

European Commission - Directorate General for Transport and
Mobility

**Mid-term Evaluation of the SESAR Joint
Undertaking (TREN/A2/143-2007)**

Final report

July 2010

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European Commission - Directorate
General for Transport and Mobility

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List of abbreviations

AAR	Annual Activity Report
AB	Administrative Board
ABAC	Accrual Based Accounting
ANSP	Air Navigation Service Provider
ATM	Air Traffic Management
CBA	Cost Benefit Analysis
CoA	Court of Auditors
DOW	Division of Work
EC	European Commission
ECTL	EUROCONTROL
EU	European Union
FAA	Federal Aviation Administration
FP	Framework Programme
IBAFO	Invitation to Submit a Best and Final Binding Offer
IPR	Intellectual Property Rights
JU	Joint Undertaking
MA	Model Membership Agreement
MEP	Member of European Parliament
MFA	Multilateral Framework Agreement
MoC	Memorandum of Cooperation

MP	Master Plan
MS	Member States
PIR	Project Implementation Report
PMP	Programme Management Plan
PPP	Public Private Partnership
PSO	Project Support Office
SESAR	Single European Sky ATM (Air Traffic Management) Research
SJU	SESAR Joint Undertaking
SME	Small and Medium Enterprises
WP	Work Package

1 Executive summary

SESAR (Single European Sky ATM (Air Traffic Management) Research) represents the technological dimension of the Single European Sky initiative. SESAR aims at developing the new generation air traffic management system capable of ensuring the safety and fluidity of air transport worldwide over the next 30 years. The SESAR Joint Undertaking (SJU) was established by Council Regulation 219/2007 of 27 February 2007 for carrying out the development phase of the SESAR Programme. The SJU is created as a public-private partnership, which brings together all the stakeholders from the ATM community with the founding members of the Joint Undertaking - the European Union and EUROCONTROL. The mandate of the SJU is to modernise the European ATM system by coordinating and concentrating all relevant research and development efforts in the Union and execute the European ATM Master Plan.

In accordance with Article 7 of Regulation 219/2007, the Commission shall evaluate the implementation of the regulation every three years focusing on the implementation of the Regulation, the results obtained by the Joint Undertaking and its working methods, as well as the general financial situation of the Joint Undertaking.

The evaluation was launched in March 2010 and is the first evaluation of the SJU. The evaluation covers the period from 27 February 2007 until the end of 2009.

The following presents a summary of the conclusions and recommendations structured according to the evaluation criteria, which is used in the analysis.

1.1 Conclusions

It is the **overall conclusion** of this mid-term evaluation that the SJU performed well during the evaluation period (2007-2009) - both in terms of setting up and building its organisation as well as conducting its designated tasks. In general, the stakeholders of the SJU are therefore also satisfied with its performance. Specific conclusions and recommendations are presented below.

1.1.1 Relevance

Overall, the SJU Regulation, and hence the SJU itself, is assessed as highly relevant. This is based on the following conclusions:

Appropriate model: The data collected indicate that the Joint Undertaking model is an appropriate implementation mechanism to address the need for implementing the development phase of the SESAR Programme and the ATM Master Plan. The SJU is essentially a project organisation that manages and coordinates the required R&D work between its members in order to achieve the programme objectives. In view of the complexity of the SESAR programme and the size of the programme budget, a targeted administration including technical expertise recruited from various stakeholder institutions is required. Therefore, it is the perception by stakeholders that the choice of a JU as instrument / organisation is justified.

Objectives of ATM MP and SJU goals: The SJU's strategic objectives for 2012 and the annual work plans correspond with the ATM Master Plan and with the designated tasks of the SJU. This ensures the relevance of the specific objectives and targets according to which the SJU is carrying out its work.

TEN-T and FP7 requirements: The SJU is performing according to the requirements of the TEN-T Programme and the FP7, including priorities to include SMEs to the extent it is possible. The stated priorities of the SJU in contracting procedures to be respected by the Members are in line with the principles of TEN-T and the FP7.

Recommendation 1: Coordination of the execution and update of the ATM Master plan by the SJU is appropriate and should continue throughout this phase of the programme.

1.1.2 Effectiveness

The effectiveness of the SJU vis-à-vis its objectives is assessed as high. In general, the SJU have performed the tasks as planned and produced required outputs and results as follows:

SJU set-up: The set-up of the SJU, including definition of organisational structure, hiring of qualified staff, devising the procedures for operation, and organising membership agreements was effective. Moreover, these tasks were undertaken at the speed, which was possible taking into account the framework conditions and that the SJU was operational at the time of the adoption of ATM Master Plan (12 June 2009).

Amendment to the SJU regulation: The transformation of the SJU to a Community Body and giving equal status to the SJU compared to other Joint Undertakings had significant impacts on procedures and rules pertaining to human resources management and financial management. While the changes of status delayed the process of setting up the SJU, the organisation managed to cope with these changes and become operational when the ATM Master Plan was adopted by the Administrative Board. The change of status had a positive financial impact as an estimated 20% additional funding is available for R&D due to the exemption from taxes and duties.

Management systems: The management procedures and organisational set-up implemented by the SJU are assessed as appropriate and effective. The organisational structure is aligned with the tasks entrusted to the SJU and designed according to its tasks. The staffing corresponds to the objectives of the SJU. There is a clear distribution of tasks and management systems and procedures are clearly defined. Financial management and audit capacity is in place although some systems and support measures still need to be implemented. A challenge in respect to any newly formed organisation was to build an organisational culture. The challenge in relation to the SJU was to integrate the newly recruited staff, for instance the Programme Support Office staff as well as SJU staff seconded from other member organisations. So far, the task of building an organisational culture has been achieved.

Organising and co-ordinating activities in accordance with the ATM Master Plan and managing funding: The process of operational and technical implementation began during 2009 with the adoption of the ATM Master Plan in June 2009. The following results were achieved:

- From 2007 to mid-2009, the activities focused on refinement of the description of work, which resulted in the release of the SESAR DoW 4 in December 2008 and the IBAFO 1 and 2 frameworks.
- In 2009, significant progress was made in terms of allocating responsibilities for implementation of work packages and projects (through IBAFO 1 and 2) and planning of projects through the project initiation procedure.
- In 2009, a programme methodology was deployed, including management training tools for members to ensure a homogeneous knowledge and application of management procedures. Members' participation in the SJU e-training activities was lower than expected despite a perceived high need for training. A strategy for verification and validation was developed and agreed. A risk management plan was established.

Mobilising Funding: Agreements and corresponding financial commitments have been settled with the two founding members and 15 members. Financial contributions from the two founding members have been received in accordance with agreements made. The initial payments of the financial contributions (in cash) from other members are due in 2010 and all selected members have confirmed their total financial commitments in the MA/MFA. Total commitments agreed today are over EUR 2 billion as compared to the estimated cost of the development phase (EUR 2.1 billion).

Involvement of stakeholders: Apart from the membership process, the launch of technical complementary activities like the EU AIRE activities in cooperation with the US, setting up the Scientific Committee and the Strategic performance partnership involved several relevant groups of stakeholders. Likewise, the SJU already investigated topics to set up a cooperation frame with the NextGen programme.

Communication with stakeholders: A number of SJU Members and particular stakeholders of the Administrative Board find that the information provided by the SJU is not meeting their needs, for example, with regard to concrete information on the execution of the ATM Master Plan. Members, in particular stakeholder representatives, in the Administrative Board have requested more technical information as well as a more "strategic" focus in the work of the Administrative Board. It should be noted that during the period evaluated (2007-2009) the SJU was being setup and therefore most of the issues brought to the Board were linked to the establishment process.

Involvement of SMEs: Stakeholders in the Administrative Board have voiced concerns about the limited participation of SMEs. In the policy of FP involvement of SMEs in R&D activities is required. Often SME involvement ensures a high level of innovation. In response to such concerns, the Administrative Board has adopted a new concept of "associate partners" (launched in 2010), which aims at enabling members to subcontract research assistance. It remains to be seen if this will be an adequate response to ensure SME participation.

Organising technical work and avoiding fragmentation: Comprehensive descriptions of work included in SESAR DoW 4 and IBAFOs contribute to a holistic approach and avoidance of fragmentation and duplication. However, in the process of PIR preparation, issues related to inter-linkages between WPs and projects emerge and have to be dealt in the coming period of project implementation. It will be essential for the SJU to ensure a continuous flow of information between related WPs and projects and to have up-to-date information on progress in all projects to be able to intervene in cases where there is a risk of duplication or fragmentation.

Supervision of activities related to common products (identified in the ATM MP) and organisation of specific invitations to tender: The SJU has ensured this objective from the call for Membership to the conclusion of membership agreements and the associated description of work. In addition, some side technical projects like AIRE are already running with substantial success. Members stressed that the SJU emphasise early validation and delivery of common products to ensure the timely deployment of the implementation packages scheduled in the ATM Master Plan.

Recommendation 2: On the basis of a training needs assessment, training processes and instruments attractive to members should be developed by the SJU and applied to increase overall capacity of members' staff working on the projects in terms of project reporting requirements etc.

Recommendation 3: The SJU should make certain that the system in place for overall coordination among work packages and projects is further developed to ensure an appropriate level of information sharing at Programme Committee level and between WPs. Improvements should be made with regard to the communication to the Board and stakeholders of the content and progress of the WPs. Communication should take place on a regular basis and to avoid the segregation of WP-communication only going bilaterally from

the SJU to the WP-leadership, but also horizontally between WPs.

Recommendation 4: SJU is a lean organisation confronted with a huge number of deliverables in a short period of time. Timely acceptance of deliverables not only impacts payments but also the validation of inputs needed by other WPs and projects to progress. The SJU operational staff, which are at the heart of the technical acceptance process, have limited human resources and should carefully monitor its capacity for performing validation of deliverables and assess the need for external assistance provided that the relevant principles concerning the mitigation of conflict of interest, liabilities, and transparency etc. are respected.

Recommendation 5: Based on an analysis of the different stakeholders' needs for information and linked to the adopted communication plan, communication processes and instruments should be further developed to meet the differentiated communication needs of the founding members, SJU members, stakeholders being members of the Administrative Board and other stakeholders.

Recommendation 6: The Administrative Board should clarify on a practical level, within the scope of the Statutes and the MFA, its need to have more technical discussions and increased knowledge of technical and relevant discussions in the Programme Committee.

1.1.3 Efficiency

Although it is too early to assess the overall programme efficiency of the SJU, progress made during the evaluation period indicates that the Joint Undertaking / Public Private Partnership model has proven to be more effective and efficient than if the SESAR programme was implemented as a demand driven FP7 R&D programme through calls for proposals.

A precondition for contributing to an efficient implementation of the development phase is for the SJU to act as the coordinating body, which ensures economies of scales from the coordinated management of the work packages and projects (supported by the use of the Programme Management Plan). As is emphasised above under effectiveness, the SJU has fulfilled this mandate in the evaluation period.

The data collected and analysed indicates that the SJU is functioning in an efficient manner when it comes to internal working procedures and management, i.e. that the running costs of the SJU are at a reasonable level. However, there is a lack of appropriate benchmarks to fully substantiate this analysis and there appears to be some opportunities for further increasing efficiency, including:

- The SJU is preparing both an Annual Report and an Annual Activity Report. This is caused by different legal obligations but with a negative effect on efficiency. It should be considered to combine the two into one comprehensive re-

port providing technical information with a summary targeted the relevant stakeholders (see also recommendation 5)

- Efficiency is expected to further increase when new IT systems, especially for financial management (ABAC/SAP), are implemented

The framework to comply with the principles of sound financial management is in place and outlined in the financial rules of the SJU. The CoA commented on the financial rules after they were adopted outlining some areas to strengthen the financial framework. A number of actions are being taken by SJU to follow up on these improvements.

1.1.4 Sustainability / utility

The focus of this evaluation has been on the establishment of the SJU. The evaluation shows that sustainable air transport is well underway with the established collaboration between the involved stakeholders in the SJU. So far, the SJU has been able to find solutions and navigate the ATM Master Plan wisely, which appears promising for the future development of sustainable air transport. But even if all the relevant stakeholders are gathered and a unique partnership is formed, it is too early to judge if these conditions suffice to ensure long-term sustainability.

The factors influencing the achievement of long term objectives, which are related to the deployment phase, are, to a large extent, beyond the immediate control of the SJU and include notably:

A regulatory framework in support of the technical implementation and deployment of technologies, methods, etc. - and hence, the support of the regulatory authorities (EU and Member States, including the military)

The buy-in of key actors to implement (and finance implementation of) developed technologies, methods, etc. - including air space users, the relevant groups of staff involved in the services, airports, ANSPs, etc.

The development in ATM technologies in other regions and their convergence with European systems

Future economic development and trends in demand for air travel

Recommendation 7: Much has been done to include stakeholders in the Programme and all stakeholders stress this as the great success of the SESAR Programme. This effort should be continued. In this process, it is important for the Commission and the SJU always to be one step ahead of the process management of the issues mentioned above. In this regard, the following two dimensions are important:

- **Risk Management plans** should be further developed. The perception among stakeholders is that there is a need for the SJU to further develop the risk management framework and to involve the SJU members in this process ensuring

that the maximum effort is made to counter risks in relation to achievement of long-term objectives and performance goals.

- ***SJU Cost-benefit analyses*** and business-cases should be the point of reference for all decision-makers in the future, when ATM investments are discussed in national parliaments. To this end, the data of the SJU should be utilised to the fullest when producing CBAs. These analyses need to be integrated into the SJU strategic communication that give European policy makers the tools to communicate reliably and positively about the potentials of the socio-economic impact of the SESAR Programme as well as mitigating communication which is negative to the Programme. The SJU has access to the data and should pro-actively analyse and communicate messages to a great number of airlines, MEPs, news communities, interest organisations, and other political actors. These issues might be dealt with by the Commission, ECTL, and the SJU in a further developed communication strategy.

2 Introduction

This final report presents findings, conclusions and recommendations in connection with the "Mid-term Evaluation of the SESAR Joint Undertaking".

The interim evaluation, covering the period from 27.2.2007 to 31.12.2009, was launched with the signing of the contract **TREN/A2/143-2007/Si2.560687** on 25 March 2010. A kick-off meeting was held on 29 March 2010. The inception report further detailing the methodology was submitted on 13 April 2010. After consultation with DG MOVE, the revised and final inception report was submitted on 29 April 2010. A first findings and recommendations report was submitted on 20 May and comments were provided by DG MOVE. This final report is elaborated on this basis.

Purpose of the evaluation

The Regulation establishing the SESAR Joint Undertaking requires an evaluation to be carried out every three years from the start of the Joint Undertaking.¹ This evaluation fulfils that purpose and is the first evaluation after the establishment of the SJU. According to the Regulation (Article 7), the evaluation shall assess the implementation of the Regulation, the results obtained by the Joint Undertaking and its working methods, as well as the general financial situation of the Joint Undertaking.

Time period covered by the evaluation

As noted above, the time period covered by the evaluation is 27.2.2007 to 31.12.2009. In principle, the report does not cover activities implemented during 2010, and the judgements and conclusions presented are based on the observed trends during the evaluation period. However, where relevant and in order to support the forward-looking perspective of the evaluation, we have mentioned specific activities and actions which took place during 2010.

Report structure

The structure of the report is as follows:

- Chapter 2 provides an overview of the research methodology
- Chapter 3 provides the main findings

¹ Council Regulation 219/2007 of 27/2/2007.

- Chapter 4 provides conclusions and recommendations

3 Research methodology

This chapter briefly explains the methodology applied, which is based on the inception report, but also developed further during the implementation of the evaluation in dialogue between the evaluation team and DG MOVE. It should be noted that the evaluation faced some constraints due to the very compressed time schedule. The main issues in this regard are explained in this chapter.

3.1 Evaluation questions and criteria

Ten evaluation questions and five evaluation criteria guided this evaluation.

Evaluation questions The evaluation questions are supported by the judgement criteria and indicators shown in Appendix 1.

Box 3-1 Ten evaluation questions

- EQ1: To what extent was the SJU set up according to the legal framework establishing it?
- EQ2: To what extent is the SJU operating according to the legal framework establishing it?
- EQ3: To what extent is the SESAR Joint Undertaking following the requirements imposed by the FP7 and TEN-T?
- EQ4: To what extent have the SESAR Joint Undertaking's internal organisation and procedures been conducive to its efficiency?
- EQ5: To what extent has the SJU as a private-public partnership led to an improved management of the ATM related research activities as compared to the alternative options?
- EQ6: To what extent is the coordination between the SJU, its members and its Founding members working satisfactorily?
- EQ7: To what extent has the SJU achieved its objectives?
- EQ8: To what extent have the activities of the SESAR JU resulted in unintended effects (both desirable and undesirable)?
- EQ9: To what extent has the SESAR JU carried out its work efficiently?

- EQ10: To what extent does the SESAR JU comply with the principles of sound financial management?

Evaluation criteria

The five evaluation criteria are relevance, effectiveness, efficiency, utility and sustainability. Below, the key dimensions of these criteria are discussed taking a point of departure in EU's evaluation guidelines.²

- 1 **Relevance** is the extent to which an intervention's objectives are pertinent to the needs, problems and issues to be addressed. In connection with this evaluation, relevance concerns in particular the following:
 - 1.1 The extent to which the SJU as a public-private partnership is the relevant implementation model to address the challenges of implementing the ATM Master Plan
 - 1.2 The degree of conformity between objectives and activities of the ATM Master Plan and the objectives and activities of the SJU
 - 1.3 The degree to which the SJU performs its designated tasks as set out in the legal framework
 - 1.4 The extent to which the SJU is operating according to the requirements of FP7 and TEN-T.

- 2 **Effectiveness** concerns the extent to which set objectives are achieved. This also includes the functioning of management structures and the way they support the organisation in delivering results. In relation to this evaluation, effectiveness concerns in particular:
 - 2.1 The degree to which the SJU performs designated tasks and delivers the planned outputs and results - both with regard to the administrative and managerial set-up of the organisation as well as the technical/operational implementation of the designated tasks and the activities according to the ATM Master Plan
 - 2.2 The degree to which the management structures of the SJU are set up in a way that supports the delivery of planned outputs and results. This includes effectiveness of the internal organisation and procedures, coordination, communication and financial management.

² EVALUATING EU ACTIVITIES - A PRACTICAL GUIDE FOR THE COMMISSION SERVICES", European Commission, DG-BUDGET Evaluation unit, July 2004.

- 3 **Efficiency** is the extent to which desired effects are achieved at a reasonable cost. This also includes the management structures and the way they support a cost-effective implementation. In relation to this evaluation, efficiency concerns in particular the following:
- 3.1 The extent to which the overall costs of the implementation of the SESAR programme under SJU management are reasonable, i.e. the efficiency of the public-private partnership/JU model in implementing the SESAR development phase
 - 3.2 The extent to which the running costs of the SJU are reasonable
 - 3.3 The degree to which the management structures of the SJU are set up in a way that supports the cost-effective delivery of planned outputs and results. This includes the efficiency of the internal organisation and procedures, coordination, communication and financial management.
- 4 **Utility** is the extent to which effects achieved correspond with the needs, problems and issues to be addressed. Utility is normally only included as an evaluation criteria in ex-post evaluations because it is not yet possible to determine the effects at the stage of a mid-term evaluation. However, in the context of this evaluation, a very preliminary assessment of utility is made. This is done, considering the progress of work and results achieved so far, against the needs, problems and issues to be dealt with as expressed in the ATM Master Plan and the SESAR Programme concept. This may help in identifying challenges for the period to come and generating recommendations that may serve to meet these challenges.
- 5 **Sustainability** is the extent to which positive effects are likely to last after an intervention has terminated. For the same reasons as with utility this criterion is normally only included in ex-post evaluations. Likewise, a preliminary analysis in this evaluation focuses on the likely sustainability of the results to be achieved by the SJU. This will be within the development phase of the SESAR Programme and the emerging challenges in relation to ensuring a successful implementation of the deployment phase.

As noted above several evaluation questions are relevant to more than one evaluation criteria. The table below highlights the most important links between criteria and questions.

Table 3-1 Links between evaluation criteria and evaluation questions

Evaluation criteria	Relevance	Effectiveness	Efficiency	Sustainability Utility
Evaluation questions	2, 3, 5	1, 4, 5, 6, 7, 10	4, 6, 9, 10	5, 7, 8

Three themes

In addition, three overall themes have also played an important role in relation to reporting of evaluation results. These are the themes that the evaluation should address according to the founding Regulation of the SJU and according to which the results of the evaluation will be reported to the Council by DG MOVE:

- Implementation of the regulation
- Results obtained by the SJU and working methods
- General financial situation

3.2 Data collection

Three data collection methods have been applied in this evaluation. Below, we provide a brief overview and explain the constraints in applying these methods.

3.2.1 Desk study

The desk study is crucial in answering the evaluation questions and as a data source providing the foundation for answering the evaluation questions. The desk study was initiated during the inception phase and intensive desk study activity continued throughout the evaluation process.

The list of materials studied is given in Appendix 5.

3.2.2 E-survey

The evaluation included two separate e-surveys targeting the members of the SJU Administrative Board and the relevant Member States (members of the Single Sky Committee) respectively.

E-survey questions

The e-surveys included questions focusing on the key evaluation issues to be addressed (see e-survey outline in Appendix 2). The answer category is the same throughout the e-survey and consists of an ordinal scale (from 1-7) measuring agreement and disagreement with the statements in the e-surveys. The Member State-survey contains a selected number of questions addressing the issues raised in the relevant Council Resolutions.

Implementation of the e-surveys	<p>The e-surveys were launched the 29 April and reminders were sent 7 May and 12 May 2009. Due to a low level of response from the Member States (Single Sky Committee), the e-surveys were not closed before 29 May 2009, one month after the launch.</p>
Results of the e-survey	<p>All members of the Single Sky Committee and the Administrative Board were invited to participate in the e-survey. In total, 9 out of 29 members of the Single Sky Committee and 23 out of 47 members and alternates of the Administrative Board replied to the e-survey.</p> <p>Although the response rate of the Single Sky Committee (31%) was too low to allow full exploitation of the results, the consultant nevertheless considered that the Single Sky Committee-survey can be used in certain cases if caution is applied. If the tendency is clear (e.g. 80% of respondents in one bundled category, ref. box 2.2), the consultant consider the result to be significant.</p> <p>The e-survey targeting the Administrative Board members was sent to both members and alternates and reached a 49% response rate. Although the responses were anonymous, based on follow-up emails received by the consultant, the consultant assumes that the majority of responses are from the alternates, who are actively participating in the work of the SESAR Programme and often attend the AB meetings. Therefore they provide a higher statistical significance to the results.</p>
Using the e-survey	<p>In both e-surveys, the relatively small number of respondents was distributed on eight different categories (from 1-7 and "do not know"). The statistical disadvantage of the relatively low number of respondents in each category was mitigated by; 1) using average score made possible by the large ordinal scale; 2) bundle scores/categories to increase the numbers of respondents in each category. The following interpretation of the scores is the basis of the analysis of the e-survey data.</p>

Box 3-2 Interpretation of e-survey scores

- Score 1-2: Disagreement with the statement
- Score 3-5: Some agreement/disagreement with the statement
- Score 6-7: Agreement with the statement
- The "Do not know"-category is not considered to be a part of the scoring or with a numerical value. As a consequence, the average as well as the percentage of respondents in categories are calculated by excluding the "Do not know"-variable from the total number of respondents.

3.2.3 Individual interviews and focus groups

The individual interviews and the focus group interviews have followed different semi-structured interview-guides made up by a gross list of questions based on the list of indicators (Appendix 1).

Interview mission to Brussels

An interview mission was carried out in Brussels from Monday 26 April to Wednesday 28 April 2010.

In total, 33 interviews were carried out covering 30 individual interviews and three focus group interviews (ref. Appendix 4).

Focus group interviews

The focus group interview method was applied in two instances in the SJU and in one interview with other joint undertakings.

3.3 Analysis of data

The advantage of involving different data sources and data collection methods is that the evaluation conclusions can be triangulated, i.e. specific findings can be compared and judged in relation to findings from other sources of information to establish if the findings are valid. The method of triangulation and the different methodologies used in the evaluation are described below.

Triangulation approach

The process of triangulation composes of four steps:

- Identify trends across the data, gather information and consolidating these observations
- Check consistency between different sources of information to look for contradictions

- If necessary, look for additional data in order to analyse and explain possible contradictions and/or differences in the findings from the various sources of information
- Confirm hypotheses and formulate conclusions

Data collection and analysis was performed in accordance with the framework of evaluation questions, judgement criteria and indicators. All data collected was used to validate (or negate) the judgement criteria which fed into the analysis of the evaluation questions and the formulation of conclusions and recommendations.

The data from the e-surveys and interviews was used to check and further qualify the desk study data. Furthermore, interview and e-survey data informed those judgement criteria which rely on indicators of a more qualitative nature (in particular requiring the views and assessments by stakeholders).

4 Findings of the evaluation

This chapter presents the findings of the evaluation organised according to the four issues that the evaluation should address according to the SJU Regulation:

- Implementation of the regulation
- Results obtained by the SJU
- Working methods
- General financial situation

4.1 Implementation of the regulation

Broadly understood the term "implementation of the regulation" could encompass the entire set-up and working of the SJU. In the context of this evaluation, it is of concern whether the SJU has been established in accordance with the legal framework establishing it and whether the required instruments have been put in place. This section refers to evaluation questions 1, 2 and 3 in the Terms of Reference.

Box 4-1 Evaluation Question 1, 2 and 3

To what extent was the SJU set up according to the legal framework establishing it?
 To what extent is the SJU operating according to the legal framework establishing it?
 To what extent is the SJU following the requirements imposed by FP7 and TEN-T?

Defining
implementation

Five subchapters

Below the findings are presented under five headings: timely establishment; governance structure; principles, rules and procedures; organisational set-up and staffing and membership process. Finally, in the last section the findings are summed up with reference to the three evaluation questions.

The findings in this subchapter are predominantly based on the desk study. The key documents are:

- The SESAR JU Regulation (219/2007) and its amendment (1361/2008)

- The Membership Agreements
- Specific Agreements with the two Founding Members
- The Multilateral Framework Agreement
- The Decision of the Administrative Board on Principles governing the accession and participation of the members of the SESAR Joint Undertaking (the Principles)
- Annual Work Programmes and annual reports

These documents represent the fundamental expressions and means of verification of the principles and rules set up by the SJU. Moreover, the Council Regulation is the legal base for the SJU and is thus the key document against which the implementation can be evaluated. The rules, procedures and principles of the Council Regulation are the yardstick of a successful implementation of the SJU.

4.1.1 Timely establishment

SJU established timely

In article 1 paragraph 6 of Council Regulation 219/2007 it is established that "The Joint Undertaking shall be operational at the latest when the ATM Master Plan has been transferred to the Joint Undertaking".

Operational is understood to be the set-up and establishment of the following key organisational items:

- A governance structure (Administrative Board and Executive Director)
- Governance procedures (voting rights etc.)
- Infrastructure (headquarters, IT, furnishings etc.)
- Human resources
- Work programme and other key strategic documents

Transfer of the ATM Master plan

EUROCONTROL (ECTL) transferred the SESAR Master Plan and the right to use and revise it, to the SJU by 7 November 2008. The Council endorsed it on the 30 March 2009 as anticipated by the European Council Resolution

on the formal establishment of the SJU.³ The formal adoption of the ATM Master Plan took place in the Administrative Board (AB) on 12 June 2009.

It is important to note that the main tasks of the SJU are related to the management of the Development phase and execution and the updating of the ATM Master Plan. The Council endorsed the ATM Master Plan after the transfer from ECTL to the SJU. The formal adoption of the ATM Master Plan in the Administrative Board is a sign of the commitment from the Administrative Board to secure the execution and development of the ATM Master Plan.

Therefore, timely establishment in this context relates to the adoption of the ATM Master Plan by the Administrative Board on 12 June 2009 and signifies for the SJU to be operational and able to implement and execute the ATM Master Plan.

Establishment of membership agreements

The following milestones related to membership agreements were identified in the Annual Work Programme 2007-2008 and 2009.

Box 4-2 Milestones for the Membership Agreements

<p>Annual Work Programme 2007-08</p> <ul style="list-style-type: none"> • Individual and multilateral negotiations will terminate in September 2008 • Negotiation results will be presented to the Administrative Board in October 2008 • Membership Agreements will be signed in November 2008⁴ <p>Annual work Programme 2009</p> <ul style="list-style-type: none"> • Conclude Membership accession phase in first quarter of 2009

Appendix 6 provides an overview of the actions taken to advertise the process and conclude membership agreements. The table is divided into two columns, where the first is the date and the second is the action taken. At the bottom of the table the date of the adoption of the ATM Master Plan is included to illustrate the ultimate deadline previously established (12 June 2009).

Call for expression of interest

On 27 June 2007, the first call for expression of interest was published by the Commission. Twenty-six organisations/consortia submitted a motivated

³ Council Resolution on the formal establishment of the SESAR Joint Undertaking (9367/07 AVIATION 84), Council of the European Union, Brussels, 22 May 2007.

⁴ This target is revised in the Annual Work Programme 2009 and set to the first quarter of 2009.

expression of interest. The applications were evaluated by a pre-selection panel appointed by the Joint Undertaking's Administrative Board on the basis of the eligibility criteria and the selection criteria in Appendix 7.⁵

Pre-selection

The pre-selection panel drew up the list of 15 pre-selected candidates (core group) and presented it to the Administrative Board on 12 October 2007. Four were not recommended for the core group but considered possible members at a later stage. Three consortia were not recommended for participation because they did not comply with the selection criteria. Four other consortia did not apply for membership but sought other kind of affiliation with the SJU.⁶

Membership Negotiations

On 21 February 2008, the executive director was authorised to start negotiations of the conditions of accession with candidate members and ECTL.⁷ The negotiation process followed in two phases: (i) Initial exploratory consultations with all the selected candidates on the work programme structure; (ii) Individual negotiations. During these phases the executive director was assisted by an external consultant.⁸

In the first phase, the discussion phase, the Description of Work (DOW v1.0) provided the basis for the discussion on the work and on the model Membership Agreement as well as the Multilateral Framework Agreement (MFA).

At the Administrative Board meeting on 1 December 2008, the AB requested the executive director to close the discussion phase with the candidate members and mandated the executive director to launch the final phase of the process for accession. Moreover, the AB adopted decisions on the voting rights of the members and established the principles for other candidacies.⁹ The principles governing the accession and participation of the members of the SJU were adopted with Decision ADB (D) 13-2008. These principles were the basis for the subsequent MFA.

In December 2008, an invitation was sent to the pre-selected candidate members and ECTL and contained all the necessary information for preparing and submitting the offers. The deadline for submission of the offers was

⁵ The "Call for expressions of interest to become member of the SESAR Joint Undertaking".

⁶ Minutes from Adm. Board Meeting (ADB (M) 003), 12 October 2007.

⁷ Decision: ADB(D) 3-2008.

⁸ The external consultant was contracted under a framework contract (call for tender from February 2008).

⁹ Decisions: ADB(D) 14-2008; ADB(D)-18-2008; ADB(D)-19-2008; ADB(D)-22-2008.

16 February 2009. The Invitation to Submit a Best and Final Binding Offer (IBAFO) was concluded on 16 February 2009 with closing of the assessment phase of the offers and the proposal to the Administrative Board on the award of the membership and the activities within the scope of IBAFO.

Membership Agreement

-At the AB meeting on 26 March 2009, the AB approved the accession of the 15 candidates, approved the model MFA and Model Membership Agreement (MA) as well as the members' contributions to the SJU.¹⁰ At the following AB meeting on 12 June 2009, the final version of the MFA and the model MA were adopted. The MFA, previously signed by the selected members and ECTL was signed by the SJU on 11 August 2009. After the approval by the Board the Membership agreements and the agreement between the SJU and ECTL were signed. Voting rights were allocated by decision and the ATM Master Plan was adopted. The General Agreement between the SJU and the Commission was signed later on 4 December 2009.

Change of Statutes

Establishment of the SJU organisation

Council regulation 1361/2008 amended the Statutes in Regulation 219/2007 to give the SJU status as an EU body. While the change of status led to uncertainty in the short term, it resulted in providing more money to R&D projects as the SJU was granted VAT and corporate tax exemption (VAT is 21% in Belgium) and SJU staff was not anymore subject to Belgian income tax (roughly 50% of gross salary) thus allowing to hire specialised staff with higher net salaries when required. Also, SJU was not required to contribute to Belgian social security contributions (up to 35% in addition to gross salary). All in all, the SJU benefitted in reducing staff costs by approximately 60%. All interviewed Members, stakeholder representatives and SJU-staff agree that the change of statute was an absolute necessary measure that enabled the SJU to channel more of its resources into R&D.

Milestones

The following milestones related to the SJU organisation were identified in the Annual Work Programme for 2007-2008 and 2009.¹¹ These milestones are compared to the actual deliverables presented in the Annual Activity Report of 2009 (also encompassing 2007-2008) and the AB decisions (see Appendix 9 for a comparison of the Work Programmes and the Annual Reports).

¹⁰ Decisions: ADB(D)-04-2009; ADB(D)-05-2009; ADB(D)-06-2008; ADB(D)-07-2009.

¹¹ SJU-ADB-2008-1 rev 2, February 2008.

*Box 4-3 Milestones for the organisational set-up of the SJU***Annual Work Programme 2007-2008**

- 28 staff by the end of 2008
- Finalise recruitment on the vacant posts opened in 2007 by end of 31 March 2008
- Launch recruitment of second "package" of posts by 31 December 2008
- Industrial Support (Evaluation and selection should be finalised by end of May-June 2008)
- Programme management (ECTL), Membership Agreement to be signed November 2008
- Revision of the financial regulations by 30 June 2008
- Establishment of the implementing rules by 30 June 2008
- Obtain advantageous fiscal status from the Belgian Authorities
- Set up the accounting system and internal control process
- Establish audit scheme in accordance with the Statutes and the financial regulation
- Physical Infrastructure (including IT, e-portal and video conference facilities)

Annual Work Programme 2009

- Implement Risk Management process & establish Risk Management Plan (1&2 quarter of 2009)
- Align the SJU organisational, legal, financial and HR structure to the requirements of the new Statutes (1-3 quarter of 2009)
- Ensure that the SJU administrative structure support the Programme and provide the reasonable assurance with regard to the sound financial management of the resources (1-3 quarter of 2009)
- Move into new building in the first quarter of 2009

Staff recruitment

On 3 July 2007, the Rules for the Recruitment of the SJU's staff (amended 24 April 2008) were adopted. On 24 April 2008, the staff establishment plan was approved by the AB with the revised 2007-2008 budget. On 12 June 2009, the re-selection procedure for internal staff was adopted as well as the Multiannual staff policy plan 2010-2012. On 12 June 2009, the rules for secondments were adopted. An organisational chart was submitted to the Administrative Board 12 June 2009 as a part of the Staff Policy Plan 2010-2012. On 9 October 2009, the Rules on the engagement of temporary agents, middle management and contract staff were adopted by the AB.

On 6 August 2007, the first vacancies were published and in the last quarter of 2007 the first SJU-staff was recruited. At the end of December 2008, 14 staff was hired.¹² At the end of 2009, this number was 18. Interview data suggest that the SJU had a hard time selecting and hiring the right people to the SJU due to a general high demand for skilled people as well as the time limit of the contract (to expire in 2016 with the closure of the SJU). Nevertheless, interviews with members and stakeholders suggest that the staffing of the SJU is of high quality and competent to do the job despite its complexity. The e-survey supported this finding as 68% of the AB-respondents

¹² Annual Activity Report 2009, p 5 and Annex 1.

agreed (average score: 5,4) that the SJU provides adequate expertise for managing the programme.

All staff - except the executive director - was offered to apply for a temporary agent contract as a consequence of the change of the Statutes. Temporary agent contracts were concluded with applicants in accordance with Regulation 1361/2008 and the AB decision on that matter from 12 June 2009. Moreover and in accordance with Article 2b of the SJU Regulations, the SJU signed an Administrative Agreement with the Belgian government on 30 March 2009, which implements the provisions of the Protocol on Privileges and Immunities of the European Communities.¹³

PSO	A Project Support Office (PSO) was set up at the SJU premises with seconded personnel from ECTL (12 staff at the end of 2009), as part of its in kind contribution to the SJU. On the 30 September 2008, the SJU and ECTL signed an agreement on the principles governing the PSO including provisions on conflict of interest, working conditions and the services to be carried out etc.
Industrial Support Contract	July 2008, AIRBUS was awarded the Industrial Support Contract including the engineering methodology framework to align individual projects with the SJU objectives. The contract was signed in October 2008 and awarded after a public procurement procedure (CFT N° SJU-6-2007).
Financial and implementing rules	The new Financial Rules were adopted on 28 July 2009 in accordance with the general Financial Regulation (Council Regulation (EC, Euratom) No 1605/2002). The General Agreement between the Commission and the SJU was signed on 4 December 2009. The Annual Financial Implementation Agreement was concluded the same day. The first draft of the Internal Control Framework was issued at the end of 2009. A first draft of the implementing rules related to the SJU Financial Rules was prepared in 2009. ¹⁴
Accounting and audit	On 26 March 2009, the Accounting officer was appointed and on 12 June 2009 the Internal Auditor was appointed with the responsibilities of implementing article 7a of the Statutes, writing up an Internal Audit Charter and an Internal Audit Work Programme. The Internal Audit Charter and Audit Work Programme was presented and adopted at the AB meeting on 24 September 2009.
Physical infrastructure	On 12 June 2009, the SJU moved to its present physical location. The SJU and ECTL signed an Interim Support Agreement on 27 May 2008 on equipment and services provided by ECTL to the SJU.

¹³ Annual Activity Report 2009, p. 22.

¹⁴ Annual Activity Report 2009, p. 22.

Risk management The SJU delivered in 2009 a first version of the Risk Management Plan to the Commission.¹⁵ Risks are traced at the responsibility levels, from project managers to the SJU executive director as stated in schedule 3 (Governance) of the Multi Framework Agreement. An Enterprise Risk Management (ERM) was drafted in 2009 and risks were identified at programme level by the members when submitting their offers under IBAFO 1.¹⁶

4.1.2 Governance structure

Requirements to governance structure The following requirements related to the governance structure are given in the Statutes:

Box 4-4 Requirements to the governance structure

- | |
|---|
| <ul style="list-style-type: none"> • There are two Founding Members of the SJU (Article 1) • An Administrative Board (Article 2-5) is functioning |
|---|

Founding Members It is laid down in the Regulation and Statutes that the two founding members of the SJU are the Commission and ECTL. Both founding members have signed a bilateral agreement with the SJU specifying the principles and obligations of the collaboration. These agreements include provisions on funding, voting rights, general principles on conflict of interest, etc. Due to ECTL's special role as funding and founding member and being an international organisation, the MFA includes some special provisions for ECTL (specified in Schedule 13 in the MFA).

Members The Administrative Board has 15 members apart from the Founding Members. Their membership agreements were all signed by the SJU and the respective Member on 12 June 2009 as accounted for in more detail under subchapter 1 in this chapter. The MFA is signed by all the members and is the key document setting forth the terms according to which the members commit to work together. Each Member's activities under its respective MA should be in accordance with the provisions of the MFA. The most pertinent provisions are the following:

- Coordination of the Programme activities
- Accession of the new selected members into the SJU
- Provisions on project management including; project initiation procedure, co-financing, deliverables and reports, payments, financial records, audit and subcontracting

¹⁵ Annual Activity Report 2009, Annex 5.

¹⁶ Annual Activity Report 2009, p. 16.

- Provisions on different management principles such as IPR, remedial procedure, CoI, confidentiality etc.

Administrative Board

The SJU Administrative Board adopted its rules of procedure and appointed its Vice-Chairman and Secretary on 15 June 2007. The Rules of Procedure were amended on 26 March 2009. The AB includes a representative from each Member (since 12 June 2009) and from the stakeholder groups identified in Article 3 of the statutes. Voting rights to the members were assigned 12 June 2009.

The AB adopted the ATM Master Plan on 12 June 2009 and has adopted two Annual Work Programmes in the period 2007-2008. The first one concerned the period 2007-2008 (adopted 21 February 2008) and the second one concerned 2009 (adopted 1 December 2008). Budgets were adopted for the period 2007-2008 (provisional (3 July 2007) and final (24 April 2008)) and 2009 (1 December 2008) as well. An establishment plan was included in both budgets.

The Administrative Board met five times in 2007 (9 decisions adopted), four times in 2008 (28 decisions adopted) and five times in 2009 (31 decisions adopted).

4.1.3 Principles, rules and procedures

Requirements

The following principles, rules and procedures are required by the Statutes as well as the FP7 in general and in its Cooperation programme's preamble (Council Decision 1982/2006/EC and 971/2006) and the TEN-T programme Council Regulation 680/2007.

Box 4-5 Requirements for principles, rules and procedures

Statutes

- Principles on mitigation of conflict of interest
- Property Rights (treated under FP7 and TEN-T principles)
- Transparency and treatment of documents
- Anti-fraud measures
- Liability/Insurance
- Confidentiality

FP7 and TEN-T principles

- Appropriate involvement of SMEs through concrete measures and specific actions. (The aim is to enable at least 15 % of the FP7 funding to go to SMEs.)
- Respect fundamental ethical principles promoting sustainable development
- Sound financial management

- Gender mainstreaming, working conditions, transparency of recruitment processes, and career development as regards the researchers recruited on projects
- Dissemination of results
- IPR, dissemination and suitable information, publicity and transparency regarding the activities financed, competition, environmental protection, health, sustainable development, public procurement and the effective implementation of the community policies on interoperability.
- Eligibility criteria (article 5): (a) the maturity of the project; (b) the stimulating effect of community intervention on public and private funding; (c) the soundness of the financial package; (d) socio-economic effects; (e) environmental consequences; (f) the need to overcome financial obstacles; and (g) the complexity of the project, for example that which arises from the need to cross a natural barrier.

Some of the above principles are overlapping and are dealt with elsewhere in this chapter, e.g. financial management, staff recruitment etc.

Principles in the Statutes

Conflict of interest

The AB adopted on 21 February 2008 rules on the management of conflict of interest in the AB.¹⁷ The rules of procedure of the AB was adopted 15 June 2007 and also contained provisions on the management of conflict of interest that were amended by the new AB decision of 21 February 2008. On 3 July 2008, the AB decided that at each meeting the SJU shall indicate to the AB the potential conflicts of interest that might arise from the subjects included in the meeting agenda proposed by the AB Chair.

An AB decision on confidentiality, independence and management of conflict of interest of bodies of the SJU was adopted 1 December 2008.¹⁸ The decision defined conflict of interest and elaborated in detail the management of conflict of interest including an annex with a standard declaration of independence, commitment and confidentiality.

The rules for secondments to the SJU also include provisions on conflict of interest.¹⁹ In "the Principles" it is stated that members and their affiliates shall; "*take every necessary precaution to avoid any risk of conflict of interest relating to economic interests, political or national affinities, family or emotional ties or any other interests liable to influence the impartial and objective performance of the projects.*" The MFA has similar but more developed provisions to mitigate conflicts of interest and the MA refers to the MFA on this point. These provisions include an obligation to notify others as well as ensuring that staff is not engaged in activities of conflict of inter-

¹⁷ Decision ADB(D) 1A-2008.

¹⁸ Decision ADB(D) 10-2008.

¹⁹ Decision ADB(D) 12-2009.

est. The General Agreement and the ECTL-SJU agreement also has provisions on conflict of interest.

In the e-survey, 95% of the AB-respondents agreed that conflicts of interest are identified and managed within the AB (average score: 6,8).

Transparency

In the rules of procedure of the AB adopted the 15 June 2007, Article 13 lays down general rules for the transparency of the AB as well as treatment of documents and communication. In order to meet the requirements of Regulation 1049/2001, the AB decided to establish a data protection and confidentiality policy.

Moreover, the AB adopted on 21 February 2008 the decision to publish AB-decisions on the SJU website. On the 3 July 2008, the AB decided to publish approved minutes of AB meetings on the SJU website.

In June 2009, the SJU issued the first version of "SESAR Programme Management Plan". The Programme includes basic principles ensuring participation and collaboration between members and the SJU, full transparency and communication and provides clear reporting structure.

It is stated in the "Decision of the Administrative Board on Principles governing the accession and participation of the members of the SESAR Joint Undertaking" ("the Principles") that the accession of new members to the Administrative Board should "respect the principles of transparency and equal treatment ensuring the most effective participation to the SJU for the achievement of the Programme". This principle has been integrated in the MFA as a basic management principle.²⁰

Anti-Fraud measures

The MFA contains a provision on anti-fraud measures concerning the right of the Commission, the European Court of Auditors and the European Anti-Fraud Office (OLAF) to carry out controls and on-the-spot checks of the recipients of the SJU's funding. The SJU has acceded to the Inter-Institutional Agreement of 25 May 1999 on internal investigations by OLAF.²¹

Confidentiality

The MA and the ECTL-SJU Agreement refers to the MFA's provision on confidentiality (Schedule 7).

²⁰ SJU-AB-010-09-DOC-02-MFA Final; Schedule 3.

²¹ Decision ADB(D) 12-2008.

FP7 and TEN-T Principles

Generally on the FP7 and TEN-T principles, the Commission reserve the right to oppose the use of the EU contribution for purposes it considers to be contrary to the principles of the FP7 and TEN-T.²² The General Agreement also establishes that the Commission shall be assisted by the TEN-T Executive Agency in the monitoring of the compliance with the SJU's activities in relation to the principles and rules of TEN-T. Further, the Commission can request any documentation from the SJU pertinent to the FP7 and TEN-T programmes, the FP7 Programme Committee and the TEN-T Financial Committee without undue delay.

SME-inclusion	The MFA includes the following statement on page 26: "In case of subcontracting, the optimal participation of small and medium enterprises (SMEs) and Research Organisations shall be facilitated and, as far as possible, fostered." Whenever subcontracting is done with a value of more than EUR 175,000, the Member shall publish a notice on the SJU's website.
IPR and Dissemination	<p>In "the Principles" it is stated that the IPR policy of the development phase shall be inspired by FP7 principles. The dissemination of the results of the development phase is also addressed in Article 16 of the General Agreement, where a standard FP7 and TEN-T notification pertaining to foreground is established. The MFA contains detailed IPR-provisions on access rights and ownership to background and foreground as well as provisions on the dissemination of foreground. The MA refers to the IPR-provisions in the MFA by referring to the "SJU Intellectual Property Right policy" in the MFA.</p> <p>Approximately 55% of the Board-respondents agree that the IPR policy established by the SJU allows for innovative arrangements by the industry while protecting public interests (10% disagreed). Concerning the free access for Member States to the knowledge generated, 68% of the AB-respondents agreed that the policy on IPR allowed free access (0% disagreed).</p>
Ethical principles	The General Agreement between the SJU and the Commission refers to the Regulation 45/2001 and Directive 95/46 on the protection of personal data. The MFA includes general provisions on ethics and audit of ethical aspects of the execution of contracts comparable to the reference to "fundamental ethical principles" in the FP7 Regulation. These refer to the integrity of persons, protection of personal data and freedom of arts and sciences.
Sustainable development	Although sustainable development has not been adopted as a principle in the key documents of the SJU, environmental performance is a SESAR objective.

²² General Agreement between the SJU and the Commission, Article 6.

Financial management	Sound financial management is secured by the Financial Rules as well as the General Agreement between the SJU and the Commission. The latter states that the Commission may suspend the payments to the SJU in case of severe financial irregularities.
Transparency	The document on "Principles" of the SJU establishes that the members' accession to the SJU shall be governed by the broad principles of the FP7 and TEN-T. This applies in procurement and in the case of the issuing of calls and the evaluation of proposals or expressions of interests. Transparency of recruitment processes is reflected in the staff rules of the SJU.
Co-financing	The MFA and the Financial Rules specify that the co-financing from the FP7 and TEN-T is in accordance with the <i>broad principles</i> of these two programmes. Article 5 of the General Agreement between the SJU and the Commission specifies that the maximum co-funding rates established in the TEN-T Regulation shall apply to the EU contribution from TEN-T. With regard to contractual provisions, the principles for assessing in kind contributions are inspired by the TEN-T and FP7 broad principles. ²³
Reporting	The MFA specifies the requirements for reporting during the project's life-cycle. As illustrated below, these requirements are somewhat similar to FP7 reporting mechanisms.

²³ The Principles.

Table 4-1 Main reports to be delivered under FP7 and SJU

FP7 reports and deliverables	SJU reports
- A periodic report (including overview, summary with achievements, explanation of the use of resources, financial statement, financial report)	- An interim report (including objectives, identified risks of default, potential contribution, a cost breakdown from each member involved)
- A final report (including a final summary with results, conclusions and socio-economic impact of the project, a report on wider societal implications (including gender and ethical actions).	- A final report (including summary report on conclusions and results, progress and contributions to the ATM Master Plan and new standards, explanation of the discrepancies between planned and actual achievements, project cost breakdown on eligible costs)
- A report on the distribution of the community financial contribution between beneficiaries	- Interim financial statements
During and after the project: - Abstracts and summaries of all scientific publications related to foreground	

Audit

In the "Principles" it is also stressed that the Audit activities shall be carried out in accordance with the related provisions of the Statutes and shall be aligned with the broad principles of FP7.

4.1.4 Organisational set-up and staff provisions²⁴

Requirement of organisational set-up and staffing

The following requirements on the organisational set-up were identified in the Statutes:

Box 4-6 Requirements for the organisational set-up

- An executive director-position should be filled (Article 7)
- Staff (Article 8) should be recruited

Executive director

The executive director was recruited after a recruitment procedure that lasted from July till October 2007. The executive director was appointed as one out of four shortlisted candidates proposed by the Commission (proposal of 19 September). The list was adopted by the Single Sky Committee

²⁴ Staff is analysed in more detail in subsection 3.1.1 concerning timely establishment.

and Mr Patrick Ky was appointed executive director 12 October 2007 by the SJU Administrative Board. The MFA specifies in detail the responsibilities of the executive director.

Staff

The "Rules for the recruitment of the SJU's staff" were adopted by the AB on 3 July 2007. They include most importantly eligibility criteria and recruitment procedures. The Rules of Recruitment were modified on 24 April 2008 to align with the EC recruitment rules in accordance with the change of statute.

New general implementation provisions were adopted on 12 June 2009 to align the internal staff selection procedures with Regulation 1361/2008. Under this decision, all staff (except the Executive Director) was offered the possibility to apply for temporary agents' contracts. On the same date, the AB adopted the Multiannual staff policy plan 2010-2012. The general implementation provisions of the engagement of temporary agents, middle management and contract staff were specified by three AB decision the 9 October 2009.

Programme Committee

Each Member of the SJU appoints a representative to sit in the Programme Committee. The Programme Committee is described in the MFA and is the forum of steering and monitoring of the Programme level, providing support to the Executive Director in the decision making process. The executive director of the SJU chairs the committee. The Commission has observer status in the Committee and does not participate in the technical work.

Scientific Committee

In 2009, the SJU set up a Scientific Committee with twelve scientists to deliver general input and guidance to the programme. The Committee held its first meeting in October 2009.²⁵

Subsidiary bodies

As a subsidiary body, the Board has created a Permanent Audit Panel (21 February 2008) on the basis of a proposal from the Audit Task Force. The function of the Permanent Audit Panel is to provide advice to the Administrative Board on audit issues. The Permanent Audit Panel met on four occasions in 2009 to co-ordinate audit matters. Much of the Panel's time in 2009 has been devoted to the concept of an Audit Committee for the SJU.

4.1.5 Conclusions

Timely establishment of Membership Agreements

Compared to the milestones specified in the Annual Work Programme 2007-2008, no information indicates that the individual and multilateral negotiations terminated in September 2008. The desk study found that the Membership Agreements were not signed in November 2008.

²⁵ Annual Activity Report 2009, p 23.

The signing of Membership Agreements happened prior to (on the same day) the adoption of the ATM Master Plan by the AB with exemption of the General Agreement between the Commission and the SJU. Ultimately, the memberships of the SJU were established timely, though with some initial delay due to mandatory procedures within the Commission.

The target set in the Annual Work Programme 2009 on the conclusions of the accession phase in the first quarter of 2009 was reached.

Timely establishment of organisation and staff

Some provisions on staff recruitment were not implemented before 12 June 2009 to allow for the recruitment process to finish before this deadline. The same is the case for the new financial rules and the appointment of the internal auditor. The latter appointment was timely, but the process of writing up the internal audit procedures happened after the 12 June 2009.

It is important to note, that the amendment of Regulation 219/2007 (Regulation 1361/2008) of 16 December 2008 had implications on the speed with which the SJU set-up was finalised. Nevertheless, the SJU was operating before the 12 June 2009.

AB members' opinion

In the e-survey and interviews with Administrative Board Members and stakeholders, the general perception is that the SJU was set up timely and rapid. Looking at the e-survey results, 60% of the Board Members agreed that the SJU was set up timely and rapidly (20% disagreed and the average score was 5). In response to whether the SJU started its activities and proceeded without delay to membership negotiations, 40% of the Board members in the e-survey agreed to this statement (10% disagreed and the average score was 4,8). Generally, the perception among stakeholders is that the change of statute was a necessary process without adverse implications on the set-up process.

Governance structure

The governance structure is implemented according to the requirements of the Statutes.

Principles, rules and procedures adopted

The broad principles of FP7 and TEN-T are adopted in the key documents of the SJU. Transparent procedures have been implemented. To support this finding from the desk study, 68% of the Board-respondents in the e-survey agreed that the membership negotiations were open and transparent (10% disagreed and the average score was 5,7). Procedures mitigating conflict of interest has been adopted. In relation to conflict of interest, 95% of the board members agreed that issues of conflict of interest were identified and managed within the board.

Organisational set-up and staff provisions established

The SJU organisation was set up in accordance with the Statutes. The staff provisions necessary to support the organisation have also been established.

4.2 Results obtained by the SJU

The result of these findings relate to the basic issue of what the SJU has achieved. Reference to the Terms of Reference and evaluation questions 5, 7 and 8 are pertinent here.

Box 4-7 Evaluation question 5, 7, 8

To what extent has the SJU, as a public-private partnership, led to the improved management of the ATM related research activities when compared to alternative options?

To what extent has the SJU achieved its objectives?

To what extent have the activities of the SJU resulted in unintended effects (produced unintentional benefits)?

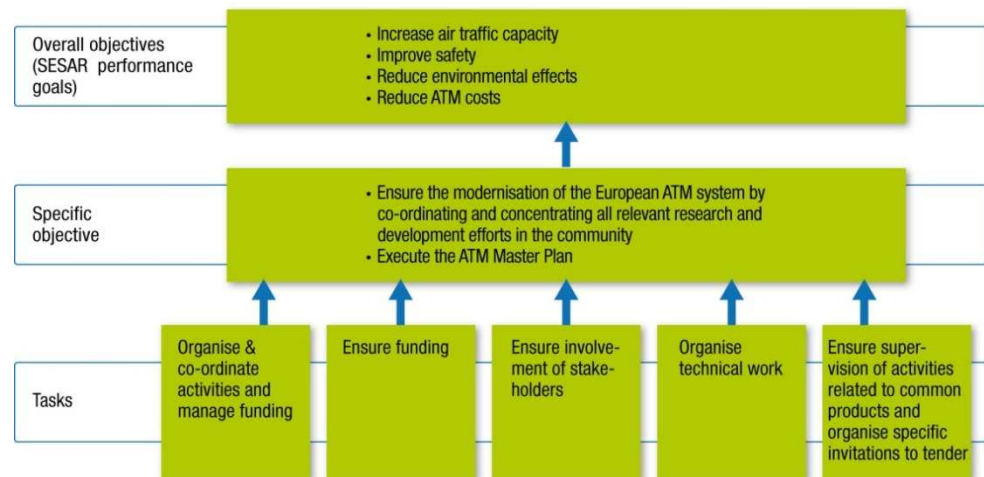
The findings are presented in a number of sub-sections. Firstly, the benchmarks used are discussed in section 3.2.1. Overall findings concerning the comparison between planned and actual activities are presented in section 3.2.2. Sections 3.2.3 to 3.2.7 present the findings on achievements within the five key tasks of the SJU. The progress towards long-term objectives is discussed in section 3.2.8. Finally, section 3.2.9 discusses the effectiveness and efficiency of the public private partnership model in relation to results achieved.

4.2.1 Assessing objectives achieved

Assessing achieved objectives essentially entails an assessment on effectiveness, i.e. a comparison between the results achieved against the objectives set.

The objectives of the SJU may be viewed as a hierarchy consisting of overall objectives (SESAR performance goals) and specific objectives and tasks as given in the SJU Regulation, Article 1. This hierarchy is illustrated in Figure 4-1 below.

Figure 4-1 Key objectives and tasks of the SJU



Not depicted in the above figure, but nonetheless relevant as a fourth (and lowest) level in the hierarchy, are the annual work programmes of the SJU. These work programmes detail the activities to be carried out within a particular year and thus lead to the execution of tasks and objectives (ref. the above figure).²⁶

The hierarchy of objectives also reflects the degree of control retained by the SJU in achieving specific objectives. Achieving overall objectives relies on many external factors and not only the performance of the SJU (the eventual implementation of technology and methods by airspace users, the legal framework, development within air traffic trends, all of which are in turn influenced by economic development, etc.).

The time horizon also differs depending on the hierarchical level. While the achievement of overall objectives can be regarded as a 'desired' long term effect resulting from the establishment of the SJU (looking at a time horizon of perhaps 10-20 years), the tasks to be performed are prompted by the goals the SJU wishes to achieve within its lifetime (i.e. 2013 when the SESAR development phase is formally planned to end - and for some initiatives 2016 due to the planned overlap between the development and the deployment phase).

As this evaluation covers a period under the initial three years (2007-2009) of the SJU's existence, assessment, at this stage, on the likelihood of achieving medium and long term effects can only be preliminary. The focus and weight allocated in this chapter is therefore based on the results achieved in

²⁶ A three year programme was submitted in 2009 covering the period 2010-2012 (Adopted by the Board in December 2009).

relation to the five tasks of the SJU as described in the SJU Regulation, Article 1.

Five tasks of the SJU The five tasks are interrelated and interdependent and are not described in an operational manner in the SJU Regulation. Table 4-2 presents the five tasks and the evaluators understanding of the main content under each task. This is the basis for the assessment of task achievement.

Table 4-2 Five tasks of the SJU

Task	Understanding
Organising and coordinating the activities in the development phase of the SESAR project, in accordance with the ATM Master Plan by combining and managing, under a single structure, public and private sector funding	Set up single structure = SJU Set up and update work structure and plans Risk management Ensure coherence of the work programme with the ATM MP Update the ATM MP Ensure coordination with other relevant programmes (Europe and abroad) Communication/dissemination
Ensuring necessary funding for activities in the development phase of the SESAR project in accordance with the ATM Master Plan	Ensuring commitment and contributions from members Implementing a commonly agreed system for valuing contributions Set up and implement system for managing funding Audit system for money controls and verification
Ensuring the involvement of the stakeholders in the air traffic management sector within Europe, in particular: air navigation service providers, air space users, professional staff associations, airports, and manufacturing industry; as well as the relevant scientific institutions or the relevant scientific community	Direct involvement as SJU member (incl. affiliates) Direct involvement as AB member (stakeholder) Direct involvement as contractor (tenders by SJU) Direct involvement as expert in relation to specific tasks/projects Involvement as regulatory/supervisory authority in relation to SJU performance

Task	Understanding
Organising the technical aspects of research and development, validation and study, to be carried out under its authority while avoiding fragmentation of such activities	<p>Ensuring the detailed planning and implementation of activities within a coordinated framework</p> <p>Monitor progress in WPs/projects</p> <p>Implementing the systems, which ensure coordination across and within WPs</p> <p>Implement validation strategy</p> <p>Manage risks</p> <p>Early benefits</p>
Ensuring the supervision of activities related to the development of common products duly identified in the ATM Master Plan and if necessary, to organise specific invitations to tender	<p>Ensuring that common products are part of DoW/WP descriptions</p> <p>Monitor progress of common product development</p>

4.2.2 Comparison between planned and actual results

The main method used in assessing achievements against planned results (tasks) is a desk study, which compares the annual work programmes with the annual reports. Appendix 9 contains a table summarising this analysis, where planned activities pertaining to each task are listed and compared with reported results as per annual work programmes and annual reports covering the period 2007-2008 and 2009, respectively.

Overall finding:
Good correspondence between planned and actual results

...and high level of satisfaction

The main result from this analysis shows that, in general, the SJU has implemented the planned activities and achieved expected results, albeit, in some cases with a delay due in part to the change of its statutes and the consequent procedural steps not envisaged at the moment of its establishment. The desk study has been supplemented with results from the e-surveys and interviews, which, in general confirm this overall finding. Based on the e-survey, the overall satisfaction of Administrative Board members with the work of the SJU is high (ref. Table 4-3.)

Table 4-3 *Administrative Board members' response to the statement "The organisation(s) that I represent are satisfied with the work of the SJU" and "The SJU performs its tasks satisfactorily"*

Statement	Average score*
Satisfaction with work of SJU	5.3
Performance of tasks	5.6

* Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

In the following paragraphs the main observations of the desk study, e-survey and interviews are described for each task.

4.2.3 Task 1 - organise and coordinate activities and manage funding

The desk study shows that during the evaluation period, the SJU has established its internal organisation as well as its membership base and managed the required changes arising from the change in Statutes. This is also documented in Chapter 3.1 on implementation of the Regulation.

Concentrating ATM R&D

The desk study shows that the SJU has brought together key industrial players and organisations involved in ATM research and development with a common aim to execute the ATM Master Plan. ECTL and the 15 SJU members together represent a significant share of ATM R&D community and the framework of agreements (MFA and MA) serve to commit the SJU members to the execution of the ATM Master Plan, subjugated by the coordination of the SJU. However, there are also stakeholders who are active in ATM R&D and who are not included as SJU members. These stakeholders have to some degree been involved during the evaluation period (see task 3 where this point is elaborated upon). The interviews with SJU members and aviation stakeholders show that they agree on the success of the SJU to gather stakeholders on a single ATM R&D programme. There is a general appreciation among all stakeholders that a reasonable balance between representation and programme manageability has been achieved.

According to the annual reports, the FP6 projects yet to be completed have been placed under the technical supervision of the SJU (NEWSKY, iFLY, RESET, EPISODE 3, CATS, CAATS II and SWIM-SUIT), which has provided recommendations to the Commission on their alignment with SESAR, in particular SWIM SUIT and EPISODE-3. Simultaneously, the SJU has formed co-operational ties with the European Space Agency (ESA)/IRIS programme for the new satellite-based air-ground communication system for ATM. Interviews with the Commission confirmed that FP7 funds for ATM are devoted to SESAR/SJU. During interviews, ECTL also confirmed that from their side ATM R&D is now being channelled through the SJU. Interviews with scientific stakeholders confirm that FP7 funds are no longer available for ATM related research. This highlights the challenge of involving the scientific community in the execution of the ATM MP (see below under task 3).

Refinement of the work programme

The SJU, together with the 15 candidate members of the SJU, refined the work programme contained in SESAR Deliverable D6 released in April 2008 and detailed each WP into projects. The result was the Description of Work (DoW V4) achieved by the end of 2008 (some WP descriptions were refined in July 2009). Effectively, this translated the ATM Master Plan into

a concrete method for organisation and planning of work packages. Interviews with SJU members show that the manner in which the SJU managed this process is greatly appreciated and that there is a great deal of satisfaction with the result achieved. This can also be seen in the results of the e-survey among Administrative Board members, where the average agreement to the statement *"The SJU's work programme secures the execution and update of the European ATM Master Plan"* was 5.9.²⁷ According to those interviewed, the process contributed significantly towards reducing gaps and overlaps in the programme and provided the necessary background for a division of work between the members and hence simplified/eased/facilitated membership negotiations.

Programme engineering

The SJU has implemented tools and methodologies for programme engineering, including management training tools for Members thereby ensuring a homogeneous knowledge base and common application of management procedures. Training in the systems engineering methodology has also been conducted. The SJU has contracted Airbus for assistance in the development and consistency follow-up of the "System of systems" (industrial support contract). The strategic framework includes: Programme management plan, Concept story board, Validation strategy, Architecture strategy and Master schedule linking the ATM Master Plan with project schedules.

Interviews with SJU staff confirm that these systems are continuously updated by the SJU and assistance is provided by Airbus under the industrial support contract.

Interviews with SJU members as well as work package and project leaders show that, while it is recognised that the methodologies are needed, there are concerns about:

- Systems Engineering Methodology and whether or not it has been sufficiently adapted for management at project level. Some SJU members made the comment that training in methodology was held too early particularly as projects were not ready for implementation. It is felt that additional training and adaption is required and this is seen as part of a common learning process between the SJU and its members, and one which is developing continuously.
- The verification methodologies (i.e. the procedures and tools (scientific, simulation, demonstration means etc.) which are necessary to validate new concepts, categorise new ATM products as suitable, safe and economically/environmentally beneficial) are not sufficiently developed and have not reached a stage where there is a clear indication of how

²⁷ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

deliverables under the various projects will be verified by the SJU and whether or not the SJU will be able to cope with the huge number of deliverables requiring verification as projects get under way.

International coordination

According to annual reports, the cooperation with NEXTGEN is on-going and a list defining the specific cooperation activities and initial identification of the SESAR partner to lead the work was agreed upon with the FAA in 2009. The SJU and ECTL agreed to transfer certain areas of co-operation from the ECTL - FAA Memorandum of Cooperation (MoC) to the management of the SJU. The study of selected work packages shows that co-operation with NEXTGEN has been taken into consideration wherever relevant in the detailed planning process.

During interviews, many stakeholders have highlighted the importance of international co-operation to mitigate the risk of divergence between European and other regions' (in particular the US) systems developed. Technical level coordination will become increasingly important as project execution progresses. The SJU has indicated, during interviews, that they would like to be empowered to talk/deal with their technical counterparts in the US as their members often ask if this is possible.

SESAR-NextGen interoperability activities will be carried out under the provisions of a Memorandum of Cooperation between the EU and USA, which will formally enter into force in early 2011. However, in the meantime, the Commission and the SJU in coordination with ECTL and the FAA are already anticipating its implementation and organising relevant activities and governance accordingly.

The desk study also shows that the SJU participates in discussions at the International Civil Aviation Organization (ICAO) level and provides information on SESAR at several international events.

4.2.4 Task 2 - ensure funding

Contractual framework securing commitment

The SJU, in cooperation with the founding members and the 15 selected SJU members, has implemented a contractual framework consisting of a multi-lateral framework agreement (MFA) which all members (except the EU Commission, who have signed a bilateral agreement with the SJU) have signed and individual member agreements (MAs) signed by the individual members. The MFA sets out the overall terms for parties who have agreed to work together, including the technical deliverables to be provided by each party. The individual MAs detail the contributions in financial terms to be made by each individual party. The contractual framework thus constitutes a significant legal commitment and a firm basis for the funding mechanisms and the active contribution by each SJU member. The e-survey among Administrative Board members also shows a high level of commitment, almost

75% agree that the SJU secures a high level of commitment from the industry.

Membership negotiation process supported commitment

It is clear from the annual work programmes and reports that the process of settling the membership agreements took significantly longer than expected, however, this may be explained by the complexity of the matters to be settled and the many actors involved and the change of statutes. Interviews with SJU members have shown that the lengthy negotiation procedure, including the DoW development described above, was necessary in order to achieve the desired result and that this procedure in itself contributed towards the high commitment level. SJU members have expressed their appreciation of the methodology used by the SJU and the clarity of the rules applied.

The concerted effort made by SJU members as work package leaders and contributors in order to get the programme implementation underway during the last half of 2009, where a number of project initiation reports were produced (see task 4 below), shows the commitment of the SJU members and the initiative necessary to ensure funding. The SJU members have expressed their appreciation on the motivation and commitment from the SJU staff and their member counterparts in general which indicates a positive and collaborative atmosphere ensuring a solid foundation for achieving commitment to the Programme and its funding.

4.2.5 Task 3 - ensure involvement of stakeholders

Involvement as members

The SJU has made a number of initiatives to involve stakeholders. First and foremost, the setting up of the SJU as a public-private partnership thus uniting the key public institutions (the EU and the Member States authorities - as represented by ECTL) with key industrial players in ATM R&D is a significant step that brings key stakeholders together. The 15 members of the SJU represent 70 large companies, which are among the most important actors in ATM R&D. The call for membership is open and it is still possible to include new members in the partnership.

There are also actors within ATM R&D in Europe who are not included as SJU members. These include most notably the SMEs as well as scientific institutions. While these actors were not excluded from applying for membership (in fact, SME participation was encouraged²⁸), the selection criteria included in the call for expressions of interest reduced the incentive for individual organisations due to requirements related to management capacity and financial long-term commitment.²⁹ Although consortia applications were

²⁸ Ref. call for expressions of interest, selection criteria f.

²⁹ Note the following selection criteria:

encouraged, there were no applications from consortia including SMEs or scientific institutions.³⁰

Involvement as sub-contractors/experts

SMEs and scientific institutions, as well as other relevant stakeholders, can still be included in the R&D activities conducted under the Programme through involving them as sub-contractors/experts. The SJU has facilitated this by setting up contracts with stakeholders:

- Professional staff associations: Two framework contracts were concluded in 2009. Three more are expected in 2010.
- In 2009, the SJU awarded 10 contracts with airlines and airlines association.
- The Executive Director has recruited a military advisor. In addition, industrial members have a military experience in their business.
- In November 2009, the SJU initiated the elaboration of a Framework Contract with Civil and Military Regulatory Authorities, in cooperation with these bodies. The objective of this arrangement is to have access to Authority expertise in early stages of the preparation of the deliverables of SESAR WPs.³¹
- Call for tender on work package E "SESAR Long Term and Innovative Research" (under ECTL responsibility) sought to involve scientific institutions.
- Set-up and use of the individual experts database to sub-contract specific ad-hoc advisory services.

The SJU members also sub-contract work under the work packages and projects for which they are responsible. Data gathered through interviews indicates that the involvement of SMEs as sub-contractors is limited.

The interviews show that among the SJU members and the SJU staff, there is an awareness and concern about the limited involvement of SMEs. It is considered that the SMEs host and generate important innovation activities in specific niches, which should be included in the ATM Master Plan execution. The matter was discussed at several meetings of the Administrative

c) The financial solidity of the undertaking or body. The candidates will have to prove their long term capacity to co-finance the activities they propose as contribution to the Joint Undertaking and to mobilise all the necessary resources.

d) Capacity to manage, coordinate and carry out large scale research, development and validation projects involving multiple participants.

³⁰ However, there were some applications "seeking other forms of cooperation", which also included scientific institutions. These were not considered for membership.

³¹ The SJU is also looking at the participation of the European Aviation Safety Agency (EASA) who has now ATM regulatory competencies but the process is not yet formalised and the initiative is not within the evaluation period.

Board during 2009. In September, the SJU Executive director presented a draft paper on associate membership to the Board, including two forms of Associates - associate to the SJU and to the Members. The former includes research centres, universities and SMEs. The concept is to introduce more flexibility to the SJU and enlarge access to the Programme, as well as allow subcontractors with a long history of participation to actually participate on a more appropriate level. The proposal was supported by the Members. The conclusion of the meeting was to carry out a gap analysis in order to assess the need for further competencies through participation of "Associates to the SJU Members" in the programme and to submit a more detailed paper to the Board on that basis. Subsequently, however outside the evaluation period, new initiatives have been initiated vis-a-vis SMEs and individual experts.

Involvement of stakeholders in the Administrative Board

Apart from the SJU members, a number of stakeholders are included in the Administrative Board as observers. One exception, however, is the airspace users (AEA), who have 10% voting rights³², due to their importance as end-users in relation to the deployment of SESAR. The stakeholders included are (organisation representing stakeholder group in brackets):

- Military (two representative designated by Military ATM Board for one seat in the SJU Administrative Board)
- Civil users of airspace (represented by AEA=Association of European Airlines)
- Air Navigation Service Providers (represented by CANSO=Civil Air Navigation Services Organisation)
- Equipment manufacturers (ASD= Aerospace and Defence Industries of Europe)
- Airports (Airports Council International)
- Staff in the ATM Sector (ETF=European Transport Workers Federation and IFATCA)
- Scientific community (represented by EUCASS and CEAS)

This composition of the Administrative Board allows for the involvement of key stakeholders of importance in the ATM sector in the management of the SJU, and in the execution of the ATM Master Plan. The e-survey results strongly indicate that the stakeholders appreciate this set-up. The average score in relation to the statement "*the representation of the ATM stakeholders in the Administrative Board is adequate*" is 6.2.³³ This is a high score which has been confirmed during interviews.

Involvement through consultative forums

In addition to the mechanisms described above, the SJU also solicited advice and consulted key actors through the following initiatives:

³² Administrative Board Decision No. 8/2008.

³³ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

- Established a Strategic Performance Partnership (airlines and industry) composed of 12 members
- Interacted with the National Supervisory Authorities Coordination Platform under the umbrella of the Single Sky Committee
- Established a Scientific Committee with 12 members to ensure the involvement of the scientific community

Another way of reaching out to Member States' authorities is the Single Sky Committee. The SJU provides the Single Sky Committee with relevant information on SESAR. The SJU Executive Director participates in meetings and reports on SJU and SESAR matters under a standard agenda item and can also intervene regarding any item where the SJU can contribute.

During interviews, stakeholders have generally expressed satisfaction with the efforts made by the SJU to involve stakeholders, but have also underlined the importance of continuing and expanding these efforts as the future use and uptake of the ATM products and tools developed under the development phase will depend on the buy-in of these stakeholders. This is also reflected in the results of the e-survey among Administrative Board members, which indicate a high level of satisfaction, but not as high as the above concerning composition of the Administrative Board. The average score in relation to the statement *"The SJU secures appropriate level of participation of different European stakeholders including SMEs"* is 5.2.³⁴

4.2.6 Task 4 - organise technical activities

Limited focus on technical aspects in 2007-2008

The SJU 2007-2008 work programme concentrated on the setting up of the SJU, the set up of work programme management structure, the participation modalities of stakeholders, and the framework for international cooperation. The technical activities focused on the launch of technical studies insufficiently covered in the SESAR definition phase and other studies with the main objectives:

- to launch calls on communication, GNSS and AIRE
- to organise a call for long term innovative research.

As a result, the AIRE activities were launched at the end of 2008 and a wireless communication study was launched in 2009. However, there is no mention of the GNSS studies in the Annual report 2007, 2008 or 2009. The call for long term innovative research was released in 2009.

IBAFOs and DoW led to avoidance of fragmentation

From 2007 to mid-2009 the SESAR technical activities were essentially focusing on the refinement of the Description of Work in the frame of the IBAFO 1 and 2 (as described above under task 1). The refinement of the

³⁴ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

programme and the elaboration of the Multilateral Framework Agreement are perceived by SJU members as a key element in avoiding duplication of work and fragmentation of the R&D activities because all activities were clearly described and responsibilities distributed. This is reflected in the results of the e-survey, where approx. 80% of the Administrative Board members indicated that they agreed or agreed to some extent with the statement that "The SJU organises the technical work of research and development, validation and study, while avoiding fragmentation of such activities".

In 2009, the SJU also launched the OPTIMI study as result of a specific request of the AB.

Project initiation process

During interviews, the SJU members have also pointed out that this process continued with the launching of projects during the second half of 2009. The project initiation reports gave rise to further specification of the tasks and, in some cases, to the identification of additional critical interfaces between work packages and projects, which needed resolving and decisions on work sharing. Thus, the project initiation process and the way it was managed by the SJU further consolidated the coordination of activities and consistency between work packages and projects. However, at the same time many SJU members (including work package and project leaders) have raised concerns about the future coordination and management of the many work packages and projects stating that the multiple interdependencies between projects necessitates more coordination. Interviews with Members, project leaders and managers suggest that coordination and synchronisation could be improved between the WPs on technical issues in order to minimise the risk of overlaps. The guidelines (for WP leaders) to sort out issues of technical redundancy in the consortia needs to be more specific and in accordance with other projects where similar research ideas might be implemented. Moreover, the communication is described to be centre-periphery, going from the SJU to the WPs with limited knowledge-sharing between WPs on the technical work in progress.

Targets for project initiation achieved

The target set out in the Work Programme 2009 was to initiate 70% of the R&D projects (under IBAFO 1). It was estimated that 140 projects would be initiated in 2009 and 60 would be initiated in 2010 or later. However, according to the Annual Activity Report 2009, a total of 181 R&D projects were identified and 126 of these were kicked-off in 2009. That is a ratio of 70% equivalent to the target of the Work Programme 2009. The rest of the projects will be initiated in the beginning of 2010 for various reasons.

62 of the projects launched, delivered their Project Initiation Report by end 2009 and of these 32 were analysed and 13 were authorised to start execution. 19 projects were not accepted and the SJU requested additional refinements (see detailed table in Appendix 10).

Under IBAFO 2 as well as some WPs requiring further clarification (WP C, WP 7, WP 11, WP 13, WP 16 and WP E), no projects had yet proceeded to the initiation phase. In the Annual Activity Report 2009, it is estimated that, in total (IBAFO 1 and 2), some 310 projects or transversal activities will be identified and executed (Annex 3). Regarding WPs part of the IBAFO2 process (WPs C, 7, 13 and 16), the initiation phase was planned to start in February 2010 and the SJU foresees the first project executions to commence from September 2010 onwards.

Early benefits

During the evaluation period, only few technical activities were implemented as focus was directed on the set-up of the SJU and preparation of the work described above. The exception are the AIRE programme, where more than 100 trials were conducted during 2009, the OPTIMI and Communications studies. The SJU members have commented that there is a strong desire in the SJU to show early benefits and to demonstrate that SESAR is not simply a paper study but is about operational validation of prototypes. According to SJU members this became more evident in the latter half of 2009 as the SJU moved from the set-up phase to the implementation phase. The e-survey shows that more than half of the respondents agree that the SJU identified existing and validated technical solutions that can serve as a basis for early deployment to secure early benefits. However, as several interviewees have commented, it is probably too early to draw final conclusions regarding the ability to deliver early benefits.

4.2.7 Task 5 - supervise common products

Common products are elements (models used in ATM software tools, new systems, procedures, etc.) necessary to improve current ATM capabilities or to create new ones. Their development cannot be sorted per work package as it is a collaborative work. An example is the SWIM network: The SWIM hardware architecture development is done in one work package but the data transiting on this network as well as the interfaces etc. are multiple and addressed in other work packages.

The annual reports are not specific in regard to the common products, but the desk study of selected work packages and projects shows that common products are sufficiently described (see Appendix 11). The e-survey shows that Administrative Board members generally find that the SJU ensures the supervision of common products, 20 out of 23 respondents answered that they agreed or agreed to some extent to the statement that *"the SJU ensures supervision of activities related to common products and organises specific invitations to tender"*. The average score was 5.8.³⁵ This has been confirmed during interviews.

³⁵ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

4.2.8 Other results

In general, the evaluation has found very few unintended effects. On the positive side, representatives of the Commission have pointed out that the SJU, apart from fulfilling its mandate and undertaking the designated tasks in a satisfactory way, has also proven to be a highly appreciated platform for meeting key stakeholders in the ATM community and discussing broader ATM related aspects.

The Commission also appreciates the ability to draw on the technical expertise of the SJU in situations requiring urgent action. Two occurrences have received particular mention: The Air France plane crash in the Atlantic Ocean leading to the OPTIMI initiative in 2009 and the volcanic ash cloud crisis in 2010.

SJU contribution to Regulatory Roadmap

Article 12 of the Commission-SJU General Agreement requires the SJU to provide assistance to the Commission for the regulatory roadmap in order to assist DG MOVE in the preparation of Implementing Rules and Community Specifications as set by SES Regulations (Interoperability Regulation). This is one of the reasons; the SJU recruited a Chief Regulatory Affairs in June 2009. While this is not directly related to the R&D of the development phase of the ATM Master Plan, it is important in relation towards building a foundation for achieving results during the deployment phase. Commission officials have expressed satisfaction with the work carried out in the evaluation period.

4.2.9 Progress towards achieving specific and overall objectives

There is a considerable uncertainty in assessing (predicting) medium and long term effects based on the development during the evaluation period 2007-2009.

Risk of delay in the medium term

As reflected in the Annual Activity Report 2009 (p.18), it is difficult to draw definitive conclusions with regard to the risk of project participants not delivering "first deliverables" on time. This was caused primarily by the restricted sample of projects analysed by end-2009. The report mentions that out of 32 projects analysed, more than half of them showed a deviation from the first maturity target of 2011 estimated to between 6 to 24 months. However, at the same time, the report also stated that there was a significant likelihood of a number of projects delivering validated results within the 2012-2013 timeframe. The report concludes that *"there are no elements which point to critical divergences of the Programme from the European ATM Master Plan objectives"*, and at the same time states that the SJU and its members are strictly monitoring the situation.

However, some of the members interviewed are sceptical. The e-survey also indicates that the Administrative Board members do not share the same view of the likelihood of achieving 2013 targets. The average score in relation to the statement *"The execution of the ATM Master Plan is on track and the development phase can be realistically completed by 2013"* was only 3.8.³⁶

Some of the issues, which require attention according the Administrative Board members are already mentioned above under the relevant tasks and include:

- Implementation of engineering methodology
- Ensuring an appropriate level of coordination among work packages and projects
- Capacity for validation of deliverables

Achievement of overall objectives

In respect to the possible achievement of the overall aims of the SESAR programme in a longer term perspective, the Administrative Board members are more positive (as indicated by the responses to the e-survey, which, compared to the above scepticism, indicates more faith in the overall programme and that, eventually objectives will be met, but points to a likelihood of delays in doing so. The average score in relation to the statement *"The SJU is likely to secure the aims of the SESAR Programme"* was 5.1.³⁷

Risk management

Management of risk, including risk of delay and risk of low performance in relation to objectives, is a key instrument to seek to provide a foundation for achieving medium and long term objectives. In this connection, it is remarkable that the Administrative Board members through the e-survey and through interviews have expressed a fairly low level of satisfaction with the risk management plan of the SJU. The average score in relation to the statement *"The risk management plan put in place by the SJU as part of the ATM Master Plan is sufficient"* was only 4.4.³⁸ Thus, this is clearly an area for further development. According to the Annual Activity Report 2009, the SJU is working on an elaborated Enterprise Risk Management Framework to be introduced in 2010.

The factors influencing the achievement of long term objectives, which are related to the deployment phase, are, to a large extent, beyond the immediate control of the SJU.

³⁶ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

³⁷ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

³⁸ *Ordinal scale from 1-7 where 1=disagree and 7=agree, n=23.

- The issue of buy-in is mentioned by many stakeholders to be crucial for the SESAR Programme in the future. The SJU is responsible for steering the R&D process while the deployment of the different Implementation Packages is mostly the ANSPs' responsibility. This is a source of concern for many stakeholders due to different investment capabilities between ANSPs affecting negatively the buy-in. This may have an adverse effect on the homogenous deployment of the SESAR Programme. The buy-in of airspace end-users (airlines) is also perceived as a risk for the deployment. These two buy-in issues are closely linked and require initiatives in the legal field as well as on process management (see below).
- There is a potential political risk to the Members of the SJU, since the deployment phase might hinge on legislation being adopted. The role of the Commission is as crucial as it is difficult since a good balance should be observed between consensus, global efficiency and enforcement through regulations. Some Member states might be reluctant to support large investments if their air space is not densely utilised, and the need for new ATM equipment thus is less urgent. Moreover, labour and trade organisations might cause political winds to change, as many jobs could be lost if new ATM systems are implemented. The need for MSs to amend their military regulations is pointed out by some stakeholders, adding to the difficulty of the regulatory aspects of the deployment phase.

The efforts of the SJU in relation to inclusion of stakeholders, cost-benefit assessment and regulatory road-map are therefore key and essential activities reaching beyond the pure R&D efforts, which has also been pointed out by a number of stakeholders during interviews.

4.2.10 Effectiveness and efficiency of the JU model

The Cost Benefit Assessment on the SESAME programme foresees the involvement ATM stakeholders and co-financing by those in a Public Private Partnership (PPP) setup.³⁹ The JU is an instrument under the research framework programme to be used to manage PPPs. The SJU is essentially a project organisation that manages and coordinates the required R&D work between its members in order to achieve the programme objectives.

The complexity of the SESAR programme and the size of the programme budget do require a targeted administration including technical expertise recruited from various stakeholder institutions. Therefore, it is the common perception by stakeholders that the choice of a JU as instrument/organisation is justified.

³⁹ SESAME CBA AND GOVERNANCE, 2005

Alternative management options

An alternative management option to the SJU could be that the SESAR programme was managed through the usual research framework programme based on demand driven call for proposals. In that case the SESAR programme could be managed directly through the European Commission in one of the parent DGs or could be outsourced to an Executive Agency. Even if organised as an executive agency, this would be without the direct participation of private entities in the governing structure.⁴⁰

Irrespective of the programme management solution (European Commission or Executive Agency) it is assessed that if the SESAR programme was implemented through a demand driven approach and call for proposals, it would not have the streamlined management of the R&D programme as in the SJU targeted at the SESAR programme objectives. Such a management set-up of SESAR is likely to result in more overlaps and gaps in the research carried out as compared to the SJU set-up because it would not be possible to establish a coordinated and consolidated work programme in the same way as it was done under the SJU. This in turn means that the "demand-driven Commission option" would be less effective and efficient.

There are several explanatory factors, including the following:

- No central governing body responsible for the work programme development and interfaces
- Possible uncertainties about roles and responsibilities and consequent lower levels of commitment among key industry stakeholders
- Difficulties in recruiting the required specialised staff to the Commission/Executive Agency.
 - Programme management by the European Commission: The current staff regulation has limitations to recruiting specialised and technical staff as temporary agents and there are time limits to such contracts not aligned with the SESAR programme. This means that, within the Commission, it would be very difficult to recruit and retain specialised staff required to implement the SESAR programme. A JU has the flexibility to recruit the required technical staff and to recruit and retain staff for the lifetime of the JU.

⁴⁰ Executive Agencies are European Commission bodies with a government structure led by a board composed of EU officials and all managerial posts are staffed with seconded EU officials. Therefore, taking into account the structure and legal framework of Executive Agencies it would be impossible to include members of the private sector in the board of an Executive Agency.

- Outsourcing programme management in an Executive Agency: An Executive Agency has in principle a similar degree of flexibility to recruit external technical staff as the JU. However, in Executive Agencies it is foreseen that 75% of the staff are recruited as contract agents and only 25% as temporary agents. Contract agents are hired for project manager posts whereas temporary agents are hired for posts requiring more specialization.

In addition to the above comparison, a comparison between the SJU and two alternative governance models analysed in the SESAME CBA was attempted as part of this evaluation. Due to a low level of data availability, it was not possible to perform a proper analysis leading to any valid conclusions. The data gathered and comparisons made are illustrated in Appendix 12.

4.2.11 Conclusion

The SJU has implemented the planned activities and achieved the expected results, albeit, in some cases, with a delay. Correspondingly, the general level of satisfaction with the work of the SJU among the stakeholders is high. Among the key achievements during the evaluation period are:

- To gather and commit relevant stakeholders on a common R&D programme
- To develop the work programme in a way which supports rationalisation and consistency and hence, avoids gaps and overlaps
- To develop the required methods and tools for programme implementation
- To initiate a number of projects within a short timeframe without compromising on the quality requirements and needs for coordination between work packages and projects

The SJU has shown good progress and this is promising for the future execution of the ATM Master Plan. It is not possible at this stage to make firm conclusions about the ability to reach specific and overall objectives in the long term. There is a risk of delay in the execution process. The immediate challenges facing the SJU relate to the ability to coordinate all work-packages and projects and the validation of deliverables.

It is too early to assess the overall programme efficiency of the SJU (the ability to implement the development phase at a reasonable cost). However, based on the progress made during the evaluation period, it can be established that the Joint Undertaking / Public Private Partnership model has

proven to be more effective and efficient than if the SESAR programme was implemented as a demand driven FP7 R&D programme through calls for proposals. The FP7 approach would not in the same way be able to avoid fragmentation of activities.

4.3 Working methods

This section deals with the internal working of the SJU and whether its management is conducive to the effective and efficient implementation of tasks. The point of departure is that the JU model has been chosen and the question is whether the implementation of this model is done in an optimal way. The relevant evaluation questions in the Terms of reference are 4, 6 and 9.

Box 4-8 Evaluation question 4, 6 and 9

To what extent have the SJU's internal organisation and procedures been conducive to its efficiency?

To what extent is the coordination between the SJU, its Members and its Founding Members working satisfactorily?

To what extent has the SJU carried out its work efficiently?

The section is sub-divided in three sub-sections:

- SJU efficiency
- Internal organisation and procedures
- Governance and coordination

4.3.1 SJU efficiency

The actual running costs of the SJU compared to the estimates made in the CBA

According to the CBA conducted on June 2005 the annual running cost of the SJU was estimated to be 10 million EUR annually.⁴¹ A breakdown of this amount or the methodology used to estimate this cost, are not available in the CBA document. Therefore it is difficult to compare this amount to the actual annual running costs of the SJU.

The operating expenses of the JU for 2007/2008 according to the Annual Accounts reached EUR 8,243,898 million. For 2009 operating expenses were EUR 8,400,000 million. These amounts include the administrative management costs of the SJU (salary and other administrative costs e.g. IT, rental costs, PR and travel costs) as well as other operational programme related costs (PSO and industrial support services). Thus, the level of esti-

⁴¹ Gleave, Steer Davies: SESAME CBA and Governance - Assessment of options, benefits and associated costs of the SESAME Programme for the definition of the future air traffic management system. Final Report. 24 June 2005.

mated running costs in the CBA was higher than the actual level of running costs. It is unclear if the estimated costs in the CBA incurred PSO and industrial support programme.

Actual administrative costs compared to budget

The direct administrative costs (salary and administration) of the SJU amounted to EUR 3.7 million in 2008 and to EUR 5.4 million in 2009. This is significantly lower than the payment appropriations available in the final budget respectively EUR 7.0 million in 2008 and EUR 10.4 million in 2009.

This is a sign, together with the change of statute, of an effort made to achieve cost efficiency of the SJU. Another possible explanation of the above mentioned cost differences could be that the SJU was in the establishment phase thus not having reached the full cruising speed (employment level lower than initially foreseen).

Table 4-4 Actual costs and budgets for administrative expenditure (Annual Activity Report 2009)

Million EUR	2008	2009
Costs - Administrative expenditure	3.7	5.4
Staff expenditure	2.6	3.4
Administration expenditure	1.0	1.97
Budget – Administrative expenditure	7.0	10.4
Staff expenditure	4.8	6.0
Administration expenditure	2.2	4.3

Comparison to other Joint undertakings

All EU institutions need to fulfil the financial regulation and staff regulation setting the framework for administrative costs. Despite this, the costs of the SJU is not directly comparable to that of other EU institutions given the differences in the nature and content of the programmes managed, the specific requirements, the difference in size and the required management structure. There is only available data (annual activity reports) concerning other JUs for the first year(s) being the establishment phase, which does not provide sufficient material for a comparison between the SJU and the Clean Sky JU. When the Annual Activity Report 2009 for the Clean Sky JU is available, it can be assessed if such comparison will provide a realistic picture for 2009.⁴²

⁴² DG Research has been contacted and the first AAR for the Clean Sky JU will be published during 2010. It is not available at the time of this report and no previous AAR exists.

4.3.2 Internal organisation and procedures

This section addresses the efficiency and effectiveness of the SJU internal organisation and procedures.

Organisational structure

Structure and organisation

The latest organisational chart for the period covered by the evaluation was adopted by the Administrative Board on 11 November 2009.

The SJU organisation is divided into four functional components as indicated below.

Table 4-5 SJU functional components

Component	Number of positions (filled + unfilled 2009)
Four units ensuring strategy and consistency of the programme	15
Programme Support Office (PSO) focusing on coordinating and supervising the execution of the projects	18
Administration and Finance Division	13
The Executive Director, communication, audit and advisors	6

At least 33 positions (PSO plus four units) deal directly with the execution of the programme, reflecting the objective of the SJU.

Four units: Strategy and consistency

Four individual units are responsible for the strategy and consistency in the execution and maintenance of the ATM Master Plan. The four units are specialised in one of the following subjects:

- Technology and Innovation
- Operational Concept & Validation
- Economics & Environment
- Regulatory affairs

Project Support Office (PSO)

The PSO is specialised in providing support to work packages and projects and is an in-plant office of ECTL. The PSO staff is part of the Directorate ATM Strategies at ECTL. The staff support given by ECTL is regulated in the SJU-ECTL Agreement's annexes in Schedule 4. The functional reporting

of the PSO manager (Chief Programme Officer⁴³) is to the SJU Executive Director as defined in Article 3 in the mentioned agreement.

The added value of the PSO is the easy access to ECTL's recognised expertise in managing major ATM R&D programmes and likewise the convenient access to ECTL's already existing network of experts in the field of ATM.

PSO confidentiality and conflict of interest

Schedule 4 in Annex 3 of the agreement displays an Individual Confidentiality Undertaking to be signed by ECTL-staff assigned to the PSO. The PSO staff has signed the Annex 3 undertaking and are requested to sign this before undertaking any significant evaluation process with contractual implications, for instance procurement. Furthermore, the PSO staff follows the mandatory training on “ethics and integrity” and are well aware of confidentiality issues. The desk study found that appropriate measures have been taken to protect confidentiality and mitigate conflict of interest between SJU and ECTL.

Different measures are in place in order to ensure confidentiality between the SJU and ECTL as illustrated in the box below.

Box 4-9 Measures to ensure confidentiality

- 1) The physical separation in different offices in the SJU domicile
- 2) IT infrastructure of the SJU is separate from ECTL's (and any other SJU Member) infrastructure. Access to the SJU IT infrastructure is secured at different level (password, hard token...).
- 3) Sensitive physical information is kept in safes or destroyed after evaluation allowing limited exposure of dissemination.

In addition, ECTL staff regulations are aligned with European Commission staff regulations; consequently PSO staff is familiar with their ethical obligations under Title II of the Staff Regulations of both ECTL and the SJU according to the SJU staff. However, PSO staff is not bound by the SJU staff regulations.

Interviews with SJU staff point at an efficient cooperation between the PSO staff and other parts of the SJU and that the roles and responsibilities are clearly defined, and principles follows the PMP according to the SJU staff. So far, the PSO manager has not been in a situation where he has had to report a conflict of interest to the executive director and the ECTL director about ATM Strategies as per Schedule 4 Article 11 in the SJU-ECTL Agreement.

⁴³ According to the SJU organisational chart.

Administration and Finance Division	<p>The Administration and Finance Division is responsible for the administrative and financial affairs of the SJU. According to the SJU organisational chart, the division covers the activities of:</p> <ul style="list-style-type: none"> • Legal affairs and contracts • Financial resources, accounting and budget • HR • Project control/audit <p>The structure of the Administration and Finance Division is set up to support programme activities and to pay particular attention to the segregation of duties, continuity of operations and the overall sound financial management.⁴⁴ The number of positions in Administration and Finance Division is explained by the work required to administer the rather elaborate EU legal and financial framework⁴⁵ and to provide assistance to the Administrative Board.</p> <p>In interviews the SJU staff and Commission officials indicated that the structure of the SJU is adjusted to match its objectives.</p>
Executive director	<p>Management</p> <p>The executive director is responsible for the day-to-day operation of the SJU. Pursuant to the MFA Annex 3, the executive director is responsible for the management of the SESAR programme. The outcome of interviews with officials from the Commission and stakeholders including AB members show a high degree of satisfaction with the work of the executive director's operation of the SJU.</p>
Delimitation of responsibilities of the executive director	<p>The SJU statutes set out the responsibilities of the executive director (Article 7). Article 7 in the statutes also established that the executive director shall execute the SESAR Programme with guidelines established by the Administrative Board.</p>
Executive staff	<p>In his management of the SJU the executive director is assisted by a chief programme officer (PSO), a chief of technology and innovation, a chief of economics and environment, a chief of operational concepts and validation, a chief of regulatory affairs, a chief of communication and the director for the division of administration and finance. If the executive director is away for more than one day, he delegates responsibilities to one of the above-mentioned chiefs.</p>

⁴⁴ SJU Annual Activity Report 2009, p. 23.

⁴⁵ In particular the financial and staff rules.

Definition of management roles and responsibilities	<p>The desk study found that job descriptions have been published for all positions in the SJU. Almost all interviewees in the SJU found that the chain of responsibility was well defined and that they knew who they were referring to in the SJU management structure. A few staff mentioned that there could be more clarity in the chain of responsibility compared to ordinary public administration. However, all staff pointed at and appreciated the flexibility of a small and flexible organisation. A few AB members, found it difficult to tell the difference between the roles of the chiefs coordinating the content of the WPs.</p> <p>On the basis of this and also since only very few sources of data points at another direction, we find that the chain of responsibility is clear in the SJU.</p>
Coordination	<p>In interviews with SJU staff it became apparent that crucial coordination and decision-making takes place in meetings held with regular intervals. The most important meetings are presented below.</p> <ul style="list-style-type: none"> • Monday morning: Information on ongoing activities in the SJU especially the coordination between financial and legal functions with participation of the executive director, the divisional director and the five chiefs • Monday afternoon: Operational meeting between the technical chiefs and their staff • Bi-monthly meetings including the executive director, the divisional director and the technical chiefs based on an agenda prepared by the executive director. <p>In addition to the above regular meetings, some divisions have separate meetings, e.g. the Administration and Finance Division has a weekly operating meeting.</p>
Lean management	<p>Interviews conducted in the SJU suggest that the organisational structure of the SJU is easy to manage and control, and at the same time allow for appropriate specialisation in its different offices and units. Several interviewees expressed clearly the view that they perceived the organisation to be effective and flexible.</p> <p>Programme management and procedures</p> <p>This subsection presents the findings related to the general Programme Management and not the management of the SJU, which was treated in the previous subsection.</p>

General Programme Management	<p>Pursuant to the MFA Annex 3, the Executive Director is responsible for the management of the SESAR Programme - as mentioned above. The work programme management structure is in five layers:</p> <ol style="list-style-type: none"> 1) Project managers 2) Sub-work packages managers 3) Work packages leaders 4) The Executive Director 5) The Programme Committee
Programme management competences	<p>The chiefs leading each technical unit are recruited on the basis of job descriptions and following a competitive recruitment procedure. All chiefs have a solid professional background in either air traffic management (ANSP or regulatory authorities) or airline industry. Moreover, the PSO is manned by staff of ECTL incorporating the ECTL expertise in the ATM programme management in the SJU.</p> <p>Next to the competencies available internally in the SJU organisation, the SJU is receiving industrial support from Airbus⁴⁶ which ensures the overall consistency of the SESAR programme and which aligns the individual projects with the programme objectives. This is achieved by deployment and the uniform application of an engineering methodology framework establishing procedures, processes and tools.</p>
Extranet	<p>The SJU operates an extensive extranet providing information, documents, tools, methodologies for members' staff working on work packages and projects. The extranet is widely praised by all stakeholders having access to the net.</p>
Training	<p>The first SJU Training Programme (an internal document approved by the SJU management) was published late 2009.⁴⁷ The programme targets both SJU staff and members' staff working on work packages and projects. The training programme is divided into a phase 1 for the initiation phase from August - December 2009 and a phase 2 covering a full training programme.</p> <p>According to the SJU staff, the participation rate of members' staff has been low as the need for training is not recognised by the members. Members inform that training offered by the SJU was premature compared to the progress of the programme. The need for training among the 1,500 experts working on the SESAR programme is high according the SJU staff.</p>

⁴⁶ SJU Annual Report 2007 - 2008. The contract was awarded to Airbus after a public procurement procedure (CFT no SJU-6-2007).

⁴⁷ The Consultant has not had access to the final version of the Training Programme.

Moreover, training of members' staff is provided for in different ways, but the perceived need for training of members' staff is not covered by the present processes and instruments and the training offered is not aligned with the progress of the SESAR programme. This is potentially reducing the effectiveness of the SJU programme management.

Perception of SJU expertise

Approximately 90% (average score: 5.2 out of 7) of the AB members responding to the e-survey agree or agree to some extent that the SJU provides adequate expertise needed for managing the programme. In addition, more than 80% (average score: 5 out of 7) agree or agree to some extent that the programme management arrangements are efficient and transparent.

Stakeholders including Work Package Leaders and Project Managers express satisfaction with the SJU expertise available for managing the SESAR programme. A few stakeholders having experience from the Galileo JU and Clean Sky JU states that the SJU programme management is more efficient and effective than the two other JU's.

Some stakeholders voiced concerns over perceived late start of projects, the internal consistency in the programme and risk of conflict between members. From the interviews conducted with Work Package Managers and Project Managers the following observations are reported:

- Rules, tasks, responsibilities evolved and developed over time both during the DoW phase and project initiation phase.
- Interfaces or inter-linkages are not clear for example between different WP's, between Airbus (IS) and SJU, between WP Leaders and SJU project offices (in particular in administrative matters) and between Work Packages Leaders causing coordination problems.
- After IBAFO 1, some redundancy between one member and another member was discovered in the initiation phase. This meant that some members had to give up the work they thought they should do. This situation was foreseen but the subsequent negotiations between members were in some cases left to the Project Managers. However, the Project Managers were not empowered to enter into such discussions between members.
- The SJU is responsible for validation of deliverables. This means that the Work Package Leaders have little power to control execution of projects. They express some concern in relation to the future validation capacity of the SJU.

- Bilateral discussions between WP Leaders are not enough to ensure consistency as all work packages have to fit together and therefore the intervention of the SJU is required in many discussions and an overall system for coordination is required taking into account the multiple interdependencies.

Economies of scale

The SESAR Programme Management Plan (PMP) applies to all projects ensuring that the same methodology is applied across projects. This ensures economies of scale according to the SJU staff. An example of using the same methodology across projects is the kick-off meetings in the initiation phase. In 2009, 126 projects were given the green light to launch the initiation phase. Each project started with a video-conference-based kick-off meeting with participation of the SJU and the participating members. Each kick-off meeting was orchestrated by the SJU and conducted according to the same agenda and minutes were prepared in the same way.

Approximately, 75% (average score: 5.5) of the AB members responding to the e-survey agree that the SJU is ensuring economies of scale. From the interviews conducted, it is stated that these economies of scale will primarily/mainly be realised during the development phase.

Financial management

Financial Management

The SJU is finalising Implementing Rules for the Financial Rules as well as Interpreting Rules for the MFA/MA. Both the SJU staff and Commission officials believe that there is a need for further strengthening procedures in order to make processes more effective and efficient.

Financial exceptions and payment delays

A register of financial exceptions has been established ultimo 2009. The desk study found that only a few exceptions were registered and their nature was related to procurement procedures which needed extension or special services for which the procurement procedures were not able to provide results according to the SJU staff. No payment delays are reported.

Procurement

SJU procurement procedures comply with the relevant European directives and follow the SJU financial regulation. Procurement actions delegated to ECTL follow the ECTL rules as long as these rules do not deviate from the SJU rules.

The SJU web-site has a section for procurement including announcements of calls for tender. Procurements are announced on the web-sites of DG MOVE and ECTL as well. The procedures for grants and procurements are clear and followed according to the SJU staff interviewed.

Communication	<p>Managing communication</p> <p>The SJU is communicating with a high number of stakeholders and using a number of different media and forums. The media include e-news, SESAR Magazine (including interviews with stakeholders), press releases, conferences (SJU reacts on requests from the Commission), Air Fair in Amsterdam, brochures, communiqués e.g. on Annual Report and SJU web site. SJU-communication staff assessed that only about 10 people per month are requesting information directly from the SJU, but the interviewed stakeholders are expressing satisfaction with the SJU web-site.</p> <p>Overall, stakeholders are voicing concern over the SJU communication efforts. The arguments given to the evaluation team are that the AB members including stakeholder representatives are not presented with the information meeting their specific needs. This in particular concerns information on the implementation of the ATM Master plan. Stakeholders who are not members of the AB also express a need for more general information on the programme management. However, interviewees also confirm that they are satisfied with the SJU response to ad-hoc requests for information.</p> <p>At the same time that AB members voice this concern, it should be stressed that approximately 70% (average score: 5.9 out of 7) of the AB members responding to the e-survey agree that the SJU ensures sufficient information to relevant stakeholders regarding the organisation of the SJU and the progress of the SESAR programme in relation to the European ATM Master Plan.</p>
Communication Plans	<p>The AB has approved a Communication plan in 2008 covering the period 2008 - 2009 and approved a revised Communication Plan in 2009 covering the years 2010 to 2016. A review of these plans shows that none of the plans contain a comprehensive stakeholder analysis focusing on the information needs of the different stakeholders. This means that the plans do not give directions as to target the SJU messages to different stakeholder groups and the relevant media. The plans are not covering communication with the Administrative Board members, the Commission or, for example, SMEs.</p> <p>The 2009 plan invites the different stakeholders to cooperate for instance on a SJU label but it is not clear what is in the cooperation for the stakeholders. Both plans mention in their introduction the need for change but there is only little change management in the plans.</p>
Reporting on activities	<p>The desk study comparing annual work programmes with annual reports showed that there was not always a direct consistency between the planned activities described in the work programmes and the implemented activities described in the annual reports. However, interviews have generally confirmed that planned activities have been completed even if they were not</p>

reported in the annual report. A table comparing performance targets for 2009 with actual achievements was found in the work programme for 2010 and in the annual activity report sent to the Commission, but not in the 2009 annual report. On this basis, it could be considered to expand and use more consistently the system of performance targets, which is included in the 2009 annual work programme.

Another finding from the study of annual work programmes and reports is that the activities are generally described rather general, which makes it difficult to use the reports as a means to ascertain actual progress made towards achieving the execution of the ATM Master Plan. The level of detail is generally higher in the annual activity report, which contains an annex on each work package. Given that the SJU in 2010 is moving into a "real implementation mode" with active work packages and projects, the evaluator suggests adding more detail on the (planned) implementation of the work packages. This could be done through integrating the system of performance targets mentioned above with work package management/reporting.

Thirdly, considering the short implementation horizon of the SJU with the development phase formally ending in 2013, a close follow-up of activities is absolutely necessary and an annual planning cycle is therefore appropriate. However, strategic planning and putting the annual plans into the perspective of the results to be achieved by 2013 is equally important. The evaluator therefore considers it very relevant that a multi-annual programme has been prepared covering the period 2010-2012. An assessment of this programme is beyond the scope of this evaluation, however, in order to further develop the strategic framework and ensure the execution of the ATM Master Plan, the evaluator suggest to expand the strategic planning document to 2013 and 2016. It is the understanding that strategic planning is already firmly embedded in the work package and project planning systems⁴⁸ and therefore, it is not a question of "inventing" new plans but rather to communicate what is already there in a condensed manner.

Common work culture

There is a need to create a common culture in any new organisation across offices, units etc. This is a challenge in any organisation. The SJU staff perceive the SJU to have created an organisational culture and the staff are aware of the challenge created by the integration of the PSO. Both SJU staff and stakeholders have in interviews expressed a need to avoid an organisation divided in "silos". Representatives of the SJU management team (see above) indicate that they are constantly working on creating a uniform SJU culture.

Staff resources

⁴⁸ E.g. master schedule linking ATM MP and project schedules.

At the end of 2009, 12 SJU positions were vacant but recruitment processes were already completed for the majority of these positions. The main reasons for the unfilled positions in the SJU are; 1) a freeze of positions until the new statutes were approved by the Council; 2) short duration of contracts offered (5 years); 3) low level of salaries compared to salaries in the industry - according to information received from the SJU staff and Commission officials; 4) Low mobility of staff between European institutions. Due to the difficulties in recruiting staff, the SJU has resorted to use secondments from members and interim staff.

The PSO composition and manpower are available from the SJU-ECTL Agreement Schedule 4, Annex 1. According to the Annex, 11 positions were planned for 2008, but only 8 positions were filled and 18 positions were planned for 2009, but only 14 positions were filled. According to the SJU staff, the difference between the planned and actual PSO staffing is due to adjustment to the SJU actual needs and duration of the ECTL recruitment process with an average of 6 month.

SJU Workload

The SJU is a relatively new organisation and the set-up of the SJU including recruitment, organisation and procedures have consumed a relatively large part of the workload of the SJU. The workload related to the actual implementation of the work packages will increase as these are launched.

Interviews with staff of the SJU suggest that the workload of administrative and financial management is high. Particularly during the implementation in 2009 of the EU legal and financial framework, high workloads have been incurred. However, there are no workload indicators in the operational units. The high workload is supported by interviews with AB members, who have emphasised complexity of the SESAR programme and the considerable workload related to the management of the Programme and the coordination with the WPs and stakeholders.

Efficiency gains are further achieved through hiring staff with profiles tailored to the needs of the organisation and the SESAR-programme. According to the SJU they also aim to have a "private sector-approach" and culture in the SJU.

IT systems

A number of IT systems are in operation in the SJU. The SJU does not yet have an integrated IT system for financial management and is anticipating the introduction in 2010 of ABAC for all financial transactions and SAP for accounting. Presently is the IT based financial management supported by use of Excel spreadsheets. With the increase in workload resulting from the implementation of the work packages, the need for an integrated IT system for financial management of the projects and activities becomes crucial to maintain management efficiency.

4.3.3 Governance and coordination

This chapter addresses the question of whether the coordination between the SJU, its Members and its Founding Members is working satisfactorily.

As regards to the assessment of the division of responsibilities, the main focus has been on the Regulation, the Commission-SJU General Agreement, the ECTL-SJU Agreement and the Multilateral Framework Agreement (see also 3.1.1).

The desk study has found that there is a clear division of responsibilities between the SJU, its Members and Founding Members. In addition, around 80% of the AB Members responding to the e-survey agree (average score: 5,4) that there is a clear and appropriate definition of responsibilities and tasks between the SJU, its Founding Members and other Members.

Coordination between the founding members

The legal framework consisting of the Founding Regulation as amended, the agreement between the European Commission and the SJU (named the General Agreement), and the agreement between the SJU and ECTL set out in the basic principles coordination between the Founding Members.

Principal coordination

The principal coordination happens in the AB, where both the Commission and ECTL are represented as Founding Members with voting rights. The coordination takes place within the responsibilities of the Board as stipulated in the SJU statutes. A working agreement has been established between the Commission and ECTL. This was established by exchanging letters on a high-level.⁴⁹ According to the agreement, the two founding members of the SJU will seek to coordinate their input in the AB. The working agreement in particular addresses the areas of responsibility of ECTL, IPR issues, financial and audit principles, alignment of ECTL's activities to SESAR and international cooperation.⁵⁰

Day-to-day coordination

Another scene of coordination is the day-to-day coordination between the Commission and ECTL. Interviews with Commission officials and representatives of ECTL and SJU have not revealed any need for further coordination between the founding members.

Further coordination

Moreover, coordination happens outside the SJU when the director-generals of ECTL and DG MOVE's director of air transport meet on a regular basis,

⁴⁹ Letter of ECTL's director-general of 11 February 2008 and letter of DG TREN's director-general TREN DG/MR D(2008) 405060.

⁵⁰ DG TREN: Information note on SESAR Development phase. Conclusion on an agreement between the SESAR Joint Undertaking and ECTL defining the organisation's role and contribution. Dated: 24 April 2009.

i.e. more or less every month. An integrated part of the agenda for the meeting is an item concerning the SJU with information provided by Commission officials.

According to the Commission, the coordination between the founding members is working satisfactorily.

Coordination between Commission and SJU

Monitoring and reporting arrangements

The SJU reports to the Commission through the AB. The Commission-SJU General Agreement and the SJU Financial Rules allow the Commission to control the SJU budget execution. Article 11 of the EC-SJU General Agreement stipulates the working arrangements between the Commission and the SJU. To ensure the EU supervision with the operational activities of the SJU, the Commission is granted appropriate access to all committees, management working groups established at all levels in the SJU.

Annual and multi annual work programmes are produced by the SJU to inform the Commission and the SJU members of the progress of work. An Annual Activity Report is produced for the years 2007 to 2009. According to the EC-SJU General Agreement, this report shall be issued annually with financial statements and shall cover activities co-financed by FP7 and TEN-T funds. Further, an Annual Report is prepared for 2009 according to the requirements set out by the Founding Regulation.

Commission officials have expressed satisfaction with the present monitoring and reporting arrangements and the information received so far.

Coordination between the SJU and ECTL

This section concerns the issue of whether the SJU retains control of any work assigned to ECTL.

Control of work assigned to ECTL

The SJU-ECTL Agreement defines the procedure and conditions for procurement actions led by ECTL on behalf of the SJU (Schedule 2). As a general principle, ECTL's contributions are assessed in the same way as for any other SJU Member. The SJU fully participates in the evaluation of technical and financial offers. The SJU Executive Director has the last say in the approval of a proposal.

Reporting obligations

The desk study revealed that ECTL's reporting obligations are similar to those applying to other members. Deliverables acceptance, running costs and payments are controlled by the SJU. It is possible for the SJU to perform Ex-post control of cost statements and deliverables in accordance with the financial rules and to the specific provisions in the SJU- ECTL agreement. There is a legal basis for the SJU to retain control over the work assigned to ECTL, but it is beyond the scope of the evaluation to assess how these legal conditions are applied in practise.

Approximately 65% of the AB members responding to the e-survey agree to some extent that the SJU retains overall control of any work delegated to the ECTL and 24% fully agree. Less than 10% disagree.

As explained in the methodology chapter, those respondents that indicated "do not know" is not included, but it is interesting to note that 6 AB members replied "do not know", which could indicate that this is an issue that quite a few members do not have much information on.

The functioning of the SJU Administrative Board and Programme Committee

AB meetings

On the level of the AB adequate coordination and information is received during meetings and via circulation of meeting papers before and after meetings, according to information provided by members. A few members of the Administrative Board found that the meeting documents were not available on a timely basis for the AB meetings, but also that the situation has improved over the last meetings. Moreover, SJU communication on results of the R&D work is not perceived as being satisfactory by all SJU members. There is a desire among some SJU members to have a more technical discussion during the Administrative Board meetings. It is generally understood that technical discussions are taking place in the Programme Committee. However, this is an issue for further inquiry by the SJU.

Procedure of conflict of interest

In cases where the Administrative Board has to approve proposals from members, the SJU has to abide by the confidentiality and therefore the confidential documents are only distributed to members with whom there is no conflict of interest, pursuant to the Statutes Article 6.

A number of SJU members indicate that too much time is spent on administrative matters and that the technical content and results of the SESAR R&D are not covered (see also the preceding chapter for information on SJU communication).

On the technical management level, the coordination and information flow is achieved during meetings in the Programme Committee where all SJU members have a seat. The Committee meets every 2 - 3 month (sometimes as a video-conference). A summary written report is published and all decisions, recommendations and actions of the Committee are published on the SJU Extranet.

4.3.4 Conclusion

SJU efficiency

The actual annual direct administrative expenditures have been lower than what was budgeted for in 2008 and 2009. It is hard to justify whether the actual costs of the SJU are reasonably comparable to the figures presented in the CBA as these figures are not very detailed. The period evaluated is the

establishment phase of the JU, which is not indicative of the usual workload and cost of the SJU. Therefore, it is still too early to reach final conclusions on cost effectiveness as the SJU is expected to reach cruising speed during 2010.

Internal organisation and procedures

The overall assessment is that the SJU internal organisation and procedures are conducive to efficiency and effectiveness. The SJU organisation is easy to manage and allows for considerable specialisation. The programme support is structured according to the Work Packages.

The SJU possesses the competences required for competent management of the SESAR programme.

The use of a uniform Programme Management Plan supports the application of the same methodology across projects ensuring economies of scale, though its full potential is not realised yet due to the early stage of work package implementation.

Within financial management there are still a few areas, where further strengthening of procedures is possible. Only a few minor financial exceptions and payments delays are registered.

Communication is an area where SJU Members and other stakeholders express a need for improvement. The information needs of the different stakeholders should be met. The stakeholders express a need for more targeted and concrete information on the execution of the ATM Master Plan. The communication plan does not differentiate between the need of different stakeholders and the choice of media.

There is not always consistency between the planned activities described in the work programmes and the implemented activities described in the annual reports. Another finding from the study of annual work programmes and reports is that the activities are generally described at a rather general level. A close follow-up of activities is absolutely necessary and an annual planning cycle is therefore appropriate. Moreover, the SJU is preparing both an Annual Report (as required by the Statutes' article 16) and an Annual Activity Report (as required by the General Agreement between the Commission and the SJU), which could be perceived as a duplication of administrative efforts without benefits for the SESAR technical results. The development of a common organisational culture is a subject for continuing management focus ensuring efficient and effective operation.

There are a number of un-filled positions in the SJU which is not conducive to efficiency but most posts are in the process of being filled. With regard to IT, a new ABAC system will be implemented.

Within procurement and staff management both SJU and ECTL rules are in operation, which would normally be considered less efficient than the use of one set of rules. However, some alignment between the two set of rules and flexible application of the rules is limiting this potential problem.

The information and coordination at the Administrative Board is working satisfactorily, however, members find there have been too much focus on administrative matters and prefer to have more technical topics on the agenda.

Governance and co-ordination

Overall, the coordination between the SJU, its members and founding members is satisfactory. The division of responsibilities between the SJU, its members and founding members are based on the legal framework and is clear. The coordination between the founding members is satisfactory and the founding members seek to coordinate their input to the SJU Administrative Board. The monitoring and reporting arrangements from the SJU to the Commission are reported to be satisfactory.

According to the legal principles and also in reality, the SJU retains control over any work assigned to ECTL.

4.4 General financial situation

The principle of sound financial management is outlined in the financial rules of SJU Article 25 and Article 25A (SJU-AB-010-09-DOC-10-Final). Article 25 says that “Budget appropriations shall be used in accordance with the principle of sound financial management, that is to say, in accordance with the principles of economy, efficiency and effectiveness”. Article 25a focus on the implementation of the budget in compliance with effective and efficient internal control, this is further defined “as a process applicable at all levels of the management and designed to provide reasonable assurance of achieving the following objectives:

- effectiveness, efficiency and economy of operations
- reliability of reporting
- safeguarding of assets and information
- prevention and detection of fraud and irregularities
- adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multi-annual character of programmes as well as the nature of the payments concerned.”

In the following internal procedures of the SJU are addressed as well as the status of members' contribution.

4.4.1 Internal procedures of the SJU

The coherence with the principles of sound financial management is addressed in the SJU AAR 2009 as well as in the SJU internal audit report 24 March 2010. Overall, it is stated that the financial circuit of the SJU comprises initiation, verification and approval processes and: "It incorporates the 4-eyes principle that ensures that all transactions are initiated by staff at the appropriate level, i.e. is subject to verification and independent of the initiator and again approved by staff acting under delegated authority of the Executive Director. The principle of sound financial management is designed to fit into the financial procedures so that economy, efficiency and effectiveness are evaluated at each stage in the circuit."

Detailed recording of SJU financial documents

SJU payments and commitments are recorded in the financial accounts of the JU in a coherent and transparent way. This is verified by CoA report on the annual accounts for 2008. The report concludes that overall the annual accounts of SJU present in a fair, legal and regular way all transactions, operations and cash flows of the JU (Report 2009/C 310/02).

Process for financial valuation of members' contributions

The Council Regulation establishing the SJU makes reference to the prerequisites and the level and nature of contribution for membership in the SJU. The financial rules of SJU (SJU-AB-010-09-DOC-10 Final) adopted 10 October 2009 further defines members contributions (in kind and cash). Article 98 of the financial rules defines the principles behind the assessment of contributions. Article 98 (6) further underlines that "The principles applied by the SJU in assessing members' in kind contributions shall be inspired to the ones of FP7 and TEN-T and shall be compliant with these Financial Rules. The assessment shall be transparent, based on the actual value of the contribution and its relevance in carrying out the tasks of the Programme." Thus the principles of members' contributions are defined.

The CoA considers the existing framework that is regulating membership in SJU and contribution as not complete and recommends in its Opinion No 2/2010 further development on membership and financing rules. Special reference is made to the in-kind contribution rules, which are not considered to be developed in detail. More specifically, the evaluation of in kind contribution is considered vague as there is not a set of rules or methodology to be followed in order to evaluate the value and audit the in kind contribution of SJU members.

In response to the report the SJU responded that the SJU Financial Rules⁵¹ are based on the Commission's Framework Regulation (EC, Euratom) No 2343/2002. The SJU further outlined that they will develop an accounting policy for the recognition of the assets resulting from the programme by mid-2010 and that requirements for cost reporting, financial statements, etc. are detailed in the Multilateral Framework Agreement governing the programme.

The fact that the MA is signed does not mean that all members always agreed with the evaluation of their contributions which has also been reflected upon in the interviews with members of the Administrative Board / SJU. However the SJU has a basic framework for assessing in kind contributions and it is in line with the rules of FP7.

Coherence of accounting procedures and standards

The set of accounting procedures and accounting principles implemented in SJU is overall in line with the EU Financial Regulation. The most important deviation from the EU Financial Regulation is recording of the positive balance of the budgetary outturn account. More specifically, the budgetary principle of equilibrium is not applied as in the SJU positive balances of the budgetary outturn account are transferred to the following financial year. According to EU Financial Regulation, the amounts that were not used during the financial year should be repaid to the Commission. This exception to the EU Financial regulation rules is noted in the CoA Opinion No 2/2010, which recommends the alignment with the EU Financial Regulation rules.

The SJU responded to a similar statement made by the CoA in the report on the 2008 annual accounts⁵² on the implementation of the budget. The SJU outlined that "the programme is multi-annual and will be characterised during its life by an expected imbalance between revenues and expenditure. The resources available at the end of 2008 in the SJU are needed for the launch of approximately 200 projects in late 2009 and early 2010. Further, the need to change the SJU basic act and alignment of the SJU legal framework to that of a full Community body impacted on the capacity of the SJU to launch the programme as initially expected by end 2008."

Based on the nature of the multi-programme and the upstart phase of the SJU, there seems to be a plausible explanation for the delay in implanting the budget. As the agency reaches cruising speed it would be expected that the budget is executed without such delays. However the nature of the programme (being multi-annual) should be reflected in the financial procedures to the extent possible. It is noted that the Administrative Board adopted the SJU financial rules without asking the CoA to give an opinion on the issue

⁵¹ These were adopted by the SJU Administrative Board on 28 July 2009.

⁵² 2009/C 310/02 – published 18.12.2009.

prior to the adoption (which is not a requirement). The CoA was asked to give an opinion after the adoption of the financial rules.

Procedures of audit trail are specified in accessible and official documents

The auditing procedures and stakeholders involved in auditing are defined in Decision ADB (D) 16-2009 adopted by the Administrative Board of SJU and in the Council Regulation (EC) no 219/2007 of 27 February 2007 on the establishment of SJU. These documents are available and accessible to all interested parties.

In 2009, the Administrative Board established an internal audit function. It appointed an internal auditor, approved the internal audit charter and internal audit programme based on risk assessment. The work programme aims at ensuring a periodical evaluation of the systems and procedures adopted by the SJU.

Although the SJU has developed internal audit mechanisms, the power of the Commission's internal auditors is not clearly defined. In detail, the CoA Opinion No 2/2010 states that the internal audits in SJU are under the responsibility of the SJU Administrative Board but there is no reference in the power of Commission's auditors.

Authorisation of funds by authorising officer

Section 2, Articles 38-42 of Decision ADB (D) 16-2009 adopted by the Administrative Board of the SJU defines the role and responsibilities of authorising officers, the reporting rules to the Administrative Board as well as the action to be taken in case of fraud or corruption. The amounts spent have been authorised by officers in charge and according to what is foreseen in Decision ADB (D) 16-2009 and is supported by the CoA reports.

In order to ensure the sound financial management and legality and regularity of the underlying transactions, all transactions are subject to the four-eyes principle.

The Executive director is the SJU's Authorising officer authorising the SJU expenditures. The Executive director has established a permanent delegation of authority as authorizing officer to Ms Kielbowicz for administrative expenditure below EUR 2500. In his absence, the authorizing officer by delegation is delegated to one of the Chiefs, usually the Chief Regulatory Affairs, if present. The delegation is time and budget based.

Timing and status of SJU members contribution

The nature and timing of members' contributions is defined in the SJU Statutes annexed to the Council Regulation (EC) No 219/2007 and in the MFA and MA.

Overall, the membership contribution has been done according to the rules set in the EC Regulation.

The only exception is the delayed payment of ECTL initial contribution. This deviation from the requirements set in the Council Regulation is also noted in the CoA report No 2009/C 310/02. More specifically, each JU founding member has the obligation to pay the amount of 10 million EUR within 1 year of the JU establishment. Taking into account that the JU was established on 8 June 2007, it is concluded that the contribution of ECTL was due to be paid by 8 June 2008.

Contrary to this, ECTL has paid the amount after the expiry of the deadline (21 August 2008). According to an information note⁵³ prepared by DG TREN the delay is attributed to amendments required by the Turkish delegation which resulted in changes in the SJU Regulation. Other members' initial contributions are due in June 2010 and thus beyond the evaluation period.

Mechanisms to assess the member's actual contributions compared to their commitments

The agreement between ECTL and SJU on the framework relating to the Programme Support Office in the SJU is an illustration of the mechanism used to assess the member's actual contributions. The document is a contract between the two parts outlining the terms and conditions for this in kind contribution. Annex 4 to the agreement outlines the guidelines for determination of this in kind contribution based on the fact that costs must be actual, a set of standard fee rates and requirements that costs are recorded in the accounts of ECTL.

In the e-survey Single Sky Committee Members were asked if "the SJU ensures that transparent procedures are used for the financial valuation of its members' financial contributions and contributions in kind". Only 5 out of 9 answered this question, four agreed and one disagreed.

Level and nature of usage of the EU contribution

According to the SJU multi-annual budget the European Commission contributes EUR 700 million or 1/3 of the total budget (EUR 2.1 billion). Contrary to the other Members the EU contribution is made solely in cash. Of the EU contribution EUR 160.5 million is aimed at the direct SJU costs⁵⁴ whereas the remaining part, EUR 539.5 million, are used for financing the work packages.

ECTL equally provides EUR 700 million in contribution, however EUR 535 million are provided in kind and EUR 135 million in cash. Members also provide the majority of their contribution in kind and approximately 5% in cash.

⁵³ Information note - Sesar development phase – conclusion on an agreement between SESAR Joint Undertaking and ECTL defining the organisation's role and contribution. (dated 23.04.2009)

⁵⁴ Of which 35 million Euro running costs, 60 million Euro industrial support and 65.5 million Euro in reserve.

4.4.2 Conclusion

The framework to comply with the principles of sound financial management is in place and outlined in the financial rules of the SJU. The CoA commented on the financial rules after they were adopted and outlined some areas to strengthen the financial framework. A number of actions are being taken by SJU to follow up on these improvements.

The European Commission has contributed its part timely whereas the membership from ECTL was delayed, but paid. This delay was due to concerns of the SJU regulation by one of the ECTL members. Other members have payment deadlines in June 2010.

The European Commission finances 33% of the SESAR project (EUR 700 million of EUR 2.1 billion) in cash. The other Members will provide 90% of their contribution in kind.

5 Conclusions and recommendations

This chapter presents the conclusions organised according to the evaluation criteria of relevance, effectiveness, efficiency, and sustainability/utility. Recommendations are presented under each evaluation criteria in order to provide linkage and consistency between the conclusion and the areas, where improvements could be made.

5.1 Overall conclusion

It is the overall conclusion of this mid-term evaluation that the SJU performed well during the evaluation period (2007-2009) - both in terms of setting up and building its organisation as well as conducting its designated tasks. In general, the stakeholders of the SJU are therefore also satisfied with its performance.

5.2 Relevance

Overall, the SJU Regulation, and hence the SJU itself, is assessed as highly relevant. This is based on the following conclusions:

- The data collected indicate that the Joint Undertaking model is an appropriate implementation mechanism to address the need for implementing the development phase of the SESAR Programme and the ATM Master Plan. The JU is an instrument under the research framework programme to manage public private partnerships (PPPs). The SJU is essentially a project organisation that manages and coordinates the required R&D work between its members in order to achieve the programme objectives.
- In view of the complexity of the SESAR programme and the size of the programme budget, a targeted administration including technical expertise recruited from various stakeholder institutions is required. Therefore, it is the perception by stakeholders that the choice of a JU as instrument / organisation is justified.
- The SJU's strategic objectives for 2012 and the annual work plans correspond with the ATM Master Plan and with the designated tasks of the

SJU. This ensures the relevance of the specific objectives and targets according to which the SJU is carrying out its work.

- The SJU is performing according to the requirements of the TEN-T Programme and the FP7, including priorities to include SMEs to the extent it is possible. The stated priorities of the SJU in contracting procedures to be respected by the Members are in line with the principles of TEN-T and the FP7.

Recommendation 1: Coordination of the execution and update of the ATM Master plan by the SJU is appropriate and should continue throughout this phase of the programme.

5.3 Effectiveness

The effectiveness of the SJU vis-à-vis its objectives is assessed as high. In general, the SJU have performed the tasks as planned and produced required outputs and results as follows:

- **SJU set-up:** The set-up of the SJU, including definition of organisational structure, hiring of qualified staff, devising the procedures for operation, and organising membership agreements was effective. Moreover, these tasks were undertaken at the speed, which was possible taking into account the framework conditions and that the SJU was operational at the time of the adoption of ATM Master Plan (12 June 2009).
- **Amendment to the SJU regulation:** The transformation of the SJU to a Community Body and giving equal status to the SJU compared to other Joint Undertakings had significant impacts on procedures and rules pertaining to human resources management and financial management. While the changes of status delayed the process of setting up the SJU, the organisation managed to cope with these changes and become operational when the ATM Master Plan was adopted by the Administrative Board. The change of status had a positive financial impact as an estimated 20% additional funding is available for R&D due to the exemption from taxes and duties.
- **Management systems:** The management procedures and organisational set-up implemented by the SJU are assessed as appropriate and effective. The organisational structure is aligned with the tasks entrusted to the SJU and designed according to its tasks. The staffing corresponds to the objectives of the SJU. There is a clear distribution of tasks and management systems and procedures are clearly defined. Financial management and audit capacity is in place although some systems and sup-

port measures still need to be implemented. A challenge in respect to any newly formed organisation is to build an organisational culture, particularly when a number of SJU staff are seconded from members' organisations. For example, the Programme Support Office consists entirely of staff seconded from ECTL. So far, the task of building an organisational culture has been achieved.

- **Organising and co-ordinating activities in accordance with the ATM Master Plan and managing funding:** The process of operational and technical implementation began during 2009 with the adoption of the ATM Master Plan in June 2009. The following results were achieved:
 - From 2007 to mid-2009, the activities focused on refinement of the description of work, which resulted in the release of the SESAR DoW 4 in December 2008 and the IBAFO 1 and 2 framework.
 - In 2009, significant progress was made in terms of allocating responsibilities for implementation of work packages and projects (through IBAFO 1 and 2) and planning of projects through the project initiation procedure.
 - In 2009 a programme methodology was deployed, including management training tools for members to ensure a homogeneous knowledge and application of management procedures. Members' participation in the SJU training activities was lower than expected despite a perceived high need for training. A strategy for verification and validation was developed and agreed. A risk management plan was established.
- **Mobilising Funding:** In the evaluation period the SJU has undertaken a negotiation procedure according to which agreements and corresponding financial commitments were settled with the two founding members and 15 members. During 2007-2009, financial contributions from the two founding members have been received in accordance with agreements made (although with some delay from ECTL). The actual payment of the financial contributions from other members is due in 2010 and all selected members have confirmed their total financial commitments in the MA/MFA. Total commitments agreed today are already over EUR 2 billion as compared to the estimated cost of the development phase (EUR 2.1 billion).
- **Involvement of stakeholders:** A part from the membership process, the launch of technical complementary activities like the EU AIRE activities in cooperation with the US, setting up the Scientific Committee and

the Strategic performance partnership involved several relevant groups of stakeholders. Likewise, the SJU already investigated precise topics to set up a cooperation frame with the NextGen programme.

- **Communication with stakeholders:** A number of SJU Members and particular stakeholders of the Administrative Board find that the information provided by the SJU is not meeting their needs, for example, with regard to concrete information on the execution of the ATM Master Plan. Members, in particular stakeholder representatives, in the Administrative Board have requested more technical information as well as a more "strategic" focus in the work of the Administrative Board.
- **Involvement of SMEs:** Stakeholders in the Administrative Board have voiced concerns about the lack of involvement of SMEs. The reasons mentioned have been the policy of FP to ensure involvement of SMEs in R&D activities and to ensure a high level of innovation often associated with SMEs. In response to such concerns, the Administrative Board has in 2010 adopted a new concept of "associate partners", which aims at enabling members to subcontract research assistance. This initiative may be viewed as a response to concerns about how to ensure SME participation in the WPs. However, it remains to be seen if this will be an adequate response – i.e. ensure SMEs as associate partners to the members.
- **Organising technical work while avoiding fragmentation:** Comprehensive descriptions of work included in SESAR DoW 4 and IBAFOs contribute to a holistic approach and avoidance of fragmentation and duplication. However, in the process of PIR preparation, issues related to inter-linkages between WPs and projects still emerge and have to be dealt in the coming period of project implementation. It will be essential for the SJU to ensure a continuous flow of information between related WPs and projects and to have up-to-date information on progress in all projects to be able to intervene in cases where there is a risk of duplication or fragmentation.
- **Supervision of activities related to common products (identified in the ATM MP) and organisation of specific invitations to tender:** The SJU has ensured this objective from the call for Membership to the conclusion of membership agreements and the associated description of work. In addition, some side technical projects like AIRE are already running with substantial success. Members stressed that the SJU put emphasis on early validation and delivery of common products to ensure the timely deployment of the implementation packages scheduled in the ATM Master Plan.

Recommendation 2: On the basis of a training needs assessment, training processes and instruments attractive to members should be developed by the SJU and applied to increase overall capacity of members' staff working on the projects in terms of project reporting requirements etc.

Recommendation 3: The SJU should make certain that the system in place for overall coordination among work packages and projects is further developed to ensure an appropriate level of information sharing at Programme Committee level and between WPs. Improvements should be made with regard to the communication to the Board and stakeholders of the content and progress of the WPs. Communication should take place on a regular basis and to avoid the segregation of WP-communication only going bilaterally from the SJU to the WP-leadership, but also horizontally between WPs.

Recommendation 4: SJU is a lean organisation confronted with a huge number of deliverables in a short period of time. Timely acceptance of deliverables not only impacts payments but also the validation of inputs needed by other WPs and projects to progress. The SJU operational staff, which are at the heart of the technical acceptance process, have limited human resources and should carefully monitor its capacity for performing validation of deliverables and assess the need for external assistance provided that the relevant principles concerning the mitigation of conflict of interest, liabilities, and transparency etc. are respected.

Recommendation 5: Based on an analysis of the different stakeholders' needs for information and linked to the adopted communication plan, communication processes and instruments should be further developed to meet the differentiated communication needs of the founding members, SJU members, stakeholders being members of the Administrative Board and stakeholders not being members of the Administrative Board.

Recommendation 6: The Administrative Board should clarify on a practical level, within the scope of the Statutes and the MFA, its need to have more technical discussions and increased knowledge of technical and relevant discussions in the Programme Committee.

5.4 Efficiency

Although it is too early to assess the overall programme efficiency of the SJU (the ability to implement the development phase at a reasonable cost), progress made during the evaluation period indicates that the Joint Under-

taking / Public Private Partnership model has proven to be more effective and efficient than if the SESAR programme was implemented as a demand driven FP7 R&D programme through calls for proposals. The FP7 approach would not in the same way be able to avoid fragmentation of activities.

A precondition for contributing to an efficient implementation of the development phase is for the SJU to act as the coordinating body, which ensures economies of scales from the coordinated management of the work packages and projects (supported by the use of the Programme Management Plan). As is emphasised above under effectiveness, the SJU has during the evaluation period fulfilled this mandate.

The data collected and analysed indicates that the SJU is functioning in an efficient manner when it comes to internal working procedures and management, i.e. that the running costs of the SJU are at a reasonable level. However, there is a lack of appropriate benchmarks to fully substantiate this analysis and there appears to be some opportunities for further increasing efficiency, including:

- The SJU is preparing both an Annual Report and an Annual Activity Report. This is caused by different legal obligations but with a negative effect on efficiency. It should be considered to combine the two into one comprehensive report providing technical information with a summary targeted the relevant stakeholders. This should be part of the considerations in connection with reconsidering the communication plan (recommendation 5)
- Efficiency is expected to further increase when new IT systems, especially for financial management (ABAC/SAP), are implemented

The framework to comply with the principles of sound financial management is in place and outlined in the financial rules of the SJU. The CoA commented on the financial rules after they were adopted outlining some areas to strengthen the financial framework. A number of actions are being taken by SJU to follow up on these improvements.

The European Commission has contributed its part timely whereas the membership from ECTL was delayed but paid. This delay was due to concerns of the SJU regulation by one of the ECTL members. Other members have payment deadlines in June 2010. The European Commission finances 33% of the SESAR project (EUR 700 million of EUR 2.1 billion) in cash. The other Members will provide 90% of their contribution in kind.

5.5 Sustainability / Utility

The focus of this evaluation has been on the establishment of the SJU. The evaluation shows that sustainable air transport is well underway with the established collaboration between the involved stakeholders in the SJU. So far, the SJU has been able to find solutions and navigate the ATM Master Plan wisely, which appears promising for the future development of sustainable air transport. But even if all the relevant stakeholders are gathered and a unique partnership is formed, it is too early to judge if these conditions suffice to ensure long-term sustainability.

The factors influencing the achievement of long term objectives, which are related to the deployment phase, are, to a large extent, beyond the immediate control of the SJU and include notably:

- A regulatory framework in support of the technical implementation and deployment of technologies, methods, etc. - and hence, the support of the regulatory authorities (EU and Member States, including the military)
- The buy-in of key actors to implement (and finance implementation of) developed technologies, methods, etc. - including air space users, the relevant groups of staff involved in the services, airports, ANSPs, etc.
- The development in ATM technologies in other regions and their convergence with European systems
- Future economic development and trends in demand for air travel

Recommendation 7: Much has been done to include stakeholders in the Programme and all stakeholders stress this as the great success of the SESAR Programme. This effort should be continued. In this process, it is important for the Commission and the SJU always to be one step ahead of the process management of the issues mentioned above. In this regard, the following two dimensions are important:

- **Risk Management plans** should be further developed. The perception among stakeholders is that there is a need for the SJU to further develop the risk management framework and to involve the SJU members in this process ensuring that the maximum effort is made to counter risks in relation to achievement of long-term objectives and performance goals.
- **SJU Cost-benefit analyses** and business-cases should be the point of reference for all decision-makers in the future, when ATM investments are discussed in national parliaments. To this end, the data of the SJU should be utilised to the fullest when producing CBAs. These analyses need to be inte-

grated into the SJU strategic communication that give European policy makers the tools to communicate reliably and positively about the potentials of the socio-economic impact of the SESAR Programme as well as mitigating communication which is negative to the Programme. The SJU has access to the data and should pro-actively analyse and communicate messages to a great number of airlines, MEPs, news communities, interest organisations, and other political actors. These issues might be dealt with by the Commission, ECTL, and the SJU in a further developed communication strategy.

Appendix 1 Evaluation questions, judgement criteria and indicators

Evaluation question 1:

To what extent was the SJU set up according to the legal framework establishing it?

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> Rapid and timely setting up of the SJU: operational at the latest after the transfer of the ATM Master Plan to the JU (i.e. 12/6/2009 when the ATM Master Plan was adopted by the SJU Adm. Board) 	<ul style="list-style-type: none"> Timely constitution of the Administrative Board and adoption of its rules of procedure Set up of an initial structure and headquarters Timely appointment of the executive director. Timely execution of the executive directors responsibilities defined in Reg. 219/2007 article 7 concerning; employment of staff, organisation of JU, draft budget, establishment plan Timely drafting/signing of the specific agreement defining ECTL's role in the JU Timely drafting/signing of membership agreements Allocation of voting rights to SJU members Timely and adequate drafting of first work programme and establishment plan Timely payment of initial contribution from founding members (within first year after Reg 219/2007) Timely payments of initial membership contributions Transfer of the STM Master plan to the SJU 	<p>Desk study (Regulation 219/2007, decisions of the Administrative Board and membership agreements)</p> <p>Interviews (Administrative Board, Executive Director)</p>
<ul style="list-style-type: none"> Compliance with the amendments of the Regulation (EC) 219/2007 	<ul style="list-style-type: none"> Administrative Board adopted implementing rules ref. Article 110(1) of the Staff Regulations of Officials of the European Communities 	<p>Desk study (Regulation 219/2007 and amendments, decisions of the Administrative Board, Stat-</p>

Judgement criteria	Indicators	Data collection methods and sources
	<ul style="list-style-type: none"> • Establishment plan part of annual budget • Administrative agreement with Belgium concluded • General agreement and annual financial implementation agreements concluded between the Commission and the SJU • Financial rules adopted and in accordance with Financial Regulation • All staff offered to apply for temporary agents' contracts and internal selection process concluded • Temporary agents' contracts concluded with successful applicants 	<p>utes, financial rules, relevant agreements, annual reports and working programmes)</p>
<ul style="list-style-type: none"> • SJU-decisions in line with founding Regulation and Council resolutions 	<ul style="list-style-type: none"> • Binding commitments obtained from industry (agreements concluded) • Transparent procedures for valuating SJU members contributions with balanced consideration of applicants and products relevant to the SESAR Programme • Intellectual property rights policy established • Industry stakeholders (Administrative Board members) consider that competition in the market for ATM products is promoted while ensuring that intellectual property rights are not violated • Administrative rules and eligibility criteria in published calls (for membership, associated membership, open CfT etc.) formulated in a manner ensuring a fair competition • Member States have access free of charge to the knowledge resulting from SESAR for their own and non-commercial purposes • Existing and validated technical solutions that can serve as a basis for early deployment to secure early benefits have been identified (as part 	<p>Desk study (Regulation 219/2007 and amendments, Council resolutions, Administrative Board Decisions, relevant agreements, annual work programmes and reports.</p> <p>Interviews SJU, WP leaders, Administrative Board members</p> <p>E-survey</p>

Judgement criteria	Indicators	Data collection methods and sources
	<p>of work under work packages and specific actions initiated by the SJU to early investigate the feasibility of advanced concepts)</p> <ul style="list-style-type: none"> • Stakeholders (mainly WP leaders, Adm. Board) consider that there has been a focus on the delivery of early benefits from SESAR using validated and standardised technologies, through business cases, cost-benefit analysis and consultative arrangements • Members and key stakeholders consider membership negotiations to have been open and transparent • The SJU keeps the European ATM Master Plan updated in close cooperation with MS and stakeholders in particular the military • Appropriate methodology for measuring performance against performance objectives and tracking progress against the European Master Plan established • Compliance with the Board's rules on managing conflict of interests • The Administrative Board complies with the requirements of Article 5 of the Statutes • The decisions of the Board have been duly documented. 	

Evaluation question 2:

To what extent is the SJU operating according to the legal framework establishing it?

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> SJU developed policy for cooperation with third countries 	<ul style="list-style-type: none"> Policy endorsed by Administrative Board Number of third country participants 	<p>Desk study (Adm. Board decisions, Policy cooperation document with Third Countries)</p> <p>Interviews (Administrative Board and executive of SESAR JU)</p>
<ul style="list-style-type: none"> Risk management plan and measures are in place 	<ul style="list-style-type: none"> Risk management plan and mitigation measures endorsed by the Adm. Board Stakeholders (SJU team and Adm. Board) consider the risk management plan to be adequate Practical examples of the application of mitigation measures and their effects 	<p>Desk study (Adm. Board decisions, risk management plan)</p> <p>Interviews (Executive Director of SJU, Administrative Board)</p> <p>E-survey</p>
<ul style="list-style-type: none"> The SJU developed a comprehensive Communication Plan 	<ul style="list-style-type: none"> Communication plan developed and endorsed by the Administrative Board Stakeholders consider SJU communication plan and activities to be adequate and of good quality Communication plan is comprehensive encompassing all relevant messages, target groups and means of communication SJU perception of stakeholders need for information and communication Resources dedicated to communication are adequate 	<p>Desk study (Annual work programmes, decisions of the Administrative Board, Communication plan)</p> <p>Interviews (Executive Director of SESAR JU and relevant staff, Adm. Board)</p>
<ul style="list-style-type: none"> The SJU has its internal audit capacity 	<ul style="list-style-type: none"> An adequate audit plan is operational Competent audit management Coordination with audit require- 	<p>Desk study (Internal audit plan)</p> <p>Interviews (audit staff)</p>

Judgement criteria	Indicators	Data collection methods and sources
	ments from relevant external bodies is effective	

Evaluation question 3:

To what extent is the SESAR Joint Undertaking following the requirements imposed by the FP7 and TEN-T?

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU respects the objectives and principles of FP7, IPR rules and TEN-T. 	<ul style="list-style-type: none"> Gender equality and the inclusion of women researchers is promoted by the SJU SME-inclusion is secured in the calls and priorities of the SJU Number of SMEs working on SJU contracts SJU ethical guidelines are in line with FP ethical guidelines SJU promotes the dissemination of knowledge to the same extent as FP projects Coherence between SJU-operations, contractual provisions and the TEN-T and FP regulation and Cooperation work programme Coherence between SJU IPR rules and FP IPR guidelines and rules Stakeholders have faith in SJU IPR rules Stakeholders perceive SJU priorities to be coherent with 	<p>Desk study (Annual work programme, invitation for tender, FP7-regulations, TEN-T-regulation and IPR-legislation)</p> <p>E-survey</p>

Judgement criteria	Indicators	Data collection methods and sources
	FP and TEN	
<ul style="list-style-type: none"> Adequate reporting mechanisms are in place. 	<ul style="list-style-type: none"> SJU reporting mechanisms (from SJU members to SJU; from SJU to EC) are comparable to FP7 and TEN-T reporting procedures 	Desk study (Annual work programme, statute, General Agreement)

Evaluation question 4:

To what extent have the SESAR Joint Undertaking's internal organisation and procedures been conducive to its efficiency?

Judgement Criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The structure and organisation of the SJU is adequate to the work entrusted to it and to actual workload. 	<ul style="list-style-type: none"> The structure and organisation is adjusted according to its objectives Size of the SJU organisation is adequate relative to planned work and actual workload. The organisational structure reflects the priorities in the Annual Work Programme The organisational structure is capable of delivering according to work plan and budget Level of budget implementation Staff composition is adequately diversified and competent relative to planned work and actual workload Recruitment is timely and adequate Number of vacant posts Annual Training Programme reflecting training needs Number of training days per member of staff Turnover of staff per year or 6 month compared to 	<p>Desk study (CBA, organigram, annual work programmes reports, budgets and accounts, evaluations of other JUs etc.)</p> <p>Interviews (executive director, DG MOVE officials)</p> <p>Focus group (groups of SJU-staff)</p>

Judgement Criteria	Indicators	Data collection methods and sources
	other Jus	
<ul style="list-style-type: none"> The chain of responsibility within the SJU is well defined and there are appropriate management systems and procedures in place 	<ul style="list-style-type: none"> There is a well established and clearly defined delimitation of responsibilities of the Administrative Board and the Executive Director of the SJU. Clearly defined management roles and responsibilities at all levels No overlaps of responsibilities Procedures for grants and procurement contracts are clear and followed Internal monitoring systems are in operation Management systems are perceived by employees to be clearly defined Management procedures are perceived by employees to be clearly defined Number and content of observations in audit reports Number and content of financial exceptions Number of payment delays Appropriate IT systems are in operation Level of communication between the Executive director and the SJU Admin Board 	<p>Desk study (CBA, organigram, annual work programmes, reports, budget and accounts, audit reports (internal and CoA), evaluations of other JUs etc.)</p> <p>Interviews (leading employees, executive director, Administrative Board)</p> <p>Focus group (groups of SJU-staff)</p>
<ul style="list-style-type: none"> The organisation of SJU ensures possible economies of scales resulting from the management of different projects. 	<ul style="list-style-type: none"> Level of harmonisation of project management procedures across projects Planned and achieved simplifications in procedures across projects Planned and achieved synergy between projects across projects Benchmark and best practices procedures applied Appropriate IT systems are in operation 	<p>Interviews (leading employees, executive director, DG TREN)</p> <p>E-survey</p>
<ul style="list-style-type: none"> The coordination between the Founding members of the SJU is conducive to its efficiency 	<ul style="list-style-type: none"> Influence of the founding members on the activities of the SJU Relationship/coordination between the founding members 	

Judgement Criteria	Indicators	Data collection methods and sources
	<ul style="list-style-type: none"> • 	
<ul style="list-style-type: none"> • The SJU provides adequate expertise needed for managing the programme. 	<ul style="list-style-type: none"> • Key stakeholders consider that the SJU provides adequate expertise • Level of trust expressed by stakeholders 	Interview (Administrative board, Founding Members, members, DG MOVE) E-survey
<ul style="list-style-type: none"> • The SJU has led to good management of the programme in terms of timeliness, accuracy, etc. 	<ul style="list-style-type: none"> • Man-hour available for management • Number of 'bottle necks'. • Timely and efficient inter-linkage of projects • Timely execution of work packages • Average time of preparation before executing activities. • Compare ATM Master Plan with annual work programmes • Compare annual work programmes to annual reports 	Interview (Administrative board, Founding Members, members, DG MOVE) Desk study
<ul style="list-style-type: none"> • Timely and adequate responses given to ad-hoc information/service requests. 	<ul style="list-style-type: none"> • Stakeholders' Perception of timeliness • SJU perception of timeliness • SJU policy for response to ad-hoc requests 	Interview (Administrative board) E-survey
<ul style="list-style-type: none"> • The stakeholders are satisfied with the work of the SJU. 	<ul style="list-style-type: none"> • Global level of satisfaction • Level of satisfaction with communication • Opinion on timeliness • Opinion on capacity 	Interview (Administrative Board) E-survey

Evaluation question 5:

"To what extent has the SJU as a private-public partnership led to an improved management of the ATM related research activities as compared to the alternative options?"

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU combines and rationalises public and private-sector efforts; 	<ul style="list-style-type: none"> Key stakeholders consider that SJU combines and rationalises public and private sector efforts 	<p>Interview (Administrative Board)</p>
<ul style="list-style-type: none"> The SJU has led to an improved management of the programme 	<ul style="list-style-type: none"> Key stakeholders consider that the SJU has led to an improved management of the programme compared to other models such as the ERTMS and the EFDP approach Procedures are simplified compared to other models(ERTMS and EFDP) SJU role as focal point ensures involvement of and proximity to relevant stakeholders compared to other models (ERTMS and EFDP) EU as a promoter of the programme more visible compared to other models(ERTMS and EFDP) Balance of members' contributions and leadership amongst stakeholders improved compared to other models (RTMS and EFDP) 	<p>Desk Study (ATM Master Plan, CBA, annual working programmes, budget)</p> <p>Interview (stakeholders, members, DG MOVE, Administrative Board)</p>

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The creation of the SJU has resulted in savings to EU budget/overall costs for the programme as compared to the option of a "do nothing scenario" in which R&D activities would have been carried out in accordance with the usual framework programme approach through calls for proposals. 	<ul style="list-style-type: none"> Key stakeholders' perception of level of cost (overall and EU) in the two scenarios: SJU and "do nothing" Expert assessment of comparative cost levels in the two scenarios in relation to implementing R&D activities and coordinating and managing the process 	Interviews (DG MOVE, ECTL)

Evaluation question 6:

"To what extent is the coordination between the SJU, its members and its Founding Members working satisfactorily?"

Judgement Criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> Clear and appropriate definition of responsibilities and tasks 	<ul style="list-style-type: none"> Level of formalisation of responsibilities and tasks Perceived clarity of responsibilities Actual clarity of responsibilities and tasks Overlaps and gaps identified Areas where division of responsibilities and task needs clarification 	<p>Desk study (Founding Regulation (as amended), descriptions of division of responsibilities and task)</p> <p>Interview (stakeholders, members, DG MOVE, ECTL)</p> <p>E-survey</p>
<ul style="list-style-type: none"> Appropriate mechanisms and instruments are in place to ensure an adequate coordination and information flow 	<ul style="list-style-type: none"> Regulatory authorities feel involved in the consultation process Communication quality and volume is perceived to be adequate by member state authorities and Administrative Board Lines of communication are clearly defined in the relevant documents 	<p>Desk study (communication plan)</p> <p>Interview (stakeholders, members, DG MOVE)</p> <p>E-survey</p>

Judgement Criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU retains overall control on any work delegated to ECTL 	<ul style="list-style-type: none"> ECTL's contribution to the SJU s subject to same valuation/selection procedures as other members There is a clear convention between the SJU and ECTL for procurement actions delegated to ECTL ECTL reports periodically to the SJU on the technical and administrative status of delegated works The SJU performs an assessment of the results of delegated works to ECTL 	Interview (Executive Director, Head of Procurement ECTL; SJU Director Administrative and Finance, Chief Operational Concept and Validation)
<ul style="list-style-type: none"> The monitoring and reporting arrangements in place have enabled the Commission to benefit from the expertise created within the SJU. 	<ul style="list-style-type: none"> Level of oversight of information needed by the Commission Internal monitoring and reporting arrangements in place Means of transmission of information, communication and dissemination of expertise to the Commission Reporting details (regularity, ad-hoc and subjects) Perceived level of learning from monitoring and reporting 	Interview (Executive Director, DG MOVE)

Evaluation question 7:

To what extent has the SJU achieved its objectives?

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU has achieved the objectives related to the technical work stated in its annual Work Programmes (2007/08 and 2009) 	<ul style="list-style-type: none"> Comparison of annual work programmes and annual activity reports Administrative Board members consider that objectives were reached 	<p>Desk study (annual work programmes and annual reports)</p> <p>Interviews with Administrative Board</p>

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU is in the process of implementing the five key tasks (ref. the lowest level in Figure 4-1 above) 	<ul style="list-style-type: none"> Comparison of annual work programmes/reports and the five tasks Key stakeholders (Adm. Board) consider the SJU to be on track in respect to implementation of the five tasks 	<p>Desk study (annual work programmes, annual reports)</p> <p>Interviews with Administrative Board</p>
<ul style="list-style-type: none"> The SJU is coordinating and concentrating R&D efforts in the EU 	<ul style="list-style-type: none"> No other new ATM R&D projects are funded by the EU outside SESAR On-going ATM R&D projects or projects having an impact on SESAR are coordinated with the SJU 	
<ul style="list-style-type: none"> The SJU is in the process of executing the European ATM Master Plan and it is likely that execution can be completed within the timeframe of the development phase of the SESAR Programme (2007-2013) 	<ul style="list-style-type: none"> Organisation and responsibilities for implementation of WPs agreed and established WP descriptions of work are in accordance with ATM Master Plan Projects under WPs identified and described and allocated Project initiation reports delivered for launched WPs Conclusions from the project initiation phase Progress and results of specific projects launched by open CFT Key stakeholders (Adm. Board) consider follow-up, coordination and reporting of WPs to be well-functioning Key stakeholders (Adm. Board and WP leaders) consider the execution of the development phase activities as defined in the ATM Master Plan to be on track and that they can be realistically completed by 2013 In-depth study of two selected WPs show that implementation is on track and that follow-up, coordination and reporting is well-functioning 	<p>Desk study: Annual reports, WP Descriptions of Work V4, project initiation reports.</p> <p>Information request to the SJU: Status of the WPs/activities already launched, including list of project initiation reports under each WP.</p> <p>Interviews with Administrative Board</p> <p>Interviews with WP leaders and selected project leaders under two selected WPs (select WPs that have been running for the longest period in order to better appreciate management and coordination issues)</p> <p>E-survey</p>
<ul style="list-style-type: none"> The SJU is contributing to the achievement of the SESAR programme's objectives 	<ul style="list-style-type: none"> Key stakeholders consider that the SJU is contributing to the SESAR programme's objectives Progress in execution of ATM Master Plan as verified above assessed in relation to SESAR programme objectives 	<p>Desk study (ATM Master Plan, results of above assessment)</p> <p>Interviews (Administrative Board)</p> <p>E-survey</p>

Judgement criteria	Indicators	Data collection methods and sources
<ul style="list-style-type: none"> The SJU's work programme secures the achievement of the execution of the European ATM Master Plan. 	<ul style="list-style-type: none"> Conformity between the tasks and activities in the European ATM Master Plan and the SJU's work programme Needs and objectives are clearly defined Activities in SJU work programme are clearly defined and operational Time schedule for the execution is in place Programme management structure is established 	<p>Desk study (ATM Master Plan, SESAR JU DoW V4, Annual work programmes)</p> <p>Interviews (Administrative Board and executive director)</p> <p>E-survey</p>
<ul style="list-style-type: none"> Technical activities of the SJU conform to the European ATM Master Plan. Fragmentation of activities is avoided. 	<ul style="list-style-type: none"> The organisation into work packages and the planned activities under the work packages conform to the European ATM Master Plan The definition of the WPs avoid overlapping and links between WPs are clearly identified in the DoW Stakeholders (Administrative Board, work package leaders) consider work packages to be organised in a rational way, which avoids fragmentation of technical activities 	<p>Desk study (ATM Master Plan, SESAR JU DoW V4, Annual work programmes,)</p> <p>Interviews of WP leaders of selected WPs</p>
<ul style="list-style-type: none"> The SJU supervises the development of common products identified in the European ATM Master Plan 	<ul style="list-style-type: none"> Development of common products initiated under SJU supervision Common products included in work package descriptions where relevant SJU supervision takes into account developments launched prior SJU establishment and their subsequent results 	<p>Desk study (ATM Master Plan, Annual work programmes, work package DoW V4, ATM research programmes managed by ECTL)</p>
<ul style="list-style-type: none"> The SJU ensures involvement of all the relevant stakeholders. 	<ul style="list-style-type: none"> Perception of Administrative Board and Member States representatives Dissemination of information on calls for tender/proposals launched by the SJU Other forms of participation in the activities of the SJU Stakeholders satisfied with the SJU's consultation process 	<p>Interviews (Administrative Board)</p> <p>E-survey</p>
<ul style="list-style-type: none"> The SJU seeks to achieve the highest level of interoperability between 	<ul style="list-style-type: none"> Cooperative activities launched with NextGen (Number of visits/meetings/communications and workshops with the US Federal Aviation Administration and NEXTGEN Joint Planning and De- 	<p>Desk study (Annual work programmes, work package DoW V4)</p> <p>Interviews (executive staff of SJU,</p>

Judgement criteria	Indicators	Data collection methods and sources
SESAR and NEXTGEN	<ul style="list-style-type: none"> Development Office (JPDO) Identification of reciprocal benefits resulting from the cooperative activities Interoperability objectives with NEXTGEN are clearly identified in the relevant work packages DoW, particularly for the SWIM and the ground and airborne CNS systems Coordinated SJU and JPDO actions for aviation standardisation 	work package leaders)
<ul style="list-style-type: none"> The SJU provides useful information for the policy process 	<ul style="list-style-type: none"> Level of oversight of information needed for policy processes Perceived usefulness of information for policy purposes 	Interview (DG MOVE)

Evaluation question 8:

To what extent have the activities of the SESAR JU resulted in unintended effects (both desirable and undesirable)?

Judgement criteria	Indicators	Data collection methods and sources
The setting up of the SJU impeded the implementation of the ATM Master Plan and made the coordination of stakeholders' actions more complicated	<ul style="list-style-type: none"> Perception of stakeholders (Administrative Board) 	Interviews (Administrative Board)
The SJU removed	<ul style="list-style-type: none"> Commission degree of satisfaction with SJU and feeling of control 	Interviews (DG MOVE)

Judgement criteria	Indicators	Data collection methods and sources
Commission focus on ATM research and development and reduced Commission control on the EU's contribution	with respect to securing the European added value of the SJU as well as within the field of ATM related policies	
The SJU decreased visibility of the ATM related EUy policies	<ul style="list-style-type: none"> Stakeholders' perception of the visibility of the ATM policies 	Interviews (Administrative Board)
The SJU indirectly lead to a decrease in Commission know-how in the field of ATM	<ul style="list-style-type: none"> Man-hours and desk officers allocated to ATM policy before the SJU was set up and now Commission's perception of level of know-how 	Interviews with DG MOVE and DG Research
Obstacles to integrating SESAR in the implementation of the Single European sky	<ul style="list-style-type: none"> Unsynchronised roadmaps 	DG MOVE MS
Other negative or positive unintended effects	<ul style="list-style-type: none"> Stakeholders' experiences and remarks in relation to unintended effects 	All Interviews

Evaluation question 9:

To what extent has the SESAR JU carried out its work efficiently?

Judgement criteria	Indicator	Data collection method and sources
<ul style="list-style-type: none"> The actual running costs of the SJU correspond to the estimates made in the CBA carried out for its creation 	<ul style="list-style-type: none"> Actual annual running cost 2007/2008 and 2009 compared to CBA estimate of annual cost of EUR 10 million 	Desk study (CBA, budget)

Judgement criteria	Indicator	Data collection method and sources
<ul style="list-style-type: none"> The management and execution of the programme by the SJU is cost-effective 	<ul style="list-style-type: none"> Administrative expenses compared to other JUs Perception of degree of cost-effectiveness Proportion of administrative staff compared to other Jus Efforts of the SJU to reduce administrative costs 	<p>Desk study (budget/accounts)</p> <p>Interviews (Executive Director, Administrative Board)</p>

Evaluation question 10:

To what extent does the SESAR JU comply with the principles of sound financial management?

Judgement criteria	Indicators	Data collection methods and sources
The SJU developed transparent procedures	<ul style="list-style-type: none"> Detailed recording of SJU financial documents in relation to contributions from members Detailed recording of commitments of SJU Clearly defined criteria and process for financial valuation of members' contributions Rigid application of financial valuation criteria and process of members' contribution Exact outcome of financial valuation of members contributions Stakeholders' perception of transparency Number and content of observations in auditors' (internal and CoA) report Management of the EU contribution to the SJU 	<p>Desk study (financial rules and associated written procedures, audit reports)</p> <p>Interviews (Founding Members, Administration board, members, DG MOVE)</p> <p>E-survey</p>
All the members of the SJU have provided their contribution to the SESAR development	<ul style="list-style-type: none"> Timing (planned and realised) of contributions (cash or/and in kind) for each individual member Provision of contributions in accordance with membership agreements and Multilateral Framework Agreement Number and content of observations in auditors (internal and CoA) 	<p>Desk study (membership agreements, Multilateral Framework Agreement audit reports)</p>

Judgement criteria	Indicators	Data collection methods and sources
phase timely	report	Interviews (Administrative Board)
A coherent set of accounting procedures and standards are in place	<ul style="list-style-type: none"> • Coherent set of accounting procedures and standards in place • Transactions are recorded accurately • An audit trail exist facilitating ex post expenditure review • Funds spent have been duly authorised by authorising officer • Accurate recording of transactions • Procedures of an audit trail are specified in accessible and official documents • Number and content of observations in audit (internal and CoA) reports 	<p>Desk study (regulation, budget, accounting documents, audit reports)</p> <p>Interviews (Administrative Board, Executive Director)</p> <p>E-survey</p>
Status of costs and contributions of the development phase	<ul style="list-style-type: none"> • Mechanisms to assess the members' actual contributions compared to their commitments • Level and nature of usage of the EU contribution • Efforts of the SJU to reduce administrative costs 	SJU Director of finance

Appendix 2 E-survey questionnaires

E-survey questionnaire for Member State Representatives (Single Sky Committee members):

E-mail:

Dear Madam/Sir

COWI has been commissioned by DG MOVE of the European Commission to conduct an **Evaluation of the SESAR Joint Undertaking** covering the period 2007-2009. The evaluation will assess the implementation of Regulation (EC) No 219/2007, the results obtained by the SESAR Joint Undertaking and its working methods, the general financial situation as well as provide the European Commission with recommendations.

This mail contains a link to an internet based questionnaire, which has been sent to all members of the Single Sky Committee. The questionnaire addresses some fundamental issues in respect to the SESAR Joint Undertaking. The views and assessments of the members of the Single Sky Committee are highly important in relation to the evaluation. We therefore kindly request you to fill in the questionnaire. Your answer will remain anonymous.

To access the e-survey click the link below.

Please observe that the link is a unique link and the questionnaire can only be completed on the computer on which the link was opened. It is possible to leave the questionnaire and return to it again by clicking the link again (using the same computer).

LINK...

We thank you in advance and, due to the tight time schedule allowed for the evaluation, we would be grateful if you fill in the questionnaire before 4 May 2010.

Please do not hesitate to contact us in case you have questions.

Best regards,

The COWI Evaluation Team

Team Leader: Niels Eilshøj Olesen (neo@cowi.dk, +4545972285)

Technical issues: Steven Højlund (steh@cowi.dk, +4545971287)

Introductory screen:

Welcome to the e-survey regarding the SESAR Joint Undertaking

In this e-survey, you will be asked questions regarding the performance of the SESAR JU including participation of relevant stakeholders and coordination. Your answer will remain anonymous.

To navigate the questionnaire, click 'back' to return to previously answered questions. Click 'forward' to move forward in the questionnaire. When you have reached the end of the questionnaire, please press 'terminate' to register and end the survey.

(Screen 1)

1. Set-up of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some extent	5	6	7. agree	Do not know
The setting up of the SJU was rapid and timely								
The SJU started its activities and proceeded without delay to membership negotiations								
Membership negotiations were open and transparent								

Please add your comments below, if any:

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The authorities in my country are satisfied with the work of the SJU								
--	--	--	--	--	--	--	--	--

Please add your comments below, if any:

(Screen 3)

3. Participation of stakeholders

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some extent	5	6	7. agree	Do not know
The SJU secures a high level of active commitment from the industry								
The SJU secures adequate level of participation of different European stakeholders including SMEs								
The SJU secures proper involvement and consultation of the Member States								
The SJU ensures sufficient information to the Member States regarding the organisation of the SJU and the progress of the SESAR project against the ATM Master Plan								

Please add your comments below, if any:

(Screen 4)

4. Achievements of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The SJU is likely to secure that SESAR promotes fair competition in the market for ATM products ensuring that existing property rights are not violated								
The SJU is likely to secure the aims of the SESAR programme: Improving safety, improving capacity and developing an efficient, sustainable and environmentally friendly European air transport system								

Please add your comments below, if any:

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E-survey questionnaire for Administrative Board members:

E-mail:

Dear Madam/Sir

COWI has been commissioned by DG MOVE of the European Commission to conduct an **Evaluation of the SESAR Joint Undertaking** covering the period 2007-2009. The evaluation will assess the implementation of Regulation (EC) No 219/2007, the results obtained by the SESAR Joint Undertaking and its working methods, the general financial situation as well as provide the European Commission with recommendations.

This mail contains a link to an internet based questionnaire, which has been sent to all members of the SJU Administrative Board. The questionnaire addresses some fundamental issues in respect to the SESAR Joint Undertaking. The views and assessments of the members of the Administrative Board are highly important in relation to the evaluation. We therefore kindly request you to fill in the questionnaire. Your answer will remain anonymous.

To access the e-survey click the link below.

Please observe that the link is a unique link and the questionnaire can only be completed on the computer on which the link was opened. It is possible to leave the questionnaire and return to it again by clicking the link again (using the same computer).

LINK...

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Introductory screen:

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To navigate the questionnaire, click 'back' to return to previously answered questions. Click 'forward' to move forward in the questionnaire. When you have reached the end of the questionnaire, please press 'terminate' to register and end the survey.

(Screen 1)

1. Set-up of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The setting up of the SJU was rapid and timely								
The SJU started its activities and proceeded without delay to membership negotiations								
Membership negotiations were open and transparent								

Please add your comments below, if any:

(Screen 2):

2. Governance of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The representation of the ATM stakeholders in the Administrative Board is adequate								
The decision making process in the Administrative Board is transparent								
Administrative Board members can openly express their views								
The Administrative Board exercises adequate control and supervision over the SJU								
Conflicts of interests are identified and managed within the Administrative Board								

(Screen 3)

3. Functioning of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The SJU organises the technical work of research and development, validation and study, while avoiding fragmentation of such activities								
The SJU combines and rationalises public and private-sector efforts								
The SJU identified existing and validated technical solutions that can serve as a basis for early deployment to secure early benefits								
The SJU ensures supervision of activities related to common products and organises specific invitations to tender								
The SJU public private partnership approach has led to an improved management of the ATM research and development activities								
The SJU retains overall control on any work delegated to ECTL								
The risk management plan put in place by the SJU as part of the ATM Master Plan is sufficient								
The property intellectual property rights policy established by the SJU allows for innovative arrangements by the industry while protecting public interests								
The property intellectual property rights policy established by the SJU allows for the Member States to be granted access, free of charge, to the knowledge generated								
The organisation(s) that I represent are satisfied with the work of the SJU								

Please add your comments below, if any:

(Screen 4)

4. Coordination in the SESAR Joint Undertaking

The organisation of the SJU ensures economies of scale								
The organisation of the SJU ensures good management of the programme in terms of timeliness and accuracy								
The SJU provides adequate expertise needed for managing the programme								
Programme management arrangements are efficient and transparent								

Please add your comments below, if any:

(Screen 6)

6. Participation of stakeholders

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The SJU secures a high level of active commitment from the industry								
The SJU secures appropriate level of participation of different European stakeholders including SMEs								
The SJU is easily accessible to all relevant stakeholders								
The SJU ensures sufficient information to relevant stakeholders regarding the organisation of the SJU and the progress of the SESAR programme in relation to the European ATM Master Plan								

Please add your comments below, if any:

(Screen 7)

7. Achievements of the SJU

Please tick the field marking the degree to which you agree with the following statements

	1. disagree	2	3	4. Agree to some some extent	5	6	7. agree	Do not know
The SJU performs its tasks satisfactorily: <ul style="list-style-type: none">• Organise & co-ordinate activities and manage funding• Ensure funding• Ensure involvement of stakeholders• Organise technical work• Ensure supervision of activities related to common products and organise specific invitations to tender•								
The SJU's work programme secures the execution and update of the European ATM Master Plan								
The execution of the ATM Master Plan is on track and the development phase can be realistically completed by 2013								
The SJU is likely to secure that SESAR promotes fair competition in the market for ATM products ensuring that existing property rights are not violated								
The SJU is likely to secure the aims of the SESAR programme: improving safety, improving capacity and developing an efficient, sustainable and environmentally friendly European air transport system								

Please add your comments below, if any:

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Appendix 3 Interview guide

Evaluation questions	Interview questions	Probing possibilities
1. To what extent was the SJU set up according to the legal framework establishing it?	<i>In your opinion was the SJU set up and organised in a timely manner, considering the objectives of Regulation 219/2007 and the requirements with respect to staffing, budget, membership agreements, annual work programmes, European ATM Master Plan etc</i>	
	<i>According to you has the SJU complied fully with the amend of Regulation 219/2007</i>	<p>To what extent has the Administrative Board adapted the appropriate implementing rules of the Staff Regulations</p> <p>To what extent do the staff consist of temporary agents and contracts agents</p> <p>Has an agreement been reached with the Belgium concerning privileges and immunities</p> <p>General Agreement and annual financial implementation agreement with the EC - is it in place</p> <p>Do the General Agreement provide for a right for the Commission to oppose the use of Community contributions for different reasons</p> <p>To what extent specific financial rules in accordance with Article 185 (1) of the Financial Regulations been adopted to the new status</p> <p>Has an internal audit capability been set-up</p> <p>To what extent has the Administrative Board - in the financial rules - provided for a procedure for giving discharge</p> <p>Has the position of the Community in the Administrative Board as regards decisions concerning the accession of new members and significant modifications of the ATM Master Plan been adopted</p> <p>To what extent have the statutes been amended in accordance with the Regulation - including Article 19 regarding transparency</p> <p>To what extent have the transitional provisions related to the staff been implemented</p> <p>To what extent have the transitional provisions related to the mandate of the ED been implemented.</p> <p>Have all other needs to revise internal rules been complied with</p> <p>In how far did the need to update rules and procedures affect the daily work and implementation of the work programme?</p>

Evaluation questions	Interview questions	Probing possibilities
	<p><i>In your opinion do the SJU decisions comply with the legal framework and Council resolutions</i></p>	<p>To what extent are intellectual property rights established allowing for innovative arrangements by the industry and at the same time protecting public interests</p> <p>To what extent are intellectual property rights established granting Member States access free of charges for non commercial purposes to the knowledge resulting from the SESAR programme</p> <p>To what extent is competition promoted in the market for ATM products</p> <p>To what extent are existing and validated technical solutions identified that can serve as a basis for early deployment to secure early benefits</p> <p>To what extent is the delivery of early benefits from SESAR using validated and standardised technologies, through business cases, cost-benefit analysis and consultative arrangements</p> <p>To what extent were membership negotiations open and transparent</p> <p>To what extent is the first update of the ATM Master Plan adopted by the Administrative Board before end of March</p> <p>To what extent is an appropriate methodology for the performance objectives as well as for tracking progress vis-a-vis the European ATM Master Plan</p> <p>To what extent has the Administrative Board complied with the requirements established by Art. 5 of the Statutes</p> <p>To what extent are board members aware of their responsibilities?</p>
<p>2. To what extent is the SESAR Joint Undertaking operating according to the legal framework establishing it?</p>	<p><i>According to you does the SJU's work programme secure the achievement of the execution of the European ATM Master Plan?</i></p> <p><i>How do the technical activities of the SJU conform the European ATM Master Plan with respect to organisation and planning of work packages and at the same time avoiding fragmentation of R&D activities</i></p>	<p>How do you interpret "execution of the European ATM Master Plan"?</p> <p>How is the achievement of IP2 and IP3 (the content, in relation to the results foreseen for the development phase, as defined in the current version) secured?</p> <p>In what way does the organisation into work packages and the planned activities under the work packages conform to the European ATM Master Plan?</p> <p>To what extent do the Administrative Board and WP leaders consider work packages to be organised in a rational (efficient and effective) way, which avoids fragmentation and duplication of R&D activities?</p>

Evaluation questions	Interview questions	Probing possibilities
	<p><i>In your opinion how does the SJU supervise the development of common products with regard to initiation of new developments and taking into account developments from prior to the SJU establishment</i></p>	<p>To which extent and how does the development phase build on previous or other ongoing research? (Framework Programmes, ECTL, national, industry activities, projects in research organisations etc.)</p> <p>To what extent has specific invitation for tenders been organised</p>
	<p><i>In what way does the SJU ensure involvement of all the relevant stakeholders?</i></p>	<p>How do you see the importance and role of SME in this context, and how the SJU is open to SME participation? (related also to question 3 on FP7 principles)</p> <p>How do you see the importance and role of research organisations in this context, and how the SJU is open to their participation? (related also to question 3 on FP7 principles)</p>
	<p><i>In your opinion does the SJU develop policy for cooperation with third countries?</i></p>	<p>How do you describe the role of the SJU, as compared to the European Commission and industry initiatives?</p> <p>How do you define "policy" in this context?</p> <p>What are the priorities of the SJU in relation to cooperation with third countries?</p> <p>How do you describe the relation and cooperation between the SJU and the Commission?</p> <p>How important is this aspect in the overall context of the work programme and daily work? (input – output, workload, efforts)</p>
	<p><i>According to you how does the SJU seek to achieve the highest level of interoperability between SESAR and NEXTGEN?</i></p>	<p>What are the number of visits/meetings/communications and workshops with the US Federal Aviation Administration and NEXTGEN Joint Planning and Development Office (JPDO)?</p> <p>To what extent are the interoperability objectives with NEXTGEN clearly identified in the relevant work packages DoW, particularly for the SWIM and the ground and airborne CNS systems?</p> <p>What are the coordinated SJU and JPDO actions for aviation standardisation?</p>
	<p><i>In your opinion to what extent do you consider the risk management plan and measures to be adequate?</i></p>	

Evaluation questions	Interview questions	Probing possibilities
	<p><i>According to you what are the stakeholders perception of the SJU communication plan and what is your perception of the stakeholders need for information and communication</i></p>	<p>To what extent do stakeholders consider SJU communication plan and activities to be adequate and of good quality</p> <p>To what extent does the SJU have a solid perception of stakeholders' needs for information and communication</p>
	<p><i>In your opinion is the SJU internal audit plan adequate, are the sufficiency of internal audit management skills sufficient and is the coordination with external audit requirements effective</i></p>	<p>To what extent is the audit plan adequate and operational?</p> <p>To what extent does the audit management possess sufficient skills and competences?</p> <p>To what extent is the coordination with audit requirements from relevant external bodies effective?</p>
<p>3. To what extent is the SESAR JU following the requirements imposed by the FP7 and TEN-T?</p>	<p><i>According to you does the SJU respect the objectives and principles of FP7, IPR rules and TEN-T for instance with regard to gender equality, inclusion of SME and academics, dissemination of knowledge, implementation of IPR rules etc</i></p>	<p>How well is the gender equality and the inclusion of women researchers promoted by the SJU?</p> <p>How well is the SME and academics inclusion secured in the calls and priorities of the SJU?</p> <p>Does the SJU promote the dissemination of knowledge to the same extent as required for FP projects?</p> <p>Are the rules for ethical issues respected?</p> <p>Does the SJU provide for statistics as required by FP7.</p> <p>Are SJU IPR rules in line with the related FP7 and TEN-T principles</p> <p>To what extent do stakeholders perceive SJU rules and principles to be coherent with FP and TEN-T?</p> <p>How do you see the SJU compared to the FP7 Joint Technology Initiatives?</p>
	<p><i>In your opinion do adequate mechanisms for reporting to FP7 and TEN-T exist and are they in operation?</i></p>	<p>SJU reporting mechanisms (from SJU members to SJU; from SJU to EC) are comparable to FP7 and TEN-T reporting requirements</p>

Evaluation questions	Interview questions	Probing possibilities
4. To what extent have the SJU internal organisation and procedures been conducive to its efficiency?	<i>According to you is the SJU structure and organisation adequate to the work entrusted to the SJU and the actual workload considering the SJU objectives, staffing, recruitments, vacant posts and training etc</i>	<p>How do the structure and organisation of the SJU reflect its objectives?</p> <p>To what extent is the size and staffing of the SJU organisation adequate relative to planned work and actual workload?</p> <p>To what extent is recruitment timely and adequate?</p> <p>What is the number of vacant posts per 31 December 2009</p> <p>To what extent does the Annual Training Programme reflect training needs?</p> <p>What is the number of training days per member of staff?</p> <p>What is the turnover of staff per year or 6 months?</p>
	<i>In your opinion is the chain of responsibility clear and are there appropriate management systems and procedures in place</i>	<p>What are the overlaps of responsibilities - if any?</p> <p>To what extent are procedures for procurement contracts clear and followed?</p> <p>To what extent are internal monitoring systems in operation?</p> <p>To what extent do staff members perceive management systems to be clearly defined?</p> <p>What are the number and content of financial exceptions - if any?</p> <p>What are the numbers of payment delays - if any?</p> <p>Which IT systems are in operation and are they appropriate to the needs?</p> <p>With reference to the SESAR Deliverable D6 "Work Programme 2008-2013" and the list of WPs proposed in this document what is the role ensured by Airbus as contractor of the "Industrial support to the SESAR Development Phase" service contract?</p> <p>Are technical WPs leaders connected with the technical manager of the above service contract?</p>
	<i>According to you do the SJU organisation ensure economies of scale based on management of different projects</i>	<p>Are there planned and achieved simplifications in procedures across projects?</p> <p>Are there planned and achieved synergies between projects across projects?</p> <p>Are benchmark and best practices procedures applied across projects</p> <p>How are established links between technical AIRE and OPTIMI activities with the launched SESAR WPs</p>

Evaluation questions	Interview questions	Probing possibilities
<p>5. To what extent has the SJU as a private-public partnership led to an improved management of the ATM related research activities as compared to the alternative options?</p>	<p><i>In your opinion how does the SJU combine and rationalise public and private-sector efforts?</i></p>	
	<p><i>According to you how has the SJU led to improved management?</i></p>	<p>To what extent has the SJU led to simplification of procedures</p> <p>To what extent has the SJU led to improved proximity to addressees (SJU as focal point for all stakeholders of programmes, instruments and mechanisms put in place for communicating with stakeholders)</p> <p>To what extent has the SJU led to higher visibility of EU as promoter of the programme entrusted to SJU (compliance with Commission's guidelines on information and visibility of programmes, instruments put in place to ensure visibility of the Union as promoter of the programme)</p>
	<p><i>In your opinion how does the SJU provide adequate expertise needed for managing the programme?</i></p>	
	<p><i>According to you how has the SJU led to good management in terms of timeliness, accuracy etc.</i></p>	<p>To what extent does the SJU work programme ensure efficient inter-linkage of projects and relations between work packages (vertical and horizontal)</p> <p>To what extent are work packages executed timely and efficiently?</p>
	<p><i>In your opinion are the tasks for programme management implemented according to deadlines?</i></p>	
	<p><i>According to you are ad-hoc information/service requests answered timely and adequately?</i></p>	
	<p><i>In what way are you satisfied with the work of SJU?</i></p>	<p>What is your satisfaction with communication, timeliness of management services, staff capacities</p>
<p>6. To what extent is the coordination</p>	<p><i>In your opinion are responsibilities and tasks of the SJU, its members</i></p>	<p>What are the overlaps and gaps identified - if any?</p>

Evaluation questions	Interview questions	Probing possibilities
<p>between the SJU, its members and its Founding Members working satisfactorily?</p>	<p><i>and Founding Members clear - any overlaps or gaps</i></p>	
	<p><i>According to you to what extent is communication quality and volume between the SJU, its members and Founding Members adequate</i></p>	<p>What mechanisms and instruments are in place? Which aspects should have more or less emphasis?</p>
	<p><i>In your opinion how does the SJU retain overall control of work delegated to ECTL</i></p>	<p>To what extent is there a clear convention between the SJU and ECTL for procurement actions delegated to ECTL? How often do ECTL report to the SJU the technical and administrative status of delegated works? To what extent does the SJU perform an assessment of the results of delegated works to ECTL?</p>
	<p><i>According to you does the SJU provide useful information for the policy process in the Commission</i></p>	
	<p><i>According to you have the monitoring and reporting arrangements in place enabled the Commission to benefit from the expertise created with the SJU</i></p>	<p>What are the internal monitoring and reporting arrangements in place? What are the means of transmission of information, communication and dissemination of expertise to the Commission? What are the particulars of reporting (regularity, ad-hoc and subjects)? What is the level of learning in the Commission from monitoring and reporting from the SJU?</p>
<p>7. To what extent has the SJU achieved its objectives?</p>	<p>In your opinion have the SESAR programme's objectives been achieved by the SJU so far?</p>	<p>To what extent do the Administrative Board members consider that so far the SJU is meeting its objectives?</p>
	<p>Is the SJU, in your opinion, in the process of implementing the five key</p>	<p>Key stakeholders (Adm. Board) consider the SJU to be on track in respect to implementation of the five tasks: - organising and coordinating the activities of the development</p>

Evaluation questions	Interview questions	Probing possibilities
	tasks?	<p>phase of the SESAR project</p> <ul style="list-style-type: none"> - ensuring the necessary funding for the activities -ensuring the involvement of the stakeholders of the European ATM sector - organising the technical work of R&D, validation and study - ensuring the supervision of activities related to the development of common products
	<p><i>In your opinion is the SJU in the process of executing the European ATM Master Plan and can be expected to complete the execution within the timeframe of the development phase of the SESAR Programme (2007-2013)</i></p>	<p>To what degree has the organisation and responsibilities for implementation of WPs been agreed and established</p> <p>To what extent are WP descriptions of work delivered in accordance with ATM Master Plan</p> <p>To what extent are projects under WPs identified and described</p> <p>To what extent have project initiation reports been delivered for launched WPs</p> <p>To what extent do Admin. Board and WP leader consider the execution of the development phase as described in ATM Master Plan to be on track and realistically completed by 2013</p> <p>After the award of IBAFO 1 activities (end 2009) what were the main gaps identified in the SESAR Programme coverage</p>
	<p><i>According to you is the SJU contributing to the achievement of the SESAR programme's objectives</i></p>	<p>To what extent is the SJU is contributing to the SESAR programme's objectives</p>
<p>8. To what extent have the activities of the SESAR JU resulted in unintended effects (both desirable and undesirable)?</p>	<p>What is the Commission's general level of satisfaction with the SJU and feeling of control with respect to securing the European added value of the SJU as well as within the field of ATM policy</p>	
	<p><i>In your opinion has the SJU resulted in unintended effects - positive or negative</i></p>	

Evaluation questions	Interview questions	Probing possibilities
<p>9. To what extent has the SESAR JU carried out its work efficiently?</p>	<p><i>Did the creation of the SJU, in your opinion, result in savings to the EU budget/overall costs for the programme compared to the usual framework programme through calls for proposals</i></p>	<p>What amount of savings, in what areas and when? What future SJU initiative could improve savings?</p>
	<p><i>According to you is the management of the SJU cost-effective - can the cost effectiveness be improved by any means</i></p>	<p>What are the areas for potential future improvement in cost-effectiveness</p>
<p>10. To what extent the SESAR JU complies with the principles of sound financial management?</p>	<p><i>In your opinion has the SJU developed transparent procedures and are there areas for further development</i></p>	<p>What is the general perception of transparency in financial management in general and in particular in regard to financial valuation criteria and process of members' contribution?</p>
	<p><i>Is there, according to you, a coherent set of account procedures and standards in place</i></p>	<p>To what extent are transactions recorded accurately? To what extent does an audit trail exist facilitating a post expenditure review? To what degree are transactions recorded accurately?</p>

Appendix 4 List of persons interviewed

Interview groups	Person	Number of interviews (tentative)
DG MOVE	Mr. Tytgat Mr. Marco De Sciscio Ms. Barauskaite Ms Doris Schroecker	3
ECTL	Mr. Bo Redeborn Mr. Bernard Miallier	1
Stakeholders	Mr. Antoniani Lucio (ETF) Mr. Charles-André Quesnel (ETF) Gp Captain John Clark Dr. Peter Hecker	3
SJU	Mr. Patrick Ky Mr. Carlo Borghini Mr. Jose A. C. Fresno Mr. Eric Platteau Mr. Peter Hotham Mr. Florian Guillermet Mr. Alain Siebert Mr. Ross Walton Mr. Michael Standar Mr. Patrick Courtois (HR) Ms. Vicencia Da Silva (Legal) Ms. Marie-Luce Feugier Ms. Ilkova Mr. Grandini	11
From other DGs with competence over other JUs	Mr. Philippe CUPERS (DG RTD) Mr. Johan BLONDELLE (DG RTD) Mr. Nicolas TERLINDEN (DG RTD) Mr. Giancarlo SORDON (DG RTD)	1

Interview groups	Person	Number of interviews (tentative)
Members, WP Leaders and project leaders:	Luca Crecco (Selex) Martin Götzelmann (VEGA) Ragnar Rosengren (LFV) Dr. Roman Nossal-Tüenyi (Austro Control) Mr. Eric Stefanello (Airbus) Mr. Thierry Liabastres (DSNA) Mr. Georg Dickhaut (DFS) Mr. Luc Lallouette (Thales) Mr. Niclas Gustavsson (NORACON) Mr. Johannes Prinz (Frequentis) Mr. Patrick de Prévaux (ASD)	11
CANSO, IATA and AEA	Mr Günter Martis Mr Bernard Martens Mr Anthony VAN DER VELDT Mr Vincent de VROEY	3
Total Interviews		33

Appendix 5 List of materials studied

Stat us	Title	Author	Date
Legal			
√	COUNCIL REGULATION (EC) No 1361/2008 of 16 December 2008 amending Regulation (EC) No 219/2007 on the establishment of a joint undertaking to develop the new generation European air traffic management system (SESAR)	Commission	16.12.2008
√	Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)	Commission	27.02.2007
√	European Air Traffic Management Master Plan	ECLT	30.02.2009
√	Proposal for a Council Regulation on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)	Commission	14.06.2006
√	Communication from the Commission on the state of progress of the project to implement the new generation European air traffic management system (SESAR)	Council	22.05.2007
√	Council decision endorsing the European Air Traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project	Council	09.03.2009
√	Council Resolution on "the launch of the development phase of the SESAR programme"	Council	- .10.2008
√	Draft Council Resolution on the launch of the development phase of the SESAR programme	Council	15.09.2008
√	amending Council Regulation (EC) No 219/2007 on the establishment of a joint undertaking to develop the new generation European air traffic management system (SESAR)	Commission	23.07.2008
√	AGREEMENT BETWEEN THE SESAR JOINT UNDERTAKING and The European Organisation for the Safety of Air Navigation, ECTL	SESAR JU/ECTL	- .10.2009
√	SJU Audit Panel Rules of Procedure	SJU	25.06.2008
√	Annual Financial Implementation Agreement between the European Commission and the SESAR JU	Commission/SESAR JU	04.12.2009
√	SJU and ECTL Interim Support Agreement	SJU	
Administrative Board/SESAR JU			
√	Decision of the Administrative Board on Principles governing the accession and participation of the members of the SESAR Joint Undertaking	SESAR JU	01.12.2008

Stat us	Title	Author	Date
√	Rules of procedure of the Administrative board		
√	General agreement between the European Commission and the SESAR JU	Commission/SESAR JU	04.12.2009
√	MEMBERSHIP AGREEMENT (template)	Commission	10.02.2009
√	MULTILATERAL FRAMEWORK AGREEMENT	SESAR JU	- .10.2009
Membership agreements of non-founding members			
√	List of SESAR JU Administrative Board decisions	SESAR JU	-.-.-
√	Administrative Board decisions of 2007		
√	Administrative Board decisions of 2008		
√	Administrative Board decisions of 2009		
√	Administrative Board Meeting minutes and decisions (11)	SESAR JU	24.09.2009
√	Administrative Board Meeting minutes and decisions (10)	SESAR JU	12.06.2009
√	Administrative Board Meeting minutes and decisions (9)	SESAR JU	26.06.2009
√	Administrative Board Meeting minutes and decisions (8)	SESAR JU	01.12.2008
√	Administrative Board Meeting minutes and decisions (7)	SESAR JU	03.07.2008
√	Composition of the SJU Administrative Board		
√	SESAR Organisational Chart		
√	SESAR definition phase - Air Transport Framework The Current Situation D1		
√	Air Transport Framework The Performance Target D2	SESAR JU	- .12.2006
√	The ATM Target Concept D3		- .07.2007
√	The ATM Deployment Sequence D4		- .01.2008
√	SESAR Master Plan D5		- .04.2008
√	The Work Programme for 2008-2013 D6		
√	Two letters (including annex III) on the role and contribution of ECTL	DG TREN/ECTL	11.02.2008
√	Annex III of letter 1 from Mr. McMillan to Mr. Ruete	DG TREN/ECTL	23.04.2009
√	Framework Agreement (PSO Agreement) be-	SJU/ECTL	

Stat us	Title	Author	Date
	tween ECTL and SJU		
√	ECTL transfer of Master Plan to SJU	ECTL	07.10.2008
Annual work programmes, activity reports and budget accounts			
√	Annual Work Programme 2010 and 2010-2012 main targets	SESAR JU	26.11.2009
√	Administrative Board of the SESAR JU; Fifth Meeting, Annual work programme for 2007-2008	SESAR JU	- .02.2008
√	Draft Annual Work Programme 2009	SESAR JU	- .08.2008
√	Annual Activity Report 2009 Including 2007-2008 period	SESAR JU	10.03.2010
√	Annual Accounts 2008	SESAR JU	01.07.2009
√	Provisional Annual Accounts 2009	SESAR JU	01.03.2010
√	Budget 2010 and multi annual estimates 2010 – 2012	SESAR JU	31.12.2009
√	Revised 2007/2008 Budget	SESAR JU	---
√	Revised Budget 2009	SESAR JU	---
√	Annual Report 2007-2008	SESAR JU	---
√	SESAR Joint Undertaking Financial Rules	SESAR JU	-.2009
Evaluations, studies and progress reports			
√	SESAME CBA AND GOVERNANCE Assessment of options, benefits and associated costs of the SESAME Programme for the definition of the future air traffic management system	SDG	24.06.2005
√	REPORT on the annual accounts of the SESAR Joint Undertaking for the financial year ended 31 December 2008, together with the replies of the Joint Undertaking	Court of Auditors	18.12.2009
√	Opinion No 2/2010 on the SESAR*Joint Undertaking Financial Rules (pursuant to Article 287(4) TFEU)	Court of Auditors	Feb 2009
√	SJU Internal Audit Report Annual Report to the Administrative Board on internal audit activity in 2009	Internal SJU document CONFIDENTIAL	24.03.2010
√	State of progress with the project to implement the new generation European air traffic management system (SESAR)	Commission	15.03.2007

Appendix 6 Overview of Membership Process

Timeline of the establishment of Memberships

Date	Action
27 June 2007	First call for expressions of interest to become members of the SJU
15 September 2007	Deadline for expression of interest. 26 applications for membership:
15-21 September 2007	Evaluation panel evaluate the 26 proposals
21 September 2007	End of evaluation of the 26 proposals. 15 applications were selected to be in the 'core group'
12 October 2007	The Adm. Board approves the results of the evaluation of the expressions of interest and mandates the Executive Director to start exploratory discussions with the 15 pre-selected candidate members.
21 February 2008	The SJU's Adm Board authorises the Executive Director to start formal negotiations with the 15 pre-selected members.
1 December 2008	The Adm. Board authorises the launch of the final phase of the membership accession process and establishes the principles from where voting rights are calculated as well as the principles governing the accession
17 December 2008	The 15 pre-selected candidate members are invited to submit their 'best and final' offers
5 March 2009	The evaluation of the final offers from the 15 pre-selected candidate members is concluded
11 March 2009	The Executive Director submits his report to the Administrative Board on the results of the membership award process
26 March 2009	The Adm. Board endorses the results of the accession process and approves the accession of the 15 candidate members as well as the MFA and the Model MA and Member contributions

7 May 2009	The Provisional Committee approves the texts of the Agreements between the SJU and ECTL
12 June 2009	SJU signs the Membership Agreements with the 15 new members as well as with ECTL All 15 new members Participate in the meeting and the ATM Maser Plan is adopted.
4 December 2009	General Agreement with between the SJU and the Commission is concluded

Appendix 7 Membership Process

Eligibility criteria

- Any public or private undertaking or body, including those from Countries which are not members of the European Union and that have concluded at least one agreement with the European Community in the field of air transport, are eligible to become members of the Joint Undertaking.
- The undertakings or bodies applying for membership must have the legal capacity to conclude a membership agreement with the Joint Undertaking and assure clear accountability for the related obligations.
- Candidates must declare that if they are selected they will accept the provisions of Regulation (EC) 219/2007 of 27.02.2007 establishing the SESAR Joint Undertaking and its Statutes.

Selection criteria

- a) Documented knowledge and experience with air traffic management and/or with the manufacture of equipment and/or services for use in air traffic management.
- b) The quality and level of contribution that the undertaking or body can be expected to give to the execution of *the European ATM Master Plan* on the basis of the above mentioned "initial description of activities" and the candidate's experience and the added value of the contribution for the benefit of the programme.
- c) The financial solidity of the undertaking or body. The candidates will have to prove their long term capacity to co-finance the activities they propose as contribution to the Joint Undertaking and to mobilise all the necessary resources.
- d) Capacity to manage, coordinate and carry out large scale research, development and validation projects involving multiple participants.
- e) The readiness of the candidate to conclude a membership agreement and provide a technical and financial contribution to the Joint Undertaking for the launching of its activities.
- f) Participation of wide range of stakeholders from different areas of the ATM sector in Europe and in particular of SMEs.
- g) Contribution to the rationalisation of research, development and validation activities, including the optimal use of existing developments and enhancing interoperability of the ATM system.
- h) Accession of entities from non-EU member States will be subject to the policy for cooperation with third Countries which will be established by the Joint Undertaking in accordance with Council Resolution 9769/07 (adopted on 8 June 2007).
- i) The existence of potential conflicts of interest which may affect their quality as member of the Joint Undertaking.

Appendix 8 Timeline of establishment of organisation and key management documents

Timeline of the establishment of the SJU organisation

Date	Action
27 February 2007	SJU is established by Regulation 219/2007
15 June 2007	AB Rules of Procedure adopted (amended 26 March 2009)
3 July 2007	Financial regulations of the SJU adopted by the Adm. Board together with the provisional budget (amended 4 December 2007) and Rules for the recruitment of the SJU's staff (amended 24 April 2008) Appointment of AB Vice Chairman and Secretary Provisional budget of 2007 adopted
6 August 2007	Publication of first vacancies
12 October 2007	The AB appoints the Executive Director
4 December 2007	Provisional 2007-08 budget adopted
Primo 2008	First SJU staff recruitment
21 February 2008	A Permanent Audit Panel is created The Annual Work Programme for 2007-08 is approved by the AB together with a postponement of the 3-year Work Programme ⁵⁵
24 April 2008	The principles and process of the amendment to the SJU statutes are endorsed by the AB The Rules of Recruitment are modified to align them with the EC recruitment rules in accordance with the change of statute. Revised 2007/2008 budget and staff establishment plan is approved
1 December 2008	2009 SJU Work Programme and budget adopted (revised

⁵⁵ The 3-Year Work Programme is referred to in Article 16.1(a) of the Statutes and is to be submitted once a year.

	<p>2009 budget adopted 9 October 2009)</p> <p>Communication plan for 2008-2009 adopted</p>
1 January	The SJU becomes an EU body (due to the amendment of Regulation 219/2007 by Regulation 1361/2008)
26 March 2009	Accounting officer is appointed
12 June 2009	<p>The seat of the SJU is established at its present address</p> <p>Rules for secondments to the SJU adopted</p> <p>Appointment of the SJU Internal Auditor</p> <p>Procedure governing the internal staff selection adopted</p> <p>Multiannual staff policy plan 2010-12 is adopted</p> <p>Adm. Board adopts the ATM Master Plan</p>
28 July 2009	New Financial Rules adopted
24 September 2009	Adoption of the SJU Internal Audit Charter and Audit Work Programme 2010
9 October 2009	Rules on the engagement of temporary agents, middle management and contract staff adopted by the AB
23 October 2009	Communication Plan 2010-2016 adopted

Appendix 9 Comparison of annual work programmes and annual reports

Task	Under-standing	WP07-08	AR07-08	WP09 (as ap-proved by AB, ref. ADB(D) 16-2008	AR09	WP10 (table on page 4 summarising 2009 achievements against objectives)
Organising and coordinating the activities of the development phase of the SESAR project, in accordance with the ATM Master Plan by combining and managing under a single structure public and private sector funding	<p>Set up single structure = SJU</p> <p>Set up and update work structure and plans</p> <p>Risk management</p> <p>Update the ATM MP</p> <p>Ensure coordination with other relevant programmes (Europe and abroad)</p>	<p>Employ 23 staff</p> <p>Implement basic HR processes</p> <p>Revisions of financial regulations and finalising implementing rules</p> <p>Prepare for audits</p> <p>Finalise logistic arrangements</p> <p>Implement video-conferencing facilities</p> <p>Implement IT infrastructure</p> <p>Industrial support tender</p> <p>Agreement with ECTL on PSO</p>	<p>Exe Dir. recruited 2007, 14 recruitment procedures completed. PSO: 8 employees from ECTL: Total staff: 22. 11 recruitment procedures launched.</p> <p>IT infrastructure developed - full collaborative platform still outstanding</p> <p>Industrial support contract awarded to Airbus and signed 16/10-2008 (EUR 60 million).</p> <p>Detailed work programme (DoW) established in co-operation with candidate members. DoW v. 4 issued 17/12-2008.</p>	<p>Increase to 38 staff by end 2009.</p> <p>Align the SJU organisational, legal, financial and HR structure to the requirements of the new Statutes (privileges and immunities agreement, SLA agreements, staff recruited under Staff Reg., new financial and implementing rules, new financial circuits, transitional IT systems until ABAC/SAP in 2010)</p> <p>Quality system by Q2</p> <p>SJU Programme management system (SJU-PMS), minimal by Q1, fully operational by Nov2009.</p> <p>Implement risk management process and establish risk manage-</p>	<p>SJU establishment plan adopted and integrated into EU Budget (24/4)</p> <p>Financial rules approved by EC (July? 2009)</p> <p>Programme methodology, including Engineering Methodology established</p> <p>Validation and verification strategy developed and agreed</p> <p>Communication plan approved by AB Oct. 2009. Coordinated communications team set-up involving the members aiming at sharing and adopting common guidelines on how to com-</p>	<p>A first risk management exercise was completed during Q1, EC provided with summary doc., Enterprise Risk Management Framework expected established by year end.</p> <p>Targets re. aligning the SJU organisational, legal, financial and HR structure to the requirements of the new Statutes met.</p>

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
		<p>Establish framework for international cooperation - SESAR/NEXTGEN ICAO workshop (Sept. 08)</p>	<p>PSO team seconded from ECTL - foundation for management</p> <p>Started discussions with FAA. ICAO Forum on SESAR/NEXTGEN.</p>	<p>ment plan (Q2)</p> <p>Deploy programme methodology and tools, including engineering methodology, Q3 (Programme Management Plan PMP, incl. SEMP, presented to PC). Engineering framework ver. 0 by Q2, Operational requirement document (ORD) ver. 0 by Q4.</p> <p>Programme strategic framework: Concept storyboard by Q1, validation strategy first ver. pres. to AB by Q2, architecture strategy first ver. pres. to AB by Q2.</p> <p>Master schedule linking ATM MP and project schedules, pre-ramp up ver. by Q1, ver. 1 by Q4.</p> <p>Establish inter-programme</p>	<p>municate on successes and milestones reached.</p> <p>Areas for cooperation between NEXTGen and SESAR agreed with a priority list for defining the specific cooperation activities and initial identification of the SESAR partner to lead the work.</p> <p>SJU/ECTL agreed transfer of some existing areas of cooperation from the ECTL FAA memorandum to SJU management.</p> <p>SJU presentations at global summits</p> <p>Established coordination with</p>	

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
				<p>agreement with ESA IRIS Pro- gramme</p> <p>Identify interface with Clean Sky</p> <p>Work closely with EC on ATM FP projects. Assist in reviewing and aligning the pro- jects. Possible SJU lead in some projects.</p> <p>Ensure coordina- tion with NEXTGen (coor- dination process in place transpar- ent and efficient, members partici- pation to at least one coordination meeting). Key areas of co- operation for op- erational and technical interoper- ability identified</p> <p>Further develop- ment of the ICAO coordination (in coordination with EC ICAO office)</p>	<p>ESA/IRIS and CleanSky.</p> <p>SJU worked closely with FP6 projects, assisted COM in reviewing and aligning projects with SESAR.Projec- ts: NEWSKY, iFLY, RESET, EPISODE3, CATS, CAATIIS, SWIM-SUIT.</p>	

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
Ensuring the necessary fund- ing for the ac- tivities of the development phase of the SESAR project in accordance with the ATM Master Plan	<p>Ensuring commitment and contri- butions from members</p> <p>Implement- ing com- monly agreed sys- tem for valu- ing of con- tributions</p> <p>Set up and implement system for managing funding</p> <p>Audit sys- tem for money con- trols and verification</p>	<p>Negotiate with mem- bers</p> <p>Sign frame- work con- tract (31/05- 2008)</p> <p>Present ne- gotiation results to AB (Oct. 2008)</p> <p>Sign Mem- bership Agreements (Nov 2008)</p>	<p>Call for ex- pressions of interests: 15 candidate members iden- tified.</p> <p>Principles and documents to be basis for membership agreements developed and approved by AB</p>	<p>Conclude mem- bership accession phase Q1. Signa- ture MFA and MAs.</p> <p>Ensure that the SJU adm structure support the Pro- gramme and pro- vide the reason- able assurance with regard to sound financial management (control system assessed and mostly in place by year end)</p> <p>Refined budget plan covering the period 2009-2013</p> <p>Audit strategy established first half 2009. Framework con- tracts with pro- viders signed.</p> <p>PMS (see above) to be able to in- terchange data with SJU finan- cial management system</p>	<p>AB Decision to award membership to 15 pre- selected can- didates awarded membership (26/3)</p> <p>MFA signed August 2009</p> <p>AB estab- lished internal audit function, SJU internal Auditor ap- pointed, inter- nal audit char- ter and work programme approved.</p>	<p>MAs signed 12/6</p> <p>The Internal Con- trol Framework issued by year-end</p>

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
<p>Ensuring the involvement of the stakeholders of the air traffic management sector in Europe, in particular: air navigation service providers, air space users, professional staff associations, airports, and manufacturing industry; as well as the relevant scientific institutions or the relevant scientific community</p>	<p>Direct involvement as SJU member (incl. affiliates)</p> <p>Direct involvement as AB member (stakeholder)</p> <p>Direct involvement as contractor (tenders by SJU)</p> <p>Direct involvement as expert in relation to specific tasks/projects</p> <p>Involvement as regulatory/supervisory authority in relation to SJU performance</p>	<p>On membership process - see above.</p> <p>Discussions to be held with air-space users, national authorities and EASA, military authorities, staff organisations and scientific community</p> <p>SJU to find its place in existing bodies in air transport sector (SSC, ICB, ECTL working arrangements, EUROCAE/ RTCA, ICAO and other relevant international bodies.</p> <p>Implement communication plan</p>	<p>On membership process - see above.</p> <p>Procedure for application for independent experts: 104 CVs listed in database.</p> <p>Constructive contacts with airspace users, staff representatives, regulatory authorities, EASA, military authorities, meteorological organisations.</p> <p>Active participation in European Community working groups (SSC, ICB) and ECTL working groups (military ATM Board, Stakeholders Consultation Group). Became member of EUROCAE.</p>	<p>On membership process - see above.</p> <p>Contract for air-space users involvement in WP, Q1-2 (involved in initiation process)</p> <p>Contract for social partners involvement in WP, Q2 (involved in initiation process)</p> <p>Involvement of Military community to be ensured through DCMAC as part of overall negotiation process between the SJU and ECTL</p> <p>SESAR awareness material targeted at persons involved in SESAR available by Q1</p> <p>Implementation of the ATM performance partnership (SPP first meeting held). ATM Performance Partnership (wider ATM community endorsement and understanding of Programme and results) established and process</p>	<p>On membership process - see above.</p> <p>Five framework contracts sent to association selected through a negotiated procedure. Two signed, the rest expected signed in 2010.</p> <p>Scientific committee set up composed of 12 scientists and first meeting held.</p> <p>Regulatory authorities: Interaction through National Supervisory Authorities Co-ordination Platform since December 2009.</p>	<p>Contracts for air-space users involvement in the programme signed during Q" and 3</p> <p>First meeting of SPP on 1/12</p>

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
Organising the technical work of research and development, validation and study, to be carried out under its authority while avoiding fragmentation of such activities	<p>Ensuring the detailed planning and implementation of activities within a co-ordinated framework</p> <p>Monitor progress in WPs/projects</p> <p>Implementing the systems, which ensure coordination across and within WPs</p> <p>Implement validation strategy</p> <p>Manage risks</p> <p>Early benefits</p>	<p>Launch of studies on communications and GNSS, Quick wins in environment (AIRE) - tenders to be launched</p> <p>Organise innovative research and launch calls. Organisation scheme for innovative research by ECTL.</p>	<p>Call for tender to implement AIRE activities. 17 tenders selected. Preparation work carried out.</p> <p>Technical review and support to EC of FP6 activities.</p>	<p>Run programme ramp-up phase Q2-4 (70% of projects initiated by the end of 2009 & interim progress report presented to PC). 40 proj. initiated by Q2, 40 proj. initiated by Q3, 60 projects initiated by Q4.</p> <p>Contract for WP11 Q1-2 (WP11 projects initiation start during Q3)</p> <p>Perform AIRE activities (AIRE interim progress report presented to ADB). Consolidation of results, launch of new demonstration projects, consolidation of results from other FP6/7/ECTL projects.</p> <p>Mobile communication study launched (complementing WP15.2)</p> <p>List of early activities to be conducted by ECTL identified and agreed by Jan 2009</p>	<p>Overall programme launched 3/6</p> <p>IBAFO 1 - 246 projects awarded (WP B, 3, 4, 5, 6, 8, 9, 10, 12, 14 and 15)</p> <p>126 projects launched, 62 initiation reports (PIR) received, 32 PIR analysed, 13 projects authorised.</p> <p>43 management activities kicked-off (no management initiation reports until 2010)</p> <p>Initiation of projects most likely to deliver environmental benefits accelerated (not mentioned which)</p> <p>IBAFO 2 launched July 2009 (WP C, 7, 13, 16)</p> <p>WP E: Type of activities and level of contribution</p>	<p>Procurement process for WP11 launched in Sept 2009, expected completed by mid-2010.</p>

Task	Under- standing	WP07-08	AR07-08	WP09 (as ap- proved by AB, ref. ADB(D) 16- 2008	AR09	WP10 (table on page 4 summaris- ing 2009 achieve- ments against ob- jectives)
Ensuring the supervision of activities related to the development of common products duly identified in the ATM Master Plan and if necessary, to organise specific invitations to tender	Ensuring that common products are part of DoW/WP descriptions Monitor progress of common product development					

**Appendix 10 Project launching
status per end 2009**

Annual Work Programme 2009	Activity Report 2009					
	WP	Number of Projects	Status end year 2009			Comments
			Launched projects	PIRs submitted	PIRs analysis	
WP B – Target Concept and Architecture Maintenance	5	4	4	on going		
WP C – Master Plan Maintenance	?	0	0	0	Launch expected Feb 2010	
WP 3 – Validation Infrastructure Adaptation and Integration	8	6	0	0	Projects launch delayed due to inputs waited from other WPs	
WP 4 – En-Route Operations	16	10	2	on going	6 projects will be initiated in first half of 2010	
WP 5 – TMA Operations	17	12	5	5	6 projects under IBAFO 2 evaluation presented to the Admin Board in December 2009	
WP 6 – Airport Operations	22	11	3	3		
WP 7 – Networking Operations					WP7 was part of IBAFO 2. It is planned to start from February 2010	
WP 8 – Information Management	18	16	15	on going	Few project may be suspended for execution phase until WPs 7 and 13 are kicked off	
WP 9 – Aircraft Systems	22	22	11	11	9 projects authorized for execution	
WP 10 - En-Route & Approach ATC Systems	23	12	8		2 projects were unable to reach an agreement on final PIR (due in Dec 09) and are currently blocked, awaiting an SJU resolution on the issue. 8 projects of WP10 were included in BAFO2 procedure, and the results of the offers evaluation were presented to the Administration Board in	

Annual Work Programme 2009	Activity Report 2009					
			Status end year 2009			
	WP	Number of Projects	Launched projects	PIRs submitted	PIRs analysis	Comments
						Dec 2009. Therefore 11 projects of WP10 will be initiated in first half of 2010.
Due to lack of maturity, the WP11 was handled separately with a deadline of Q1-2, where contracts should be ready.	WP 11 - Flight Operations Centre System					The SJU initiated in October 2009 a Competitive Dialogue process for WP 11 that is intended to be concluded during the second half of 2010, with contract award by September 2010.
	WP 12 - Airport Systems	29	12	6	on going	
	WP 13 – Network Information Management System (NIMS)					The Project Initiation Phase for Work Package 13 is planned to start from February 2010.
	WP 14 - SWIM technical architecture	9	9	1	1	2 projects were re-opened after the first IBAFO. The PIR submitted has been approved.
	WP 15 – Non Avionic CNS System	12	12	6?	6?	2 projects approved for execution - 4 PIRs under analysis
	WP 16 – R&D Transversal Areas					The Project Initiation Phase for Work Packages 16 is planned to start from February 2010
	WP E – Long Term and Innovative Research Programme					CfT to be launched by ECTL in January 2010
	Total	181	126	55	20	

Appendix 11 Selected work packages studied

WP 8 Information Management

Objectives :

The Objectives of WP 8 are to:

- Describe the performance and operational requirements of ATM wide information sharing,
- Strongly contribute to the definition of the Information View of the European ATM Architectural Framework and the ATM Information Model,
- Develop and document the European ATM Information Reference Model (AIRM) – the ATM Data model (Conceptual Model, Platform Independent Model (PIM) and Platform Specific Model (PSM),
- Support the standardisation of ATM Information,
- Secure semantic and syntaxis interoperability within ATM for Europe and support to an overall global commitment in the same field,
- Be responsible for ensuring the effectiveness and integrity of the functional architecture for Information Management,
- Integrate the ATM world in the information sense, a necessary step towards the realisation of Service Oriented Approach (SoA),
- Produce and document (ATM) Information Service in the support to a variety of system WPs or other Industry segments,
- Directly drive the operational requirements for the technical system architecture of Information Management to be developed in the SWIM Work Package (WP 14),
- Validate deliverables from various Operational WPs in order to align, harmonise and structure the different levels of ATM Information Services.

Main products

The main products to be developed in WP 8 are ATM information reference model, ATM Information Service Reference Model and ATM data model. WP8 also participates to the development of the SWIM network in providing operational requirements for the management of ATM Information. WP 8 to participate to the SWIM test platform development and validation

Overall status

WP is composed of 2 sub WPs encompassing 18 projects. On 31st December 2009:

- 15 Projects launched
- 15 PIRs submitted on end 2009 (evaluation took place in 2010)

Progress

Only the ultimate refinements of projects DoW, planning, resources, coordination with other WPs, risks etc. No R&D has effectively started in 2009.

Implementation

Some improvements of the current system are scheduled in IP1 but the large majority of the products will be implemented in IP2 and 3 with the SWIM network.

WP15 Non avionic CNS System

Objectives

- Address subjects concerning Spectrum Management for using the spectrum in the most efficient manner
- Define the future Mobile communication system supporting the SESAR Concept,
- Define from a sub-system perspective, the best combination of GNSS and non-GNSS Navigation technologies to support Performance Based Navigation and precision approach requirements
- Proceed with enhancements to the ground Surveillance systems and introduction of new Surveillance systems and services (e.g. WAM, ADS-B applications beyond initial operational capabilities).
- Decrease delays due to weather, prevent accidents, and help to improve long-term airport operation, relevant sensors matching airport category needs for detecting weather and weather related hazards as well as the integration of their complementary characteristics will be realised.

Main Products

Communication domain: prototypes to support technology validation

- Future Mobile Satellite communication
- Airport surface datalink
- Terrestrial communication infrastructure

Navigation domain: analysis, CBA, guidance material and recommendations to support other projects. Some prototyping of GNSS system designed for flight test measurement campaigns and prototyping of GNSS ground station system (GBAS).

- Global Navigation specification, baseline and rationalisation
- Enhanced SBAS system
- GBAS Cat II/III
- GNSS multiconstellation

Surveillance: development /refinement of concepts, technical specifications, prototyping and validation of ground station and ATM tools

- Surveillance rationalisation
- ACAS monitoring
- Surveillance ground system enhancements for ADS-B
- Weather systems

Overall status

WP 15 composed of 19 Projects. Status 31st December 2009:

- 12 Projects launched
- 6 PIRS received
- 3 PIRs analysed
- 2 projects authorized for execution, 1 project to provide additional clarification

Achievements

Only the ultimate refinements of projects DoW, planning, resources, coordination with other WPs, risks etc. No R&D has effectively started in 2009.

Implementation framework

Implementation of WP 15 outcomes are spread in IP1 to IP3 with CNS enhancements and introduction of new technologies (COM/SUR) as well as developments and implementation of GNSS space and ground infrastructures (Galileo, new SBAS L1/L5, GBAS cat II/III).

Appendix 12 Comparison of SJU to ERTMS and EFDP

The original CBA⁵⁶ discusses the pro and con of two different management models governing the ERTMS and EFDP⁵⁷ programmes respectively. The conclusion in CBA was that a third option was needed for management of a programme for ATM related research activities.

On the basis of the discussion it was decided to set up a private-public partnership what is today know as the SESAR Joint Undertaking. The SJU has now been in operation since 2007 and it is therefore obvious to compare the experience of the SJU as a management model with the management of the former ERTMS and EFDP programmes.

However, the implementation phase of the ERMTS phase started around 1995 and was completed around 2001/2002, when the first ERTMS products were available on the market. It has not been possible to ascertain the start and end of the EFDP programme but according to information received the programme was launched around 2000 and was terminated a few years thereafter.

Only limited data available due to historical programmes

Due to the historical character of the ERMTS programme (in its development phase) and the EFDP programme only few data are available for preparing a proper comparison. Despite considerable efforts it has not been possible to identify only a few data sources in the shape of experts having some extent of memory about the programmes. No relevant written documentation has been identified.

On the basis of the scarce information available the following comparison has been prepared.

	SJU	ERTMS	EFDP
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⁵⁶ SESAME CBA AND GOVERNANCE, 2005.

⁵⁷ For further description of ERTMS and EFDP, see SESAME CBA.

	SJU	ERMTS	EFD
Programme subject	European programme to develop a new generation air traffic management systems capable of ensuring safety and fluidity of air transport worldwide	Pan-European programme to establish standardisation of train control systems within the broader framework of EU interoperability legislation	Pan-European programme to replace legacy flight data processing systems with a common system
Simplification of procedures	High degree of simplification /standardisation of procedures e.g. Programme Management Plan	No data available	No data available
Proximity to addressees	Close proximity. Established by the European Council Regulation the SJU has become a focal point for private and public stakeholders in the ATM sector including air space users, suppliers, ANSPs, airport operators, regulators and staff associations.	Close proximity. The ERMTS User Group (national railway operators) instigated the ERMTS programme and soon after start came the European signal industry (UNISIG) onboard the programme. ERMTS applied for and received FP funding	Close proximity. Originally started by DNA and NATS supported with ECTL funding. Also other ANSP's came on board the programme.

	SJU	ERMTS	EFDP
Visibility of EU as promoter of programme	High visibility. Established by European institutions with the Commission as Founding Member and Member of the Board. Use of European FP7 and TEN-T funds. SESAR name registered by the EU. Commission and flag is shown on all external publications and on web-site.	High visibility. "European" in the name. Interoperability was the core of the problem. European Research funds were provided (sub-components and specifications) and then it was TEN-T (1996). The rules were respected in the sense that when testing prototypes, flags on locomotives, visibility on projects, publicity on new action targeted to railway sector.	EU was not a promoter of the EFDP programme
Balance of member's contributions and leadership amongst stakeholders	Balance between member's contributions is an outcome of the IBAFO 1 and 2 processes. No data is available on leadership among stakeholders.	No data available	No data available

Assessment

Based on the presentation above, it is not possible to compare on the parameter of simplification of procedures as no data is available on the ERTMS and EFDP programmes. For the parameter of proximity to addressees, all three programme management models were or are close to addressees - but in different ways. With regard to the visibility of EU as a promoter of the programme, the EFDP programme is very different from the two other programmes due to the fact that the EFDP programme was not promoted by the EU. Both the SJU and the ERMTS programme management has resulted

in high visibility for the EU as a promoter. On the basis of the existing data it is not possible to assess whether the SJU or the ERMTS have provide the highest visibility of EU as promoter of programmes. Concerning the parameter of balance of member's contributions and leadership amongst stakeholders it is not possible to compare as no data is available on the ERTMS and EFDP programmes.