Single European Sky (SES)and
the relation with the Global Performance Framework
Version 2

A user guide

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IFATCA is the worldwide Federation of air traffic controllers with more than fifty thousand members representing 135 countries. Among its goals are the promotion of safety, efficiency and regularity in International air navigation, and the protection and safeguarding of the interests of the air traffic control profession.

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IFATCA published in February 2008 SES Newsletter No. 12 in the form of an extensive paper called

Single European Sky (SES) and the relation with the global Performance framework version 1.

This document is version 2 and is called **A User Guide**. It retraces the recent development of the SES II and it's impact on the overall European ATM scene.

May 2008 is approaching and like phoenix out of the ashes Single European Sky got a new impetus and will be officially launched around the Council of Minister meeting on the 12th of June 2008.

This user guide gives an overview on the ongoing initiatives, the potential impact on European ATM, the difficulties this new process (called ATM framework – or as a working title SES II) will create, and serves as a briefing for all the European representatives and particularly assists the upcoming work in the ICB and its subgroups. This guide has been elaborated with the material IFATCA has already produced in the past, such as *SESAR mission possible?, Global Statement*, *input to the performance framework (www.ifatca.org)* . Further it gives an explanation how the European region of IFATCA with regard to representation shall be adapted in order to cope with the ongoing changes.

INTRODUCTION

Currently we are living in an interesting period – where after a long time of deliberation (High Level Group, Regulatory Conferences, ICB work) the European Commission is giving a new impetus to SES, this will have a significant impact across the ATM sector and it is important that IFATCA is able to continue to actively shape the future.

Parallel to this and in order to reinforce the Single European Sky launched in 2004 the European Commission is setting up a framework which has the following aims:

The EU **Single European Sky** initiative attempts to overcome existing fragmentation and capacity crunch by structuring airspace and air navigation services to better manage air traffic at a pan-European rather than at a national level .

The Single European Sky is the only way to provide **a uniform and high level of safety over Europe's skies.**
The major elements of this new institutional and organisational framework for Air Traffic Management in Europe consist of:

- Separating regulatory activities from service provision, and the possibility of cross-border Air Traffic Management services.
- Reorganising European airspace so that it is no longer constrained by national borders.
- Setting common rules and standards, covering a wide range of issues, such as flight data exchanges and telecommunications.

SES II to be approved by the Council of Minister (12.6.2008)

a package with four pillars .
- Performance framework amending the four SES regulations
- Technology: endorse the SESAR masterplan
- Safety: EASA to cover all links of the aviation safety chain
- Capacity: tackle capacity in the air and on the ground

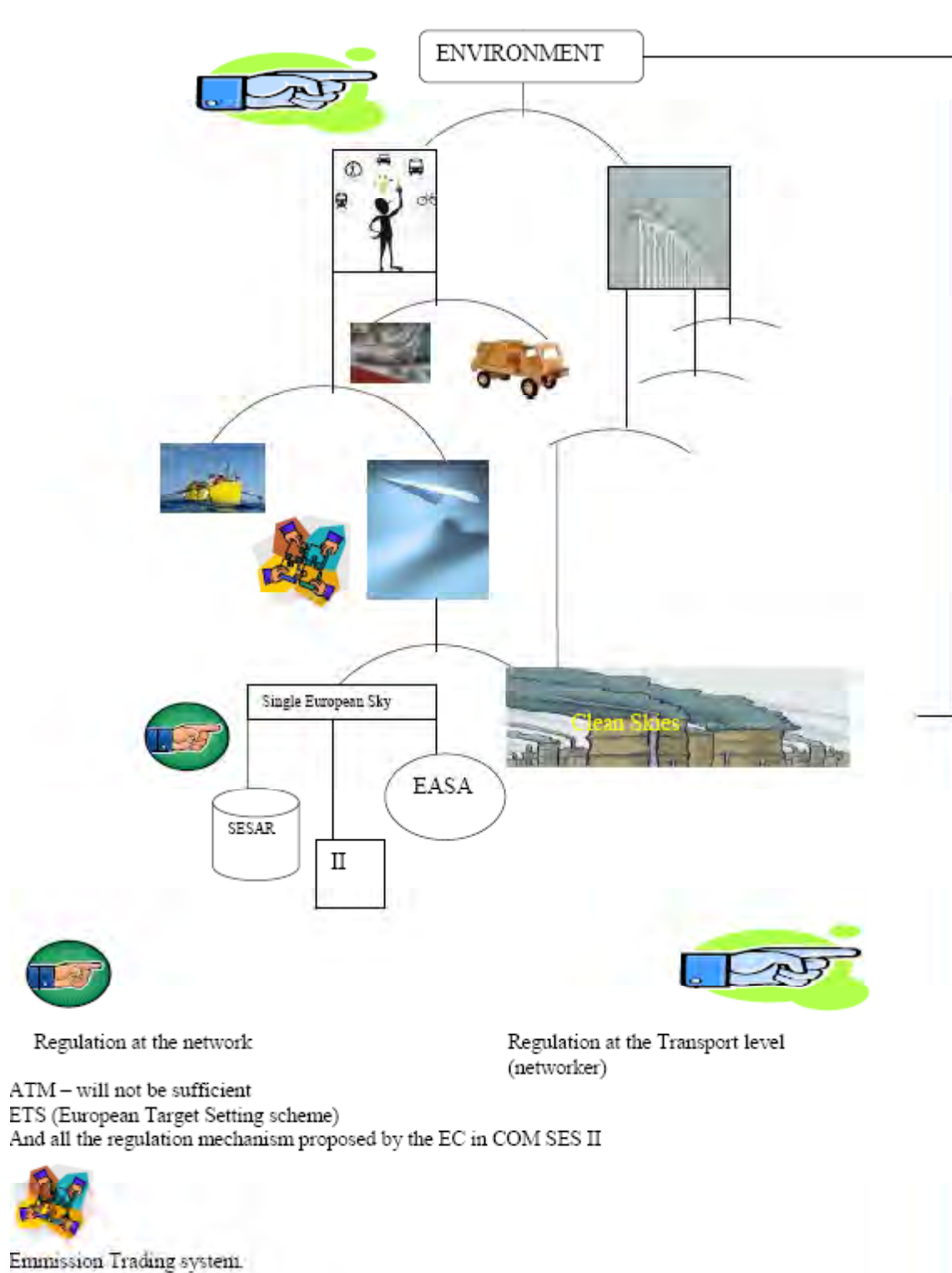The following table explains schematically what is meant with this framework.
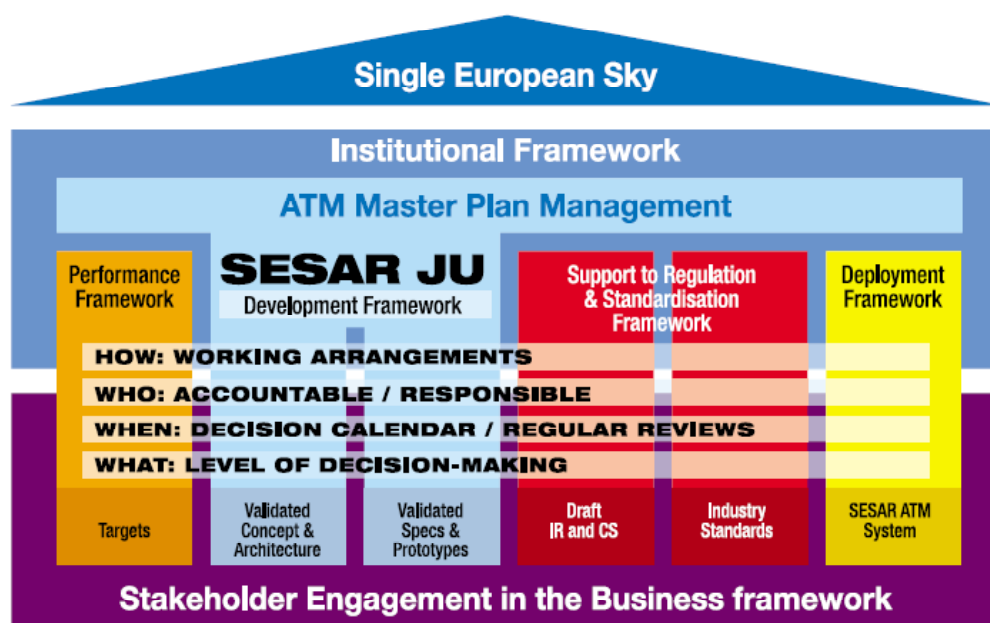
The main driver will be the environmental regulation – and IFATCA has already presented the regulation mechanism during the IFATCA 2008 conference in Arusha and in the paper called (IFATCA 080226 SES II version 1)
http://www.ifatca.org/phpBB2/viewtopic.php?f=5&t=575

The small graph below gives an overview on this main driver which will be used to liberalise the ATM: Environment.

ENVIRONMENT

Single European Sky

SESAR

II

EASA

Clean Skies

Regulation at the network

Regulation at the Transport level (networker)

ATM – will not be sufficient
ETS (European Target Setting scheme)
And all the regulation mechanism proposed by the EC in COM SES II

Emmission Trading system

Overview on this main driver which will be used to liberalise the ATM: Environment.

Looking in detail at the proposed institutional framework, IFATCA will have to organise in a way that we can cope with the new situation.

The following description explains with the currently available information what IFATCA has understood.

It looks at the various pillars SES II is composed:

FIRST PILLAR: PERFORMANCE [1]

Introducing **performance regulation** on safety, environment, capacity and cost efficiency, with the appropriate incentives and disincentives to drive the change process

Accelerating the creation and integration of air navigation services in **Functional Blocks of Airspace (FABs)**

Improving the performance of the network to strengthen the **network functions**
- **Strengthen ANSP governance to become more business oriented**
- **Performance Review Body**
- **Performance Target Setting for the Network**
- **Translate EU targets into national/regional targets**
- **Ensure coherence between regional and EU targets**
- **Make the system credible**

With regard to the performance framework we expect that the Commission will come up with a so-called European Target Setting scheme which looks approximately like this. Target setting will be done through the SSC, ICB and the states will have to be responsible to meet the overall targets with national target setting plans (these are challenges as there is no really commonly agreed and shared vision why the Commission has chosen the 4 categories of targets to be met). According to the ICAO philosophy one cannot only address partially the 11 Key Performance Areas (KPA) but shall rather look at all of them in order to achieve the spirit of the Global ATM Concept.

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[1] Presentation given by the European Commission April 2008

The EC Target setting scheme will most probably look like this.

Economic Regulation process: "ETS scenario" for Target Setting and Implementation
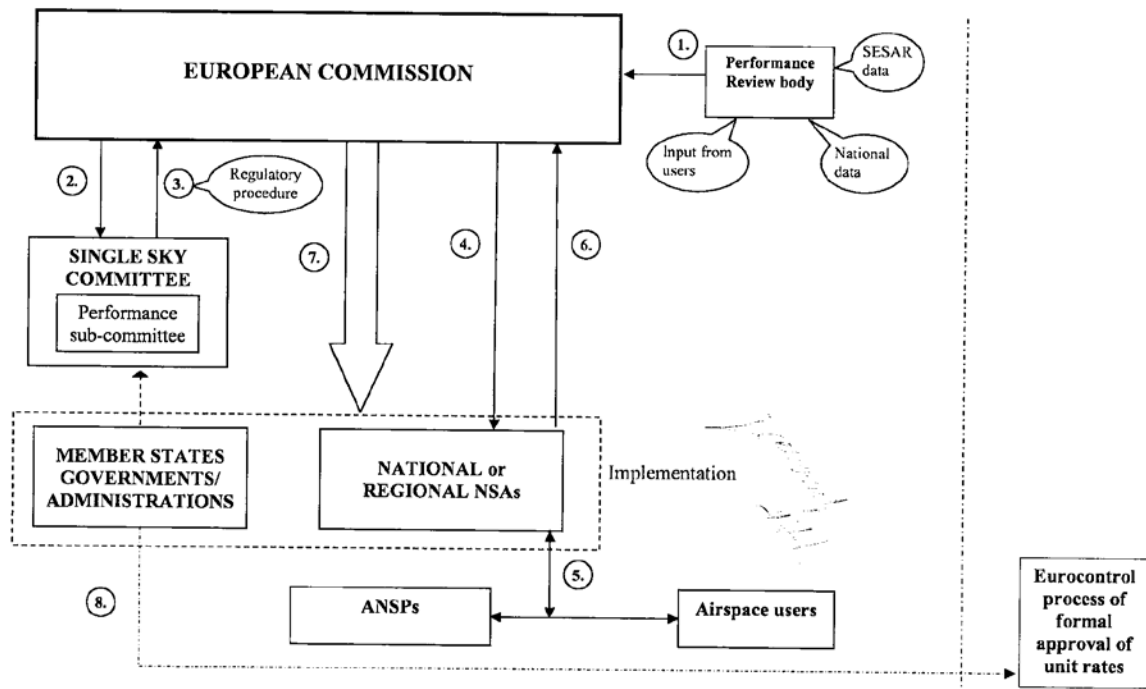
The question is how the 4 KPA selected by the Commission (in order to achieve liberalisation in the end via the environmental hook) will be defined with targets and how these targets might be met in the future by the community.

- Safety
- Environment
- Cost efficiency
- Delays

SECOND PILLAR: SAFETY [2]

Second pillar: Safety – extension EASA competence
- **Bring all links of safety chain under EASA:**
- **Total System Approach**
- **Extend to: airport operations and air traffic management**
- **Build on SES acquis[3]**
  » Safety rules of SES
  » Strengthen oversight of National Supervisory Authorities

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[2] Presentation given by the European Commission April 2008

[3] "Acquis communautaires " are the 31 chapters each state has to fulfill before being able to complete the adherence process with the European Communities. The SES is part of the 31 chapters. Here the acquis is meaning the achievements of SES.

Safety as such is not mentioned in the overall table describing the SES II process – however from the authors point of view the most prominent pillar which will look heavily into this is the pillar talking about the Support to Regulation & Standardisation Framework.

EASA's opinion on extending its competency to ATM, has been published and is available for review and commenting. http://easa.europa.eu/ws_prod/g/rg_opinions_main.php.
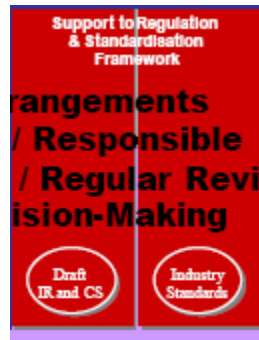
Support to Regulation:

In order that the European Commission can activate and try to gain control over the IP1 (see page 11 for further details) process but as well over the rest of the SES II institutional framework – a plethora of new implementation regulations will be created. Old ones such as the Interoperability Regulation completely reopened etc. Further with EASA becoming the regulatory body for ATM there will be a shifting in attention to the standardisation bodies such as Eurocae, RTCA (Radio Technical Commission for Aeronautics) and CENELEC (European Committee for Electrotechnical Standardisation) . Further there is another complexity layer added thru the fact that Eurocontrol will still be working on the ECIP (European Convergence and Implementation Program) and on the acceptance of some of the ENPRM (Eurocontrol Notice of Proposed Rule Making).

A small recapitulation of the currently existing mechanism for regulation experienced in the SES I:

- **Essential Requirements (ER):** Define high level requirements that all systems must respect. The ER set the agenda for modernisation rather than define an implementation; hence a systems roadmap is still needed to define the required systems – i.e. the SESAR ATM Masterplan. SESAR suggests that the list of constituent systems listed in the IOP regulation should be reviewed once the SESAR architecture is stable.

- **Implementing Rules (IR):** Define mandatory requirements for how stakeholders are to demonstrate compliance to the Essential Requirements. IRs define the required services and level of performance. They should not in general define a technological solution (although recent rules have been explicit in terms of technology due to fears over achieving interoperability). An IR should define a means of conformity assessment – eg the process by which a technological solution can be shown to meet the requirements of the IR and the Essential Requirements.

- **Community Specifications (CS):** A CS defines a means of compliance for Essential Requirements (and/or an IR). A CS is not mandatory – it defines one potential means of compliance, an ANSP (or other stakeholder) may decide to demonstrate that another means of compliance exists, however the existence of a CS is largely seen as being indicative of the preferred solution.

THIRD PILLAR: the technical part of SES II [4]

- **From definition towards development**
    - » Endorse Masterplan and transmit to SESAR JU
    - » Industry financial commitment
    - » Make fragmented R&D efforts converge – liaise with CLEAN SKY
- **SESAR in a Community environment**
    - » Legal tools to adopt standards after validation
    - » Global interoperability (NextGen)
    - .» Incentives (early) equipage
- **And deployment?**
    - » Successor to JU
    - » Governance
    - » Financing
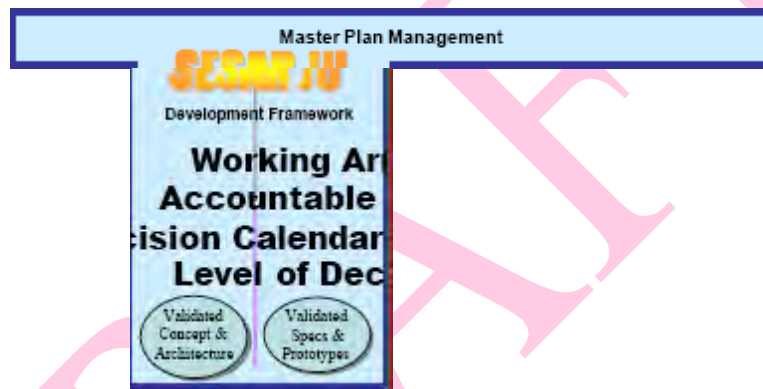
SESAR definition is closed, D5 and D6 (www.sesar-consoritum.aereo) have been accepted by the purchaser. The Commission considers the targets (safety tenfold, capacity threefold etc.) not to be met.[5] The ATM Masterplan (www.atmmasterplan.eu) will serve as guidelines for the SESAR Joint Undertaking (www.sesarju.eu) the so-called SESAR development phase (8 years duration). The total estimated cost of the development phase of SESAR is €2.1 billion, to be shared equally between the Community, Eurocontrol and the industry (€700 million Community, €700 million Eurocontrol, €700 industry). Given the nature of the programme and its scope the Community contribution will come equally from Research and Trans-European Network funds. The third phase is the so-called deployment phase which for the time being is not yet organised.

SESAR is the R&D masterplan which does bundle the research money which formerly was available thru the 5-7 Framework program of the European Union. The amount of money foreseen is more or less the same as before under the TEN-T funding mechanism. The major difference is that some of the money is not actually invested in form of cash but rather thru in kind contribution.

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[4] Presentation given by the European Commission April 2008
[5] Luc Tytgat in ISG24

Relation between IP1 and SESAR Development phase

The SESAR R&D Masterplan has been divided into three main Implementation Packages (IP) called IP 1 – 3. Each of the IPs is a listing of steps to be accomplished (so-called ATM level capabilities and aircraft capabilities) this in order to have a synchronisation put in place.

Taken from D5 and D6 deliverables this figure and the explanation show this relation.
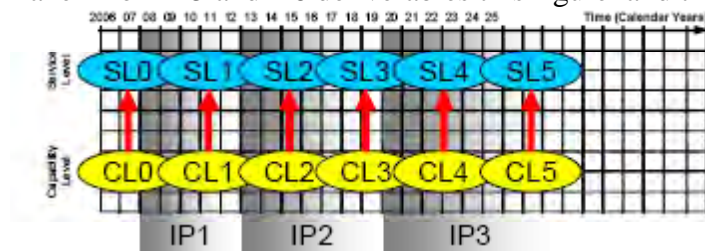

Figure 5 Deployment of ATM Service and Capability Levels

Figure 6 Relationship between ATM Service and Capability Levels

The notion of ATM Capability Levels had already been introduced in D3. Please note that the definition of some levels has been changed in D5:

- o D5 Capability Level 3 did not exist in D3;
- o D5 Capability Level 4 corresponds to D3 Capability Level 3;
- o D5 Capability Level 5 corresponds to D3 Capability Level 4.

So far 2 critical elements have been identified (by IFATCA) – which are the most confusing elements in the coming month. One is that IP1 will not be managed by the SESAR Joint Undertaking – but SESAR JU will start to work on IP2 based on the deliverables of D5. Recently the Executive Director has indicated that he will decide which part of D5 (IP2, IP3) and the recommendations will be chosen to work with which priority, which might add an additional layer of confusion. IP3 is beyond the 2020 framework and has to do with long term and innovative research which will be decided by the SESAR JU AB together with the SESAR Executive Director.

IP1 is not the responsibility of SESAR JU and will remain within the Eurocontrol working arrangements with the involvement of the stakeholders. The alignment of IP1 to become the base-line of the agreed IP2 and IP3 will be crucial. There is a danger of having too many different actors (with different political agendas, different geographical size etc.) trying to harmonise their work.

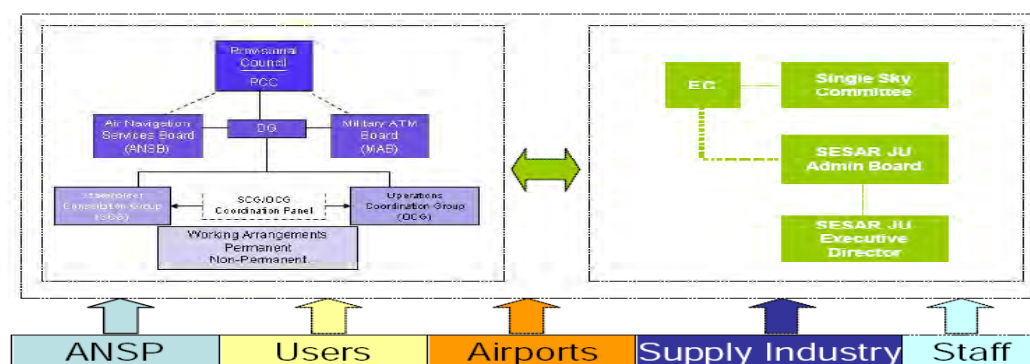The following figure depicts this problematic relationship.

Figure 25: Institutional and Stakeholders Relationships

It is our belief that the competition between Eurocontrol and the European Commission will continue to confuse the issue. Eurocontrol's SCG (Stakeholder Consultation Group) has, at its last ad-hoc meeting, discussed the alignment of the ECIP and the IP 1 program. This process is achieved thru the CND (common network development) process. The last ad-hoc session of the SCG has identified the various differences between the currently existing ECIP objectives and the IP1. This is the list.
6

OI/TI steps from IP1 with 'deployment' or 'operations' validation levels				ECIP objectives opportunities
OI /TI Step	OI/TI Step Title	IOC/FOC	Lifecycle	
AO-0703	Aircraft Noise Management and Mitigation at and around Airports	2007/2015	operations	New objective
ENV-0001	Moving towards a sustainability scope for ATM decision making	2007/2013	deployment	Additional SLoAs ENVd1
ENV-0002	Ensuring that unnecessary or non-optimal environmental constraints and practices are avoided	2008/2013	deployment	New objective
ENV-0013	Environmental sustainability performance parameters	2008/2013	deployment	
ENV-0014	environmental sustainability information systems	2008/2020	deployment	
ENV-0015	Environmental sustainability benchmarking and validation processes	2010/2015	deployment	
DCB-0304	Airport CDM extended to Regional Airports	2008/2014	deployment	Additional SLoAs AOP05
AOM-0203	Cross-Border Operations Facilitated through Collaborative Airspace Planning with Neighbours	2007/2013	operations	Additional SLoAs AOM16
AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface	2008/2013	operations	Additional SLoAs AOM13 / Additional SLoAs AOM17
DCB-0201	Interactive Network Capacity Planning	2007/2015	operations	Additional SLoAs AOP08

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6 OI= operational improvement TI = technical improvement

The deployment framework is not very clear yet and the Commission will have to address this very soon. The relationship between IP1 which will have to be deployed rapidly and this framework will most probably be the responsibility of the current deployment framework which the SSC and the Provisional Council will have to discuss together.

FOURTH PILLAR: capacity – towards gate-to gate approach[7]

Integrate capacity management in the air and on the ground
- Management airport capacity determines ATM capacity
- Airport capacity action plan
- Observatory for airport capacity
- Ensure full interoperability
- Increase predictability: planning and management in function **required time of arrival**
- Allow green flights

This pillar is extremely weak (for the time being) in IFATCA's view. The evolution will be certainly very interesting to watch. As the European Commission has indicated that they will launch studies on how to align airport and ATC slots. This will be heavily contested by the airlines and the airports. IFATCA has to monitor this, but also has to come up with progressive operational ideas, as this will be another way to bring a liberalised approach into ATM. Here as well the Environmental hook will be used to force an economic solution onto ATM.

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[7] Presentation given by the European Commission April 2008

The SESAR D5 and D6 do foresee the following interactions. On paper this looks very nice however reality will be different and IFATCA foresees that it will not work that smoothly in practise.
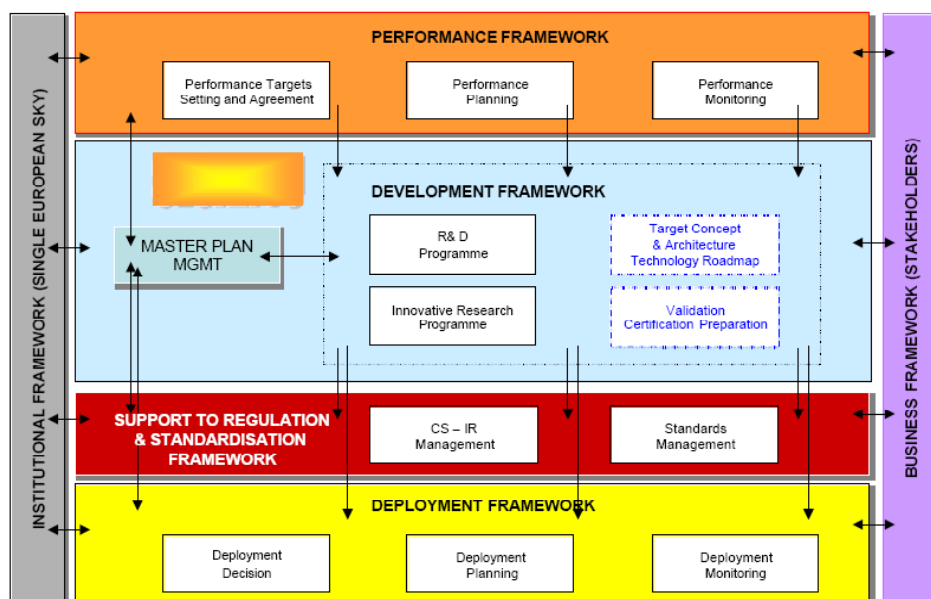

Figure 24: Interactions between frameworks and Master Plan management pr ocesses

IN CONCLUSION

This paper serves as a current snapshot view what is ongoing and what the coming month will bring to the ATM world. The next steps are:

- **Proposal to amend Single Sky regulations:**
  » Launch co-decision procedure
- **Endorsement SESAR masterplan:**
  » Start JU activities
- **Proposal to extend the competence of EASA:**
  » Launch co-decision .
- **Cover all phases of flight - include airport capacity dimension**

RISKS identified by IFATCA

- some of the issues have not been addressed by D5 which would deserve a quicker attention
  - o More firm guidelines – should have been included on the topics UAV, VLJ, Datalink, Security satellite, EGNOS VOR issues
  - o Shortcomings which have not been reduced
  - o RISK: parallel activities will be launched by different actors

- from the R&D to deployment phase will need a regulatory framework which will be able to cope with the new standards etc. Risk to do a lot of work (Implementation Regulations, directives etc.) with no real beneficial results and unrealistic expectations from the users and the public. Regulators will not be able to cope with it.
- Not sufficient ATM staff to follow all the work – in particular ATCOs (see letter to VP Barrot 23.4.08)
- Relationship between IP1 and IP2 is not clear at all
- No clear indications which part of the Masterplan will be picked up by SESAR JU.
- No proper risk assessment with regard to the overall SESAR undertaking has been made public (Internal EC Risk Assessment has been carried – but is not available to the stakeholders)
- No clear indications that the 11 KPA of ICAO will be looked at in the proposed way.