

# Ensuring the World's Access to Vital Medicine: The Role of the Cargo Industry in Pharmaceutical Transport

**During the global pandemic, the importance of transporting vital vaccines and medicines was brought sharply into the spotlight. COVID-19 amplified just how important air cargo is, and everyone's dependence on it to transport food, medicines, PPE, e-commerce –, only air cargo makes it possible to transport vaccines at speed, to destinations thousands of miles from its manufacturer.**

As the world changed, the air cargo industry swiftly adapted its offerings to accommodate the transportation of temperature-controlled goods. The industry saw a rapid change of operations, as companies adapted quickly to shift from belly hold movements on passenger services to offering a comprehensive schedule of cargo-only flights. Some cargo companies even launched brand new charter services to provide the capacity customers so desperately demanded. These types of adjustments meant setting up new and dedicated charter teams.

Over 20,000 tonnes of PPE and large quantities of sanitiser, ventilators and COVID-19 testing kits were flown across our network. Towards the end of 2020 and into 2021, on an almost weekly basis we were transporting COVID-19 vaccines via a dedicated cold chain product, to many parts of the world.

Today, the air cargo industry transports a vast amount of pharmaceutical goods with 28% of the industry's cargo being biopharmaceuticals and approximately 35% of all pharmaceuticals being transported by air.<sup>12</sup>

The air cargo industry is well versed in delivering temperature-sensitive pharmaceutical and bio-science products, to service multiple sectors of the global economy. In particular, pharmaceutical products are high in demand in countries such as the U.S. and UK, with supply mainly coming from locations such as India, Dublin and Puerto Rico, which are increasing their production of pharmaceutical products.

Behind every tablet, vial, and vaccine, there exists an intricate web of logistics and transportation that ensures these life-saving medicines reach their intended recipients safely and securely. The delivery of essential items such as pharmaceuticals comes with its own set of challenges, and relies on key players in the industry and innovative technology solutions, to provide an efficient and smooth service.

## Global Pharmaceutical Trends

The pharmaceutical industry is a global endeavor, with medication traversing continents, borders, and oceans. Since Covid-19, a greater emphasis has been placed on vaccines. As the world continues to battle remnants of coronavirus, new booster shots and the flu, vaccines continue to be of vital importance.

In recent years, East Asia, particularly India and China, has emerged as a pharmaceutical powerhouse as over half of the pharmaceutical products imported to America are from India, China, and Mexico.<sup>3</sup>

These nations play a pivotal role in the manufacturing of generics and Active Pharmaceutical Ingredients (APIs). Their contributions underscore the global nature of pharmaceutical supply chains, which cross the planet in a complex format to meet the ever-growing demand for healthcare products. India continues to see growth because of a series of legislation, the economic environment, and timely actions. In fact, it has been marked as the 'pharmacy of the world', supplying over 200 countries with pharmaceutical products, and contributing to 60 percent of the world's supply of vaccines.<sup>4</sup>

China, on the other hand, boasts the largest share of API production. These two global leaders have become integral to the pharmaceutical industry's global supply chain, and their continued growth further reinforces the importance of efficient transport and distribution systems.

Moreover, the pharmaceutical landscape is witnessing a seismic shift with the increased approval of cell and gene therapies. These innovative treatments hold tremendous

potential but require an entirely new level of precision and speed in transportation. This is often due to the lifecycle of these therapies, and the controlled environment they require to remain usable. The growth of transporting personalised medication originating from areas of the world such as Europe and America, is a key trend. The reason why is due mostly to the pharmaceutical manufacturing capabilities, and the demographic requirement locally for tailored therapeutics.

As we continue to see vaccine transport trending and the growth of pharmaceutical industries throughout the world, the air cargo industry is evolving to meet the stringent demands of the pharmaceutical sector.

## Operational Considerations for Transporting Pharmaceuticals

The air cargo transport makes up 95% of cold chain pharmaceutical transport, but this method comes with unique operational challenges.<sup>5</sup> There are important considerations when moving pharmaceutical goods, such as, speed, and temperature control, ensuring the shipment stays in the perfect condition every step of the way during its journey with us, delivering the highest level of care to maintain the purity, potency, and stability of the life-saving medicines we carry.

When it comes to the transport of pharmaceuticals and life-saving drugs, the race against time is pivotal. Our expert teams around the world are ready to activate our services to assist in the transportation of potential vaccine shipments, and our 'Critical' shipping capability is also always ready for those emergency commodities such as a life-saving drugs, that require additional speed and focus. Due to the limited 'shelf life' of certain medicines, it's imperative to provide constant monitoring and prompt service recovery in the event of an aircraft delay, cancellation, or weather related issues.

Ensuring that delicate medications remain within their specified temperature ranges is an absolute necessity, as any deviation can render these medicines ineffective or



even harmful. Innovation is key within the transport of pharmaceutical products and technology-based solutions are becoming more present throughout the industry. Cold chain solutions are being developed to ensure temperature-sensitive pharmaceutical products stay in perfect condition at every step of the journey. In fact, this year we have recorded a 45 % rise in the number of medicines moved over our network through cold chain solutions, in the first half of 2023 compared to the previous year, showing that even in a post-pandemic world, there is a great demand for pharmaceutical transport, and that this service is instrumental in meeting those needs.

### Impact of Technological Developments

In the quest for greater efficiency, the pharmaceutical transport industry has turned to technology and innovation. Cutting-edge facilities and IT systems play a pivotal role in ensuring that medication and vaccines reach their destinations promptly and securely.

Technology efficiencies have been notable in facilities such as New Premia, a major cargo handling facility that sits at London Heathrow, one of the key pharmaceutical hubs in the UK. The facility contains a dedicated Constant Climate Quality Centre, allowing the acceptance and storage of more temperature-sensitive cargo such as pharmaceutical and life-science products. It is facilities like New Premia that help the cargo industry keep clear and effective supply chains when it comes to pharmaceutical transport.

Innovations in packaging solutions have also played a significant role in enhancing

pharmaceutical transport. Advanced packaging ensures that product integrity is maintained, reducing the risk of spoilage or damage during transit.

Collaboration is key and we believe in the value of a transparent supply chain within the air cargo industry. A synchronized and well-coordinated supply chain, combined with a commitment to providing diverse and sustainable packaging options, ensures the integrity and safety of pharmaceutical cargo. This is further reinforced by rigorous training to ensure compliance with the stringent requirements governing pharmaceutical shipments.

### Reflecting on Global Trends While Always Looking Ahead

Within the healthcare landscape, the role of pharmaceutical transport is often understated and overshadowed by the marvels of medicine discovery and development. The question of 'how?' is often an afterthought rather than a fully recognised issue.

However, without a robust and reliable transport system, medicine would remain at an impasse, behind the doors of laboratories and manufacturing facilities. It is an intricate balance of logistics, regulations, and technology that ensures the seamless delivery of life-saving treatments to patients in need.

As we reflect on the global pharmaceutical trends, operational considerations, and the impact of technological advancements in this critical industry, one thing is clear: the cargo industry plays an indispensable role.

Through use of innovative technologies and cold-chain products, the industry is working to ensure that medicines, vaccines, and all other products that need set temperatures throughout their lifecycle can be transported to wherever in the world they are needed. It is crucial that the industry continue to expand these efforts around the world.

As the demand for pharmaceuticals continues to increase, the cargo industry must evolve to ensure that products are delivered sustainably, efficiently, safely and at speed, and we look forward to seeing this journey unfold.



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Jordan Kohlbeck is the Head of Pharmaceutical at IAG Cargo where he is responsible for overseeing IAG Cargo's temperature control pharmaceutical product. He sets the strategic direction of the pharmaceutical and life sciences division. Since joining IAG Cargo over four years ago, he has held roles relating to Constant Climate and Transformation, where he helped deliver and drive change within IAG Cargo's Operations and wider business. Jordan's expertise in developing innovative solutions, coupled with his customer centric approach, is instrumental in driving and delivering an exceptional offering for customers to meet the unique needs of the industry.