



TEAM  Play



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between air transport, environment and society]

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D6.3 Final Report

Sven Maertens (DLR)

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1 Introduction

Modelling of aviation's sustainability has become more complex and requires broader assessments including environmental and socio-economic impacts in order to provide adequate decision support. The US-developed Aviation Environmental Tool Suite (including AEDT, APMT and EDS) reflects this trend by combining different models into a tool suite to allow integrated assessments.

The TEAM_Play project (Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis) is a collaborative project co-funded by the FP7 Research Programme of the European Union which addresses the same requirement. It ran from December 2010 to March 2013 and included 18 partners: DLR, NLR, ENVISA, FOI, MMU, AEA, ANOTEC, Janicke Consulting, CERC, COMOTI, Snecma, Airbus, Rolls-Royce, University of Cambridge, ENAC, TAKS, National Aviation University, and LimitedSkies.

The main focus of TEAM_Play has been on creating a modelling framework in which existing European modelling capabilities could be combined in order to support and strengthen the European perspective in the international policy arena. The TEAM_Play tool suite also broadens the scope of potential impact assessments in order to improve awareness of additional effects, which are crucial for aviation development but which were not yet fully addressed in earlier modelling systems (e.g. impact monetisation, third party risk, airport capacity constraints, extended forecast horizon, alignment of local, regional and global assessments).

In Work Package (WP) 1, a data warehouse and data exchange platform were established, allowing for a consistent provision of data and for structured transmission of input and output data between models. The development and provision of Data Formatting Guidelines for the European aviation modelling community were another major output of WP1. In WP2, the actual TEAM_Play tool suite was established by designing the necessary model interfaces. The tool suite consists of two modelling systems and different air transport forecast, technology response and environmental impact models. Activities also included an update of the AERO-MS model and the development of policy decision support tools, including a macroeconomic impact model and an Energy Module. The latter module sets air transport and global energy consumption in perspective. In WP3, model runs for selected baseline, business as usual and policy scenarios were carried out to test the functioning of the tool suite. The focus of WP4 was on the scientific coordination and durable implementation of the project, and WP5 and WP6 were the dissemination and management work packages.

This final project report deals with the administrative activities that have been performed by the coordinator in WP6. It covers both reporting periods (1: months 1-12; 2: months 13-28) with a special focus on the second period which was not covered by the mid-term report (D6.2).

It was the objective of WP6 to govern, manage and organise the overall project from an administrative point of view (see Figure 1).

TEAM_Play – Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis

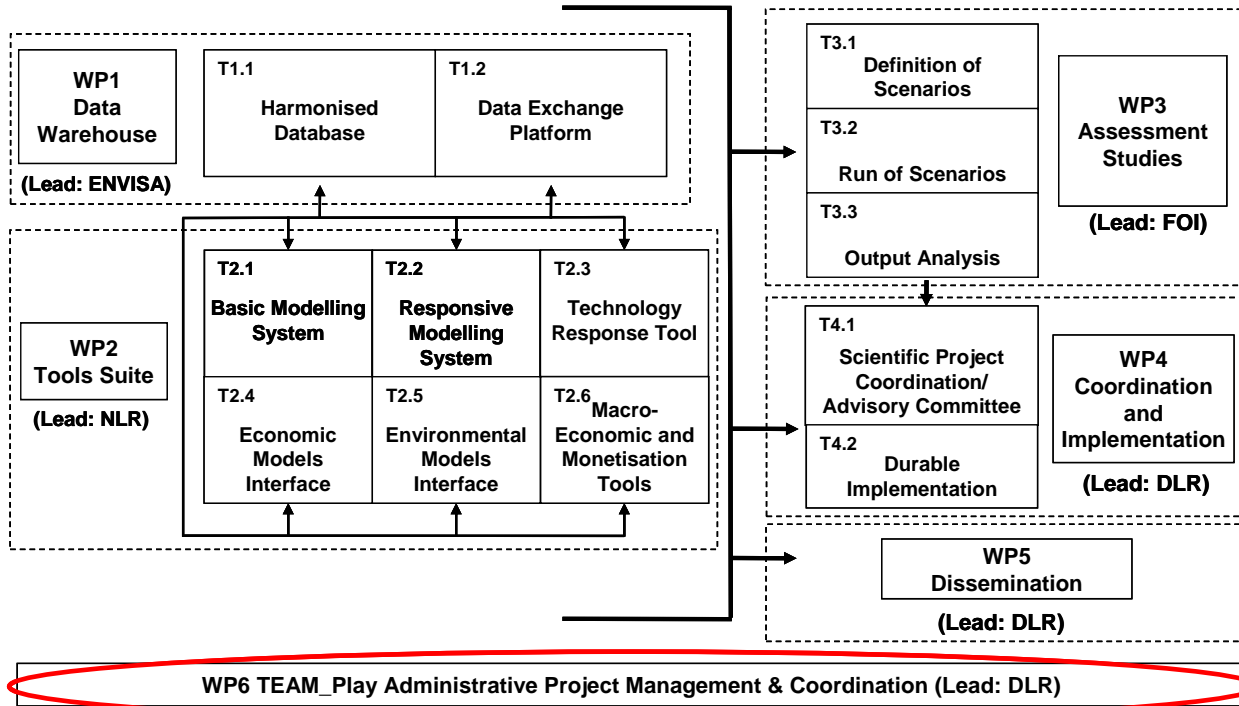


Figure 1: TEAM_Play Pert Chart

Efficient management and organisation involving all partners was a primary component and imperative for the operation of the project. The main activities of WP6 were management of legal and financial issues within the consortium and with the European Commission, including coordination of amendments due to consortium changes and the extension of the project duration, as well as administrative coordination of the overall project.

As shown in Figure 2, the main pillars and activities of WP6 during the project were:

- **Management of legal and financial issues** within the consortium and in relation with the European Commission, including management and maintenance of the consortium agreement incl. amendments due to consortium changes and the project extension by 4 months
- **Project Monitoring and Maintenance**, i.e. administrative coordination of the overall project; especially communication activities, collection and management of deliverables; monitoring of milestones, and organisation of meetings; monitoring of gender aspects
- **Communication**, i.e. provision of an internal and external point of contact

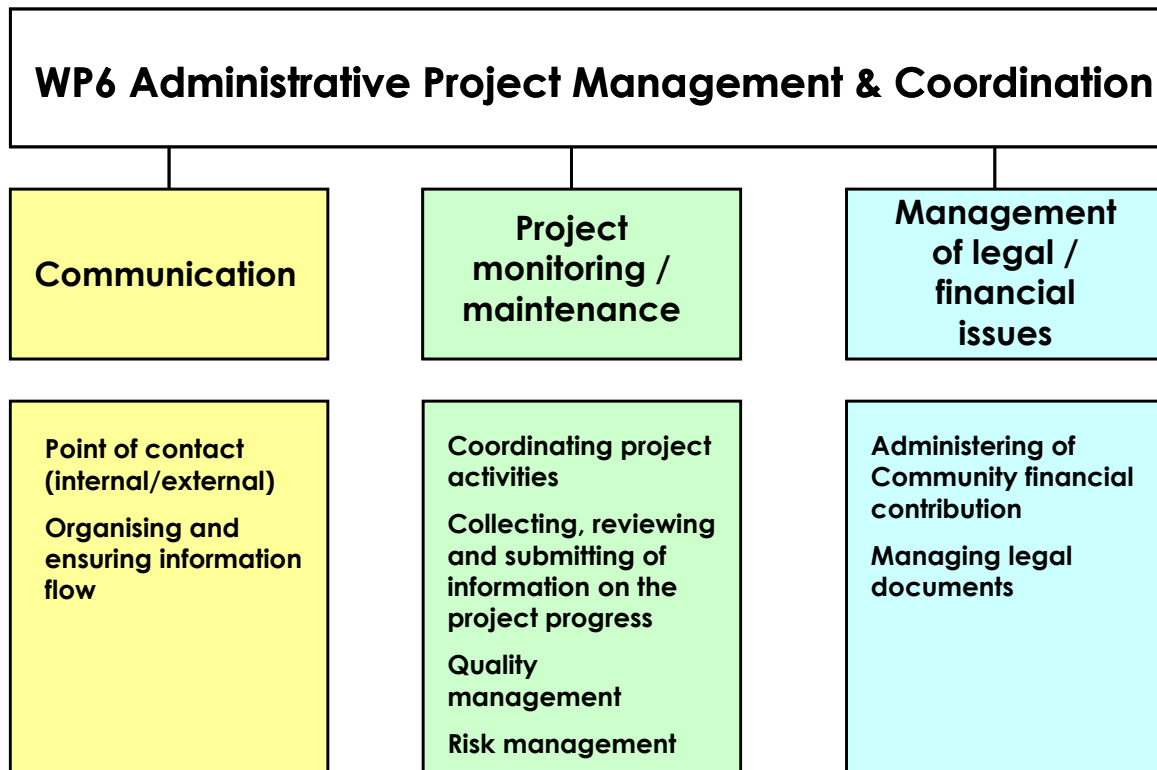


Figure 2: WP6 Pert Chart

In particular, the following achievements were made by the coordinator. Further details are in the following chapter.

- Establishing of governance structure and procedures (see 2.1)
- Concept and implementation of communication structures (see 2.1)
 - Internal communication
 - TEAM_Play sharepoint teamsite
 - TEAM_Play monthly newsletter
 - collection, update, distribution of contact lists
 - Progress meetings etc.
 - External communication
 - Project website
 - Dissemination activities, incl. installation of an Exploitation Board
- Financial Management (see 2.3):
 - Preparation of payment plans and transmission of payments beneficiaries
 - Collection and update of records and financial accounts to determine the portion of the financial contribution each beneficiary received
- Preparation of amendments to the grant agreement (see 2.4)
- Preparation, execution and post-processing of project meetings (see 2.5)
- Regular adjustment of the project specific database (TEAM_Play “cockpit”) in which the project status was monitored; monitoring of and solutions for delays (see 2.6)
- Production and distribution of templates, e.g. for deliverables

- Collection and review of deliverables to verify consistency with the project tasks before submission (see 0)
- Production of Scientific Work Plan D6.1 and mid-term report D6.2
- Monitoring of gender aspects through a gender survey (see 2.7)

2 Project and consortium management tasks and achievements

During the project phase (December 2010 – March 2013), several activities have been performed by the coordinator in WP6. The main objectives of this work package were (1) the management of legal and financial issues within the consortium and in relation with the European Commission and (2) the administrative coordination of the overall project and (3) internal and external communication (see Figure 2 and Figure 1).

In the following chapters, the most prominent achievements made by the coordinator are described in more detail.

2.1 Establishing of a governance structure

Efficient management and organisation involving all partners was a primary component and imperative for the operation of the project. The management and project structure of this project was adequately designed to accomplish the goals described in Annex I of the Grant Agreement and for the project scope. Governance, management and organisation of the project were achieved through a hierarchy of:

- the **Coordinator**,
- the **Project Board**,
- the **Exploitation Board**,
- the **Work Package Leaders** steering individual tasks,
- the **Advisory Committee** and **User Group** members.

2.1.1 Coordinator – Responsibilities and contact details

The Co-ordinator was and of course still is the contact point for the consortium and the European Commission. The Coordinator was the project spokesman and the prime contact point responsible for the internal and external communication. In particular, the Coordinator was responsible for following and supervising the day-to-day work in the different work packages and for the compilation and delivery of the progress, interim and final reports. To ensure a timely and accurate delivery of internal deliverables, the Coordinator – supported by the Work Package Leaders – monitored the progress of each work package carefully. This internal project control procedure has guaranteed a high quality of results and an optimal use of funding.

Contact Person	Function	Phone	E-Mail
Sven Maertens	Project leader	+49 2203 601 2596	sven.maertens@dlr.de
Melanie Murphy	Day-to-day management	+49 2203 601 2594	melanie.murphy@dlr.de
Ralf Berghof	Dissemination / networking	+49 2203 601 3180	ralf.berghof@dlr.de

Table 1: Co-ordinator contact details

2.1.2 Project Board – Responsibilities and contact details

The Project Board consisted of one representative of each partner and was free to act on its own initiative to formulate proposals and take decisions - wrt. (1) content, finances and intellectual property rights, (2) evolution of the Consortium, (3) appointments - in accordance with the procedures set out in the Consortium Agreement. Decisions were generally taken by seeking consensus. However, in order to avoid deadlock in project progress decisions, the approval of two-third majority (2/3) of the partners was deemed to be sufficient.

Furthermore, the Project Board supported the coordinator in the project control. During the project meetings, all project partners convened to present the progress of their work packages, to discuss results and to confirm further steps to be taken in the project.

Contact Person	Company	Phone	E-Mail
Sven Maertens	DLR	+49 2203 601 2596	sven.maertens@dlr.de
Paul Brok	NLR	+31 527 24 8663	paul.brok@nlr.nl
Ayce Celikel	ENVISA	+33 171 194 583	ayce@env-isa.com
Daniel Tourde	FOI	+46 8 55 50 32 12	daniel.tourde@foi.se
David Lee	MMU	+44 161 247 3663	d.s.lee@mmu.ac.uk
Garreth Horton	AEA	+44 870 190 6659	neil.dickson@aeat.co.uk
Nico van Osten	Anotec	+34 916 897 540	nico@anotecc.com
Ulf Janicke	JanC	+49 7551 947 1818	uj@janicke.de
David Carruthers	CERC	+44 122 335 7773	david.carruthers@cerc.co.uk
George Savu	COMOTI	+4021 434 01 98	george.savu@comoti.ro
Dominique Collin	Snecma	+33 01605 97 396	dominique.collin@snecma.fr
Thierry Touquoy	Airbus	+33 561 935266	thierry.touquoy@airbus.com
Paul Madden	Rolls-Royce	+44 1332 249184	paul.madden@rolls-royce.com
Andreas Schäfer*	UCam	+44 1223 760129	as601@cam.ac.uk
Jean Bresson*	ENAC	+33 562174027	jean.bresson@enac.fr
Andre van Velzen	TAKS	+31 30 2762451	a.van.velzen@taksbv.nl
Oleksandr Zaporozhets	NAU	+380444068676	zap@nau.edu.ua
Chris Eyers	LimitedSkies	+44 1420 472273	chris@LimitedSkies.com

Table 2: Project Board contact details

*) Jean Bresson retired in 2011 and was hence replaced by Isabelle Laplace during the project. Andreas Schäfer left Cambridge to become a Visiting Professor at Stanford University and a Research Affiliate at MIT. He was replaced by Lynette Dray.

2.1.3 Exploitation Board – Responsibilities and contact details

An Exploitation Board was selected by the Project Board specifically to manage dissemination, durable implementation and future exploitation of the TEAM_Play project results.

The board's tasks included:

- (a) efficient dissemination and exploitation of the project results,
- (b) informing possible users (user group)
- (c) the integration of further organisations and related projects
- (d) merging the different points of view of participants and the external user group and integrating reactions and proposals from possible users
- (e) keep the team focused on delivering what the project proposal offered
- (f) being on top of project results as they developed and being open to other opportunities for commercialisation
- (g) management of knowledge (intellectual property) acquired in the course of the project

Contact Person	Company	Phone	E-Mail
Ralf Berghof	DLR	+49 2203 601 3180	ralf.berghof@dlr.de
Paul Brok	NLR	+31 527 24 8663	paul.brok@nlr.nl
Ayce Celikel	ENVISA	+33 171 194 583	ayce@env-isa.com
Daniel Tourde	FOI	+46 8 55 50 32 12	daniel.tourde@foi.se
Chris Eyers	LimitedSkies	+49 5446 5180030	Chris@LimitedSkies.com
Dominique Collin	Snecma	+33 01605 97 396	dominique.collin@snecma.fr

Table 3: Exploitation Boards contact details

2.1.4 WP Leaders – Responsibilities and contact details

The Work Package Leaders were responsible for their individual tasks as defined in EC-GA Annex 1. The Work Package Leaders reported directly to the coordinator and were responsible for delivery of results at the predefined points in time. Furthermore, they supported the coordinator in project control by monitoring the overall progress of their work package and providing other relevant status reports. When problems arose, the respective work package leaders were advised to contact the coordinator to work out solutions.

The main problem which occurred during TEAM_Play was the delay of Aero-MS outputs in WP2 which had an impact on the start of the scenario runs in WP3 and hence on the overall project duration. The coordinator was contacted early enough by the WP2 leader so that Amendment Nr. 3 to the Grant Agreement could be requested in time (see 2.4). All in all, this good anticipation of the reported delay in WP2 in a functioning risk management system resulted in an overall delay of only 4 months.

Contact Person	WP	Phone	E-Mail
Dan Pearce (ENVISA)	1	+33 171 194 583	dan@env-isa.com
Paul Brok (NLR)	2	+31 527 24 8663	paul.brok@nlr.nl

Daniel Tourde (FOI)	3		daniel.tourde@foi.se
Sven Maertens (DLR)	4, 5, 6	+49 2203 601 2596	sven.maertens@dlr.de

Table 4: WP Leaders contact details

2.1.5 Advisory Committee and User Group

To safeguard relevance of project results to stakeholders, the project was supported by an **Advisory Committee (AC)** consisting of relevant European aviation stakeholders from industry, research and policymakers. The primary function of the Advisory Committee was the integration of stakeholders into the project and the provision of advice on project objectives and approaches. The Advisory Committee has not only balanced different interests of diverse European stakeholders in aviation, but also broadened the geographical diversity of the project. Members were drawn from the following fields: research institutions, airports, airlines, air traffic management, regulators/politics, logistics and fuel industry.

Category	Person	Institution/Firm
Research	Andreas Wittmer	Center for Aviation Competence, Universität St. Gallen
Research	Hans-Martin Niemeier	German Aviation Research Society
Airlines	Hermann Lindner	airberlin - Director External Affairs
Airlines	Thomas Roetger	IATA - International Air Transport Association, Assistant Director Aviation Environment - Technology
Airlines	Brian Pearce	IATA
ATM	Ted Elliff	Eurocontrol
Logistics	Dave Tompkins	EEA Representative, Head of Operation of the UK CAA, Economic Regulation Group
Policymakers / Regulators	Urs Ziegler	ECAC-ANCAT (MITG), Federal Office of Civil Aviation FOCA, Head Environmental Affairs Section, Federal Department of Environment, Transport, Energy and Communications DETEC
Policymakers / Regulators	Stephen Arrowsmith	EASA
Policymakers / Regulators	Ivan de Lepinay	EASA
Airports	Martin Bunkowski	ADV
Other/Fuel	Ken Rose	Concawe

Table 5: Members of the TEAM_Play Advisory Committee

Nine of the 12 members of the Advisory Committee attended the **TEAM_Play Advisory Committee Meeting** which took place on 19 December, 2011, in Berlin. The meeting was verified by deliverable 4.4 (“Results Report of Advisory Committee Meeting”).

A second major pillar in external relations to stakeholders was the **User Group Meeting** which took place on 21 February, 2013, in Brussels. The user group meeting was set-up as a workshop, in which the potential user or beneficiary were acquainted with the modelling systems, the policy decision support tools and the underlying Data Exchange Platform and Data Warehouse, and last-but-not-least the policy assessment and other output options. The user group meeting was verified by TEAM_Play deliverable D5.3 (User Group Meeting Report).

The following table shows the members of the TEAM_Play User Group, i.e. those stakeholders which joined the user group meeting and Marco Brusati from DG-

research as Project Officer. In addition, some other stakeholders (namely Benjamin Heese and AC-Member Hermann Lindner from airberlin, Magnus Johansson from Swedish Transport Agency, Kevin Morris from ADS Group, AC-Member Stephen Arrowsmith from EASA, AC-Member Andreas Wittmer from University of St. Gallen, and Roger Worth from the UK Department for Transport) could not attend the meeting but expressed interest in further information on the outcomes of TEAM_Play.

Category	Person	Institution/Firm	E-Mail
EC Project Officer	Marco Brusati	EC DG RTD Head of Sector Environmental Aspects of Aeronautics (EAA)	marco.brusati@ec.europa.eu
ATM	Laurent Cavadini	Eurocontrol	laurent.cavadini@eurocontrol.int
Industry Association	George Anjaparidze	IATA	anjaparidg@iata.org
Policymakers / Regulators	Ivan de Lépinay	EASA	ivan.de-lepinay@easa.europa.eu
Policymakers / Regulators	Vu Duc Hoang	EC DG MOVE-C2 Research and Innovative	hoang.vu-duc@ec.europa.eu
Policymakers / Regulators	Sylvie Grand-Perret	Transport Systems	sylvie.grand-perret@eurocontrol.int
Policymakers / Regulators	Urs Ziegler	ECAC-ANCAT (MITG) / Federal Office of Civil Aviation FOCA	urs.ziegler@bazl.admin.ch

Table 6: Members of the TEAM_Play User Group

2.2 Concept and implementation of communication structures

2.2.1 Internal communication and communication to the EC

The management team of DLR as coordinator is the point of contact, organises and ensures the information flow between the partners and the EC, handles the project correspondence and the day-to-day requests from partners and external bodies and functions as intermediary between the partners of the consortium and the EC. Communication amongst the partners is mainly done via electronic mail, via the TEAM_Play teamsite and via teleconferences. However, in order to ensure a constant information flow between the partners in a specific WP and overall, various communication activities were implemented and maintained by the coordinator.

- **TP_Newsletter**

An internal project newsletter was regularly distributed by the coordinator. Starting in January 2011 and appearing on an almost monthly basis, it has been informing all TEAM_Play partners about news related to the project, progress and current status of the overall project as well as action items, open issues and upcoming events and deadlines. The TEAM_Play newsletter has proven to be an effective means with regard to reminding partners of outstanding deliverables.

- **TEAM_Site**

The coordinator developed and has been maintaining the TEAM_Play teamsite which offers the opportunity of a web-based collaboration with all TEAM_Play partners from an **administrative** view. It functions as a communication platform and document repository. On the extranet teamsite, documents and other project related data can be managed and accessed by all project partners. The use of the teamsite facilitates a quick exchange of

information and documents and ensured an efficient means for all consortium partners to have an overview on project activities. The teamsite of the DLR extranet is accessible through the internet. Access to and transfer of data is SSL encrypted. All relevant project outputs (deliverables, reports) are available on the teamsite.

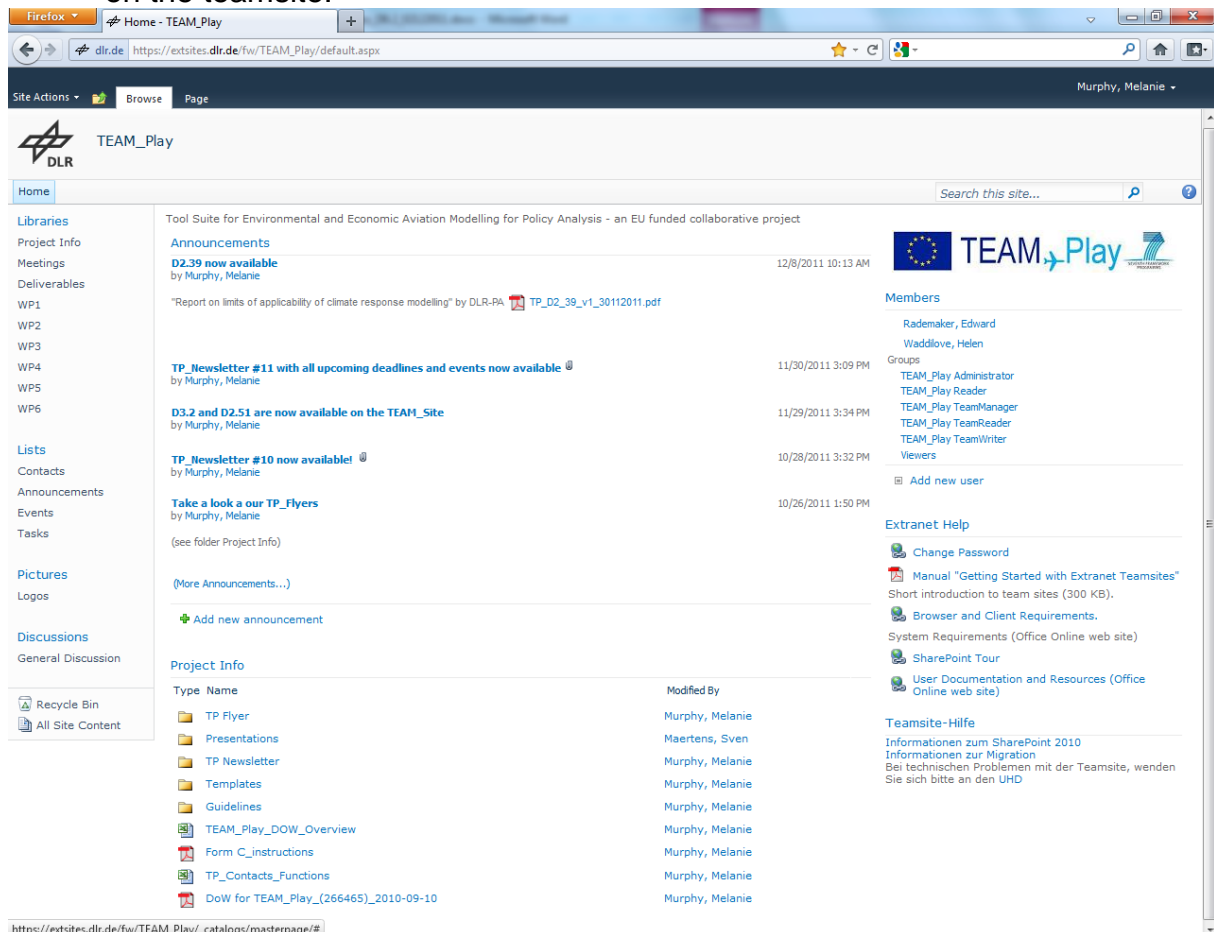


Figure 3: Screenshot of the TEAM_Play teamsite

- **TEAM_Play Data Warehouse (www.tpdw.eu)**

The TEAM_Play data warehouse is a fully featured, full text indexed content management system with built in facility for automated workflow (see WP1 reports). This was created as a means to store and distribute common model input files, allowing all models to start from a common, harmonised data set.

The data within the TEAM_Play data warehouse follows a strict formatting guideline, as does the process of modelling a new scenario (from scenario conception to final reporting). When used together, the TEAM_Play data warehouse, data formatting guidelines and modelling process provide an extremely robust, collaborative modelling capacity across the majority of European environmental modelling domains.

- **Progress Meetings and day-to-day contact with partners, esp. WP leaders**

The third pillar in internal communication can be named as “day-to-day” communication with partners, especially the WP leaders, by e-Mail and telephone. The degree of communication achieved in TEAM_Play can be regarded as very intense. In addition, formalised progress meetings have been held at least twice a year.

2.2.2 External communication

The main pillars in external communication are

- a) the project’s “formalised” dissemination activities as defined in WP5. These are
 - o The Project website;
 - o TEAM_Play printed information materials (brochure and business cards);

- b) activities by the TEAM_Play exploitation board and other “hard” and “soft” forms of dissemination, such as official presentations to conferences and promoting of TEAM_Play in (network) meetings and related personal discussion and (high) level group meetings (such as MITG...);

The following list gives an overview of TEAM_Play presentations to external stakeholders (other than during our Advisory Committee and User Group meetings):

Date, Place	Event	Title of presentation / paper	Person
12/10/2011, Lausanne	X-NOISE full network meeting	TEAM_Play – Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis	Dick Bergmans / NLR
27/10/2011, Marseille	ANERS Aircraft Noise and Emissions 2011 Reduction Symposium	TEAM_Play – Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis	Sven Maertens / DLR
23/03/2012, Washington	PARTNER, 18th Advisory Board Meeting	TEAM_Play – Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis	Ralf Berghof, DLR
10/09/2012, Zürich and 04/04/2013, Zürich	Modelling Interdependencies Task Group ((MITG) meeting	TEAM_Play – Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis, Durable Implementation (TEAM_Play WP4.2)	Paul Brok / NLR & Ralf Berghof, DLR

23-24/04/2013, Vienna	European Civil Aviation Conference, Group of experts on the abatement of nuisances caused by air transport (ECAC-ANCAT), 84th meeting	European Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis (TEAM_PLAY), information paper on project results	Urs Ziegler, Switzerland, MITG Rapporteur
23-24/04/2013, Vienna	European Civil Aviation Conference, Group of experts on the abatement of nuisances caused by air transport (ECAC-ANCAT), 84th meeting	Interdependency modeling in Europe – a durable organisation structure (ideas from the EU FP7 projects TEAM_PLAY AND X-NOISE)	Urs Ziegler, Switzerland, MITG Rapporteur

Table 7: List of external presentations on TEAM_Play

TEAM_Play website

In the beginning of the project a project website was developed as means to approach potential customers / stakeholders and to report on the project objectives and on the project developments. DLR requested web space for the website, incl. SQL database which allows the implementation of a content management system (CMS).

The website is accessible by the following URL's:

www.teamplay-project.eu and www.teamplayproject.eu.

The website is only for external communication and thus fully accessible by everyone. The website was designed and has been maintained by the coordinator. So far, it mainly contains general project information, such as the project goals, the partners and the tools used incl. tool descriptions.

Also, at the February 2013 final meeting, partners agreed that a selected number of short WP report shall be made available on the TEAM_site after the project phase, incl. a summary of the scenario runs. This also includes the TEAM_Play “Data Formatting Guideline” report which is regarded as a blueprint for any further data provision in EU air transport and environmental modelling.

Promotion of the website is handled by selection of adequate keywords (google). Furthermore, partners promoted the project and the website with press release / newsletters sent out to each partner's contacts. Additional promotion was implemented by distributing the brochure and TEAM_Play business cards.

The TEAM_Play data warehouse (see 2.2.1) has its own URL: www.tpdw.eu.

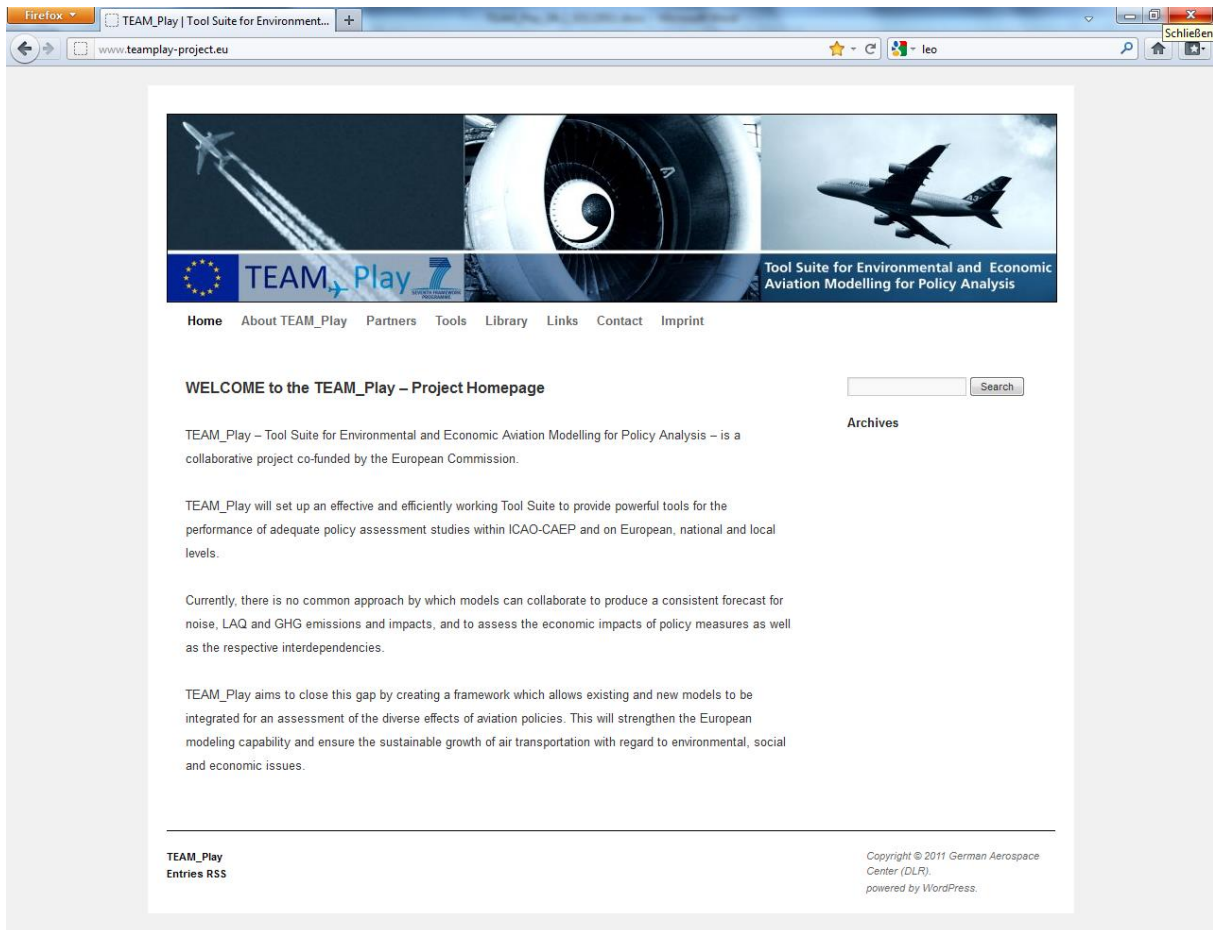


Figure 4: Screenshot of the TEAM_Play website

Exploitation Board

On 25 March 2011 the Project Board approved the formation of an Exploitation Board to specifically manage dissemination, durable implementation and future exploitation of the TEAM_Play project results (see 2.1.3). The participants of the Exploitation Boards were:

Contact Person	Company	Phone	E-Mail
Ralf Berghof	DLR	+49 2203 601 3180	ralf.berghof@dlr.de
Paul Brok	NLR	+31 527 24 8663	paul.brok@nlr.nl
Ayce Celikel	ENVISA	+33 171 194 583	ayce@env-isa.com
Daniel Tourde	FOI	+46 8 55 50 32 12	daniel.tourde@foi.se
Chris Eyers	LimitedSkies	+49 5446 5180030	Chris@LimitedSkies.com
Dominique Collin	Snecma	+33 01605 97 396	dominique.collin@snecma.fr

Table 8: List of participants of the Exploitation Board

2.3 Financial management

The co-ordinator has managed all financial issues linked to the consortium level. In this context, the co-ordinator has administered (and will continue to do so with regard to the final payment which is due 105 days after submission of the Final Report – see Figure 1) the Community financial contribution and has distributed the pre-financing and the interim payment to the partners and will also forward the final payment after receipt from the EC. The project was divided into reporting periods:

- **P1:** from December 2010 to November 2011 followed by the Mid-term Report
- **P2:** from December 2011 to March 2013 (previously scheduled to end November 2012 – see 2.4) followed by this Final Report

The timeline in figure below gives an overview on reporting and payments.

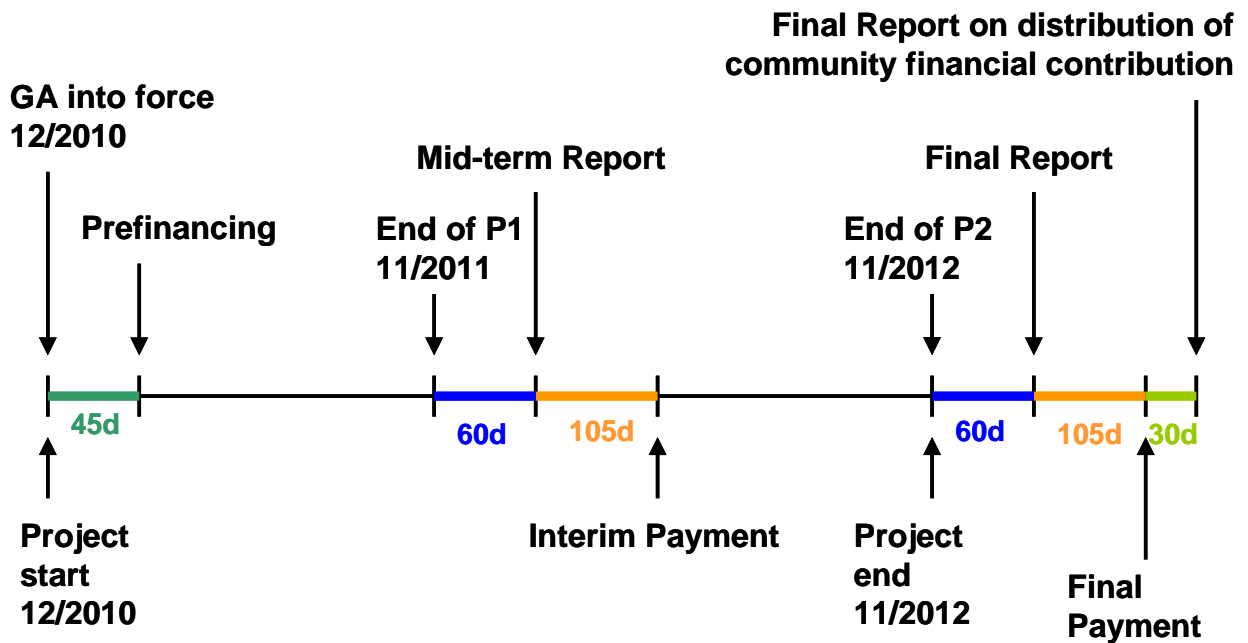


Figure 5: TEAM_Play timeline of reporting and payments

The pre-finance and interim payments paid by the EC to DLR was forwarded to the partners according to the payment plan that is shown in the following table. It follows the principles and rules all partners have agreed to within the Consortium agreement.

No.	Partner	Requested EC Contribution	%	80% EC Prefinancing	Guarantee Fund 5%	1st Payment by DLR (75%)	Requested in 1st Form C	2nd Payment by DLR
1	DLR	731.538,60	19%	585.230,88	36.576,93	548.653,95	195.781,36	73.099,74
2	NLR	929.000,00	24%	743.200,00	46.450,00	696.750,00	335.678,50	92.831,27
3	Envisa	450.534,00	12%	360.427,20	22.526,70	337.900,50	335.877,00	45.020,07
4	FOI	260.437,50	7%	208.350,00	13.021,88	195.328,13	95.769,46	26.024,48
5	MMU	193.125,00	5%	154.500,00	9.656,25	144.843,75	82.961,08	19.298,21
6	AEA	86.877,50	2%	69.502,00	4.343,88	65.158,13	50.162,43	8.681,32
7	Anotec	77.460,00	2%	61.968,00	3.873,00	58.095,00	37.702,18	7.740,27
8	JanC	69.599,00	2%	55.679,20	3.479,95	52.199,25	20.692,80	6.954,75
9	CERC	61.050,00	2%	48.840,00	3.052,50	45.787,50	30.141,68	6.100,48
10	COMOTI	29.235,00	1%	23.388,00	1.461,75	21.926,25	29.005,66	2.921,34
11	Snecma	98.162,50	3%	78.530,00	4.908,13	73.621,88	25.843,38	9.808,99
12	Airbus	112.114,00	3%	89.691,20	5.605,70	84.085,50	22.664,45	11.203,11
13	Rolls Royce	61.500,00	2%	49.200,00	3.075,00	46.125,00	-	-
14	Ucam	45.075,00	1%	36.060,00	2.253,75	33.806,25	3.503,45	4.504,17
15	ENAC	132.300,00	3%	105.840,00	6.615,00	99.225,00	-	-
16	TAKS	376.679,00	10%	301.343,20	18.833,95	282.509,25	221.334,27	37.640,03
17	NAU	108.900,00	3%	87.120,00	5.445,00	81.675,00	32.311,16	10.881,94
18	LS	43.908,90	1%	35.127,12	2.195,45	32.931,68	8.590,65	4.387,64
	Total	3.867.496,00	100%	3.093.996,80	193.374,80	2.900.622,00	1.528.019,51	386.463,48

Table 9: Payments handled so far

2.4 Amendments of the Grant Agreement

The following events, which resulted in Grant Agreement amendments, occurred during the project phase:

- Shortly before signing the Grant Agreement, the former TEAM_Play partner, QinetiQ Limited, decided to withdraw their participation in the project. Therefore, the coordinator prepared an amendment to the grant agreement in order to remove the above mentioned legal entity from the list in Article 1.1 due to their non-accession to the grant agreement.

In order to close the gap resulting from the removal of QinetiQ, two entities were added as new beneficiaries to the project team with the agreement of the project board and with effect from the date specified in the following table:

AEA Technology plc , established in 6 New St Square, London, EC4A 3BF, United Kingdom, represented by Marc Addison (Commercial Manager) or Mike Sands (Group Commercial and Insurance Manager), or his authorised representative <i>("beneficiary no. 6")</i>	February 18, 2011
LimitedSkies Ltd , established in Faldonside, Kingsley, Bordon, Hampshire, GU35 9ND, United Kingdom, represented by Chris Eysers <i>("beneficiary no. 18")</i>	April 1, 2011

Table 10: List of new beneficiaries

The TEAM_Play amendments targeting the exit of QinetiQ and the replacements were eventually confirmed and signed by the Commission on 18/10/2011.

- On 4 June, 2012, another amendment was requested in order to extend the project duration by 4 months (new project end date 31 March, 2013 instead of 30 November, 2012). The three reasons for this amendment request can be summarised as follows:
 1. The enhancement of the crucial Aero-MS tool – the core of the Responsive Modelling System – required more development time than expected. The validated version of the enhanced Aero-MS (D2.10) was originally planned to be ready by the end of January 2012 according to the DoW; in the meantime, this was already re-scheduled to end of April / early May 2012. The subsequent date of finalisation was around 1 July. This delay - which was anticipated by the project risk management and related communication between partners – meant that the scenario runs of the TEAM_Play tool suite as part of WP3 would be affected.
 2. Preparation for the major CAEP/9 meeting was assumed to have impacts on the availabilities of potential user group members in the October – November 2012 period.
 3. A number of TEAM_Play partners, including WP leaders, were considerably engaged in CAEP/9 preparatory work until November 2012 (CAEP papers deadline).

Amendment Nr. 3, extending the project duration from 24 to 28 months with a new project end at 31 March, 2013, was eventually signed by the EC on 28

November, 2012. This amendment was also used to change the indirect cost calculation method for Rolls-Royce PLC, from “actual indirect cost method” to “simplified indirect cost” method.

- In addition, a third amendment (Amendment Nr. 2) to the grant agreement was requested in order to remove “special clause 30” (Article 7 of GA) referring to the entity ENVISA SAS due to its invalidity to the grant agreement. The sub department as mentioned in FORCE did not exist.

2.5 List of project meetings, dates and venues

DLR prepared, executed, post-processed and attended various project meetings as defined in the work plan. Besides the three main project meetings (kick-off, mid-term and final meetings) as well as the Advisory Committee and User Group Meetings, the coordinator arranged regular progress meetings with the WP leaders in form of teleconferences to discuss development and progress of the project, potential changes in the work plan and the consortium. These progress meetings ensured that potential risks were identified at an early stage in order to find suitable mitigation measures.

The following project meetings were held:

- 1) kick-off meeting (DLR site in Cologne, 16/12/2010)
- 2) project meeting (FOI site in Stockholm, 16+17/05/2011)
- 3) 1st progress meeting (telco, 15/06/2011)
- 4) Project meeting (NLR site in Amsterdam, 9+10/11/2011)
- 5) 2nd progress meeting (telco, 30/11/2011)
- 6) advisory committee meeting (WirtschaftsForum in Berlin, 19/12/2011)
- 7) mid-term meeting (WirtschaftsForum in Berlin, 20/12/2011)
- 8) WP1-3 project meeting (DGAC site in Paris, 03+04/04/2012, organized by ENAC and sponsored by Snecma)
- 9) 3rd progress meeting (telco, 21/06/2012)
- 10) WP1-3 project meeting (NLR site in Amsterdam, 31/08/2012)
- 11) WP1-6 status meeting and 4th progress meeting (NAU site in Kiev, 25+26/10/2012)
- 12) User Group meeting (DLR/NLR site in Brussels, 21/02/2013)
- 13) Final Meeting (DLR/NLR site in Brussels, 22/02/2013)

In addition, the coordinator and/or WP leaders or other partners arranged additional telephone conferences at a working level.

2.6 Management of delays

A number of project deliverables were submitted with a slight or sometimes more significant delay. As the work package deliverables were dependent on the feedback of others, and many partners were involved in the TEAM_Play project, most delays

which occurred were without major consequence. The coordinator monitored the development constantly and informed the WP leaders and other partners monthly about the status of the deliverables and other open issues. Furthermore, regular progress meetings – usually in form of teleconferences – were organised with all work package leaders in order to specify interrelated issues, along with regular, often weekly or daily, e-mail exchanges between the WP leaders and the coordinator.

The delay of new Aero-MS date (first anticipated by the delay of D2.10, the validated version of the enhanced AERO-MS) had an impact on the start of WP3 scenario runs which caused the above mentioned second amendment, i.e. a delayed project end. The coordinator was contacted by the WP2 leader early enough so that Amendment Nr. 3 to the Grant Agreement could be requested in time (see 2.4). All in all, good anticipation of the reported delay in WP2 in a functioning risk management system limited the overall delay to only 4 months.

2.7 Gender aspects

Diversity is a benefit in research networks because it brings a range of outlook, experience and knowledge. A large diversity concerning the types of organisations and the nationalities has already been engaged. However, several European authorities and organisations have pointed out the need for promoting gender equality. Following the main objectives of the European Commission – to increase womens' participation within the research workforce and to raise the gender awareness of different categories of actors – gender issues have been taken into account within this project because there are fewer women scientists than men in the institutions belonging to the project consortium. The FP7 target set by the EC is a 40% share of women at all project levels.

To point out the current status of men and women working on this project, a questionnaire was sent out to all partners in February 2013, towards the project end. This questionnaire asked each partner for the numbers (and %) of women contributing to TEAM_Play which can be attributed to the following job descriptions:

- Scientific manager
- Scientific work package leader
- Experienced researcher (> 4 years)
- Early researchers (<= 4 years)
- PhD students
- Technical /administrative staff
- Other

Scientific Leadership and Management, and Workforce Statistics for the Project					
Background					
At the end of projects, research teams have to report on workforce statistics and project holders have to submit a compulsory deliverable relating to awareness and wider societal implications including gender-related aspects.					
Please complete the table below on a headcount basis: Insert the number of people involved in the TEAM_Play project (also those who are no longer involved, but who have contributed to the project earlier). People who have only contributed part-time are also counted fully.					
Partner: [insert name of your institution]					
Type of position	Number of Women	Number of Men	Total	Women*	Men
				%	%
Scientific manager					
Scientific work package leader					
Experienced researcher (> 4 years)					
Early researchers (<= 4 years)					
PhD students					
Technical /administrative staff					
Other					
*FP7 Target:					
40% women's participation at all levels					

Figure 6: Workforce Statistics survey form

Furthermore, the partners were asked which actions were or are in general taken to promote or increase the share of women. This includes both actions on the TEAM_Play project level and overall actions on the company/institution level.

The following table summarizes the survey results:

Type of position	Number of Women	Number of Men	Total	Share Women* (FP7 Target = 40%)	Share Men
Sum	37	60	97	38%	62%
Scientific manager	3	11	14	21%	79%
Scientific work package leader	2	6	8	25%	75%
Experienced researcher (> 4 years)	16	30	46	35%	65%
Early researchers (<= 4 years)	6	7	13	46%	54%
PhD students	2	1	3	67%	33%
Technical /administrative staff	8	5	13	62%	38%

Table 11: TEAM_Play workforce: Gender overview

As expected, the results of this survey show that, as in general in natural sciences and engineering research, the number of women contributing to TEAM_Play is smaller than that of men.

However, on the overall project level, the FP7 target is almost met: 38% of the people who worked on TEAM_Play across all partners were female. The 40% mark was almost reached or even exceeded when it comes to experienced researchers (women's share: 35%), early researchers (46%), technical staff (67%) and PhD students (62%). On the management and WP leader level, the share of women was well above 30%.

One organization, WP 1 leader Envisa (an SME run by a female) reported specific gender actions for the project: 2 new female researchers were employed for the TEAM_Play project.

Also, it is worth mentioning that a number of female and male TEAM_Play researchers (incl. WP 1 and WP 3 leaders and two more experienced researchers) became parents during the project. Work was successfully shifted to colleagues or done at home, if necessary.

On the company levels, special "gender action" promoting females is only reported by DLR (Girls Day, preferential hiring of women ceteris paribus; full-time employee in charge of gender aspects). In 2004 and also in 2007 the DLR received the Total E-Quality award for its personnel policy promoting gender equality. Since 2002 the DLR has been thrice awarded with the "Work-Life Balance Audit" certificate of the non-profit "Hertie-Foundation". To familiarise the next generation of women with science and research, Girls Day events have been held every year at all DLR sites since 2000.

However, a concentration on women-related measures can also be seen critically. Some partners argue that assignments to tasks should be made according to capabilities, irrespective of gender.

Instead of gender-related action, some partners hence report "parents-related action", incl.

- Access to a "Childcare Voucher Scheme" giving some tax relief on childcare costs;
- Flexible and part time working hours to parents;
- Openness to staff working from home;
- Sabbaticals.

Swedish FOI reports to have adopted an action plan following the Swedish National law and which covers all aspects of equal treatment independent of gender, ethnicity, religious views, disability or age. The employer has to promote balanced participation of women and men in different types of work in various categories and eliminate unwarranted disparities in wages and other employment between women

and men performing work that is regarded as equal or equivalent. This employer must also promote equal pay growth opportunities for women and men.

MMU has an equality and diversity policy, which is applied to recruitment. All staff take part in Equality and Diversity training.

3 Project deliverables and milestones tables

As one major task of WP6 is to monitor the overall project progress, the following table shows the status (as of 14 May 2013) of all project deliverables and milestones, including those (few) that are directly attributed to WP6. Remaining (open) deliverables are expected to be submitted before end of May.

No.	Del. No.	WP	Responsible Beneficiary	Title	Target Date	Proposed new Target Date	Closing Date	Comments
1	D 2.27	2	ENVISA	Work plan and coordination re LAQ Models Interfaces	31.12.2010		18.01.2011	Uploaded in ECAS
2	D 1.1	1	ENVISA	Scientific Work Plan	31.01.2011		04.02.2011	Uploaded in ECAS
3	D 2.4	2	ENVISA	Work description plan of the Basic Modelling System	31.01.2011		04.02.2011	Uploaded in ECAS
4	D 1.2	1	ENVISA	Structure plan for Data Exchange Platform	28.02.2011		01.03.2011	Uploaded in ECAS
5	D 2.1	2	NLR	WP2 Scientific Work Plan	28.02.2011		21.03.2011	Uploaded in ECAS
6	D 2.8	2	NLR	Work plan and specification of Responsive Modelling System: Enhanced AERO-MS	28.02.2011		01.03.2011	Uploaded in ECAS
7	D 2.24	2	NAU	TPR Model Specifications	28.02.2011		04.03.2011	Uploaded in ECAS
8	D 2.33	2	MMU	GHG Model Specification	28.02.2011		21.03.2011	Uploaded in ECAS
9	D 2.36	2	DLR-PA	Interface protocol to GHG emissions model	28.02.2011		25.03.2011	Uploaded in ECAS
10	D 2.37	2	DLR-PA	Interface protocol to monetisation model	28.02.2011		25.03.2011	Uploaded in ECAS
11	D 3.1	3	FOI	WP3 Scientific Work plan	28.02.2011		28.02.2011	Uploaded in ECAS
12	D 4.1	4	DLR-FW	WP4 Scientific Work Plan	28.02.2011		28.02.2011	Uploaded in ECAS
13	D 5.1	5	DLR-FW	Public Website	28.02.2011		28.02.2011	Uploaded in ECAS
14	D 5.2	5	FOI	Printed Information Material	28.02.2011		21.03.2011	Uploaded in ECAS
15	D 6.1	6	DLR-FW	Management Work Plan	28.02.2011		28.02.2011	Uploaded in ECAS
16	D 1.3	1	FOI	Airport DB	31.03.2011		31.05.2011	Uploaded in ECAS
17	D 2.28	2	ENVISA	Description of data structures and transfers for European LAQ models	31.03.2011		08.04.2011	Uploaded in ECAS
18	D 2.11a	2	Snecma	Preliminary Tool Prototype Specifications	30.04.2011		06.06.2011	Uploaded in ECAS
19	D 2.12a		Airbus	Identification of Existing Technology Configurations	30.04.2011		12.07.2011	Uploaded in ECAS
20	D2.12a	2	Airbus	Identification of Existing Technology Configurations	30.04.2011		12.07.2011	Uploaded in ECAS
21	D 2.5	2	ENVISA	Configurations	31.05.2011		31.05.2011	Uploaded in ECAS
22	D 2.29	2	ENVISA	Analysis of capabilities of LAQ models re requirements set in EU AQ directives	31.05.2011		10.06.2011	Uploaded in ECAS
23	D 2.34	2	MMU	Gap Analysis	31.05.2011		20.07.2011	Uploaded in ECAS
24	D 2.38	2	DLR-PA	Technical description of uncertainties	31.05.2011		12.07.2011	Uploaded in ECAS
25	D 2.40	2	DLR-FW	Macroeconomic Analysis Model	31.05.2011		20.06.2011	Uploaded in ECAS
26	D 2.19	2	Anotec	Noise models interface specifications	30.06.2011		20.09.2011	Uploaded in ECAS
27	D 2.30	2	ENVISA	Advanced documentation of modelling system and data interfaces	30.06.2011		13.12.2011	Uploaded in ECAS
28	D 1.4	1	FOI	Aircraft engine DB	31.07.2011		14.10.2011	Uploaded in ECAS
29	D 2.6	2	ENVISA	First interim version of the Basic Modelling System	31.07.2011		31.08.2011	Uploaded in ECAS
30	D 1.5	1	FOI	Static Data Coordination Report	31.08.2011		14.10.2011	Uploaded in ECAS
31	D 3.2	3	FOI	Definition of simple and elaborated scenarios	31.08.2011		29.11.2011	Uploaded in ECAS
32	D 1.6	1	AEA	Provision of current fleet technical data and operations	30.09.2011		25.10.2011	Uploaded in ECAS
33	D 2.48	2	ENVISA	List of potential indicators including target directions for directions of sustainable development	30.09.2011		31.01.2012	Uploaded in ECAS
34	D 2.51	2	DLR-FW	Prototype version of Energy Module	30.09.2011		29.11.2011	Uploaded in ECAS
35	D 2.9	2	NLR	Prototype version of Enhanced AERO-MS	31.10.2011		30.03.2012	Uploaded in ECAS
36	D 1.7	1	ENVISA	Scientific Mid-Term Report	30.11.2011		15.12.2011	Uploaded in ECAS
37	D 1.8	1	COMOTI	Provision of airport technical and confidential data, incl. Population	30.11.2011		30.01.2012	Uploaded in ECAS
38	D 1.9	1	ENVISA	Dynamic Data Coordination Report	30.11.2011		13.12.2011	Uploaded in ECAS
39	D 1.10	1	ENVISA	Movement data (Common Operations DB)	30.11.2011		13.12.2011	Uploaded in ECAS
40	D 1.11	1	FOI	Listing of FDR output parameters	30.11.2011		17.02.2012	Uploaded in ECAS
41	D 1.12	1	FOI	Technical description and documentation	30.11.2011		16.03.2012	Uploaded in ECAS
42	D 1.13	1	ENVISA	Real-world flight data set	30.11.2011		13.12.2011	Uploaded in ECAS
43	D 1.14	1	ENVISA	MET data	30.11.2011		15.12.2011	Uploaded in ECAS
44	D 1.15	1	AEA	Fleet Evolution Data Coordination Report	30.11.2011		30.11.2011	Uploaded in ECAS
45	D 1.16	1	AEA	Process for derived data sets for future fleets and operations	30.11.2011		26.01.2012	Uploaded in ECAS
46	D 1.17	1	ENVISA	Data Exchange Platform Provision Report	30.11.2011		02.07.2012	Uploaded in ECAS
47	D 2.2	2	NLR	WP2 Scientific Mid-term Report	30.11.2011		15.01.2012	Uploaded in ECAS
48	D 2.17	2	ENAC	Economic tool interface with WP1 Data Warehouse	30.11.2011		06.02.2012	Uploaded in ECAS
49	D 2.20	2	Anotec	SONDEO adaptation	30.11.2011		06.03.2012	Uploaded in ECAS
50	D 2.21	2	NAU	IsoBella adaptation	30.11.2011		02.04.2012	Uploaded in ECAS

Table 12: List and status of deliverables (1-50)

No.	Del. No.	WP	Responsible Beneficiary	Title	Target Date	Proposed new Target Date	Closing Date	Comments
51	D 2.22	2	ENVISA	STAPES adaptation	30.11.2011		29.03.2012	Uploaded in ECAS
52	D 2.25	2	NAU	3PRisk adaptation	30.11.2011		13.03.2012	Uploaded in ECAS
53	D 2.31	2	ENVISA	Requirements and development of pre- and post-processors to improve linkages	30.11.2011	31.08.2012	20.08.2012	Uploaded in ECAS
54	D 2.35	2	MMU	GHG Model Adaption and Enhancement	30.11.2011		05.03.2012	Uploaded in ECAS
55	D 2.39	2	DLR-PA	Report on limits of applicability of climate response modelling	30.11.2011		08.12.2011	Uploaded in ECAS
56	D 2.49	2	ENVISA	Updated methodology for interdependency metric	30.11.2011		06.03.2012	Uploaded in ECAS
57	D 3.3	3	FOI	WP3 Scientific Mid-term Report	30.11.2011		12.12.2011	Uploaded in ECAS
58	D 4.2	4	DLR-FW	WP4 Scientific Mid-Term Report	30.11.2011		14.12.2011	Uploaded in ECAS
59	D 4.3	4	DLR-FW	Compilation of Scientific Mid-Term Report	30.11.2011		31.01.2012	Verification by Periodic Report 1st Period
60	D 6.2	6	DLR-FW	Mid-term Report	30.11.2011		15.12.2011	Uploaded in ECAS
61	D 2.13a	2	Airbus	TEETO Tool - Feasibility Study	30.11.2011		13.04.2012	Upload in ECAS; New deliverable
62	D 4.4	4	DLR-FW	Results Report of Advisory Committee Meeting	31.12.2011		15.02.2012	Uploaded in ECAS
63	D 1.18	1	ENVISA	User guide for real-world air traffic movement	31.01.2012		02.07.2012	Uploaded in ECAS
64	D 1.19	1	ENVISA	Data Exchange Platform populated version 1	31.01.2012		02.07.2012	Uploaded in ECAS
65	D 2.7	2	ENVISA	Second and validated version of Basic Modelling System	31.01.2012	31.08.2012	23.10.2012	Uploaded in ECAS
66	D 2.10	2	NLR	Validated version of Enhanced AERO-MS	31.01.2012		07.09.2012	Uploaded in ECAS
67	D 2.23	2	Anotec	Validation noise model interfaces	31.01.2012		27.03.2012	Uploaded in ECAS
68	D 2.26	2	NAU	Validation TPR model interfaces	31.01.2012		13.03.2012	Uploaded in ECAS
69	D 2.52	2	DLR-FW	Final (validated) version of Energy Module	31.01.2012	31.08.2012	15.08.2012	Uploaded in ECAS
70	D 2.32	2	ENVISA	Realisation of test calculations	29.02.2012	31.08.2012	20.08.2012	Uploaded in ECAS
71	D 2.41	2	DLR-FW	Macroeconomic Forecast Model	29.02.2012		31.03.2012	Uploaded in ECAS
72	D 3.4	3	ENVISA	Run of simple scenarios on independent modules	29.02.2012	30.09.2012	11.10.2012	Uploaded in ECAS
73	D 2.11b	2	Snecma	Consolidated Tool Prototype Specifications	29.02.2012	31.08.2012	02.05.2013	Submitted manually to Brusati
74	D 2.12b	2	Airbus	Consolidation of Technology Options	29.02.2012		13.04.2012	Upload in ECAS as part of D2.13a; New deliverable
75	D 2.13b	2	Airbus	TEETO Tool - Functional Prototype	31.05.2012	30.09.2012	20.12.2012	Uploaded in ECAS, incl. D2.15
76	D 2.18	2	ENAC	Economic tool data exchange as part of the Basic Modelling System	31.05.2012		25.05.2012	Uploaded in ECAS
77	D 2.42	2	ENVISA	Interim Report on emissions and local pollutant valuation	31.05.2012	31.08.2012	11.10.2012	Uploaded in ECAS
78	D 2.43	2	NLR	Interim Report on noise valuation	31.05.2012	31.08.2012	22.08.2012	Uploaded in ECAS
79	D 2.44	2	MMU	Interim Report on climate impact valuation	31.05.2012		02.07.2012	Uploaded in ECAS
80	D 2.45	2	NAU	Interim Report on Third Party Risk	31.05.2012	31.08.2012	26.10.2012	Uploaded in ECAS
81	D 2.50	2	ENVISA	Synthesis report on indicators	31.05.2012	31.08.2012	28.03.213	Uploaded in ECAS
82	D 3.5	3	ENVISA	Run of baseline scenarios	31.05.2012	30.11.2012	11.12.2012	Uploaded in ECAS
83	D 3.6	3	ENVISA	Run of future "business as usual" scenarios	31.07.2012	31.12.2012	16.04.2013	Uploaded in ECAS
84	D 2.47	2	DLR-FW	Spreadsheet and manual	30.08.2012	31.10.2012	28.03.2013	Uploaded in ECAS
85	D 2.14	2	Snecma	TEETO Tool Assessment	30.09.2012	31.10.2012	02.05.2013	Uploaded in ECAS (combined deliverable D2.11c + D2.14)
86	D 3.7	3	ENVISA	Run of future policy scenarios	30.09.2012	31.01.2013	16.04.2013	Uploaded in ECAS
87	D 1.20	1	ENVISA	Scientific Final Report	30.11.2012	28.02.2013		
88	D 1.21	1	ENVISA	Data Exchange Platform Final Report	30.11.2012	31.01.2013		
89	D 2.3	2	NLR	WP2 Scientific Final Report	30.11.2012	28.02.2013	02.05.2013	Uploaded in ECAS
90	D 2.15	2	Airbus	TEETO Tool description documentation	31.05.2012	30.09.2012	20.12.2012	Uploaded in ECAS, incl. D2.13b
91	D 2.16	2	Snecma	TEETO Tool Validation Report for CAEP	30.11.2012	???	22.04.2013	Uploaded in ECAS
92	D 2.46	2	DLR-FW	Final synthesis report on LAQ, noise and climate impact with recommended valuations	30.11.2012		15.02.2013	Uploaded in ECAS
93	D 3.8	3	FOI	WP3 Scientific Final Report	30.11.2012	28.02.2013	12.04.2013	Uploaded in ECAS
94	D 3.9	3	FOI	Output analysis, TEAM_Play benefits & future improvements	30.11.2012	31.01.2013	12.04.2013	Uploaded in ECAS
95	D 4.5	4	DLR-FW	WP4 Scientific Final Report	30.11.2012	28.02.2013		
96	D 4.6	4	DLR-FW	Compilation of Scientific Final Report	30.11.2012	31.03.2013		
97	D 4.7	4	NLR	Report on potential future strategies and management structure	30.11.2012	28.02.2013	22.04.2013	Uploaded in ECAS
98	D 4.8	4	NLR	Report on potential future updates re provisions on use, access, IPR and ownership	30.11.2012	28.02.2013	06.05.2013	Uploaded in ECAS
99	D 4.9	4	NLR	One ore more business plans	30.11.2012	28.02.2013		
100	D 5.3	5	NLR	User Group Meeting Report	30.11.2012	31.01.2013	28.03.2013	Uploaded in ECAS
101	D 6.3	6	DLR-FW	Final Report	30.11.2012	30.04.2013		
102	D 2.11c	2	Snecma	Final Tool Specifications	30.11.2012	02.05.2013	02.05.2013	Uploaded in ECAS (combined deliverable D2.11c + D2.14)

Table 13: List and status of deliverables (51-102)

MILESTONE	WP	Responsible Beneficiary	TITLE	TARGET DATE	Proposed new Target Date	CLOSING DATE	DESCRIPTION / COMMENTS
MS 1	6	DLR-FW	Kick-off meeting	31.12.2010		achieved	Took place on 16 Dec 2010 in Cologne (DLR), Germany. Minutes and Slides have been distributed.
MS 2	2	NLR	Specifications of Basic and Responsive Modelling Systems available	31.05.2011		achieved	Verified by deliverables D2.4 and D2.5 linked to BMS and D2.8 linked to RMS (see email Paul Brok 15/12/2011)
MS 3	1	ENVISA	Populated Static Data	31.07.2011		achieved	Validation by WP leaders and confirmation by all partners.
MS 4	3	FOI	Isolated and global use-cases definition	30.09.2011		achieved	D3.2, Validation by the EC Project Manager and confirmation by all modellers that scenarios can be run their models
MS 5	1	ENVISA	Populated Dynamic Data	31.10.2011		achieved	Validation by WP leaders and confirmation by all partners.
MS 6	1	AEA	Populated Fleet Evolution Data	31.10.2011		achieved	Validation by WP leaders and used in the scenarios.
MS 7	2	NLR	Joint agreement on prototype versions of Basic and Responsive Modelling Systems	30.11.2011		achieved	Verified by mid-term review meeting
MS 9	4	DLR	Advisory Committee Meeting	30.11.2011		achieved	Verified by D4.5
MS 8	6	DLR-FW	Mid-term meeting	30.11.2011		achieved	20 December 2011 in Berlin
MS 10	1	ENVISA	Data Exchange Platform populated version 1	31.12.2011		achieved	Data Exchange Platform completed and used by modellers.
MS 11	2	NLR	Technology Response Tool (TEETO) available	31.05.2012	30.04.2013	achieved	verified by respective WP2.3 deliverables
MS 12	2	NLR	Economic and Environmental Models Interfaces available	31.05.2012	31.07.2012	achieved	Verified by deliverables in WP2.4 and WP2.5
MS 13	3	FOI	Case study results	31.07.2012	31.01.2013	achieved	Model results available in D3.5-D3.7
MS 15	2	NLR	Policy decision support tools available	31.08.2012	28.03.2013	achieved	verified by respective deliverables
MS 14	1	ENVISA	Data Exchange Platform populated version 2	31.10.2012		achieved	Data Exchange Platform completed and feedback by modellers.
MS 16	5	DLR-FW	User Group Meeting	31.10.2012	21.02.2013	achieved	verified by deliverable 5.3
MS 17	6	DLR-FW	Final meeting	30.11.2012	22.02.2013	achieved	

Table 14: List and status of milestones

4 Summary

Modelling of aviation's sustainability has become more complex and requires broader assessments including environmental and socio-economic impacts in order to provide adequate decision support. The US-developed Aviation Environmental Tool Suite (including AEDT, APMT and EDS) reflects this trend by combining different models into a tool suite to allow integrated assessments.

The TEAM_Play project (Tool Suite for Environmental and Economic Aviation Modelling for Policy Analysis) is a collaborative project co-funded by the FP7 Research Programme of the European Union which addresses the same requirement. It ran from December 2010 to March 2013 and included 18 partners: DLR, NLR, ENVISA, FOI, MMU, AEA, ANOTEC, Janicke Consulting, CERC, COMOTI, Snecma, Airbus, Rolls-Royce, University of Cambridge, ENAC, TAKS, National Aviation University, and LimitedSkies.

The main focus of TEAM_Play was on creating a modelling framework in which existing European modelling capabilities could be combined in order to support and strengthen the European perspective in the international policy arena. The TEAM_Play tool suite also broadens the scope of potential impact assessments in order to improve awareness of additional effects, which are crucial for the aviation development but which were not yet fully addressed in earlier modelling systems (e.g. impact monetisation, third party risk, airport capacity constraints, extended forecast horizon, alignment of local, regional and global assessments).

This final project report dealt with the administrative activities that have been performed by the coordinator in WP6 of the project. It was the objective of WP6 to govern, manage and organise the overall project from an administrative point of view. Hence, the main pillars and activities of WP6 during the project were:

- **Management of legal and financial issues** within the consortium and in relation with the European Commission, including management and maintenance of the consortium agreement incl. amendments due to consortium changes and the project extension by 4 months
- **Project Monitoring and Maintenance**, i.e. administrative coordination of the overall project; especially communication activities, collection and management of deliverables; monitoring of milestones, and organisation of meetings; monitoring of gender aspects
- **Communication**, i.e. provision of an internal and external point of contact

The following administrative landmarks were achieved during the project:

Establishing of a governance structure

Efficient management and organisation involving all partners was a primary component and imperative for the operation of the project. The management and project structures of TEAM_Play were adequately designed to accomplish the goals described in Annex I of the Grant Agreement and for the project scope. Governance, management and organisation of the project were achieved through a hierarchy of:

- the **Coordinator**,

- the **Project Board**,
- the **Exploitation Board**,
- the **Work Package Leaders** steering individual tasks,
- the **Advisory Committee** and **User Group** members coming from industry, regulators and policy.

Concept and implementation of communication structures

For **internal communication** within the consortium, besides the classic personal and group exchange via telephone and e-mail, the following means were (partly: developed) and applied:

- a monthly TEAM_Play Newsletter circulated by the coordinator;
- the TEAM_Play TEAM_Site used for administrative collaboration and upload of presentations, deliverables and other files;
- The Alfresco CMS-based data warehouse developed in TEAM_Play (see WP1 reports) created as a means to store model input and output data.
- Progress Meetings and day-to-day contact with partners, esp. WP leaders

For **external communication** with stakeholders, the main pillars were

- the project's "formalised" dissemination activities as defined in WP5 (project website, printed information materials (brochure and business cards));
- activities by the TEAM_Play exploitation board and other "hard" and "soft" forms of dissemination, such as official presentation on conferences and promoting of TEAM_Play in (network) meetings and related personal discussion

Formal external presentations took place in the following contexts: ANERS (Aircraft Noise and Emissions Reduction Symposium), ECAC-ANCAT, MITG, PARTNER, X-NOISE

Financial and administrative project and consortium management

The co-ordinator has managed all financial issues linked to consortium level. So far, the pre-finance and interim payments paid by the EC to DLR were forwarded to the partners. The final payment by the EC is expected for late spring 2013.

For the following reasons, three amendments of the Grant Agreement had to be made during the project phase.

- Withdrawal of one partner – QinetiQ Limited – shortly before signing the Grant Agreement and replacement by AEA Technology plc and LimitedSkies Ltd
- Extension of the project duration by 4 months, mainly due to the enhancement of the crucial Aero-MS tool – the core of the Responsive Modelling System – requiring more development time than expected
- Removal of "special clause 30" (Article 7 of GA) referring to the entity ENVISA SAS due to its invalidity to the grant agreement.

Collection and monitoring of deliverables; Risk management and WP6 reporting

The coordinator was responsible for the collection of deliverables. By means of the monthly newsletter and additional communication (incl. the progress meeting and other WP meetings), partners were reminded of forthcoming and outstanding deliverables.

A number of project deliverables were submitted with a slight or sometimes a more significant delay. As the work package deliverables were dependent on the feedback of others, and many partners were involved in the TEAM_Play project, most delays which occurred were without major consequence. The coordinator monitored the development constantly and informed the WP leaders and other partners monthly about the status of the deliverables and other open issues. Furthermore, regular progress meetings – usually in form of teleconferences – were organised with all work package leaders in order to specify interrelated issues, along with regular, often weekly or daily, e-mail exchanges between the WP leaders and the coordinator.

The delay of new Aero-MS date (first anticipated by the delay of D2.10, the validated version of the enhanced AERO-MS) had an impact on the start of WP3 scenario runs which caused the above mentioned second amendment, i.e. a delayed project end. The coordinator was contacted early enough by the WP2 leader so that Amendment Nr. 3 to the Grant Agreement could be requested in time (see 2.4). All in all, good anticipation of the reported delay in WP2 in a functioning risk management system limited the overall delay to only 4 months.

Formal WP6 output includes a scientific work plan (D6.1), a mid-term report (D6.2) and this final report (D6.3).