# Supporting efficient logistics with air cargo infrastructure solutions



**AIRPORT CARGO AND LOGISTICS SERVICES** 



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AECOM

## Introduction

Based on our wide-ranging experience delivering both aviation and logistics infrastructure projects, we have a deep understanding of the global supply chain, from product origin through intermodal transport to package handling within a facility.

At AECOM, we recognize that airport cargo facilities are not just static warehouses, but dynamic, fastpaced critical infrastructure that enables goods to be transported across the world in a matter of hours. Based on our experience delivering air cargo infrastructure projects, we have a strong grasp of the global supply chain and how it impacts air cargo site development and facilities — and how an airport's overall value is enhanced through increased air cargo volumes, especially when part of larger intermodal transportation hubs.

Our extensive knowledge of the logistics industry helps us understand the challenges our clients face in delivering new infrastructure, and enables us to successfully plan, design, and deliver major new facilities and developments across the world. We have worked at some of the largest international airports, and our clients include logistics operators, airport authorities, airlines and e-commerce corporations.

### Comprehensive in-house capabilities and specialist skills

Working across the whole project lifecycle, our services span the initial market analysis, site development and design, planning and on-site construction delivery. With full in-house engineering capabilities, we can support both building projects as well as unique cargo handling and material handling systems. Additionally, we possess specialist knowledge of building codes; fire protection; selection of building structural type; and the accommodation of air cargo handling systems — such as Unit Load Devices (ULD) handling and automated sort and retrieval systems.

By drawing upon our global aviation network of multidisciplined, skilled aviation professionals experienced in providing finance, planning, design, program management and construction management services — we can create integrated solutions for our clients on cargo and logistics projects. Additionally, we can tap into AECOM's wider capabilities in the rail, road and water freight sectors to bring informed expertise to intermodal logistics hub projects.



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WE RECOGNIZE THAT AIRPORT CARGO FACILITIES ARE NOT JUST STATIC WAREHOUSES BUT DYNAMIC, FAST-PACED CRITICAL INFRASTRUCTURE.

## Market analysis and strategic planning

#### SERVICES

- Cargo and airport data analysis
- Market analysis
- Target market analysis
- Catchment area analysis
- Stakeholder consultation
- Forecasting

### Site development and planning

#### SERVICES

- Airfield planning
- Landside access planning and traffic studies
- Site utility analysis
- Building and site planning
- Air cargo process flow
- Facility and site optimization
- Cargo handling assessment
- Environmental permitting
- Cost consulting

## Infrastructure and facility design

#### SERVICES

- Architecture
- Engineering
- Cargo handling equipment coordination
- BIM modelling
- Energy-use analysis
- Sustainability
- Commissioning

## Management and facility delivery

- Project management
- Estimating
- Construction scheduling
- Site logistics planning airside and landside
- Design-build
- Construction management
- Life-cycle assessment
- Commissioning



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## Market analysis and strategic planning

#### **SERVICES**

- Cargo and airport data analysis
- Market analysis
- Target market analysis
- Catchment area analysis
- Stakeholder consultation
- Forecasting

With a deep understanding of the challenges of maintaining and developing a new competitive air cargo strategy at an airport, we also recognize the importance of cooperation between the airport, existing cargo operators and potential new operators.

As airport development can be a lengthy process, understanding the current and future market is critical to the planning process to future proof planned cargo and logistics infrastructure, as well as to identify the intermodal possibilities for greater connectivity to the global supply chain. The success of any new development is based on providing assurance that it does not advantage only some of the operations but grows overall air cargo capacity at the airport.

We support our clients at the very earliest planning stages by taking an in-depth look at an airport's existing cargo and logistics infrastructure and providing detailed data and market analysis. Our strategic planning, economics and analysis experts support our clients in building an understanding of business operations, facility network planning and market assessment.

Through providing services such as forecasting, throughput and digital analysis we can support plans for future development and expansion of cargo infrastructure. This expertise is followed up by developing an appropriate competitive strategy for the airport and its surrounding real estate assets. Our experience includes delivering an air cargo study at Singapore Changi Airport and carrying out process mapping, site location analysis and forecasting services for Air New Zealand at Auckland International Airport.

SUPPORTING EFFICIENT LOGISTICS WITH AIR CARGO INFRASTRUCTURE SOLUTIONS

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**AIR CARGO** STUDY Singapore Changi Airport, Singapore

X AKL

**CARGO AREA REDEVELOPMENT** PROJECT Air New Zealand, Auckland, New Zealand

**DUBE TRADEPORT DEVELOPMENT ZONE** King Shaka International Airport, La Mercy, South Africa

X DUR



## Site development and planning

#### **SERVICES**

- Airfield planning
- Landside access planning and traffic studies
- Site utility analysis
- Building and site planning
- Air cargo process flow
- Facility and site optimization
- Cargo handling assessment
- Environmental permitting
- Cost consulting

Our approach to new air cargo development combines technical airport planning and logistics expertise. Based on our extensive experience, we know that most challenges are directly related to the site development in terms of cost, approvals, infrastructure and schedule.

As airports involve both physical planning components and aeronautical planning, the development of a site has to fit with land availability and airport operations, often on difficult or leftover sites for cargo development.

Whether it is managing an existing wetland or checking stormwater capacity or site grading, we use an integrated approach to handle all the site challenges through early due diligence, developing alternative layouts and determining a preferred alternative in conjunction with airport engineering staff and local permitting authorities. While the cargo facility is the main driver of the value of the development, the site and its development cost often determine the overall return on the development investment.

From environmental assessment to airfield planning/building site planning, air cargo site process flow to facility optimization, and landside connectivity and environmental permitting, we have the resources to respond to any challenges that may be encountered with an appropriate building solution for the site.

We have delivered masterplanning and permitting services for the new Cainiao modern e-hub at Liége Airport and have provided air cargo planning for a new consolidated support facility at Philadelphia International Airport.

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**AIR CARGO STUDY** Singapore Changi Airport, Singapore

**DUBE TRADEPORT DEVELOPMENT ZONE** King Shaka International Airport, La Mercy, South Africa

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**CARGO AREA REDEVELOPMENT** PROJECT Air New Zealand, Auckland, New Zealand

**CAINIAO MODERN E-HUB** Liège Airport, Liège, Belgium

X PHL

**CONSOLIDATED SUPPORT** FACILITY Philadelphia International Airport, Philadelphia, PA, U.S.A.

**AIR CARGO FACILITIES** Mumbai Airport, Mumbai, India

CVG

**DHL AIRWAYS HUB** Greater Cincinnati Northern Kentucky Airport, Covington, KY, U.S.A.



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## Infrastructure and facility design

#### **SERVICES**

- Architecture
- Engineering
- Cargo handling equipment coordination
- BIM modelling
- Energy-use analysis
- Sustainability
- Commissioning

Linking process, productivity and profit as the core of the facility design, we design logistics facilities that focus on the air cargo process and technologies for physical cargo handling, as well as the digital technologies that enable the cargo processing.

A key challenge in air cargo development is ensuring the flexibility for any new facility to meet current and future needs, often on a speculative development basis. There is a need to manage a careful blend of overall space accommodation, adaptability to tenant requirements, building durability and cost efficiency. Landside, air cargo facility, and airside operations must work in unison for an efficient operation that is appealing to tenants to commit to long-term leases.

As an integrated architecture and building engineering firm, with capabilities in construction management, we are sensitive to flexibility and durability in building systems, warehouse management operations, lifecycle costs, operating costs, maintenance costs and future proofing through advanced technology.

We draw on our capabilities and experience to look beyond building floor plans to the facilitation of the proposed operations.

Some of our key projects include designing air cargo terminals at Chhatrapati Shivaji Maharaj International Airport in Mumbai, India and designing the new Cainiao modern e-hub at Liège Airport.

EMA **UPS AIR GATEWAY HUB DUBE TRADEPORT DEVELOPMENT ZONE** East Midlands Airport, Castle King Shaka International Airport, Donnington, U.K. La Mercy, South Africa X AKL CARGO AREA REDEVELOPMENT PROJECT **CAINIAO MODERN E-HUB** Liège Airport, Liège, Belgium Air New Zealand, Auckland, New Zealand X PHL **CONSOLIDATED SUPPORT AIR CARGO FACILITIES** FACILITY Mumbai Airport, Mumbai, India Philadelphia International Airport, Philadelphia, PA, U.S.A. CVG **DHL AIRWAYS HUB AIR DISTRIBUTION HUB** Greater Cincinnati Northern Greater Cincinnati Northern Kentucky Airport, Covington, KY, Kentucky Airport, Covington, KY, U.S.A. U.S.A.

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## **Management and facility delivery**

#### **SERVICES**

- Project management
- Estimating
- Construction scheduling
- Site logistics planning airside and landside
- Design-build
- Construction management
- Life-cycle assessment
- Commissioning

Supporting the delivery of new air cargo facilities and infrastructure, we provide a range of services from project management, estimating, construction scheduling and site logistics planning, to construction management and supervision and commissioning.

When delivering air cargo facilities, key challenges can be faced during and after a successful development planning exercise, such as finalizing the construction budget, setting up a site logistics plan and construction implementation. Another challenge is selecting which project delivery method to use — design-bid-build, design-build, design-assist subcontracting, construction management — to determine which method best controls cost overruns, defines responsibilities and gives the airport the most control over the process with the least amount of risk.

As an integrated global design and construction leader, we provide project delivery flexibility to create the best value for our clients using BIM modelling for both design and construction, advanced scheduling techniques, databases for cost estimating, energy use analysis and commissioning.

With our in-house design-build approach, we can offer single point of responsibility for turnkey delivery.

We are currently providing construction management services on the new \$145 million Aeroterm cargo building at JFK Airport in New York, US.

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**CAINIAO MODERN E-HUB** Liège Airport, Liège, Belgium **AEROTERM WFS NORTH CARGO AREA DEVELOPMENT** JFK Airport, New York, NY, U.S.A.



## Projects

**CAINIAO MODERN** E-HUB Liège Airport, Liège, Belgium



**AIR CARGO** STUDY Singapore Changi Airport, Singapore



AEROTERM WFS NORTH CARGO X JFK AREA DEVELOPMENT JFK Airport, New York, NY, U.S.A.

**UPS AIR GATEWAY** HUB East Midlands Airport, Castle Donnington, U.K.



CARGO AREA REDEVELOPMENT X AKL PROJECT Air New Zealand, Auckland, New Zealand



**AIR DISTRIBUTION HUB** Greater Cincinnati Northern Kentucky Airport, Covington, KY, U.S.A.

SUPPORTING EFFICIENT LOGISTICS WITH AIR CARGO INFRASTRUCTURE SOLUTIONS



DUBE TRADEPORT INDUSTRIAL X DUR DEVELOPMENT ZONE King Shaka International Airport, La Mercy, South Africa







AIR CARGO FACILITIES Mumbai Airport, Mumbai, India



**DHL AIRWAYS HUB** Greater Cincinnati Northern Kentucky Airport, Covington, KY, U.S.A.



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### Cainiao Modern e-hub

Liège Airport, Belgium



Leveraging our global aviation capabilities in masterplanning, design and project management services, we are working with Chinese logistics leader Cainiao, Alibaba Group, to develop a new modern e-hub at Liège Airport.

Located at one of Europe's leading air cargo airports, this new logistics complex is the heart of a global shipment strategy that will provide 72-hour worldwide delivery. With a total overal site area of 1.3 million sq. ft., the project will create a world-class smart logistics hub and the first-of-its-kind in Europe.

The facility will focus on efficiency to help small and medium-sized enterprises (SMEs) better manage exports, especially with an increase in global e-commerce. The project falls under a Memorandum of Understanding between Belgium and Cainiao's owner, e-commerce firm Alibaba Group, to promote inclusive trade under the Electronic

World Trade Platform (eWTP) initiative. A major element of the eWTP agreement includes the development of logistics infrastructure to support crossborder trade.

We are designing the 315,000 sq. ft. Warehouse #1 for 500 workers, which also includes a 21,500 sq. ft. office building for 100 workers. Our masterplan for the facility will help optimize operations; ensure safety; includes green integration; has a minimal impact to the adjacent site; and includes full functionality and flexibility for future changes. To help optimize operations, we created airside flexibility in the air cargo terminal to allow for a natural flow of goods, rationalization of the office building layout, ground levelling to facilitate truck flows, optimization of land use, separated circulation of truck and car flows, and separated circulation of office employees and cargo terminal employees.

Following the development of the masterplan, we delivered site and building permit packages in a short four-month timeframe, made possible due to our design team's dedicated focus and flexibility from using BIM. Subsequently we were responsible for the detailed and tender design.

We coordinated project management services at the start of the design phase to manage Cainiao's decisions and maintain the target delivery date, and actively supported the procurement process to determine the General Contractor while managing the construction execution process up to the project handover.

SUPPORTING EFFICIENT LOGISTICS WITH AIR CARGO INFRASTRUCTURE SOLUTIONS



- Masterplanning
- Concept
- Detailed and tender design
- BIM
- Project management
- On-site quality control









### Air Cargo Study

Singapore Changi Airport, Singapore

Client: Changi Airport Group (CAG)



Carrying out a comprehensive analysis of the global cargo market, we helped support the development of Changi Airport's cargo and logistics infrastructure.

Singapore Changi Airport is a major world cargo hub, handling over 2 million tons of cargo a year, a large proportion of which is transshipment cargo. The airport's cargo and logistics infrastructure includes several air freight terminals, freight forwarder facilities, an airmail center and a FedEx air cargo express hub. It also includes the Airport Logistics Park of Singapore (ALPS) — a free trade zone that makes it attractive to third party logistics companies which operate Regional Distribution Centers from which they can offer added-value service shipments coming in and out of Singapore.

AECOM's work on the Changi Airport Land Use Study for the Civil Aviation Authority of Singapore (CAAS) identified a need to take

a more in-depth look at Changi's cargo and logistics infrastructure. Given the land constraints that the airport faced, there needed to be assurance that future plans were developed based on improved cargo and logistics building and land use efficiency assumptions.

Changi Airport Group (CAG), as the operator and developer of Changi Airport, appointed AECOM to undertake this separate air cargo study, with the results feeding into, and dovetailing, with the CAAS Land Use Study.

We carried out comprehensive detailed analysis of the current air cargo market. This helped breakdown the current tonnage by flow through the system to understand the volumes passing through each infrastructure type (air freight terminals, air cargo express, freight forwarders etc.). Following this analysis, we developed several forecast scenarios considering current and

future local and world-wide trends in the air cargo market. The adopted forecast scenario assumed a shift in the structure of the market with further consolidation of freight forwarders and air cargo express operators taking a much more significant share of the airport's overall cargo tonnage.

We then benchmarked Changi's air cargo and logistics infrastructure against other major world air cargo hubs in terms of building efficiency (tons/gross floor area) and landuse (tons/hectare), considering the various degrees of complexity seen at different airports. Based on this, efficiency targets were developed to be applied in the planning of future infrastructure.

Finally, the planning efficiency targets were combined with the most likely future tonnage forecast scenario to derive more efficient land use requirements for the future development and expansion of the airport.



- Data analysis
- Market analysis
- Stakeholder consultation









### Aeroterm WFS North Cargo Area Development

John F. Kennedy International Airport, New York, NY, U.S.A.

Client: Aeroterm

Working with Aeroterm — a leading US owner and provider of capital, expertise and facility-related services for airports — we are providing owner's representative and construction management services for the design and construction of a new \$145 million cargo building at John F. Kennedy International Airport (JFK).

The 26 acre project site comprises the demolition and removal of two existing cargo buildings, environmental and site preparation, and the development of a new 356,000 sq. ft. multi-use cargo building. Additionally, the site includes a Portland cement concrete apron, vehicle parking, landscaping and associated site work.

The JFK airport site is designed to accommodate three Boeing 747-8Fs and provides airfield upgrades including a manual deicing fluid management system that collects and contains de-icing fluid on site. The facility incorporates state-of-the-art material handling and information technology systems including an elevated transfer vehicle (ETV).

As part of our scope, we are providing expertise in strategy advisory and assisting the client in making optimum decisions on the project. We are supporting the coordination of efforts between designers, contractors and other stakeholders to maintain the project schedule.

Additionally, we have developed and updated the project schedule to provide the client with updates on the critical path of the project. We are also providing on-site construction management services.

Once finalized, the cargo handling company Worldwide Flight Services (WFS) will operate from the completed facility.



SUPPORTING EFFICIENT LOGISTICS WITH AIR CARGO INFRASTRUCTURE SOLUTIONS

- Owner's representative
- Project Management
- On-site Resident engineering and construction inspection services







### Dube Tradeport Industrial Development Zone

King Shaka International Airport, La Mercy, South Africa

Client: KZN Department of Economic Development, Tourism and Environmental Affairs

Providing planning, engineering and feasibility analysis services, we supported the development of South Africa's premier air logistics platform at King Shaka International Airport, Durban.

The Province of KwaZulu-Natal in South Africa looked to develop the city of Durban as a logistics gateway by the relocation of the existing Durban International Airport (DIA) to the new proposed location. This program incorporates the King Shaka International Airport and the development of the Dube TradePort as an overall air platform industrial development zone.

We supported the planning, initial engineering and feasibility analysis of the project, located on a 320,000 sq. ft. site at La Mercy, north of Durban.

The overall masterplan was defined from an analysis of market and infrastructure requirements to access North American, European and Asian markets. The project focused on the attraction of time-sensitive manufacturing and value-added logistics activities in addition to rural agricultural production for the export of perishables, including fresh produce and fish, that would benefit from the air cargo platform of the airport. Other elements of the project included: the establishment of a cyberport, cyber village, residential and commercial development and the relocation of passenger traffic from Durban International Airport.

Implementation of the project was undertaken as a publicprivate partnership (PPP) based on a phased implementation plan. The multimodal logistics capability developed as part of the program, includes port, road, rail and air transport modes. This includes the concept of dedicated road and rail feeder systems and freight villages as part of an inland distribution network.



SUPPORTING EFFICIENT LOGISTICS WITH AIR CARGO INFRASTRUCTURE SOLUTIONS

#### **SERVICES**

- Planning
- Engineering
- Feasibility analysis





### **Consolidated Support Facility**

Philadelphia International Airport, Philadelphia, PA, U.S.A.

Client: American Airlines and Philadelphia International Airport

Providing a wide range of services, including multi-disciplinary design, planning and permitting — we acted as prime consultant for a new air cargo complex at Philadelphia International Airport.

The Consolidated Support Facility (CSF) project at Philadelphia International Airport (PHL) is a 36 acre complex that provides efficient and upgraded facilities to house airline cargo, the PHL Master Concessionaire's warehouse, and the Division of Aviation's (DOA) maintenance warehouse. The project acted as a solution to fit the requirements of the three stakeholders onto a tight site, while giving full functionality to their divergent needs and logistical demands.

As prime consultant for site civil, architecture, engineering and permitting, we delivered a range of design services included architectural, BIM, MEP, low voltage, security, cargo screening,

perishable and non-perishable goods processing, site grading, utilities, existing building demolition, stormwater management, National Pollutant Discharge Elimination System (NPDES) permitting and agency coordination.

The air cargo planning involved an analysis of automated and manual air cargo handling systems that would be appropriate to the current and future needs of the airline cargo operation for its domestic and international cargo.

The plan provided for cargo screening, allowance for customs operation, unit load device (ULD) handling, bulk processing, perishables and mail. Special features included ULD by-pass lanes, elevating cargo workstations, provision for KNCooltainers (a freight transportation company), exterior ULD roller deck and a sortation carousel for mail.

The PHL Master Concessionaire's warehouse included an area for

concessions screening before delivery to the passenger terminal and segregated storage areas for the various tenants.

The DOA warehouse replaced an existing operation and housed all the various airport storage needs from equipment to common supplies including an area for waste stream management.

The facility was sited to allow easy access from the landside while providing controlled but enhanced airside access. It includes access roads and truck docks for 35 tractor trailers, employee parking lots and site utilities for the new facility and an aircraft remain overnight (RON) apron. The apron was designed to include overnight aircraft parking for up to 10 stands and parking for up to 40 de-icing trucks with associated vehicle service roads.



- Multidisciplinary design
- Air cargo planning
- Permitting







### UPS Air Gateway Hub

East Midlands Airport, Castle Donnington, U.K.

Client: United Parcel Service (UPS)

With a construction value of approximately £40 million, we have delivered multidisciplinary design services for a new air gateway distribution hub for UPS at East Midlands Airport — the UK's second zones. busiest airport for air cargo traffic.

The project includes a flagship air gateway distribution hub with a nominal throughput capacity of 22,000 packages per hour, with scope for future expansion incorporated into the design. The building comprises approximately 390,000 sq. ft. of package sorting/distribution hub, approximately 56,000 sq. ft. of office accommodation, 140,000 sq. ft. of maintenance workshops/ancillary facilities and 3,200 sq. ft. guard house/security complex.

The new development is located on a site of approximately 1.2 million sq. ft. adjacent to the airfield apron.

The automated package handling facility includes border force and customs controls, state-of-the-art x-ray scanning and security facilities structural engineering. at key landside/airside transfer

Located on a brownfield site, formerly used for contractors' parking and temporary accommodation, the site faced constraints such as the proximity to the airfield, transportation links, ecology, artificial lighting and noise pollution impacts.

We worked with the client UPS; the landowner Manchester Airport Group (who also own the adjoining airport and manage the airfield operations and business); and the local authority planning officers and building control officers to facilitate an agreeable design solution for all parties.

The full range of services we delivered includes acoustics, architecture, civil engineering, cost management, ecology, fire engineering, planning advice, project management and



#### **SERVICES**

- Multidisciplinary design







### Cargo Area Development Project

Auckland International Airport, Auckland, New Zealand

Client: Air New Zealand

Helping deliver an air cargo redevelopment project for airline New Zealand Air at Auckland International Airport, we provided a range of market analysis, planning and design services to examine the feasibility and relocation of cargo buildings to a new site with a new consolidated facility.

As planned passenger terminal expansion was impacting landside access, the existing Air New Zealand airline cargo facilities needed to be relocated at Auckland International Airport. Additionally, the facilities needed to be relocated due to the age of the existing facilities; the negative legacy of additive facility development for international inbound, international outbound and domestic operations; and because the facilities are landside connected to the airside by a chokepoint in the airport circulation.

We helped deliver the cargo redevelopment project which examined the feasibility and

relocation to a new site with a new consolidated facility, approximately 270,000 sq. ft. in size, to be constructed by the Airport Authority. One of the project's initial focus points was an analysis of alternate site locations at the airport with a SWOT analysis. We developed process flow diagrams for stakeholder understanding of how a consolidated building might function.

Based on possible tight site conditions, an examination was made of some benchmark facilities for levels of automation and general arrangements. Alternative concept layouts were developed and evaluated for efficiency and future expansion.

The wide range of services we delivered included airport siting analysis, cargo statistical analysis, demand forecast, benchmark facility analysis, cargo trends analysis, concept planning, space

programming, site circulation analysis, cargo handling equipment consulting and summary project feasibility analysis. A preferred concept layout was identified, and the project continued with some additional site analysis for an airport-preferred relocation site.

- Forecast
- Site location analysis
- Evaluation criteria
- Design options
- Planning and conceptual design











### Air Distribution Hub

Cincinnati / Northern Kentucky International Airport, Covington, KY, U.S.A.

**Client: Confidential** 

With responsibility for all design disciplines, we acted as prime architectural/engineering consultant for a new air hub at the Greater Cincinnati Northern Kentucky Airport.

The first phase of the project includes design of a new 4 million sq. ft. air hub, 1,200 car parking garage, and associated site work including aircraft ramp for 28 aircraft positions, hydrant fueling system, de-icing stations, glycol storage, collection and processing.

The hub will also include specialized aviation infrastructure such as distributed 400 HZ aircraft ground power, ground support equipment (GSE) charging and fully redundant power services, GSE ramp, GSE maintenance building, as well as a GSE services building and pilot's facility.

Having completed the design, Phase 1 construction is expected to be completed by mid-2021. Our scope during the Phase 1

project includes facilitation and expediting multiple permitting and approval processes coordinated with the Construction Manager/JV.





#### **SERVICES**

- Architectural and engineering design







### Air Cargo Facilities

Mumbai International Airport, Mumbai, India

Client: Mumbai International Airport Limited



Delivering multi-disciplinary design services, we helped develop efficient and sustainable air cargo facilities at Chhatrapati Shivaji Maharaj International Airport in Mumbai, India.

Due to an unprecedented growth in air cargo tonnage at Chhatrapati Shivaji Maharaj International Airport, we were appointment by Mumbai International Airport Limited (MIAL) as consultant for a unique and demanding project to develop new cargo facilities.

Delivering multi-disciplinary design services, we helped MIAL develop efficient and sustainable facilities that are flexible in design to accommodate investments in progressive air cargo material handling solutions and cargo management technologies.

The range of services we delivered included architectural, structural, and mechanical, electrical and plumbing (MEP) conceptual engineering. In addition, we

also provided material handling system concept design advisory services, in conjunction with a material handling system supplier, to ensure the design was practical, economical and able to be implemented.





#### **SERVICES**

- Multi-disciplinary design
- planning
- Concept design





### DHL Airways Hub

Cincinnati / Northern Kentucky International Airport, Covington, KY, U.S.A.

Client: DHL

We provided planning and design services for a new DHL Airways hub in Covington, Kentucky at Greater Cincinnati Northern Kentucky Airport.

The planning services we provided included analysis of the high-speed flyer and package sort systems and methodologies, programming of the facility and the site.

We then provided architectural and engineering services for the new hub. The project covered more than 140 acres of site work, including a 56-aircraft ramp and control tower.

The facility is comprised of more than 750,000 sq. ft. of building floor area, including a 58,000 sq. ft. ground service equipment (GSE) facility. Additionally, the site incorporates 10 maintenance bays, paint and wash bays, as well as support spaces.





#### **SERVICES**

- Planning
- Design
- Architecture and engineering



## Contact us

#### CONTACTS

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AECOM

#### **ABOUT AECOM**

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from advisory, planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical and digital expertise, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of \$13.1 billion in fiscal year 2022. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.