



EUROPEAN AIRPORT MOVEMENT MANAGEMENT BY A-SMGCS

Contract No. TREN/04/FP6AE/SI2.374991/503192

Cross Recommendations to and from other Projects

M. Roeder

DLR

Document No: D731
Version No. 1.0
Classification: Public
Number of pages: 10

Project Funded by
European Commission, DG TREN
The Sixth Framework Programme
Strengthening the competitiveness
Contract No. TREN/04/FP6AE/SI2.374991/503192

Project Manager
M. Röder
Deutsches Zentrum für Luft und Raumfahrt
Lilienthalplatz 7, D-38108 Braunschweig, Germany
Phone: +49 (0) 531 295 3026, Fax: +49 (0) 531 295 2180
email: fp6-emma@dlr.de
Web page: <http://www.dlr.de/emma>

© 2007, - All rights reserved - EMMA Project Partners

The reproduction, distribution and utilization of this document as well as the communication of its contents to other without explicit authorization is prohibited. This document and the information contained herein is the property of Deutsches Zentrum für Luft- und Raumfahrt and the EMMA project partners. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.

The results and findings described in this document have been elaborated under a contract awarded by the European Commission.

Distribution List

Member Type	No.	Name	POC	Distributed ¹
Web		Internet	http://www.dlr.de/emma	
		Intranet	https://extsites.dlr.de/fl/emma	
Contractor	1	DLR	Joern Jakobi	
	2	AENA	Mario Parra	
	3	AIF	Marianne Moller	
	4	AMS	Giuliano D'Auria	
	5	ANS_CR	Miroslav Tykal	
	6	BAES	Stephen Broatch	
	7	STAR	Jens Olthoff	
	8	DSNA	Nicolas Marcou	
	9	ENAV	Antonio Nuzzo	
	10	NLR	Juergen Teutsch	
	11	PAS	Alan Gilbert	
	12	TATM	Stephane Paul	
	13	THAV	Alain Tabard	
	14	AHA	David Gleave	
	15	AUEB	Konstantinos G.Zografos	
	16	CSL	Libor Kurzweil	
	17	DAS		
	18	DFS	Klaus-Ruediger Täglic	
	19	EEC	Stephane Dubuisson	
	20	ERA	Jan Hrabanek	
	21	ETG	Thomas Wittig	
	22	MD	Julia Payne	
	23	SICTA	Salvatore Carotenuto	
	24	TUD	Christoph Vernaleken	
Sub-Contractor		CSA	Karel Muendel	
		N.N.		
Customer		EC	Morten Jensen	
Additional		EUROCONTROL	Paul Adamson	

¹ Please insert an **X**, when the PoC of a company receives this document. Do not use the date of issue!

Document Control Sheet

Project Manager	Michael Roeder	
Responsible Author	Roeder	DLR
Additional Authors		
Subject / Title of Document:	Cross Recommendations to and from other Projects	
Related Task(s):	WP 7.3	
Deliverable No.	D731	
Save Date of File:	2007-06-27	
Document Version:	1.0	
Reference / File Name	D731_CR_v1.0.doc	
Number of Pages	10	
Dissemination Level	Public	
Target Date	2006-03-31	

Change Control List (Change Log)

Date	Release	Changed Items/Chapters	Comment
2007-02-27	0.01	Initial Draft	
2007-06-15	0.02	Final Draft	
2007-06-15	0.03	For approval	
2007-06-27	1.0		

Table of Contents

Distribution List	2
Document Control Sheet	3
Change Control List (Change Log)	3
Table of Contents	4
1 Scope of Document	5
2 Coordination actions.....	6
3 Conclusion and Outlook	9
4 Annex I.....	10
4.1 References	10

1 Scope of Document

The intention to install the WP7.3 within the EMMA project was to harmonise the research activities in the different projects in order to serve:

- A common EC strategy
- The vision 2020
- A common user view on the strategy

There was no intention to write a stand alone document of this activity. The aim was to monitor and participate to EMMA relevant activities, feed them into the regarding EMMA documents and disseminate these EMMA conclusions:

- D111 State of the art in A-SMGCS [1]
- D121 ATM interoperability [2]
- D131 Air ground operational service and environmental description (OSD) [3]
- D135 Operational requirements [4]
- D136 Human factors HMI requirements [5]
- D137 Training concept [6]
- D141 High level air ground functional architecture [7]
- D171 A-SMGCS data link situation and innovation 2008+ [8]

Beside these activities EMMA provides several discussion platforms during user forum meetings, workshops and demonstration days, of which results are covered in D721 [9].

Description of work

Two main areas of coordination are required between the various IP of the 6th Framework Programme:

- Compatible and coherent operational concept definition, and
- Interoperable and coherent technological framework

One of the first activities developed in each of the projects is the consolidation of the operational concept that will be later on demonstrated and validated in trials. There is a clear need to harmonise the frontier area between the various operational concepts. EMMA SP1 “Concept definition” was dealing with all these issues, in particular within WP 1.2 “ATM interoperability”.

On the other hand, within the 6th Framework Programme there were a number of projects developing, testing and validating airborne and ground functionalities based upon a number of possible common technical enablers. There was a clear need, according to EC recommendations, to harmonise the specification and development of common technologies between the various projects. This will preclude the proliferation of different equipment and will contribute to guarantee the interoperability of systems between air and ground and between the various phases of flights.

Task 7.3 “Links to other projects” has taken care of this aspect and provided a framework establishing the appropriate technical and managerial contacts with the other projects in Europe and USA in order to guarantee this common and interoperable technology definition. This framework was fed by the various SP’s (SP2 “Onboard”, SP3 “Ground PRG”, SP4 “Ground TLS “ and SP5 “Ground MXP”) defining the onboard and ground technical implementation to coordinate details on equipment and basic technologies.

2 Coordination actions

Most of this coordination took place in different meetings. The following list should demonstrate the high amount of various meeting taken into account for the EMMA developments and documents.

Beside these EMMA driven meetings, two special events are worth to be highlighted:

1. The European Commission and EUROCONTROL organised an project coordination meeting in November 2004 at EEC Bretigny:

The goal of the meeting was to launch a cooperative process between projects and to ensure that projects are aware of the need to take into account the proposed European ATM Master plan.

Projects have the opportunity to see how their activities can fit with regard to CATM and SESAR (formerly SESAME).

The meeting objectives were set out as follows:

Project cooperation and coordination with the aim to:

- Use common approach to common issues
- Maximise synergies
- Join resources where relevant
- Share methods, data, results etc.
- Avoid inconsistencies
- Avoid duplication of work

The expected results of the meeting:

- First step to increase cooperation and coordination among projects;
- Agreement to follow a common approach in common areas, e.g. validation;
- Identify specific areas in specific projects where cooperation is necessary ;
- Identify areas where cooperation and standardisations would be useful in a wider context, e.g. at Community level.

2. The European Commission agreed to launch the work of the SESAR Joint Undertaking.

In this context, the Directorate-General for Energy and Transport is organising the preparatory activities required for the management of the R&D activities related to the modernisation of ATM in Europe. It was therefore considered beneficial that ATM relevant FP6 projects are comprehensively informed about the implementation of the Single European Sky and in particular about the SESAR initiative. Furthermore ATM relevant FP6 projects must be aligned with the solutions proposed by the SESAR implementation study. Appropriate mechanisms facilitating this must be put in place. Finally it was paramount that projects working on complementary subjects co-ordinate and cross feed each other to ensure integrated and compatible solutions. Therefore all ATM relevant projects were invited to a project co-ordination and networking meeting in Brussels on 9 and 10 January 2007 to make a short presentation following a defined structure.

The SESAR Definition Phase is on a critical path and therefore it is extremely important to consider all options when defining a new European ATM system. In this context the meeting was very important. It was noted a willingness among all participants to make the necessary arrangements to ensure that all projects are working towards common objectives as being defined in the Council regulation "SESAR".

The meeting was a first step in the process of ensuring to share a common understanding of the objectives of the Single European Sky and SESAR. Additionally this process should also facilitate the cooperation among projects working on similar elements.

Concretely, and based on the conclusions of the meeting, it was expect that each project makes an alignment matrix with the SESAR objectives and performance targets. Furthermore, to ease the alignment process, it was recommended start using the SESAR terminology.

The following list of meetings during the EMMA project is regarding to the coordination of ATM activities. This was done also indirect during dissemination events like ATC-Maastricht.

Date	Event	Place
2006-04-27	A-SMGCS Coordination Group	Brussels
2006-04-20	EMMA2 public launch	Malpensa
2006-04-17	SPIE Defence and Security Symposium (Synthetic Vision and advanced display formats)	Orlando, Florida
2006-03-22	A-SMGCS Workshop: 2nd user forum	Prague
2006-03-21	EMMA Demo Day	Prague
2006-02-16	CAATS Workshop	Lanzarote
2006-02-14	ATC Maastricht	Maastricht
2006-02-13	3rd Airport Visit	Amsterdam Schiphol
2006-01-30	C-ATM Meeting	Brussels
2005-12-13	Site visit Palma de Mallorca	Palma
2005-12-12	Site visit Madrid-Barajas	Madrid
2005-11-24	CCOM Meeting EUROCONTROL	Brussels
2005-11-18	Airbus-DLH Meeting	Frankfurt
2005-11-17	A-SMGCS Coordination Group	Brussels
2005-10-24	A-SMGCS course	Luxembourg
2005-10-20	Nova A-SMGCS Workshop	Brussels
2005-10-13	NASA / DLR / FAA Workshop	Braunschweig
2005-10-11	A-SMGCS workshop / EUROCONTROL ATM	Braunschweig
2005-10-10	Eurocontrol ATM Symposium	Braunschweig
2005-09-26	DGLR Symposium	Friedrichshafen
2005-09-22	Airlines Feedback Meeting	Bratislava
2005-09-21	CPDLC Seminar	London
2005-09-20	ICAS Meeting	Prague
2005-09-16	WG-41 Meeting	Nice
2005-09-15	FHA Meeting	Brussels
2005-09-15	EUROCONTROL Meeting	Brussels
2005-09-06	EUROCONTROL safety case workshop	Prague
2005-08-02	EUROCONTROL (EEC) Meeting	Bretigny
2005-07-20	EMMA – Flysafe Coordination Meeting	Toulouse
2005-07-10	EUROCAE	London
2005-07-07	A-SMGCS discussion	Hamburg
2005-07-06	ZWM Conference (Centre of Science Management)	Bonn

Date	Event	Place
2005-06-27	FAA / Eurocontrol conference	Baltimore (USA)
2005-06-24	FHA II Workshop	Prague
2005-06-22	ORD Workshop	Prague
2005-06-20	JISSA2005 Conference	Paris
2005-06-10	Validation experiments, visitors day	Amsterdam
2005-06-07	A-SMGCS Workshop	Hamburg
2005-06-07	A-SMGCS Action Plan Meeting	Brussels
2005-06-05	SMA Workshop II	Toulouse
2005-05-23	EUROCAE	Toulouse
2005-05-19	OSD Workshop II	Toulouse
2005-04-25	A-SMGCS Workshop	Hamburg
2005-04-14	A-SMGCS Coordiantion & Procedure Group Meeting	Brussels
2005-04/05	CDM in an EUROCONTROL project	Brussels
2005-04-05	FHA Workshop	Paris
2005-03-30	ACARE	Brussels
2005-03-11	DLR, DLH meeting regarding CPDLC	Frankfurt
2005-03-06	EUROCONTROL Coordination Group	Madrid
2005-03-02	EUROCONTROL	Brussels
2005-02-16	EUROCAE	Brussels
2005-02-15	HL services of A-SMGCS at Airport Zurich	Zurich
2005-02-11	DLR, DLH, AIF Meeting	Frankfurt
2005-02-08	SMGCS	Rome
2005-02-03	A-SMGCS benefits	Hamburg
2005-02-01	ATC Maastricht	Maastricht
2005-01-31	ASMGCS Coordination Group	Frankfurt
2005-01-19	WG-41 Meeting	London
2004-12-16	Association European Airline	Brussels
2004-12-14	User Workshop to higher A-SMGCS levels	Toulouse
2004-12-06	EUROCONTROL A-SMGCS	Brussels
2004-11-30	Cross IP Meeting	Bretigny
2004-11-24	SESAME	Heathrow
2004-11-23	DFS	Cologne
2004-11-18	EUROCAE	Brussels
2004-11-15	Workshop at EADS	Berlin
2004-11-10	EMMA presentation	Cologne
2004-11-03	SESAME	Brussels
2004-11-03	EUROCONTROL AOT Meeting	Brussels
2004-10-27	EUROCONTROL AOP Meeting	Brussels
2004-10-26	DGLR Symposium: ATM Impact	Bremen
2004-10-15	1st EMMA User Forum	Luxembourg
2004-10-14	Workshop	Amsterdam
2004-10-11	EUROCONTROL A-SMGCS Course and Exhibition	Luxembourg
2004-09-21	EUROCONTROL AOT Meeting	Brussels
2004-09-20	DGLR Symposium	Dresden

Date	Event	Place
2004-06-21	ICAO / EUROCONTROL	Brussels
2004-06-14	ATM Symposium	Aronsborg
2004-06-09	EUROCAE	Brussels
2004-06-06	LEONARDO	Brussels
2004-05-19	EADS	Berlin
2004-05-03	Workshop	Bretigny
2004-04-06	APR A-SMGCS Group	Brussels

3 Conclusion and Outlook

All these events will help in ensuring that the whole work in ATM will be framed into a large European programme, and more easily exploited, during the SESAR Definition Phase consortium's assessment of on-going initiatives and plans. This assessment is needed for SESAR D4 (How to build it), which will be delivered by end of November 2007. Furthermore, it should help for the coming discussions regarding the alignment with the SESAR programme and the mid-term review.

Following events are planned during the continuing project EMMA2 not only for coordinating the higher services of A-SMGCS of EMMA2, but also continuing the disseminating of EMMA results regarding the basic A-SMGCS level 1 and 2:

Date	Event	Place
2007-09-13	CEAS conference	Berlin
2007-06-12	ZWM conference (Centre of Science Management)	Bonn
2007-05-23	ICAS Meeting	Brussels
2007-02-13	ATC Maastricht	Maastricht
2007-02-12	A-SMGCS Forum	Maastricht
2007-01-09	SESAR FP6 coordination meeting	Brussels
2006-10-23	A-SMGCS Workshop	Luxembourg
2006-09-20	EUROCONTROL	Brussels
2006-09-19	EUROCAE	Brussels
2006-09-07	ATN discussions	Malpensa
2006-09-03	ICAS Conference	Hamburg
2006-06-30	Data Link Workshop	Toulouse
2006-06-22	User Workshop	Prague
2006-06-20	D-TAXI	Naples
2006-06-19	Aeronautics Days 2006	Vienna
2006-05-16	CPDLC workshop	Brussels

4 Annex I

4.1 References

- [1] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.1.1 *State of the Art in A-SMGCS*, Version 1.0, S. Carotenuto (SICTA) et al., Naples, 2005, www.dlr.de/emma.
- [2] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.2.1 *ATM interoperability*, Version 1.0, S. Paul (TATM) et al., Paris, 2006, www.dlr.de/emma.
- [3] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.3.1u *Air-Ground Operational Service and Environmental Description (OSED-update)*, Version 1.0, M. Moller (AIF) et al., Toulouse, 2006, www.dlr.de/emma.
- [4] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.3.5u *Operational Requirements Document*, Version 1.0, O. Delain (EEC) et al., Paris, 2006, www.dlr.de/emma.
- [5] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.3.6 *Human factors HMI requirements*, Version 1.0, M. Moller (AIF) et al., Toulouse, 2007, www.dlr.de/emma.
- [6] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.3.7 *A-SMGCS Trainings Concept*, Version 1.0, J. Jakobi (DLR), et al., Braunschweig, 2006, www.dlr.de/emma.
- [7] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.4.1u *Air Ground Functional Architecture (AGFA)*, Version 1.0, M. Moller (AIF) et al., Toulouse, 2006, www.dlr.de/emma.
- [8] **European Airport Movement Management by A-SMGCS (EMMA)**, D1.7.1a *A-SMGCS Data Link Situation*, Version 1.0, S. Gligorevic (DLR) et al., Oberpfaffenhofen, 2006, www.dlr.de/emma.
- [9] **European Airport Movement Management by A-SMGCS (EMMA)**, D7.2.1 *Conclusion of User Feedback*, Version 1.0, M. Roeder, Braunschweig, 2007, www.dlr.de/emma.