

SUB-CONTRACT

Between:

The Prime Contractor of the ESTEC Contract No. 4000126709/18/NL/IA for the European Space Agency (ESA) Project **“Swarm + Coupling: High-Low Atmosphere Interactions”** (hereinafter called “Project” or “Study”):

the Helmholtz Centre Potsdam German Research Centre for Geosciences ("GFZ"), whose registered Office is at:

Telegrafenberg
14473 Potsdam,
Germany

represented by: the Executive Board Prof. Dr. R. Hüttl and Dr. St. Schwartze

Project Leader XXXXXXXX

(hereinafter called “GFZ” or “the Customer”),

of the one part,

and:

the Institute of Atmospheric Physics of the Czech Academy of Sciences (hereinafter called “IAP-CAS ” or “the Subcontractor”),

whose Registered Office is at:

Bocni II, 1401
14100 Praha 4
Czech Republic

represented by: Director of the IAP CAS: Prof. Dr. Zbynek Sokol

Czech project leader: XXXXXXXX

of the other part,

the following has been agreed:

ARTICLE 1 - SUBJECT OF THE CONTRACT – APPLICABLE DOCUMENTS

1.1 Subject of the Contract

1.1.1 The Subcontractor will participate to the work performed under the ESA Contract Statement of Work Appendix II Statement of Work together with the Customer and other Contractors (The Project Team). The Subcontractor undertakes to perform work for the Project according to the description given in the applicable documents listed below. The Subcontractor shall perform its Tasks at constant high level in accordance with the requirements detailed in the ESA's Statement of Work for the successful completion of the Project.

1.1.2 The Subcontractor shall deliver any documentation, reports, simulation results, plots, software and data as described in the documents listed below and shall make oral presentations of the results during the project meetings specified in Article 4 herein.

1.2 Applicable Documents

The work shall be performed by the Subcontractor in accordance with the following documents, which are listed in order of precedence in case of conflict:

- The specific articles in the ESA Contract No 4000126709/18/NL/IA (hereafter "ESA Contract") and its Appendices 1 (Payment Plan and Advance Payments and other Financial Conditions) and Appendix 4 (Statement of Invention)
- The General Clauses and Conditions for ESA Contracts (herein referred to as GCC), reference ESA/REG/002 rev.1 not attached here to but known to both parties and available in <http://emits.esa.int> - "reference documentation" – "administrative documents".
- Appendix 2 of ESA Contract No 4000126709/18/NL/IA: The Statement of Work, reference ESA-EOPSM-SWRM-SOW-3403, not attached hereto but known to both Parties;
- Appendix 3 of ESA Contract No 4000126709/18/NL/IA: The Standard Requirements for Management, Reporting, Meetings and Deliverables
- The Contractors Proposal reference VERA dated 19.11.2018, not attached hereto but known to both Parties;
- The Minutes of the negotiation meeting held on April 30, 2019, reference ESTEC-20190430-VERA

ARTICLE 2 - PLACE AND DATES OF DELIVERY AND MEETINGS

2.1 Place and Dates of Delivery

- 2.1.1 The Subcontractor shall, during the performance of this contract, deliver all documentation, reports and data specified in Article 2 (Place and Dates of Delivery) of the ESA Contract in electronic format, by e-mail or disk to the Contractor's representative, as identified above.
- 2.1.2 Deliverables shall be sent for approval not later than 1 week prior to the delivery time to ESA as specified in the Time Schedule, which is attached as Appendix 2 of the ESA Contract.
- 2.1.3 The draft version of the Final Report and other documentation shall be submitted for approval not later than 2 weeks before the end of the Project, as stated in the ESA Contract (Appendix III, point 4.1).
- 2.1.4 The finalised versions of the documents mentioned here above shall be issued not later than 2 weeks after the Agency's approval of the draft versions, by e-mail.
- 2.1.5 At the same time as delivery of the final documents, the Technical Data Package, containing all approved Technical Notes, shall be delivered in 1 electronic copy.

ARTICLE 3 - PRICE AND PAYMENT

3.1 Price

- 3.1.1 The total price of this sub-contract amounts to:

€
35.000,- Euro

Company Name	Vendor Code	Type P/Prime; SD/Subco Direct; SI/Subco Indirect	Country (ISO Code)	Total Amount
IAP CAS	1000002304	SD	CZ	35.000,- €

- 3.1.2 The price of this sub-contract is stated to be a firm fixed price as defined in Clause 2.1 of the General Conditions for ESA Contracts (ESA C/290, rev. 6).
- 3.1.3 The above amount shall be paid according to the Payment Plan in Annex 2 to this Contract.
- 3.2.2 PROGRESS PAYMENTS:

Invoices from the Subcontractor should be sent directly to GFZ upon GFZ authorization that the stage in work for which the payment is required has been reached. GFZ makes the payment directly to Subcontractor within thirty (30) calendar days after reception of a valid invoice from the Subcontractor, but no later than 10 calendar days after GFZ has received from ESA the corresponding payment.

3.2.3 FINAL SETTLEMENT:

Final invoice from the Subcontractor should be sent directly to GFZ upon GFZ authorization that (i) all the deliverables and other obligations of the project have been successfully completed and (ii) Subcontractor has submitted the Contract Closure documentation to ESA according to the instructions given in the Contract.. GFZ makes the payment directly to Subcontractor within thirty (30) calendar days after reception of a valid invoice from the Subcontractor, but no later than 10 calendar days after GFZ has received from ESA the corresponding payment.

3.2.4 Subcontractor shall be responsible for submitting the above mentioned invoices, certificates and documentation to GFZ in a timely and proper manner in accordance with the applicable law and commercial practice.

ARTICLE 4 – MEETINGS AND DATES OF DELIVERY

4.1 The following preliminary dates and locations are set for the project meetings:

Meeting	Venue	Planned date	Travelling participants
Kick-Off (KO)		June 2019	Web conference
Mid-term Review (MTR)		March 2020	xxxxxxx
Final Review		September 2020	xxxxxxx

4.2 PROJECT START: June 1, 2019

4.3 PROJECT DURATION: 16 months

4.4 PROJECT END: September 30, 2020

ARTICLE 5 - COMMUNICATIONS

5.1 All correspondence for GFZ shall be addressed to the Project leader:

XXXXXXXX
German Research Centre for Geosciences
Telegrafenberg 14473 Potsdam, Germany
XXXXXXXX
XXXXXXXX
XXXXXXXX

cc to

XXXXXXXX
German Research Centre for Geosciences
Telegrafenberg 14473 Potsdam, Germany
XXXXXXXX
XXXXXXXX
XXXXXXXX

5.2 For contractual and administrative matters, including invoices, a copy shall be addressed to:

XXXXXXXX
German Research Centre for Geosciences
Telegrafenberg 14473 Potsdam, Germany
XXXXXXXX
XXXXXXXX
XXXXXXXX

cc to

XXXXXXXX
German Research Centre for Geosciences
Telegrafenberg 14473 Potsdam, Germany
XXXXXXXX
XXXXXXXX
XXXXXXXX

5.3 All correspondence for Subcontractor shall be addressed to:

XXXXXXXX
Bocni II, 1401
14100 Praha 4
Czech Republic

XXXXXXX
XXXXXXX
XXXXXXX

5.4 For contractual and administrative matters a copy shall be addressed to:

XXXXXXX
Bocni II, 1401
14100 Praha 4
Czech Republic
XXXXXXX
XXXXXXX
XXXXXXX

ARTICLE 6 – APPLICABLE LAW AND DISPUTE RESOLUTION

6.1 The contract shall be governed by the law of Germany.

6.2 The arbitration proceedings shall take place in Potsdam/Germany

ARTICLE 7: ACCEPTANCE AND REJECTION

As regards documentation and reports, should ESA/GFZ not accept the deliverables from the Subcontractor, he shall so inform GFZ with the relevant justification. If no decision has been notified to GFZ within one month of receipt by the Agency of the deliverables, the deliverables shall be considered as having been accepted. Rejected deliverables shall be rendered compliant with the ESA's requirements.

Done and signed in two original copies, one for each party to this Subcontract,

On behalf of GFZ
Place and Date: 10/7/2019

Prof. Dr. R. Hüttl Dr. St. Schwartze
Executive Board

Subcontract to ESA Contract No. 4000126709/18/NL/IA

On behalf of IAP CAS
Place and Date: 24/7/2019

Prof. Dr. Zbynek Sokol
Director of IAP CAS

APPENDIX 1: PAYMENT PLAN AND ADVANCE PAYMENT(S) AND OTHER FINANCIAL CONDITIONS

Milestone (MS) Description	Schedule Date	Payments from GFZ to Subcontractor(*)
Progress (MS 1): Upon successful Requirements Review and acceptance of all related deliverables	September 2019	5000
Progress (MS 2): Upon successful Preliminary Design Review and acceptance of all related deliverables	March 2020	15000
Final Settlement (MS 3): Upon the Agency's acceptance of all deliverable items due under the Contract and the Contractor's fulfilment of all other contractual obligations including submission of the Contract Closure Documentation	September 2020	15000
TOTAL		

Subcontract to ESA Contract No. 4000126709/18/NL/IA

APPENDIX 2: STATEMENT OF WORK

Not attached, but known to both Parties

APPENDIX 3: STANDARD REQUIREMENTS FOR MANAGEMENT, REPORTING, MEETINGS AND DELIVERABLES

This document contains the standard requirements for Management, Reporting, Meetings and Deliverables for contracts to be placed by the Agency. The applicable Statement of Work (Appendix 2 to the Contract) refers to the present document, and identifies requirements which are not applicable, which need modification or which shall apply in addition. The Statement of Work has priority over the present document in case of conflict.

1. MANAGEMENT

1.1. General

The Contractor shall implement effective and economical management for the Project. His nominated Project Manager shall be responsible for the management and execution of the work to be performed and, in the case of an industrial team, for the coordination and control of the industrial team's work.

1.2. Access

- a) During the course of the Contract the Agency shall be afforded free access to any plan, procedure, specification or other documentation relevant to the programme of work. Areas and equipment used during the development/testing activities associated with the Contract shall also be available for inspection and audit.
- b) The Contractor shall notify the Agency at least three weeks before the start of any test programme, or as mutually agreed, in order to enable the Agency to select those tests that it wishes to witness. The Agency shall notify the Contractor of its visit at least one week in advance.

2. REPORTING

2.1. Minutes of Meeting

- a) The Contractor is responsible for the preparation and distribution of minutes of meetings (see ECSS-M-20 section 5.3.1 for more details) held in connection with the Contract. Electronic and paper versions shall be issued and distributed to all participants, to the Agency's technical representative (4 copies) and to the ESA Contracts Officer (1 copy), not later than ten (10) days after the meeting concerned.
- b) The minutes shall clearly identify all agreements made and actions accepted at the meeting together with an update of the Action Item List (AIL) and the Document List. The minutes shall be signed.

Note: This clause may be restricted to progress meetings if specifically expressed.

2.2. Documents List

The Contractor shall create and maintain a Document List, recording all the documents produced during the work, including reports, specifications, plans and minutes. The list shall indicate the document reference (with unique identifier), type of document, date of issue, status (draft or approved by the Agency), confidentiality level and distribution. This list shall be maintained under configuration control.

2.3. Action Item List (AIL)

The Contractor shall maintain an Action Item List (AIL, see ECSS-M-20 section 5.3.2 for more details), recording all actions agreed with the Agency. Each item shall be uniquely identified with reference to the minutes of the meeting at which the action was agreed and will record generation date, due date, originator and the person instructed to take action. The AIL shall be reviewed at each progress meeting.

2.4. Bar-Chart Schedule

- a) The Contractor shall be responsible for maintaining the bar-chart for work carried out under the Contract, as agreed at the kick-off meeting.
- b) The Contractor shall present an up-to-date chart for review at all consequent meetings, indicating the current status of the contract activity (WP's completed, documents delivered, etc.).
- c) Modifications of the schedule shall be contractually binding only if approved in writing by the Agency's representative for contractual and administrative matters.

2.5. Risk Register

- a) The Contractor shall be responsible for maintaining a risk register, agreed at the kick-off meeting. This register shall identify potential risks, their likelihood and severity, and propose meaningful mitigation measures (see ECSS-M-00-03B for more details).
- b) The Contractor shall present an up-to-date risk register in his progress reports for review at monthly progress meetings.

2.6. Progress Reports

Every month, the Contractor shall provide a Progress Report to the Agency's representatives, covering the activities carried out under the Contract (see ECSS-M-20 section 5.3.3 for more details). This report shall refer to the current activities shown on the latest issued bar-chart and shall give:

- a.1 action items completed during the reporting period

- a.2 a status report on all long lead or critical delivery items
- a.3 a description of progress: actual vs schedule, milestones and events accomplished
- a.4 reasons for slippages and/or problem areas, if any, and corrective actions planned and/or taken, with revised completion date per activity
- a.5 events anticipated during the next reporting period (e.g. milestones reached)
- a.6 expected date for major schedule items
- a.7 milestone payment status
- a.8 status of risks

2.7. Problem Notification

The Contractor shall notify the Agency's representatives (Technical Officer and Contracts Officer) of any problem likely to have a major effect on the time schedule of the work or to significantly impact the scope of the work to be performed (due to e.g. procurement problems, unavailability of facilities or resources, etc.).

2.8. Technical Documentation

- a) As they become available and not later than the dates in the delivery plan, the Contractor shall submit, for the Agency's approval, technical notes, engineering drawings, manufacturing plans, test plans, test procedures, specifications and Task/WP reports.
- b) Technical documentation to be discussed at a meeting with the Agency shall be submitted two (2) weeks prior to the meeting.
- c) Technical documents from Subcontractors shall be submitted to the Agency only after review and acceptance by the Contractor and shall be passed to the Agency via the Contractor's formal interface to the Agency.
- d) Tests carried out under the Contract shall be performed according to test plans and test procedures approved by the Agency's Technical Officer (see ECSS-E-10 Part 2A and ECSS-Q-20A for more details).

3. MEETINGS

- a) The kick-off meeting shall take place at the Agency's premises.
- b) Progress meetings shall be held at approximately 2- to 3-monthly intervals, alternating between Agency premises and Contractor premises.
- c) The final presentation shall take place at the Agency's premises.
- d) Additional meetings may be requested either by the Agency or the Contractor.

- e) The Contractor shall give to the Agency prior notice of any meetings with Third Parties to be held in connection with the Contract. The Agency reserves the right of participation in such meetings.
- f) With due notice to the Contractor the Agency reserves the right to invite Third Parties to meetings to facilitate information exchange.
- g) For all meetings with the Agency, the Contractor shall ensure that proper notice is given at least two (2) weeks in advance. For all other meetings, the Contractor shall inform the Agency, which reserves the right to participate. The Contractor is responsible for ensuring the participation of his personnel and those of the Subcontractor(s), as needed.
- h) For each meeting the Contractor shall propose an agenda in electronic form and shall compile and distribute handouts of any presentation given at the meeting.

4. DELIVERABLES

This section specifies the generic deliverables that can be envisaged. The actual list of deliverables under the Contract is specified in the Statement of Work which may include, delete or add deliverables with respect to those specified in this Chapter.

4.1. Documentation

- a) In addition to the documents to be delivered according to section 2 here above, the following documentation shall also be deliverable. In the case of alternative choices herein, the Statement of Work specifies which ones are applicable.
- b) All documentation deliverables mentioned hereunder (including all their constituent parts) shall also be delivered in electronic form in a format agreed by the Agency (PDF format and the native format, and in other exchange formats where relevant (e.g. CAD, drawings, databases)).
- c) All the documentation shall be delivered on computer readable media (e.g. CD-ROM, DVD-ROM) as agreed by the Agency with an additional two (2) paper copies.
- d) The draft version of the documentation shall be sent to the Technical Officer in three (3) copies not later than two (2) weeks before the documentation is to be presented. The final version shall be provided in a number of copies specified in the Statement of Work.

4.1.1. Final Report

- a) The Final Report shall provide a complete description of all the work done during the activity and shall be self-standing, not requiring to be read in

conjunction with reports previously issued. It shall cover the whole scope of the activity, i.e. a comprehensive introduction of the context, a description of the programme of work and report on the activities performed and the main results achieved.

- b) For phased contracts, a Final Report shall be produced at the end of each Phase in accordance with the above definition, describing the work and results of that Phase and previous Phases. It becomes the Final Report in case the Agency decides not to proceed with the subsequent Phase(s).

4.1.2. Technical Data Package

Each (design and development) contract shall be completed with a Technical Data Package. For a contract with Phases, the Technical Data Package shall be provided at the end of a Phase in the case that the Agency decides not to proceed with the next Phase. The Technical Data Package consists of the final versions of all approved technical documents.

4.1.3. Summary Report

For each (design and development) contract, one Summary Report shall be produced. It shall summarise the findings of the Contract concisely and, informatively. The Summary Report shall be approximately 20 pages or 6000 words.

NOTE:

The Agency may request the Contractor to produce the Summary Report in the form of a paper suitable for publishing in a technical journal.

4.1.4. Executive Summary Report

The Executive Summary Report shall concisely summarise the findings of the Contract. It shall be suitable for non-experts in the field and should also be appropriate for publication. For this reason, it shall not exceed five (5) pages of text and ten (10) pages in total (1500 to 3000 words).

4.1.5. Abstract

Each (study) contract shall also be completed with an Abstract, summarising the work performed. It shall be suitable for application at symposiums or technical journals, normally not exceeding three (3) to four (4) pages of text with coloured illustrations or photographs where appropriate.

4.1.6. Brochure

A Brochure is intended for marketing purposes. It shall be concise and it shall include a short description of the work performed and applications of the development, a photograph or functional drawing if applicable, technical fact sheet, estimate of availability (delivery time) and a contact point for marketing purposes.

It shall contain one (1) or two (2) pages of text (i.e. up to about 700 words).

4.1.7. Photographic Documentation

Photographic documentation comprises photographs of hardware under manufacture, showing major progress, as well as of tests and test set-ups. Videos presenting the functioning of hardware/test set-up and relating test activities may also be included in this category.

4.1.8. Contract Closure Documentation

The Contract Closure Documentation is a mandatory deliverable, due at the end of the Contract (or at the end of a Phase in case the Agency decides not to proceed with the following Phase). For the avoidance of doubt, “end of the Contract” shall mean the finalisation of a series of tasks as defined in the Statement of Work attached to this Contract. Therefore, work performed under Riders or Contract Change Notices adding new tasks with respect to the original contract shall require separate Contract Closure Documentation. The contents of the Contract Closure Documentation shall conform to the layout provided in Annex A hereto.

4.2. Hardware

Hardware (incl. test equipment and control electronics) built or purchased under the Contract, together with an Operation Manual, shall be a deliverable item after completion of the associated activities at the Contractor's premises, unless otherwise agreed in writing by the Agency.

4.3. Computer Programs and Models

Computer programmes, mathematical models of any type (e.g. closed-form, worksheets, XML, CAD/CAE) and HDL models developed or procured under the Contract shall be a deliverable, unless the Agency agrees otherwise in writing. Re-used or proprietary software embedded in the deliverable product and required for its correct functioning shall also be deliverable.

4.4. Project Web Page

The Contractor shall produce a Project Web Page which shall be suitable for public internet access.

5. COMMERCIAL EVALUATION (SPACE MARKET)

The Commercial Evaluation is a report containing an analysis and evaluation of the potential in the space market of the output (products) of the Contract.

The report shall identify the maturity of the output of the subject activity with respect to the market and, if applicable, describe the required additional work and the level of funding required for the product to reach a marketable level.

ANNEX A: LAYOUT FOR CONTRACT CLOSURE DOCUMENTATION
for

**APPENDIX 3: STANDARD REQUIREMENTS FOR MANAGEMENT,
REPORTING, MEETINGS AND DELIVERABLES**

for

ESA/ESTEC Contract No.

“SWARM + Coupling: High-Low Atmosphere Interactions”

hereinafter referred as the “Contract”

Section 1 – Parties, Contract Duration and Financial Information

Contractor	[CONTRACTOR NAME]	
Sub-Contractor(s) <i>(state if not applicable)</i>	[NAME AND COUNTRY]	
Contract Duration	From:	Phase 1 from: to:
	To:	Phase n from: to:
Total Contract Price <i>(including all CCNs, Work Orders, Call of Orders)</i> and Total Contract Value <i>(in case of co-funding; state if not applicable)</i>	EUR EUR	
Broken down as follows:	Original Contract Price and original Contract Value <i>(in case of co-funding; state if not applicable)</i>	XXX EUR (XXX EUR) EUR
	CCN x to n	EUR in total
	Work Order x to n	EUR in total
	Call-Off Order x to n	EUR in total

Section 2 – Recapitulation of Deliverable Items

2.1 Items deliverable under the Contract

If any of the columns do not apply to the item in questions, please indicate “n/a”.

Table 2.1.1 – Items deliverable according to the Statement of Work

Type	Ref. No.	Name/Title	Description	Replacement Value (EUR)/ Other	Location¹⁾	Property of	Rights granted / Specific IPR Conditions²⁾
Documentation							
Hardware							
Software	N/A			TBD	ESA		Uses EO-CFI (see below).
	N/A	EO-CFI		N/A	ESA	ESA	
Other							

1

In case the item is not delivered to ESA, please indicate the location of the deliverable and the reason for non-delivery (e.g. loan agreement, waiver, future delivery, etc.)

2

e.g. IPR constraints, deliverable containing proprietary background information (see also 2.1.4 below)

Table 2.1.2 – Other Deliverable Items: Inventory of Items produced or purchased under the Contract (if applicable)

[OPTION 1: No Fixed Assets]

No Fixed Asset has been acquired under the Contract by the Contractor and/or its Sub-Contractor(s).

[OPTION 2: Fixed Assets]

Any fixed assets, acquired under the Contract by the Contractor and/or its Sub-Contractors are listed in the List of Fixed Assets attached below. The Contractor certifies that all its obligations with regards to Fixed Assets have been fulfilled. The Agency will inform the Contractor of its decision with respect to the disposal of Fixed Assets items.

Item Name	Part/ Serial Reference Number	Location	Value	ESA DECISION •		
				Deliver to ESA	Sell or Dispos e of	Leave in (Sub-) Contractor's Custody

To be completed by ESA

Table 2.1.3 – Customer Furnished Items and Items made available by the Agency

Any Customer Furnished Items and/or Items made available by the Agency to the Contractor and/or its Sub-Contractor(s) under the Contract, are listed in the following List of Customer Furnished Items and Items made available by the Agency. The following tables certify which of the items have been returned to the Agency and which of the items remain in the custody of the Contractor, and/or a Sub-Contractor(s) and/or a Third Party for further ESA work or for other purposes.

Customer Furnished Items

Item Name	ESA Inventory Number	Location	Insurance Value	ESA DECISION		
				Confirmation of Receipt	Deliver	Leave at (Sub-) Contractor's Disposal

Items made available by the Agency

Item Name	ESA Inventory Number	Location	Replacement Value	Deliver	Leave at (Sub-) Contractor's Disposal

Table 2.1.4 – Background Information used and delivered under the Contract
(see Clause 43 of the General Clauses and Conditions)

The following background information has been incorporated in the deliverable(s):

Proprietary Information (title, description)	Owner (Contractor, Sub-Contractor(s), Third Party/ies)	Affected deliverable (which documents, hardware, software, etc.)	Description impact on ESA’s rights to the deliverable³	Other/comments

Section 3 – Output from / Achievements under the Contract

3.1 Technology Readiness Level (TRL)

Indicate the TRL of the technology developed under the Contract using the classification given below.

Initial TRL	Planned TRL as activity outcome	Actual TRL at end of activity

1	Basic principles observed and reported
2	Technology concept and/ or application formulated
3	Analytical and experimental critical function and/ or characteristic proof of concept
4	Component and /or breadboard validation in laboratory environment
5	Component and /or breadboard validation in relevant environment
6	System/ subsystem model or prototype demonstration in a relevant environment
7	System prototype demonstration in an operational environment
8	Actual system completed and ‘flight qualified’ through test and demonstration
9	Actual system ‘flight proven’ through successful mission operations

³ if not explicitly stated otherwise, the contractual stipulations shall prevail in case of conflict with the description provided in this table

NOTE: The TRL shall be assessed by ESA. The Agency’s responsible Technical Officer shall verify TRLs 1-4 while TRLs 5-9 shall be assessed through an ESA-internal formal procedure.

3.2 Achievements and Technology Domain

.....
Provide a concise description (max 200 words) of the achievements of the Contract and its explicit outcome (including main performances achieved): please refer to the final documentation (e.g. Final Report)

Please indicate the Technology Domain (TD 1 to 25) of the development (*please tick off*):

1	On-Board Data Systems	14	Life & Physical Sciences
2	Space System Software	15	Mechanisms & Tribology
3	Spacecraft Electrical Power	16	Optics
4	Spacecraft Environment & Effects	17	Optoelectronics
5	Space System Control	18	Aerothermodynamics
6	RF Payload and Systems	19	Propulsion
7	Electromagnetic Technologies and Techniques	20	Structures & Pyrotechnics
8	System Design & Verification	21	Thermal
9	Mission Operations and Ground Data Systems	22	Environmental Control Life Support
10	Flight Dynamics and GNSS	23	EEE Components and Quality
11	Space Debris	24	Materials and Processes
12	Ground Station System & Networking	25	Quality, Dependability and Safety
13	Automation, Telepresence & Robotics		

3.3 Application of the Output/ Achievements

Please tick off as appropriate:

Possible use in programme:

.....
Please indicate the service domain (see table) relevant to a possible application

1	Earth Observation
2	Science
3	Human Spaceflight and Exploration
4	Space Transportation
5	Telecommunications
6	Navigation
7	Generic Technologies and Techniques
8	Security
9	Robotic Exploration

Actual use in programme:

.....
Please describe the specific programme and application or mission for which the output of this Contract is or will be used.

3.4 Further Steps/Expected Duration

Please tick off as appropriate:

No further development envisaged.

Further development needed:

.....
Please describe further development activities needed, if any, to reach TRL 5/6 including an estimate of the expected duration and cost.

3.5 **Potential Non-Space Applications**

.....
Describe any potential non-space applications or products that may benefit from the technology that has been developed. Emphasize potential markets and costumers where known.

.....
Describe the principle features of technology that would be required in a technology demonstrator for any identified non-space application. Include an estimate of the resources in time and money that would be required.

Section 4 – Statement of Invention

[OPTION 1: NO INVENTION]

In accordance with the provisions of the above Contract,[Company] hereby certifies both on its own behalf and that of its consortium/Subcontractor(s), that no Intellectual Property Right(s) has(ve) been registered in the course of or resulting from work undertaken for the purpose of this Contract; and that no inventions have been made in the course of or resulting from work undertaken for the purpose of this Contract that generated knowledge that could be registered as Intellectual Property Rights.

[OPTION 2: INVENTION]

In accordance with the provisions of the above Contract,[Company] hereby certifies both on its own behalf and that of its consortium/Subcontractor(s) that the following Intellectual Property Right(s) has(ve) been registered in the course of or resulting from work undertaken for the purpose of this Contract.

.....

[OPTION]: In accordance with the provisions of the above Contract,[Company] hereby certifies both on its own behalf and that of its consortium/Subcontractor(s) that the following inventions have been made in the course of or resulting from work undertaken for the purpose of this Contract but have not been registered as Intellectual Property Rights:

.....

[OPTION]: In accordance with the provisions of the above Contract,[Company] hereby certifies both on its own behalf and that of its consortium/Subcontractor(s) that the following inventions have been made in the course of or resulting from work undertaken for the purpose of this Contract and are foreseen for and/or in the process of registration:

The Agency's rights on such registered and/or unregistered Intellectual Property Rights shall be in accordance with the ESA GCC Part II provisions as amended by the above Contract.


APPENDIX 4: CONTRACT CHANGE NOTICE

For submission of a change as per Clause 13 of the General Conditions, the Contractor shall submit his proposal in the format of a CCN using the cover page included below. The form shall be filled with the following information as a minimum:

- a. The Contractor's name and the Contract number
- b. The title of the area affected by the change (Work Package reference, new work, etc.)
- c. The name of the initiator of the change (Contractor or ESA)
- d. The description of the change (including Work Package Descriptions, WBS, etc.)
- e. The reason for the change
- f. The price breakdown in €, if any (breakdown by company, Phase, etc., including PSS-A2 and PSS-A8 forms)
- The Milestone Payment Plan for the CCN if any
- g. Effect on other Contract provisions
- h. Start of work - end of work (including contractual delivery dates and overall planning, milestones, etc.)
- i. A CCN Form, as per the format below, signed by the Contractor's representatives

The Contractor shall, on request of the Agency, provide additional documentary evidence. At the request of either Party, the proposed change may be discussed at a Change Review Board, consisting of both the Contracts Officer and the Technical Officer of each Party.

Appendix 4 to ESA Contract No 4000111952/14/NL/MV

	DIRECTORATE:	Contractor:
		Contract No.:
CONTRACT CHANGE NOTICE No.		DATE:
TITLE OF AREA AFFECTED (WORK PACKAGE ETC):	WP REF:	
	INITIATOR OF CHANGE:	
DESCRIPTION OF CHANGE		
REASON FOR CHANGE		
PRICE BREAKDOWN (Currency)/PRICE-LEVEL		
EFFECT ON OTHER CONTRACT PROVISIONS		START OF WORK
		END OF WORK
CONTRACTOR'S PROJECT MANAGER:	CONTRACTOR'S CONTRACTS OFFICER:	
DATE:	DATE:	
[DISPOSITION RECORD OR OTHER AGREED CONDITION RECORDED WITH THE CCN APPROVAL]		
ESA TECHNICAL OFFICER:	ESA CONTRACTS OFFICER:	
DATE:	DATE:	

APPENDIX 5: STANDARD COVER PAGE FOR ESA STUDY CONTRACT REPORTS

ESA STUDY CONTRACT REPORT – SPECIMEN			
No ESA Study Contract Report will be accepted unless this sheet is inserted at the beginning of each volume of the Report.			
ESA Contract No:	SUBJECT:	CONTRACTOR:	
* ESA CR()No:	No. of Volumes:.... This is Volume No:....	CONTRACTOR'S REFERENCE:	
ABSTRACT:			
The work described in this report was done under ESA Contract. Responsibility for the contents resides in the author or organisation that prepared it.			
Names of authors:			
** NAME OF ESA STUDY MANAGER:		** ESA BUDGET HEADING:	
DIV: DIRECTORATE:			

- * Sections to be completed by ESA
- ** Information to be provided by ESA Study Manager