

ULD CARE 2016 - LAX

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ULD Operations and Handling in the Future

Narrow & Wide body Aircraft



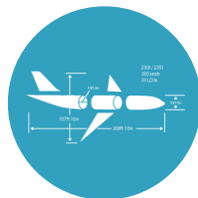
Introduction

Objective

The Airbus objective is to provide a fully automated aircraft handling systems in the future

Content

- Airbus forecast of belly cargo share vs. Freighter
- Current ULD operations and handling
- Ground and on-board equipment to handle and restrain ULDs
- ULD operations and handling in the future with a focus on lower deck cargo compartments



Choice



Volume



Efficiency



Revenue
Generation

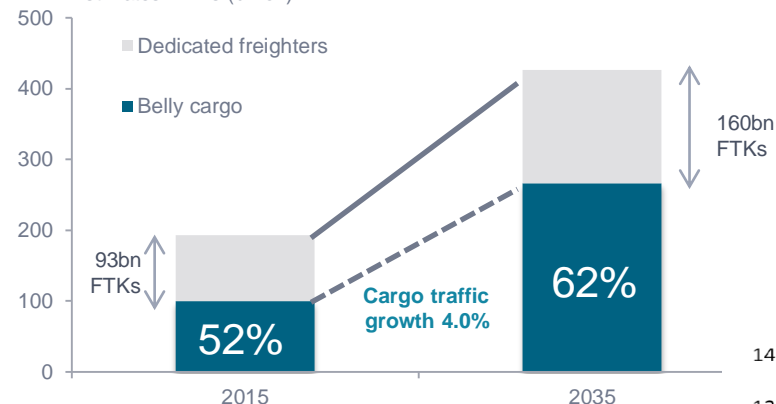
The Airbus Family

—
Narrow & Wide Body Aircraft

Belly capacity to capture market share from the main deck

Worldwide share of belly vs dedicated cargo traffic

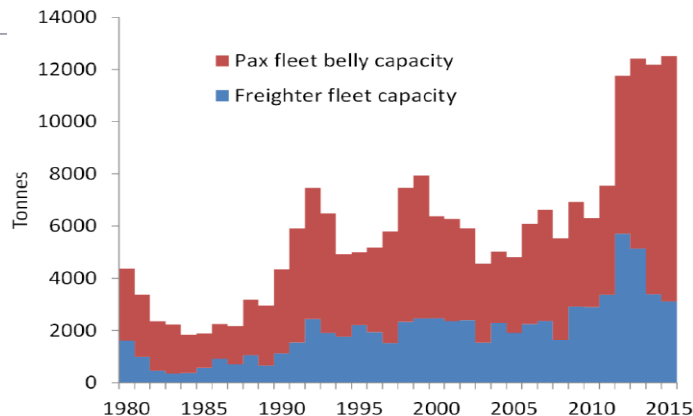
Estimates FTKs (billion)



Source: Airbus GMF 2016

Source: IATA Cargo Strategy, August 2015 - Additional cargo capacity **4X higher** on Pax fleet belly capacity in 2015

Additional cargo capacity from new aircraft



Belly capacity will continue to capture market share

Impact is mainly on long haul flows

Main assumption being that belly load factors remain stable

Current ULD Operation and Handling

Narrow & Wide Body Aircraft

- 1/3 of Airbus narrow body Fleet allows the loading of ULDs onto the lower deck cargo compartments
- Semi-automatic cargo loading systems on all type of Airbus aircraft

-
- ULD Track & Trace capability only on ground
 - Conventional Cargo loaders, Belt loaders, Dollies, Cart, GSE manual approach and docking, etc...



Onboard and Ground Equipment

Equipment needed for ULD handling

- Cargo Loaders + Ramp Agents
 - ➡ Operational Cost
 - ➡ Damage Cost (*i.e. Cargo/Belt loaders impact on fuselage*, ULD damaging the lining and the CLS components...*)
- Cargo Dollies
- Cargo Loading & Restraint Systems:
 - ➡ Weight saving, if CLS removed
 - ➡ Less fuel burn, If CLS removed
 - ➡ Maintenance Cost
- Portable RFID readers, Tags, ...

* All GSE manufactured after July 2018 shall comply with A/C damage prevention requirements per IATA AHM Chap.9



ULD operations and handling in the Future

Preparing the Future with:

- **Bag2Go** (already in the market)
- **Track & Trace** for the entire transport chain
- **Cargo eOps t@b** (tablet), one single tool for Cargo Operations
- **Fully automated cargo loading systems**



Bag2GO

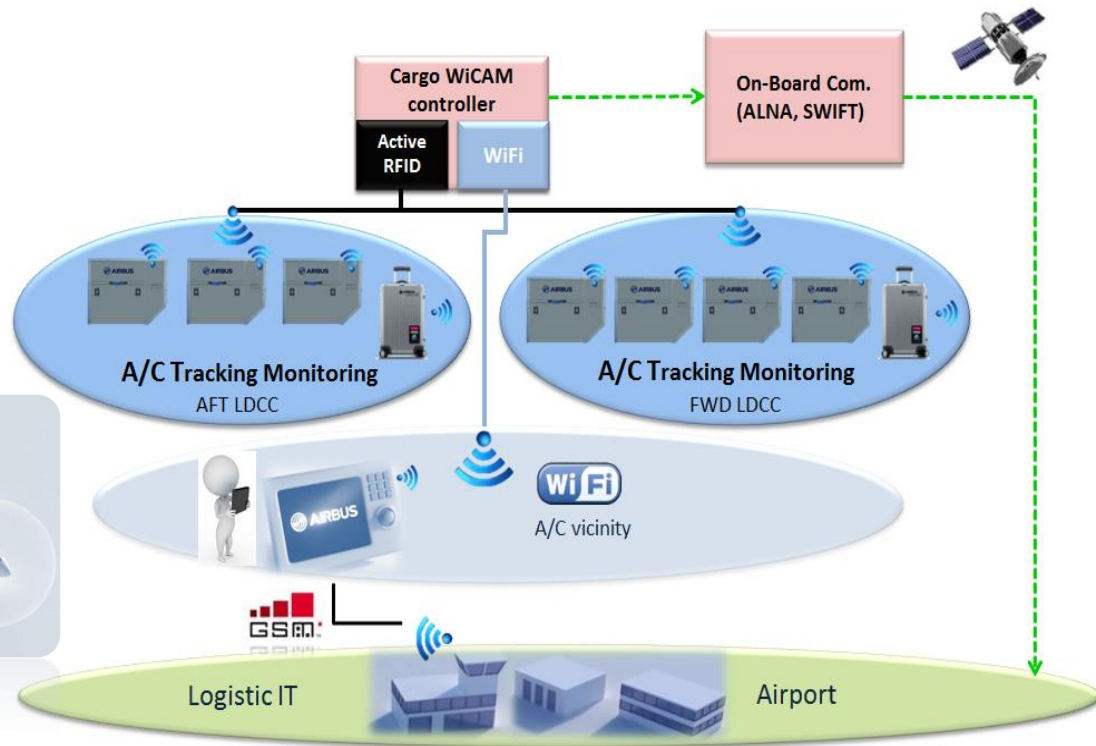
- **86% of Airlines**
plan to implement assisted bag drop by 2017
- **74% of Airport**
plan to implement assisted bag drop by 2017
- **62% of PAX**
would tag their own bag if they could at the beginning of their journey with trend indication growing
- **66% of Airlines**
will offer bag location update to PAX via mobile by 2017



Source: SITA 2015 baggage report

Track & Trace

- Enable cargo tracking throughout the entire transport chain
- Support cargo e-Operation to shorten & simplify operational loading procedures
- Propose customized fleet solution for operators



Cargo eOps t@b (tablet)

Cargo eOps t@b (tablet) one single tool for Cargo Operations

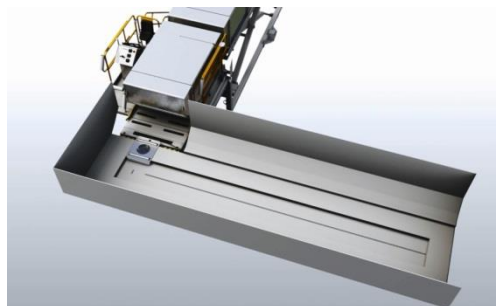
- **Simplified Loading Operations**
Advanced aircraft loading Instructions support for cargo operations & Information exchange via remote control
- **A/C Connection & Identification**
Automatic aircraft identification & loading instruction selection via aircraft network connection
- **Optimized Turnaround Procedures**
Shorten the timeframe of delays caused by "Rush & No Show" events due to PAX luggage allocation & search functions
- **Aircraft & Airport Information Exchange**
Interactive information update & exchanges by tracking signal usage
- **Optimized Loading Handover**
Optimized aircraft handover towards Airline offered by new range of communicational service application such as e-paper documentation, combined with digital signatures approvals



Automated Cargo Loading Systems

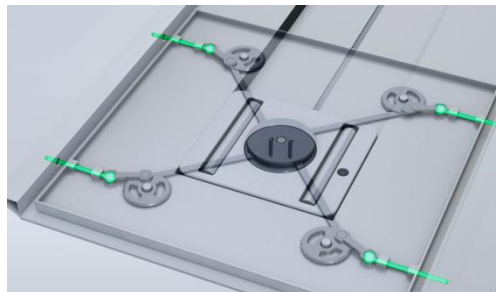
- **ULD loading systems removed from A/C & are part of GSE**

- ➔ Less Weight
- ➔ Less Fuel burn
- ➔ Less Operational & Maintenance Cost



- **ULD integrated with restrain system**

- ➔ Operational & Maintenance Cost for ULDs
- ➔ Certification basis to be clarified
- ➔ Retrofit aspects to be considered



New CLS

—
Less Fuel Burn
Additional Revenue
Generation

Conclusion

- Whatever Airbus plans for the future the cornerstone remains a ULD in good condition (airworthy).
- This would drastically reduce operational, maintenance and damage cost. That's why it is fundamental that ULD CARE highlights the need to meet airworthiness requirements throughout the entire transport chain



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