



Airline Logistics Management



ABI2205



Welcome all to the class
Let's talk



QR for the course

SCAN ME



ABI2205 Airline Logistics Management



Semester's Agenda

*Subject to rearrange related to contents



01

**Introduction to Airline Logistics
Management**

02

Cargo Procedure - Outbound/Inbound

03

**Booking - Air Waybill/ Agent/Related
B/U**

04

**Packing - Type (Boxes)/ Dangerous
Goods**

05

**Acceptance - Checking for
booking/packaging/x-ray**

Semester's Agenda

*Subject to rearrange related to contents



06

**Loading - Type of
Palettes/Containers/Finishing**

07

Arrival Procedure

08

Unpacking (Breakdown)

09

Documents Procedure

10

**Retrieval / Delivery / Problems and
Solutions**

Introduction to Airline Logistics



Abbreviations

Abb.	Meaning
ACMI	Aircraft, crew, maintenance and insurance
ACC3	Airline Logistics or mail carrier operating into the (European) Union from a third country airport
AOC	Air Operator's Certificate
AWB	Air waybill
e-AWB	Electronic air waybill
EASA	European Aviation Safety Agency
EDI	Electronic data interchange
GHA	Ground handling agent

Abbreviations

Abb.	Meaning
HAWB	House air waybill
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
KPI	Key performance indicator
MAWB	Master air waybill
MTOW	Maximum take-off weight
RCS	Ready for carriage shipment
RFID	Radio frequency identification

Abbreviations

Abb.	Meaning
RM	Revenue Management
TSA	Transportation Security Administration
ULD	Unit load device, usually either pallet or container

Airline Codes

Abb.	Meaning
NH	All Nippon Airways
TG	Thai Airways International
KZ	Nippon Cargo Airlines
BR	Eva Airways
LH	Lufthansa (Lufthansa Cargo AG / Deutsche Lufthansa AG)
SQ	Singapore Airlines Limited
CI	China Airlines
CZ	China Southern Airlines / China Southern Airlines Cargo

Airport Codes

Abb.	Meaning
IST	Istanbul airport
LAX	Los Angeles International airport
MAA	Chennai International airport
RGN	Yangon International airport
TPE	Taipei Taoyuan International airport
PEK	Beijing International airport
HND	Tokyo International airport (Haneda)
FRA	Frankfurt International airport

What is Logistics?

Logistics is the process of **moving and storing goods** efficiently.

It focuses on **what happens inside one company** to get products from point A to point B.

→ **Logistics = How to move and store products effectively.**



Key activities

Key activities in Logistics:

Transportation – moving goods by truck, ship, plane

Warehousing – storing goods safely

Inventory management – making sure products are available

Packaging – preparing items for transport

Handling & distribution



Example

When **7-Eleven** orders drinks, the logistics team:

picks the drinks from the warehouse

loads them onto a truck

delivers to the store

manages stock in the backroom



Logistics

Source: Ignou, The people's university

Organizations collect raw materials from suppliers and deliver finished goods to the customers

Logistics is the function that moves both tangible materials (raw materials) and intangible material (information) through the operations to the customers (as a finished product)



Logistics Activities

Source: Ignou, The people's university

- Customers Services
- Demand Forecasting
- Distribution
- Communication
- Inventory Control
- Material Handling
- Order Processing
- Parts & Service Support
- Plant and Warehouse Site Selection
- Procurement
- Packaging
- Return Goods Handling
- Salvage and Scrap Disposal
- Traffic and Transportation



Logistics Elements

Source: Ignou, The people's university

- Facility Location
- Transportation
- Determining location, number and size of facilities needed
- Mode and service selection, Carrier routing, Vehicle scheduling



Logistics Elements

- Inventories
- Customer Service
- Finished goods stocking policies, Record keeping, Supply scheduling, Short term sales forecasting
- Cooperate with marketing in: Determining cust needs and wants for service, determining cust response to service



Logistics Elements

- Order processing and Information flows
- Warehousing and Material Handling
- Sales order procedure, Information collection, storage and manipulation, Data analysis
- Space determination, Stock layout Material handling equipment selection, Stock storage and retrieval



What is a Supply Chain?

The **Supply Chain** is the **bigger system** that includes **all organizations** involved in **making and delivering a product** from raw materials to the customer.

It covers **everything**:

Raw materials

Manufacturing

Transportation

Warehousing

Retail

Customer

Even returns and recycling

→ □ **Supply Chain = All steps from raw material to the customer.**



Key activities

Key activities in the Supply Chain:

Sourcing & purchasing

Manufacturing/production

Logistics

Distribution

Customer service

Coordination between partners



Example

For a **bottle of Coca-Cola**:

Farmer supplies sugar

Factory makes the drink

Packaging company provides bottles

Logistic company delivers to stores

7-Eleven sells it

Customer buys and drinks it



Supply Chain Management

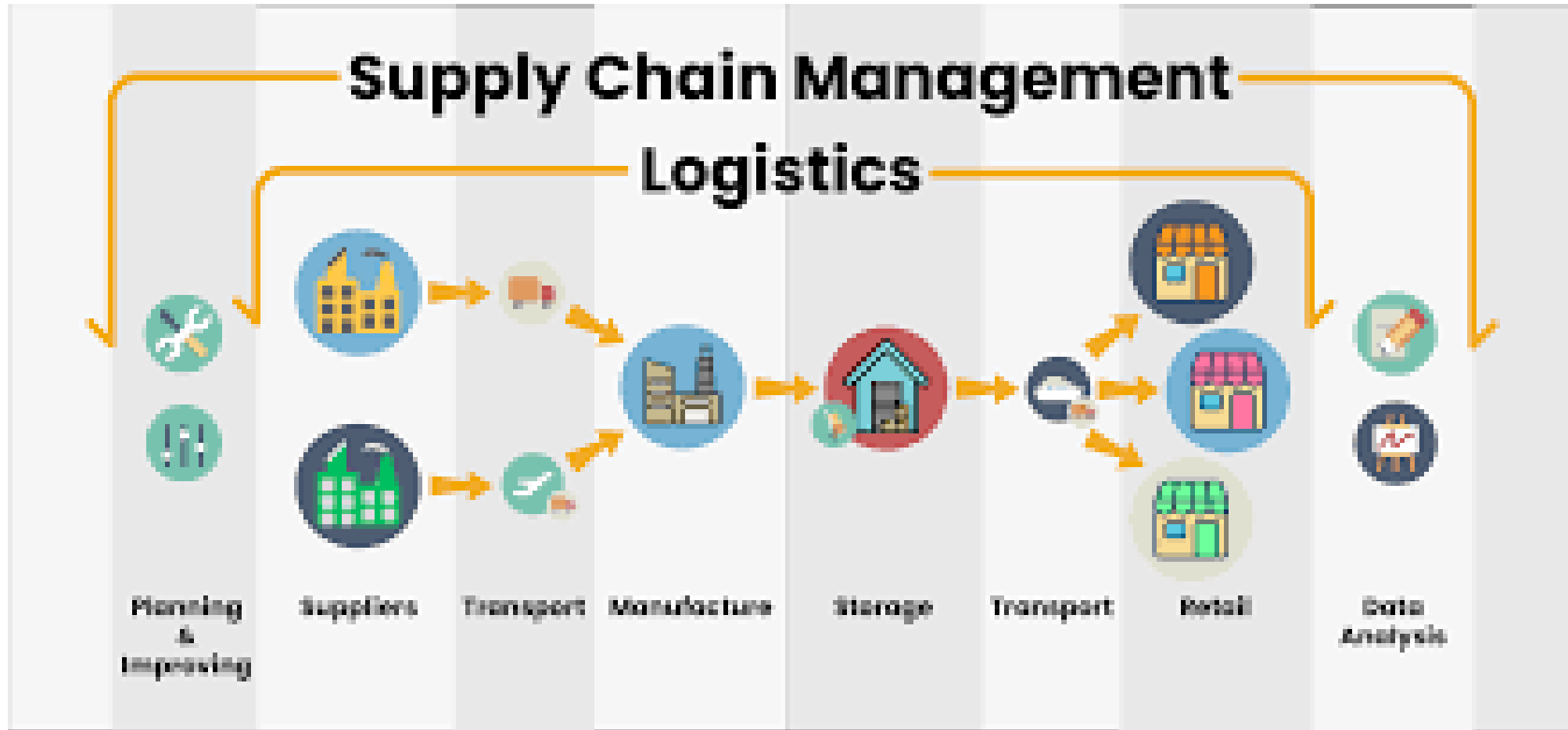
Source: Ignou, The people's university

A supply chain consists of a series of activities involving many organizations connected with trading relationship through which the materials move from initial suppliers to final customers



Logistics and Supply Chain Management

Source: WTA Group



Logistics



Practical function of supply chain

An internal process within a company that is sometimes outsourced to a third party such as freight forwarders

Focuses on cost and time-efficient delivery of goods

Includes inbound & outbound transportation, warehousing, fulfillment, customs clearance

Strong focus on customer satisfaction

Manages the process of bringing products to the market

Supply Chain

A strategic view of logistics, procurement and planning

Works with many external partners such as manufacturers & supply and delivery partners

Focuses on an innovative approach and cost-cutting at every step of the process

Includes procurement, supply planning, manufacturing, inventory management, innovation, constant improvement, strategising and planning

Strong focus on competitive advantage

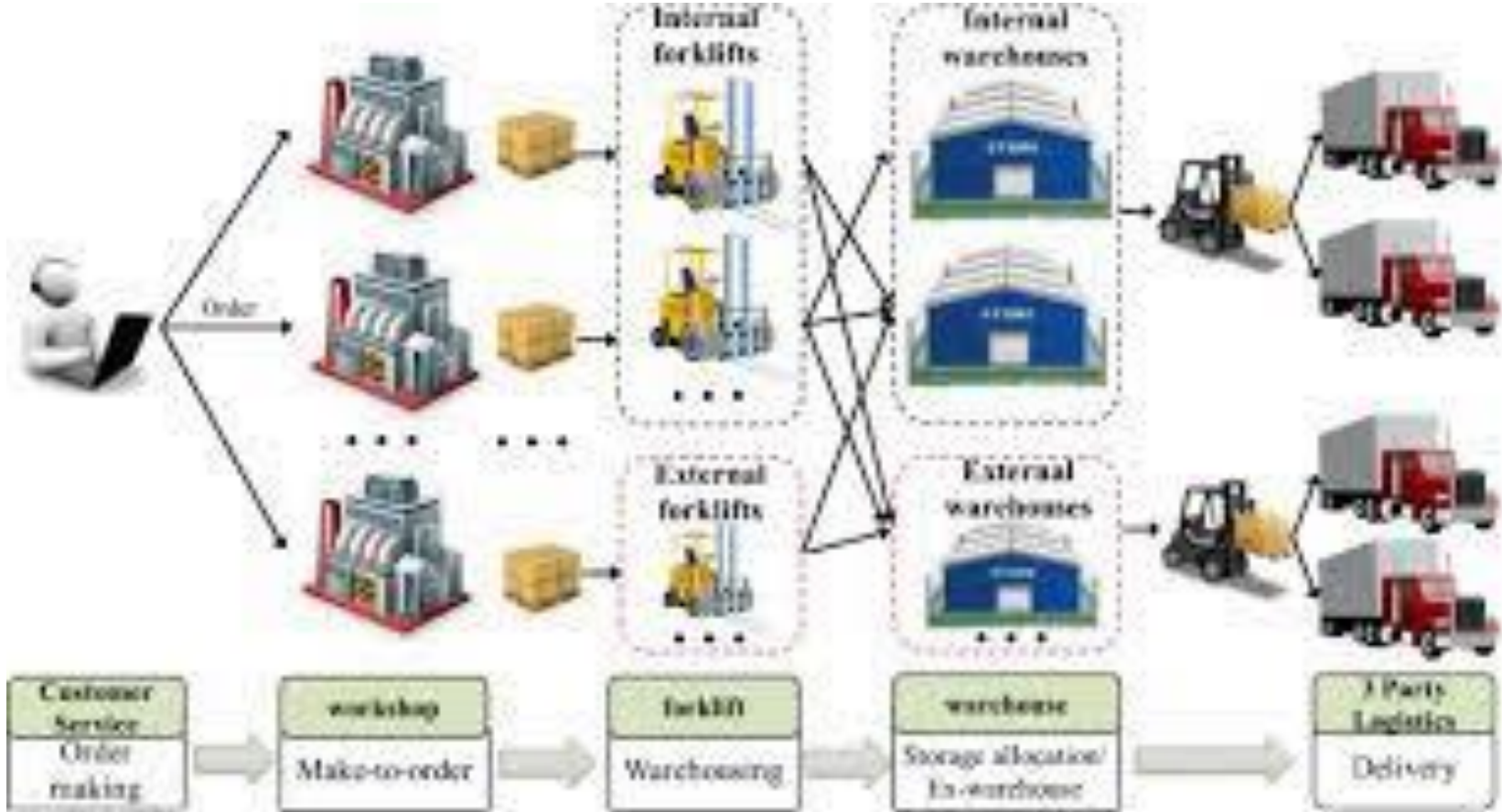
Logistics and Supply Chain Management

Source: Think Global Logistics



Logistics operation can be basically clubbed into physical distribution management, materials management, and internal inventory transfer

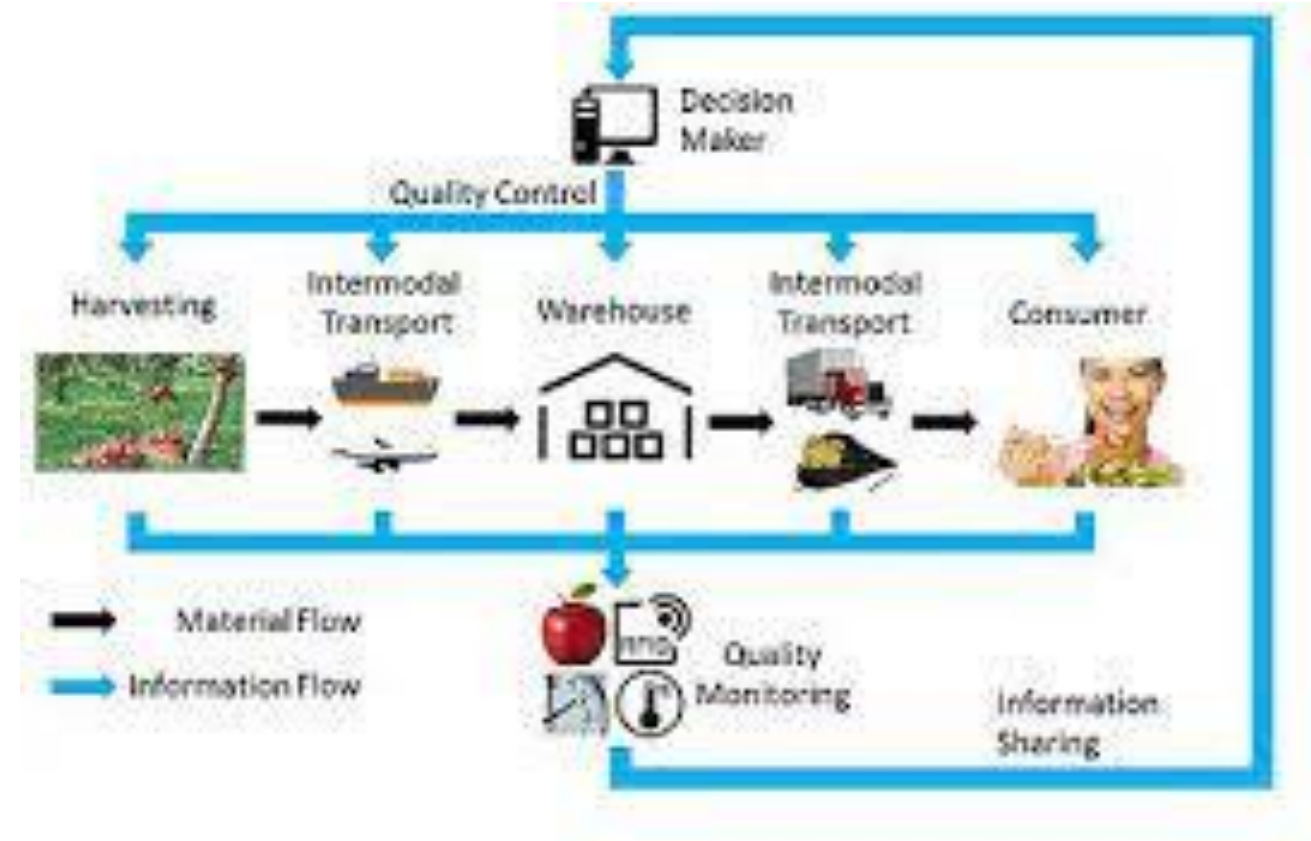
Logistics Operation



Source: ignou, The people's university, Researchgate

Logistics coordination pertains to forecasting, order processing, operational planning and product procurement. This integration is effected through effective information flows.

Logistics Coordination



Logistics & Supply Chain

Concept	Logistics	Supply Chain
Scope	Narrow (inside one company)	Broad (many companies working together)
Focus	Moving, storing, delivering goods	End-to-end flow of products, money, and information
Activities	Transport, warehousing, inventory	Sourcing, production, logistics, distribution
Objective	Efficiency & cost control	Value creation, coordination & customer satisfaction
Time frame	Short-term operations	Long-term strategy + operations
Example	Delivering Pepsi to the store	Entire journey of Pepsi from ingredients to customer



Logistics & Supply Chain

Supply Chain = Big picture

→ □ From raw materials → production → logistics → retail → customer

Logistics = One part of the supply chain

→ □ How to move and store products efficiently.



Example – Making Pad Thai

Supply Chain = Entire process

Buy ingredients

Store them in the kitchen

Cook Pad Thai

Serve to customer

Clean up

Logistics = Only the moving & storing parts

Storing ingredients in the fridge

Transporting ingredients from market to kitchen

Organizing what's in the pantry

→ □ **Supply Chain** = the whole restaurant system

→ □ **Logistics** = movement & storage of ingredients



Air Cargo



Air transportations are carrying both passengers and cargo underneath of the passenger's seating



Source: National Geographic

Passenger



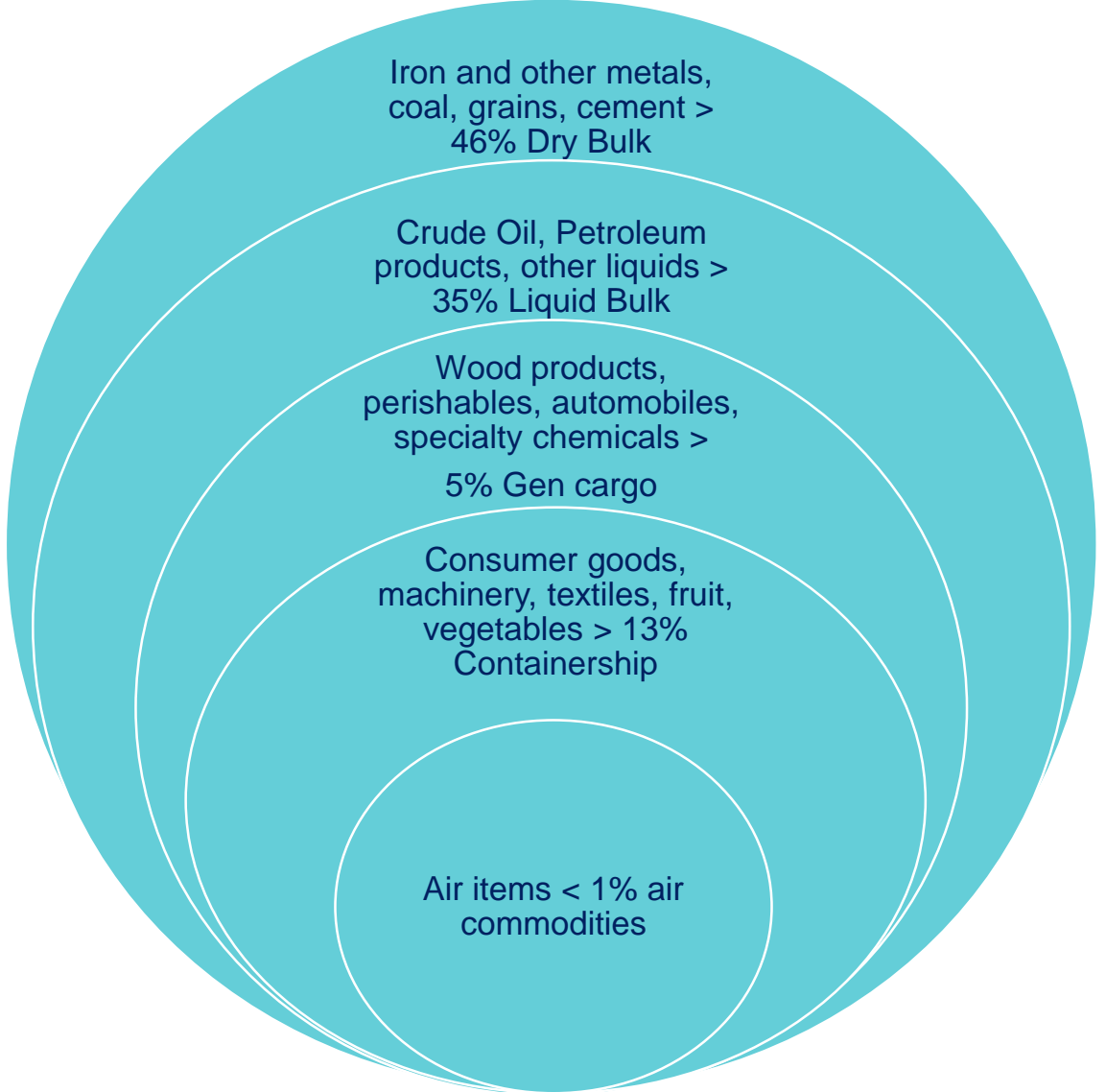
Source: Airlines - IATA

Cargo

Airline Logistics can transport goods much more quickly than by sea or rail, domestically and internationally.

Types of goods could be technology ie. smartphones, tablets to medical samples, fresh produce or even large, heavy oil and gas equipment, sometime aircraft spare parts.

World Trade by commodity (Air and Surface transportation), Source: Boeing (2016)



Segmentation of demand based on transport urgency

1. Emergency Freight

Speed is essential while shipping cost and actual commodity value are relatively unimportant

2. High value Freight

Security and speed in order to reduce the exposure time to a minimum, cost is usually irrelevant ie. Gold / Jewellery



Segmentation of demand based on transport urgency

3. Routine Perishable Freight

Food stuffs or cut flowers, it is essential to minimize the time from production to market

4. Routine Non-Perishable Freight

Largest share of the air freight market



Types of Cargo Charter Service

1. Regular charter flights

These operate similarly to scheduled flights, however with the capacity on board the aircraft being sold exclusively to a single customer or a small group

2. Seasonal charter flights

These operate as supplements to scheduled services to cover increased demand during high season, mainly the fourth-quarter or fresh flowers during Valentine's Day



Types of Cargo Charter Service

3. Ad-hoc charter flights

To cover sudden surges in demand or individual events, ie. Freighter aircraft fly test cars and prototypes

4. Humanitarian aid

Emergency food aid and medical supplies

5. Military charters

Troop movements, in support of logistics needs



Air freight as a multi-modal product

Mode	Meaning
Trucking	Shipments are carried by trucks from their origin to the airport of departure, goods are consolidated and loaded on the aircraft. At the destination, the shipments are distributed again by truck to their actual destination
Sea-Air	On the longer-haul trade routes from Asian to Europe and North America, a combination of sea and air transport can make economic sense. Shipments need to be transferred to air containers or pallets for the second leg of journey
Rail-Air	Rail can be used for regional distribution if the hub airport has freight rail access



Let's take 10 mins

Integrators



Door-to-Door service which includes pickup, packaging, air transportation, customs processing and delivery. Time-sensitive, has their own network of aircraft and trucking service around the globe, may be wholly owned or contracted to other carriers

Sources: FedEx/DHL airwaysmag.com



Passenger Airlines

They sell the empty space in the aircraft belly after all pax's bags are accounted for. This amount of space – expressed in volume and weight can vary significantly based on aircraft, route, load factors and time of the year.

Sources: Aviation Pros



Cargo Airlines – Cargo aircraft only

They operate all-cargo aircraft which can differ in size and capacity. They can be in their own right or be a part or subsidiary of a passenger airlines. Ranging from small bulk-hold, narrow-bodied to large containerized wide-bodied freighters – B747.

Sources: Sky Team






Thank you
Q & A

Individual Presentation

‘My Mini Air Cargo Case Study Presentation’ 20 Points – English 10/Creativity 10



Each student selects **one product** commonly transported by air cargo (e.g., electronics, vaccines, flowers, spare parts). **Presenting as a video clip with the Required Contents provided for 3 minutes (with references).**

Submission by 27FEB26 on the
Assignment link provided

Title: Student ID-Base-Name
6812344xxxx-BKK-Theppaluk

Require contents for Individual

Each student selects **one product** commonly transported by air cargo (e.g., electronics, vaccines, flowers, spare parts). **Required Content:**

Product Description

What is the product?, Why is it transported by air instead of sea/land?

Air Cargo Supply Chain Mapping

Briefly explain the steps from **origin to destination**, including:

Supplier, Shipper / Freight forwarder, Airline, Ground handling, Customs, Final customer

Logistics Activities Identification

Students must identify at least **5 logistics elements**, e.g.:

Packaging, Palletizing, Temperature control, Warehousing, Security screening, Documentation, Transportation to/from the airport

Risk Identification & Solutions

Identify **3 possible risks** (e.g., delays, damage, temperature problems).

Suggest **practical solutions** with no cost (process or planning based).

Reflection Question

“What part of the air cargo process is most critical? Why?”



Group Presentation

“Design Your Own Air Cargo Operation” Presentation
15 Points – English 5/Creativity 5/Team 5
5 Points from voting

Each group must **design an air cargo operation** for a fictional airline transporting a chosen product. Please presented as a video clip of contents for 5 minutes. All members must be presenting in the clip.

Submission by 27FEB26

Title: All Student ID-Base-Name in order
All 6812344xxxx-BKK-Theppaluk



Require contents for Group

Full Logistics Flow

Groups must describe: Pick-up process, Warehouse handling, AWB (Air Waybill) process, Build-up of ULD, Aircraft loading, Arrival procedures, Customs, Delivery

Each group must contain a *random challenge* such as:

Weather delay, Aircraft mechanical issue, Customs inspection, Temperature failure, Cargo missing documents

Groups must explain:

What happened?

What is the impact?



References

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