



Using Automation to Address Supply Chain Challenges

(Source: A Staff Article by PharmaPhorum)

While supply chain challenges have been an issue for the pharmaceutical industry for some time, current socio-economic conditions such as the Ukraine conflict and the COVID-19 pandemic have highlighted extended wait times and higher prices for thousands of pharmaceutical products. To combat these challenges, pharmaceutical companies need to adopt processes that are not only agile but efficient as well.

Empowering labs with automated equipment that produces traceable and actionable data insights means more pharmaceutical companies can ensure drug production runs smoothly, even under highly stressful conditions. Modular setups, remote monitoring systems and automated batch processing can all assist these labs in responding to issues as quickly and as efficiently as possible.

Supply chain challenges take many forms in the pharma industry – from capacity issues to managing excess safety stock and ensuring accurate supplier communication. The following are examples of how applying automation in pharmaceutical labs can help address these issues.

Reducing capacity issues. Recently, the U.K. pharma industry has relied heavily on China and India as providers of active pharmaceutical ingredients (APIs). For some products this results in supply chains that are so complex that they start in Asia and circumnavigate the globe twice before reaching their final destination. This complexity leaves the industry wide open to supply chain shocks from events such as the pandemic, regional conflicts, trade disputes and cyberattacks resulting in unpredictable or even absent shipments. When this happens, labs end up working with a production line of either too much or too little capacity and reduced efficiency levels as well as wasted product.

By moving to a modular automation setup and connecting production line stages with robotics, production is more flexible, and equipment can be adapted to best accommodate the volume of available raw materials.

Cutting down on safety stock. Supply chain issues often cause companies to double down on safety stock which can be very cost-prohibitive, inflexible, and wasteful when applied to pharma manufacturing. This approach cannot be sustainable near- and mid-term, not only due to the pandemic, but also due to growing geopolitical fragility involving trade disputes and trade routes.

Companies should be looking towards a future where speed and agility are key components with respect to developing business resilience, rather than relying on inventory stockpiles and large quality assured batches.

Automation will be a significant part of this long-term vision. Highly exact data monitoring and modular setups will allow
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In Brief..

- ◆ Pharma manufacturer **Merck** announced results with US\$15 billion in total revenues and US\$5.4 billion in Q3 sales, up 20% from Q3 2021. Total revenue increased 14% and pharmaceutical sales rose 13% year-over year (to US\$13 billion.) The company increased its full-year 2022 revenue guidance to US\$58.5 billion-US\$59.0 billion. Merck also showed impressive sales growth across oncology, infectious diseases and other therapeutic areas.

- ◆ **Profarma Distribuidora** (Brazil) announced 3rd quarter financial results with revenues of R\$2.3 billion (US\$434 million) up 23.7% year-over-year. Profits came in at R\$301.4 million (US\$56.9 million), up 14.8% year-over-year. The company showed consistent positive results throughout the third quarter of 2022, demonstrating resilience and continuous evolution in both business segments. Profarma continues to focus efforts on increasing profitability while providing the best customer experience.

- ◆ Generic drugmakers **Teva Pharmaceutical** and **Sandoz** are both planning a significant uptick in production of biosimilars with the goal of increasing their market share. Executives from both companies said they are targeting top-selling biologics such as *Humira*, which is already off-patent in Europe and is due to come off-patent in the U.S. in 2023. There are challenges, however, especially in the U.S. where biosimilars have not resulted in dramatically lower prices for consumers.

- ◆ Pharmaceutical manufacturer **Viatrix** unveiled the purchase of **Oyster Point Pharma** (at US\$11 per share plus US\$2 per share in contingent value rights) and **Famy Life Sciences** (for an undisclosed sum.) Together the two deals are

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Japanese Wholesalers on Recovery Trend

(Source: An article by Yuki Kato for Pharma Japan)

Japan's Big 4 pharmaceutical wholesalers saw a considerable rise in their combined sales and operating profit in the April-September period of 2022, showing a path toward recovery from the adverse effects of the COVID-19 pandemic.

According to Jiho tally, total sales recorded in the pharma wholesale businesses of the four firms added up to ¥4,027.4 billion (US\$29.1 billion) in the first half of their fiscal year – an increase of 4.2% year-over-year. Meanwhile their operating profits totaled ¥35.5 billion (US\$256.7 million), up 69.1%. Although a shortfall over the ¥53.5 billion (US\$386.85 million) booked in the same period in 2019, the current trajectory shows clear progress towards recovery from the same period of 2020 when the companies suffered a severe blow due to the pandemic.

By company, the operating profit ratio was 1.11% for

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production facilities to switch between producing several similar products that use ingredients from different supplies in minutes, and batch sizes can be tailored to meet daily demands instead of market forecasts. These principles can be adopted by any pharma lab by putting more emphasis on agility to cut down on safety stock. These automated systems will allow labs to better forecast the amount of safety stock they will need, in turn allowing for more accuracy and cost effectiveness.

Better communication with traceable data. It is imperative that all suppliers and distributors know if disruption is likely to occur, whether it is raw materials or outgoing packaged drugs. The more quickly these insights concerning a potential problem can be shared, the better each part of the supply chain can react and tailor their processes. For example, in a lab, technicians can use software to share their production data concerning delays in real-time with distributors who are shipping the drugs to market.

End-to-end monitoring for maximum security. Large scale cyberattacks have become increasingly common and are one of the largest and most expensive threats to the pharmaceutical supply chains. In 2017, an attack cost one multinational manufacturer approximately US\$425 million. Risks associated with these attacks are significantly increased without a cohesive automation strategy. Implementing a system that provides end-to-end monitoring and integrated information security technologies can ensure that labs are more secure.

It is imperative that the pharma industry find ways to keep the supply chain stable and working efficiently. The rapid increase in disruption over the past few years has made it clear that new methods are needed to keep these challenges under control. If disruption continues at a similar rate going forward, McKinsey Global Institute estimates that the pharma industry will lose approximately 24% of one year's potential earnings before interest, taxes, and depreciation every ten years attributable to a cyberattack alone. It is time for automation to be embraced as a long-term solution to deal with these supply chain shocks. With fully automated systems for material handling, combination and processing offer labs the opportunity to become more agile and better placed to handle and forecast supply chain issues.

Japanese Wholesaler(cont.)...

Suzuken and I.10% for Medipal Holdings, both bouncing back over the 1% mark necessary for business continuity. Alfresa Holdings and Toho Holdings on the other hand logged 0.68% and 0.51% respectively. The average operating profit of all four companies was 0.88%, 0.12 points below the 1% mark.

The Big 4 raised the following factors (all related to COVID-19) as reasons for their rebound: 1) the easing of hospital avoidance stemming from the pandemic; 2) increased demand for coronavirus treatments and antigen test kits; and 3) earlier-than-usual uptick in influenza vaccines in anticipation of a simultaneous flu and COVID outbreak.

As coexisting with COVID-19 becomes the norm after more than two years since its outbreak in Japan, patients are returning to hospitals, which has a large impact on pharma wholesale, as well as strong demand for pharmaceutical products. Additionally, the number of COVID-19 patients rose significantly due to the repeated emergence of new strains, particularly over the summer, driving demand for drugs and test kits and even causing kit

deliveries to stop in some cases. While measures against the pandemic had a negative aspect for pharmaceutical wholesalers, it appears that there was also a considerable effect in terms of boosting business performance.

Regarding profit, while wholesaler purchase prices (WPPs) have risen centered on generics, some continue to contend that the rise in prices cannot all be absorbed in consumer purchase prices (CPPs) as a result of negotiations. Wholesalers continue to face a difficult situation when it comes to securing profits.

While business performance continues to recover, those in the wholesale field also raise "coronavirus-related factors" as a future concern. Since the special demand for COVID-19 treatments and test kits is attributable to the emergency of the COVID-19, it is unclear how long this will last. Some are forecasting a decline in profits due to a drop in demand for both therapeutic drugs and test kits. After the pandemic subsides, the inherent power of wholesalers may be put to the test.

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worth between US\$700 million and US\$750 million. Viatris expects the buyout targets to add US\$1 billion in sales by 2028 with the goals of creating a "leading" ophthalmology unit.

- ◆ **GSK** and **Sanofi** have received approval to enter the COVID-19 vaccine market in Europe with their pandemic booster *VidPrevtyn Beta*. The European Commission signed off on the booster to augment protection against COVID-19 in adults ages 18 and up, making it the first next generation, protein-based adjuvanted COVID-19 vaccine approved in Europe.

- ◆ **Amazon** is entering into the virtual healthcare space with the launch of **Amazon Clinic**. Amazon Clinic will operate in 32 states and provide virtual care for more than 20 common health conditions, including allergies, acne, and hair loss. For patients, the cost of consultations will vary by provider and includes ongoing follow-up messages with their clinician for up to two weeks after the initial consultation. While it does not yet accept insurance, if a prescription is part of a treatment, Amazon Clinic patients may select any pharmacy to fill it, including Amazon's full-service online **Amazon Pharmacy**, which offers 24/7 access to pharmacists and fast, free delivery of prescription medications.

- ◆ According to the **Healthcare Distribution Alliance's HDA Factbook**, prescription drugs make up the majority (98%) of distributors' sales, split among sale of brand-name drugs (55.3%), branded specialty (33.7%), generic drugs (7.8%), generic specialty (0.6%) and biosimilar products (0.7%). Chain drug stores remain distributors' largest customer segment, followed by hospitals and HMOs (18%) and independent pharmacies (11.8%) though the last segment continues to shrink. While healthcare distributors continue to provide high service levels to customers, industry profit margins continued in a 7-year downward trend, falling to a new record low of 0.3% after taxes. (*The 93rd Edition of the HDA Factbook: The Facts, Figures & Trends in Healthcare 2022-2023 is available as a complimentary download from <https://hda.org/publications/93rd-edition-hda-factbook-the-facts-figures-and-trends-in-healthcare/>*)

(Sources: Company Press Releases, Drug Store News, FiercePharma, Reuters, and World Pharma News)