

ELEVENTH AIR NAVIGATION CONFERENCE

Montreal, 22 September to 3 October 2003

Agenda Item 1: Introduction and assessment of a global air traffic management (ATM) operational concept

1.1 The global ATM operational concept :

ALIGNMENT OF FUTURE WORK ACCORDING TO THE ICAO GLOBAL ATM OPERATIONAL CONCEPT

(Presented by Sweden)

SUMMARY

This paper presents a view on the evolution of the Global ATM Operational Concept pointing out a number of issues of operational importance for the alignment of further work.

We appreciate the progress made on the concept and advocate that further work is needed.

Suggested action by the Conference is in paragraph 3.

1. INTRODUCTION

1.1 The first draft version of the ICAO Global Air Traffic Management (ATM) Operational Concept as developed by the Air Traffic Management Operational Concept Panel (ATMCP) was circulated to States and international organisations in 2002 for comments. Taking into account the comments and recommendations received, the Air Navigation Commission (ANC) finalized the Global ATM Operational Concept document.

1.2 Sweden is satisfied with the ICAO Global ATM Operational Concept and the approach taken by the ANC to describe how emerging and future ATM system should operate. The ICAO Global ATM Operational Concept brings clarity into the operational future of ATM and we recognize that this visionary

thinking is the result of a well prepared and very clear work programme set out by the ANC for the ATMCP.

2. IMPROVED PERFORMANCE THROUGH COLLABORATION

2.1 The current vision of the future ATM constitutes a fundamental revision of the approach to ATM, addressing and considering characteristics as:

- a) a concept driven approach;
- b) performance orientation;
- c) safety first, with systems safety management as a foundation; and
- d) recognition of ATM as a network of partners at all levels, in an en-route to en-route process using collaborative decision-making (CDM) as a means to improve performance, based upon shared, timely and correct system-wide information management.

2.2 We recognize that the concept is based on the view that several ATM partners together create one ATM system. However, it is important to be aware that the ATM partners have different requirements and driving forces and that this fact has to be considered both in the planning and the operations. Collaboration is the bridge for achieving the optimum ATM performance irrespective of different driving forces or requirements between all partners. Bearing this in mind, and that this concept represents a major change to the current ATM system, it is important that priority has to be given to explain and market the new concept with the aim to reach a consolidated and accepted view among all partners, and to secure their participation in the further work needed.

2.3 Historically, the different ATM partners have developed their requirements in splendid isolation while this new concept as a prerequisite for success explicitly points out collaboration between all partners in the definition of needs and requirements. This is required at all levels, strategical or tactical, global, regional or local. Therefore, we recommend that the linkage between performance levels and user expectations and needs should be further developed, bearing in mind a system-wide approach to safety, security, efficiency and business needs. Priority in this area is needed in order to reach a visible and acceptable framework and structure from expectations to actual measured values.

2.4 With this in mind, some of the current principles of ATM should be reconsidered. We have noted the following three examples that should be changed in the light of the ICAO Global ATM Operational Concept:

- a) the en-route to en-route concept to be introduced instead of gate-to-gate to better visualise the complete cycle of events, capturing both the aerodrome and airspace user operations side of ATM and the associated constraints;

- b) on-time-first-served principle instead of or complementing the first-come-first-served principle to better achieve an incentive approach to investments for the improvement of ATM; and
- c) enhanced system supported “see-and-avoid” to complement the traditional visual “see-and-avoid” principle, to make better use of the current state of technology.

2.5 A lot remains to be done to validate the different aspects of the ICAO Global ATM Operational Concept. The most fundamental change that we consider to be needed is the review and reorganization of the Technical Work Programme of the Organization in the Field of Air Navigation. Such a review and reorganization would also involve the various panels of the ANC and their work programmes. It is necessary that, both the work programmes and the distribution of tasks between the panels be reviewed with a view to adapt the work to the ICAO Global ATM Operational Concept. The work programme should then more explicitly reflect the fact that we are looking for one ATM system with contributions from several ATM partners. In such a reorganisation the participation of all ATM partners must be secured. At the same time, clear operational needs must be identified and from these needs operational requirements must be derived. Further work also needs to include a coordinated validation and R&D designed to secure that the results are comparable with, and complementary to each other. A speeding up of the overall process is also desirable.

2.6 We also strongly support the concept of information management in its role to support the collaborative decision-making process. In this context we consider that aeronautical information services (AIS) and meteorological services (MET) are providing subsets of the ATM information requirements and therefore, we propose that this approach is applied in future work.

2.7 These efforts will require cooperation and exchange of information among all ATM partners, at all levels all around the world. It is important to have a common vision, and it is also important to determine how this vision can be achieved. The ICAO Global Operational Concept would merit from a process of annual updates, where the linkage between performance levels and user expectations can be validated at a global level. The further development of the concept should be immediately supplemented by activities which prepare the transition from today’s ATM systems to the future. Steps of changes need to be identified and assessed in terms of improved ATM performance. This is essential in order to achieve future global interoperability and “seamlessness” at an acceptable total cost.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) endorse the Global ATM Operational Concept;
- b) note the need for an extensive collaboration between States, air navigation service providers, airlines, airport operators and industry to achieve the objectives of the ICAO Global ATM Operational Concept; and

- c) recommend that ICAO reorganize its Technical Work Programme in the Field of Air Navigation and, as a baseline, align the work programme with the ICAO Global ATM Operational Concept.

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