers from clinical to commercial-scale manufacturing," says a Senior Digital Manager of the customer.

Here are some noteworthy statistics highlighting the advantages that the healthcare company gains from utilizing PAS-X MES in the Azure cloud:

- A 50% reduction in infrastructure costs is achieved by use of an optimized architecture.
- Deployment efforts see a notable 40% reduction by leveraging the GitHub cloud platform.
- Testing efforts are streamlined with a 40% reduction through the RDA delivery model, with aspirations to transition to fully automated tests.
- Initial investment costs witness a substantial 65% reduction due to the adoption of subscription-based pricing.

The cloud-based approach enables centralized management and standardized processes, offering the customer the flexibility to effortlessly scale up to multiple sites. The implementation of PAS-X MES becomes faster and more efficient, with the goal of minimal downtime in future software updates, maintaining operational continuity.

Körber's RDA delivery model

The requirement-driven delivery approach (RDA) allows customers to use Körber's continuous evolution stream by making updates easier and faster. It focuses on the formulated customer requirements and references the project documentation where standard functionality is fulfilling these requirements. In the case of software modifications (e.g. hot fix, patch, update) this ensures that the customer only has to validate his concerned requirements and not all MES functions. The benefit: faster and cheaper projects due to 50% less overall documentation effort.
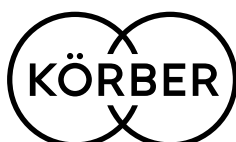
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Technical requirements for hosting PAS-X MES in the cloud

To successfully implement and host Körber's NextGen PAS-X MES in an Azure cloud, it is essential for customers to have a solid understanding of cloud-based technologies. This includes familiarity with Continuous Integration/Continuous Deployment (CI/CD) pipelines and containerization technology. These technologies play a crucial role in ensuring efficient deployment, scalability, and maintenance of the MES system.

- CI/CD pipelines: Leveraging CI/CD pipelines allows for automated and streamlined deployment processes. This ensures that updates and new features can be rolled out quickly and reliably, reducing the risk of errors and minimizing downtime.

- Containerization technology: Utilizing containerization technology, such as Kubernetes, enables the encapsulation of the MES application and its dependencies into portable containers. This approach enhances the flexibility and scalability of the system, allowing it to be easily deployed across different environments and ensuring consistent performance.

By understanding, implementing, and operating these cloud-based technologies, customers can fully leverage the benefits of PAS-X MES in the Azure cloud, achieving greater efficiency, reliability, and operational continuity.

## Establishing the foundation for future MES rollouts

"The decision to be the first plant to 'go cloud' with MES, lays the foundation for future cloud MES rollouts at our company," states the Senior Digital Manager. The healthcare company is strategically planning a phased migration to PAS-X MES 3.3 on Azure, encompassing both new and existing sites. The starting situation varies significantly, ranging from brownfield sites with older PAS-X MES versions to sites without any MES implementation, as well as greenfield sites. The next go-lives at sites around the globe are already planned. The customer is on an ongoing journey towards a truly cloud-native MES, aiming to capitalize on the numerous benefits that cloud hosting provides, such as streamlined deployments, operational efficiency, minimal downtime, and cost-effectiveness. Furthermore, the healthcare company will prioritize performance and access to data, recognizing that data is one of the biggest values in PAS-X MES and must be made available to facilitate data-driven operational excellence.

"With our cloud initiative we have broken new ground, embraced failure as part of the process, and achieved a significant milestone by successfully going live for the first time in our R&D facility. Although there is still much to accomplish, the ambition is clear: to attain faster and cost-effective MES implementations," concludes the Senior Production Manager.

At a glance

Challenges	Solution	Customer benefits
• Harmonize PAS-X MES landscape • Reduce customizations • Streamline efforts for maintenance and upgrades • Minimize downtime for PAS-X MES upgrades	• Werum PAS-X MES 3.3 from Körber in Microsoft Azure cloud	• 50% reduction in infrastructure costs • 40% reduction in deployment efforts • 40% reduction in testing efforts • 65% reduction of initial investment costs • Increased efficiency and agility • Minimal site downtimes when upgrading
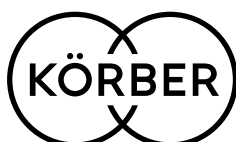
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About Körber

We are Körber - an international technology group with more than 13,000 employees at over 100 locations worldwide and a common goal: We turn entrepreneurial thinking into customer success and shape technological change. In the Business Areas Digital, Pharma, Supply Chain, and Technologies, we offer products, solutions and services that inspire. We act fast to customer needs, we execute ideas seamlessly, and with our innovations we create added value for our customers. In doing so, we are increasingly building on ecosystems that solve the challenges of today and tomorrow. Körber AG is the holding company of the Körber Group.

Delivering the difference in pharma

At Business Area Pharma, we deliver the difference along the entire pharmaceutical value chain by offering a unique portfolio of integrated solutions. With our software solutions we help drug manufacturers to digitize their pharmaceutical, biotech and cell & gene therapy production. The Werum PAS-X MES Suite is recognized as the world's leading Manufacturing Execution System for pharma, biotech and cell & gene. Our Werum PAS-X Savvy Suite accelerates product commercialization with data analytics and AI solutions and uncovers hidden business value.

Delivering the difference in pharma

As your personal partner and expert for the pharmaceutical industry, we support you in all matters relating to sustainable packaging solutions – from design to implementation in your production.

- Development of a solution tailored to your products and needs
- Advice, planning and further development of the packaging design along your entire value chain
- Supply of sustainable packaging solutions in accordance with GMP specifications for greater safety and improved patient compliance
- Unlock your potential and receive support from over 2,500 pharmaceutical experts at 100 locations worldwide

Industry sector
Pharma & biotech

Production site
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