

ARTES 20 Management Requirements

“Demonstration Projects”

Appendix 2B to Draft Contract

TABLE OF CONTENTS

1	OBJECTIVES.....	3
2	SCOPE OF WORK.....	3
3	CONTRACTUAL MILESTONES AND REVIEW MEETINGS.....	4
3.1	1 st Milestone: Negotiation/Kick-Off Meeting (KO)	4
3.2	2 nd Milestone: Baseline Design Review (BDR)	5
3.3	3 rd Milestone: Critical Design Review (CDR)	5
3.4	4 th Milestone: Demo Qualification Review (DQR).....	5
3.5	5 th Milestone: System Deployment Acceptance (SDA).....	6
3.6	6 th Milestone: Final Review (FR).....	6
3.8	Applications Workshop.....	6
4	DOCUMENTS AND ITEMS TO BE DELIVERED.....	7
4.1	Sustainability Model (SM) and/or Business Plan (BP).....	7
4.2	Demo System Architecture (DSA).....	8
4.3	System Validation Document (SVD).....	10
4.4	Demo Utilisation Plan (DemUP).....	10
4.5	Final Report (FREP).....	12
4.6	Final Data Package (FDP).....	13
4.7	Project Web Page (PWP)	14
4.8	Project Detailed Bar Chart	14
4.9	Submission of Documentation	14
4.10	Document Confidentiality	15
5	MANAGEMENT.....	15
5.1	Project Manager	15
5.2	Experts	16
5.3	Reporting – Minutes of Meetings (MOM).....	16
5.4	Reporting – Monthly Progress Reports (MPR)	16
5.5	Document Configuration and Management Control (DC&MC).....	17
5.6	Electronic Documentation.....	17
5.7	Distributed Project Collaboration Tool.....	17
6	REPORTING AFTER COMPLETION OF THE CONTRACT.....	18

1 OBJECTIVES

ARTES 20 Demonstration Projects (called hereinafter “Projects”) cover the implementation of user-driven, pre-operational demonstration services that employ two or more space assets, and which are conceived to become sustainable in the medium to long term. Each project shall include a demo utilisation part instrumental to help the End Users/Stakeholders to appreciate the added value brought by the space assets, and the Contractor to prepare for the provision of sustainable pre-operational services.

The demo utilisation shall qualitatively and quantitatively prove the overall validity of the proposed project concept in terms of:

- a) Ability to promote space applications to users/stakeholders, especially those who are not aware of the benefits that space technologies can bring to them;
- b) Development of new pre-operational services for these users, involving a broader participation by actors on both the demand and supply sides;
- c) Ability to involve at least two different existing space assets (such as Satellite Communications, Earth Observation, Satellite Navigation, Human Spaceflight technologies and others), leading to new opportunities for exploiting existing space based products and know-how, together with a better understanding of how they should evolve to respond to user needs;
- d) Facilitating a cross-fertilisation across disciplines, together with the development of a consistent approach across Integrated Applications initiatives, to maximise their efficient and cost effective implementation;
- e) Prepare for a sustainable operational roll-out of the services after the completion of the pre-operational demo activities.

2 SCOPE OF WORK

Under an ARTES 20 Demonstration Project the Contractor shall develop, integrate, deploy, run and evaluate a pre-operational demo service through integrated space assets which use and promote satellite technologies based standards and systems and which lead to operational, self-sustaining services.

The Contractor shall be responsible for the fulfilment of all the activities required for the setting up, execution and assessment of the demo activity. This shall be achieved in accordance with the requirements of the standard documents detailed in section 4 below. The activities under an ARTES 20 Demonstration Project shall include, but will not be limited to, the following:

- a) Present and keep up to date during the project execution its rationale and objective(s);
- b) Analyse the end user scenarios and associated needs, describe the current solutions that support the users in performing their tasks, formalise the user requirements, design the overall system architecture justifying the selected choice through suitable trade-off analysis;
- c) Identify and procure the access to the required space assets and any other services needed to develop, integrate, commission and run the demo systems and provide the associated services;

- d) Develop (if applicable), procure (via purchase and/or loan), integrate and commission all the hardware and software elements required by the proposed service platform;
- e) Develop (if applicable) or procure the content (e.g. EO products, datasets) required for the execution of the demo activities;
- f) Fulfil all the regulatory and formal steps required to perform the operations in the selected demo sites;
- g) Procure all the necessary ancillary services (e.g. transportation to/from demo sites, installation, de-installation, insurance, access and use of the different services);
- h) Formalise the long term agreement with the partners concerning the contributions and roles in the proposed project – a preliminary agreement shall be provided in the proposal;
- i) Make available the resources (manpower and facilities) of the partners involved in the demo operations;
- j) Train and coordinate end users and other partners as necessary;
- k) Test and validate the proposed service platform against requirements by involving end users/stakeholders
- l) Collect, analyse and present the evaluation feedback of the demo services;
- m) Develop a rollout plan for operational services.

Due to the user-driven orientation of the project, a partnership shall be established by the Contractor with the end users community, in association, whenever relevant for the successful achievement of the project's objectives, with other relevant stakeholders. Written evidence of the formal agreements with the partners (all participants not appearing explicitly as Subcontractors) shall be provided in the proposal. Such partnerships shall be actively maintained and possibly reinforced by the Contractor during the whole project.

3 CONTRACTUAL MILESTONES AND REVIEW MEETINGS

In general the following six Review Meetings *l* represent the sequence of milestone events to be taken into account in establishing the logical organisation of the work. Each of these review meetings will be attended by representatives of the project team (including, where applicable, user / partners representatives) and by ESA's Technical Officer, and they will correspond to contractual milestones. The documentation supporting each Milestone Review Meeting shall be delivered to ESA ten working days before the meeting takes place.

3.1 1st Milestone: Negotiation/Kick-Off Meeting (KO)

The purpose of the Negotiation/Kick-Off Meeting (KO) is to clarify any outstanding issues identified by ESA in the Contractor's proposal and clarifications, to agree on the project planning and to negotiate the contract.

l Each Demo Project may have specific number and sequence of milestones, as required.

3.2 2nd Milestone: Baseline Design Review (BDR)

Between the KO and the Baseline Design Review (BDR), which should normally cover a period of 4-8 weeks, the Contractor shall review and fine-tune the description of the user needs and requirements, the technical specifications and the target concept of operations, define and justify the proposed system architecture, describe the activities of development, if any, and finalise the description of the utilisation activities foreseen for the demo implementation.

The purpose of the BDR is for the Contractor to present and for ESA to approve the final system specifications detailed in the Demo System Architecture and the demo utilisation activities detailed in the Demo Utilisation Plan (see Section 4 for the definition of these documents). The finalised specifications and service platform agreed at the BDR will represent the binding set up to be commissioned at the Demo Qualification Review and at the System Deployment Acceptance milestones. Any deviation from the baseline agreed at the BDR will require a formal modification to the contract through a Contract Change Notice (CCN).

As part of the BDR package, the Contractor shall deliver to ESA the Project Web Page in accordance with Section 4.7 below. The Project Web Page is intended for publication and shall not contain any confidential information.

The successful completion of the BDR will mark the beginning of the development and implementation part of the demo system.

3.3 3rd Milestone: Critical Design Review (CDR)

At the end of the design and prior to the beginning of the procurement and implementation of the demo system, the Critical Design Review (CDR) will be held to present and demonstrate the adequacy of the design and the readiness to proceed with the following part of the implementation activities.

The main aim of the CDR will be to discuss and review all the trade-off processes performed to select the choices for all hardware and software elements to be developed, integrated or procured in the project, and to review the associated design documentation.

Successful completion of CDR is a pre-condition to proceed with the implementation.

3.4 4th Milestone: Demo Qualification Review (DQR)

At the end of the development and integration step and prior to starting the deployment of the demo system in the demo sites, the Contractor shall set up a Demo Qualification Review (DQR) session devoted to demonstrating that the demo system is compliant with the set of requirements agreed at the BDR. Such a verification session will normally be performed at the Contractor's premises through the execution of tests identified in the System Validation Document; it will involve a representative end-to-end system that will be used in the demo operations.

Prior to the DQR, the Contractor shall deliver to ESA a complete System Validation Document reporting the full set of test results achieved by the Contractor during internal verification

activities. During the DQR, a subset of the tests to be agreed by ESA will be repeated and the results will be attached to the minutes of the meeting.

3.5 5th Milestone: System Deployment Acceptance (SDA)

After all demo sites have been fully equipped and in conjunction with the beginning of the demo operations, the System Deployment Acceptance (SDA) meeting will be held. The purpose of this meeting is to verify the adequacy of the implementation of the service platform (fully deployed at the relevant demo sites) through the execution of the tests described in the System Validation Document.

ESA reserves the right to introduce an additional review called **Demo Intermediate Review (DIR)** and an associated payment milestone depending on the complexity and duration of the demo utilisation.

3.6 6th Milestone: Final Review (FR)

At Final Review (FR) the Contractor shall present the overview of the activities carried out during the project and summarise the outcome of the demo operations, including conclusions and recommendations gathered from the contractual team and/or user groups.

For non commercial oriented services the Contractor shall present the status of achievement of the objectives defined in the Sustainability Model and the plan for the roll out of future operational services.

For commercial oriented services the Contractor shall illustrate the efforts undertaken to commercialise the proposed services and present the status of achievement of the objectives defined in the Business Plan, and outline his future strategies.

3.7 Progress Meetings

ESA reserves the right to request additional Progress Meetings. The Progress Meetings may be held by teleconference or at the premises of the Contractor.

3.8 Applications Workshop

On a regular basis, Applications Workshops are organised at ESA to bring together the applications projects of the ARTES programme with the purpose of raising reciprocal awareness, promoting possible synergies and delivering presentations on specific themes of potential interest to the participants. The Contractor shall attend and actively contribute with a presentation and/or demonstration session at the relevant Applications Workshop, with an appropriate representation of the project team and in full coordination with ESA. Extension of the invitation to the project partners is left to the initiative of the Contractor. The presentation shall be submitted following the guidelines communicated at that time by the organisation committee, it shall be mutually agreed and it shall not contain any confidential information. The presentation made by the Contractor will be published on the ESA web site after the event.

Participation in an Applications Workshop for the duration of the contract shall be considered as part of the mandatory set of official review meetings. The Contractor is invited to participate, on

his best effort basis, in the Applications Workshop also after the conclusion of the contractual activities of his project.

4 DOCUMENTS AND ITEMS TO BE DELIVERED

During the execution of the project the Contractor shall produce the following deliverable documents/items as described below. The documents shall be updated at the contractual milestone review meetings as detailed in Section 3 and the table in Section 4.12.

4.1 Sustainability Model (SM) or Business Plan (BP)

The Sustainability Model(SM) (non commercial oriented services) or the Business Plan (BP) (commercial oriented services) shall analyse the strategic context of the project and demonstrate how through the proposed demo activities the Contractor's initiative can lead to operational and sustainable services based on the integrated use of multiple space assets.

Consequently the Sustainability Model or the Business Plan shall include:

- a) Identification of the services that the system will offer;
- b) Overview of the service value chain, including roles of the main actors, interactions and profitability assessment of the different segments;
- c) Identification of the capital costs and operational costs incurred by the Contractor in setting-up and operating of the pre-operational service platform;
- d) Identification of the financial planning through financial statements (e.g. profit and loss account, cash flow) and indicators (e.g. Internal Rate of Return, Net Present Value) with associated sensitivity and/or what-if analysis where applicable. The financial planning shall ultimately prove that the proposed system can be rendered self-sustaining through the ESA contribution. Potential changes in the financing baseline affecting the follow-on (such as different availability and pricing conditions for the space assets) shall be taken into account;
- e) formulation of a pricing strategy for the identified services and for the associated elements of the system;
- f) Identification of (preliminary) partnership or business agreements with end users, private partners or investors, and any synergetic link with other initiatives (e.g. EC, ESA, national programmes);
- g) An operational services rollout plan, which shall explicitly detail how the specific opportunity described in the Demo System Architecture and the Demo Utilisation Plan will be pursued in preparation of the exploitation of the initiative.

For commercial oriented services the following shall also apply:

- h) market analysis identifying, the potential commercial opportunities for each service in the target area;
- i) assessment of the market positioning through a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis;
- j) explanation of the assumptions taken to define cost structure, price policy and other elements used in the financial statement;
- k) elaboration of a market strategy, clearly identifying objectives and role of the parties forming the contractual team, and possible market development exploitation strategy.

The Sustainability Model (SM) or Business Plan (BP) shall provide justification for the assumptions made. The Contractor shall present at least a paragraph for each element of the value chain, clearly documenting the scope of activities planned to establish that element. The rationale for the opportunity shall be kept up to date during the project execution.

For non commercial oriented services the Contractor, as part of the SM, shall identify the overall governance model that will be validated during the demo operations.

For commercial oriented services the Contractor, as part of the BP, shall identify a set of elements of the business model (e.g. costing structure, pricing policy, business agreements, positioning in the value chain, marketing approach) that will be validated during the demo operations..

Both for commercial and non commercial oriented services the approach and metrics to be used in this validation shall be described in the Demo Utilization Plan (DemUP).

Starting from the SDA, the SM and the BP shall contain a paragraph explaining how the IPR (Intellectual Property Rights) will be managed within the project consortium in view of the possible commercial exploitation of the results of the project.

4.2 Demo System Architecture (DSA)

The Demo System Architecture (DSA) is dedicated to defining and specifying the overall demo system starting from the high level architecture down to its building blocks.

The DSA shall present the overall approach of the requirements engineering (e.g. how to gather and formulate users needs and expectations, how to define, allocate, validate and manage the different requirements). The DSA shall describe the complete set of requirements applicable to the different elements of the proposed demo system. To allow formal traceability of the different requirements contained in these documents, the Contractor shall associate to each requirement a unique identifier using a suitable methodology. Such methodology shall use a suitable set of acronyms (e.g. UR for User Requirements, SR for Software Requirements, PR for Performance Requirements, TS for Technical Specifications) to facilitate traceability.

The DSA shall define the specific area in terms of type of applications, targeted user group, extent of development and/or integration of hardware, software and content elements and choice of the specific space assets that are the most appropriate to be used in the project.

The DSA, even if mainly tailored to describe the system architecture that will be adopted in the demo utilisation, shall clearly define also the system characteristics required to support the proposed Applications in their full operational deployment. In this respect, the DSA shall also describe the migration process to move from the demo version of the system towards the full operational version.

The DSA shall include the following sections:

- **User Needs and Requirements** this section shall include:
 - a comprehensive description of the working environment in which the target users operate
 - a presentation of the user needs
 - a review of existing solutions already in place to answer, even partially, the user needs
 - a presentation of the high level interaction between systems and the different actors involved (e.g. use case)
 - the presentation of the user requirements,

- **Overall System Architecture:** this section shall provide a high level description of the overall system architecture, and it shall clearly point out the strategic role of the space assets in the proposed system compared to potential alternatives. The DSA shall provide a provisional list of the sites where the system will be installed for the demo utilisation. For each demo site participating in the utilisation, the Contractor shall provide a description of the setup and a list of the elements (hardware, software and services) to be made available. Within the DSA, the Contractor shall clearly indicate the source of procurement for the different elements (e.g. purchase of commercial products, loan from partners or sponsors, developments performed in the contract) and the associated economic value.

- **Requirements and Technical Specifications:** this section shall provide the relevant functional and performance requirements at system and subsystem level (e.g. for hardware and software items to be developed or to be procured). For the parts of the system to be developed (if any) and integrated, relevant Technical Specifications shall be provided. Compliance with relevant international standards (e.g. ETSI, ITU) shall be taken into account.

- **Design and Development Plan:** Proposals addressing development of hardware and/or software shall include as part of the DSA a design and development plan to illustrate in a concise and conceptual manner the logical execution of the proposed activities from contract award to final review. It shall define and include decision points on which the course of the development will depend.

- **Design Justification File:** Starting from the CDR, for all hardware and software to be developed the DSA shall include the Design Justification File (DJF) documenting and detailing all the trade-off processes performed to justify the design choices, and the associated design documents.

The DSA shall show a clear partitioning of the demo system architecture by identifying:

- which elements are pre-existing, like facilities or items developed/procured in previous activities, specifying the required adaptations or modifications whenever applicable
- which elements have to be developed in the frame of the proposed project
- which elements have to be procured as Commercial Off The Shelf (COTS), indicating the proposed procedure for the procurement

At the BDR, the DSA shall provide a complete and detailed description of the different requirements applicable to the proposed system.

Starting from the DQR, the Contractor shall create and maintain, as part of the DSA, an inventory list of all the items produced or procured as part of the contractual activities, and the related location of the assets. This list, called “Inventory and Status Control” (ISC), comprises all documents, hardware, software and content.

4.3 System Validation Document (SVD)

The System Validation Document (SVD) will be dedicated to the preparation, planning, execution and reporting of all activities necessary to demonstrate the readiness of the system before entering into the demo utilisation part. The SVD shall demonstrate the compliance of the different elements of the system with the requirements identified in the DSA.

The SVD shall include the following sections:

- **Test Plan:** this chapter shall define the approach, the methodology, the test sequence and the test conditions to validate the different elements of the system. Each test shall be assigned a unique identifier. The Test Plan shall include a Test Matrix that will create traceability between each test and the requirements identified in the DSA together with the milestone review (i.e. Demo Qualification Reviews and/or System Deployment Acceptance – see Section 3) at which the test will be executed. A paragraph that describes the test facilities shall also be included.
- **Test Procedures:** this chapter will describe the measurement equipment, test set-up and test methods that will be used for executing the tests defined in the test plan. The Test Procedure shall contain for each test a test form where test identifier, test sequence and associated results, pass/fail status, remarks, date and signatures will be recorded during the test execution.
- **Test Reports:** this chapter shall include a collection of the test forms filled in during the tests and an overall assessment of the status of compliance of the system.

The version of the SVD to be presented at the BDR shall provide a comprehensive description of the Test Plan and Test Procedures.

The version of the SVD to be submitted at DQR and SDA shall contain the complete set of Test Plan, Test Procedures and Test Report. The Test Report to be presented at the DQR shall provide the complete results achieved by the Contractor during internal verification activities carried out before the corresponding milestone.

4.4 Demo Utilisation Plan (DemUP)

This document is dedicated to defining the activities to be carried out during the demo utilisation of the system and to provide the related evaluation framework.

The DemUP shall consist of, but not be limited to, the following sections:

- **Users and User Groups** identifying the actors in terms of organisations and user groups that will be involved in the demo operations and describing their roles in qualitative and quantitative terms (e.g. capabilities, facilities, manpower).
- **Operations and Utilisation Baseline** describing in full detail the proposed demonstration activities, including a quantitative committed baseline of utilisation of the system (e.g. number of utilisation sessions, volume of data exchanged, duration of interactive sessions) and the associated planning. This section of the document shall also specify in detail the content elements and the data sets (e.g. EO products) that have to be developed or procured in the course of the project as a prerequisite to start the demo operations. The content readiness and availability shall be demonstrated at the System Deployment Acceptance. At the same milestone, the Contractor shall provide a set of incremental utilisation objectives that he plans to achieve at different stages of the demo operations. These utilisation objectives shall be reflected in the **Demo Operations Summary Report (DOSR)** table available under <http://iap.esa.int/templates/dosr> Starting from the beginning of the demo sites installation, the Contractor shall complement the DemUP with the DOSR summarising the activity of utilisation of the system in the different demo sites, to be delivered to ESA on a weekly basis. The DOSR shall use the template provided in Attachment I. The version of the Operation and Utilisation Baseline to be delivered at the FR shall include a summary of all the actual utilisation of the system incurred during the demo service part. It shall be complemented by a collection of **Digital Media (DM)** documenting the demo operations, consisting of digital pictures and/or digital videos taken during the execution of the demo service part and documenting the installation and utilisation of the system by the User Groups.
- **Terms and Conditions for the Demo Operations** stipulating the mutual commitments between the Contractor and the User Groups to be fulfilled during the Demo Operations. This section shall describe the conditions for utilising the system (e.g. rights and constraints of the user groups, access to the helpdesk, commitment by the user groups to fulfil the demo utilisation plan and to contribute to the evaluation, security policy) and the associated administrative provisions (e.g. insurances, responsibilities, liabilities). The copy of the above Terms and Conditions signed for acceptance by the representatives of the User Groups (one each per specific group) and the Project team shall be provided at the DQR.
- **Performance Assessment of the Demo System**, shall describe methods, tools and procedures to demonstrate the ability of the system to comply, throughout the full duration of the demo service part, with the set of the technical and operational requirements set out in the DSA. Particular attention shall be paid to identifying elements of deviations or non-compliance with respect to the agreed baseline, to assessing their criticality and to establishing relevant recovery actions. In order to allow clear visibility of the status of the demo utilisation activities, the Contractor shall set up a web based network monitoring application accessible by ESA (like the Open Source Nagios®) reporting the operational status of each terminal of the demo system network, together with some indicators providing the corresponding level of utilisation (e.g. throughput for inbound and outbound traffic vs. time).

- **Assessment of the Pre-Operational Services** shall describe methods, tools and procedures to evaluate the added value brought to the target User Groups by the pre-operational services developed through the project. The assessment shall be based on a combination of quantitative and qualitative data gathered via forms and/or questionnaires from the User Groups directly involved in the demo service part. To this end, the forms and/or questionnaires together with the relevant procedures for the distribution, collection and analysis of results shall be included in this section of the DemUP for approval at the SDA. In the version of the DemUP to be delivered at the FR, the Assessment of the Pre-Operational Services shall contain the results of the analysis of the user feedback as well as a critical review of the demo service part for the purpose of validating the sustainability of the opportunity.

4.5 Final Report (FREP)

The Contractor shall deliver, not later than ten working days before the FR, a Draft Final Report, on which ESA will provide comments within one week after said review.

The Final Report (FREP), which is intended for general publication, is to be written in a very concise form, and shall describe the major accomplishments of this contract.

The front cover of the report shall carry the following text within a delineated box of at least 10 cm x 4 cm, preferably located in the top or bottom left-hand corner of the cover:

<p>“EUROPEAN SPACE AGENCY CONTRACT REPORT</p> <p>The work described in this report was done under ESA contract. Responsibility for the contents resides in the author or organisation that prepared it.”</p>
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The FREP shall not contain any confidential/proprietary information or confidentiality/copyright statement other than the following

<p>“The copyright in this document is vested in [Company]. This document may only be reproduced in whole or in part, or stored in a retrieval system, or transmitted in any form, or by any means electronic, mechanical, photocopying or otherwise, either with the prior permission of [Company] or in accordance with the terms of ESTEC Contract no [Contract no].“</p>

Within four weeks after the Final Review the finalised version of the Final Report shall be delivered as follows:

- 2 paper copies and 2 CD-ROMs to the ESTEC Publications Division (LEX-CP),
- 1 paper copy and 3 CD-ROMs to the Agency's Technical Officer

The CDs shall be labelled with: the title “Final Report”, the project name, the company name, the contract number, and the completion date. They shall include Acrobat Reader and the Final Report in PDF format.

4.6 Final Data Package (FDP)

Together with the finalised version of the Final Report, the Contractor shall deliver to ESA 3 copies of the Final Data Package (FDP), consisting of a CD or DVD containing the most recent version of all main deliverables (DSA, SVD, DemUP, DOSR, BP, ISC, SW, content developed as part of the contract, DM documenting the demo operations). The FDP shall contain an index document with links to the different document files.

The CDs shall be labelled with: the title “Final Data Package”, the project name, the company name, the contract number, and the completion date. They shall include Acrobat Reader and the documents in PDF format as well as an index document with links to the different document files

4.7 Project Web Page (PWP)

The Contractor shall produce, as part of the BDR package, a Project Web Page using the template available under <http://iap.esa.int/templates/pwp>. The Project Web Page is intended for publication and shall not contain any confidential information.

Every month, starting from the publication of the Project Web page and ending with the conclusion of the contractual activities, the Contractor shall provide an updated version of the “Current Status” paragraph of the Project Web Page as part of the Monthly Progress Report.

The Current Status paragraph of the Project Web Page can be the opportunity for the project to inform the general public about the status of the progress in the last period. The Contractor shall ensure that the public image of the project is properly portrayed and maintained through the above Web Page. A final version of the Project Web Page shall be provided together with the Final Report. This final version shall include a paragraph summarising the most significant achievements of the project.

4.8 Project Detailed Bar Chart

The Contractor shall submit his planning in the form of a Project Detailed Bar Chart.

4.9 Submission of Documentation

The deliverable documentation given in the following table is required as a minimum and shall be provided during the contract as indicated. The documents shall be delivered at least ten working days prior to the review.

Name	Deliverable	Reference to Section	Initial Submission	Updating	Final Submission
PBC	Project detailed Bar Chart	4.8	with the proposal	as necessary and at reviews	
DC&MC	Document Configuration and Management Control	5.5	BDR	as necessary	FR
MPR	Monthly Progress Report	5.4	KO + 1 month	every month	FR
MO M	Minutes of Meetings	5.3	KO	every meeting	FR
DSA	Demo System Architecture, *)	4.2	with the proposal	BDR, CDR, DQR, SDA	FR
DJF	Design Justification File (as part of the DSA)	4.2	CDR	DQR, SDA	FR
Dem UP	Demo Utilisation Plan	4.4	with the proposal	BDR and SDA	FR
DM	Digital Media (as part of the DemUP)	4.4	FR		
SVD	System Validation Document	4.3	with the proposal	BDR, DQR, SDA	FR
SM or BP	Sustainability Model or Business Plan	4.1	with the proposal	SDA	FR
ISC	Inventory and Status Control (as part of the DSA)	4.2	DQR	upon request	FR
DOS R	Demo Operations Summary Report	4.4	From first demo installation	On weekly basis	FR
PWP	Project Web Page	4.7	BDR	Current Status to be updated as part of the Monthly Progress Report	FR
COD	Contract Outcome Data	6	FR + 12 months	every twelve months	FR + 36 months
FRE P	Final Report	4.5	FR		
FDP	Final Data Package	4.6	FR		

KO: Negotiation/+Kick-Off meeting
 BDR: Baseline Design Review
 CDR: Critical Design Review
 (*) Starting from CDR

DQR: Demo Qualification Review
 SDA: System Deployment Acceptance
 FR: Final Review

4.10 Document Confidentiality

All deliverable documents produced in the frame of the project will be treated in confidence. The only exceptions are the Project Web Page and the Final Report, which the Agency may make available to participating states and persons and bodies thereof.

5 MANAGEMENT

5.1 Project Manager

The nominated Project Manager shall be responsible for the management and execution of all work to be performed and for the coordination and control of the work within the project team. He will be the official point of contact with the Agency during the execution of the work.

During the contract execution, the Project Manager shall notify the Agency of any critical risk that may arise, analysing the cause, assessing the potential impacts on the project in terms of time, objectives and scope and formulating in the shortest possible time a mitigation strategy. Risks already identified and not completely resolved shall be addressed in a specific paragraph in the Monthly Progress Report (see par.5.4) together with the associated mitigation strategy.

5.2 Experts

For special cases the Agency reserves the right to be advised by external experts. These experts will be committed to treat any information obtained in the context of this contract on a strictly confidential basis.

5.3 Reporting – Minutes of Meetings (MOM)

Formal written Minutes of Meetings attended by ESA shall normally be agreed and made available by the Contractor at the end of the meeting. If distributed in manuscript form at the end of the meeting, a typed version shall follow within five working days and be distributed in electronic form to all participants.

The minutes shall clearly identify all agreements made and actions accepted together with, where relevant, an update of the Action Item List.

To establish a uniform and consistent procedure to identify the Action Items among the different ARTES projects, the Contractor shall keep track of the Action Items adopting the following action identification scheme:

Action X.Y

where *X* is the identifier of the meeting (0: Negotiation/Kick Off Meeting, 1: First Review Meeting, 2: Second Review Meeting, etc.), and *Y* is the Action number starting from 1 at each new meeting.

In case the Distributed Project Collaboration Tool (see section 5.7) is adopted, Actions items shall be recorded here.

In case of urgent or critical problems, new Actions can be originated by the Agency and/or by the Contractor even outside the normal scheduled meetings.

5.4 Reporting – Monthly Progress Reports (MPR)

The Contractor shall provide, within the first five working days of each month, a concise status report following the template available on <http://iap.esa.int/templates/mpr> (including information on whether any results or Intellectual Property Rights (IPR) has been or is expected to be exploited).

This report shall in particular highlight any problems in the development and commercialisation programme and the corrective action taken by the Contractor. Within the progress report, the updated Current Status paragraph to be inserted in the Project Web Page shall be provided. To

the extent possible, the progress report and annexed documentation should be delivered in MS Word format by using the Distributed Project Collaboration Tool or as an attachment to email.

5.5 Document Configuration and Management Control (DC&MC)

Starting with the first review meeting, the Contractor shall create and maintain, for consultation by ESA, a Document Configuration and Management Control recording all documents produced in connection with the contract. The list shall indicate the document title, name of the file, document reference, type of document, date of issue, revision number, confidentiality level and distribution list.

Each deliverable document shall include a Title Page reporting Project Name, Contract Number, Title of the Document, Reference Identifier, Author(s) and related Organisation(s), Date of Issue and Revision Number.

All deliverable documents shall include as the second page a Document History Sheet, indicating in short for each submitted revision the corresponding date and the reason for the revision. Each revision shall be formatted in order to easily spot the changed parts with respect to the previous submission.

5.6 Electronic Documentation

All documentation shall be delivered in electronic form, using preferably MS Word or Adobe Acrobat format with all pictures and tables embedded in the document. The documentation shall include in its options the possibility to be printed.

5.7 Distributed Project Collaboration Tool

During the execution of the project the web based project planning and collaboration tool accessible under http://telecom.esa.int/collaboration_tool, shall be used. This collaborative environment is made available free of charge by ESA for the duration of the project, and it is intended to replace the usual electronic communication tools (e.g. E-Mail with attached document and/or FTP) within the project team and in the communication with ESA, as well as for recording and tracking Action Items.

Unless otherwise agreed with ESA and formalised in the minutes of the Kick-Off Meeting, the Contractor shall provide at the Kick-Off Meeting the name of the person to be appointed as administrator of the account. The Agency will activate within one week from the Kick-Off Meeting an account dedicated to the project team. During the first part of the project, the environment shall be used on a trial basis by the project team to support information exchange in preparation of the first review meeting. At the first review meeting the Contractor shall inform the Agency whether, on the basis of the results of the trial period, the project team has decided to retain or not the environment for the remaining part of the contract. In case the environment is not retained, the specific account will be deleted by the Agency.

6 REPORTING AFTER COMPLETION OF THE CONTRACT

In line with the objectives of the ARTES 20 programme, ESA's support in this initiative is aimed at preparing the future operational and/or commercial exploitation of the elements developed in the project.

To monitor the effectiveness of this element of the ARTES programme and to continuously improve its efficiency, it is important for ESA to keep some visibility of the outcome of the operational and/or commercial exploitation of the project's results, which will be typically become evident only after the conclusion of the contract with ESA.

Consequently, the Contractor shall provide the information concerning the main developments of the project (including exploitation of IPR) and the related impact on the company using the "CONTRACT OUTCOME DATA" questionnaire available under <http://iap.esa.int/templates/cod>

Such information shall be provided to the ESA Technical Officer every 12 months for a period of 3 (three) years starting from the completion date of the contract at no cost to the Agency. The information will be treated by ESA as strictly confidential, and any disclosure outside the ESA ARTES team will be made only after having received written consent by the Contractor.