Paperless Aircraft Operations - IATA’s Vision and Actions -
IATA’s Paperless Initiatives

**Passenger**
- Reservations, Ticketing and Airport Processes
- e-Ticketing
  - Boarding Pass on line
  - Check-in Kiosks
- Customer Focused

**Operations**
- Operators, MRO Service Providers, OEMs, Parts Distributors, Lessors
- e-Records
- e-Parts Tracking
- e-Task Cards
- e-Techlog
- e-Signature
- Aircraft Focused

Successful Worldwide Implementation following IATA specific mandate given by the industry

Paperless Airline Operations (PAO) needs the buy-in and action of ALL players
The Paperless Future of Airline Operations

Paperless Aircraft Operations (PAO) status involves:

- Flight Operations (PAO-FO)
- Technical Operations (PAO-TO)
- Ground Operations (PAO-GO)
IATA is in a strong position and capable of coordinating the various stakeholders and their complex industry-wide efforts.
Paperless Implementation Resulting Success Factors

- Real-time and point of use availability without useless duplication of data
- Better answering regulatory requirements, operational and commercial needs, with more flexibility and accuracy than paper based alternatives; limitation of clerical errors
- Approval/Support from CAAs and adoption by all major stakeholders
- Scalability, portability and compliance with standards neutral to user solution
- Security, sustainability and cost effectiveness
Paperless Commitment for 2020 Start

- The PAO-TO scope encompasses:
  - e-tracking of aircraft and parts
  - e-documentation
  - e-records etc.

- The “new” and the “legacy” aircraft streams will be directed on separate paths to the same paperless status

The 2020 target already set within the IATA Engineering and Maintenance Group
Agree on what information to track
- Regulatory compliance
- Contractual obligations
- Protect asset value
- Operational efficiency

Agree on “Birth Record”
- Cannot provide “Back-to-Birth” Record when there is no “Birth” Record.

Independent of technology
- While RFID approach is today’s leader, a single technology e-tag solution may not fit all needs

Address “Production Aircraft” and “Aftermarket Solutions”
- Two-way approach securing one e-tracking standard
Aircraft Electronic Documentation

- Develop and promote the criteria for acceptance of electronic documentation worldwide:
  - Regulatory level: ICAO and CAAs - with Industry Standards
  - Commercial level: Airlines, OEMs, Lessors, MROs etc.

- Templates to simplify documentation
  - Non Incident Statement → Incident Clearance Statement
  - Airframe Maintenance Template Agreement

- LLP Traceability Template - first step to track parts in a standard way

- Aircraft Readiness Log (ARL) - part of the Life Cycle start-up
Electronic Aircraft Maintenance Records

- Natural medium of documenting maintenance for e-enabled aircraft and logic evolution medium for legacy fleets
- Increased visibility, controllability & regulatory compliance accuracy are key gains with EAMR → support of aircraft ops. & MIS usage
- Facilitation of implementation to be secured by IATA through ICAO & CAAs buy-in & active involvement
- IATA active to rally stakeholders (Operators, OEMs, MROs, Lessors) via its EMG, ALAG, MCTF and other forums

EMG = Engineering and Maintenance Group; ALAG = Aircraft Leasing Advisory Group; MCTF = Maintenance Cost Task Force
Aviation Identity Management*, e-Signature

- Address the ID of all players involved
  - Company entities’ identity (e.g. line station, shop)
  - Employee physical identity (e.g. pilot, mechanic, inspector)
  - Asset identity (e.g. aircraft tail number)

- Implement an ID relationship management scheme that provides recognition of processes, records and sign-offs

- Release certificates (e.g. FAA 8130-3, EASA Form 1 with Spec2000 Ch16 specs) signed and transferred electronically

- e-signature and cybersecurity are key to success (e.g. see ATA’s e-business DSWG agenda & Spec42 provisions)

* Watch IATA’s website for a White Paper soon to be released in connection to this subject
Paperless Enablers: the RFID

RFID technology has the potential to become a key element in improving efficiencies in Aircraft Technical Operations:

- We have to work with it as a **fact**, not as a hypothesis

- Several airlines are running pilot projects or using RFID technology in operations **today**

- OEMs are mature enough not only to use RFID technology in the process of manufacture but also **deliver the product with RFID tags**

Better be in a position to shape the future than being carried away…
Potential Areas of RFID Application

- Track aircraft parts for:
  - Organization’s internal use (traceability within own inventory and shops)
  - Organization’s external use (traceability as parts move across company’s physical control)
  - Efficient and updated record keeping (includes maintenance history)
  - Retaining commercial value for resale or leasing
  - Aircraft configuration compliance
  - Increase maintenance efficiency
  - Maintenance inspections, expiration, checks

- Current applications; “low hanging fruit”: 
  - O₂ generators, life vests, tooling and equipment, security checks
Next Steps

- Vision acknowledgement and buy-in from key stakeholders
- Definition of a refined and granular PAO transition road map
- Maturity of aviation regulation, standards, best business practices landscape for PAO
- IATA facilitation of the framework for various PAO streams and work-groups
IATA Forums Pursuing PAO Inputs & Opportunities

Check @ www.iata.org/acmg
Check @ www.iata.org/eng
Check @ www.iata.org/pao
Check @ www.iata.org/mctf
Check @ www.iata.org/agm
SIS e-Invoicing initiative

Nicholas COOTE
Director, Financial Services Architecture
Situation today

- Exchange of information between suppliers and airlines is not standardized
- Most of the exchanges are through paper, or electronic presentation (PDF)
- Most of the exchanges require manual handling of invoices, and/or manual reconciliation of invoices.
- Even with segments like Engineering or Fuel where electronic standards exist, 100% paperless or EDI process for financial invoice handling and reconciliation has not been achieved

Opportunity to standardize and improve process for stakeholders
The initiative

- Standardize exchange of information with a cost taxonomy shared and used by all parties
- XML exchange of information allowing Financial process (invoice accounting and tax auditing) and business process (reconciliation and cost accounting) to be fully automated.
- IS-XML is our tool to achieve that:
  - Define cost categories (i.e. Ground Handling), charge code (Baggage) and charge code type (i.e. Crew Baggage Handling)
  - Define elements needed for reconciliation (i.e. Flight #)
Cost reduction

- Usage of an existing platform run by IATA that allows EDI with more than 1000 operators (data hub)
  - Rapid ROI, connect once, connect to all
- Single IT project supplier-side to serve all airlines
- All benefits from e-Invoicing and EDI are combined
- Reduce cost for suppliers and airlines, by suppressing value-subtracting tasks (i.e. invoice reception follow up)
- Improve DSO by 2 days (as reported by a major airport)
Thank You
Appendix

e-Invoicing
SIS Platform Facts

- 600+ legacy airlines
- 700+ Business jets, charters and low cost carriers
- 200+ non-airline members including:
  - Ground Handling and Catering companies
  - Maintenance Repair and Overhaul companies
  - Leasing companies
  - GDS and IT companies
- Over $71B worth of invoices processed through platform in 2014
Key Features

- **One Electronic Standard**
  - All parties connected to the IATA Financial services agree to submit and receive invoices in one single file format (named “IS-XML”)
  - The file format allows the parties to transmit invoice data and a wide array of operational data

- **Full Traceability**
  - Invoice history and status is easily traced for reference

- **Legal compliance**
  - Optional Digital signature as required
  - Storage of digitally signed invoices under legal compliance

- **Data Validation**
  - Specific to air transport activity
  - Input data validated against reference data to ensure accuracy
  - Mandatory attributes define the minimum information required for reconciliation

- **Rejection dispute management**
  - Streamlines the rejection process to increase efficiency
Key Differentiators

Member Profile

- Each user is responsible for its reference data
  - Used to define e-Invoicing criteria like Digital Signature
  - Used to make sure address and VAT are correct
  - Used to trigger routing and workflow parameter
  - Output file configuration

Master Data

- Industry References are incorporated
  - From IATA, such as airport codes and city codes
  - From ICAO, such as aircraft type
  - From ISO, such as currency units
  - Or specific to our platform, such as some Unit Of Measure
Full integration possible
Support Materials

- All documentation is available on www.iata.org/e-invoicing
- Implementation Handbook
- Sign-up and Certification Guide
- IS-XML Record Structure
- Sample Files
- Joining IS Requirements CHECKLIST