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Air freight 2025: Agility, speed, and partnerships

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Companies in the sector must become as agile as possible, maintain air freight's speed advantage, and deepen their partnerships.

Global trade-to-GDP ratios have crashed to 1980s levels in recent years, while capital flows have fallen by half since the crisis of 2008. International air freight has directly reflected these problems: growth is down to 1 or 2 percent a year, from 4 to 6 percent before the crisis. Meanwhile, belly-cargo capacity¹ is growing by 3 to 4 percent a year, almost as fast as the number of air passengers (about 5 percent). In other words, belly capacity alone has increased faster than cargo volumes, and that has sent yields south and created difficulties for full freighters. Going forward, the air-cargo industry is set to experience continued pressure from three forces: demand, disruption, and supply.

Although some uncertainty now surrounds the future of international trade flows, demand for air cargo has been set for change, above all, because shippers are redesigning their global production networks (exhibit). These companies are now ready to take full advantage of advanced robotics: from a network of central manufacturing plants, they will ship semifinished goods to locations near their end customers, where they will finish or customize these products. Their new networks will introduce automated warehouses, predictive shipping, and drones for deliveries. Powerful forecasting algorithms will manage and monitor end-to-end performance in networks. All players in the supply chain will need very strong IT backbones to enable this new transparency and these big, continuous data flows.

In a world where data and connectivity are the keys to the kingdom, new entrants could easily disrupt an air-cargo sector that all too often clings to legacy technologies. The disruption could well come from e-commerce players, with their strong data-handling capabilities. Consider the case of Amazon. Ten years ago, the company was known for shipping books and other kinds of media. Then it created an additional business by selling its spare computing capacity and eventually became the leading provider of computing power in the cloud, with a market share bigger than its nearest three competitors combined.

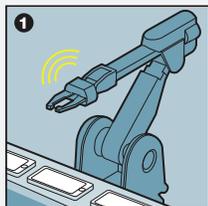
Now Amazon is making moves in logistics. Three years ago, it announced a new venture called Global Supply Chain by Amazon, providing a "one click-ship for seamless international trade and shipping." Since then, the company has continued to expand its warehousing capabilities a million square feet at a time. In late January, Amazon revealed plans to move its air-cargo hub to the Cincinnati region, where it will set up a new three-million-square-

¹ Free space in the holds of passenger aircraft.

Exhibit

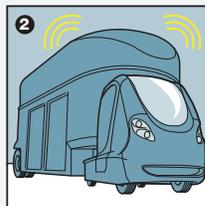
Increased automation is changing global production networks.

Automated production at factory



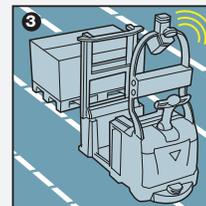
Machines provide constant feedback on production capacity and information on shipment-production status.

Autonomous truck to warehouse



Driverless trucks move goods to warehouses, with live transit-location updates via satellite link.

Automated warehouse



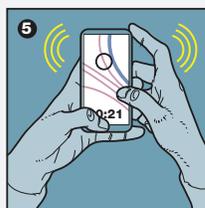
Machines handle all operations, from picking to transporting goods, with continuous information flow on status of goods.

Predictive shipping



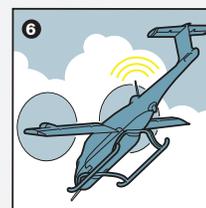
Goods are dispatched from warehouses to stores and to online retail supply chains ahead of demand, based on anticipated demand.

Shipment rerouting by customer



Via mobile phone, customer has ability to view order status and input a new delivery destination.

Last-mile delivery



Drones perform last-mile delivery and return pickups.

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foot facility. This will have more than 100 aircraft-parking positions, which suggests that the company intends to acquire even more capacity than it has so far announced—up to 60 air freighters. Such efforts raise the prospect that Amazon will create another business selling spare capacity to a wider market, this time to shippers, disintermediating forwarders and air-freight carriers at a single blow. Similarly, though on a smaller scale, YTO, which is backed by Alibaba, is expanding its freighter fleet in Asia.

² Such as the Boeing 777-300ER and 787 or the Airbus A330 and A350.

As for supply, the introduction of long-haul services from secondary cities has accelerated with the expansion of the Middle Eastern hub carriers and new aircraft designs² with large belly-cargo capacities. (Last year, the belly capacity of Middle Eastern hub carriers flying into Europe

equaled the capacity of more than 100 weekly Boeing 777 freighter flights.) Cargo formerly had to be trucked to main hubs (Amsterdam, Frankfurt, or Paris) from secondary cities, where Middle Eastern hub carriers now give shippers and forwarders direct access to cargo capacity. This evolution hasn't affected all markets equally, however: the impact on India-to-Europe routes is significant, but full freighters retain a core role on trans-Pacific routes.

In such an environment, air-cargo carriers face three imperatives for surviving and flourishing in the future: agility, speed, and alliances—or mastering aerobatics, breaking the sound barrier, and flying in formation.

The carriers are going to need greater agility to seize new opportunities by providing better service and higher quality and transparency. A stable IT backbone will make their operations more efficient, and new capabilities will help them adapt rapidly to their customers' changing needs. Redesigned, lean, and largely automated processes, for example, can make data fully transparent and reduce the time needed for booking by 90 percent—to less than 1 minute, with instant confirmation, from 60 minutes (and in some cases up to 3 days). A fully digitized sales and customer-service experience will become the industry standard and set the expectations of customers, in particular small ones and those with simple transactions. This in turn will allow carriers to disintermediate forwarders, pushing direct shipper-carrier bookings up to 15 to 20 percent, from less than 5 percent today.

Meanwhile, the world around air-freight carriers is changing more quickly, eating away at their speed advantage. New freight-train services have been launched between China and Europe. Drones are accelerating last-mile express deliveries. DHL has been working to develop what the company calls the Parcelcopter, almost doubling its speed and payload in just two years. Amazon, which unveiled similar ambitions with its future Prime Air delivery system, recently secured a patent for airborne fulfillment centers. One major European carrier has set up an unmanned-aerial-vehicle (UAV) subsidiary that has so far focused on monitoring infrastructure, but its know-how and capabilities could one day be brought to bear on air-freight operations. Developments like these mean that air-freight players must speed up their operations—for example, by using predictive-maintenance techniques, advanced demand analytics, and network modeling, and by participating in enhanced data-exchange systems across stakeholders.

Yet the task at hand is so large that no company can win by itself—alliances are required. Clear interfaces for interconnected networks will be the sector's ticket to continued relevance. Ecosystem solutions are also required. On the gateway level, airports, key forwarders with major operations there, main base carriers, and local authorities (such as customs and health-inspection organizations) must cooperate closely, linked by a common data-exchange platform (for instance, Amsterdam's Smart Cargo Mainport Program). On the operational level, excellent air-transportation solutions, designed along classic triparty lines (shipper, forwarder, and airline), remain the best guarantee of customer satisfaction and long-term relationships.



Air freight remains a challenging market. As pressures from demand, disruption, and supply continue to build, the sector's players should strive to become as agile as possible, to maintain air freight's speed advantage, and to deepen their partnerships. □

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