

# Making pharmaceutical products safe



ANDREA RUOSI: AX FOR PHARMA

Human errors could have high costs in the pharmaceutical and healthcare industries but AX for Pharma Dynamics 365's Advanced Warehouse Management capabilities make it easy to produce, store and ship safe drug products

Clinicians and patients alike trust pharmaceutical, life sciences and biotechnology companies to provide the safe medications they need to manage short-term, chronic or life-threatening conditions. But what if they get it wrong? What if they accidentally use expired ingredients or miscalculate the quantity of the components they need to make a particular drug? What if they incorrectly label a container or lose a pallet of essential medications in the distribution warehouse? What if they send the wrong shipment to a pharmacy or hospital? At

best, patients would have to wait longer for their prescription to be fulfilled correctly. At worst, clinicians would be unable to prescribe patients the drugs they urgently need to save their lives, which could lead to fatalities.

Clearly, jeopardising an entire healthcare system as a result of one or two minor human errors is not an option. Consequently, pharmaceutical companies must have strict systems and secure processes in place to ensure that they can accurately track every individual drug product as it passes through the supply chain – from the initial weighing and





dispensing phase, to the manufacturing and final distribution stages. An easy way to achieve this is to implement AX for Pharma Dynamics 365 (D365), a Microsoft Dynamics 365-based modular solution that has been developed to fulfil all the enterprise resource planning needs of pharmaceutical and life sciences companies.

Built as a commercial-off-the-shelf solution, AX for Pharma D365 offers various modules that help pharmaceutical companies to easily procure and store ingredients, before accurately weighing and dispensing them, and then manufacturing the final drug products. The platform also guarantees that all operational procedures and staff meet high quality control standards, while complying with current Good Manufacturing Practice (GMP) regulations, US Food and Drug Administration requirements and other guidelines.

One of AX for Pharma D365's key modules is the Advanced Warehouse Management (AWM), which provides warehouse operators with mobile access to real-time information about inventory and the status, shelf-life, storage and handling instructions for both the raw ingredients and the final drug products.

At the start of the production process, the AWM module helps warehouse operators to quickly

find the correct raw materials by guiding them to reserved lots or to specific containers within those lots. Once they have found the desired container, the operator can use a secure mobile device to scan the barcode and the system will confirm whether it contains the correct ingredients based on their intended use, expiry date, retest date and batch availability.

As the AWM system is tightly integrated with AX for Pharma D365's Weighing & Dispensing module, it will also provide information about where the warehouse operator should send the containers of raw ingredients based on the details

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of the manufacturing order. For example, the containers may need to be moved to the weighing and dispensing booth, while others may need to be sent straight to a specific production line. Built-in software also allows warehouse staff to automatically print labels for subdivided quantities, or to explain item-specific handling instructions.





Once manufactured, the drugs must be packaged and labelled correctly before they are shipped to the right national or international warehouses and eventually to the end user. Just as they did when selecting the initial ingredients at the start of the process, staff can use mobile devices to scan product barcodes to ensure that they know where and how each lot should be stored in the warehouse.

Having instant access to the expiration date of each container of drugs at this stage is essential because it allows staff to ensure that those with shorter expiry dates are shipped before those with longer dates. This prevents drugs with shorter expiry dates from being left on the warehouse shelves for too long and then being destroyed because they are no longer safe for consumption, which wastes ingredients and increases production costs for the pharmaceutical manufacturer. Similarly, having information about whether medications are dangerous or sensitive to changes in temperature, humidity or light, enables staff to store them correctly to prevent them from being spoiled and rendered inconsumable before they leave the warehouse. This information can also be passed on to delivery staff so they can take adequate precautions when transporting the containers from the warehouse to the recipient.

Not only does the AWM module enable pharmaceutical companies to automatically trace every drug they produce from the moment the raw ingredients arrive until the moment the finished drug product reaches the final recipient, but it also simplifies inventory processing through automation and streamlines shipping processes more efficient. In addition, the solution supports the functionality warehouse operators need to create electronic signatures and approved vendor and manufacturer lists. This allows pharmaceutical companies to implement best practices and comply with Good Automated Manufacturing Practice, Good Manufacturing Practice and electronic documentation requirements.

By minimising the need for manual data entry across all operations, the AWM module makes it easy to share accurate information across the entire production chain and ensures high security standards. Together, all of these functionalities help pharmaceutical manufacturers to safely produce and store drugs that are fit for human consumption, and guarantee that they always go to the right people at the right time. ■

*Andrea Ruosi is CEO of AX for Pharma*