Deutsches Zentrum
DLR für Luft- und Raumfahrt
German Aerospace Center

Subcontract D / 954 / 67257682
to ESA Contract No. 4000113184/15/D/MRP

with

Czech Academy of Sciences
Institute of Atmospheric Physics

"SSA – P2-SWE-I.4 - Space Weather Expert Service Centres:
P3-SWE-V (P3-SWE-110) – Ionospheric Weather ESC Extension"

SUBCONTRACT No. D / 954 / 67257682

Between:

Deutsches Zentrum für Luft- und Raumfahrt
(hereinafter called "the Contractor" or "DLR"),

whose Registered Office is at:
Linder Höhe
51147 Köln
Germany

represented by its Executive Board,

Acting through its Institute of Communication and Navigation,
Münchener Strasse 20
82234 Wessling
Germany

Represented by **XXXXXXXXX**

of the other part,

and

Czech Academy of Sciences
Institute of Atmospheric Physics
(hereinafter called "Subcontractor")

Bočni II
14131 Prague 4
Czech Republic

the following has been agreed:

ARTICLE 1 - SUBJECT OF THE SUBCONTRACT - APPLICABLE DOCUMENTS

1.1.   Subject of the Subcontract

The Subcontractor undertakes to develop and operate the expert service centre Ionospheric Weather (ESC) of Space Weather Expert Service Centres: Definition and Development, to deliver the software and documentation as described herein, and to make an oral presentation of the results. Within this project, DLR is about to coordinate the Expert Service Center Ionospheric Weather (I-ESC). As subcontractor of DLR and widely recognized expert group in Europe, IAP will be part of the I-ESC. Within this contract, IAP will be responsible for the demonstration of TID detection products and alarms based on ionospheric Doppler sounder measurements for the service provision. Furthermore, IAP contributes to the cross network communication through participating in the working group 1 activities. In addition, IAP consults in the update of the Definition and Development Plan and provides advice for the roadmap update. The deliveries include the products and documentation as described herein, and presentation of the results in front of ESA.

1.2.   Applicable Documents

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

a)   The Articles of this Subcontract and its Appendix 1 (Payment Plan and other Financial Conditions), Appendix 4 (Contract Change Notice), Appendix 5 (Confidentiality Undertaking), and Appendix 6 (Category B Work Results - List of Products);

b)   the General Clauses and Conditions for ESA Contracts (herein referred to as GCC), reference ESA/REG/002 not attached hereto but known to both Parties and available on http://emits.esa.int - "reference documentation" - "administrative documents", as amended by this Subcontract;

c)   the Minutes of the negotiation meeting held on 12 September 2017, not attached hereto but known to both Parties;

d)   Appendix 2 hereto: Statement of Work, ref. ESA-SSA-SWE-SOW-0020, issue 1, rev. 0, dated 25 May 2017;

e)   Appendix 3 hereto: The Standard Requirements for Management, Reporting, Meetings and Deliverables and its Annex A: Layout for Contract Closure Documentation;

f)   the Change Request 01 to SSA-P2-SWE-I.4 - Space Weather Expert Service Centres, dated 14 June 2017

g)   the Contractor's proposal No. 3012717-CR2, dated 18 July 2017 and updated technical proposal, dated 8 November 2017, not attached hereto but known to both Parties;

h)   the Subcontractor s Proposal, not attached hereto but known to both Parties.

1.3 Duration

This Subcontract enters (retroactively) into force at 12.12.2017 and ends on 10.06.2019.

ARTICLE 2 - DELIVERY

2.1. Place and Dates of Delivery

2.1.1 Documents

The Subcontractor shall, during the performance of this Subcontract, deliver all documentation and reports specified in Appendix 2, in the required number of paper copies and in an electronic file. These shall be sent to DLR's Technical Officer mentioned in Article 5, Clause 5, Sub-Clause 5.1 a) of the Subcontract, unless otherwise specified, in accordance with the following specific provisions:

2.1.1.1 The draft versions of the final documents as defined in Appendix 2 shall be submitted for approval, in electronic format, to DLR's Technical Officer not later than two weeks before the delivery dates specified in such Appendix 2.

2.1.1.2 The finalised versions thereof shall be issued not later than two (2) weeks after the approval of the draft versions, as follows:

in two (2) copies on CD-ROM to DLR's Technical Officer and

one (1) paper copy and one (1) copy on CD-ROM shall be sent to the ESA Information and Documentation Centre - ESTEC Library, Postbus 299, 2200 AG Noordwijk, The Netherlands.

2.1.2 Software

Not applicable

2.1.3 Contract Closure Documentation

The Contract Closure Documentation (Appendix 3, Annex A) shall be delivered in one (1) set of documentation each, to DLR's authorised representatives not later than the time of submitting the invoice(s) for the Final Settlement (see also Article 3.2.2).

2.2. Inter-ESC Deliveries

In several cases a Deliverable item under the responsibility of one ESC requires technical input from one or more other ESCs in order to complete the overall Deliverable. These inputs are referred to as inter-ESC Deliveries.

Tue inter-ESC Deliveries are specified in Appendix 7, along with the due dates for receipt of each overall Deliverable by the Agency. ESCs shall deliver documentation and workshop supporting material contributions where required not later than 3 weeks prior to the delivery dates specified in such Appendix 7 to the responsible ESC as specified in such Appendix 7.

In case of dispute relating to the quality or completeness of the inter-ESC Deliveries, DLR shall act to resolve the dispute together with the relevant project managers.

2.3. Meetings

Meetings, reviews and the Final Presentation shall be held as specified in the applicable documents listed under Article 1 above on dates and venues to be agreed between the parties, if not already defined in Appendix 2.

ARTICLE 3 - PRICE & PAYMENT

3.1. Price

The price of this Subcontract amounts to:

16.000 EUR

3.1.1   The type of price is the following:

A Firm Fixed Price as defined in Section 2.1 of Annex II to the GCC for the tasks as defined in the Statement of Work.

3.1.2   The above amount does not include any taxes or duties in the Member States of the Agency.

3.1.3   The price is deemed to include all applicable fees for licences to be purchased and delivered in the frame of the Subcontract. The price is further deemed to include any and all licence fees payable according to Clause 43.7 of the GCC.

3.1.4   The price is Delivered Duty Paid for all deliverables, exclusive of import duties and VAT in accordance with the INCOTERMS 2010, to the addressee(s) specified in Article 5, Clause 5, Sub-Clause 5.1 a) of the Subcontract. Reference to INCOTERMS in this provision is exclusively for the purpose of price definition.

3.2. Payment

3.2.1   General provisions

In the event that the achievement of a milestone is delayed but the milestone is partially met at the milestone planning date foreseen, DLR may as an exception, effect a payment against an approved confirmation of the partially achieved milestone, not exceeding the value of the work performed at the date of payment.

Payments shall be made by DLR within ten (10) working days following receipt and approval of the corresponding Subcontractor('s)(s') invoices at DLR Lieferantenbuchhaltung, Linder Hoehe, 51170 Cologne, of the documents listed and fulfilment of the requirements as specified in 3.2.2 below (1). Only upon fulfilment of these requirements shall the invoice be regarded as due by DLR.

Payments shall be made by DLR in EURO to the account specified by the Subcontractor. Such account information shall clearly indicate the IBAN (International Bank Account Number) and BIC/SWIFT (Bank Identification Code). The Parties agree that payments shall be considered as effected by DLR on time if DLR´s orders of payment reach DLR´s bank within the payment period stipulated in the paragraph above.

Any special charges related to the execution of payments will be borne by the Subcontractor.

If applicable, invoices shall separately show all due taxes or duties.

In the case of invoices submitted by the Subcontractor which are free of VAT, reference shall be made to the number indicated on the VAT Exemption Form.

DLR and the Agency (through DLR) reserves the right to visit the Subcontractor's premises and ascertain the progress of the work being performed under the Subcontract, prior to making the progress payment concerned.

3.2.2   Requirements for invoices being regarded as due:

Progress Payment(s):

- Milestone Achievement Confirmation (MAC) hereinafter referred to as "confirmation" with supporting documentation. The supporting documentation shall justify the actual achievement of the milestone(s) as defined in the Payment Plan specified in Appendix 1 hereto.

and

-        Invoice(s);

Final Settlement:

and

-        Confirmation, with supporting documentation attached to this Subcontract. The supporting documentation shall justify the actual achievement of the milestones as defined on the Payment Plan Specified in Appendix 1 hereto.

-        Invoice(s);

Receipt and acceptance, by DLR, of all deliverable items, of the services to be rendered and other obligations to be fulfilled, in accordance with the terms of this Subcontract;

ARTICLE 4 - ITEMS PRODUCED OR PURCHASED UNDER THE CONTRACT - FIXED ASSETS

Not applicable

ARTICLE 5 - COMPLEMENTS AND AMENDMENTS TO THE GCC

The General Clauses and Conditions for ESA Contracts apply to this Subcontract with the following complements and amendments. Provisions of the GCC not mentioned in this Subcontract shall apply unchanged.

CLAUSE 5: THE PARTIES' REPRESENTATIVES

Sub-Clause 5.1: DLR's Representatives

a) Dr. Claudia Borries for technical matters or a person duly authorised by her ("Technical Officer").

	To	With copy to
Name	XXXXXXXXX	XXXXXXXXX
Telephone	XXXXXXXXX	
Email	XXXXXXXXX	
Mail Address	DLR e.V. Institute of Communications and Navigation Kalkhorstweg 53 17235 Neustrelitz Germany	

b) Jens Schreiber for contractual and administrative matters or a person duly authorised by him ("Contracts Officer").

All correspondence for contractual and administrative matters (with exception of invoices as mentioned in Article 3.2) will be addressed as follows:

	To	With copy to
Name	XXXXXXXXX	XXXXXXXXX
Telephone	XXXXXXXXX	
Email	XXXXXXXXX	
Mail Address	DLR e.V. Procurement for Third-Party Funding (Projects) 51170 Cologne Germany	

Sub-Clause 5.2: The Subcontractor's Representatives

a) Jan Laštovička for technical matters or a person duly authorised by him ("Technical Officer").

	To	With copy to
Name	XXXXXXXXX	XXXXXXXXX
Telephone	XXXXXXXXX	XXXXXXXXX
Email	XXXXXXXXX	XXXXXXXXX
Mail Address	Czech Academy of Sciences Institute of Atmospheric Physics Bočni II 14131 Prague 4 Czech Republic	Czech Academy of Sciences Institute of Atmospheric Physics Bočni II 14131 Prague 4 Czech Republic

b) Zbyněk Sokol for contractual and administrative matters or a person duly authorised by him ("Contracts Officer").

All correspondence for contractual and administrative matters will be addressed as follows:

	To	With copy to
Name	XXXXXXXXX	XXXXXXXXX
Telephone	XXXXXXXXX	XXXXXXXXX
Email	XXXXXXXXX	XXXXXXXXX
Mail Address	Czech Academy of Sciences Institute of Atmospheric Physics Bočni II 14131 Prague 4 Czech Republic	Czech Academy of Sciences Institute of Atmospheric Physics Bočni II 14131 Prague 4 Czech Republic

CLAUSE 9: KEY PERSONNEL

The Subcontractor's key personnel is listed in the Subcontractor's proposal referred to in Article 1.2 above.

CLAUSE 11: CUSTOMER FURNISHED ITEMS (CFI)

DLR undertakes to provide CFI(s) to the Subcontractor in accordance with Appendix 2. For the purpose of Clause 11 of the GCC the value of the item(s) is/are:

Item	Insurance Value
Access to the SSA SWE Coordination Centre	N/A
Access to the SWE Service Portal	N/A
Access to the Telelogic Change	N/A
Access to the ESA Sharepoint repository	N/A

The Subcontractor is liable- and bears the risk for the item(s) until they are returned to the Agency.

After the execution of the Subcontract the CFI(s) access to Telelogic Change and ESA Sharepoint repository will be terminated.

CLAUSE 15:   HANDLING, PACKING AND TRANSPORT, TRANSFER OF OWNERSHIP AND RISK

The following provision is added as Sub-Clause 15.3.6 of the GCC:

15.3.6 Should in the execution of the Subcontract a need arise to provide DLR with information which is subject to export control laws and regulations, the Subcontractor shall secure that such information is only passed on to DLR in accordance with the provisions of such export control laws and regulations.

CLAUSE 16: ACCEPTANCE AND REJECTION

16.1   Acceptance of Documentation and Reports

As regards Documentation and reports, should DLR's Technical Officer not accept the deliverables from the Subcontractor, he shall so inform the Subcontractor with the relevant justification. If no decision has been notified to the Subcontractor within four (4) weeks of receipt by DLR of the deliverables, such shall be considered as having been accepted.

16.2   Acceptance of Software

Provisional Acceptance
The provisional acceptance tests shall be run in accordance with the approved version of the Acceptance Test Plan to be submitted by the Subcontractor and approved by DLR. The content of and the period required for the performance of the provisional acceptance tests shall be stated in the Acceptance Test Plan.

On satisfactory completion of the tests, a certificate of provisional acceptance shall be prepared by the Subcontractor and submitted to DLR's Technical Officer who shall have one month to sign off the document, reject the delivery or to make reservations. If no decision has been notified to the Subcontractor within one month of receipt by DLR of the provisional acceptance certificate, the deliverable item shall be considered as having been provisionally accepted.

Rejected items must be rendered compliant to Appendix 2, at the Subcontractor's expense, and re-presented for provisional acceptance within the time scale fixed in writing by DLR.

Final Acceptance
The objective of the final acceptance testing is to establish whether the deliverable items are complete and meet the performance, reliability and availability requirements as stated in Appendix 2.

The period, during which the final acceptance testing is made, is the final acceptance or checkout period. It shall commence immediately after DLR has issued the certificate of provisional acceptance and shall run for a period of not more than three (3) months. On satisfactory completion of the final acceptance test, DLR's responsible Technical Officer shall issue a Certificate of Final Acceptance.

Rejected items must be rendered compliant to Appendix 2, at the Subcontractor's expense, and represented for final acceptance within the time scale fixed in writing by DLR.

16.3   General provisions applicable to the acceptance of Documentation, reports and software

16.3.1 Cost incurred in connection with Acceptance Procedures

The Subcontractor shall fix errors and non-compliances during both the period of provisional acceptance tests and the checkout period. The related costs incurred during these periods shall be borne by the Subcontractor.

16.3.2 Assistance by other Contractors in the Acceptance Process

DLR reserves the right to use the services of another Subcontractor or Subcontractors to assist it in the acceptance process. Such Subcontractor(s) shall be entitled to access all applicable information, data and tests performed on any deliverable item as well as the Subcontractor's premises.

16.3.3 The above shall not affect the rights of DLR resulting from Clause 32.

16.3.4 Scope of Acceptance

The scope of any acceptance under this Subcontract shall be limited to the technical aspects of the deliverables and services. Compliance with legal and contractual aspects, including in particular those described in this Subcontract, shall not be subject of any acceptance so that acceptance shall not affect the Subcontractor's obligations in this regard.

16.3.5 The places of acceptance shall be as specified in Appendix 2.

CLAUSE 17: PENALTIES/INCENTIVES

Penalties for late delivery do not apply.

CLAUSE 18: DAMAGE TO STAFF AND GOODS

Clause 18.1.6 applies.

CLAUSE 27: PRICING

Sub-Clauses 27.3 and 27.4 do not apply, unless in case of termination as per Clause 30 of the GCC.

CLAUSE 34: APPLICABLE LAW

The substantive law referred to in Clause 34 of the GCC is the law of Germany.

CLAUSE 35: DISPUTE RESOLUTION

The arbitration proceedings referred to in Clause 35 of the GCC shall take place in Cologne, Germany.

1. Part II (Option A) of the GCC - OPERATIONAL SOFTWARE

CLAUSE 36 - GENERAL, CLAUSE 39 - OWNERSHIP OF INTELLECTUAL PROPERTY RIGHTS, CLAUSE 42 - SOFTWARE (OPERATIONAL SOFTWARE)

1.1   For the purpose of this Subcontract, Part II, Option A of the GCC shall apply, as modified by the special provisions below.

1.2   In the event of any conflict between the provisions in this Subcontract and the provisions in Part II (Option A), the provisions in this Subcontract shall prevail. Clause 36.1 of the GCC shall remain unaffected.

1.3   The free licenses provided for the benefit of the Agency and DLR in the present Subcontract and in Part II of the GCC, shall be deemed granted through signature of the present Subcontract and without the need to implement a separate license.

1.4   The provisions contained in this Subcontract relating to Intellectual Property Rights in software, shall apply mutatis mutandis also to any Documentation to be produced and delivered under this Subcontract.

2.   Definitions

For the purpose of this Subcontract, including also the Appendices to it, the following definitions shall apply, unless other definitions of those terms are introduced in a Contract Change Notice (CCN) to this Subcontract.

"Work Results" mean all results of the Subcontractor's work rendered under this Subcontract and/or a CCN to this Subcontract.

Any hardware development or modification as well as any architectural design, connection and integration of hardware performed during the course of the Subcontract shall be deemed a "Work Result".

In the case of software development, Work Results shall include all deliverables and any further specific software deliverable as detailed in this Subcontract and/or the relevant CCN to this Subcontract. Therefore, software includes not only the actual source code but also any associated item such as technical documentation, user documentation, specifications, interfaces definitions, training material, databases, test data or designs, test products, configuration data, prototypes, technical analysis output documentation, etc.

In case the Subcontractor shall modify, enhance or make another alteration to an existing software of the Agency/DLR and the Agency/DLR has provided to the Subcontractor therefore this pre-existing software product for which the services under this Subcontract and/or a CCN to this Subcontract shall be rendered, the "Work Results" are any incremental work in source code of such pre-existing software product constituting modifications, corrections, additions, extensions or improvements to the pre-existing software product or any translation of the pre- existing software product in any other computer language as a result of the Subcontractor's services. Incremental work means here what is gained or added to the pre-existing software product.

In case the Agency/DLR has not provided to the Subcontractor a pre-existing software product, the "Work Results" are any software and associated item developed by the Subcontractor under this Subcontract and/or a CCN to this Subcontract in any forms.

The following categories of "Work Results" are applicable to this Subcontract:

Category A   For these Work Results the provisions of Part II of this Subcontract shall apply without any restriction.

Category B   Regarding these Category B Work Results, these shall be owned by the Subcontractor and this Part II of this Subcontract shall apply provided however, that the Subcontractor shall grant the Agency and DLR a non-exclusive licence.

In Appendix 6 to this Subcontract, the specific Category B Work Results under this Subcontract are listed to the extent that this categorisation can be made at this point in time. All Work Results not listed in Appendix 6 shall be deemed Category A Work Results. In case the parties cannot agree on the categorisation of any Work Result, it shall be deemed to be Category A. The Parties shall formalise any change of the Category B Work Results listed under Appendix 6 through a Contract Change Notice.

"Deliverable" is any item to be delivered to DLR as specified in this Subcontract or any relevant CCN thereto. This includes all Work Results and may include further items, which are explicitly listed in this Subcontract and/or the relevant CCN to this Subcontract.

"Third Party" means any party other than the Agency, DLR or the Subcontractor.

"Third Party Product" is any software, (e.g. proprietary software or open source software, including also but not limited to software tools, libraries, code, designs, etc.) and associated items for which the Agency/DLR does not have the full usage, exploitation and distribution rights as defined in Section 3 below. For the avoidance of doubt, Third Party Product shall include also any existing software and associated items of the Subcontractor.

3.   Assignment of Intellectual Property Rights, Licences Granted

All Work Results under this Subcontract and/or the relevant CCN to this Subcontract shall be deemed Operational Software in the sense of Part II (Option A) of the GCC (see Clause 39.2 c), Clause 42.8 and Annex IV of the GCC). All these Work Results shall be delivered at each milestone via DLR with full ESA Intellectual Property Rights (as defined in the GCC). The rights granted to the Agency according to the present Contract and Part II of the GCC shall take effect upon delivery of the respective item to the Agency.

3.1   In accordance with Clause 42.8 of the GCC and subject to the terms and conditions of this Subcontract, the Subcontractor shall assign and transfer via DLR to the Agency full ownership of all Intellectual Property Rights, including the ownership of copyright, in and to the Work Results.

3.2   The rights assigned to the Agency via DLR shall include, but not be limited to, the exclusive and perpetual usage, distribution and exploitation rights, not restricted in respect of territory, time or purpose to:

- Install, operate and execute the Work Results by the Agency or any licensee of the Agency for any purposes the Agency or the licensee sees fit.
- Incorporate, embed or merge the Work Results into any other software product.
- Permanently or temporarily reproduce or copy the Work Results by any means and in any form, in part or in whole, including loading, displaying, running, transmission or storage of the Work Results.
- Modify, correct, maintain, change, add, enhance, translate, adapt, re-arrange, link or make any other alteration of the Work Results and to reproduce the results thereof.

- Compile or re-compile the source code belonging to the Work Results and distribute the resulting object code in any form.
- Prepare derivative works of the Work Results.
- Distribute, rent, offer and market the Work Results, including any derivative works of the Work Results, in any form directly or indirectly to the public, including the right for online-distribution.
- Grant wire-connected or wireless public access to the Work Results for any purpose, including commercial or free service bureau services for Third Parties.

3.3   The Agency may permanently or temporarily transfer all or single rights granted to the Agency in whole or in part to a Third Party in its sole discretion.

3.4   The Agency may in its sole discretion distribute the Work Results under any open source licence the Agency deems fit and this shall include also the right for the Agency to grant such rights to another organisation, which will distribute the software under an open source license.

3.5   The Agency may, against payment or free of charge, permanently or temporarily, grant exclusive or non-exclusive licenses or sublicenses for all or single rights granted to the Agency in whole or in part to a Third Party in its sole discretion, either directly by the Agency or indirectly by a distributor.

3.6   Notwithstanding that the Subcontractor has granted to the Agency exclusive rights, the Agency shall not be obliged to exercise the rights granted and the Agency shall be entitled to decide in its sole discretion to exercise all or parts of the rights granted hereunder.

3.7   The Agency may make use of the Work Results in any known manner and for any known type of use, as well as all yet unknown types of use. Unknown types of use are all yet unknown technical and/or commercial manners to use or exploit a Work Result. The Agency shall inform the Subcontractor in case the Agency intends to start using the Work Results in whole or in part in a yet unknown type of use and both parties shall mutually agree to an adequate and appropriate additional compensation, if any, for the Subcontractor depending on the new type of use before the Agency starts to use the Work Results in this new type of use.

3.8   The intended purpose of the assignment and transfer of full ownership of all Intellectual Property Rights to the Agency is to enable the Agency to act as the full and only owner of the Work Results without any limitation. Therefore, subject to the condition that under the law applying to the Subcontract an assignment and transfer of the copyright is lawfully not possible, the Subcontractor agrees to and herewith shall grant to the Agency an irrevocable and worldwide exclusive license for the Work Results, including the grant of the exclusive and perpetual usage, distribution and exploitation rights, not restricted in respect of territory, time or purpose and including all the rights as listed in this Section 3. For the avoidance of doubt, no additional royalty fee shall be paid by the Agency for such license grant.

4.   Waiver of Moral Rights

4.1   The subcontractor shall secure by agreements with those of his employees, who have worked on the Work Results, that those employees have waived their right to be named as an author and have waived all their other moral rights in regard to the Work Results, e.g. the right of an author to have access to its work.

4.2   If the waiver to execute such moral rights is legally not possible, the Subcontractor undertakes to implement all suitable measures in order to best ensure that the author will not use its moral rights in a way that would jeopardise the purpose of the Subcontract and the rights granted to the Agency.

4.3   The same shall apply for all freelancers and employees of the Subcontractor and the Subcontractor is obliged to secure such waivers in written agreements with its freelancers and own Subcontractors if any.

5.   Transfer of Ownership

The Subcontractor shall transfer all ownership in material objects embodying the Work Results (CD ROM etc.) to the Agency/DLR free from any encumbrances.

6.   Time of Transfer of Ownership

The Subcontractor transfers the ownership of material objects embodying the Work Results in accordance with Section 5 above at the time such material objects come into existence.

7.   Confidentiality

All Documentation and other information of whatever kind and nature supplied or disclosed directly or indirectly by the DLR under this Subcontract and/or the relevant CCN to this Subcontract, including also but not limited to software in source code and object code, interfaces, specifications of software or interfaces, algorithms, ideas and principles which underlie any element of software, including those which underlie interfaces, and other related know how, as well as all Documentation and other information produced by the Subcontractor or the DLR under this Subcontract and/or the relevant CCN to this Subcontract are deemed to be "ESA Unclassified - Proprietary Information", even if not marked as such, and the provisions of Clause 38.1 of the GCC and the ESA Security Directives shall apply.

All Work Result items (e.g. any information, documentation or material, in whatever format or media) shall bear the resp. Agency's information classification marker as defined by ESA Security Directives. Unless otherwise specified, any Work Result item is considered "ESA Unclassified - Proprietary Information".

In addition to Clause 38 of the GCC, the parties agree that the Subcontractor shall not Disclose (as defined in Annex IV to the GCC) and shall hold in confidence any such documentation and other information in accordance with Clause 38 of the GCC.

The Subcontractor shall ensure that his staff observes complete discretion during and after the performance of the Subcontract with regard to the subject matter of the Subcontract or CCNs to this Subcontract as well as any work rendered or delivery made in connection therewith.

In order to ensure that each member of the Subcontractor's staff assigned to this Subcontract is aware of the above, the Subcontractor shall ensure that they sign a "Confidentiality Undertaking" in accordance with the model attached in Appendix 5 hereto. The Subcontractor's Technical Officer shall keep at the disposal of DLR all signed "Confidentiality Undertaking" statements and supply copies of such statements to DLR, if requested.

In addition to the above, formal confidentiality procedures and additional security requirements may be established in a CCN. The Subcontractor herewith undertakes to comply with such procedures and additional security requirements and to obtain all required security clearances for his company, his sites and his staff.

The Subcontractor shall ensure that his Sub-Sub-Contractors and their staff shall equally comply with the above regulations.

8.   Third Party Products

8.1   Work Results free from any Third Party Intellectual Property Rights

8.1.1   The Subcontractor guarantees that the Work Results are not restricted by rights of anyone, including also but not limited to rights already owned by the Subcontractor or/and any of his Sub-Sub-Contractors at the start of this Subcontract and/or the relevant CCN to this Subcontract. Therefore, the Subcontractor guarantees that he has all legal rights to grant to the Agency/DLR the rights in accordance with the above Section 3 and that therefore, subject to Clauses 8.2 and 8.3, Work Results do not contain any software subject to a Background Intellectual Property Right or an open source licence or are covered by any other Third Party Intellectual Property Right.

8.1.2   The Subcontractor guarantees that the Work Results, the transfer of ownership and the licences granted under this Subcontract will not infringe any Intellectual Property Right (as defined in Annex IV to the GCC) of any Third Party.

8.1.3   In case of an infringement of any Third Party Intellectual Property Right Clause 26 of the GCC shall apply.

8.2   Approval Procedure to use elements of a Third Party Product

8.2.1   The use of any Third Party Product for the development of the Deliverables under this Subcontract needs the explicit prior written approval by DLR's Technical Officer. This approval shall be deemed given by way of DLR's acceptance of the Subcontractor's proposal (not attached hereto but know to both parties, as per Article 1.2 of this Subcontract), provided that the relevant Third Party Products are listed there in a dedicated Chapter. Should the use of any Third Party Product be proposed by the Subcontractor after signature of the Subcontract, such approval shall be deemed given by DLR's signature of the CCN, in which such Third Party Products are listed. Any agreement on the use of Third Party Products made in a different way shall be deemed invalid.

8.2.2   Unless otherwise specified in this Subcontract and/or the relevant CCN to this Subcontract, it shall be the obligation of the Subcontractor to verify and confirm in writing to DLR that the licence, under which a Third Party Product shall be licensed to the Agency/DLR, grants the Agency/DLR at least the same, but non-exclusive perpetual usage, distribution and exploitation rights as set forth in Section 3 above.
However, the Agency/DLR reserves the right to request in this Subcontract and/or the relevant CCN to this Subcontract a limited sub-set of those usage, distribution and exploitation rights.

8.2.3   With any request of the Subcontractor to obtain DLR's approval to use a Third Party Product, the Subcontractor shall provide DLR also with the following information:

- Exact name and, if applicable, version of the Third Party Product.

- Exact intended use of the Third Party Product, in particular, by stating whether it is needed in order to build the application to be delivered and/or in order to run the application to be delivered.

- Exact source of supply, e.g. in case of delivery the suppliers company name and address, in case of download also the exact internet address and date, from where and when the download was made.

- Full and complete copy of the licence agreement, under which the Third Party Product is licensed.

- Statement as to whether any dispute relating to the license agreement will be subject to arbitration procedures or to normal court procedures.

- If the Subcontractor is allowed to do so, the Subcontractor shall provide and license, based on a separate licence agreement with the Agency/DLR, to the Agency/DLR a complete copy on a physical media of the original Third Party Product.

- In case the verification of a licence for a Third Party Product by the Subcontractor results, that the licence deviates in one or more points from the requirements set in Section 8.2.2, the Subcontractor shall also provide an exhaustive list where the licence for this Third Party Product deviates from the rights to be granted to the Agency/DLR in accordance with Section 8.2.2 above.

8.2.4   Upon the written request of the Subcontractor to use a Third Party Product, DLR will decide within reasonable time, whether or not the use of the Third Party Product is acceptable.

As part of its decision, DLR will inform the Subcontractor, whether the Subcontractor shall licence/sub-license the Third Party Product to the Agency/DLR or whether the Agency/DLR shall license the Third Party Product directly from the named licensor of the Third Party Product.

8.2.5   In case the Subcontractor shall license/sub-license the Third Party Product to the Agency/DLR, the Subcontractor shall confirm in writing to the Agency/DLR that he has obtained the rights to legally sub-license to the Agency/DLR the relevant rights for the relevant Third Party Product as required in this Contract and/or the relevant CCN to this Subcontract and the Subcontractor shall expressly grant the licence as agreed and accepted by the Agency/DLR in this Subcontract and/or the relevant CCN to this Subcontract to the Agency/DLR for the Third Party Product.

8.2.6   In case the Agency/DLR shall license the Third Party Product directly from the named licensor, it shall be the Agency's/DLR´s obligation to obtain all relevant licences and permits required to use the approved Third Party Product in the intended way. Unless otherwise agreed in a relevant CCN, this shall not release the Subcontractor from his obligation to provide the information and confirmation listed in Section 8.2.3 above.

8.3   Rights already owned by the Subcontractor or any of his Sub-Sub-Contractors at the start of the work.

The Subcontractor undertakes that all Intellectual Property Rights employed during the execution of this Subcontract are treated as arising from work performed under this Subcontract. The Subcontractor agrees that he shall not make claims under Clause 43.1 of the GCC during the execution of his Subcontract or any time thereafter. This shall not apply in cases, where DLR has granted its prior written approval (in the form as described under 8.2.I above) for the use of the specific Background Intellectual Property Rights as defined below.

With reference to Clause 38.2 of the GCC, the Subcontractor shall not mark any documents as "Proprietary Information" unless agreed in advance with DLR. Any request from the Subcontractor to mark Documentation as "Proprietary Information" shall be submitted together with an appropriate justification. The access rights granted to the DLR employees under sub-clause 38.2 are hereby extended to contractor staff hired by DLR to provide technical, management, legal or administrative support to DLR as long as such staff has signed an engagement of confidentiality.

In case the Subcontractor or any of his Sub-Sub-Contractors intends to use or re-use already existing software, for which he or any of his relevant Sub-Sub-Contractors owns the Intellectual Property Rights, the following provisions shall apply in addition to Section 8.2 above:

8.3.1   As part of the approval request, the following additional information shall be provided:

- Whether or not the respective software has been developed under a contract with DLR, and if so:
  o   Number(s) of the Contract under which the software has been developed and/or altered,
  o   The rights granted to DLR under this contract(s),

- The rights granted by the Subcontractor/Sub-Sub-Contractor to any Third Party as part of other contractual agreements.

8.3.2   The Subcontractor or Sub-Sub-Contractors, as the case may be, shall offer DLR a licence in the relevant software, which is already owned by the Subcontractor or any of his Sub-Sub-Contractors at the start of the work, in accordance with Section 3.8 above, provided however, that such licence shall be non-exclusive. In case of software developed or altered under a contract with DLR, this shall apply to those rights, which have not already been granted to DLR under such former contract(s).

8.3.3   For the avoidance of doubt, Section 8.2.5 shall apply for the licensing of the pre- existing software to DLR.

8.4   Documentation, Delivery, Exclusion of Acceptance

8.4.1   With making a Deliverable available to DLR, the Subcontractor shall produce and attach a Delivery Note:

- Stating that the Deliverables do not contain any not-approved Third Party Product,
- Including a list of all approved Third Party Products (name and version) included in the Deliverables,

- Including a list of all approved reused pre-existing software originally belonging to the Subcontractor or Sub-Sub-Contractor,
- Including a list of all Work Results included in the Deliverables.

8.4.2   If the Deliverables contain any Third Party Product, for which DLR has not given its prior written approval in the form described in 8.2.1 above, such Deliverables are not in conformity with the Subcontract and cannot be accepted by DLR.

8.4.3   However, for the avoidance of doubt, any acceptance is made only in respect of technical aspects of the Deliverables and, in particular, any acceptance of a Deliverable including a Third Party Product not prior approved by DLR does not release the Subcontractor from its liability under this Subcontract to develop and deliver all Work Results free of any Third Party Product and does not constitute a waiver of the Agency/DLR of its rights under this Subcontract, e.g. claim for damages.

9.   Copyright Information

The following copyright information shall be included:

9.1   Documents
The following copyright statement shall be included on the first page following the cover page of any document, for which the Agency/DLR owns the Intellectual Property Rights:

"The copyright of this document is vested in the European Space Agency/DLR. This document may only be reproduced in whole or in part, stored in a retrieval system, transmitted in any form, or by any means electronically, mechanically, or by photocopying, or otherwise, with the prior written permission of the Agency/DLR."

The following copyright statement shall be included in the footer of each page (with the year stated as applicable), including the cover page, using a font size of 8:

"© Copyright European Space Agency/DLR, 20xx"

9.2   Software files

The Subcontractor shall insert the following copyright statement in all software files of its Work Results as a comment in the header:

"© Copyright European Space Agency/DLR, 20xx"

For both Documentation and software "xx" shall indicate each year, in which the document/software was created, modified and/or updated.

10.   Modification of existing open source software

If the scope of a task under this Subcontract includes the modification of an open source software, the use of which has been approved by DLR, and if not otherwise agreed in this Subcontract or a CCN to the Subcontract, the open source software shall be delivered to DLR in its original and modified version under the original open source licence.

11.   Trademarks

11.1   All product names, trademarks, service marks, trade names, logos or other words or symbols identifying the products or services of the Agency/DLR (collectively, the "Marks") are and will remain the exclusive property of the Agency/DLR, whether or not specifically recognized or perfected under the laws of the Member States.

11.2   The Subcontractor will not take any action that jeopardizes the Agency's/DLR's proprietary rights whether registered or not, or acquire any rights in any state, in the Marks.

CLAUSE 43: BACKGROUND INTELLECTUAL PROPERTY RIGHTS

In pursuance of the requirements of Clause 43.1 of the GCC, the following is recorded:

a) DLR, on the basis of evidence provided by the Subcontractor, recognises the following information to be provided by the Subcontractor as Background Intellectual Property:

Exact name of BIPRItem	Owner	Description	Patent # or Ref./ Issue/ Revision / Version #	Contract/ Funding Details under which the IPR was created (*)	Date of creation of the version of the BIPR listed here	Affected deliverable with comments
DIMS	DLR/Werum	Workflow management and archiving system (http://www.dlr.de/eoc/desktopdefault.aspx/tabid-6888/11391_read-228817)	Version 2.11.1	DLR internal programmatic developtment	08.10.2013	SR-0003-01: Delivery of all products delivered via SWACI
SWACI	DLR	Online integration-, test- and dissemination platform	Version 1.0	Supports by the state government of Mecklenburg-Vorpommern	01.08.2011	SD-001: online dissemination of all products delivered from DLR
TEC processing system	DLR	System for processing GNSS data streams, deriving estimations of the Total Electron Content (TEC), producing TEC maps and its derivatives		DLR internal programmatic development		DD-009-01: New Data Streams will be integrate

						into the system.
Scintillation processing system	DLR	System for processing high-rate GNSS data and deriving scintillation indices.	Revision 7808	DLR internal programmatic development	12.10.2013	DD-009-02: Data from additional receiver will be processed by this system.
Evnet	DLR	The Experimentation and Verification (EVnet) is a near real-time facility capable of acquisition, processing and distribution of GNSS as well as GNSS-related data.	2.0	DLR internal programmatic development	2008	DD-009-02: Data from additional receiver will be processed by this system.
Slab Thickness processing system	DLR	A processing system deriving slab thickness estimates from TEC and foF2 measurements.		DLR internal programmatic development		SR-003-01: Delivery of slab thickness products
SATREF	NMA	Network and control center providing real-time service for accurate GNSS positioning		Internal NMA financed		DD-009
RTIM	NMA	Internal developed ionospheric tools		Internal NMA financed		DD-009
RTIS	NMA	Internal developed ionospheric tools		Internal NMA financed		DD-009
MONITOR processors	MONITOR partner	Processors and systems used and developed within the MONITOR project		Partially funded by ESA with the MONITOR project and partially own developments by the MONITOR partners		DD-009

b)   The Background Intellectual Property Rights shall exclusively be used to the produce the products as indicated under a) above. The Subcontractor shall not incorporate Background Intellectual Property in the deliverables (also not the ones listed under a) above).

c)   If the Subcontractor has not identified additional Background Intellectual Property Rights by the end of the Subcontract, all Intellectual Property Rights used during the execution of the Subcontract are treated as arising from work performed under the Subcontract, unless and until the Subcontractor provides DLR with evidence of the relevant Background Intellectual Property rights.

Notwithstanding the above, the following is agreed: if the Subcontractor, after the signature of the Subcontract, invokes the existence of any additional Background Intellectual Property to be used for the purposes of the present Subcontract, the Subcontractor shall provide conclusive evidence to DLR of the existence of this Background Intellectual Property and shall justify the reasons for which the existence of this Background Intellectual Property was not invoked before the Subcontract signature.

If conclusive evidence and appropriate justification are provided by the Subcontractor, the Parties shall formalise a Contract Change Notice to specify in detail which Information has been recognised as Background Intellectual Property.

Conversely, if such evidence and justification are not provided, all information delivered shall be deemed as having been generated in the frame of the Subcontract.

ARTICLE 6 - ADDITIONAL SPECIAL CONDITIONS

6.1   Continuing Rights and Obligations under the Subcontract

Completion or termination of the present Subcontract shall not affect the parties' continuing rights and obligations regarding any relevant provisions of this Subcontract, in particular, but not limited to, those relating to Article 5 Clauses 6, 11, 12 and 17, as well as Chapters IV, V, VI and IX and PART II of the GCC as modified by this Subcontract and Articles 4 (Items produced or purchased under the Subcontract) and Appendix 5 (Confidentiality Undertaking Model) of this Subcontract.

6.2   Special Provisions

Should any part or provision of this Subcontract be determined to be prohibited, or rendered void or unenforceable, by any legislation or other cause, the remaining terms and conditions of the Subcontract shall be interpreted in an equitable manner in order to maintain the balance of the parties' respective obligations. The validity and enforceability of the Subcontract as a whole shall not be affected.

The waiver by either party hereto of its rights under this Subcontract in respect of any breach, default or omission by the other in the performance or observance of any term or provision of this Subcontract, shall neither be deemed nor imply a waiver of its rights in respect of any other breach, default or omission by the other.

![DLR logo] **Deutsches Zentrum**
für Luft- und Raumfahrt
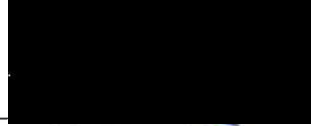German Aerospace Center

Done in two originals, one for each Party to this Contract,

In: Cologne
On: 16.04.2018

Deutsches Zentrum
für Luft- und Raumfahrt e.V.
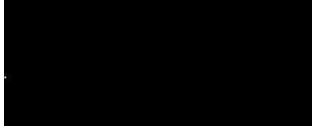
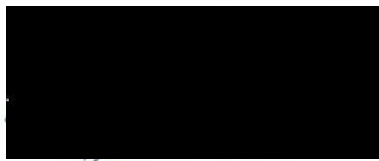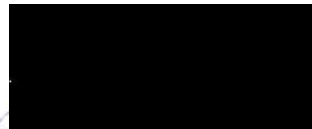i.V. Jens Schreiber   i.A. Karsten Mannheim
Contract Manager   Contract Manager

In: Prague
On:
        2 8 -05- 2018

Czech Academy of Sciences
Institute of Atmospheric Physics

Director   Principal Investigator

Appendix 1: Payment Plan

Milestone (MS) Description	Schedule Date	Payment amount to Subcontractor in Euro
Progress (MS 1): MIL*02 Upon successful final acceptance of Delivery 1	01.04.2018	4.800
Progress (MS 2): MIL*10 Upon successful final acceptance of Delivery 5	15.01.2019	4.800
Final Settlement (MS 3):MIL*15 Upon successful final of all deliverable items due under the Subcontract and the Subcontractor's fulfilment of all other contractual obligations including Final Presentation and submission of the Contract Closure Documentation	10.06.2019	6.400
Total		16.000

Payment Milestone Achievement Confirmation

DLR Contract No.:		Milestone Type:	
Contractor:		MPP ID:	
Currency:	EURO	Milestone ID:	
		Milestone amount:	
Achievement Date:		Achievement Status:	

Milestone Title:	
Definition of Milestone Achievement:	

Certification:

I herewith certify to have performed a positive check that the accomplishment of this milestone conforms to the above definition.

Deficiencies, if any, from the said requirements have been listed and have either been corrected or a waiver of such requirements obtained.

Evidence of achievement/ Comment:

Signature/Representative	User	Approval status	%	Date
	ESTEC			
	Prime Contractor DLR		100	
	Subcontractor [Name]		100	

Annex 2: Updated list of products corresponding to Annex 6 of the contract

ID	Name	Provider
I.101	IMPC TEC map (Europe), current	IMPC
I.102	IMPC TEC map (Europe), 1hr forecast	IMPC
I.103a	IMPC TEC map (Global), current	IMPC
I.103b	IMPC TEC map (Global), current, beta version (demo product not assigned to services)	IMPC
I.104	IMPC TEC map (Global), 1hr forecast	IMPC
I.105a	IMPC Equivalent slab thickness, Juliusruh	IMPC
I.105b	IMPC Equivalent slab thickness, Pruhonice	IMPC
I.106a	CBK Local scintillation indices S4 & σφ Hornsund	IMPC
I.106b	IMPC Local scintillation indices S4 & σφ Kiruna	IMPC
I.106c	IMPC Local scintillation indices S4 & σφ Neustrelitz	IMPC
I.106d	IMPC Local scintillation indices S4 & σφ Tenerife	IMPC
I.106e	IMPC Local scintillation indices S4 & σφ Toulouse	IMPC
I.107	RTIM VTEC maps (Northern Europe)	RTIM
I.108	RTIM GIVE maps (Northern Europe)	RTIM
I.109a	RTIM ROTI maps (Northern Europe)	RTIM
I.109b	RTIM ROTI@Ground maps (Fennoscandia)	RTIM
I.110a	RTIM S4 maps (Northern Europe)	RTIM
I.110b	RTIM σφ maps (Northern Europe)	RTIM

ID	Name	Provider
I.110c	RTIM S4 maps (demo service, not assigned to services)	RTIM
I.110d	RTIM $\sigma\varphi$ maps (demo service, not assigned to services)	RTIM
I.114	EIS European maps of foF2 long term predictions	EIS
I.115	EIS Nowcast European maps of foF2	EIS
I.116	EIS Maps of forecasted foF2 over Europe for the next 24 hours	EIS
I.117	EIS Near real-time TEC maps for the European region	EIS
I.118	EIS Alerts for ionospheric disturbances in the European sector	EIS
I.119	EIS Current ionospheric conditions at each ionosonde location	EIS
I.120	EIS Forecasted foF2 values for the next 24 hours over each ionosonde	EIS
I.121	ESA IONMON TEC maps	ESA
I.122c	ISM S4 and Err(S4) nowcast modelled maps	ISM
I.122d	ISM SigmaPhi and Err(SigmaPhi) nowcast modelled maps	ISM
I.122e	ISM TEC and Err(TEC) nowcast modelled maps	ISM
I.122f	ISM S4 and Err(S4) 6-hour forecast modelled maps	ISM
I.122g	ISM SigmaPhi and Err(SigmaPhi) 6-hour forecast modelled maps	ISM
I.122i	ISM S4 and Err(S4) nowcast modelled values at a given location	ISM
I.122j	ISM SigmaPhi and Err(SigmaPhi) nowcast modelled values at a given	ISM

ID	Name	Provider
	location	
I.122k	ISM TEC and Err(TEC) nowcast modelled values at a given location	ISM
I.122l	ISM S4 and Err(S4) 6h forecast modelled values at a given location	ISM
I.122m	ISM SigmaPhi and Err(SigmaPhi) 6h forecast modelled values at a given location	ISM
I.122o	ISM S4 observed map as quality data for ISM S4 nowcast modelled maps	ISM
I.122p	ISM σφ observed map as a quality data for ISM σφ nowcast modelled maps	ISM
I.123a	MONITOR:SISTED	UPC/FMI
I.123b	MONITOR:GSFLAI	FMI
I.124	IMPC mean ROTI maps for Europe	IMPC
I.125a	SGIArv R - Daily Total Sunspot Number, archive	SGIArv
I.125b	SGIArv F10.7 index (measured, adjusted to 1AU, and URSI F10.7), archive	SGIArv
I.125c	SGIArv S10.7 index, archive	SGIArv
I.125d	SGIArv M10.7 index, archive	SGIArv
I.125e	SGIArv Y10.7 index, archive	SGIArv
I.125f	SGIArv F30 index (absolute), archive	SGIArv
I.126a	SGIArv Ap index (definitive), archive	SGIArv
I.126b	SGIArv Kp index (definitive), archive	SGIArv

ID	Name	Provider
I.126c	SGIArv Dst index (provisional and final), archive	SGIArv
I.126d	SGIArv IG12 index (provisional and final), archive	SGIArv
I.126e	SGIArv IMF (Bx_GSE, By_GSE, Bz_GSE, |B|_GSE), archive	SGIArv
I.126f	SGIArv Aa index(daily), archive	SGIArv
I.127	RESOSS ROTI at ground time series (selected locations in northern Europe)	RESOSS
I.128	Swarm Rate Of change of TEC (ROT)	SUA
I.129	Swarm Total Electron Content (TEC)	SUA
I.130	Swarm electron density (Ne)	SUA
I.131	Swarm Ionospheric Bubble Index (IBI)	SUA
	Riometer data Borowic and Hornsund (demo)	SRC
	SISTED/ GSFLAI	UPC
I.101/I.103	TEC maps updated version	IMPC
	Tomoscand 3D	FMI
	TID detection based on Doppler measurements	IAP
	Ionospheric tomography using Kriging	IMPC
	GNSS performance indicator	NMA
	Ionospheric alarm	UiO