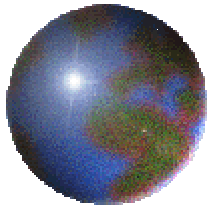

Standardization Activities for Wake Vortex Datalink Services

WakeNet3-Europe first workshop

Paris, January 08-09th 2009

RTCA EUROCAE

WakeNet3-Europe

Acknowledgments

This presentation has been prepared thanks to the works and contribution of

EUROCAE WG-76 / RTCA SC206 AIS / MET Datalink Services	Ernie Dash Rocky Stone
WakeNet-USA	Wayne Bryant

Why now is a good time…

Internationally, Wake Vortex initiatives exist

- Architectures are converging (ground-based systems, airborne systems, datalink needs,...)
- Frameworks are launched (SESAR, NextGen, DREAMS)
- Wake Vortex capabilities are defined (3NM everywhere in the US, 4DT, ASAS S&M,...)

→ Need for international agreement, common set of metrics,…

→ Standardization is a tool to channel the efforts and focus on the operational problems defined

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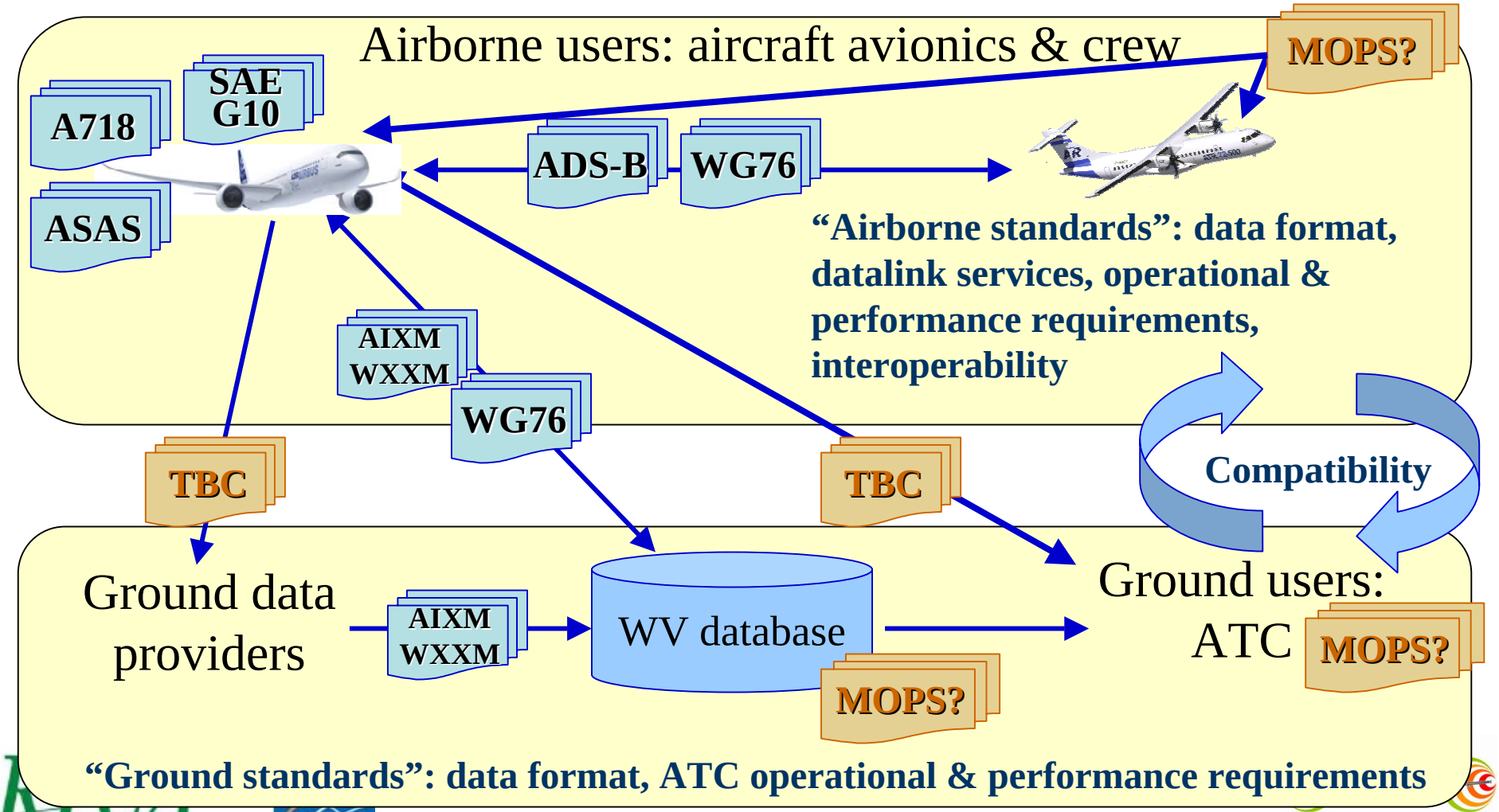
Towards a cartography of WV standards



Where could a standard be useful?

- To find an agreement on the concept
  - Metric safety / capacity
  - Metric ground / airborne
  - Alerting thresholds
- To establish minimum requirements
  - On models: benchmarking...
  - On technology: performance, interop...
  - On data: ground and airborne needs
- To channel research
  - Frame medium term solutions for industry

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Focus on datalink services standards

- Datalink services for MET include WV
  - OSED already available: ED-151
  - SPR ongoing: expected 2009
- MET datalink services are defined as
  - Immediate (< 3min) → WV alerting
  - Near-Term (3min<T<20min) → WV monitoring
  - Planning (>20min) → WV separation

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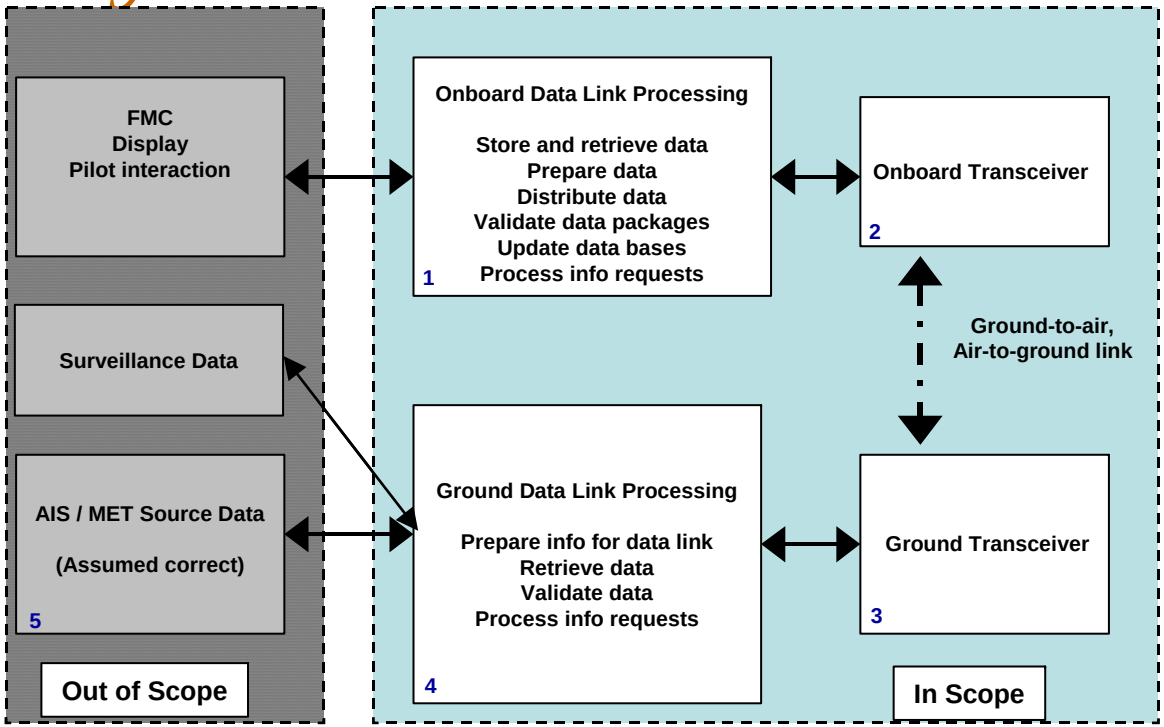
System Overview



Datalink services address:

-Crosslink (air-air)

-Uplink (ground-air)

Modes include:

-Broadcast

-Contract

-Demand

Current effort on the definition of Safety & Performance Requirements supports WV ground-to-air data and aircraft-to-aircraft data exchanges defined in various global architectures

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Progress Status & expertise needed

- Safety analysis
  - Definition of operational impact and severity
    - Wake Vortex alerting (avoidance concept)
    - ASAS
  - Definition of external mitigation means
    - Ground warning system
    - Airborne warning system
  - Next steps [expertise needed]
    - Event trees & probabilities → safety target met or not
    - Definition of internal mitigation means
    - Definition and Allocation of performance requirements

To contribute …

- RTCA SC206/ Eurocae WG76 next meetings
  - 16-20 March: THALES, Irvine, California
  - 15-19 June: University of Malta, Malta
  - Contact:
    - laurence.mutuel@fr.thalesgroup.com

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Going further…

- Complete cartography of impacted standards
  - Include ICAO, WMO,... (state effort?)
  - Contribute to SESAR, NextGen concepts & data formats
  - Consolidate international agreements (via thematic nets?)
- Moving towards the establishment of standards:
  - Formalized & approved ConOps to be disseminated: ongoing
  - ADS-B MOPS: ongoing effort to be supported
  - Standardization of WV system(s): who could be motor in creating a standardization group?
    - RTCA / Eurocae for MOPS (models, technology, datalink)
    - ARINC for airborne system (integrated or not)
    - SAE for human factors

ConOps pressing issue

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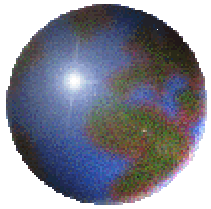

Questions ?
Discussion…

Thank you for your attention

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