

29 – 31 October 2019, Amsterdam, Netherlands



# IATA Air Cargo Operations Conference

29 – 31 October, Amsterdam, Netherlands





# **Opening Day 2**

# Brendan Sullivan Head Cargo Operations & E-Commerce IATA





















## IATA Competition Law Compliance

#### Do not discuss:

- Pricing, including fares, service charges, commissions, etc.
- Bids on contracts or allocation of customers
- Geographic/Product market allocations and marketing plans, including
  - Expanding or withdrawing from markets
  - Group boycotts
  - Your commercial relations with agents, airlines or other third parties

Any discussion aimed at influencing the independent business decisions of your competitors

You will be asked to leave the meeting, and the meeting may be terminated, if the above-mentioned discussions occur.

Remember: All discussions count, even informal ones outside the meeting room!





## Thank you to all our sponsors!







An OSI Systems Company



## **Schiphol**

Shaping Europe's smartest cargo hub at Amsterdam Airport













Bernardi & Schnapp













# Welcome Back for Day 2

Hendrik Leyssens Vice President Global Operations Cargo Swissport International







# **Keynote Presentation**

Henrik Ambak SVP, Cargo Operations Worldwide Emirates









## IATA Air Cargo Operations Conference

Amsterdam - 30 October 2019



## Priorities of Air Cargo Operations?

1. Nobody gets killed or hurt



## Priorities of Air Cargo Operations?

- 1. Nobody gets killed or hurt
- 2. No penalties or punishments

## E.g. Trade Compliance OFAC Penalties YTD September 2019





#### **OFAC Penalties 2019**

<u>Date</u>	Name (US Company unless stated)	Fine in USD
17/09/2019	British Arab Commercial Bank plc (UK)	381,400,000
16/08/2019	Atradius Trade Credit Insurance, Inc.	590,282
06/08/2019	PACCAR Inc. (DAF Trucks – Netherlands)	2,713,214
13/06/2019	Cubasphere	112,000
13/06/2019	Expedia	556,250
13/06/2019	Hotel Beds (Spain)	353,500
07/06/2019	Western Union	637,614
02/05/2019	MID-SHIP Group	1,490,320
25/04/2019	Haverly Systems	125,000
15/04/2019	UniCredit Bank (Germany)	1,366,372,244
11/04/2019	Acteon Group (UK)	1,595,000
09/04/2019	Standard Chartered Bank (UK)	2,715,100,479
27/03/2019	Stanley Black and Decker	3,461,378
21/02/2019	ZAG IP	625,000
14/02/2019	AppliChem (Germany)	10,022,844
07/02/2019	KollMorgen	1,500,000
31/01/2019	e.l.f. Cosmetics	2,213,510

Year to date total: \$4,488,868,385

\$ 4.5 Billion in 9 months....



## Priorities of Air Cargo Operations?

- 1. Nobody gets killed or hurt
  - 2. Nothing is done wrongly
    - 3. Customer is happy

#### Customer is happy



- Only number 3 on the list?
- Yes only number 3 on the list



### Priorities of Air Cargo Operations?

- 1. Nobody gets killed or hurt
- 2. Nothing is done wrongly
  - 3. Customer is happy
- 4. We spend as little money as possible

#### We spend as little money as possible



- Only number 4 on the list?
- Yes only number 4 on the list
- Cost savings typically out matched 1:10 or so by net revenue opportunity
  - Save USD 0.01 per kg by squeezing GHA into bad service or
  - Gain USD 0.10 per kg by providing a superior product managing the services delivered
  - GHA's typically selling themselves wrongly all cost focus...
    - Who builds the fullest pallets? Forwarders do...understand money



### Priorities of Air Cargo Operations?

- 1. Nobody gets killed or hurt
  - 2. Nothing is done wrongly
    - 3. Customer is happy
- 4. We spend as little money as possible



## Needed to be successful in Air Cargo Operations?

Passion...then the rest follows

Like Angel in BQN...



# **Staff Competencies Today and Tomorrow**

Brendan Sullivan
Head Cargo Operations & E-Commerce
IATA







# People

Cargo competencies today and tomorrow



# The Opportunity

2035

Air Cargo & PAX volumes expected to double



## The Problem

2030

2035

The demand of skilled labor will be higher than the offer (all industries)\*

Air Cargo & PAX volumes expected to double



# Already a challenge for air cargo today

33%

of cargo industry members say that finding and retaining staff are their biggest challenge



# Already a challenge for air cargo today

44%

of ground services say that finding and retaining staff are their biggest challenge



"The aviation cargo industry is quite traditional, particularly when it comes to rules and regulations, **making it a less attractive or exciting career prospect** when compared to other industries, such IT or Finance."

Li Wang, Deputy General Manager of HR, Air China Cargo\*

The industry is no longer seen as attractive

People are looking outside of air cargo for jobs

Other sectors are perceived as more exciting & innovative



# **Training and Competencies**

#### □ Cargo Build-Up Competency Training

The IATA Cargo Handling Council (ICHC) strongly recommends that the following competency-based activities and performance criteria be used in the training of their personnel to comply with job-line recognition and needs.

The ICHC has developed a competency matrix for the function of Cargo Build-Up which shall in following as a minimum:

Task		petency Unit		Competency Element	Reference	Performance Criti		
	Number	Name	Number	Name		Number	Name	
Cargo Build Up	1	General Requirements	1.1	Training Requirements (recurrent every 2-3 years?)		1.1.1	Training Requirements	
			1.2	Purpose of this training		1.2.1	Name Training Requirements Outsily with for the sales Outsily will for the sales Outsile sales of person Outsiles effective agentic Outsiles of the Cust Identification of the object Outsiles of the Cust Identification of separation Outsiles Outsi	
			1.3	Responsibilities		1.3.1	Determine responsibilities	
			1.4	Flight Safety		1.4.1	Understand effects of inco	
			1.5	Safe working environment		1.5.1	Enabling smooth operation	
						1.5.2	Enables effective operation	
						1.5.3	Compliance with safety as	
			1.6	Operators' instructions		1.6.1	Requirements of the Cust	
			1.7	Terms/definitions/examples/ illustrations of forms		1.7.1	Identification of required d	
						1.7.2	Beter understanding	
			1.8	Anouthicuntours		1.8.1	Knowledge about Custom feet	
						1.8.2	Knowledge about Custom contour	
						1.63	Knowledge about Custom compartment limitations	
						1.6.4	Ensuring loadability	
			1.9	ULD types		1.9.1	Identification of the differen	
						1.9.2	Knowledge of ULD codes	
						1.9.3	Knowledge of ULD loaded	
						1.9.4	ULDs for special loads	
			1.10	BUPSBUSUAD		1.10.1	Knowledge on SBU (acce	
			5.55	Maximum Gross Weight		1.11.1	Ensure compliance with di limitation	
						1.11.2	Compliance with safety re loading	
			1.12	Handling Equipment/methods/ Facilities and Equipment to handle ULDs		1.12.1	Select appropriate equipm	
						1.12.2	Capability of handling equi manner	
						1.12.3	Storage of ULDs (and ma	
						1.124	Ensure facility has correct areahacks	
						1.12.5	Compliance with aircraft s	
			1.13	Built ULDs handling and moving		1.13.1	Comply with safety requir	
			1.14	Reporting of occurrences		1.14.1		
						1.14.2	Compliance with national	
			1.16	Quality/ruliability/Customer oriented		1.15.1	Customer's satisfaction	
						1.15.2	Efficiency/flow of air cargo	

#### Table 1.6.A Minimum Training Contents (ULD OPERATIONS)

Training Contents	ULD Handling	ULD Build-up (Baggage enly)	ULD Build-up	Aincraft Loading	Load Control & Loading Supervisor	Loadmaster	Cargo Operations Engineering (COE)	Sources/References			
General philosophy	. ж	×	×	. ж	×	×	×	ULDR 1.1, 1.2, 1.3			
Acceptance of ULDs		×	×	×	×	×	×	ULDR OS 6/00, AHM 350			
Aircraft limitations				×	×	F	*	ULDR Section 2			
Cargo tie- down-advanced			*	F	,	r	,	ULDR 08 607			
Cargo tie- down-elementary			×	×	TABLE H.	2.2 Dange	erous Go	ods Task List -	Example		
Closure/fastening of ULDs	×	×	×	×	Fun	Function: Personnel responsible for processing or accepting dangerous goods					
Contours of a/c-clearances				×	consignments					Kn	
Contours of ULDs			×	×	0	Understan	ding the basic	s of dangerous good:	5		
Damage report lagging	×	×	×					ing dangerous goods		_	
Dangerous goods in ULDs			ж	×		0.1	0.1.1		Understand the definition		
Drums, cans, cylinders			×			0.1	0.1.2	legal requiren	e legal framework (global, local, training nents)		
Fire containment ULDs				×	0.2		0.1.3	Identify the ap	Identify the application scope		
Handing equipment/methods	×	×	×	×				Identifying the general limitations			
Heavy/very heavy vehicles							0.2.1	-	nse of potential hidden dangerous goods	+	
Inspection of ULDs				×			0.2.2		e difference between hidden vs angerous goods		
Interline or other transfer			×				0.2.3	Familiarize wi	ith passenger provisions vs cargo	$\top$	
Live animals in ULDs		×	×	×					various situation (examples)	+-	
Maximum area load						0.3	Positioning different roles and responsibilities		responsibilities	$\perp$	
Maximum C.G. limits			*				0.3.1		lividual and collective role of the supply		
Maximum gross weight		×	×	×			0.00	chain stakeho		+	
Maximum running			×				0.3.2		ne passengers responsibilities	+	
Means of C.G. control			×				0.3.3	variations	e role and impact of State & operators		
Operator's Instructions						0.4	Understanding the criticality of classification & packagin		classification & packaging	+	
Overhangs, long loads			х.		0.4		0.4.1 Differentiate between hazard vs risk		+		
Pallethet compatibility Palletsation/cargo			_				0.4.1			+	
stacking Perishable cargo in			×	х.			0.4.2	Identify the ge divisions	eneral information about classes,		
ULDs			*				0.4.3	Understand g	eneral principles of Packing Groups		
Piercing cargo							0.4.4	Consider mult	tiple hazards	$\top$	
Reels, spools, pipes			0.5	Interpreti	Interpreting the hazard communication						
Reporting of ULD incidents	×	×	×	×			0.5.1	Recognize the	Recognize the different marking basic requirements		
Rigid/trangible cargo							0.5.2	Recognize the	e variety of labeling and their meaning	+	
Security procedures	- к								, , ,	+	
Serviceability limits-ODLN		×	×	×			0.5.3		quired documentation for DG shipments in the process.	$\perp$	
Shoring-advanced						0.6	Familiariz	ing with basic Emerg	• •	$\perp$	
Shoring-elementary			×	×			0.6.1	Create aware procedures	ness about general emergency		



Collecting safety

Managing cargo pre-loading

passenger and

cargo/

baggage

Processing/

accepting cargo

nowledge Base

dangerous

goods

goods shipmen

26 30 October 2019

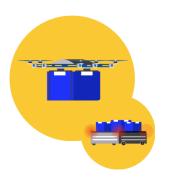
Where do **Technology** Innovation, Operations and People intersect?



# Six technology trends



Augmented Reality & Wearables



Drones & Autonomous Vehicles



Robotics & Automated Systems



Big Data / Predictive / Al / Deep Learning



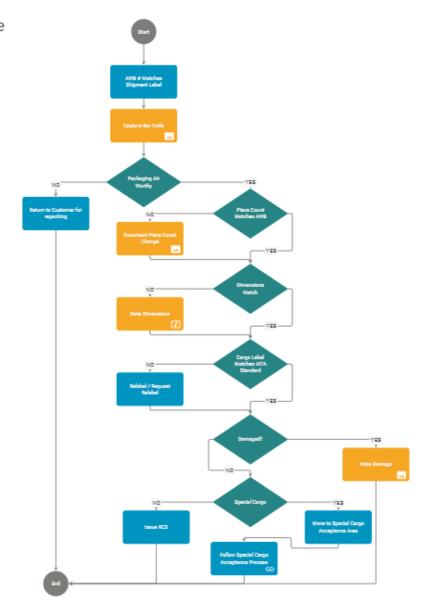
IoT, Connected Cargo & Devices



Green, sustainable, net zero buildings

# Augmented Reality in Air Cargo

Accept Cargo as Ready for Carriage Created By Brendan Sullivan Nov 15, 2018 2:26 PM 0 Error(s)









# Six technology trends in the warehouse



# IATA Future Air Cargo **Executives** Program (FACE)





## IATA's Call to Action

## Urgent need to

- invest in people
- promote diversity
- engage young talent

2013





# Our objective

Prepare young professionals to become the next generation of leaders of the air cargo industry



# **FACE** priorities

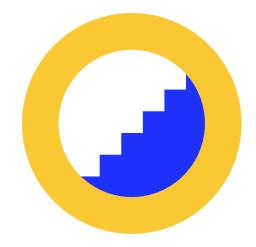
The industry is no longer seen as attractive

Talent looking outside of air cargo for jobs

Other sectors perceived as more interesting & innovative



Awareness & Attraction



Retention & Development



Innovation & Creativity



# FACE initiatives at a glance



FACE UP 2020 competition

**Action Air Cargo** 



**FACE Summit** 

Networking events FACE Cocktail Facebook community

**Peer mentorship** 



Vision 2030 white paper



# FACES (Future Air Cargo Executives Summit)



- Annual summit during IATA's World Cargo Symposium (WCS)
- Provides unique platform for young professionals under 36 to:
  - Interact with today's leaders
  - Listen to and get inspired by their career path
  - Create a strong network with likeminded professionals
  - Exchange views on emerging trends and topics



# **FACEbook Community**





#### Platform for Alumni & aspiring FACE

- Discuss latest industry topics
- Share news and industry developments
- Be informed about FACE industry projects, upcoming events







Provides recent graduates with the opportunity to present their thesis on innovation and transformation of the transport industry at WCS 2020

#### Finalists will win...

- Access to the World Cargo Symposium in Istanbul
- Invitation to FACES & FACE Cocktail
- Return flight to Istanbul and hotel accommodation



Submissions close on 17 January 2020



# FACE initiatives at a glance



FACE UP 2020 competition

**Action Air Cargo** 



**FACE Summit** 

Networking events FACE Cocktail Facebook community

**Peer mentorship** 



Vision 2030 white paper



# **Action Air Cargo**

A network of young air cargo groups across the supply chain

Do you participate in a group?

Reach out!





# Thank you

**Brendan SULLIVAN** 

Head, E-Commerce & Cargo Operations

sullivanb@iata.org

**FACE** 

Website

iata.org/FACE



# Innovation and Digitization's Influence on Personnel Competencies

Nadine Mücklich
Project Manager / Resea

Project Manager / Research Associate Fraunhofer IML







# Innovation and Digitization's Influence on Personnel Competencies

Fraunhofer IML Aviation Logistics

30.11.2019



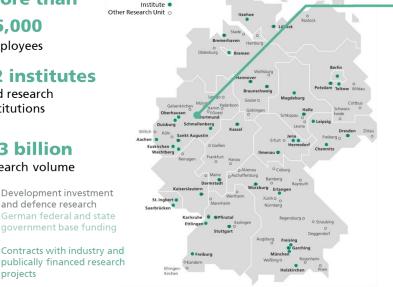
# FRAUNHOFER GESELLSCHAFT FRAUNHOFER IML = 100% LOGISTICS





Contracts with industry and publically financed research

and defence research



#### Fraunhofer IML, Dortmund









Prof. Dr. Michael Henke

**100%** Management

Processes | Organisation

Prof. Dr. h. c. Michael ten Hompel

100% Technology

Hardware | Software

Prof. Dr. Uwe Clausen

100% Mobility





#### Innovations: from concept to finished product



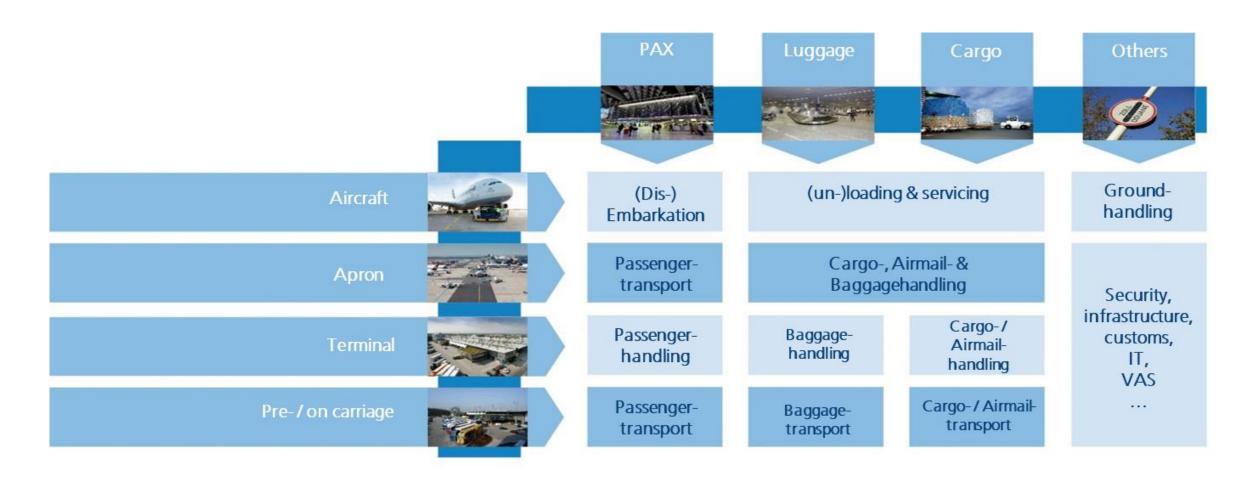
Concepts, studies and roadmaps

Demonstrators, proof of concept

Support through to market maturity



# Fraunhofer IML - Aviation Logistics Frankfurt, Germany

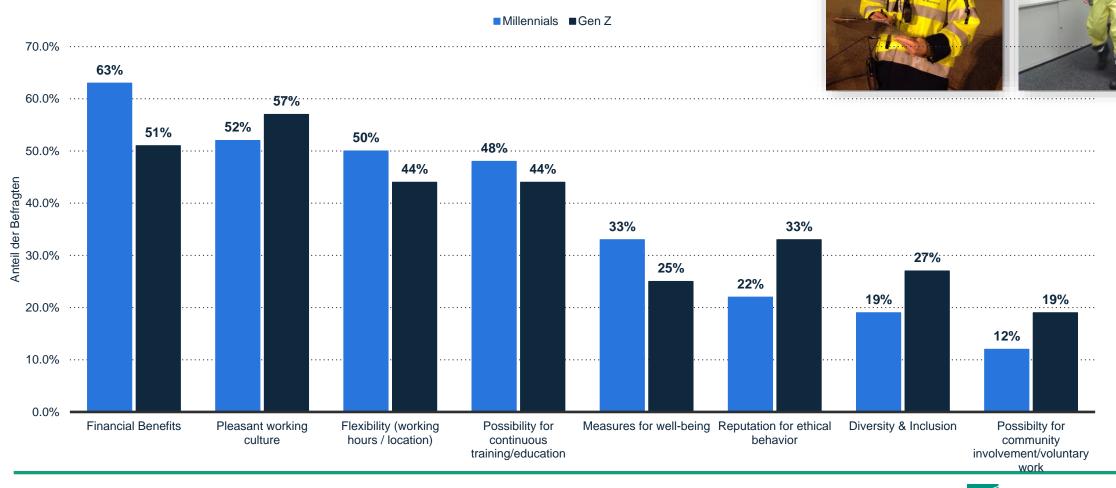


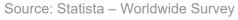


# Aspects for choosing a future employer

Millennials – Gen Why? (~1981-1996)

**Gen Z** (from ~1996)





© Fraunhofer · Slide 49



# **Industrial Revolutions**

#### The Human-Machine Evolution

#### 1st Revolution

- Mechanization (Steam & water power)
- Mechanics to support / move the human in production

#### 2nd Revolution

- Electrification & development of mass production
- Machines already take over part of human tasks in production (e.g. assembly lines)

#### 3rd Revolution

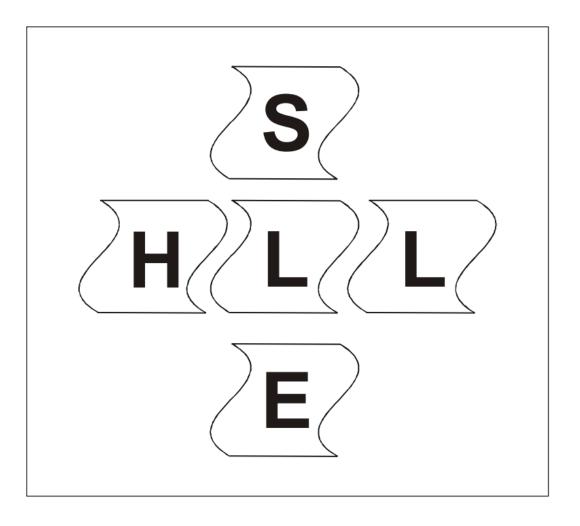
- Digitalization (IT system development / automation of production / processes
- Machines take over more part in production – full automation of production lines, but with human interference (e.g. problem solving)

#### 4th Revolution

- Interconnection of Technology (IoT & Cyber Physical Systems)
- Automation & Autonomization of processes and equipment
- No human involvement in the production process needed – monitoring & control of machine
- Implementation of human decisions



## **Human Factors – The SHELL Model**



L = Liveware

S = Software

H = Hardware

E = Environment

Source: ICAO SMM 3rd Edition

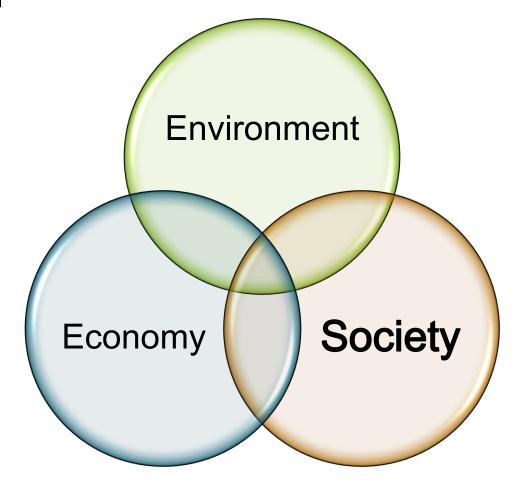
© Fraunhofer · Slide 51



# Sustainability – a holistic approach

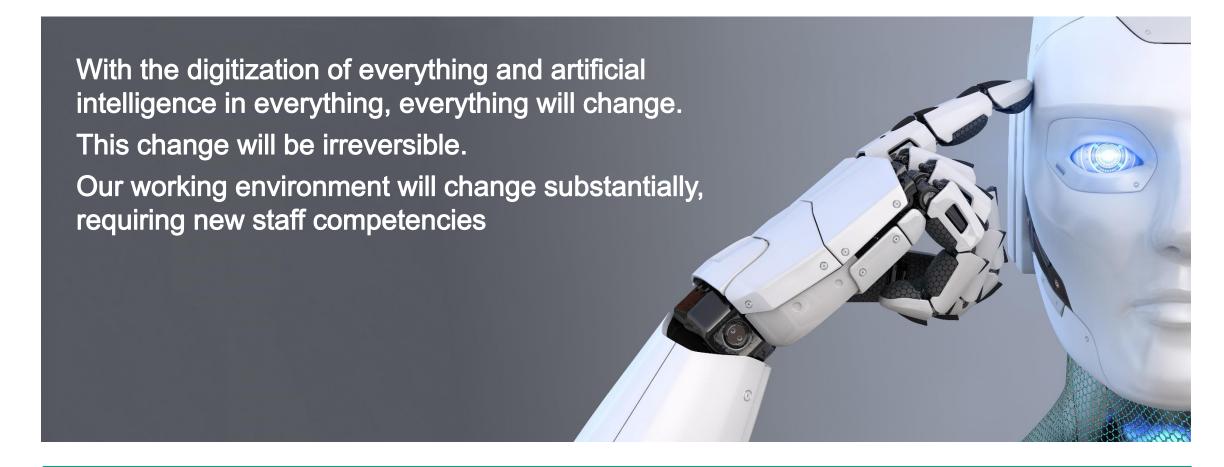
## More than ,just' going green

- Definition of Sustainable Development
  - ... development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Limitation
  - Imitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth.



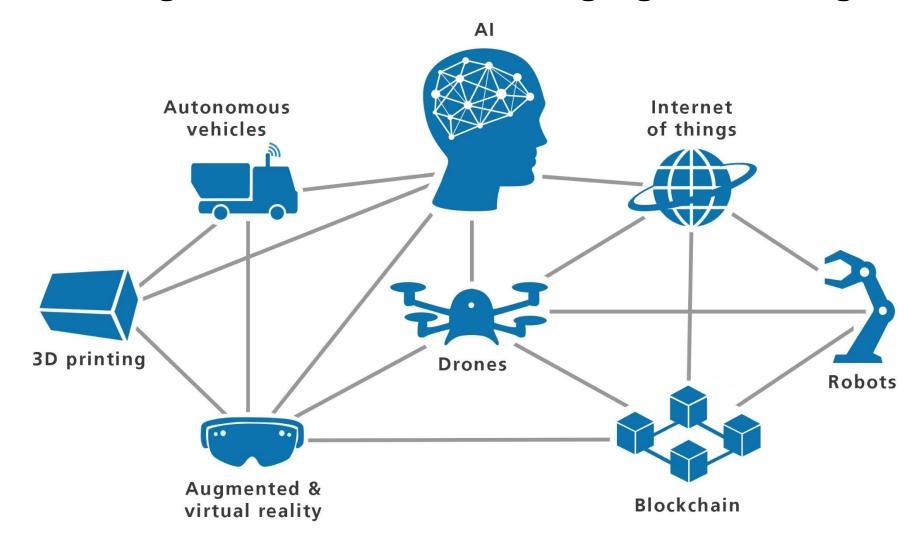


## We experience the dawn of Al



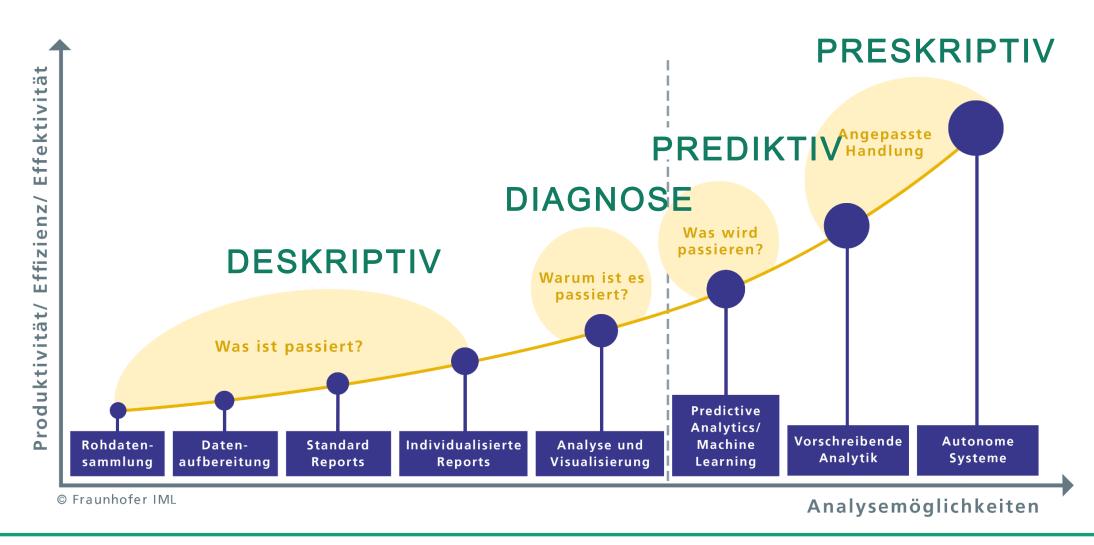


## **Artificial Intelligence and related Emerging Technologies**





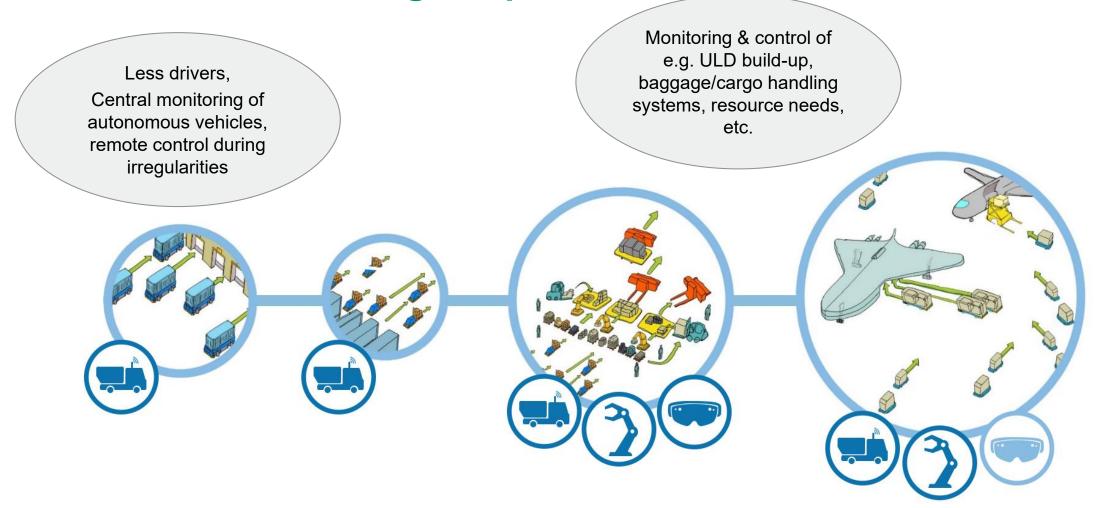
### **Predictive Analytics**



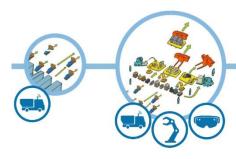


#### Picture of the Future

### Current research along the process chain



# **Augmented Reality in Air Cargo Handling Implementation Strategy**



#### 1. Training

- Contour
- Pile factor
- Mixed-load prohibtion
- Pallet weight and balance



#### 2. Contour check

Database for contours



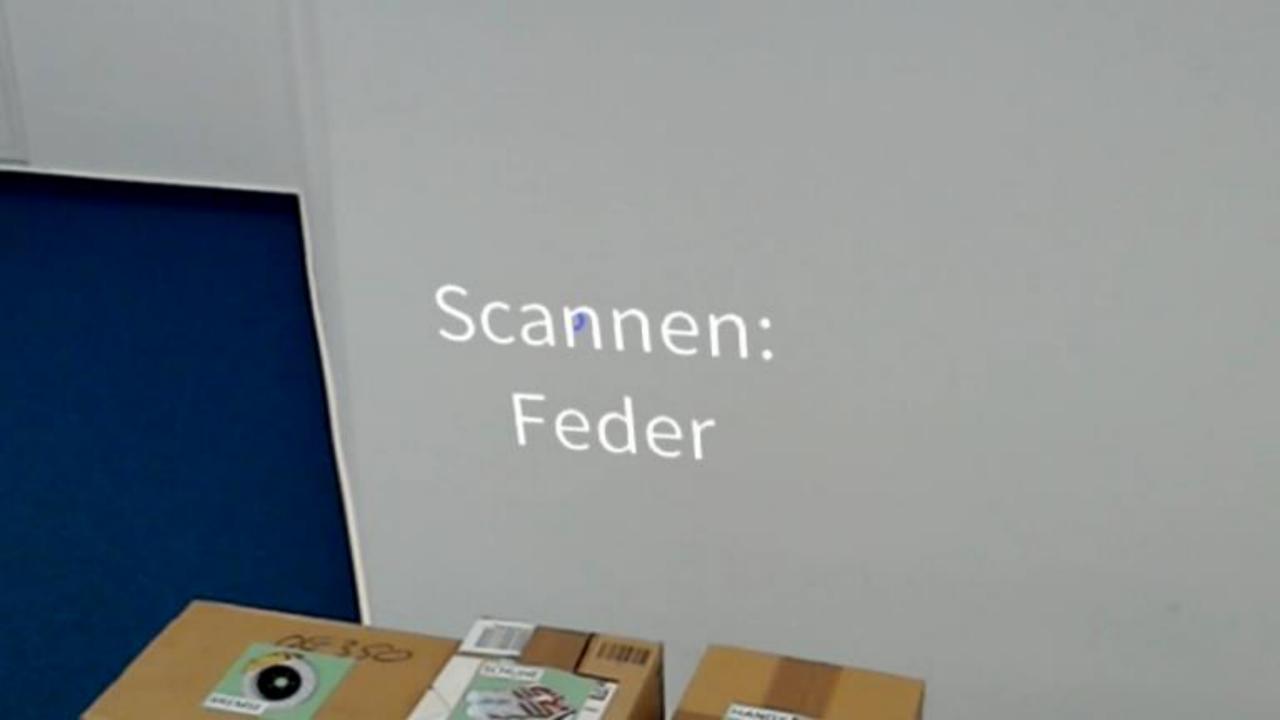
© ASFS/ Fraunhofer IML

#### 3. Build-Up

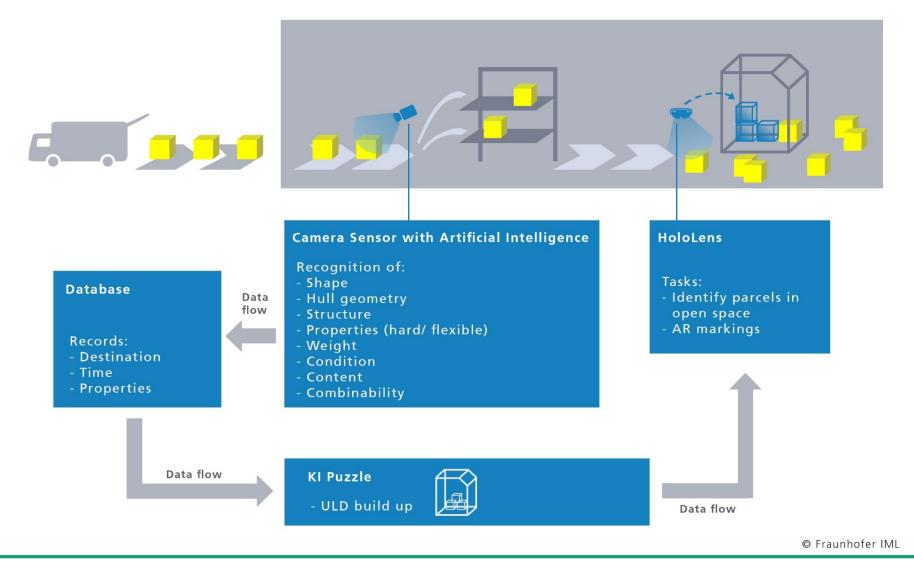
- 3D scan of pieces
- Software







## Al and AR supported ULD Build-Up







# **Increased Ramp Efficiency**

### **Smart ULD and Equipment Tracking**

#### Intelligent air cargo container:

- monitors environmental influences
- locates itself independently (tracking)
- communicates with surrounding objects and control center
- regularly reports status, location and alarm data

#### **NB-IoT Equipment Tracking:**

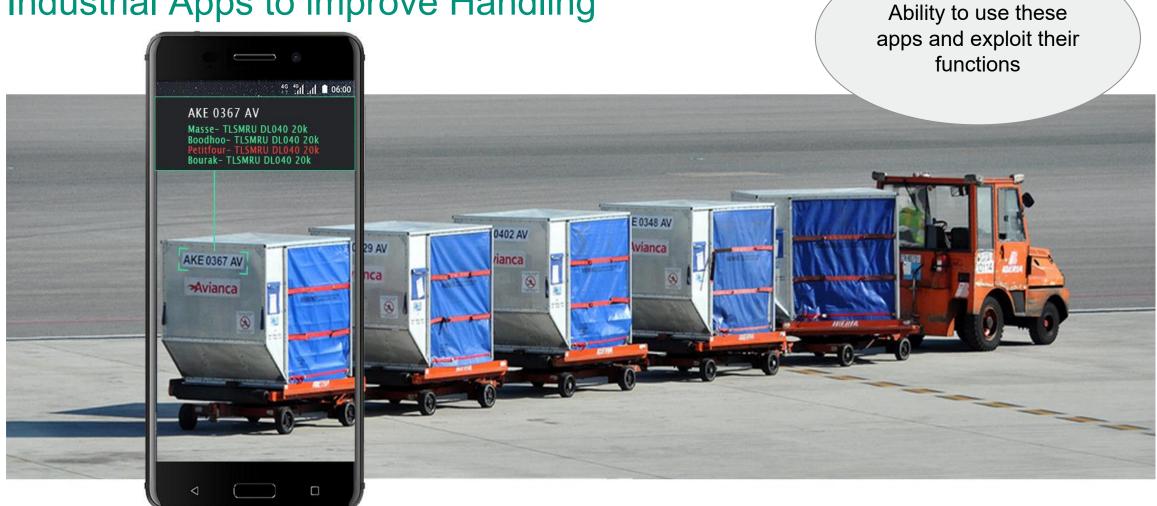
- Low bandwidth and low throughput data transmission
  - → Low energy consumption = long battery life
- Equipment Tracking via GSM Network
  - → No extra infrastructure





# Way to the Future

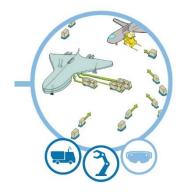
Industrial Apps to improve Handling



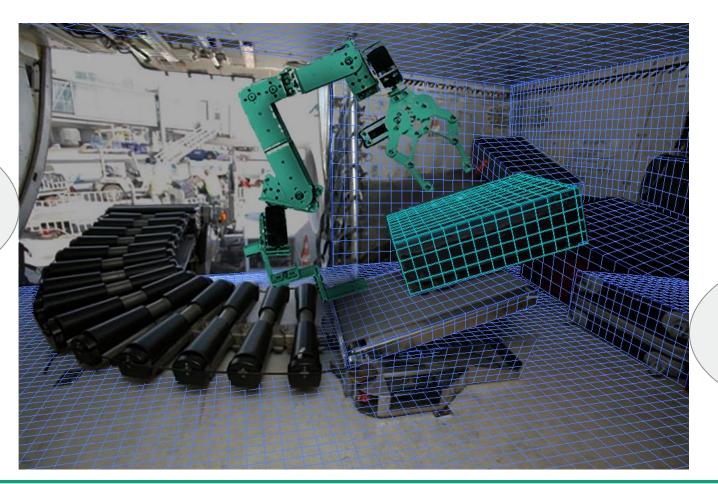


### Ramp of the Future:

## **Automated Baggage Handling concept**



Ability to monitor the machine & processes



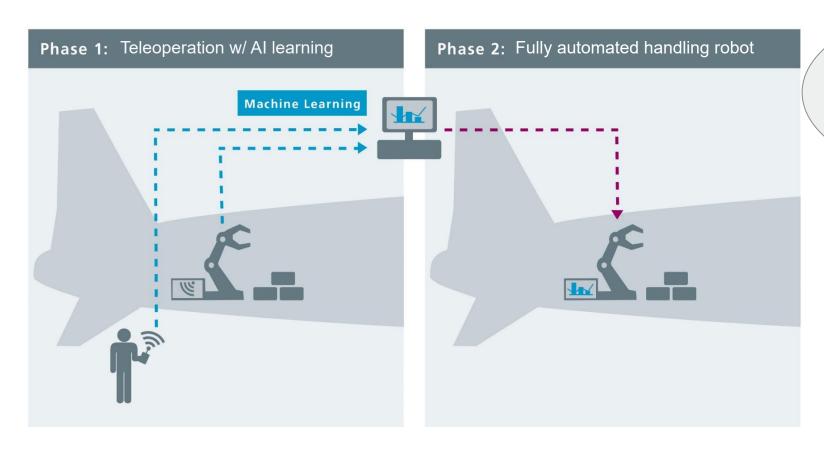
Interfere if necessary initiation of processes





#### Ramp of the Future:

## **Automated Baggage Handling concept**



Feed the system with knowledge and experience followed by machine learning

#### Further challenges:

- Cargo Handling
- Special & Oversized Luggage
- Securing & Netting





# **Staff Competencies**

#### Adapted training & people development

- Development of adapted staff competencies through advanced training modes:
  - VR/AR supported training tools
  - Blended learning concepts
  - Serious gaming
  - Human factors training incl. the influence of the ,Dirty Dozen' in the new technological environment
  - Increased IT skills training to educate all generations and adapt the level of knowledge to the skills needed
- The human in the system must be accounted for in the development and implementation phase of innovations
  - Knowing your workforce and how to integrate the human in a sustainable development







# CONTACT



Nadine Mücklich Fraunhofer-IML – Aviation Logistics Tel. +49 (0)69 668118-373

E-Mail <u>nadine.muecklich@iml.fraunhofer.de</u>



# Networking break 10:30 – 11:00

# Kindly sponsored by;









# **Industry Efficiencies**

Bart Pouwels
Head of Cargo
Schiphol Airport

Arjan Van der Kraan Documented Standards Manager KLM Cargo









#### The pitch of this topic:

Speed is air cargo's number one selling point, and we need to

protect that speed.

We must link what the consumers want and what air cargo can deliver!

What can the industry do to minimize unnecessary stationary freight

pre & post flight,

or to make the reasons for these temporary events more transparent?





#### What consumers want

#### What air cargo can deliver



Rules and restrictions on trade and taxation export compliance product safety counterfeit products animal welfare etc.



What Law Enforcement
Authorities need to control and who they hold accountable for non-compliance



Enforcement of rules relating to trade and taxation is increasingly targeting the transporter i.s.o. the traders





#### minimize unnecessary stationary freight

#### make the reasons more transparent

SWOT Analysis in the IATA Cargo Strategy paper of last year showed

- The major STRENGTH is Speed
- Among the WEAKNESSES are
  - Lack of relationship with end-customer (shipper/consignee)
  - Lack of transparency & communication between stakeholders
- Among the THREATS are
  - Ground waiting times (clearance)
  - Trade Protectionism
  - Increased regulatory oversight In itself not a THREAT, unless regulatory enforcement targets the incorrect parties.







#### Warsaw Convention 1929 + Montreal Convention 1999

#### Shipper Responsibilities

Art. 6: ..... to <u>meet the formalities of customs</u>, police and similar public authorities, shall deliver a document indicating the nature of the cargo.

Art. 10.1: The Shipper is responsible for the correctness of the particulars and statements relating to the cargo, .....

Art. 16.1: The shipper must furnish such information and such documents as are

→ necessary to meet the formalities of <u>customs</u>, <u>police</u> and any <u>other public authorities</u> before the cargo can be delivered to the consignee.

#### **Airline Responsibilities**

Art. 6. This provision creates for the carrier no duty, obligation or liability resulting therefrom

Art. 16.2 The carrier is under no obligation to enquire into the correctness or sufficiency of such information or documents.





#### What consumers want

What air cargo can deliver

Defense mechanisms coming at the expense of SPEED

- Extensive front-door verifications and checks, ultimately before RCS
- Smart searches for hidden information and mis-declarations
- Catch discrepancies before the authorities do

#### Law Enforcement,

- Including criminal prosecution
- of Airline & Airline individuals
- For mis-declaration of shipment details, which were fully known to the Shipper





What Law Enforcement
Authorities need to control and who they hold accountable for non-compliance





#### The Industry MOP: the means to better collaboration in the supply chain

7.1 Pre-shipment Information Transfer

7.2 Assign Unloading Slot and Position to Delivery Truck 7.3 Validate Security / Customs Status of the Truck 7.4 Unload the truck
Receive
Transfer
Shipments

7. Receive Shipments into the Carrier Domain

7.5 Secure the Cargo, as Applicable 7.6 Check if Booking Information Matches Actual Freight 8. Accept Shipments as Ready for Carriage

8.1 Verify if Shipments are security cleared

8.2 Perform 'Ready-for-Carriage' checks 8.3 Validate Information against the Booking and Update 9. Prepare Cargo for Transport

9.1 Receive Transit Shipments (from 13.2)

9.2 Apply 9.3 F
Security &
Checks on transit Freight Wa

9.3 Plan Flight & Send Freight & Booking List to Unitise as Warehouse planned

7. Receive Shipments into the Carrier Domain

7.1 Preshipment Information Transfer 7.2 Assign Unloading Slot and Position to Delivery Truck 7.3 Validate
Security /
Customs
Status of the
Truck

7.4 Unload the truck Receive Transfer Shipments

7.5 Secure the Cargo, as Applicable 7.6 Check if
Booking
Information
Matches
Actual Freight

8. Accept Shipments as Ready for Carriage

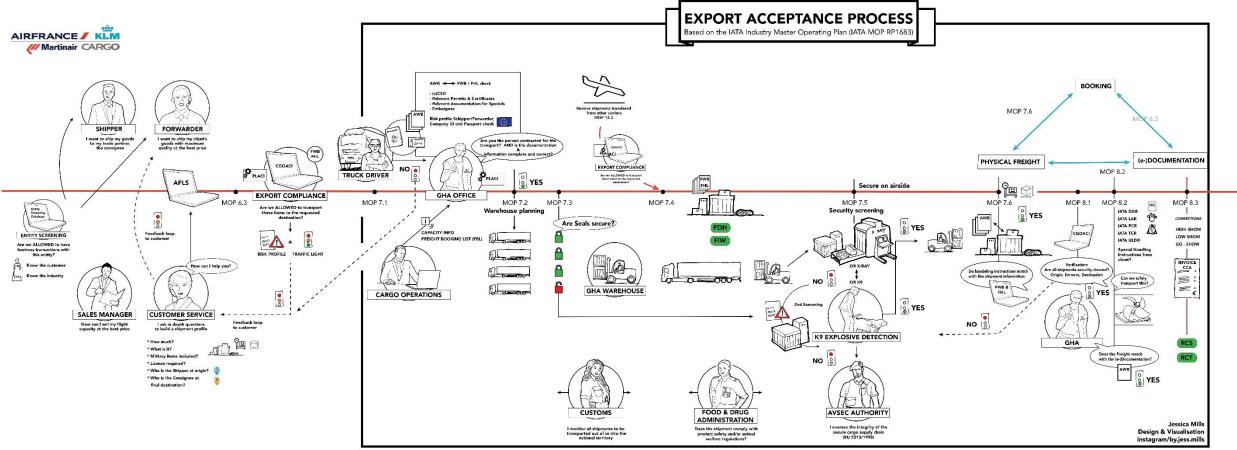
8.1 Verify if Shipments are security cleared 8.2 Perform 'Ready-for-Carriage' checks 8.3 Validate Information against the Booking and Update







#### The Export Acceptance Process Visualised in Terms of the Industry MOP



© KLM N.V – all rights reserved - 2019 - This visualisation of the Air France-KLM Cargo Export Acceptance process is based on the IATA CSC Recommended Practice 1683 "Air Cargo Industry Master Operating Plan", and on Air France KLM Cargo compliance policies and company procedures published in the Cargo Handling Manual (CHM).

In case of difference of interpretation between the process visualisation and the written procedures, the written CHM procedures prevail.

KLM Cargo, Operational Integrity, Compliance & Safety Arjan van der Kraan - Documented Standards Manager arjan-van-der.kraan@klmcargo.com Version 3.0 - June 2019





#### The key to minimize unnecessary stationary freight

#### Is not in the first place found in

- increased pressure on the Ground Handling Suppliers and
- faster Ready-for-Carriage checks
- faster ULD breakdown at destination and shipment delivery

#### It is to be found in

- increased end-to-end reliability of shipment data
- collaborative information sharing between parties in the supply chain
- reduction of physical repeat-checks,
   by feeding reliable data into the data systems of the downstream actors
- co-creation of Safe and Secure Trade Lanes (SSTL) together with authorities





# Challenges and opportunities in air cargo



#### **Market developments**

#### **Demand X3**

Global demand for air cargo is expected to more than triple towards 2050



**Share of belly cargo** 



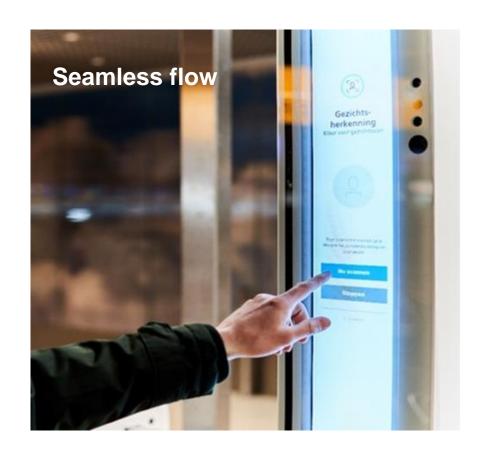
**E-Commerce** 

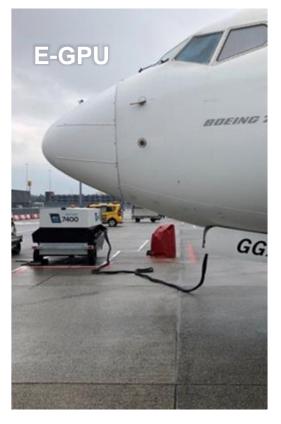




CONFIDENTIAL 78

## **Innovations**









## **Innovations**









# E-commerce: Innovation or challenge?



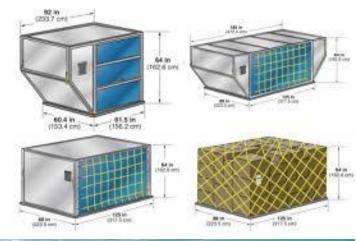
Sustainability



Compliance



Logistics Means













#### Schiphol Freight Community











Topics







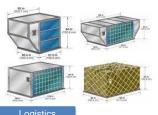








Chain optimization

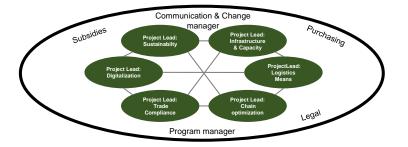


Logistics Means

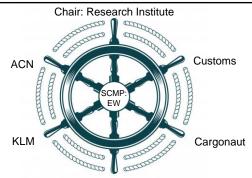


Infrastructure (& Capacity)

#### Program Team



#### **Steering Group**



Schiphol

CONFIDENTIAL





# Framework for Operational Efficiency

Chee Hong Tan
Chief Operating Officer
Hactl

Paul Cheng
General Manager Service Delivery
Hactl









#### IATA CARGO EVENTS

AMSTERDAM, NETHERLANDS 29-31 OCTOBER 2019



Together Shaping the Future

# **Our Story**

... from 1976 to 2019



# **Hong Kong Air Cargo Terminals Limited (Hactl)**

Over 40 years of experience



All frontline staff directly employed without outsourcing

with no conflict of interest



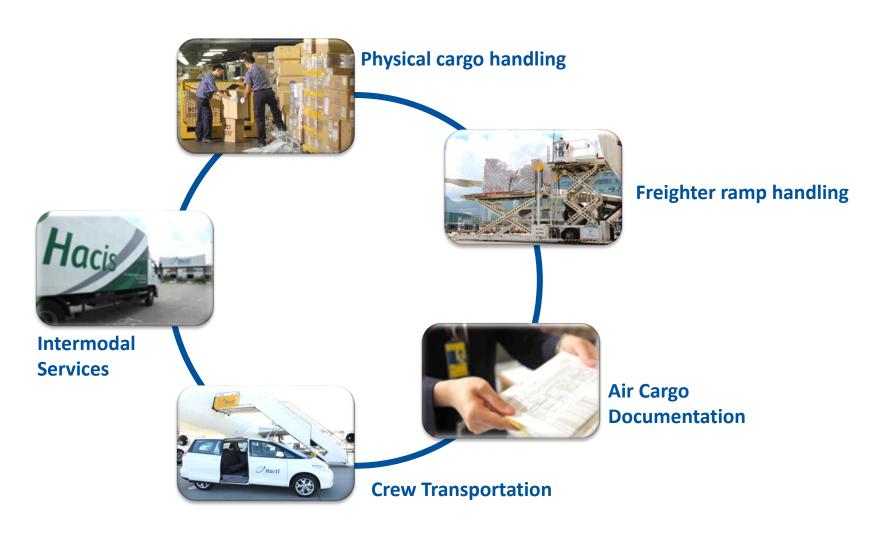


Pioneer in fully integrated cargo management system since 1976



#### The Focus on one-stop service

Growing with our customers in the region for over 40 years

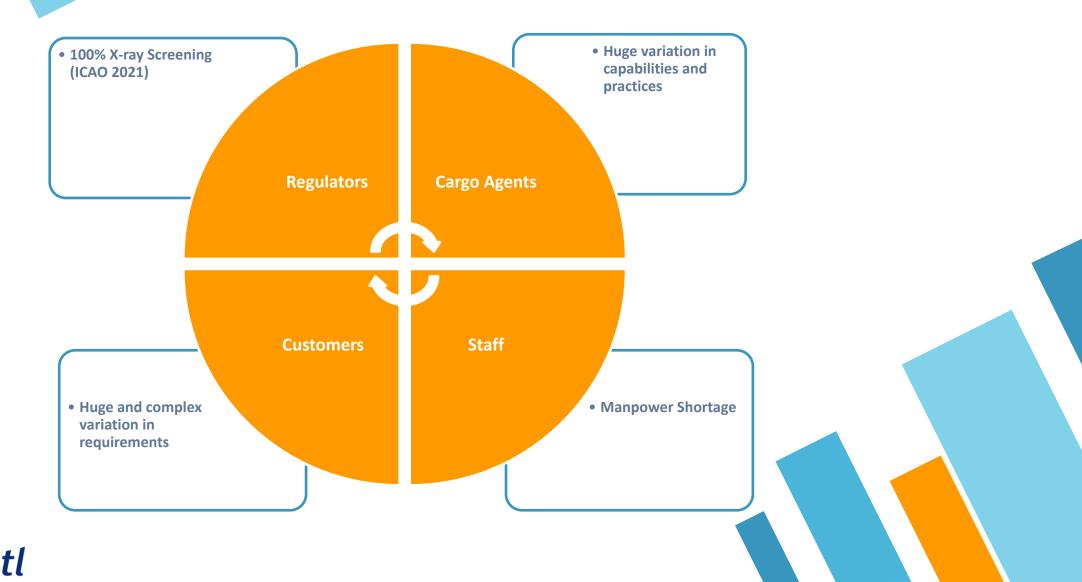




Our Challenges ahead...



## **Challenging Operational Environment**





**Our Transformation...** 

#### **Our Mission**

- Improve Efficiency
- Enhance Customer Experience

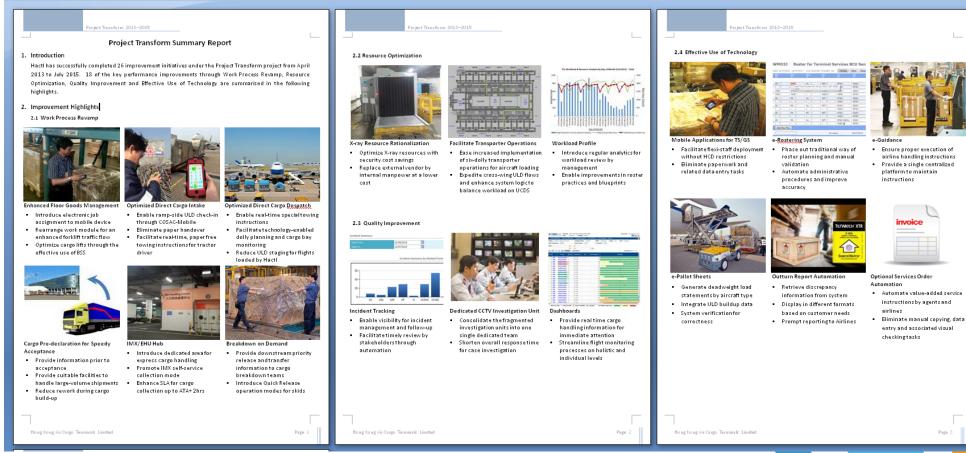
Structure Process Behaviour





## **Digital Initiatives**

#### Over 50 projects delivered, > 150 headcount savings + quality improvements since 2013









#### **Initiative 1: Challenges in Cargo Handling**

LCS – BSS (10,000)

LCS - CSS (3,500)







**Loose Cargo** 

**BUP** 

Floor Goods 1

- » ~ 1,200 Floor Goods (skid cargo) per day
- » No track and trace record



#### Our Solution - COSAC-SmartLoc



- » Smart Forklift equip with cameras and RFID reader
- » Self-developed indoor GPS
- » Instant auto update of location information



## **Benefits from Smart Cargo Locating**

- » 20,000 hours saved per year
- » Avoid human error in locating skid cargo
- » Streamline process from cargo acceptance to cargo build-up
- » Eliminating **mishandling** in daily operations



## **Recognition and Awards**

Innovation and Technology Commission
The Government of the
Hong Kong Special Administrative Region

















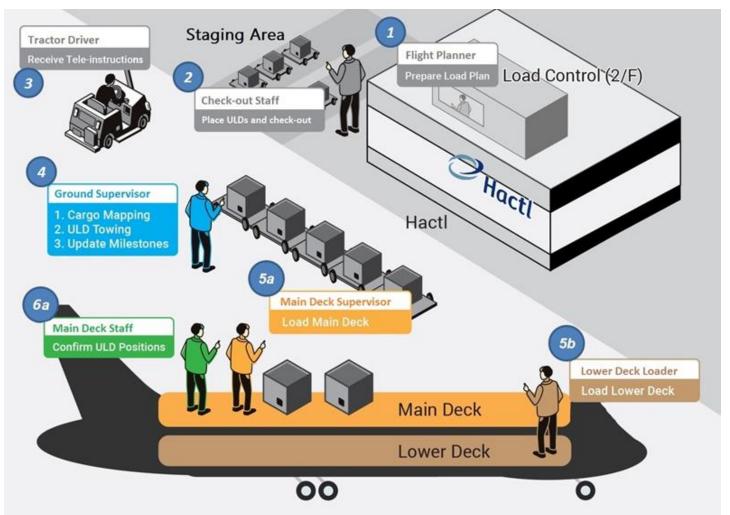


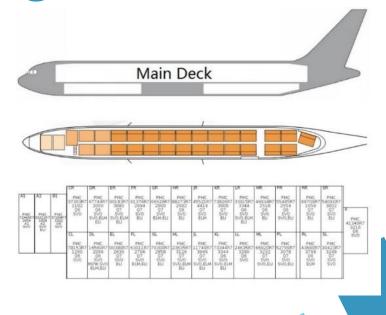






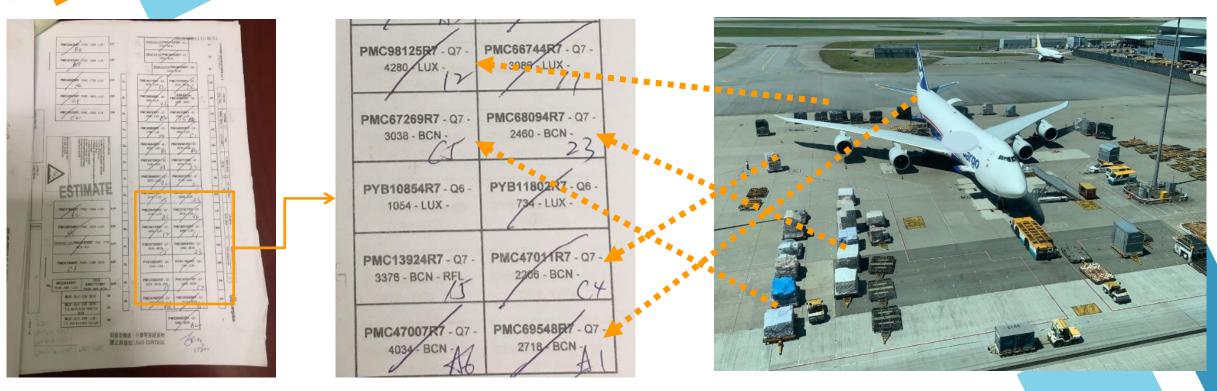
## **Initiative 2: Aircraft Loading Process**







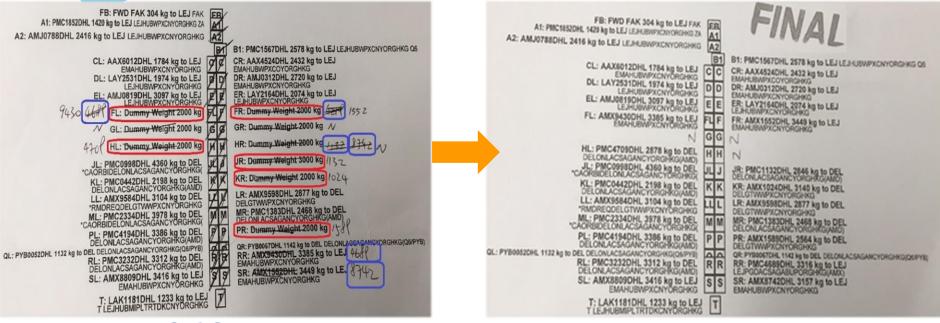
## **Challenges – Paper & Time Consuming**



- » Locating the ULDs on ground and mapping with loading positions
- » On-average 15 minutes per freighter



## **Challenge – Frequent Changes**



Changes of 6 ULD positions within an hour

3:16 am 4:28 am

- » Averaging 2 times of amendments per flight
- » Printing new versions of load plan
- » Communicating changes by use of walkie-talkie
- Unfavourable handling under adverse weather



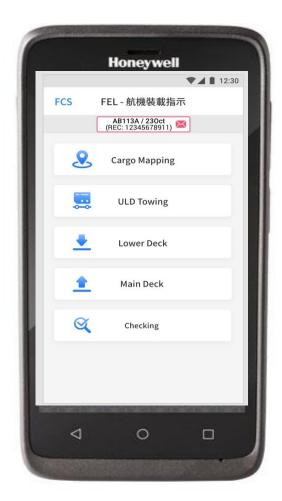
## Our Solution - COSAC-eLoading



- » QR code printed on ULD tags
- » ULD and flight details
- » Access and update information



## Our Solution - COSAC-eLoading

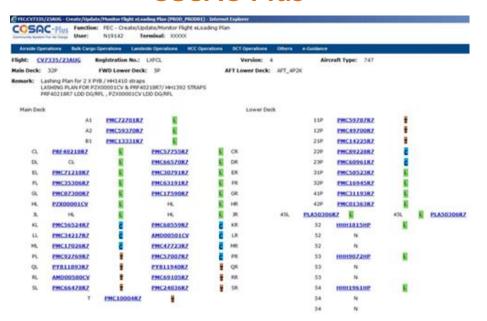


- » Industrial grade mobile device
- » Real time updating at anytime and anywhere
- » Custom-made mobile application
  - » Cargo Mapping
  - » ULD Towing
  - » Aircraft Loading
  - » Checking after Loading



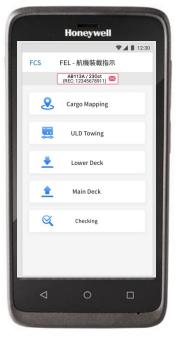
#### **System Interface**

#### **COSAC-Plus**





#### **Ramp Mobile**





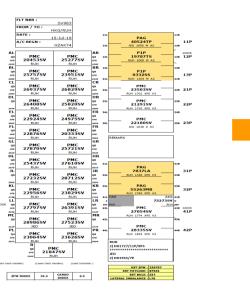
- 1. e-Loading Instructions
- 2. Progress Monitoring

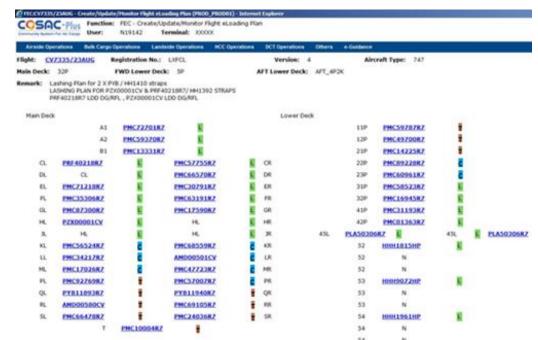
- 1. ULD Chain Mapping
- 2. Flight Loading
- 3. Final Checking



#### **COSAC-eLoading Instructions**





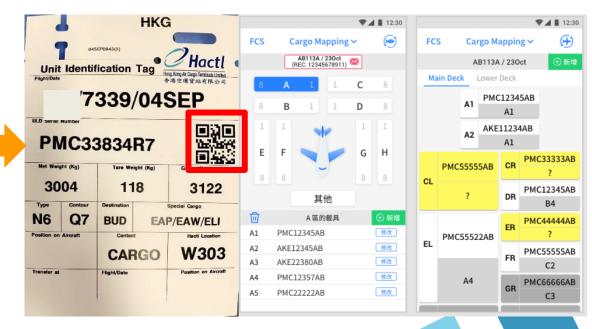


- » Collaboration between Control office and Ramp staff
- » Verify airline instructions against COSAC-Plus
- » Real-time communication of updated load plan
- » Real-time monitoring of loading progress
- Eliminate unnecessary travelling for loading instructions



#### **ULDs Mapping**

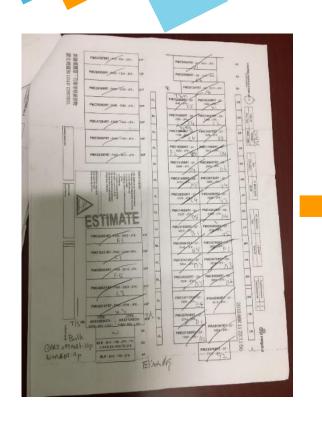


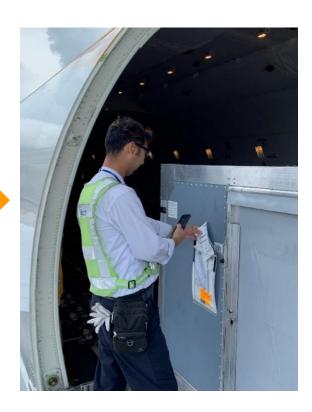


- » Collaboration between towing and loading teams
- » Significantly reduce the time for ULD mapping
- » Inform frontline loading staff if ULDs are not ready at parking bay



#### Flight Loading and Final Check







**Correct ULD** 

Wrong ULD Identified



- » Double verify the ULD against the load plan
- » Real-time update loading progress



#### **Benefits from COSAC-eLoading**

- » Paperless load plan
- » Simplify the communication among staff and avoid mistakes due to frequent changes of load plan
- » Speed up aircraft loading operation by 24%
- » **Improve** aircraft safety



Our efficiency in Training...



#### **COSAC-AR Training on ULD Serviceability**



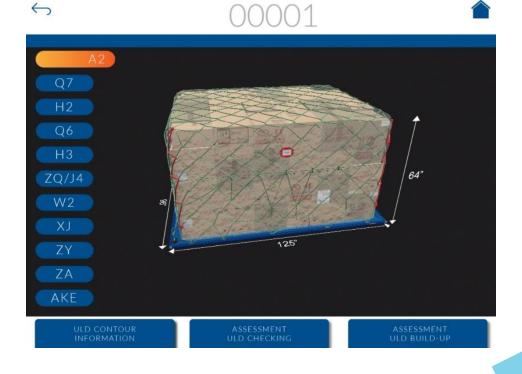


- » Flexible training
- » Stress free and self paced learning



#### **Contour and Pallet Corner Checking**







#### **ULD Serviceability upon Acceptance**



Rivet checking

Measuring tape

Contour gauge



### **Training Results and Analysis**

	ITEMS TO BE CHECKED	RESULT
1	Wrong ULD Contour Measurement	X
2	ULD Out of Contour (3 positions)	×
3	Top Mirror: ULD Top In Damage Condtion	•
4	Missing Rivet (Missing 2 Apart Less Than 12") Not Serviceable	×
5	Pallet Bowed (More than 2") Not Serviceable	•
6	Net Attachment Point Damaged	•
7	Corner Missing	×
8	Pallet Number Wrong	×
9	TSO Tag Missing	•
10	Double Stud not attached	X
11	Corner Rope Damaged	•
12	Net Damaged	X
13	Missing Tension Hook (Missing 2) Not Serviceable	X



#### **COSAC-VR Training for Aircraft Loading**



- » Custom-made VR system
- » In-flight systems and handling
- » Testing functions



#### **Operation Efficiency**

- **M** Management
- A Attitude
- **S** Staff
- T Training
- **E** Embracing
- R Re-engineering





Our Journey never ends ...



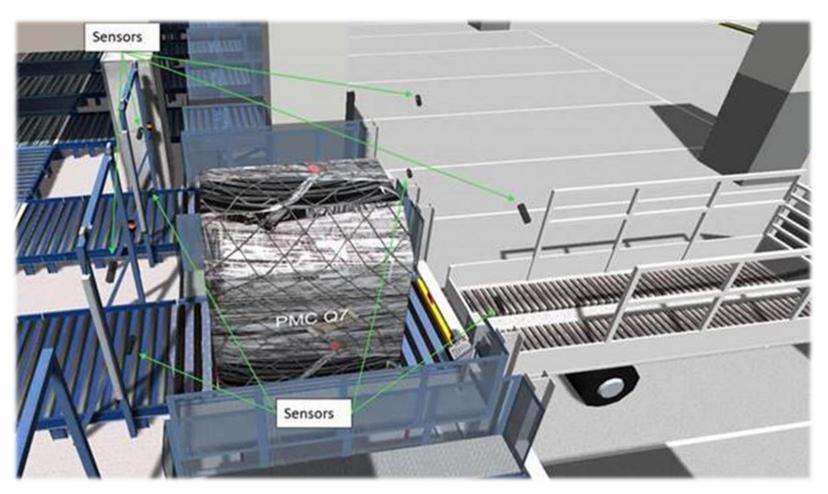
#### **Autonomous Guided Vehicles (AGV)**





**Tractor** 

#### **BUP Auto Contour Measurement**



- » Reduction of human errors
- » Time efficient
- » Identify blind spots

#### **Thank You**





Tan Chee Hong
<a href="mailto:cheehong.tan@hactl.com">cheehong.tan@hactl.com</a>
Paul Cheng
<a href="mailto:paul.cheng@hactl.com">paul.cheng@hactl.com</a>



Disclaimer:
Past performance
is no guarantee of
future results

### Networking Lunch 12:30 – 14:00



Kindly sponsored by;







## **Aircraft Operating Limitations Compliance and Special Loads**

Liao Zhi Yong Manager, Cargo Business Process & Standards IATA







## Cargo Safety Strategy Managing Safety Risk Across Air Cargo Supply Chain

**Presentation:** 

Kester Meijer

Director Operational Integrity, Compliance & Safety Manager

KLM Cargo

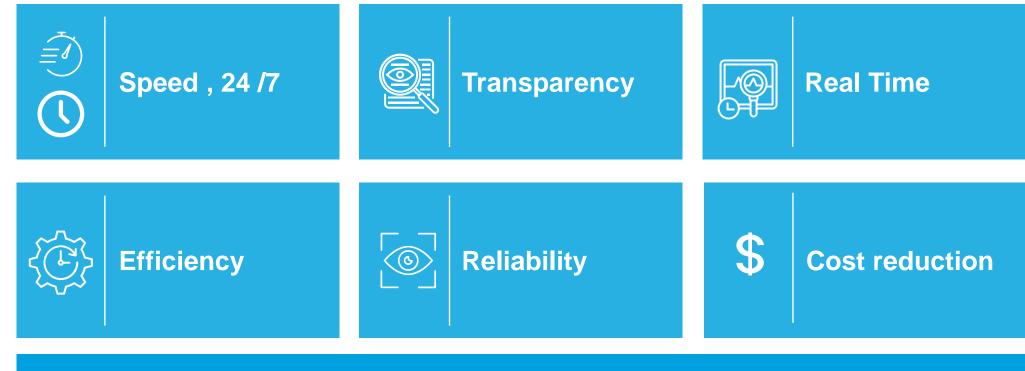








#### **Customer Needs – Air Cargo Delivers**



In a globalization and e-commerce context, shippers and business customers hold a higher standard for the air freight industry than before



#### The world is in turmoil – the need for commitment

o arabtimesonline.com

#### EXPLOSIVE DEVICE SENT BY PARCEL SEIZED AT KUWAIT AIRPORT

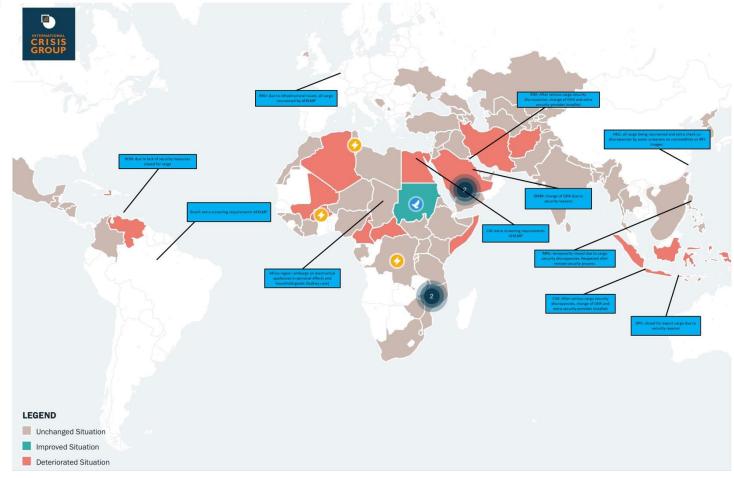
O 12/04/2019

KUWAIT CITY, April 12: Kuwait airport security seized a parcel containing explosives which was being sent through courier to Washington reports Al Jarida. Sources said that customs department detected the explosive material using xray devices and searched the parcels in which one of the parcel contained a book with batteries and TNT explosive material.



The parcel was suppose to be delivered to one of the military offices in USA. Sources explained that detectives are working on the case to find the owner of the content.

Sources informed that hence forward all outbound freight items will be scanned through X-ray machines





## KNOWWHAT YOU TRANSPORT



#### **Know what you transport – postal**

- Inspection of Postal traffic is incidental at best
- Backtracking of small parcels is hardly possible
- Cooperation of companies is fragmented





#### Know what you transport - parcels as cargo

- Visual checks hampered by colored plastic
- Shipper –
   Consignee data
   hidden in
   consolidation
- Self Filing significantly limits effectiveness of Risk Profiling





#### **Know what you transport**

- Improper Packaging and mis-declaration
- Wrong handling exacerbates present risk
- Complacency is our enemy





#### The duty to investigate

Supply chain Supply chain

### Transit and the transport service providers – victims or facilitators?





Transport companies are the backbone of global supply chains, carrying our goods around the world. But should they be liable for compliance with export controls when often they are unaware of the true nature of the goods they are carrying, ask Gerard Kreijen and Martin Palmer with reference to recent Dutch enforcement actions.

#### The duty to investigate

If one contrasts this risk with the developments in international trade – especially the limited transactional

The extensive scope of the applicable regulation in combination with the wilfulness criterion applied by the Dutch court, effectively resulted in a kind of strict liability for TSPs failing to obtain the required licence.

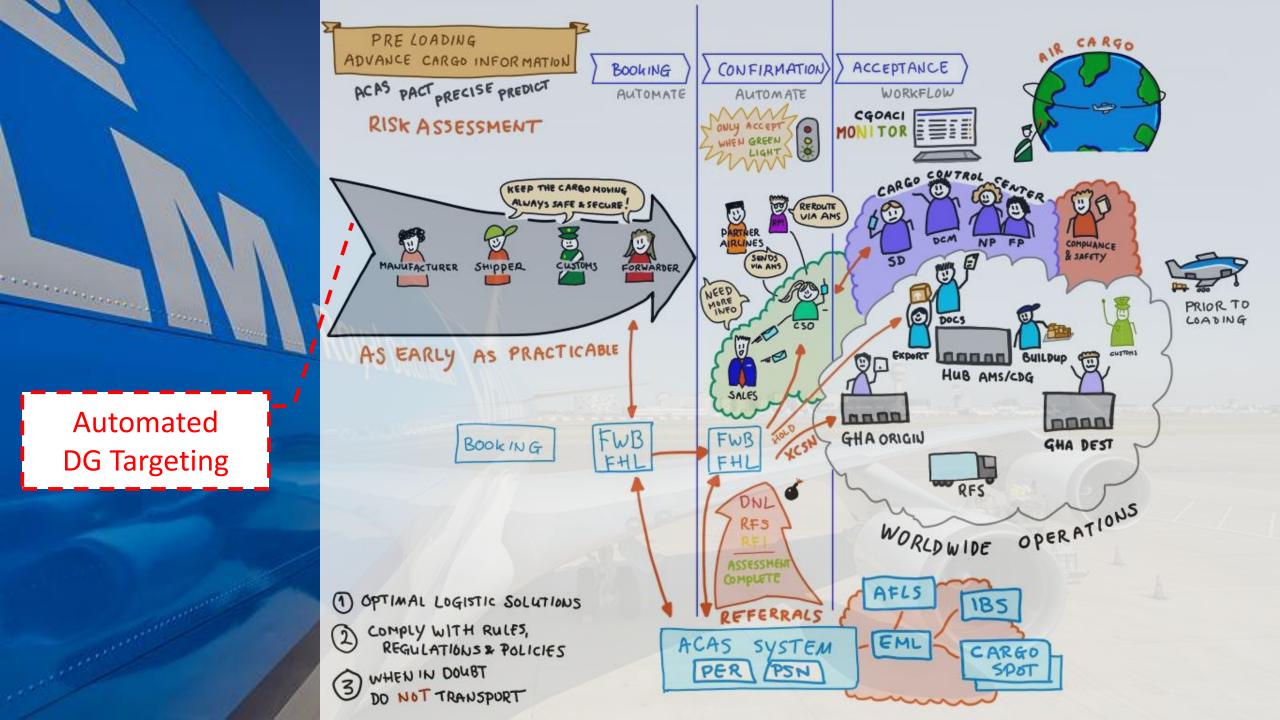




# CATCH DISCREPANCIES

AS EARLY AS POSSIBLE





PLACI Military/Strategic DGR Monitor Shipment Messages Administration Monitor Filter High / Low Risk Shipments Carrier: ALL Regulator: ALL Expand All Collapse All Awb reference Origin Destination Agent Name Commodity Reason Regulator Last message date 2019-08-09 07:50:11 07478106265 VNO Freight containing military goods confirmed MIL ACC HYDRAULIC ACTUATOR CDG KUL ELECTRONIC EQUIPMENTNDA Freight containing military goods confirmed 2019-08-09 06:56:09 05780508761 LIM 2019-08-08 14:32:58 07427091212 ICN CONSOLIDATION Freight containing military goods confirmed CONSOLIDATION AS PERATTACHED LISTCONSOLIDATION 2019-08-08 06:17:47 00603220755 ATL BLL Freight containing military goods confirmed ICN Freight containing military goods confirmed 2019-08-07 19:10:44 07423364062 HAM CONSOLIDATION MIL 2019-0 CONSOLIDATION AS PERATTACHED LIST SLAC-3 NDA Freight containing military goods confirmed HAM **Shipment on** JNB 2019-Freight containing military goods confirmed CONSOLIDATION 2019-CAL CONSOLED MANIFEST Freight containing military goods confirmed **HOLD** 2019 ICN CONSOLT PER ATTACHED MANIFESTNOT RESTRICTED.SLAC Freight containing military goods confirmed ORY 2019-ECHANTILLONS DE SANGNON CONTAMINE Freight might contain military goods ORY 2019 UN3373 BIOLOGICAL SUBSTANCE CATEGORY BUN1845 DRY II Freight might contain military goods **XCSN** IAH 2019-CONSOLCONSOLIDATION Freight might contain military goods 2019-IAH CONSOLCONSOLIDATION Freight might contain military goods Message sent 2019 ORY BIOLOGICAL SUBSTANCECATEGORY B UN 3373CLASS 6.2NET Freight might contain military goods

#### ATA

### Additional Safety Measures

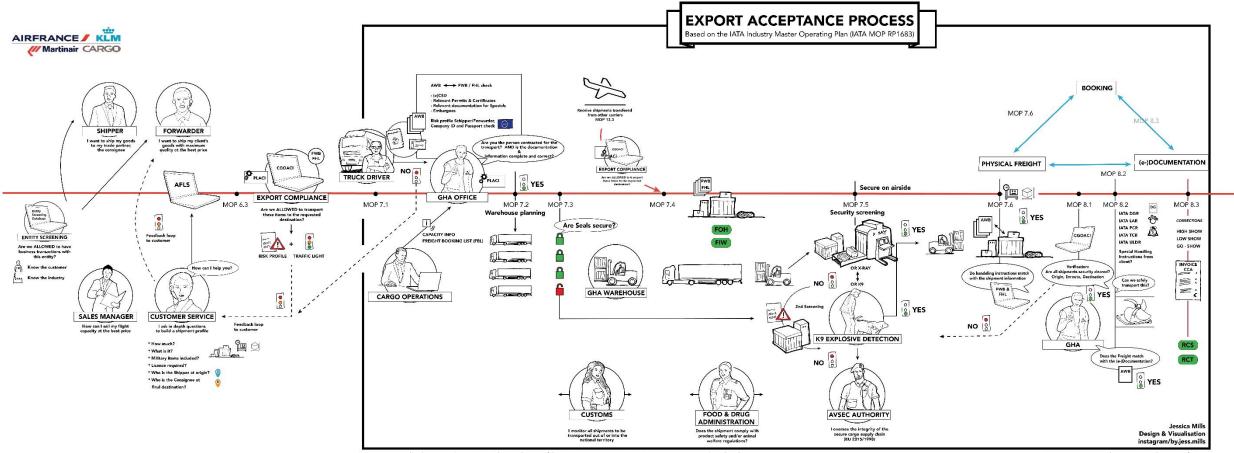
### DG AutoCheck & RampVR

- Buildup App Mr Beam for weight and straps
- Focus on Export Acceptance
- Integrated Handling Manual according to MOP process
- Elevated Station Risk Mitigations:
  - loose delivery
  - 5<sup>th</sup> protocol
- Universal procedures
- IATA DG Autocheck





#### The Export Acceptance Process Visualised in Terms of the Industry MOP



© KLM N.V. – all rights reserved – 2019 - This visualisation of the Air France-KLM Cargo Export Acceptance process is based on the IATA CSC Recommended Practice 1683 "Air Cargo Industry Master Operating Plan", and on Air France KLM Cargo compliance policies and company procedures published in the Cargo Handling Manual (CHM).

In case of difference of interpretation between the process visualisation and the written procedures, the written CHM procedures prevail.

KLM Cargo, Operational Integrity, Compliance & Safety Arjan van der Kraan - Documented Standards Manager arjan-van-der.kraan@klmcargo.com Version 3.0 - June 2019





## NO MEANS



#### Tone at the top, awareness and training





Strategic Goods Awareness

Several goods destined for the air show were transported via our

shipments based on electronical AWM data. The commodities of facturers or defence/armed forces) as we all know, you should these shipments were hissile models and hocket models from/ho, ask yourself the following four questions to verify if the booking military entities if these shipments had not been stooped the ARL. contains (possibly) military/stategic goods. The four questions are strategic goods without the necessary licenses.

From to 13 years also the international pairs Af show took pairs——since is shopping (incestibly) milliany/statenciar copyrights and particular burning the supported took provided in a compliance expert in required (see internation on MyCustor) vou can the a request for an approval via the compliance Approval helicopters and microdes of vive approval and missing.

since several mayor suppliers of this industry are located in the Without an approval (OKXFWD) shipments of military items may United States it's exclanable that the abovementioned material incit be transported within the AEXI network if such shipments are and equipment are transported by air - since these goods are in transported without the necessary licenses and approvals, (local) authorities can file a lawsuit against the AFKL organization. This is of course something we want to avoid at all costs.

AFKI, network and were booked via (or with assistance of) our CSO. The "Strategic Coods Awareness Training" offered to all commis-organization without the mandatory licenses and without approval or of strategic coods Awareness Training offered to all commisfrom an AFIL compliance expert. military/strategic goods During booking yournay be triggered by the commodity description (for example wapports or vehicles for Fortunately compliance experts recognized and stopped these warrately and the shipper/constiguence (for example weapon manu-

> What is it? Where is it coming from? Where can or will it be used for?

When you identified military/strategic goods you should obtain all necessary information and documents such as licenses from the customer in order to start the Approval Workflow, once the shipment is approved, the shipment can be accepted, booked and continue its way within our air cargo supply chain





DGD Bottom section Move your mouse over every yellow highlighted field to learn more The packages containing UN3226 must be protected from direct sunlight, and all sources of heat and be placed in adequately ventilated areas. hereby declare that the contents of this conment are fully and accurately Name/Title of Signatory described above by the proper shipping marked and labelled/placarded, and are ition for transport according to applicable Intel Place and Date Regulations. I declare that all of the ements have been met. Signature (see warning above)

Dangerous Gc

freight made personal

#### Capacity building for Targeting and Holds

#### **Technology**

- XCSN message deployment
- CGOACI tool improvements
- Compliance Approval
   Tool
- Go Paperless on AWB's
- Entity screening
- Deepdive Al on alerts

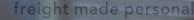
#### People

- Timely FWB/FHL entry prior to Dep
- Active Monitoring and Follow-up at Cargo Control Centers
- Alliances & Interline awareness
- Communicate Shipper & Forwarder duty to investigate
- Provide Pro-active customer feedback

#### **Concept of Operations**

- Joint Regulatory Watch AFKL connected to corporate Legal, Safety, Security and to Partners
- Multi Layer risk barriers
- Pro-active approach upstream, origin, sales, customers
- Connect to innovative enforcement agencies







## PREPARE

FOR CONTINUOUS CHANGE



#### Geopolitical tension, trade sanctions and logistics



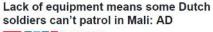


Libya: "It is nothing new that France is violating the arms embargo"





New York Times, a batch of US-made Javelin-type missiles found in











- Many armed forces movements
- **Impacting** France & The **Netherlands** regulatory context
- Impacting our partners as well



# NIEGRAIE INOVATE



Lack of equipment means some Dutch soldiers can't patrol in Mali: AD



Libya: "It is nothing new that France is violating the arms embargo"

By Arianna Poletti



Members of forces allied to Libya a internationally recognized government look at the American Javelin anti-bank missiles, which were conflicated from eastern forces lod by Khalifa Hattar in Gharyan, displayed for the mode in Total 1 (in .05) 1725 formula 2 hours.

According to a Pentagon investigation released Tuesday evening by the New York Times, a batch of US-made Javelin-type missiles found in Gharvan, 8km south of Tripoli, belonged to France.

## **Integrated Compliance & Safety**





#### The duty to investigate

If one contrasts this risk with the developments in international trade – especially the limited transactional

The extensive scope of the applicable regulation in combination with the wilfulness criterion applied by the Dutch court, effectively resulted in a kind of strict liability for TSPs failing to obtain the required licence.



#### Digital Challenges for supply chain stakeholders

- Data silo's, gaps, incorrectness
- Unable to share data in a transparent, trusted manner
- Accountability, quality assurance, efficiency (value creation and waste) and chain integrity are under mounting pressure
- Transport service providers are increasingly accountable for what they ship



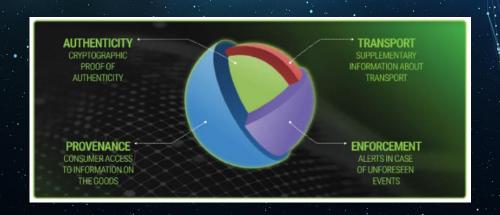


#### Innovate

Co-create a protocol for authentication throughout the supply chain

This trusted ecosystem agent will bridge the gap on trust in the air cargo market

by enabling all parties in the supply chain to give and get relevant and compliant data



## **ØDYSSEY**

# FUTURE PROOF





#### **Build for the future**







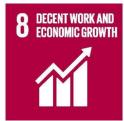


































#### **The 5 Compliance Commitments**







# Cargo Safety Strategy Managing Safety Risk Across Air Cargo Supply Chain

#### **Moderator:**

LIAO, Zhi Yong

Manager, Cargo Business Process & Standards IATA

#### **Panelists:**

Kester Meijer, Director Operational Integrity, Compliance & Safety Manager, KLM Cargo

Robert Fordree, Executive Vice President Cargo, Menzies Aviation

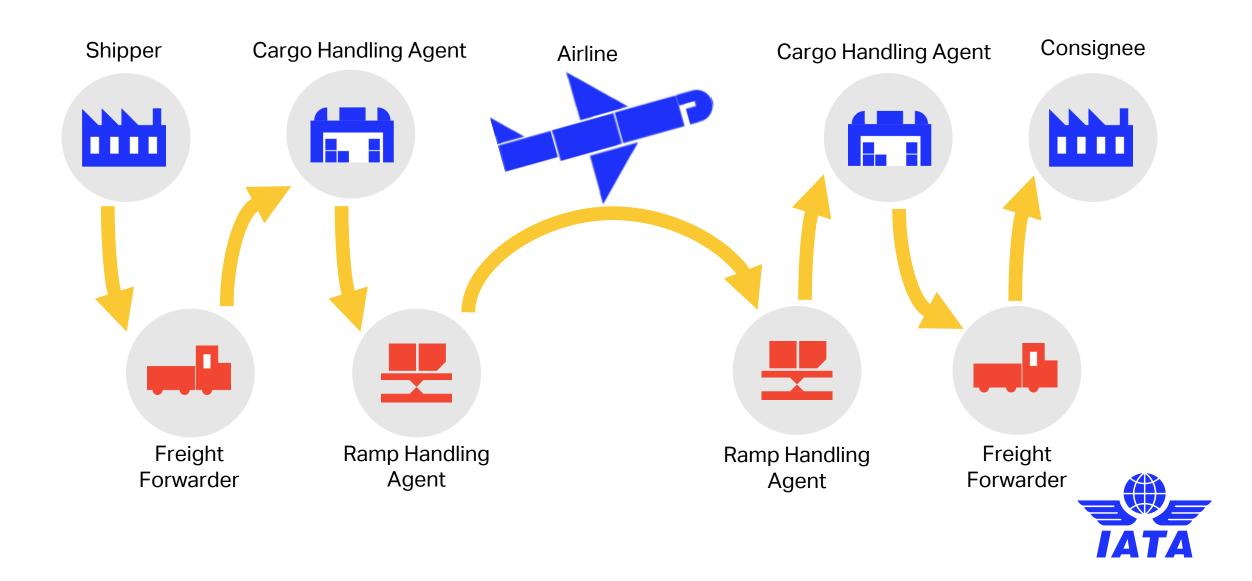
Juerg Meier, Senior Vice President QSHE, Security & DG/HazMat, Kuehne & Nagel







# Air Cargo Supply Chain Overview



## Potential Cargo Safety Risks ... (by Procedure)

#### **Industry Master Operating Plan**

- 1 BOOK & PLAN SHIPMENTS
- 2 PICK-UP FROM THE SHIPPER
- 3 RECEIVE FREIGHT AT FORWARDER BRANCH FACILITY
- 4 TRANSFER TO FORWARDER HUB
- 5 PREPARE EXPORT SHIPMENTS
- 6 TRANSFER SHIPMENT TO THE CARRIER DOMAIN
- 7 RECEIVE SHIPMENTS INTO THE CARRIER DOMAIN
- 8 ACCEPT SHIPMENTS AS READY FOR CARRIAGE
- 9 PREPARE CARGO FOR TRANSPORT
- 10 SEND SHIPMENTS TO THE FLIGHT

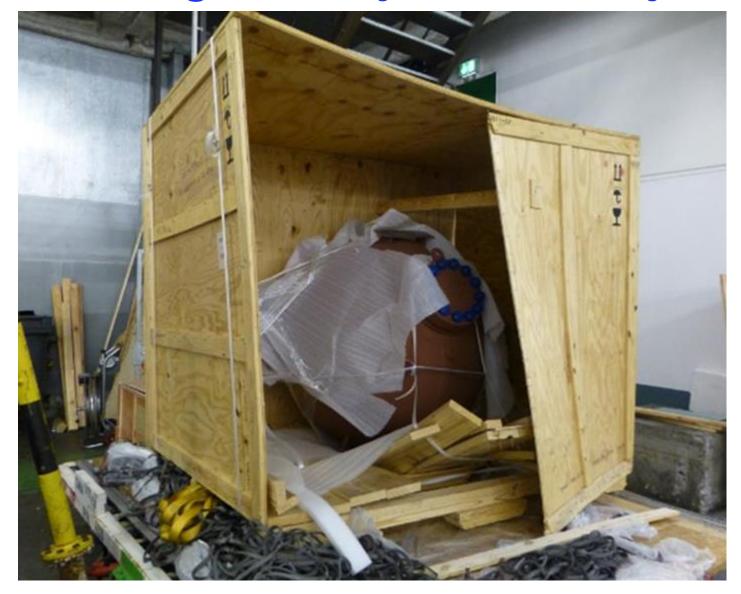
- 11 DISTRIBUTE INFORMATION
- 12 UNLOAD & DISPATCH SHIPMENT TO WAREHOUSE
- 13 CHECK-IN SHIPMENTS
- 14 ARRIVE SHIPMENTS
- 15 HANDOVER THE FREIGHT TO THE FORWARDER
- 16 ARRIVE SHIPMENT AT FORWARDER HUB
- 17 TRANSFER SHIPMENT TO FORWARDER BRANCH FACILITY
- 18 LOAD TRUCK AND PRODUCE RUN SHEET
- 19 DELIVER, OBTAIN PROOF OF DELIVERY (POD) & CONCLUDE CYCLE



Plywood box, 2,600 kg







5,000 kg







Bars, pipes, beams, etc. are much more dangerous than any DG transported by air.







# Flatulence from 2,186 goats forced plane to make emergency landing after gas set off smoke alarms

- . Smoke was later identified as the gas and manure of 2,186 goats on board
- The 747-400 freighter plane made the emergency landing in Bali Denpasar
- Flight SQ-7108 re-departed and reached Kuala Lumpur two hours later
- · Singapore Airlines said the flatulence claims could not be confirmed

By GEORGIA DIEBELIUS FOR MAILONLINE

PUBLISHED: 11:29 GMT, 3 November 2015 | UPDATED: 11:08 GMT, 4 November 2015















An aeroplane was forced to make an emergency landing after the gas of 2,186 animals was mistaken for smoke in the cargo hold.

The Singapore Airlines Boeing 747-400 freighter plane, which was en-route from Adelaide, Australia to Kuala Lumpur in Malaysia, was diverted to Bali Denpasar on October 26 following the urgent announcement.

Upon landing, emergency services boarded the aircraft - which was carrying four crew members and the flock of goats- however reported that there was no trace of fire, heat, or smoke.













## **Emergent Safety Risks for Future Air Cargo?**



## Occupational Health & Safety Risks in Cargo Operations



#### Are current regulations/ standards sufficient?



#### **Cargo Agency Conference Resolutions Manual (CACRM)**

Effective 1 October 2018-30 September 2019

41st Edition v41.0.0.0

The leader in establishing standards and providing customer-driven distribution services to the cargo industry.



Dangerous Goods

**Regulations** 

#### Cargo Services Conference Resolutions Manual (CSCRM)

Effective 1 October 2018 - 30 September 2019

39th Edition v39.0.0.0

Includes all amendments adopted at the Cargo Services Conference.







#### Cargo-XML Message Manual and Toolkit (CXML)

Effective 1 January-31 December 2019

7th Edition Update 2 v7.0.0.2

Emerging as a preferred standard for the electronic communication between airlines and other air cargo stakeholders.



#### 9674-60

#### **Dangerous Goods Regulations** (DGR) Effective 1 January-31 December 2019

60th Edition v60.0.0.0

The guide recognized by the world's airlines.







#### **IATA Ground Operation Manual** (IGOM)

Effective 1 January—31 December 2019

8th Edition v8.0.0.0

The standard for ground handling procedures.





#### Lithium Battery Shipping Guidelines (LBSG)

Effective 1 January—31 December 2019

6th Edition v6.0.0.0

Supporting the safe transportation of lithium batteries by air.



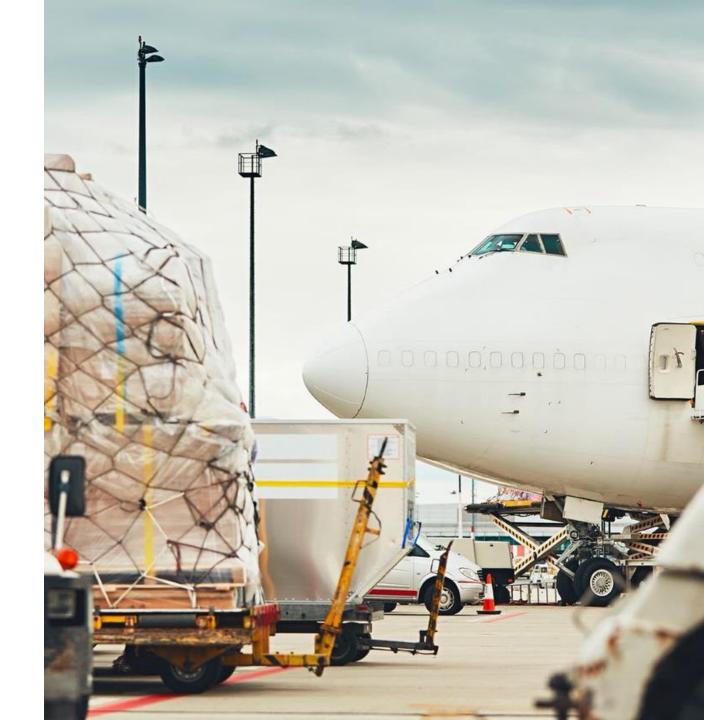


9402-08



Which IATA standards should be developed or improved?

What other activities can IATA do to improve overall Cargo Safety?



# Thank you!

LIAO, Zhi Yong 廖志勇 Manager, Business Process & Standards IATA APCS Cargo Tel: +41 22 770 2637

liaozy@iata.org | www.iata.org





## Networking break 15:30 – 16:00

#### Kindly sponsored by;







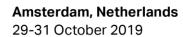


## **Joint Session**

# Air Pharma and Air Cargo Operations Presentation

Fabrice Panza
Cool Chain Project & GDP/QA Pharma Manager
Air France KLM Cargo

















# **Joint Session**

## Air Pharma and Air Cargo Operations

#### **Moderator:**

**Bart Pouwels** 

Head of Cargo

Amsterdam Airport Schiphol

#### **Panelists:**

Fabrice Panza, Cool Chain Project & GDP/QA Pharma Manager,

Air France KLM Cargo

Robert Fordree, Executive Vice President, Menzies Aviation

Julian Wann, Global Category Leader, Procurement Freight & Logistics, AstraZeneca

Olivier Simonnot, Senior Manager Strategic Marketing, Sensitech EMEA

Dieter Sellner, Program Manager, DB Schenker



Amsterdam, Netherlands 29-31 October 2019













# Day 2 Closing Remarks

Hendrik Leyssens Vice President Global Operations Cargo Swissport International









### Thank you to all our sponsors!







An OSI Systems Company



#### **Schiphol**

Shaping Europe's smartest cargo hub at Amsterdam Airport













Bernardi & Schnapp











