

# ADRM

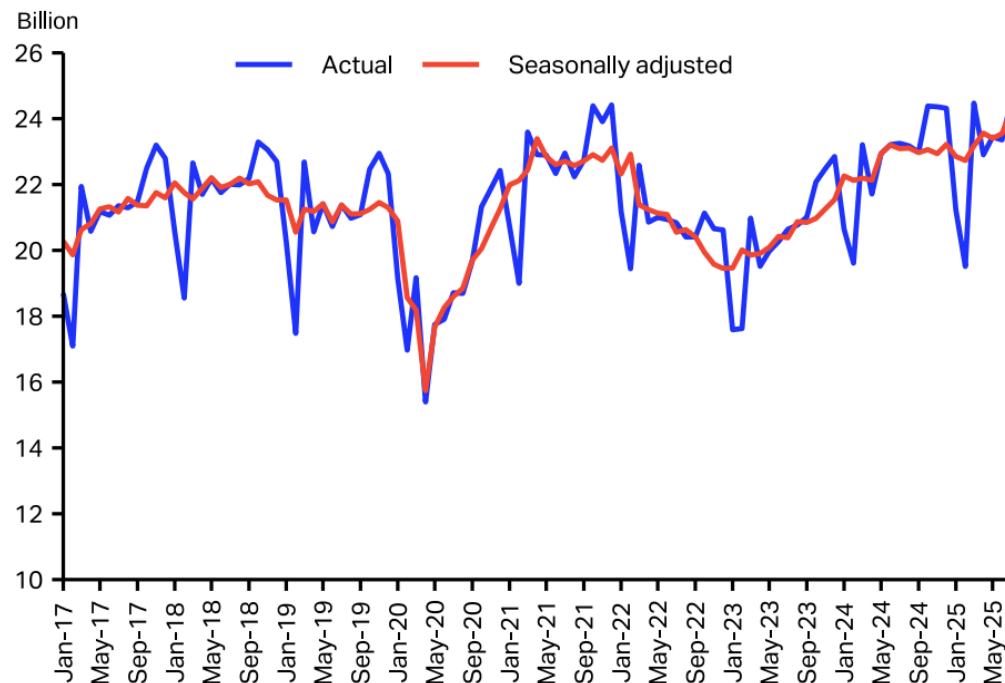
## Airport Development Reference Manual

Considerations for the building  
of new  
Cargo Terminals

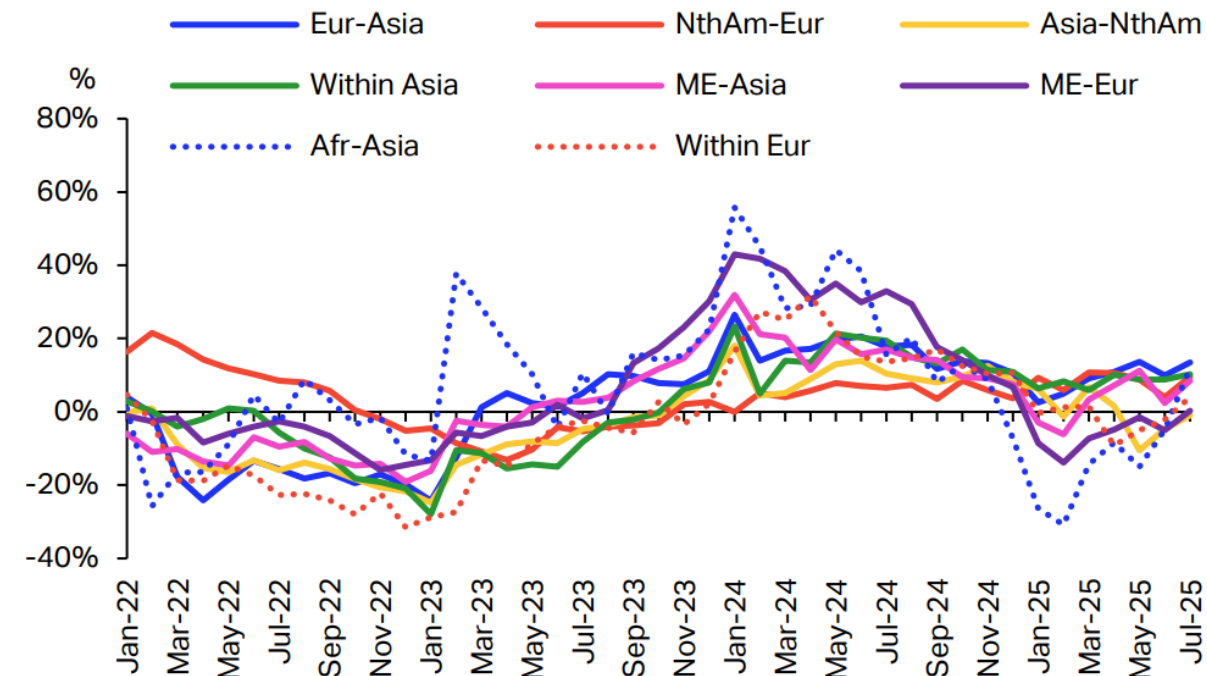


# Cargo Outlook

**Chart 1: Industry CTK, billion**

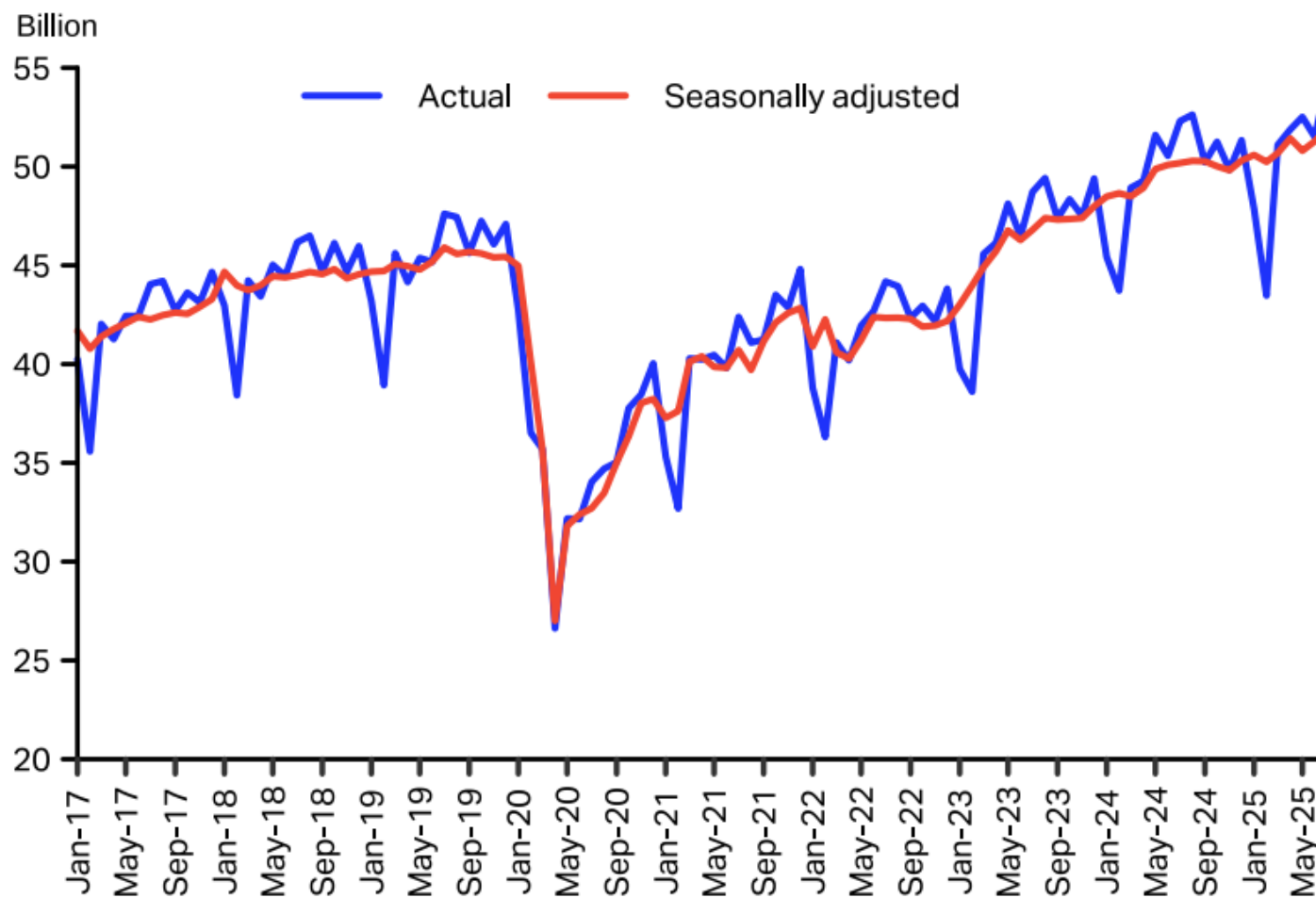


**Chart 3: International CTK by route area, YoY, %**



# Cargo Outlook

**Chart 4: Industry ACTK, billion**













# Landside activities with airside connections











A life protected

...air cargo makes it happen.

Immunization prevents 2.5 million deaths every year. Air cargo is critical in flying vaccines to their destination in time to be effective.

www.iata.org



Help from the sky

...air cargo makes it happen.

Air cargo plays an essential role in assistance to regions facing natural disasters, famine and war by delivering aid and emergency supplies where they are needed as soon as they are needed.

www.iata.org

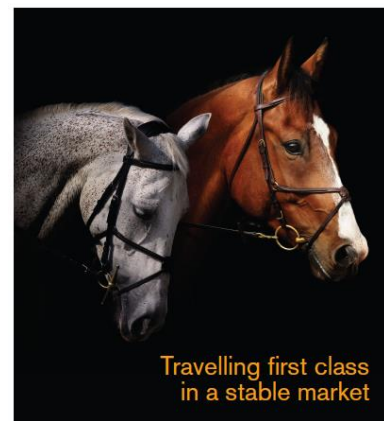


Delivering time on time

...air cargo makes it happen.

The Swiss watch industry continues to record strong growth. Reliable air cargo is keeping this industry ticking by connecting the Swiss made timepieces with the world.

www.iata.org



Travelling first class in a stable market

...air cargo makes it happen.

The world's most valuable horses are now competing in parts of the world where this would have been unimaginable 20 years ago.

www.iata.org

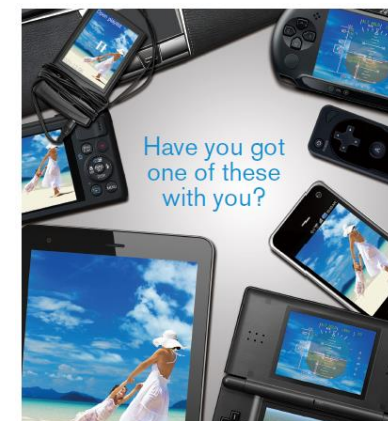


Buy online, receive it at your door

...air cargo makes it happen.

Every day, more than 160 billion letters and parcels cross the country. Air transportation is essential to support e-commerce. That's what makes mail the #1 customer of air cargo in the US.

www.iata.org

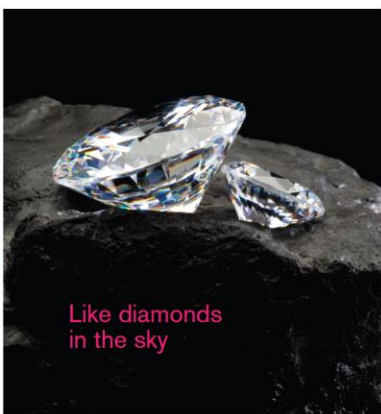


Have you got one of these with you?

...air cargo makes it happen.

Air cargo transports over US\$ 6.4 trillion in goods, including the latest phone, game and multimedia gadgets —bringing your world to life.

www.iata.org

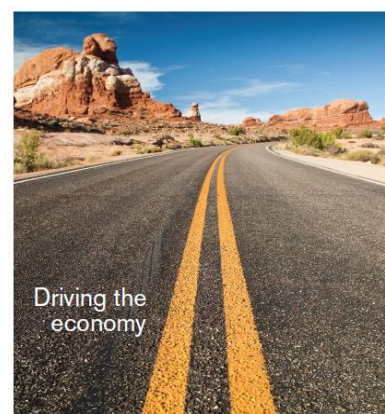


Like diamonds in the sky

...air cargo makes it happen.

South Africa produces 7 million carats of diamonds accounting for R14.4 billion. The diamonds are then exported worldwide and turned into fashion jewelry, precision cutting equipment and reliable microelectronics.

www.iata.org

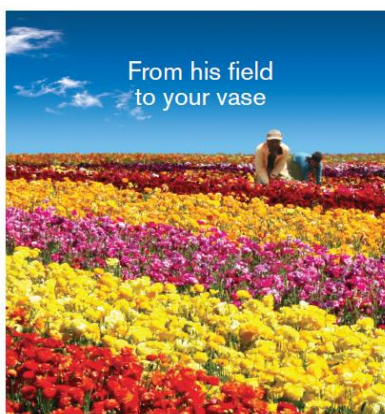


Driving the economy

...air cargo makes it happen.

Deliveries of new cars and light trucks are expected to rise to 16 million in 2014 in the US. Speed air cargo is critical to deliver auto parts to the assembly lines.

www.iata.org



From his field to your vase

...air cargo makes it happen.

Air cargo flies over 120,000 tonnes of Kenyan flowers each year, sustaining 90,000 jobs. So when you say it with flowers, remember they've come further than you think.

www.iata.org



High-tech components  
State-of-the-art delivery

...air cargo makes it happen.

Malaysia had a record year for trade in 2011, with exports up 8.7% to RM694.55 billion. Reliable air cargo is the essential link for Malaysia's growing technology industries.

www.iata.org



12-14 April:  
Shanghai

19-21 April:  
Bahrain

...air cargo makes it happen.

By flying 60 cars and 300 tonnes of equipment to 20 grand prix, in 19 countries, with 500 million avid viewing fans, air cargo keeps Formula 1 on track.

www.iata.org



Taste of California

...air cargo makes it happen.

U.S. wine exports, 90 percent from California, reached 112.2 million gallons accounting for \$1.43 billion in winery revenues in 2012. Thanks to air cargo, connoisseurs can enjoy the finest wines the world has to offer.

www.iata.org

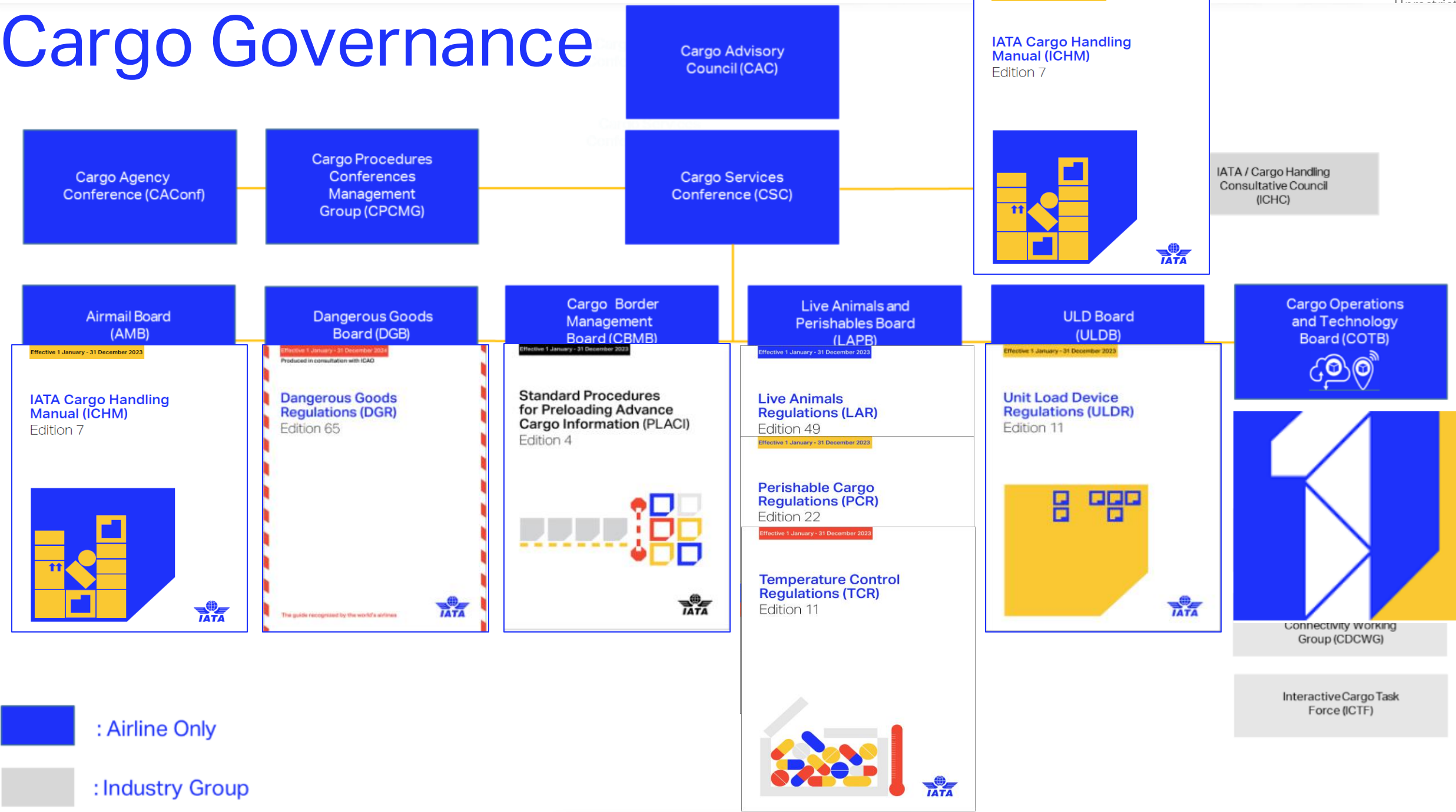


# Air Cargo Makes it Happen Campaign

<https://www.iata.org/en/programs/cargo/sustainability/benefits/>



# Cargo Governance





**So how what does the future look like  
today!**





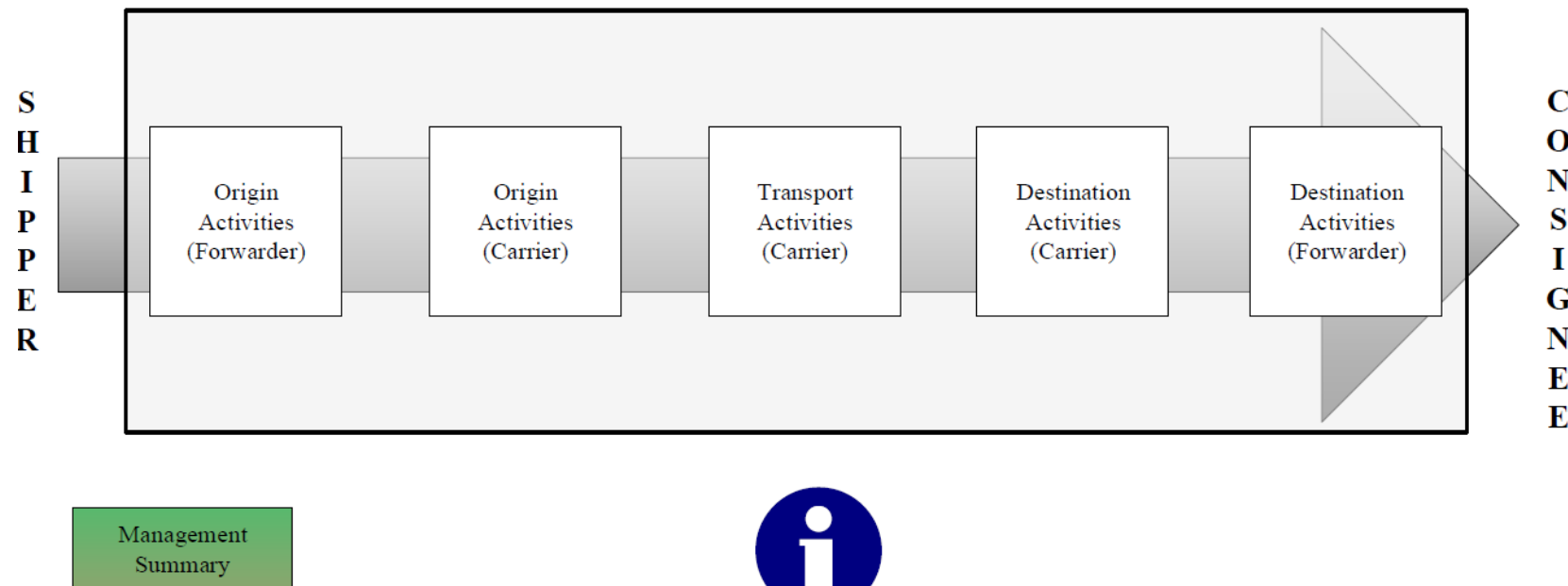
# How is our Cargo Terminal today?





# ICHC - MOP - ICHM

## Air Cargo Industry Master Operating Plan

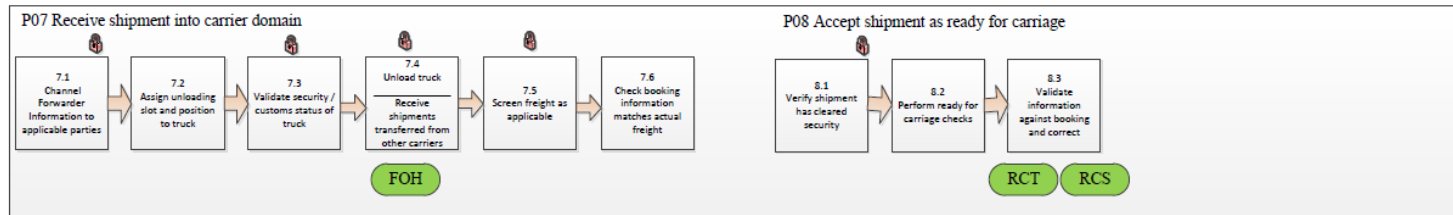




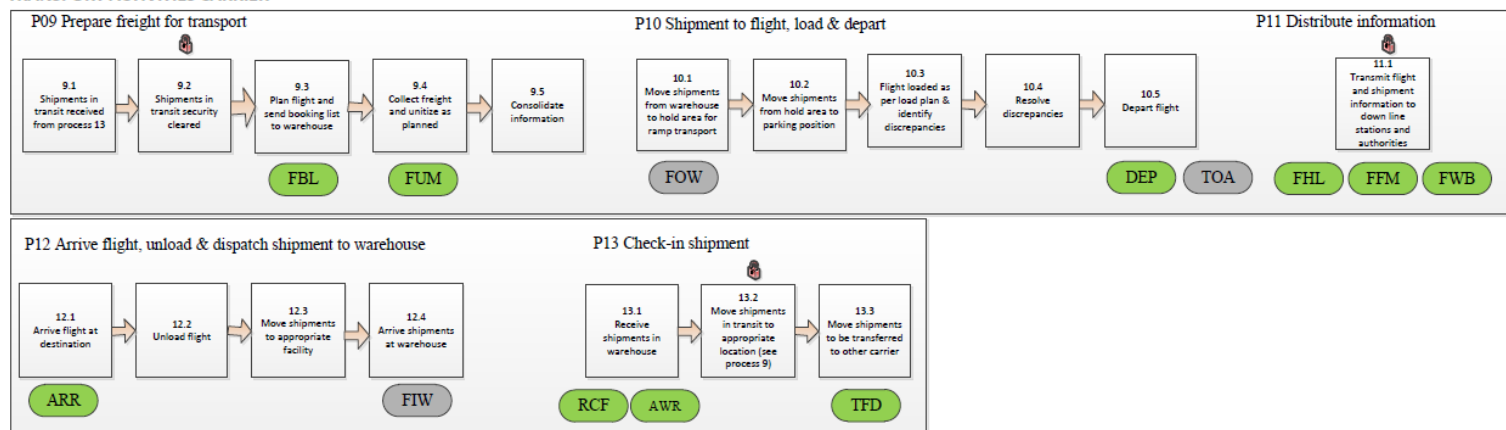
# ICHC - MOP - ICHM

## Master Operating Plan / CARRIER PART

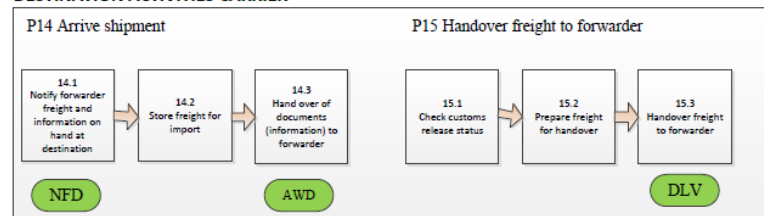
### ORIGIN ACTIVITIES CARRIER



### TRANSPORT ACTIVITIES CARRIER

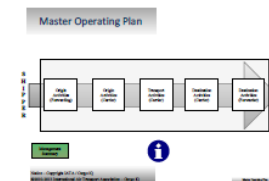


### DESTINATION ACTIVITIES CARRIER



This diagram is based on version 3.1 of MOP  
Summary: Only 3<sup>rd</sup> level process flow  
B Heuzeveldt/ IMO/ V1.0 Feb 2014

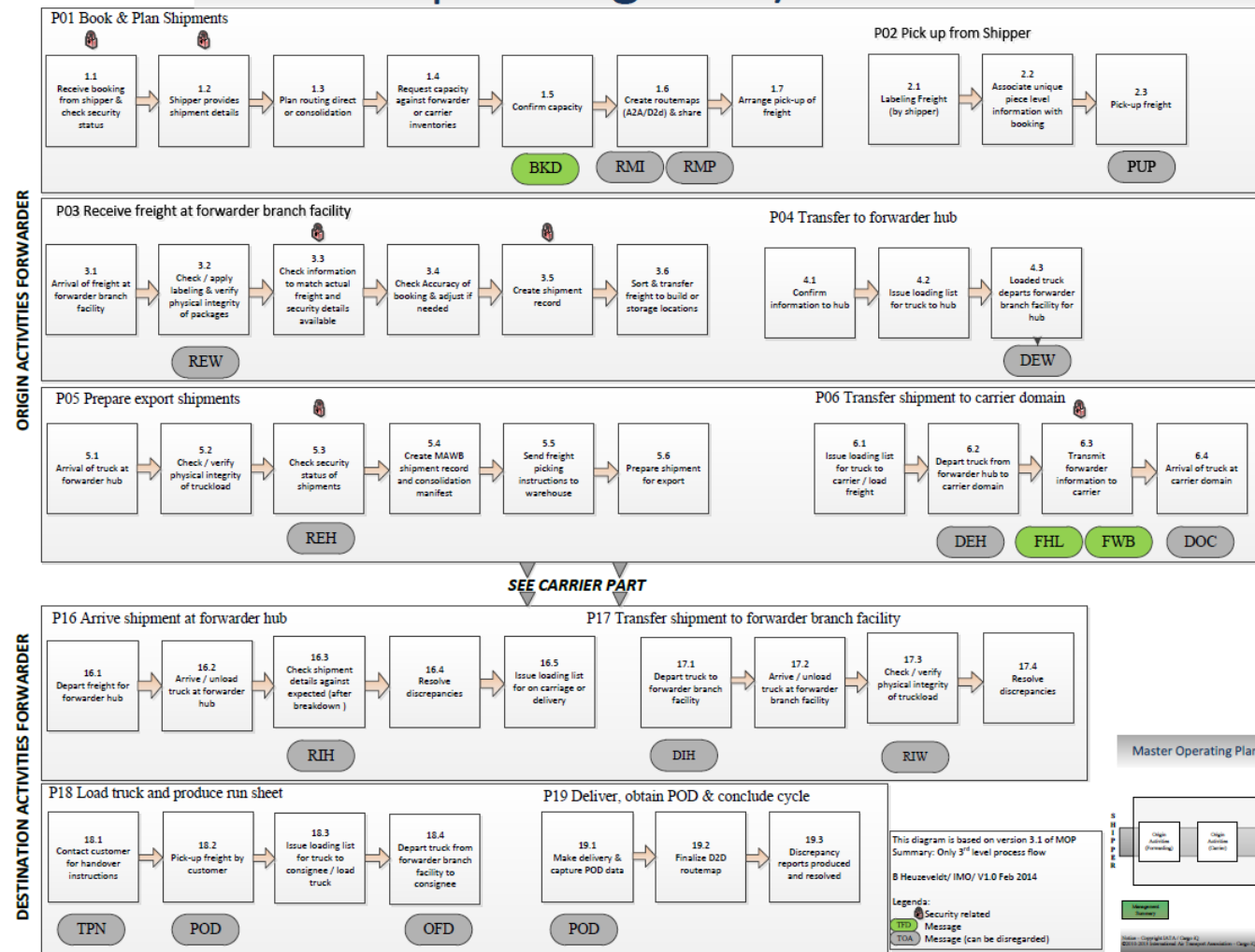
Legenda:  
 Security related  
 Message  
 Message (can be disregarded)





# ICHC - MOP - ICHM

## Master Operating Plan / FORWARDER PART





# ICHC - MOP - ICHM

IATA	
Table of Contents	
Preface .....	vii
Acknowledgements .....	
Introduction .....	
Applicability .....	
Significant Changes .....	
Reference Marks .....	
Record of Revisions .....	
Purpose and Scope .....	
Relationship to other Publications .....	
Goals .....	
Data Exchange .....	
Training Requirements .....	
Record of Training .....	
Competency-Based Training and Assessment .....	
Cargo Build-Up Competency Training .....	x
<b>Chapter 1—Book &amp; Plan Shipments</b> .....	
1.1 Receive Shippers' Request & Check Security Status .....	3
1.2 Receive Shipper Freight Information .....	7
1.3 Plan the Routing—Direct or Consolidation .....	7
1.4 Request Capacity against Forwarder or Carrier Inventories .....	7
1.5 Confirm Capacity .....	8
1.6 Create Route Maps (A2A/D2D) & Share .....	8
1.7 Arrange Pick up of Freight .....	8
1.8 Mail Contracting and Planning between Post and Carrier .....	3
<b>Chapter 2—Pick-up from the Shipper</b> .....	7
2.1 Labelling Freight (by Shipper) .....	7
2.2 Associate Unique Piece Level Information (UPID) with Booking .....	7
2.3 Pick-up Freight .....	8
2.4 Mail Receipt by Post from Sender .....	8
<b>Chapter 3—Receive Freight at Forwarder Branch Facility</b> .....	11
3.1 Arrival of the Truck at the Forwarder Branch Facility .....	11
3.2 Verify Physical Integrity of Cargo & Check/Apply Labelling .....	11
3.3 Check if Information Matches the Actual Freight and Security .....	12

IATA IATA Cargo Handling Manual	
3.4 Check the Accuracy of the Booking & Adjust if Needed .....	12
3.5 Create Shipment Record .....	12
3.6 Sort & Transfer Freight to Build or Storage Locations .....	13

IATA Table of Contents	
9.3 Plan Flight & Send Build-up Plan to Warehouse .....	43
9.4 Collect Freight & Utilise as Planned .....	44
9.5 Consolidate Information .....	62

IATA IATA Cargo Handling Manual	
16.5 Issue Loading List for On-carriage or Delivery .....	85
16.6 Mail Receipt by Post from Carrier .....	86
<b>Chapter 17—Transfer Shipment to Forwarder Branch Facility</b> .....	89
17.1 Depart Truck to Forwarder Branch Facility .....	89
17.2 Arrive/Unload Truck at Forwarder Branch Facility .....	89
17.3 Check/Verify Physical Integrity of Truckload .....	89
17.4 Resolve Discrepancies .....	89
<b>Chapter 18—Load Truck and Produce Run Sheet</b> .....	91
18.1 Contact Customer for Handover Instructions .....	91
18.2 Pick up of Freight by Customer .....	91
18.3 Issue Loading List for Truck to Consignee/Load Truck .....	91
18.4 Depart Truck from Forwarder Branch Facility to Consignee .....	91
18.5 Mail Preparation by Post and Handover to Addressee .....	91
<b>Chapter 19—Deliver, Obtain Proof of Delivery (POD) and Conclude Cycle</b> .....	93
19.1 Make Delivery & Capture POD Data .....	93
19.2 Upload POD Information to System .....	93
<b>Appendix A—Glossary</b> .....	95
<b>Appendix B—Abbreviations</b> .....	103
<b>Appendix C—Cargo SGHA</b> .....	109
<b>Appendix D—Cargo SLA</b> .....	113
<b>Appendix E—Segregation Chart</b> .....	121
<b>Appendix F—Operational Damage Limits Notice (ODLN)</b> .....	123
<b>Appendix G—Mail Handling Pre-Conditions (PC)</b> .....	127
<b>Appendix H—Annexes to Mail Handling</b> .....	131
<b>Appendix I—Irrregularity Handling</b> .....	139



7.5 Secure Cargo as Applicable .....	3
7.6 Check if Booking Information .....	7
7.7 Mail Handover at Origin and .....	7
<b>Chapter 8—Accept Shipments as Rec</b> .....	79
8.1 Verify if Shipments are Secu .....	81
8.2 Perform Ready for Carriage .....	85
8.3 Validate Information against .....	85
<b>Chapter 9—Prepare Cargo for Transp</b> .....	85
9.1 Receive Transit Shipments .....	85
9.2 Shipments in Transit are Sec .....	85

<b>Chapter 15—Handover the Freight to the Forwarder</b> .....	79
15.1 Handover to Forwarder .....	79
15.2 Handover to Forwarder .....	79
15.3 Handover to Forwarder .....	81
15.4 Handover to Forwarder .....	85
15.5 Handover to Forwarder .....	85
15.6 Handover to Forwarder .....	85
15.7 Handover to Forwarder .....	85



**EASA**  
European Aviation Safety Agency

# CFoF v1 – Cargo Facility Of the Future





# Special Cargo



**Pharmaceuticals**



**Perishables**



# Special Cargo





# Special Cargo



# Special Loads



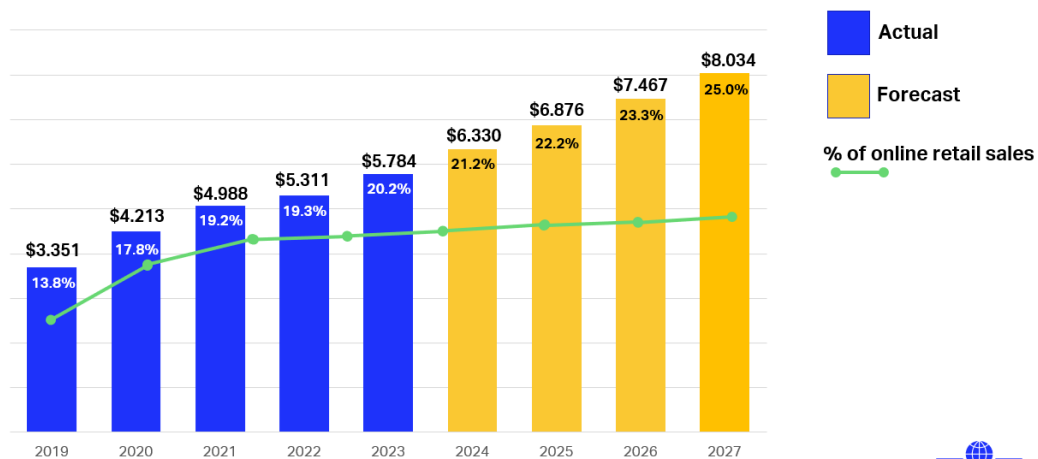


# ...and ULDs

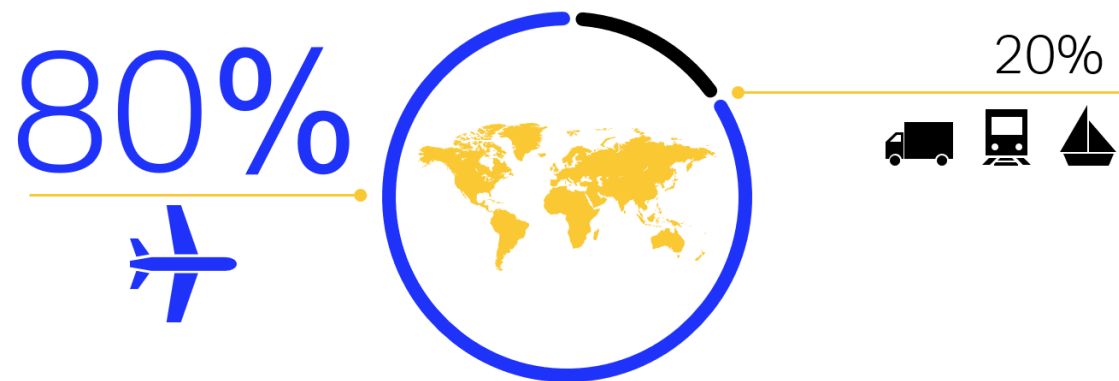


# eCommerce

## Worldwide eCommerce Retail Sales – Still Growing 2019-2027 (Trillion USD)



## Cross-border B2C Air cargo is built for eCommerce



Source: ICAO, McKinsey, PwC Analysis



## The eCommerce Tsunami of Parcels

Volumes of parcels shipped:

- 2022 - 170 billion parcels  
4x more than 2014
- 2027 – 256 billion parcels  
+50% compared to 2022

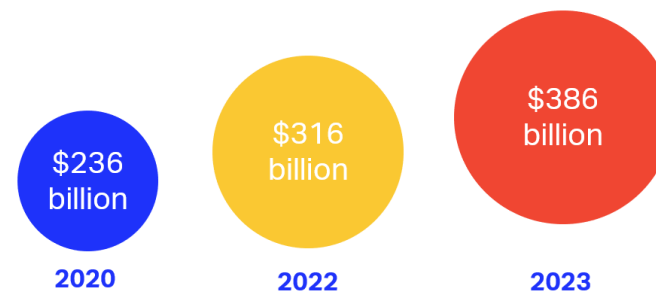


Are your Cargo Operations Ready?



Source: Parcel Monitor

## Global e-commerce logistics value



Expected to grow at an annual growth rate (CAGR) of 22.6% from 2023 to 2032 reaching USD 2,412.87 billion in 2032

eCommerce logistics involves the provision of services such as warehousing, transportation, value-added services, and packaging.

Source: Parcel Monitor





# Digitalization



# Innovation & Automation





# Sustainability

FOR INTERNAL USE

**New Building Specifications**

**CRE 2025**  
Building for the Future

**New Build White List: 20 standard levers to be installed<sup>1)</sup>**

Sustainability White List: New Builds (Greenfields) can be found [here](#)

1) Variations due to size, geographical location, operational & statutory requirements

DPDHL Group | Clean OPS Carbon Neutral Buildings - New Build Specification (white list) | October 2021

11

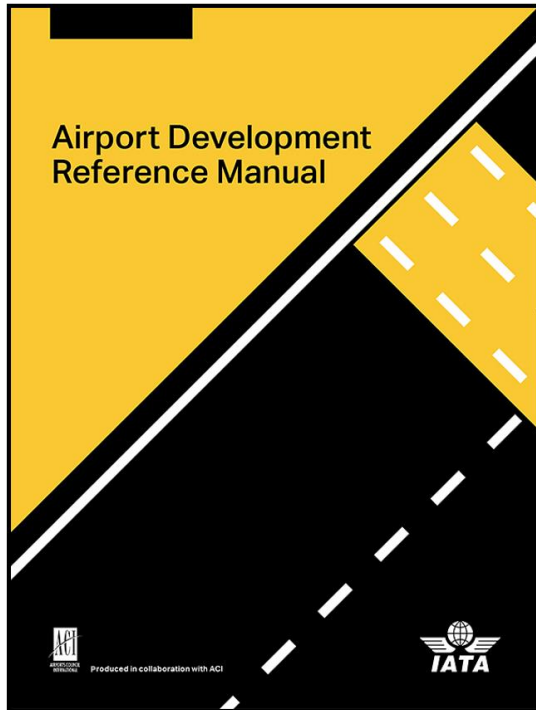
# What next

2025 Cargo Facility of the Future v2  
and ADRM 13<sup>th</sup> Edition





# ADRM



For more than 50 years now, the Airport Development Reference Manual (ADRM) has been recognized as the industry's most important guide for airport planning and development.

In a constantly evolving world, the ADRM has provided sound guidance for developing airport infrastructure that balances capacity with demand and efficiently meets user requirements while keeping up with evolving technology.

The ADRM provides best practice guidance to help address these challenges and is an important resource for airport planners, architects, engineers and airport authorities. Its comprehensive content, covering the most critical aspects of airport development, is the result of contributions by a global network of airport development practitioners who bring expertise gained from projects around the world.



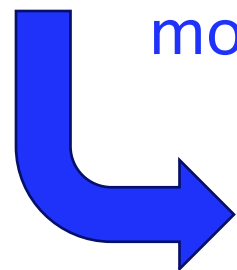
# ADRM Cargo WG



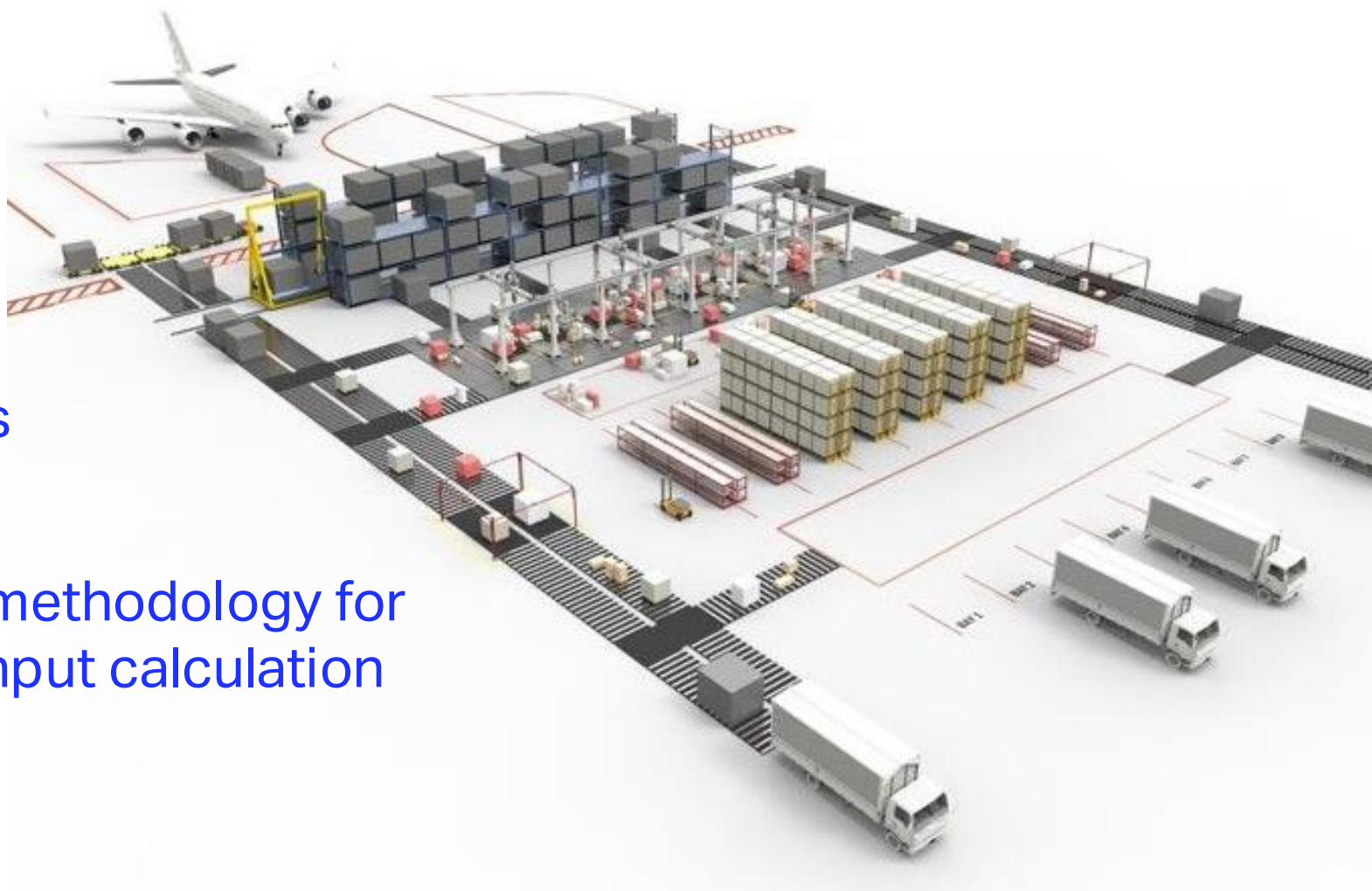
- 3.5.1 Introduction*
- 3.5.2 Cargo Operations*
- 3.5.3 Digital Cargo*
- 3.5.4 Air/Rail Cargo*
- 3.5.5 The Cargo Apron*
- 3.5.6 The Cargo Facility*
- 3.5.7 Forecasting and Sizing*
- 3.5.8 Sizing Parameters*
- 3.5.9 Cargo Design Considerations: Scope of Evaluation*
- 3.5.10 Typical Cargo Flows*
- 3.5.11 Cargo Communication Controls*
- 3.5.12 Cargo Control Regulations*
- 3.5.13 Cargo Security Controls*
- 3.5.14 Cargo Safety Controls*
- 3.5.15 Cargo Government Controls*
- 3.5.16 Cargo Facilitation*
- 3.5.17 Express Cargo Processing*
- 3.5.18 Perishable Cargo*
- 3.5.19 Mail Facilities*

# Future Considerations/Recommendations

Define 4 business  
models



Review methodology for  
throughput calculation





# Technology trends in the Cargo Facility



# Thank You

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and Mail Operations

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[www.iata.org/cargo](http://www.iata.org/cargo)

