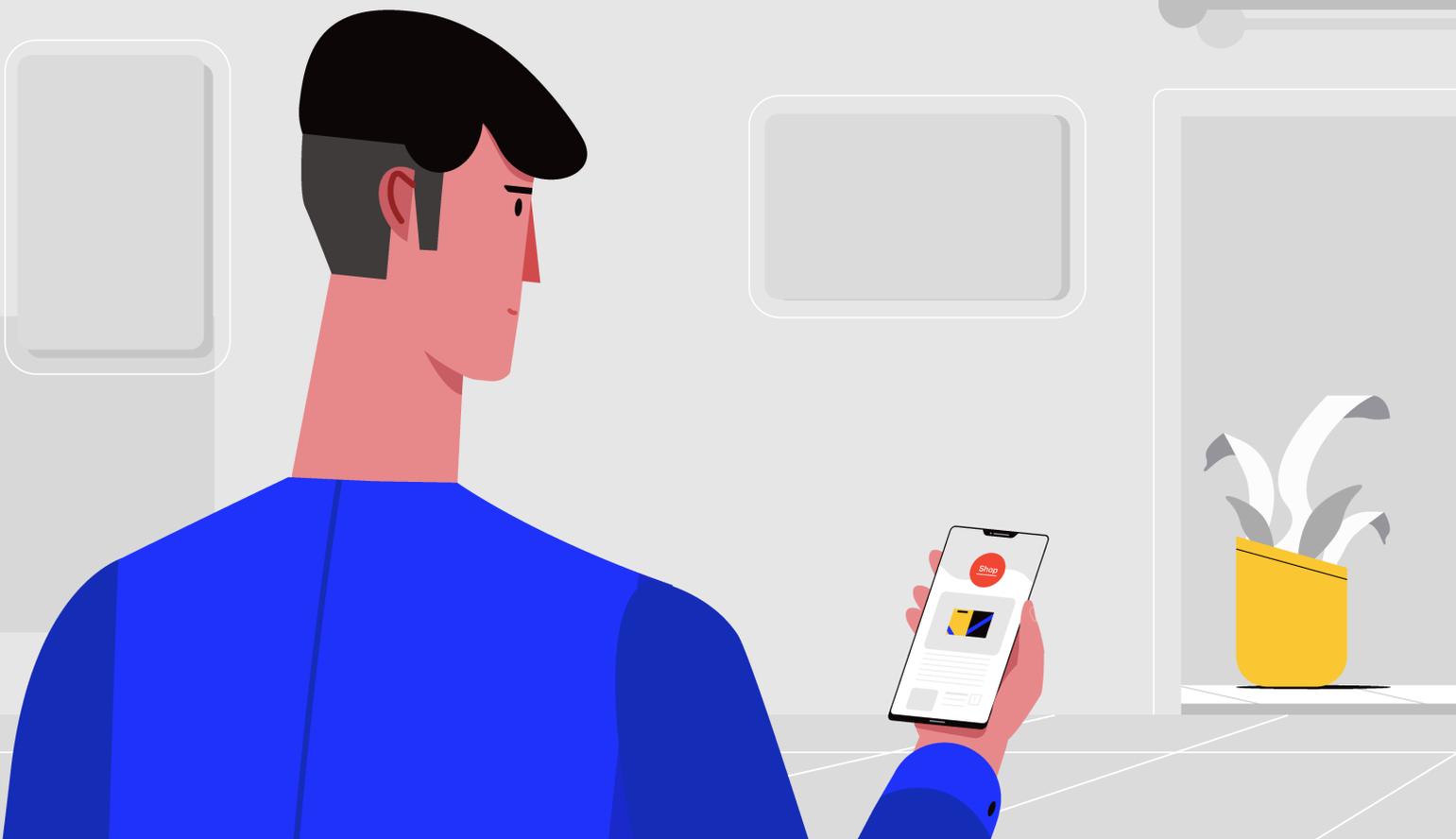




White Paper

Air cargo and e-commerce enabling global trade





Air cargo and e-commerce enabling global trade

Digital technologies are revolutionizing trade

Our industry is set to double in size by 2035. IATA's role is to facilitate the growth of civil aviation and cut airline costs by creating a better regulatory and business environment for our member airlines, and the stakeholders of the air cargo industry.

20%
growth
per year

IATA enables airlines, the wider value chain and consumers to connect safely, securely, sustainably and efficiently to all parts of the network, through global standards. We must add value for our members and enhance air transport, by providing services where we have a clear mandate and a distinctive capability.

IATA's member airlines, together with their partners must prepare for the future growth of e-Commerce in the air cargo industry by transforming into a modern service provider and anticipating consumers' expectations. The global economy is increasingly turning to e-commerce: whether for online shopping between consumers and businesses, from consumer to consumer, or business to business. Traditional and digital worlds are also closely integrated with omni-channel solutions and business models mixing offline, online and even virtual experiences.

Consumers in stores use more and more digital devices (their own or the ones provided by the retailer) to virtually try clothes and customize the goods they will then order, buy products that are either out of stock or not sold in stores, scan product labels to check availabilities, and arrange delivery and returns.

A not-to-be-missed opportunity

Since 2005, global internet retail sales have grown above 20% a year on average, according to Euromonitor International, much faster than traditional store-based sales. The International Post Corporation (IPC) even suggests that this percentage has now reached 25%.

In addition to rising domestic volumes sent by large and small e-retailers, the fast-growing cross-border e-commerce market remains a key growth driver. IPC expects cross-border e-Commerce to account for 22% of global online commerce (nearly twice the growth rate for domestic trade). They predict that between 2016 and 2021, e-commerce sales will grow by 141% and reach a forecasted global sales value of USD 4.8 trillion.

Despite these impressive figures, online retail is still relatively immature as it accounts for only 12% of total retail sales in 2018, according to IPC. Those figures show the huge potential of e-commerce in the near future.



E-commerce is a future growth driver for the air cargo industry, as online shopping boosts demand for parcel delivery services worldwide. On aggregation, the industry's parcel volume more than doubled over the last decade, growing at a rate far above economic growth.

\$4,800,000,000,000

value of global e-commerce forecast for 2021

Cross-border e-commerce

Online shoppers are now buying more and more often, and cross-border e-commerce volumes are growing. According to IPC, in January 2019, 75% of online shoppers buy online at least once a month. Customers' expectations are no different for domestic and cross-border e-commerce. They want speed, predictability of delivery times and visibility. Network coverage, frequency of flights, tracking capabilities and flexible and varied final mile delivery solutions are therefore critical to serve e-commerce customers.

75%

of online shoppers buy online at least once a month

20%

buy online at least once a week

The same study also shows that currently cross-border e-commerce is predominantly for low cost and light-weight products: 84% are below 2 kg, 40% cost less than 25 euros and 8% are returned. It is therefore relevant to revisit the business models of the air cargo players, pricing structures, chargeable principles and align border regulations impacting traditional airlines, integrators and postal operators to ensure fair competition and interoperable solutions.

Another interesting fact is that footwear, apparel and consumer electronics represent more than 52% of all online shopping excluding services such as travel, entertainment and financial products.

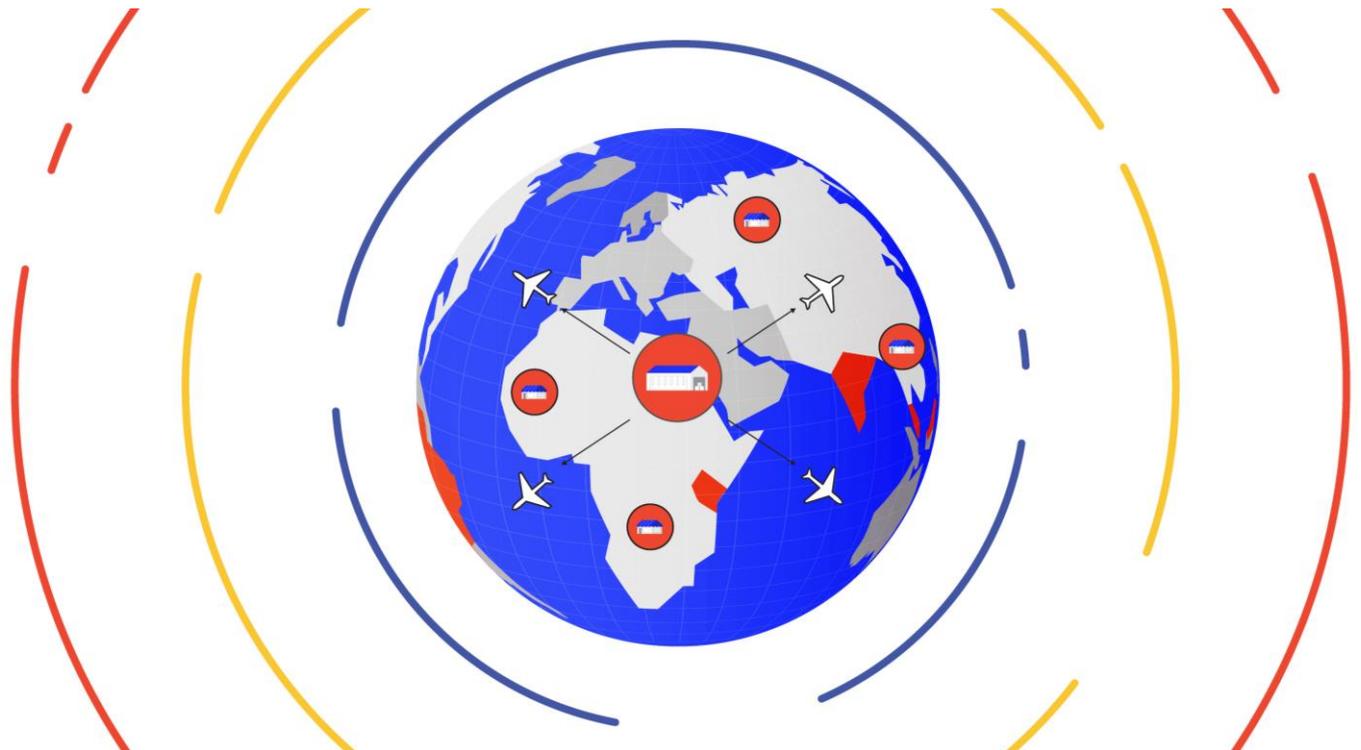
with dangerous goods (specifically lithium battery shipments) and other regulatory compliance obligations.

New players, new rules!

Today's and tomorrow's e-commerce players expect innovation from their partners and therefore the complexity and out-of-date processes that are still in place in the logistics industry must evolve to meet their needs.

- They offer simplicity, smooth and smart digital user experience to their own customers: they expect a similar treatment from their logistics providers.
- They constantly innovate to survive ever-growing competition and are therefore compelled to work with innovative partners.
- They embrace customer centricity, often via instant comments on social media, and have to respond quickly to any deviation: they need reactivity from their supply chain partners.
- They invent new business models, create new rules: they are ready to be their own logistics provider if existing ones are not addressing their needs.

In the consumer to consumer scenario, there are no more traditional traders nor logistics experts. This means the air cargo logistics providers need to adapt to these individuals who do not necessarily have the adequate expertise in trade and logistics.



Linking what the online consumers want and what air cargo can deliver

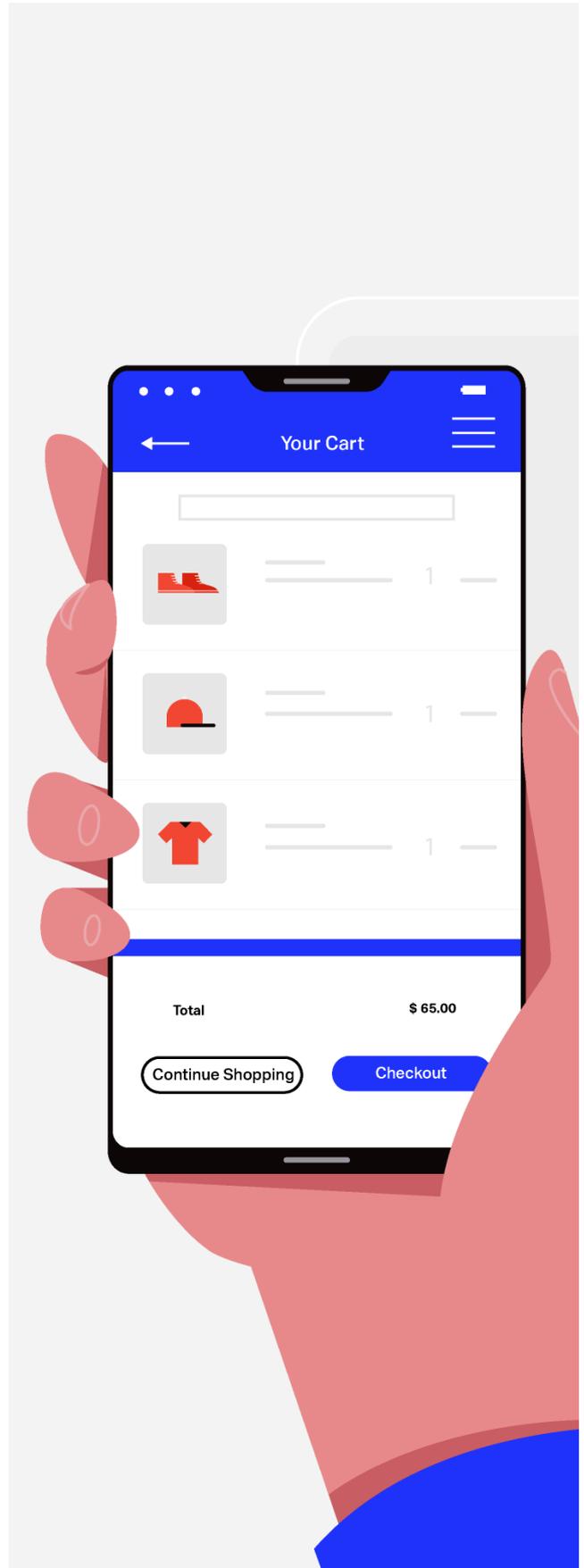
The online marketplace offers visibility of inventory status and expected delivery dates, a variety of shipping options including free, tracking options and easy returns are demanded by digital shoppers. In order to be able to offer free shipping, retailers need to get low-cost solutions from their logistics providers. Equally, in order to be able to propose fast, including same-day delivery options to their consumers, retailers need high-priority and totally reliable logistics services.

<p>High priority</p> <ul style="list-style-type: none"> • Faster delivery • Expedited Customs clearance • Customized final mile / delivery 	<p>High visibility</p> <ul style="list-style-type: none"> • End-to-end tracking • Instant notification • Disruption alerts
<p>Normal</p> <ul style="list-style-type: none"> • Regular air cargo service • Basic final mile 	<p>Low cost</p> <ul style="list-style-type: none"> • Deferred delivery • Low touch final mile

The increasing need for speed, visibility and easy returns heavily impacts the logistics chain

The significant growth of e-commerce has already had a profound effect on retailers and manufacturers' logistics needs as they seek to reach their customer as quickly and cost-effectively as possible whilst providing supply chain transparency. On top of the speedy and free delivery, facilitating quick, easy and often free returns has become an important criteria for online consumers and a major cost for retailers to handle unwanted, used or damaged goods each year.

Shipping items can become very expensive, and managing supply chains, logistics and reverse logistics involved in e-commerce is often difficult. E-commerce is a challenge for logistics providers who need to understand the newly emerging trends and patterns, better anticipate expectations and volumes, and adapts their network coverage, products and service level agreements accordingly.



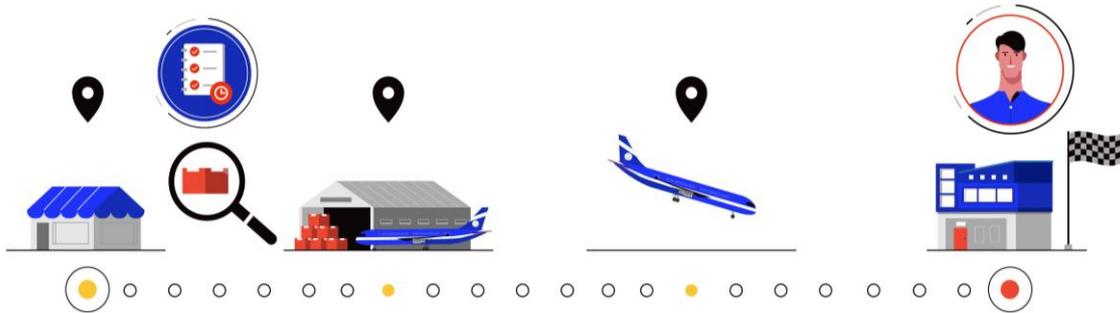
The air cargo industry ready to offer the right logistics solutions for the e-commerce retail industry supporting their business growth?

The global scale of the Internet means that online retailing can reach more prospective customers than brick and mortar, based competitors. To deliver to their customers, e-commerce players can choose a variety of logistics options: surface transport (such as road, rail, and sea) and air transport. As the world is their marketplace, air is well-positioned to serve their needs and deliver their goods globally with speed, efficiency and reliability.

Logistics by air are provided by the traditional model (freight forwarders, ground handlers and airlines), integrators and postal operators.

	Traditional air cargo	Integrators	Postal operators
Strengths	<ul style="list-style-type: none"> All type of cargo Security Safety Identification of dangerous goods Airlines' network and schedule Specialized supply chain partners 	<ul style="list-style-type: none"> Integrated supply chain solutions Customs pre-clearance / speed Security Safety Participants in trusted trader programs Identification of dangerous goods End-to-end tracking First and last mile Investments in new technologies Airlines' network and schedule 	<ul style="list-style-type: none"> First and last mile Pricing structure / chargeable principles (flat rate convention from UPU) Tracking on ground Direct access to shippers and e-tailers
Weaknesses	<ul style="list-style-type: none"> Fragmented No end-to-end tracking Slow adoption of digital Limited investments in new technologies No direct access to shippers and e-tailers Undeveloped first mile collection 	<ul style="list-style-type: none"> Costs Reliant on traditional air cargo carriers for their enhanced network 	<ul style="list-style-type: none"> Fragmented Security issues in airmail Safety issues in airmail Slow adoption of digital No air/rail/sea network
Opportunities	<ul style="list-style-type: none"> Airmail and cargo IT systems alignment End-to-end optimization Customs pre-clearance End-to-end tracking and interactive cargo Business diversification Drones Revised value model Cooperation with other modes Flexible final mile solutions Inter-modality for blended supply chains 	<ul style="list-style-type: none"> Drones and other autonomous vehicles and robotics Decrease in the taxation for online trade 	<ul style="list-style-type: none"> Alarm resolution concept ACI & e-CSD for airmail Airmail and cargo IT systems alignment End-to-end tracking and interactive cargo Drones and other autonomous vehicles
Threats	<ul style="list-style-type: none"> Competition from integrators and postal operators E-tailers becoming their own logistics providers (Amazon) Future competition from drones operators Innovations in surface modes of transport Too slow to adapt to necessary changes Inefficient and cumbersome regulations increasing costs and/or release times 	<ul style="list-style-type: none"> Postal operators pricing model E-tailers becoming their own logistics providers (Amazon) Future competition from drones operators Innovations in surface modes of transport Inefficient and cumbersome regulations increasing costs and/or release times 	<ul style="list-style-type: none"> Competition from integrators / express carriers E-tailers becoming their own logistics providers (Amazon) Future competition from drones operators Lithium batteries in airmail Too slow to adapt to necessary changes Lack of control of what is being transported Inefficient and cumbersome regulations increasing costs and/or release times

Air cargo responding to the e-commerce challenge: the industry action plan



Strengthen safety and security for air cargo and airmail

Safety and security must be further enhanced with stronger collaboration and compliance with programs related to training, trusted partner identification and compliance with regulations and best practices. The e-commerce industry will benefit from these initiatives in terms of image and also in terms of efficiency and non-rejections of goods.

Simplify processes, optimize flows and speed up the transaction, introducing industry best practices

“We sell speed – we need to protect that speed”. Strengthening the value proposition will be crucial for airlines, forwarders and ground handlers to support and capitalize on e-commerce growth. What can the industry do to minimize stationary freight pre & post flight or to make the reasons for these temporary events more transparent?

Embrace new technologies that will ensure greater visibility, transparency and efficiency

Accelerating digitization, developing real-time interaction, testing drones and robots, implementing sensors and data loggers, making sense of Big Data, developing new screening technologies... will enable the air cargo industry to adapt, respond and anticipate e-commerce needs!

Engage with e-commerce players to align understanding on air cargo safety and security matters

Stronger collaboration between commercial partners will benefit all! Interactive dialogue to transmit information like predictive and effective volumes, bookings and allocations can help optimize capacity, load factors, routes, physical flows and environmental footprint.

Challenge the status quo and re-invent business models

Evaluate and consider re-purposing excess capacity of the cargo warehouses into modular e-commerce logistics centers and distribution facilities. Forwarders and Ground handlers to consider entering the first and last-mile business with innovative solutions and new age vehicles such as drop boxes, multi-purpose lockers or drones.

Call for and promote stronger industry coordination

An association of e-commerce vendors would facilitate discussions with international organizations representing airlines (IATA), freight forwarders (FIATA), postal operators (UPU), customs (WCO), etc



IATA's role to support air cargo capitalizing on e-commerce growth

IATA is the trade association representing approximately 275 commercial airlines worldwide, accounting for more than 83% of total air traffic. IATA's mission is to represent, lead and serve the airline industry.

Air cargo represents more than 35% of global trade by value. When it comes to combined passenger and cargo airlines, the cargo business generates 9% of airline revenues on average, representing more than double the revenues from the first-class segment.

To support this critical business, IATA is committed to deliver enhanced value for the industry by driving a safe, secure, profitable and sustainable air cargo supply chain.

IATA develops global standards and tools, offers financial services and industry solutions, drives transformation projects, creates partnerships, and runs campaigns as well as advocacy and outreach activities.

IATA is driving change in the air cargo industry by simplifying the business and helping make air cargo easier, faster and smarter.

For e-commerce, our goals are to:

1. advise the industry and enhance understanding of the opportunities and challenges that exist and anticipate online consumer and e-tailer needs so airlines can capitalize on e-commerce growth;
2. ensure the air cargo industry has the right regulations, standards and global framework to offer the right logistics solutions for the e-commerce retail industry supporting their business growth.



IATA's pipeline of initiatives supporting e-commerce

SAFETY AND SECURITY

Mail Safety Guidelines

Implementing Mail Safety Guidelines developed by IATA and the Universal Postal Union for airlines and posts to ensure that no dangerous goods and prohibited items are accepted in airmail.

e-CSD

Developing and implementing flexible solutions for the electronic exchange of security (e-CSD) related data for cargo and mail to comply with regulatory requirements in an efficient and automated way without disrupting the flow of goods.

Innovative screening technologies

Encouraging the development of new cost-efficient equipment and methodologies to automatically screen all types and all sizes of goods, including dangerous goods, which are simple to build into operation and complying with regulatory certification.

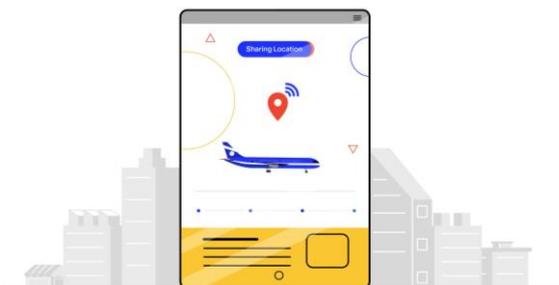
DIGITALIZATION

Cargo and mail IT systems mapping

Bringing together the two different systems for mail and cargo to allow visibility through bookings and allocations, planning through volumetric information, tracking through compatible messages.

Interactive Cargo

Developing the relevant standards and guidelines (piece level tracking, real-time notification, and use of connected devices) to enable cargo to talk!



ONE Record

Developing the relevant standards and guidelines to replace all existing paper and electronic documents by only one digital shipment record, including border formalities.

OPERATIONAL EFFICIENCY

Smart Facility

Driving excellence in air cargo handling by developing high-quality standards in cargo facilities ensuring safe, secure, efficient and transparent cargo & mail handling. This will be verified through globally-accepted assessments, and reinforced by identifying best-in-class cargo facilities using IATA's cargo handling standards

Cargo Facility of the Future

Developing a set of recommendations to modernize existing or build future facilities by making best use of technologies, processes and architectural developments.

Fast Cargo

Improving speed on the ground through smart regulations, efficient operations, and modern technologies

DATA

WCO Measurement and analysis

Big Data, analysis of work currently being undertaken by international bodies, research and analysis of various e-Commerce business models, measuring e-Commerce flows and economic benefits, capacity building, awareness and education

Cargo iQ

Shipment planning and performance monitoring for air cargo based on common business processes and milestones. As part of that system, the Master Operating Plan (MOP) describes the standard end-to-end process of transporting cargo. Cargo iQ recently launched a strategic transformation to increase its value, positioning itself as the key provider of quality standards and metrics for the air cargo industry.

STAKEHOLDER ENGAGEMENT

Trusted trader programs for e-commerce players

Promoting the use of existing trusted trader programs to recognize and differentiate the e-commerce players who are educated, trained and compliant in the areas of safety and security.

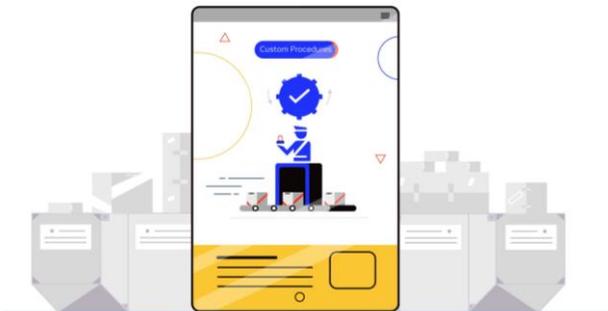
Collaboration

Develop partnerships and joint programs to enhance understanding of the requirements from various parties (UPU, IPC, Cainiao, JD...)

BORDER PROCEDURES

Advanced cargo and mail information

Developing and implementing flexible solutions for pre-departure and pre-arrival risk assessments by customs for cargo & mail to comply with regulatory requirements.



Border efficiency

Lobby governments and national customs to collaborate in border efficiency to allow for faster clearance and delivery of e-Commerce goods.

SUSTAINABILITY

Seal of quality for e-commerce platforms

Developing a certification mechanism or a code of good practice for e-commerce platforms that sell lithium battery products to identify the trained ones complying with agreed sets of standards and safety programs.

Illegal Wildlife Trade

Collaborate with e-Commerce platforms and Logistics providers to raise awareness on the responsibility to be aware of endangered species and the necessity to train employees to combat illegal wildlife trade.

Environment

Strongly advocate the requirement to develop appropriate business models that will not impair the environment by taking care of waste, thinking of packaging efficiency and reverse logistics.

NEW BUSINESS ENHANCEMENTS

Drones for tomorrow's air cargo

Developing the relevant standards, guidelines, and partnership for the safe integration of this new branch of civil aviation into the commercial air space to open new opportunities for the air cargo industry.

PASS

Collaborate with the industry to develop an automated system allowing postal operators and airlines to speed up the billing and settlement process using a unique global platform
