

## How pharma 4.0 and logistics intelligence can improve product safety

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**US\$35 billion is lost each year through healthcare products damaged by temperature deviation in transportation making logistics intelligence – through sensors, AI and robotics – a priority**



Ask healthcare and biopharma industry leaders to list the biggest risks facing their global supply chain in the coming decade and they will invariably highlight one priority above all – product safety.

Safety is the beating heart of the entire value chain in healthcare. Transportation in the pharma supply chain is often seen as one of the weak links – 30% of scrapped pharmaceuticals can be attributed to logistics issues alone<sup>1</sup>.

Despite the losses, healthcare logistics has evolved little since the 1990s. The industry continues to deal with a whole gamut of issues including theft, damage, spoilage, wastage, and expiration, often due to weak monitoring of pharma cargo. The growth of biologics, the creation of which is complex, time-consuming, costly and sensitive, has added to the urgency to improve safety.

With global biopharma cold chain logistics estimated to grow from \$15.7 billion in 2019<sup>2</sup> to almost \$17 billion by 2020<sup>3</sup>, the question is: how can we leverage technology and digital transformation to build a safety-first, quality control obsessed supply chain? Even more critically, how can we future-proof Asia's growing role in global pharma manufacturing in the 4.0 era?

### ***Intelligence will power the next generation, safety-first supply chain***

Intelligence is becoming the largest driving force for pharma and biopharma manufacturing under the Industry 4.0 model.

By changing *how* we combine the physical supply chain with technologies such as AI, big data and IOT, we can create a new and connected culture of supply chain safety.

The core value proposition is to protect the integrity of biologics and chemical compounds by tracking and monitoring the ingredients from supplier to factory. End-to-end visibility on temperature, time and location delivers numerous benefits:

- Reduction in the \$35 billion<sup>4</sup> annual bill of healthcare products which are rendered worthless or harmful due to temperature deviation.
- Pinpointing the exact location of any deviation or waste. This data will help identify and solve potential risks along a complex supply chain that is far from straight.

Here's an example. We ship biologics for a research-based global pharma company from Singapore to their production facility in Japan. The shipments are heat sensitive and contamination prone, and particularly susceptible to the rigors of cross-border shipping, making full custodial control imperative.

We are building a future where innovation equals automatic compliance. Where full visibility becomes standard. Where knowledge and trust are empowered and speed is continually enhanced. And costs are lowered – but not at the detriment of compliance.

***The future – Prevention is Still Far Better than Cure***

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