Freight 4.0:

The intelligent supply chain

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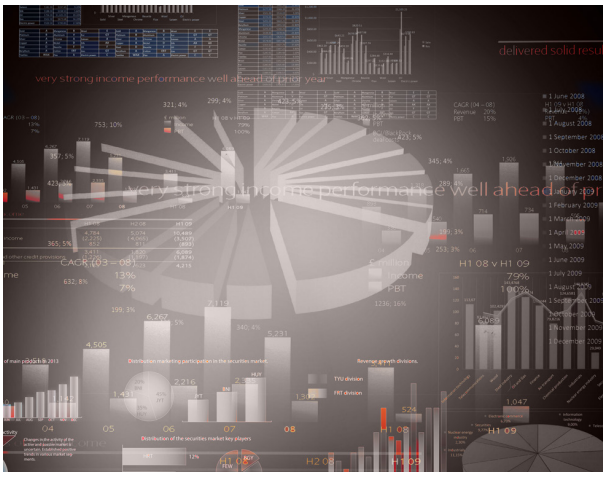
The evolution of cargo systems can be marked by four key stages in the growth of air cargo systems. Technological innovation has brought not only the world closer together, but has also given us the capacity to do more by pooling resources like data and information for the benefit of everyone. In this new age, no company or system is a silo – let's take a look at this progression…

Freight 1.0 is the level we are all familiar with; traditional cargo operational systems. It includes significant changes we have seen such as the use of modern user interfaces and devices. It also includes improvements from higher levels of integration methods and the increasing use of rules-engines to adapt processing to changing circumstances without writing code. Simply put, together these make a better operational system.

The transformational step to Freight 2.0 comes through Software-as-a-Service (SaaS) delivery linked to the use of external analytics to drive performance. This means no more fumbling with in-house systems that are rigid and unchanging. SaaS means that organizations continually get a better cargo system and better access to new tools and techniques. Collecting analytics is how aircraft engine makers have built ever-higher performance engines. Monitoring has become decentralized through sensor data collected by every engine, and the analysis is used to drive maintenance and innovation. This, combined with a multi-organization approach, can deliver unprecedented benefits to the organization and its products.

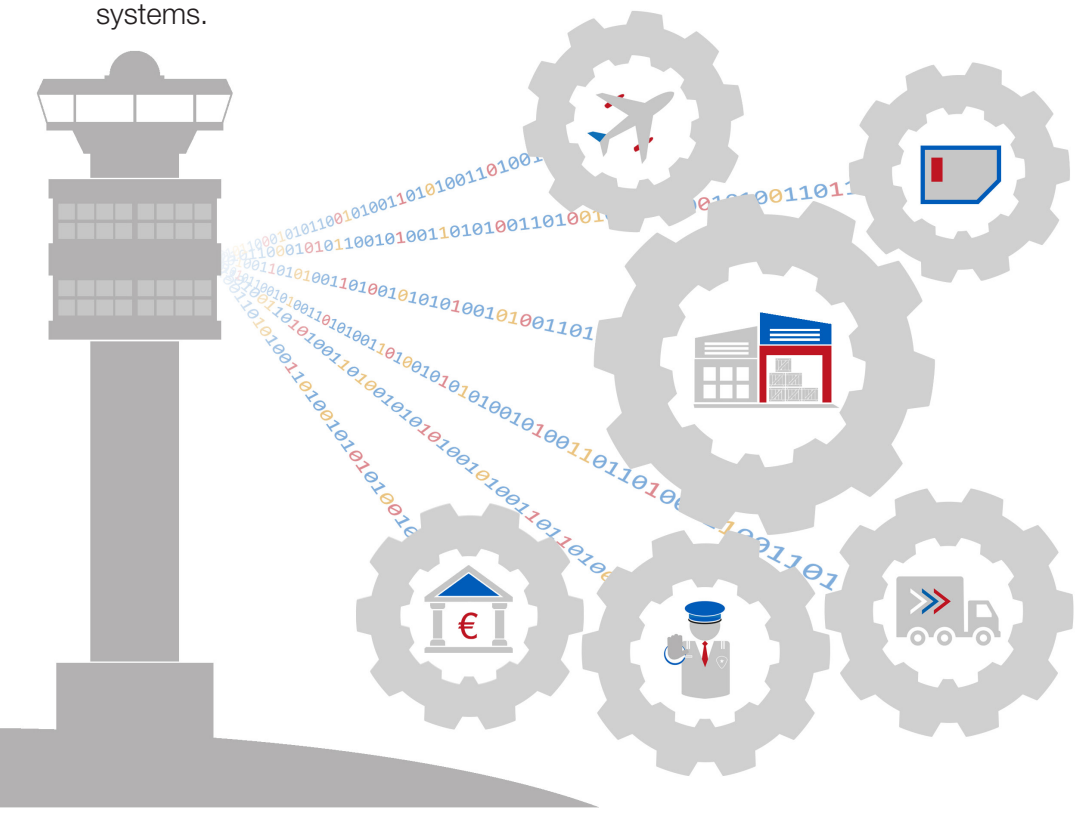


The next step of this evolution, Freight 3.0, is when operational systems are driven by information. We are seeing that transformation in the move to self-driving cars. Examples in air cargo might include client-specific dynamic pricing or continuous network routing optimization. Another could be the emergence of an electronic GSA which uses customer knowledge and voice operation to make better decisions than humans with personal prejudices.

So, what is Freight 4.0? In CHAMP's world, it is a higher performance supply chain. Something that individual organizations cannot do alone. My supply chain is more secure than yours. Or more transparent. Or faster. Or all three and more.

At the heart of Freight 4.0 is a logistics control tower; software that manages the flow of goods against service levels. Such software is used by large freight organizations like Kuehne + Nagel to maximize cost efficiencies while meeting time constraints. It oversees complex multi-organization and country regions across different modes. An airport community might have forty or fifty milestones and data inputs from carriers, handlers, regulators, forwarders and, potentially, truckers. A country community would have a different view, but the control tower concept would be the same, just configured differently.

While an air cargo logistics control tower will need much new milestone data, it will use the current industry information industry exchanges, augmented by deep integration to cargo operations and regulatory systems.



A key value of a logistics control tower is that it collects information at the source and makes it immediately available to those partners that need some of that information based on rules and attributes. In this way community partners have unprecedented insight helping them to process shipments faster. The control tower could provide completely new levels of transparency to shippers and consignees, again based on rules and permissions. And regulators will value that as it gives them earlier and better insight and helps ensure the integration of shipments, and security of the network.

The control tower will continually analyze shipment data against plans and service levels, issuing warning and alerts where necessary tomeet commitments. It will help logistics providers to better plan resources and to react to unexpected events.

Apart from unprecedented levels of integration and control, a Freight 4.0 community will rapidly build up a huge data lake of information that can, with visualization tools, provide insights to improve efficiency, security, transparency and speed. Much as integrated organizations like UPS, DHL, and FedEx do to optimize their own organizations. In this way Freight 4.0 communities will pull apart, setting higher levels of performance and bringing partners closer together.

So why is CHAMP so excited about the potential? Simply because CHAMP's ethos is to always maintain a supportive role in the evolution of air cargo operational systems, data flows, and shipment processing. Capabilities, data, and expertise that can build Freight 4.0 communities using data in new ways to make better decisions and move ahead of competitors.