



SINGLE SKY COMMITTEE

**European ATM Master Plan**

**Implementation Package 1**

- Submitted by the European Commission –

This Working Paper (WP) builds on the outcome of the discussion on the Implementation Package 1 (IP1) of the European ATM Master Plan in the SSC32 meeting on 14 October 2009 and thus replaces WP8 and WP9.

This paper provides:

- a regulatory roadmap for IP1, asking for the SSC's agreement to proceed with developing the mandates for the proposed Implementing Rules and Community specifications,
- together with a proposal for the IP1 governance, focussed on the regulatory perspective and the role of the SSC and indicating the principle for an industry oriented structure connected to the SESAR JU;

The SSC is invited to express by correspondence its agreement with the recommendations in section 4 in the paper.

## **1 THE IMPORTANCE OF IP1 IN THE EUROPEAN ATM MASTER PLAN**

The "Implementation Package 1" (IP1) is the interface between the current fragmented ATM system in Europe and the future harmonised and modernised European ATM system, supporting the ambitious political goals of the Single European Sky and preparing for the implementation of the SESAR results envisaged in the "implementation packages 2 and 3" (IP2 and IP3). Implementing IP1 in time (target date for full implementation 2013-15) will enable the transition to the new SESAR concepts and systems. Delays or fragmented deployment of IP1 will make SESAR deployment more difficult, add avoidable costs, or put it even at risk.

In practice, IP1 can be considered already started and much of the needed investments are already part of the current investment plans of stakeholders. There is however a need for an appropriate governance structure, so that the required operational and technical performance for the SESAR baseline can be assured.

## **2 IP1 REGULATORY ROADMAP – THE CONTEXT**

### **2.1 Definition of IP 1**

In its initial version in the ATM Master Plan document established in the SESAR Definition Phase<sup>1</sup>, IP1 consisted of 96 Operational Improvement (OI) steps.

The subsequent assessment of the maturity and added value of the different elements, together with the further precision of the content<sup>2</sup> resulted in a *refined definition*<sup>3</sup>, comprising now 80 Operational Improvement steps. This refined IP1 definition is proposed, together with the IP1 regulatory roadmap and relevant support material (e.g. standardisation roadmap, risk management plan update, etc.), as input to the preparation of the first update of the European ATM Master Plan which is just starting in the SESAR JU.

### **2.2 The Regulatory Roadmap for IP1**

Following the request of the Council<sup>4</sup>, the Commission launched experts' work to develop the IP1 regulatory roadmap. The result of this work was supported by the ICB at their last meeting in September 2009 and includes a first set of Implementing Rules and Community Standards. The Commission proposes to

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<sup>1</sup> Report D5

<sup>2</sup> The refinement process for IP1 was steered by the Joint Working Group which had participants from the SESAR JU, the Commission and Eurocontrol. Several stakeholders provided input and the outcome of this process was endorsed by the Eurocontrol Stakeholder Consultation Group SCG/10 in February 2009 and the ICB/27 in March 2009. The SSC was informed about this process and its outcome through the presentation/discussion at SSC/30 in April 2009.

<sup>3</sup> Current consolidation of this work proposes to move 16 OI Steps to the SJU Work Programme.

<sup>4</sup> In article 10 of the Council Resolution of 9 March 2009 endorsing the European ATM Master Plan the EC is requested to develop and maintain a regulatory roadmap to support the deployment of the SESAR Implementation Packages.

start concrete work on these measures, asking the SSC for approval to advance with the development of the respective mandates. This work will include validation/verification of the baseline material of these IRs, and will also apply the "better regulation" principles involving the industry.

#### 2.2.1 *Proposal for Implementing Rules (IRs) in the context of IP1 (for details see annex A and C)*

The IRs are prioritised with a first cluster of 3 IRs to enable network operations and a second cluster of 4 IRs to prepare the framework for future deployments.

##### **Cluster A: Enabling network operations**

- Advanced Airspace Management Systems and Network Management
- Network Operations Plan
- Airspace Classification

##### **Cluster B: Providing a framework for future deployment**

- System Wide Information Management SWIM (including definition of roles and responsibilities, licensing aspects, security issues, liability and ownership)
- Required Communication Performance
- Required Surveillance Performance
- Required Navigation Performance

##### **Cluster C: Review of existing IRs: maximising use of existing technology**

In addition, the process also identified another cluster of 4 existing IRs to be reviewed in the light of the IP1 refined definition in order to align the requirements of the OIs and the existing regulations.

- Data Link Services
- Coordination and Transfer (COTR) and Initial Flight Plan (IFPL)
- Aeronautical Data Quality (ADQ)
- Air-Ground Voice Channel Spacing (VCS)

#### 2.2.2 *Proposal for new Community Specifications (CS) (for details see annex B and C)*

In order to ensure harmonised and interoperable deployment for the SESAR baseline, CSs should be developed to cover:

- Arrival and Departure Management (AMAN/DMAN) systems
- Continuous Climb Departures and Continuous Descent Approaches
- Automated Support Tools for Air Traffic Controllers
- Data Repositories and ASM/ATFCM Tools
- The use of MET data in ATM and AOC systems
- SWIM network services (capability level 1)

It is also proposed that the following CSs, currently under development, should be reviewed/updated to determine if they support all relevant aspects of IP1:

- A-CDM (Airport Collaborative Decision Making)
- GNSS Applications (APV/LPV)
- A-SMGCS (Advanced Surface Movement Guidance and Control System)

### 2.2.3 Industry standards (IS) (for details see annex E)

A considerable number of OI steps were identified as candidates for implementation through a voluntary use of industry standards and/or technical specifications.

## 3 IP1 GOVERNANCE

### 3.1 Objectives

Considering the importance of coordinated and timely deployment of IP1 for the deployment of SESAR results and the modernisation of the European ATM network, a governance structure is crucial.

As regards its regulatory dimension, the objective is to establish the necessary framework and oversight for IP1 deployment in order to ensure coherence for the different elements of IP1. The Single Sky Committee is the established body to advise and assist the Commission in this task and to take the necessary decisions.

As regards the actual deployment activities by industry, the ICB<sup>5</sup> identified the need to ensure commitment of all stakeholders and steering of deployment activities through monitoring and control of an agreed portfolio of IP1 programmes and proposes a single programme co-ordination function.

### 3.2 Oversight for IP1 deployment

Since its creation, the Single Sky Committee has developed a highly-recognised competence in its supporting role to the Commission in the implementation of the Single European Sky. This role will be further increased with the entry into force of the revised SES regulations as the SSC will play a major role in the implementation and monitoring of the performance scheme.

In order to support the oversight role of the SSC for IP1, it will be kept systematically informed of IP1 implementation and will give, as appropriate, guidance on the strategy to follow. Most importantly, it will take the necessary decisions on the IP1 related Implementing Rules.

Depending on the subject and the need for more in-depth discussions, ad-hoc experts' meetings could be organised as needed, in the form of a *Working Group on IP1 deployment*, based on article 7 of the SSC's rules of procedure.

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<sup>5</sup> Position Paper: Definition of the IP1 Programme Co-ordination Function, 29<sup>th</sup> September 2009 final

The objective would be to support the SSC in the tasks related to IP1. Meetings would be called upon decision by the SSC on precise subjects and, as appropriate, with the mandate to prepare SSC decisions.

### **3.3 IP1 coordination**

Whilst industry has to fulfil their responsibility and commitment to take the appropriate investment decisions in the context of modernising the European ATM system and of the European ATM Master Plan, the Commission recognises the need to facilitate this process with a view to mitigating risks for the SESAR deployment.

The ICB<sup>6</sup> proposes the Commission to establish an "IP1 Implementation Executive Group" for this purpose, supported by a small expert function.

The Commission considers that this steering of industry deployment programmes is directly related with the execution of the European ATM Master Plan and should be closely connected with its maintenance and update as well as with the preparation of the regulatory framework.

In application of Council Regulation (EC) n°219/2007, the SESAR JU is the entity which is in charge of the execution of the ATM Master Plan and assembles all groups of air transport stakeholders in its structure, together with the European Community and Eurocontrol.

The Commission proposes therefore, to submit to the Administrative Board of the SJU, a proposal to set up on an ad-hoc basis an "IP1 office" which would be composed of a small number of persons seconded from stakeholders and which would be responsible for the coordination of IP1 under supervision of the SESAR JU Executive Director.

This would allow all stakeholders concerned by IP1 implementation to be formally involved in the coordination process via the SJU Administrative Board and would establish a direct and close link between the R&D activities and their implementation. Moreover, it is consistent with the needed adaptability of subsequent SESAR deployment (IP2 and IP3) on results and progress of baseline (IP1) implementation.

The Commission will keep Member States systematically informed about the further development of this approach and of the work undertaken by the office.

This office is a transitional ad-hoc solution for IP1 in view of the urgency to proceed in this important matter.

This arrangement does in no way prejudice the governance of the SESAR deployment. A formal decision on the SESAR deployment (IP2, IP3) will be taken by the Council before the end of 2010, on the basis of a report<sup>7</sup> which the Commission will submit to that effect.

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<sup>6</sup> Position Paper: Definition of the IP1 Programme Co-ordination Function, 29<sup>th</sup> September 2009 final

<sup>7</sup> See the Council Resolution endorsing the European ATM Master Plan

## **4 RECOMMENDATIONS**

### **4.1 On IP1 and the regulatory roadmap**

The Single Sky Committee is invited to:

- agree that the Commission launches the development of the mandates for the identified new IR and CS , as proposed in section 2.2 and detailed in annexes A, B and C of this paper, using the existing Community legal framework.
- agree that the refined IP1 definition including the proposal for the IP1 regulatory roadmap (launch of new and review/update of existing Implementing Rules and Community Specifications) as described in section 2 and in the annexes to this paper are forwarded to the SESAR JU as input to the update of the European ATM Master Plan.

### **4.2 On the governance**

The Single Sky Committee is invited to:

- Endorse the role of the SSC for IP1 as described in section 3.1 and 3.2.
- Endorse the principle that an industry oriented coordination structure should be connected to the SESAR JU and take note of the first reflections described in section 3.3.

<b><u>Details of the proposed IP1 Implementing Rules</u></b>
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**General deployment mechanisms for IP1 – overview:**

Based on the refined IP1 definition and further work to develop the regulatory roadmap a combination of the following mechanisms is proposed for IP1 deployment<sup>8</sup>:

<p><b>SES Implementing Rules (IRs)</b> – for elements which require a binding, widespread and harmonised implementation in order to create the baseline for SESAR. IRs should be supported by Community Specifications where appropriate.</p>
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<p><b>SES Community Specifications (CSs)</b> – for elements which are not mandatory but require a harmonised implementation in several regions to ensure that stakeholder expectations of ATM performance are delivered.</p>
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<p>In addition, <b>industry standards</b> are foreseen for elements which require voluntary deployment of industry standards and technical specifications e.g. to fulfil a local/regional implementation need or because no wide-spread deployment is needed.</p>
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**Cluster A: Enabling network operations**

In order to prepare for the move towards trajectory and time-based operations the refinement process for IP1 concluded that two implementing rules should be developed, with work to be started as soon as possible:

- ***Advanced Airspace Management Systems (AAMS) and Network Management***: This IR would establish processes for flight planning, integration of military operations, and integration of airport network management processes.
- ***Network Operations Plan (NOP)***: This IR would support harmonised deployment of the on-line Network Operations Plan and associated functionality by specifying the roles and responsibilities.

Both IRs will require further determination of the appropriate scope and might also require development of supporting CSs to define specific processes and tools. It is proposed that the mandates to define these IRs are launched as soon as possible to ensure that the IRs are available in the IP1 timeframe.

- In addition, it was proposed that the IR on ***Airspace Classification*** as required by the SES legislation is taken forward. An approach based on the harmonised use of the seven ICAO classifications and a toolkit for local adaptation has been agreed previously by the ICB.

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<sup>8</sup> The refinement process for IP1 was steered by the Joint Working Group which had participants from the SESAR JU, the Commission and Eurocontrol. Several stakeholders provided input and the outcome of this process was endorsed by the Eurocontrol Stakeholder Consultation Group SCG/10 in February 2009 and the ICB/27 in March 2009. The SSC was informed about this process and its outcome through the presentation/discussion at SSC/30 in April 2009. The work of the Joint Working Group continued and produced the proposed regulatory roadmap. Eurocontrol's SCG recognised the need to use and combine the three proposed mechanisms for IP1 deployment.

The current draft rules on Air Traffic Flow Management (ATFM) and Surveillance Performance and Interoperability should also be assessed against the refined definition of IP1.

### **Cluster B: Providing a framework for future deployment**

In addition it is proposed that Implementing Rules are established to create a regulatory framework for the establishment of performance based ATM. It is proposed that this framework consists of IRs covering:

- *System Wide Information Management SWIM* (including definition of roles and responsibilities, licensing aspects, security issues, liability and ownership)
- *Required Communications Performance* (RCP),
- *Required Surveillance Performance* (RSP),
- *Required Navigation Performance* (RNP)

These topics are proposed as IRs in the longer-term, but definitively before the start of IP2 deployment. However, the JWG also agreed that work towards these IRs should begin in the short term by aligning the current activities (eg SPI IR alignment towards RSP IR) and by launching specific activities (eg with ICAO on RNP).

### **Cluster C: Review of existing IRs: maximising use of existing technology**

Several of the OI steps in IP1 relate directly to existing IRs or rules already under development. Each of these rules should be analysed to determine whether or not changes are required to reflect the additional requirements of IP1. The affected rules are:

- *Data Link Services* to ensure that protected mode CPDLC is included and to evaluate extension of the rule to cover D-OTIS and ATIS.
- *COTR/IFPL* to ensure that automated assistance to Controller for Seamless Coordination, Transfer and Dialogue is provided.
- *ADQ* to ensure that the supply chain for Aeronautical Data is improved through common quality measures and that Aeronautical Data Exchanges are facilitated through digitalised information.
- *VCS* to support deployment of 8.33kHz channel spacing below FL195 to alleviate VHF frequency congestion. A review of this need has already been proposed by the ICB.

### **Link to the SES II Performance Scheme**

It was noted that three OI steps within IP1 define the need to measure performance of the EATMN. These OI steps should be taken up within the Implementing Rule development on the SES II Performance Regulation.

## **Annex B:**

### **Details of the proposed IP1 Community Specifications**

#### **Proposals for new CSs**

It was considered that a number of developments would become widespread in the IP1 timeframe without the need for a rule. However, it was felt that in order to ensure harmonised and interoperable deployment for the SESAR Baseline, CSs should be developed to cover:

- Arrival and Departure Management (AMAN/DMAN) systems
- Continuous Climb Departures and Continuous Descent Approaches
- Automated Support Tools for Air Traffic Controllers
- Data Repositories and ASM/ATFCM Tools
- The use of MET data in ATM and AOC systems
- SWIM network services (capability level 1).

Further CSs might be proposed in case the need for supporting CSs should be identified during the development process for the Implementing Rules. Any Community Specification should be based on mature input material (i.e. the availability of mature technical specifications and standards, or the required certification material) and during the CS development, the use of technical industry standards should also be considered as a viable option.

#### **Review of existing CSs**

It was also considered that the following CSs, currently under development, should be reviewed/updated to determine if they support all relevant aspects of IP1:

- CS on A-CDM.
- CS on GNSS Applications (APV/LPV).
- CS on A-SMGCS (Advanced Surface Movement Guidance and Control System), noting that the IP1 proposal for assistance to ground vehicles would be a major update and therefore may not be achievable in the timeframe.
- CS on AMHS (to establish support for ground-ground applications specified for IP1)

Where a CS is currently under development by an ESO it is a responsibility of the ESO to ensure that the CS is maintained, as there will be no further Commission mandate for the review/update of the CS.

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**Mapping of IP1 Operational Improvement (OI) steps to deployment mechanisms**

In order to determine which implementation mechanism could be applied to each OI step in the refined IP1 definition, the EC organised a workshop of the Joint Working Group<sup>9</sup> with participation of the European Commission, the SESAR Joint Undertaking and Eurocontrol which was held in August 2009. During this workshop information from the SESAR Definition Phase<sub>1</sub> together with extensive feedback from Stakeholders were analysed and each OI-step was assigned to the respective implementation category and specific proposal for IRs and CSs as described below.

**A.1 OI steps to be supported by Implementing Rules**

The following OI steps are proposed for deployment with the support of an IR with CS and industry standards as appropriate. In general these OI steps require harmonised implementation across the SES States to act as a baseline for further SESAR deployment.

Deployment Tool	OI identifier	OI
ADQ IR	IS-0202	Improved Supply Chain for Aeronautical Data through Common Quality Measures
	IS-0204	Facilitated Aeronautical Data Exchanges through Digitalised Information
COTR IR	CM-0201	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue
DLS IR	AUO-0301	Voice Controller-Pilot Communications (En Route) Complemented by Data Link
	IS-0401	Automatic Terminal Information Service Provision through Use of Datalink
	IS-0402	Extended Operational Terminal Information Service Provision Using Datalink
IR on Advanced Airspace Management System and Network Management	AOM-0201	Moving Airspace Management Into Day of Operation
	AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation
	AOM-0203	Cross-Border Operations Facilitated through Collaborative Airspace Planning with Neighbours
	AOM-0205	Modular Temporary Airspace Structures and Reserved Areas
	AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface
	AOM-0302	Harmonised OAT Flight Planning
	AOM-0303	Pan-European OAT Transit System
	AOM-0401	Multiple Route Options & Airspace Organisation Scenarios
	AOM-0402	Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options
	AUO-0101	ATFM Slot Swapping
	CM-0101	Automated Support for Traffic Load (Density) Management
	DCB-0203	Enhanced ASM/ATFCM Coordinated Process
	DCB-0204	ATFCM Scenarios

<sup>9</sup> See footnote 8 in annex A

Deployment Tool	OI identifier	OI
	DCB-0205	Short Term ATFCM Measures
	DCB-0301	Improved Consistency between Airport Slots, Flight Plans and ATFM Slots
	DCB-0303	Improved Operations at Airport in Adverse Conditions Using ATFCM Techniques
	IS-0102	Improved Management of Flight Plan After Departure
IR on Airspace Classification	AOM-0101	Uniform Application of 7 ICAO Airspace Classes at FL195 and below
IR on NOP	AUO-0201	Enhanced Flight Plan Filing Facilitation
	DCB-0101	Enhanced Seasonal NOP Elaboration
	DCB-0102	Interactive Rolling NOP
	DCB-0201	Interactive Network Capacity Planning
	DCB-0204	ATFCM Scenarios
	DCB-0206	Coordinated Network Management Operations Extended Within Day of Operation
	IS-0101	Improved Flight Plan Consistency Pre-Departure
IR on SWIM Framework	IS-0203	Harmonised Aeronautical Information through Common Data Model
<i>Link to IR on SES-2 Performance Scheme</i>	<i>DCB-0204</i>	<i>ATFCM Scenarios</i>
	<i>SDM-0101</i>	<i>Network Performance Assessment</i>
	<i>SDM-0102</i>	<i>Civil-Military Cooperation Performance Assessment</i>
	<i>SDM-0103</i>	<i>Sustainability Performance Management of the ATM Network</i>

NOTE: The proposed IRs on RCP, RNP and RSP support a wide range of OIs as indicated in the IP1 Workshop Output Spreadsheet and further deployment in IP2.

## A.2 OI steps to be supported by Community Specifications

The following OI steps are proposed for deployment with the support of a CS and industry standards as appropriate. In general these OI steps require harmonised standards to enable full benefits but do not require mandatory deployment in the IP1 timeframe.

Deployment Tool	OI identifier	OI
A-CDM CS	AO-0501	Improved Operations in Adverse Conditions through Airport Collaborative Decision Making
	AO-0601	Improved Turn-Round Process through Collaborative Decision Making
	AO-0602	Collaborative Pre-departure Sequencing
	AO-0603	Improved De-icing Operation through Collaborative Decision Making
	DCB-0302	Collaborative Management of Flight Updates
AMHS CS	AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation
	DCB-0201	Interactive Network Capacity Planning
	DCB-0203	Enhanced ASM/ATFCM Coordinated Process
	DCB-0302	Collaborative Management of Flight Updates
	IS-0101	Improved Flight Plan Consistency Pre-Departure
	IS-0102	Improved Management of Flight Plan After Departure
	IS-0201	Integrated Pre-Flight Briefing
IS-0204	Facilitated Aeronautical Data Exchanges through Digitalised Information	

APV/LPV CS	AOM-0601	Terminal Airspace Organisation Adapted through Use of Best Practice, PRNAV and FUA Where Suitable
	AOM-0602	Enhanced Terminal Airspace with Curved/Segmented Approaches, Steep Approaches and RNAV Approaches Where Suitable
A-SMGCS CS	AO-0101	Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground
	AO-0102	Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas
	AO-0201	Enhanced Ground Controller Situational Awareness in all Weather Conditions
	AO-0203	Guidance Assistance to Airport Vehicle Driver
CS on AMAN/DMA N	TS-0201	Basic Departure Management (DMAN)
	TS-0202	Departure Management Synchronised with Pre-departure Sequencing
	TS-0305	Arrival Management Extended to En Route Airspace
CS on CCD	AOM-0703	Continuous Climb Departure
CS on CDA	AOM-0701	Continuous Descent Approach (CDA)
CS on Controller Tools	CM-0202	Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace
	CM-0203	Automated Flight Conformance Monitoring
	CM-0301	Sector Team Operations Adapted to New Roles for Tactical and Planning Controllers
CS on data repository elements linked to IR of IFPS	IS-0101	Improved Flight Plan Consistency Pre-Departure
CS on Met	AO-0201	Enhanced Ground Controller Situational Awareness in all Weather Conditions
	AO-0603	Improved De-icing Operation through Collaborative Decision Making

### A.3 OI steps to be supported by industry standards

The following OI steps are proposed for deployment with the support of industry standards and technical specifications as appropriate. In general these OI steps may be required at a local level to deliver the agreed level of performance but do not warrant widespread adoption for IP1.

OI identifier	OI
AO-0103	Improved Runway-Taxiway Lay-out, Signage and Markings to Prevent Runway Incursions
AO-0301	Crosswind Reduced Separations for Departures and Arrivals
AO-0305	Additional Rapid Exit Taxiways (RET) and Entries
AO-0402	Interlaced Take-Off and Landing
AO-0403	Optimised Dependent Parallel Operations
AO-0502	Improved Operations in Low Visibility Conditions through Enhanced ATC Procedures
AO-0503	Reduced ILS Sensitive and Critical Areas
AO-0504	Improved Low Visibility Runway Operations Using MLS
AO-0703	Aircraft Noise Management and Mitigation at and around Airports
AO-0704	Aircraft Fuel Use and Emissions Management at and around Airports
AO-0705	Reduced Water Pollution
AO-0706	(Local) Monitoring of Environmental Performance

AUO-0401	Air Traffic Situational Awareness (ATSAW) on the Airport Surface
AUO-0402	Air Traffic Situational Awareness (ATSAW) during Flight Operations
AUO-0502	Enhanced Visual Separation on Approach (ATSA-VSA)
AUO-0503	In-trail Procedure in Oceanic Airspace (ATSA-ITP)
AUO-0701	Use of Runway Occupancy Time (ROT) Reduction Techniques
AUO-0702	Brake to Vacate (BTV) Procedure
AUO-0804	Aircraft Fuel and Emissions Management in the En Route Phase
CM-0801	Ground Based Safety Nets (TMA, En Route)
CM-0803	Enhanced ACAS through Use of Autopilot or Flight Director
IS-0407	Interoperability between AOC and Weather Information Systems

#### **A.4 OI steps for which no further implementation support is required**

The following OI steps are proposed for deployment with no further implementation support envisaged. As above, these OI steps may be required at a local level to deliver the agreed level of performance but do not warrant widespread adoption for IP1.

<b>OI identifier</b>	<b>OI</b>
AOM-0504	Optimum Trajectories in Defined Airspaces at Particular Times
AOM-0801	Flexible Sectorisation Management
AOM-0802	Modular Sectorisation Adapted to Variations in Traffic Flows
IS-0201	Integrated Pre-Flight Briefing

## **Annex D:**

### **List of 16 OIs that are proposed to be transferred to SESAR/IP2**

- AO-0202 Detection of FOD (Foreign Object Debris) on the Airport Surface
- AO-0303 Fixed Reduced Separations based on Wake Vortex Prediction
- AUO-0103 Manual User Driven Prioritisation Process (UDPP)
- AUO-0304 Initiating Optimal Trajectories through Cruise-Climb Techniques
- AUO-0501 Visual Contact Approaches When Appropriate Visual Conditions Prevail
- AUO-0602 Guidance Assistance to Aircraft on the Airport Surface
- AUO-0603 Enhanced Guidance Assistance to Aircraft on the Airport Surface Combined with Routing
- AUO-0801 Environmental Restrictions Accommodated in the Earliest Phase of Flight Planning
- CM-0102 Automated Support for Dynamic Sectorisation and Dynamic Constraint Management
- DCB-0207 Management of Critical Events
- DCB-0304 Airport CDM extended to Regional Airports
- IS-0301 Interoperability between AOC and ATM Systems (FDPS)
- IS-0701 SWIM - baseline an initial common information model based on existing and consistent standards
- TS-0102 Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)
- TS-0107 ASAS Manually Controlled Sequencing and Merging
- TS-0301 Integrated Arrival Departure Management for full traffic optimisation, including within the TMA airspace

## Annex E:

### Industry standards

In the IP1 refinement process a considerable number of OI steps were identified as candidates for implementation through a voluntary use of industry standards and/or technical specifications.

It was also identified that these OI steps are being either:

- already implemented based on a local decision;
- used for local/regional (best practise) implementation of particular applications or procedures;
- not foreseen for a wide-spread deployment within IP1;
- internally linked to other OIs (e.g. certain CFMU functionality elements).

Therefore no additional regulatory measures are proposed.

Nevertheless, the deployment of these OIs via the use of industry standards should be continuously monitored, so that the required operational and technical performance for the IP1 baseline can be assured.