Impact of Regulation
Paving the way for change

Session – Economic Factors

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Overview

• Introduction
• The Change from AIS to AIM
• Regulation and AIM
• Key Questions
• The Regulatory Issues
• The Way Forward
• Conclusions
Reasons for Regulation

Various reasons for regulation:

• fulfillment of international obligations on States
• safety requirements
• specific needs of the country, such as:
  • national factors
  • national considerations
How is Regulation applied?

How do Governments regulate?
Regulation is either applied
• by owning and operating the infrastructure and air navigation service provider
  • several models exist by which governments ensure that they exercise full or some degree of control on air navigation services providers
• by regulating market entry and conditions of operation
• by creating institutions to regulate
Over the last years...

- Fundamental changes in the organizational setup of air navigation services providers caused by:
  - pressure on Governments for massive investments in infrastructure to support growing demand
  - growth in traffic has enabled an increasing number of air navigation services providers to become financially viable
  - transfer by Governments of air navigation services operations to autonomous bodies
Rethinking the Role of the Regulator

• Many Governments are rethinking their roles as owner, operator and developer of air navigation services infrastructures
• Governments have transferred the responsibility to operate and develop the air navigation services infrastructure to an autonomous body (state-owned or private)
Today…

• A growing number air navigation services providers operate with financial and operational autonomy from Government
• Without compromising safety these autonomous bodies operate under the following principles:
  • promotion of efficiency and productivity
  • improved quality of services and financial results
  • reinvestment of user charges in infrastructure and services
  • reduction of financial burden on Governments
What about Government Obligations?

- Article 28 of the Chicago Convention enables States to delegate the provision air navigation services.
- However, States cannot delegate their regulatory responsibility concerning the safety aspects.
- States also have international legal obligations set through air services agreements for ensuring the availability of air navigation services.
Current Role of the Regulator

- Governments are now starting to focus on their roles as policy-makers and most importantly as “regulators”.
- Many Civil Aviation Authorities have been established as independent, accountable and transparent institutions to strengthen Governments’ capacity to regulate, in the public interest, for aeronautical information especially the
  - safety standards
  - interoperability standards
... but how does this impact on AIM?

Some questions need to be addressed such as

- Are States meeting the user requirements?
- Are States compliant with the ICAO Annexes 3, 4 and 15 and have therefore nothing to improve?
- Do all regulators understand their role in AIM?

I am happy to share this experience with all of you and apparently we don't need to worry ... how wonderful!
The ICAO Requirements (an example)

- Critical Data, integrity level $1 \times 10^{-8}$:
- ICAO: „There is a high probability when using corrupted critical data that the continued flight and landing of an aircraft would be severely at risk with the potential for catastrophe. ”
  - Runway threshold $1/100$ sec $1 \times 10^{-8}$ critical
  - Runway end $1/100$ sec $1 \times 10^{-8}$ critical
  - Landing distance $1$ m or $1$ ft $1 \times 10^{-8}$ critical available
The Reality Check
One of numerous examples ...

The right information at the right place at the right time in an agreed quality ... it's a safety issue!
Translating the ICAO Requirements

• Translating the ICAO requirements for AIM in a suitable form is one thing but
• quantifying the economical impact is another thing

Some questions arise:

• What is a suitable form for AIM, what are the operational requirements?
• Is the economical impact of the move to AIM changes being addressed?
• Are the cost recovery issues being addressed?
Some Requirements stated through ICAO
ICAO 11th Air Navigation Conference Sept 2004

- ... -
- define requirements for safe and efficient global aeronautical information management that would support a digital, real-time, accredited and secure aeronautical information environment
- develop, as a matter of urgency, new specifications for Annexes 4 and 15 that would govern provision, electronic storage, on-line access to and maintenance of aeronautical information and charts
- ...
What's actually happening in AIM?

• The world of aeronautical information is evolving in terms of scope, expectations, etc.

  ... and it's turning digital
... from source ...

CHAIN: A European programme related to the data chain

... to end use
The Change from AIS to AIM

• extends beyond the traditional AIS concept
• uses all agreed aeronautical information sources to create a common picture
• supports to create the data logistics infrastructure for the ANS environment
• provides all aeronautical information in a seamless manner
• but will also require substantial investments to implement the net centric environment

… and AIM will be a key enabler for ATM
Changes are triggering Key Questions

- What is the scope of aeronautical information in the net centric environment?
- By whom will it be provided, managed and supplied in future?
- How will it be delivered / made accessible?
- With what authority?
- How are the liability issues solved?
- Which business model will be applied?
- Who will be responsible for certification?
- How will this change be financed?

… and many more questions …
The Challenges for AIM

- Not technological issues but institutional issues are currently hampering the progress for changing to a net centric environment
- The ANS business is becoming a data logistics business requiring a regulated framework for developing safely

The following question arises:
- Can the institutional environment adapt fast enough to develop and agree on a new framework paving the way for change?
So why Regulation for AIM?

• AIM stakeholders are realising that implementing the net centric environment will be costly and uncertainty will affect capital expenditure decisions.
• Stakeholders have expressed a desire for consistency within the net centric environment, a "level playing field" enabling the change from AIS to AIM.
• The Aeronautical Information business is in a process of change and requires certainty to evolve progressively from paper to a digital.
The Regulatory Issues (1)

• As ATM becomes information driven, there is a need to ensure that safety, quality and contingency requirements within the net centric environment are addressed and compliance is achieved by all actors.
• Interoperability requirements need to be agreed and met to ensure regional, interregional and global exchange of all required aeronautical information within the net centric environment.
The Regulatory Issues (2)

- Special attention should be given to the economic regulation for the net centric environment
- Economic regulation should focus on:
  - fair and efficient charging systems based on non-discrimination, cost relatedness and transparency for the use of information infrastructure not open to competition, and
  - setting the incentives to encourage investments enabling implementation of the required net centric environment
The Regulatory Issues (3)

• As the change from AIS to AIM is a global issue it requires a regulatory framework in a global context.
• States in close cooperation with ICAO and regional developments need to ensure that a global regulatory framework is developed and implemented.
The Way Forward

• Regulatory policies for a net centric AIM will increasingly guide the AIM industry and set in motion major shifts in economic value
• AIM policies need to be agreed between all involved stakeholders of this net centric data environment
• Such policies could form a base on which stakeholders develop their action plans to eliminate the institutional show stoppers
• The issues related to cost recovery including the business model for the net centric AIM environment need to be addressed
Fostering Change

- In AIM the shift is from a prescriptive to a more principled-based approach to regulation.
- Foster a CDM environment that allows a more innovative and sophisticated use of aeronautical information.
- Strike a balance between finding the right policy mix to support new developments while protecting users against exposure to undue risk.
Conclusions (1)

Objectives for AIM Regulation are
• to develop global rules for the provision and use of aeronautical information for a net centric environment
• to develop with the stakeholders AIM policies as a base for implementing and enabling collaborative information sharing
• To address the economical impacts of the required changes for establishing a net centric environment and agree on how the change shall be financed
Conclusions (2)

• States in close collaboration with ICAO address the unresolved institutional issues currently hampering the implementation progress of the net centric environment
• Rapid progress is required on resolving the institutional issues related to the net centric environment related to change to AIM
Thank you for your attention