Total Airport Management (TAM)

Eurocontrol A-CDM Exchange

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Opportunities and Issues

a. Total Airport Management
   a few essentials

b. “Need for Speed” for a broader view on airport operations
a) TAM – Track Record

- **Total Airport Management (TAM)**
  - Originated @ DLR in 2002
  - 1st TAM-concept with ECTL
  - Several DLR internal projects since 2006

- **R&D Projects with Industry and Operators in TAM**
  - TAM-Suite (30M€; SIEMENS, BARCO, INFORM..)
  - Airport 2030 (HAMburg Airport; Lufthansa, …)
  - Finale V3-SESAR Validation on Airport OPS
  - Sesar2020 Membership and TAM-Solution Lead

- **Strong Stakeholder Involvement**
  - TAM-Symposium; ACI; ICAS; ASPAG
  - Airport Research and Innovation Facility HAM
  - Airport Control Center Simulator (HITL)
Concept Development in Airport Operations

- Airport Collaborative Decision Making (A-CDM)
- Total Airport Management (TAM)
- Performance Based Airport Management (PBAM)

Information Exchange Collaboration!

Definition of a Cooperative Airport Management (pretactical = T₀+3h - T₀+24h)

Cooperative Airport Management based on KPIs (pretactical = T₀+3h - T₀+24h)

Airport Collaborative Decision Making (A-CDM)

Total Airport Management (TAM)

Performance Based Airport Management (PBAM)

*Graphic: EURO-CDM.org
TAM / PBAM – Expanding the Scope of A-CDM
Spatial scope of TAM

- TMA
- Chart 6
- Spatial scope of TAM

AIRPORT

Airside
- En-Route
- Approach
- Landing
- Taxi-In
- Turn-around
- Taxi-Out
- Departure

Landside
- Arrival
- Check-In
- Pass Control
- Security Control
- Waiting at Gate
- Boarding
- De-Boarding
- Baggage Claim
- Pass Control
- Customs
- Exit Airport

Flights
- Passenger
- Baggage
- Freight

Airport X
- Airport Y
- Airport Z

DLR Inst of Flight Guidance @ ECTL A-CDM Exchange 2016 > K.-H. Keller > 2016-09-21

www.DLR.de/fl
Airport Processes – Now and in the Future

-Management by KPI

Challenge: many processes – even more provider
TAM / PBAM - Concept Elements

- Airport Operations Control Center (APOC)
  [https://www.youtube.com/watch?v=L8cXIsbNhWs](https://www.youtube.com/watch?v=L8cXIsbNhWs)

- Decision Support (Tool(s))

- Aviation Network Integration (AOP/NOP)
Airport Operations Control Center (APOC) & Services

**Services**
1. Performance monitoring
2. Performance steering
3. Performance management
4. Post-operations analysis

**Pre-requisites**
- transparent und fair, following strict rules and regulations
- taking into account sensitive business data and privacy
- rules of interaction and engagement to be designed
- ensure order and clarity
b) “Need for Speed” for a broader view on airport operations

- Many studies, white papers, agendas etc. have been issued providing evidence about the future of transport (travelers and goods)

- Clear message: we need to act
  - More customer oriented
  - More efficient and reliable
  - With less emissions
  - …

- On European level the commission always mention the traveler! Please note: that this is not necessarily the air traveler…
We need to adapt faster….

- 2012 every mode of transportation delivered its „Strategic Research and Innovation Agenda“ (SRIAs)

- “Flightpath2050” was issued to specify the goals for aviation industry

- Updates of the SRIAs are work in progress

- In the definition of new transport goals there is no distinction between means of transportation: “Strategic Transport Research and Innovation Agenda”

- Aviation has to adapt and connect or will lose ground….
As of today…

- Operations suspended because of a thunderstorm @ departure airport

- Screenshot taken from FIDS @ destination at 18:17h within DH8D/SN2637 by cell phone

- information on the right shows the content of the FIDS @ destination

- SN2637 has been cancelled at departure airport about 10 min. later

- Who will trust the FIDS again…?
The Future: The „INTERMODAL HUB“

- Passengers will not care about the means of transport to go from A to B
- With security and tax burdens aviation might not be the first choice
- Intermodality is top priority for the traveler of the future
- Seamless change of transport mode will be a necessity
- TAM will enable this….
TAM enables the „Mutimodal HUB“
Performance Based Airport Management
- will be the successor of A-CDM
- supports holistic optimisation of airport ops
- will change stakeholders cultures…
- will lead to the “Intermodal Hub”

Your cooperation is needed
- participate in the development
- position yourself and take advantage
- support implementation and stay informed

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