



CARGO: THE AMBITION OF THE PARISIAN AIRPORTS



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AUGUSTIN de ROMANET

Chairman & Chief Executive Officer

“THERE ARE NO MAJOR AIRPORTS
WITHOUT MAJOR CARGO ACTIVITY”



“Air cargo plays a fundamental role in preserving an airport’s equilibrium. Regardless of whether it is carried in the holds of passenger aircraft or by dedicated cargo aircraft, cargo activity sets the pace for airport life.

Paris-Charles de Gaulle Airport is today in the global top fifteen for cargo. This industry is of significant importance to the airport and, more broadly speaking, to the economic attractiveness of France. The cargo activity accounts for approximately 40,000 jobs at the airport, which benefits from a catchment area with an estimated 25 million inhabitants within a 200-kilometre radius.

Its cargo services and infrastructure offering is part and parcel of the

competitiveness of the Paris region’s industrial fabric and the attraction of new businesses. As an integrator of solutions, Groupe ADP unites the cargo ecosystem (airlines, forwarding agents, handling agents and ground handlers, integrators and express carriers) in order to foster growth for all.

As such, our ambition for cargo is to establish the European leadership of Paris-Charles de Gaulle in the coming years. Developing cargo activity is one of the pillars in our Connect 2020 strategic plan which, in particular, includes creating an additional 100,000 sqm of cargo facilities between 2016 and 2020 to support our customers’ growth.”

GROUPE ADP PROMOTION OF AIR CARGO TRANSPORT

Held every two years by the TIACA (The International Air Cargo Association), the main international association of air cargo professionals, the Air Cargo Forum is the largest global meeting of players from this industry (airlines, airports, cargo forwarding agents, ground-handling agents, integrators, express delivery providers and loaders, etc.).

Groupe ADP participated in the 2018 edition of Air Cargo Forum (ACF) held in Toronto and the 2019 of Air Cargo Europe Munich.

In 2017 & 2018, Groupe ADP increased its investment and interventions in international air cargo trade fairs like Air Cargo Europe in Munich in May 2017, Vinexpo alongside HAROPA (Ports of Paris, Seine-Normandy).

In November 2018, Groupe ADP participated to the Symposium on International Transport of healthcare products organised by Pharma Logistic Club and the Executive Summit of TIACA in October 2017 to promote its airports and their cargo related know-how.

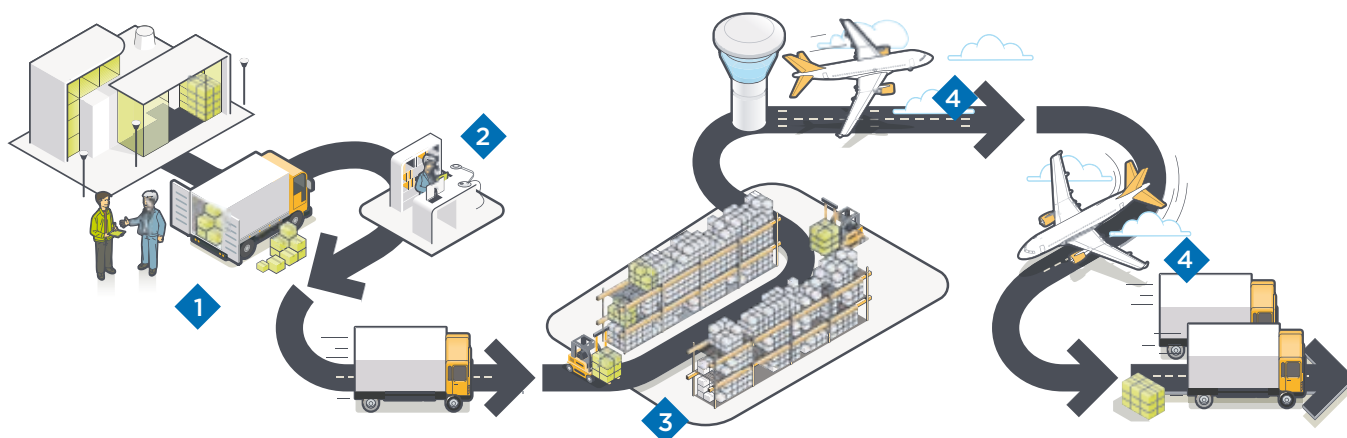


THE AIR CARGO CHAIN: AN OVERVIEW

- 1 **Shipper**
Produces the good for export or imports then
- 2 **Forwarding agent**
Organises transport, including handling of documentation and regulations
- 3 **Handler**
Assists the airline or the forwarding agent (assembly of pallets, handling etc)
- 4 **Airline**
Transports the goods

Air cargo operations are structured around a chain of stakeholders. At the start of the transport operation, there is the ordering party, or **shipper**, who has goods to be transported from one place to another. The shipper very rarely deals directly with the carrier (the airline, in the case of air cargo); they generally use a **forwarding agent** (formerly known as a freight broker). The role of the latter is to

coordinate the entire transport chain and to act as an intermediary for the **handler** and the carrier. As an airline service provider, the handler receives the cargo and performs handling operations (unloading, storage, packaging in preparation for loading on board an aircraft). Finally, the **carrier** (the airline, in this case) transports the goods to the final destination.



THE GLOBAL CARGO MARKET



\$18.6 billion

The value of goods carried in aircraft holds each day worldwide.
(Source: IATA)



€100,000

Average value of one tonne of air cargo.
(Source: IATA)

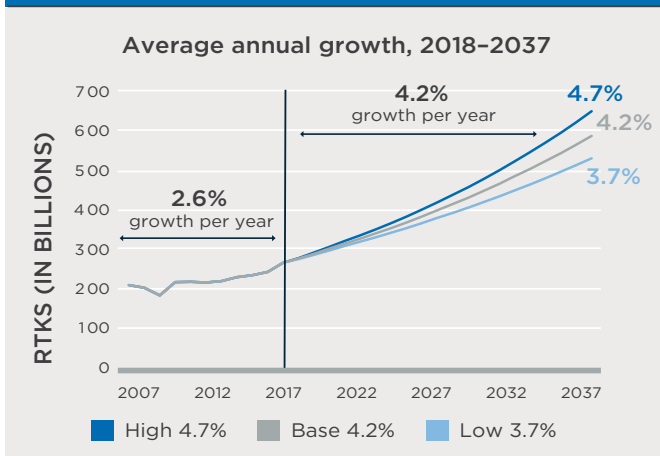
Cargo (the collective term used to refer to freight and the carriage of mail) is a vital activity for the global economy. According to data from the International Air Transport Association (IATA), **goods carried in aircraft holds represent 1% of freight tonnages** (across all modes of transport) **but 35% in value, ie \$18.6 billion per day on average.** High-value goods such as electronics or pharmaceuticals require air transport, which is much faster than by land or sea.

This cyclical activity depends on the state of the economy. Between 2003 and 2013, the volume of tonnages (measured per kilometre

transported) worldwide rose at an average rate of 2.6% per year, but there are significant disparities depending on geographical areas: Europe, which accounts for a fifth of the global cargo market, experienced a reduction in its tonnages at the start of the 2010s following the 2009 financial crisis, and is still struggling to regain its pre-crisis level of economic activity.

Ranked fourteenth in the world according to the Airports Council International (ACI) ranking, **Paris-Charles de Gaulle Airport represents a little more than 2 million tonnes transported.**

World air cargo (freight and mail) will grow 4.2% per year through 2037



Source: Boeing World Air Cargo Forecast (2018-2037)

The world's top fifteen cargo airports in 2018 (in thousands of tonnes)

1.	Hong Kong	5,121 t
2.	Memphis	4,470 t
3.	Shanghai Pudong	3,769 t
4.	Seoul Incheon	2,952 t
5.	Anchorage	2,807 t
6.	Dubai	2,641 t
7.	Louisville	2,623 t
8.	Taipei	2,323 t
9.	Tokyo Narita	2,261 t
10.	Los Angeles	2,210 t
11.	Doha	2,198 t
12.	Singapore	2,195 t
13.	Frankfurt	2,176 t
14.	Paris-CDG	2,156 t
15.	Miami	2,130 t

Source: ACI Europe Statistics preliminary ranking - april 2018



According to Boeing forecasts, **world air cargo traffic will grow by 4.2% per year over the next 20 year.** Air freight, including express traffic, will average 4.3% annual growth, measured in RTKs and Airmail traffic will grow much more slowly, averaging 2% annual growth through 2037. Overall, world air cargo traffic will increase from 256 billion RTKs in 2013 to **584 billion in 2037.**

This growth will be driven primarily by Asia, emerging countries in Africa and Latin America. Asia-Pacific airlines already account for 39% of global air cargo.

For the last decade, there has been a movement fuelled by the quest for greater competitiveness; major airlines are increasingly using the holds of “passenger” aircraft to replace all-cargo flights.

Currently, **approximately 60% of cargo is already carried by passenger aircraft** and this proportion is expected to increase.



4.2%

AVERAGE ANNUAL GROWTH
in tonnages throughout
the world forecast
for 2018-2037.
(Source: Boeing)



60%

SHARE OF CARGO CARRIED
in the holds of
passenger aircraft.

PARIS-CHARLES DE GAULLE: EUROPE'S SECOND CARGO AIRPORT

The bulk of Paris Aéroport's cargo activity is based at Paris-Charles de Gaulle. With **2.2 million tonnes of freight and mail handled in 2018** (up 2.8% compared to 2016), the airport is ranked fourteenth in the world for cargo and, more importantly, it is ranked second in Europe, according to Airports Council International (ACI).

With regard to cargo activity, competition between airports has been heating up since 2010.

Paris-Charles de Gaulle offers undeniable advantages, starting with its geographical location, which is less than a two-hour flight away from most major European cities. It offers a catchment area of 25 million inhabitants within a 200-km radius of the airport.

Furthermore, the Paris cluster is able to offer an annual cargo handling capacity of up to 3.6 million tonnes of goods spread over a dedicated cargo area of 300 hectares.

The airport is host to **three major hubs (Air France Cargo, FedEx and La Poste)** and serves **12 of the 14 biggest names in cargo**, including DHL, DB Schenker, Kuehne+Nagel, WFS and UPS.

Paris-Charles de Gaulle functions as a veritable crossroads that captures 90% of the air cargo transported in France (see illustration) and generates more than 40,000 jobs, 15,000 of which are direct jobs.



2.2

MILLION TONNES of cargo transported at Paris-Charles de Gaulle in 2018.



25

MILLION CONSUMERS in the catchment area within a 200-km radius.



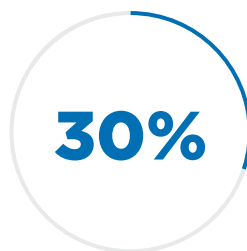
40,000

JOBS LINKED TO CARGO at Paris-Charles de Gaulle.

FRANCE'S AIR CARGO CROSSROADS HOME TO A TRIPLE HUB



Of air cargo transported in France



of the total value of French exports



CUSTOMS: “PROTECTING CITIZENS, SUPPORTING BUSINESSES,” AN ADMINISTRATION AT THE CORE OF THE REGULATION OF TRADE

Under the responsibility of the Inter-regional Directorate of Customs, the customs officials in charge of the control of freight are at the heart of the international flows of goods and at the forefront enhancing the attractiveness of the Paris airports.

Locally, the economic action poles of Roissy-Fret and Orly are working alongside operators by providing them with support in regulatory matters, but also in advising them on the formalities to be carried out for the entry and exit of goods.

Customs is anticipating the logistical developments by participating actively in the dematerialisation schemes or the trials that prefigure the customs clearance of tomorrow, in line with the new EU Customs Code. Thus, it offers express and postal freight operators the centralisation of their customs clearance at Paris Charles de Gaulle Airport. It is also piloting the “e-freight” project at Roissy, designed to reduce the use of paper in the air cargo supply chain. It is working alongside businesses for the awarding of the European “Authorised Economic Operator” (AEO) label, as well as being heavily involved, since 2011, in the development of the Cargo Information Network (CIN).



500

CUSTOMS OFFICIALS spread over the 9 cargo areas at Paris-Charles de Gaulle, in order to be as close as possible to the flow of goods.

24/7

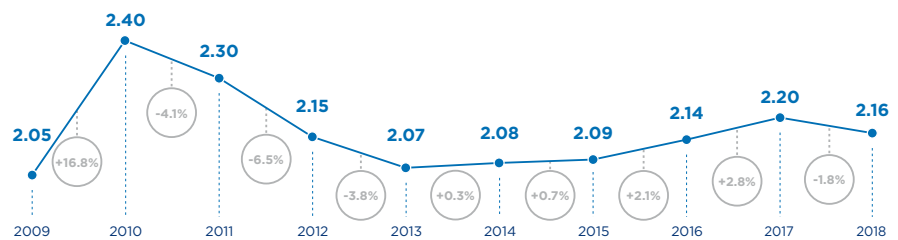
at Paris-Charles de Gaulle Airport, they operate 24/7 for customs clearance.



MARC HOULLA,
Director of Paris-Charles de Gaulle Airport

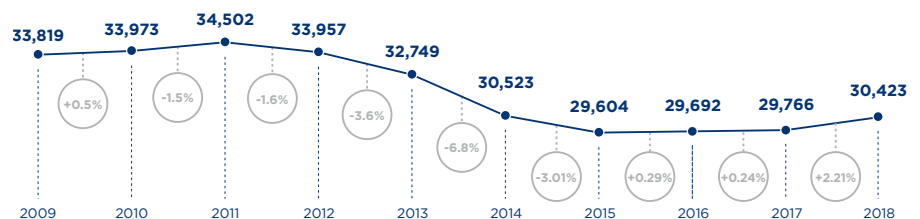
“My goal, and that of the teams working at our airports on a daily basis, is to improve the economic and operational efficiency of cargo in Paris. Serving all-cargo airlines remains one of our key strategic priorities, but in a context where there is stiffer competition between airlines, and passenger routes are increasingly difficult to make profitable, combining cargo-passenger transport may become a decisive profit driver for our major customers.”

CHANGE IN CARGO TRAFFIC AT PARIS-CHARLES DE GAULLE



Cargo tonnages in volume
(in millions of tonnes)

Reflecting the economic crisis in the early 2010s, cargo volumes fell for three consecutive years. However, since 2014, the return to growth has been confirmed, thanks, in part, to the efforts made to increase the airport's competitiveness.



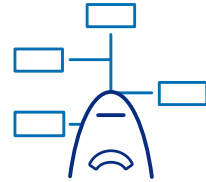
All-cargo aircraft movements
(in thousands)

The observed decline in the movements of all-cargo aircraft is part of a fundamental trend which has seen cargo traffic gradually migrate towards passenger aircraft, whose holds are able to accommodate more and more goods, allowing carriers to achieve significant cost reductions.



18

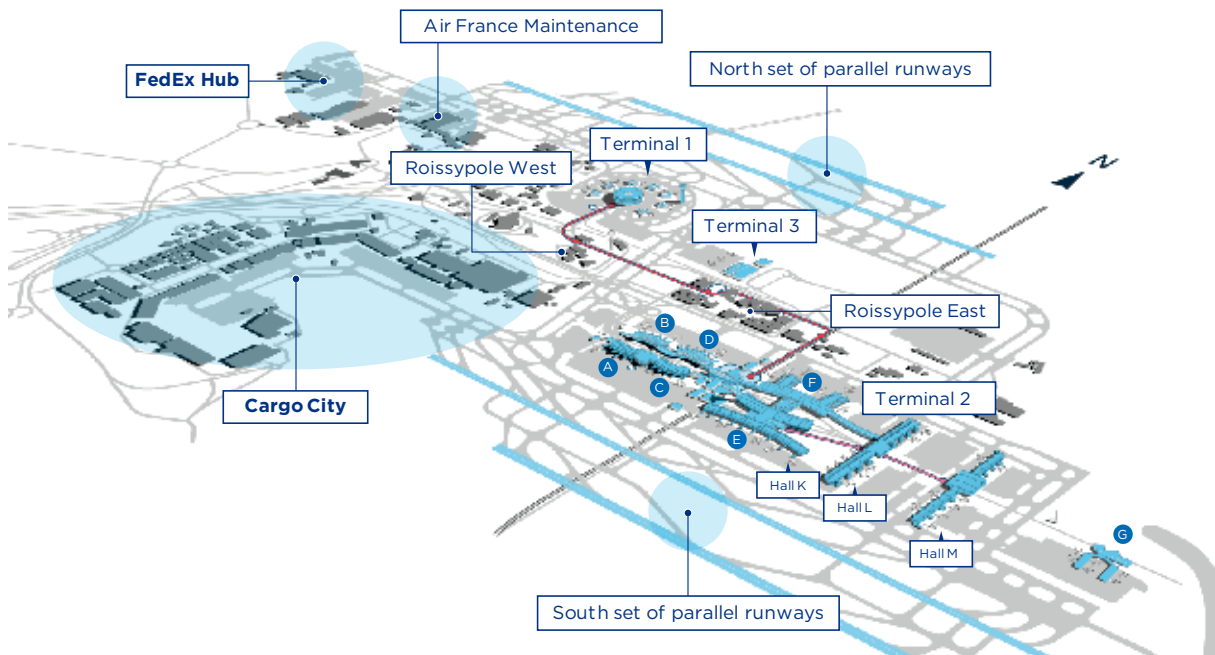
**ALL-CARGO
AIRLINE CUSTOMERS.**



80

**STANDS FOR CARGO
AIRCRAFT AT
PARIS-CHARLES DE GAULLE**

**ALL CARGO ACTIVITY IS LOCATED
TO THE WEST OF PARIS-CHARLES DE GAULLE AIRPORT**



CARGO AT PARIS-ORLY, A NICHE ACTIVITY

In 2018, Paris-Orly handled close to **95,402 tonnes of freight and mail**. The launch and continuation of phytosanitary controls at weekends (Saturday mornings) has strengthened cargo activity. At the southern Paris region's airport, cargo is perceived more as a niche activity, owing to the airport's proximity to **Rungis International Market**, Orly being particularly well positioned for imports of fruit and vegetables and other fresh produce.



**300,000
TONNES**

Paris-Orly's annual
cargo-handling capacity.

THE DEVELOPING CARGO CITY

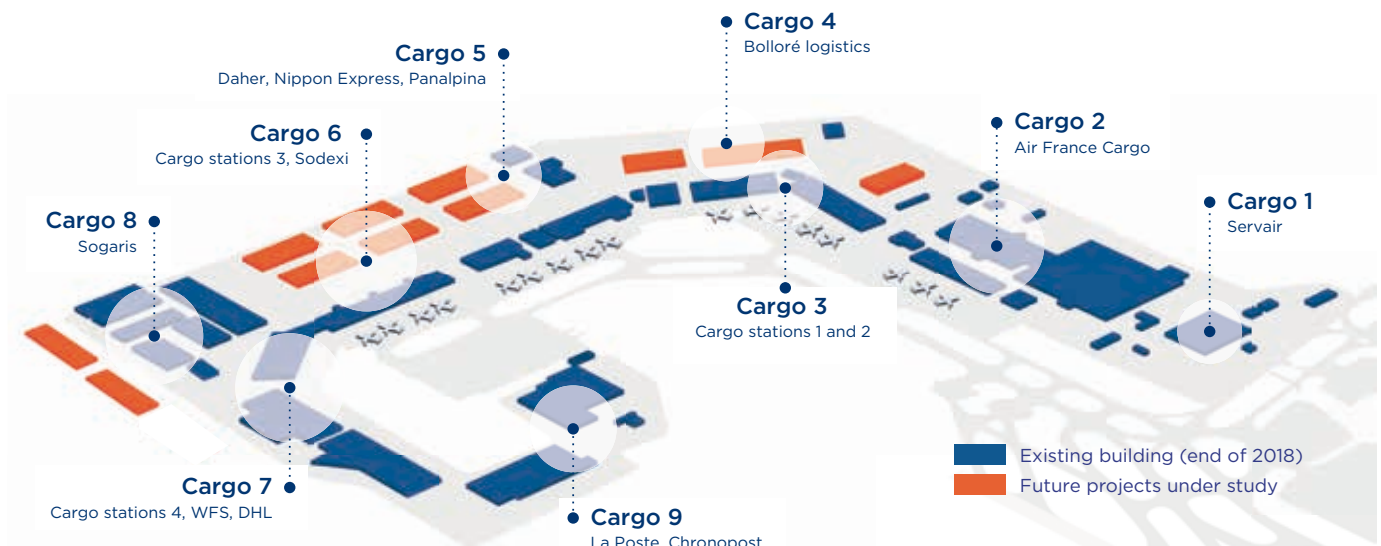
Of the 3,257 hectares belonging to Paris-Charles de Gaulle Airport, **300 hectares are dedicated to air cargo activities, with over 700,000 sqm of buildings** (cargo stations, warehouses, etc.) **with direct access to 80 aircraft parking stands**. All of this constitutes a

contiguous “Cargo City”, a dedicated entity that is unique in Europe, as the cargo areas of all other major hubs are dispersed across their airport.

In terms of cargo, Groupe ADP’s real estate strategy is to prepare

the land and develop or invest in facilities (cargo stations, express cargo stations, warehouses, etc.) that are **directly connected to the aircraft**, thereby facilitating cargo loading/unloading operations.

DIVIDED INTO 9 AREAS, THE CARGO CITY STRETCHES ACROSS OVER 700,000 SQM OF BUILDINGS



Since 2011, Groupe ADP has undertaken to reorganise and reinvigorate the Cargo City at Paris-Charles de Gaulle. Approximately 71,000 sqm of new buildings were developed between 2011 and 2015. As a result, several big names in cargo (DB Schenker, Kuehne+Nagel, DHL Global Forwarding, Sodexi, and Bolloré Logistics which commissioned a new 37,500 sqm complex) have been able to bolster their presence.

As part of its Connect 2020 strategic plan, Groupe ADP is continuing to update and increase the density of the cargo area with **100,000 sqm of additional cargo**

facilities developed between 2016 and 2020.

A new cargo station SC4 of 21,900 sqm, which will offer warehouses, offices and parking, will be delivered in 2020. Furthermore, three other new cargo stations with direct ramp access are currently under study, potentially adding an extra 70,000 sqm to Paris-CDG cargo capacity by 2022.

The tonnage capacity of the airport, now estimated at 3.6 million tonnes per year, is expected to reach 5 million tonnes over time.

A STRONG REAL ESTATE DYNAMISM

- ◆ Since 2010, **+60,000 m² of net creation** of new cargo programs fully rented (+10% of facilities)
- ◆ Between 2018 and 2025, **expected increase of 100,000 m²** (+15% of facilities) **always as an investor**, except for the extension of FedEx hub.
- ◆ A maximum **occupancy rate** of border warehouses surfaces since 2 years (98%).



SERGE GRZYBOWSKI,
Real Estate Director
at Groupe ADP

“The airport real estate and cargo activity in particular are an essential part of our investor strategy over the next years.
Our priority is investing in cargo stations that are connected to the runways, to provide our customers with modern facilities that meet their needs and save them time.”



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**THE ANIMAL STATION
AT PARIS-
CHARLES DE GAULLE:
AN INTERNATIONAL
BENCHMARK**
//

The animal station at Paris-Charles de Gaulle, **operated by WFS/VIA**, was enlarged and modernised in 2014 to meet the highest health standards in force, and to ensure the welfare of animals during their passage through this establishment.

Approved for the accommodation of all animal species (equines, production animals, pets, wild fauna, etc.), the animal station's main task is to conduct the health inspection of live animals in transit or being imported from third countries and entering the European Union.

Each year, over 3,000 animal consignments come through the station where they are inspected by officials at the border inspection point, the largest of the French Veterinary and Phytosanitary Border Inspection Service (SIVEP).



AN AMBITIOUS CARGO STRATEGY

A FOUR-PART CARGO STRATEGY:



RECLAIMING TRAFFIC

through the implementation of a marketing assistance programme to encourage the development of both existing cargo routes and new routes, or the introduction of new all-cargo airlines.

As part of its new pricing policy, Groupe ADP is committed to financially **rewarding any airline that increases its number of all-cargo flights** departing from Paris.



COMMITMENT TO IMPROVED SERVICE QUALITY AND A MORE ATTRACTIVE CARGO CITY

In addition to the modernisation projects and works to offer facilities that meet the highest international standards, attention has also been paid to **cleanliness, signage and security**. A large security project carried out in collaboration with all operators established restricted access points under video surveillance in order to improve lorry traffic and the security of goods.

With regard to real estate, the priority is to develop the active “front line” (area comprising the warehouses closest to the aircraft, at the border between airside and landside). To do this, the Group

invested in border cargo stations with direct access to runways in order to facilitate loading/unloading/clearance operations of all-cargo aircraft. The Group is also **increasing the number of advanced cargo storage platforms** to factor in moving cargo to the holds of passenger aircraft.

The challenge is also to offer “tailor-made” solutions to forwarding agent partners: either in Groupe ADP’s investment in divisible warehouses or, following the example of Bolloré or DHL, in private warehouses, or even by third-party investors.



PLAN THE DEVELOPMENT OF CARGO ACTIVITY OVER THE LONG TERM

Together with the cargo community, Groupe ADP has launched projects for an **apron equipment geolocation system** as well as an export animal station to supplement the existing import station. Furthermore, in conjunction with IATA, Groupe ADP launched a programme allowing all interested cargo operators to obtain **CEIV Pharma** certification, which is becoming the norm in the face of growing demands in the pharmaceutical industry: eight cargo operators such as Air France, DHL, Bolloré Logistics and Kuehne et Nagel, have been already certified.



PROMOTING AIR CARGO TRANSPORT

Groupe ADP campaigns for the **development of traffic rights** (the granting of fifth freedom rights) and for all measures to simplify administrative procedures that improve the competitiveness of air cargo in France. As such, the **reverse charge of import VAT**, a measure defended by the Group, was adopted in 2015 to allow forwarders and shippers to optimise their cash flows as they are no longer obliged to disburse VAT when goods clear customs.

In addition, Groupe ADP aims at **boosting freight flows on specific products** (luxury goods, perishables, e-commerce, wines and liquors...). Work groups have been launched together with IATA and Cargo Community Operators to define standards or certifications in order to guarantee the excellence of the process.

Finally, Groupe ADP rebuilt the interprofessional air cargo association through **ACFA** (Air Cargo France Association) with a broader mandate.

Groupe ADP has also undertaken several **prospective studies** regarding the potential for a joint air-sea offering with the Paris Seine Normandie ports (HAROPA), the changing roles of cargo operators, and also the development of a European benchmark for the cost per tonne of cargo across the entire logistics chain.

INITIATIVES AND INNOVATIONS THAT UNITE THE CARGO COMMUNITY



Innovation is at the heart of Groupe ADP's cargo strategy.

As a coordinator and promoter of the cargo community, which includes more than 200 companies at Paris-Charles de Gaulle in addition to government services, it supports several initiatives which aim to facilitate processing and goods handling operations.

For instance, the electronic data exchange platform "**Cargo Community System**" – developed by CIN (Cargo Information Network) France and Groupe ADP –, can trace cargo operations at the airport, while optimising compliance with customs regulations and safety and security obligations. The success of the deployment is evidenced by the fact that 300 operators are already using it on a daily basis. Exchange platform is closely linked

with the logic of **e-freight**, i.e., the possibility of issuing a paperless airwaybill with its security certificate. This project, conducted with the Roissy Interregional Customs Service, will reduce the number of paper documents that accompany each shipment.

Groupe ADP is also preparing to launch, in 2019, **the 1st innovation challenge dedicated to cargo** in the form of a competition organised for innovative start-ups and SMEs who are invited to invent and design new ground breaking solutions. The winning ideas will be tested in experiment phases and the most promising projects will then be deployed at the Paris airports.

Groupe ADP is also a member of the "**Roissy Carex**" association, which was created to study the economic

and technical feasibility of a highspeed cargo rail connection to the Paris-Charles de Gaulle platform. Finally, Groupe ADP has also launched, along with the cargo community, **OCAPI** an airside equipment geolocation system and develops partnerships with international airports to boost the activity of the Parisian cargo community.



200
BUSINESSES

with an air cargo presence at Paris-Charles de Gaulle.

FOCUS ON THE CEIV PHARMA CERTIFICATION

THE STANDARD CERTIFICATION IN RESPONSE TO THE PHARMA INDUSTRY

In order to attract pharmaceutical flows, with high added value and as true growth drivers for the cargo business, in summer 2016, Groupe ADP, Working with IATA, launched an initiative that enables the Paris-Charles de Gaulle cargo community to obtain CEIV Pharma certification; this has **become the standard certification in response to increasing demand from the pharmaceutical industry.**

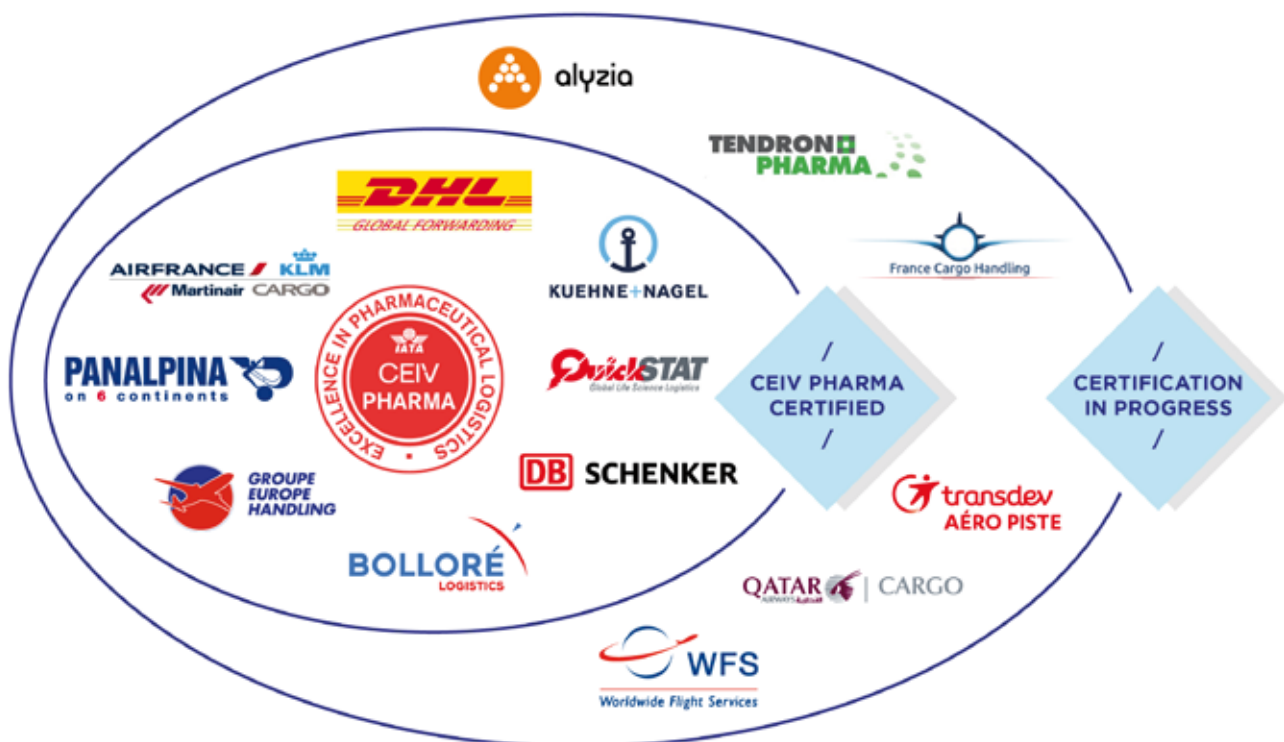
The first phase of this initiative, officially launched on 27 January 2017

and co-financed by Groupe ADP, includes **ten Cargo partners** representing the entire cargo chain (road carriers, transport commissioners, airlines, ground handling, etc.). In 2018, two additional partners obtained their certification.

This initiative is supported by already certified cargo operators such as Air France Cargo, DHL, Bolloré Logistics and Kuehne+Nagel.



CARGO PHARMA COMMUNITY AT CDG



FOCUS ON ACFA (AIR CARGO FRANCE ASSOCIATION)

Groupe ADP has invested heavily in rebuilding the interprofessional air cargo association: ACFA (Air Cargo France Association). ACFA was created led by Groupe ADP, representatives of the cargo sector and competent authorities. Successor of the CIF (Comité Interprofessionnel du Fret – Interprofessional Cargo Committee), but with a **broader mandate**, it aims to represent the

interests of the sector and promote it both in France and internationally, as well as carry out technical projects of mutual interest.

It aims notably to **increase the competitiveness and visibility of the cargo offering**, work on fiscal and healthcare harmonisation, and promote flows with strong added value.

In January 2019, the Air cargo France Association brought together all the freight players at the Paris-Charles de Gaulle Airport at the **1st Fresh forum** dedicated to the transport of fresh products. **Fresh products accounts for 16% of the air freight worldwide.**



The Air Cargo France Association (ACFA) was created to give new impetus to the French air cargo sector. Its objective is to promote France's strengths in terms air cargo: a vibrant economy (second largest economy in Europe), geographical position, infrastructures, technological innovations such as digitisation, etc. Moreover, by coordinating air-cargo-community studies that bring together airline companies, handling agents (physical handling

of goods), forwarding agents and all the players involved in the logistics chain, ACFA aims to contribute to improving the service provided to air-cargo customers in France.

The association currently groups together ten major private and public organisations in the sector: Groupe ADP, Air France Cargo, TLF Overseas, Sycaff, WFS, SODEXI, CIN France, France Cargo Handling, the Interregional Directorate for Customs and Excise for Roissy, Orly and Le Bourget, the French Directorate General for Civil Aviation (DGAC) and the delegated Prefecture for the airports of Paris-Charles de Gaulle, Orly and Le Bourget.

ROADMAP

ACFA has started to work on three major subjects:

- ◆ e-cargo,
- ◆ the handling of physical goods flows at the Paris-Charles de Gaulle platform, addressing highly relevant topics such as container management,
- ◆ the service offer for pharmaceutical products.

In addition, two other long-term subjects are among ACFA's priorities: communicating about and promoting professions in the air-cargo field.

OUR MAIN CLIENTS AND PARTNERS

A LARGE PORTFOLIO OF OPERATORS,
HANDLERS, AIRLINES



PARIS-CDG CARGO CITY IN CONSTANT EVOLUTION



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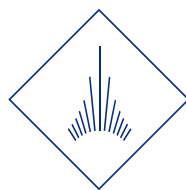
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