



Document ID

PON-OR1-01-TSP

Revision

01

Document classification

Tender specifications

Tender

Supply of a W-band multibeam heterodyne receiver for the Sardinia Radio Telescope.

Type of tender

Competitive Dialogue pursuant to art. 64 D.lgs. 18 april 2016, n. 50, and s.m.i.

Decision Act

Determinazione n. 183 - 9 agosto 2019

Tender value

€ 2.300.000,00

Funding source

PON "Ricerca e Innovazione 2014-2020" - Avviso D.D. 424 del 28/02/2018

PON FSE FESR / PIR01_00010 "SRT_HighFreq - *Potenziamento del Sardinia Radio Telescope per lo studio dell'Universo alle alte frequenze*"

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Abbreviations and acronyms

INAF: the Italian National Institute for Astrophysics

Code: Italian Law on Public Procurement (Decreto legislativo 18 aprile 2016, n. 50)

Entity / Contracting Authority / OAC: the INAF Cagliari Astronomical Observatory

SRT: the Sardinia Radio Telescope

U-BUY: the INAF website electronics platform for e-procurement activities

Main Reference Laws

The tender and its documentation will be governed by:

1. Decree-Law of 18 april 2016, n. 50, and s.m.i., therein on also “**Code**”
2. Decree-Law of 9 aprile 2008, n. 81, and s.m.i., therein on also “**TUSL**”
3. Italian Civil Code

Important Internet links

Contracting authority official tender repository related to accountability

http://www.oa-cagliari.inaf.it/page.php?id_page=101&level=3

U-Buy electronic platform to be used for submitting bids:

<https://inaf.ubuy.cineca.it/PortaleAppalti/it/homepage.wp>

National Anticorruption Authority site where the bidders request the “PASSOE”

<https://www.anticorruzione.it/portal/public/classic/Servizi/ServiziOnline/AVCpass>

Tender document repository

http://eonstor.oa-cagliari.inaf.it/proffice/OR1-01_WBA/

This English text is a translation from the official Italian text in order to help foreign bidders to participate in the tender. In case of doubt, dispute or involuntary errors or omissions, only the Italian text will be valid.

Section 1 – General information on the tender

Art. 1 Contracting Authority

INAF – Osservatorio Astronomico di Cagliari - via della Scienza 5 - 09047 Selargius (CA)

C.F. 97220210583

P.IVA 06895721006

Codice ISTAT: 092011

Contracting authority website: <http://www.oa-cagliari.inaf.it>

Contracting authority procurement website area: <http://www.oa-cagliari.inaf.it> section
“Amministrazione Trasparente”

Certified electronic mail (PEC): inafoacagliari@pcert.postecert.it

Art. 2 Preliminary notes – PON “Ricerca e Innovazione 2014-2020”

The Astronomical Observatory of Cagliari (OAC) is a research facility of the National Institute for Astrophysics (INAF), located in Via della Scienza 5, municipality of Selargius (CA). OAC also has managerial and operational responsibility for the radio telescope "Sardinia Radio Telescope" (SRT), in the "Pranusanguni" area, municipality of San Basilio (SU), INAF's Research Infrastructure. The SRT is a radio telescope with an altazimuth mount, about 70 meters high and weighing over 3000 tons, with a 64 meter diameter primary dish.

With the formal notice 424, 28 February 2018, the “Ministero dell’Istruzione, dell’Università e della Ricerca” (MIUR) issued the “Avviso per la concessione di finanziamenti finalizzati al potenziamento di Infrastrutture di ricerca, in attuazione dell’Azione II.1 del PON Ricerca e Innovazione 2014-2020”, from now on also “MIUR Notice”.

The MIUR Notice identified, in Article 2 paragraph 8 letter q), the Sardinia Radio Telescope as a "research infrastructure" that can be subjected to “upgrade” and INAF as a Public research institute eligible to submit a proposal. In response to the MIUR Notice, INAF presented the Project proposal "PIR01_00010 - SRT_HighFreq - Enhancement of the Sardinia Radio Telescope for the study of the Universe at high radio frequencies” (thereafter "Proposal"). The Proposal consisted of nine “Obiettivi Realizzativi (OR)” - achievable goals – corresponding to the actual work breakdown structure.

With Directorial Act n. 461 of March 14, 2019, the MIUR has granted a total amount of € 18,683,000.00 to the Proposal. Subsequently, in the meeting of 25 June 2019, the Board of Directors of INAF, with Resolution number 41, approved the Obligation Act connected to the acceptance for the Proposal. In the same session, the INAF Administrative Council appointed the INAF - Cagliari Astronomical Observatory, as the contracting authority for the management of the tenders which would achieve the scientific objectives of the Proposal.

With the Decision Act n. **183** of the 9th of August 2019, the Director of the contracting authority has started the tender procedure, which aims at acquiring a ***W-band multibeam heterodyne receiver for the Sardinia Radio Telescope*** as “Obiettivo Realizzativo n. 1”, i.e. as “OR1 achievable goal”. A **competitive dialogue procedure** pursuant to art. 64 of the Code will be used for OR1. The *most economically advantageous tender shall be assessed based on the best price-quality ratio*.



Art. 3 Electronic means of information and communication

Starting from **October 18, 2018**, in compliance with the combined provisions of art. 40 and 52 of the Code, in ordinary sectors and in special sectors, all communications and exchanges of information between the contracting authority and economic operators are carried out using electronic means of communication in compliance with the provisions of the Digital Administration Code of which to the legislative decree 7 March 2005, n. 82.

The tools and devices to be used to communicate electronically, as well as the related technical features, are non-discriminatory, are commonly available and compatible with the ICT (Information and Communication Technology) products generally in use. These tools do not restrict access to the *award procedure*. *The essential elements of the tender procedure are: a) the tender documents; b) the request to participate; c) the confirmation of interest; d) the offers.*

For this tender procedure the INAF e-procurement platform, identified with the acronym "**U-Buy**", will be used:

<https://inaf.ubuy.cineca.it/PortaleAppalti/it/homepage.wp>.

Therefore, the economic operator **must be registered** with the **U-Buy** electronic platform in order to be able to submit a bid: further and more detailed information are given further down.

Art. 4 Subject of the tender – Contract to be awarded

The bid is finalized to the acquisition of a *3 mm band (W-band) multibeam receiver based on a cryogenic focal plane array of dual-polarization feed-systems utilizing cryogenic low noise amplifiers (LNAs)*. *The instrument shall be installed on the Gregorian focus of the SRT*. The array shall be designed to fit in the usable area of the focal plane and to provide optimum beam patterns, high antenna efficiency, low-noise and image band rejection performances. This instrument will allow a significant technical and scientific upgrade of the SRT that will become one of the few single-dish radio telescopes in the world capable of carrying out high-sensitivity spectro-polarimetric astronomical observations across the 3 mm band, making of it an almost unique facility in the international context.

INAF has already conducted an advanced feasibility study of the W-band multibeam receiver for the SRT, including the optics, the cryogenic modules, the Dewar, the mechanical derotator, the down-conversion system, etc. The baseline technical specifications of the instrument and the preliminary results of the INAF study were presented in document ¹. Some of the instrument baseline specifications were later revised and the revisions were presented at the "W-band multibeam receiver Information Day," held at INAF-Astronomical Observatory of Cagliari on Feb. 20th, 2019 ². The updated baseline specification of the W-band multibeam receiver and the results of the INAF preliminary study are presented in the

¹ A. Navarrini, A. Orfei, A. Scalambra, R. Nesti, L. Olmi, S. Leurini, "Top-level technical requirements: 3 mm band multibeam heterodyne receiver for the Sardinia Radio Telescope," INAF Technical Note, 29 May 2018

² A. Navarrini et al., "PON Grant, W-band multibeam receiver for SRT Gregorian focus: technical requirement" Presentation at the W-band multibeam Information Day, held at INAF-OA Cagliari on Feb. 20, 2019



associated technical document "PON-OR1-01-SPE-01-All_1.pdf," which constitute the reference document for this call for tender; this technical document is extracted from an INAF internal report under publication ³.

The INAF is going to procure the receiver through a "competitive dialogue", i.e. a co-engineering work with economic operators (institutions, companies or consortia) intending to bid for its development. Only proposals of construction of a full receiver (not of its sub-assemblies), complying with the minimum set of requirements specified in "PON-OR1-01-SPE-01-All_1.pdf," will be considered.

Primary **CPV: 38635000-5 Telescopes**

EU PON FESR FSE "Ricerca e Innovazione 2014-2020", Code PIR_01_00010, co-funds the purchasing of this receiver.

Art. 5 Estimated value of the tender – Lots

5.1. Value of the tender

Following a market analysis, the contracting authority has established that the net value of this tender is equal to:

€ 2.300000 (2.3 million Euros)

This value does not include VAT and / or other fees, if due. These costs will be identified mostly following the conclusion of the competitive dialogue phase, with indication of the main and secondary performance, pursuant to art. 48 paragraph 2 of the Code.

The established value includes the labor costs that the contracting authority preliminary estimates equal to € 360000. This amount was evaluated by taking into account a mean labour cost of three full-time equivalent (6 FTE) high level operators. This amount will be modified following the outcome of the competitive dialogue.

A **€ 10000** award (VAT at the rate of 22% included) will be granted to the three bidders best ranked in the competitive dialogue final ranking (including the winner).

The estimated value of the tender includes:

- supply of the W-band multibeam receiver and of its spare parts;
- the technical documentation will contain at least the following:
 - ten-years Maintenance Plan;
 - technical diagrams, User and Maintenance manuals, both for the hardware and software components, with step-by-step operation procedure and characterization results with compliance datasheet of the instrument;
- spare parts;
- packaging;
- shipping and transportation of the receiver, according to INCOTERMS DAP;

³ A. Navarrini et al., "Preliminary design study of the W-band multibeam heterodyne receiver for the Sardinia Radio Telescope Gregorian focus," To be published as INAF Internal Report, 2019

- installation of the receiver on the SRT by qualified personnel provided by the supplier;
- maintenance of the receiver during a legal warranty period of at least one year.

The place of delivery and further installation of the receiver is the Sardinia Radio Telescope, located in "Pranusanguni", provincial road 25, municipality of San Basilio (SU).

5.2. Lots

The contracting authority has assessed that the non-division into lots does not constitute an obstacle to the access of micro, small and medium companies. This assessment is carried out in compliance with the EU rules of public procurement. The possible division into lots would entail a high technical risk, deriving from the adoption of different production lots or in adopting components with non-homogeneous performance characteristics between them.

Art. 6 Lead time - Options and renewals

6.1. Lead time

Delivery terms are set to **22 (twenty-two) months** from the date of the signature of the contract. The indicated delivery terms are not currently subject to extension and are bound to the maximum duration of the whole Project, which must not exceed **32 months** from the date of June 25, 2019.

This term includes the payment of all invoices.

6.2. Options and renewals

Awarding of complementary deliveries - options. The contracting authority reserves the right, within the limits set by art. 63, paragraph 3 of the Code, to activate the option of entrusting the contractor with specific electronic and mechanical spare parts. All for an estimated total amount not exceeding €300000 net of VAT and / or other taxes and legal fees.

6.3. Changes to the contract

Pursuant to art. 106, paragraph 1, lett. a) of the Code, the procurement contract may be modified in the context of the "options" defined in previous Par. 6.2, without requiring to activate a new call for tender procedure. Whenever a significant technological update would take place, the supply might be replaced. Any revision of the unit price of the product may not be 10% higher than the value of the first supply. If within the three years from the contract signature

Art. 7 Selection of the tender procedure

INAF is going to procure the receiver through a "competitive dialogue", i.e. a co-engineering work with economic operators (institutions, companies or consortia) intending to bid for its development. Only proposals of construction of a full receiver (not of its sub-assemblies), complying with a minimum set of requirements, will be considered. During the com-



petitive dialogue, whose regulations are described in this document, INAF will interact individually with the tenderers (under Non-Disclosure Agreement) and will discuss the possible technical solutions to adopt for the receiver, based on the information provided in document PON-OR1-01-SPE-01-All_1.pdf. These proposed solutions shall be technically sound and the claims fully supported by detailed analysis. The outcomes of the competitive dialogue will be used by INAF to prepare the final instrument specifications that will be adopted for the final tendering phase. Therefore, the detailed instrument technical specifications (like number of pixels, array configuration, down-conversion scheme, etc.) are not determined in the current phase, in order not to restrict possible solutions.

Given the above-analysed premises, the non-existence of integrated solutions already available on the market and the difficulty of establishing overall technical specifications with sufficient precision, the contracting authority established that the competitive dialogue is the most suitable procurement procedure for the selection of the bidder.

This Disciplinary/Tender Specification document provides the motivation given by the contracting authority in the Determination/Decision document to award the contract.

The tender is therefore entrusted through a competitive dialogue pursuant to articles 3, including 1, lett. vvv), 59, paragraphs 2, 64 and 75 of Legislative Decree 50/2016 and related regulations, with the criterion of the most economically advantageous offer, pursuant to art. 95, paragraph 3 sub 3-bis of the same Decree. Although not referred to in the “lex specialis”, the provisions of the Code applies.

Section 2 – Competitive dialogue: procedure details

Art. 8 Procedure sequence

This competitive dialogue procedure is based on three phases:

- **Phase I - prequalification;** the pre-qualification phase aims at assessing the technical, professional and economic requirements of the candidates that express an interest in being admitted to the dialogue procedure. The contracting authority will then proceed to verify the received applications, as well as to verify the completeness of the documentation. All admitted candidates will be informed of the continuation of the procedure and, in particular, of the start of the dialogue phase, with the transmission of the information on the conclusion of the first phase and the invitation to participate in the dialogue (“Invitation to participate in the dialogue”).

The sequence of Phase I is summarized below:

- Candidates submit application (with attachments) by email to:
inafoacagliari@pcert.postecert.it
- The INAF administration pre-registers the candidates on the INAF U-BUY web platform
- The candidates receive an automatic email with request of confirmation and selection of password. The automatic email is the confirmation that the application has been received.



- **Phase II - dialogue;** in the second phase the contracting authority invites the "qualified" economic operators to present the design solutions, examines them and dialogues with the admitted candidates, in order to identify the most suitable means and solutions to meet the needs and objectives of the supply.

The sequence of Phase II is summarized below:

- Evaluation of submitted applications (verification of admission requirements);
- INAF sends, through the INAF U-Buy web platform, invitation letters to qualified candidates and requests preliminary technical offers. Valid offers are those submitted by:

- a) invited candidates;
- b) consortia, led by one of the invited candidates, formed by one or more institutions/organizations (including those that have not qualified). Offers from consortia/temporary group of companies of two or more qualified candidates are not accepted (if company A and company B answer the call and both qualify to Phase 2 they will have to continue to compete separately to the tender).

The INAF technical documentation relative to the equipment that must be adopted for the receiver (preliminary drawings of mechanical derotator and receiver monitor&control) will be available for download under Non-disclosure agreement (NDA).

The preliminary offer shall include a preliminary technical proposal of the design and construction of the full W-band receiver (minimum specs provided by INAF in document "PON-OR1-01-SPE-01-All_1.pdf").

- submission deadline of the preliminary technical offer is not s;
- competitive dialogue between INAF and each of the candidates (official face-to face or videoconference meetings). NDA with each of the candidates.

- **Phase III - presentation and evaluation of the final offer;** during this (final) phase the contracting authority, on the basis of the solution or solutions identified,

- invites the economic operators, which now becomes "bidders" admitted to present a final offer
- evaluates the offers based on the award criteria
- establishes a ranking and a proposed bidder and bidding
- awards the procedure.

The contracting authority reserves the right to carry out negotiations with the awarded bidder, pursuant to art. 64, paragraph 11, letter b, of the Code.

The sequence of Phase III is summarized below:

- INAF writes the final instrument technical requirements;
- INAF requests the candidates to submit a technical and economic offer (to be received through the INAF U-BUY platform);
- technical and economic offer submission deadline;
- evaluation of the technical and economic offers and establishment of ranking bid order list. Provisional award of the contract to the first of the ranking list;



- INAF informs the bidder contract award winner;
- administrative verifications (min. 35 days);
- contract signature with awarded winner and Kick-Off-Meeting;
- INAF awards 10 k€ to all qualified bidders, up to a maximum of N=3 (including the winner), selected in decreasing order from the ranking list.

Art. 9 Procurement documentation, clarifications and communications

9.1 Documentation

Phase I of the competitive dialogue is governed by the following documents:

1. Call for tender
2. Tender specifications
3. Annex 1: Preliminary technical specifications
4. Annex 2: Tender application form
5. Annex 3: European Single Procurement Document
6. Annex 4: Liability Act
7. Annex 5: CINECA/U-Buy electronic platform User's Guide (in Italian)
8. Annex 6: Preliminary timeline

Pursuant to art. 74, free unlimited and direct access to the above full set of documents is guaranteed electronically:

- at the internet address http://eonstor.oa-cagliari.inaf.it/proffice/OR1-01_WBA/
- on the U-Buy electronic platform <https://inaf.ubuy.cineca.it/PortaleAppalti/>, section "Avvisi pubblici in corso"
- at the official website of the contracting authority

http://www.oa-cagliari.inaf.it/page.php?id_page=189&level=4&areadown=t

Moreover, the **call for tender** is available/published:

- in its integral form in the EU Electronic Official Journal platform TED, <https://ted.europa.eu/TED/>
- in its integral form in the Ministry of Infrastructures and Transportation dedicated internet website;
- as an executive summary in the Italian Official Journal (GURI);
- as an executive summary in two daily newspapers which are distributed nationwide in Italy;
- as an executive summary in two daily newspapers distributed in Sardinia, Italy.

9.2 Clarifications

Phase I – Prequalification, application form and annexes

Clarifications on this competitive dialogue can be obtained by sending emails to inafoacagliari@pcert.postecert.it. Economic operators based in Italy must use their PEC (electronics certified email) mailbox for communication.

Questions will be answered within 6 (six) days from date of receipt and will be published in anonymous form in the contracting authority internet website, "Amministrazione Trasparente" section, as well as on the electronic platform U-Buy, "Avvisi pubblici in corso" section.

Questions will be accepted both in Italian and English languages.

Telephone clarifications **are not allowed**.

Phase II (Dialogue) and Phase III (Bidding phase)

Clarifications can be obtained:

- by using the specific section "Comunicazioni" in the INAF U-Buy electronic platform;
- by sending e-mail messages to inafoacagliari@pcert.postecert.it

Questions will be answered within 6 (six) days from date of receipt and are sent to the bidders through the communication area of the electronic platform U-Buy or by e-mail (PEC).

Since the replies to be transmitted to the bidders contain information related to the solution to be submitted, the bidder questions must state what pieces of information must not be released on the INAF U-Buy platform, so that they are not visible to other competitors.

9.3 Information to bidders

- In the case of temporary groupings, EEIGs (European Economic Interest Groupings), aggregations of network companies or ordinary consortia, even if not yet formally established, the communication delivered to the representative is considered validly made to all economic operators grouped, aggregated or consortium members.
- In the case of consortia as per art. 45, paragraph 2, lett. b and c of the Code, the communication delivered to the consortium is considered validly made to all the consortium members.
- In case of availment, the communication delivered to the bidder is considered validly made to all the auxiliary economic operators.
- In the case of subcontracting, the communication delivered to the bidder is considered validly made to all indicated subcontractors.

Section 3 – Admission Rules and Participation in the Procedure

Art. 10 Tenderers and conditions of participation

The economic operators, also if established in foreign countries, can participate in the present tender in single or associated form, according to the provisions of the art. 45 of the Code, provided that they meet the requirements prescribed by the following articles.

The provisions of articles 47 and 48 of the Code apply to the associated economic operators.



It is forbidden for the competitors to participate in the tender in more than one temporary grouping or ordinary consortium of competitors or aggregation of companies adhering to the network contract (in the following also called “aggregation of network companies”).

It is forbidden for the competitor who participates in the tender in grouping or an ordinary consortium of competitors to also participate individually.

It is forbidden for the competitor participating in the aggregation of network companies to also participate individually. The network companies not participating in the tender may present an offer, for the same tender, in a single or associated form.

The consortia referred to in Article 45, paragraph 2, letters b) and c) of the Code are required to indicate, at the time of the offer, for which members the consortium competes; the latter are forbidden to participate in any other form in this tender. In case of violation, both the consortium and the consortium member are excluded from the tender; in case of non-compliance with this prohibition, article 353 of the penal code is applied.

In the case of consortia referred to in Article 45, paragraph 2, letters b) and c) of the Code, the consortium members designated by the consortium for the execution of the contract cannot indicate another subject for the execution.

Aggregations between companies adhering to the network contract pursuant to art. 45, paragraph 2 letter. f) of the Code, comply with the rules established for temporary groupings of companies as they are compatible. In particular:

- a) **in the case in which the network has a common body with power of representation and legal subjectivity (so-called network-subject)**, the aggregation of network companies participates through the common body, which will assume the role of agent, if in possession of the relevant requirements. The common body may also indicate only some of the network companies for participation in the tender but must necessarily be part of these;
- b) **in the event that the network has a common body with representative power but no legal subjectivity (so-called network-contract)**, the aggregation of network companies participates through the common body, which will assume the role of agent, if he possesses the requisites foreseen for the agent and if the re-contract stipulates a mandate to submit an application for participation or an offer for certain types of tender procedures. The common body may also indicate only some of the network companies for participation in the tender but must necessarily be part of these;
- c) **in the event that the network has a common body with no power of representation or is without a common body, or if the common body does not have the qualification requirements**, the aggregation of network companies participates as a formed or constituting group, with full application of the relative rules (see ANAC-National Anti-corruption Authority determination No. 3 of April 23, 2013).

For all types of networks, joint participation in tenders must be identified in the network contract as one of the strategic purposes included in the joint program, while the duration of the same must be commensurate with the time required to complete the contract.

The role of principal / agent of a temporary grouping of companies can also be assumed by a consortium referred to in art. 45, paragraph 1, lett. b), c) or by a sub-association, in the form of an established joint venture or consortium or a combination of network companies.

To this end, if the network has a common body with power of representation (with or without legal subjectivity), this body will take on the role of agent of the sub-association; if, on the other hand, the network is endowed with a common body lacking the power of representation or is without a common body, the role of agent of the sub-association is conferred by the network companies participating in the tender, by mandate pursuant to art. 48 paragraph 12 of the Code, giving evidence of the distribution of the participation shares.

Art. 11 General requirements

The economic operators for which there are causes of exclusion pursuant to art. 80 of the Code are excluded from the tender. Furthermore, economic operators that have entrusted tasks in violation of art. 53, paragraph 16-ter of the 2001 Legislative Decree no. 165, are also excluded.

The economic operators with headquarters, residence or domicile in the countries included in the so known **black list** referred to in the decree of the Minister of Finance of 4 May 1999 and in the decree of the Minister of Economy and Finance of 21 November 2001 must, under **penalty of exclusion from the tender**, be in possession of the authorization in course of validity issued pursuant to Ministerial Decree December 14, 2010 of the Ministry of Economy and Finance pursuant to art. 37 of Legislative Decree no. 78 of 3 May 2010 in accordance with Law 122/2010 or of the authorization application presented pursuant to art. 1 paragraph 3 of the Ministerial Decree of December 14, 2010.

Art. 12 Special requirements and means of proof

Tenderers, **under penalty of exclusion**, must meet the requirements set forth in the following paragraphs. The documents required by economic operators for demonstrating the requirements must normally be transmitted via AVCpass (web link provided further down) in accordance with the ANAC resolution n. 157 of 17 February 2016. Notwithstanding the aforementioned, in consideration of the use of an electronic platform for the exchange of communications, it is permissible to attach the documents when presenting the offer.

Pursuant to art. 59, paragraph 4, lett. b) of the Code, bids without the qualification required by the present specification will be excluded.

Art. 13 Eligibility requirements

Bidders must enrol in the Chamber of Commerce, Industry, Arts and Crafts Registry of Companies. Foreign Companies must be registered in one of the professional or commercial Registries of their country of residence) and their corporate mission must include or at least be consistent with the object of the tender.

The bidders not established in Italy but in another European Member State or in one of the other foreign countries referred to in art. 83, paragraph 3 of the Code, must submit a sworn declaration in the manner established in the country in which the bidder headquarters is established.



Art. 14 Requirements: economic and financial reliability

The results obtained by the contracting authority from the analysis of the reference market for the procurement object of this call show that the know-how necessary to design, construct and maintain the W-band multibeam receiver is available only in very few companies / economic operators, some of which are international scientific Institutions with high levels of technological skills. The required economic and financial capacity must therefore be relevant and proportionate to the subject of the contract, taking into account the public interest in having the largest number of potential bidders, also in order to favour the potential access by micro-enterprises and small and medium enterprises, and not excluding the international realities mentioned above. Economic operators will therefore have to demonstrate that they possess the economic capacity through the presentation of one of the following:

- The **financial turnover** carried out in the three-year period 2015-2017 shall be greater or at least be equal to the value of the tender (2.3 M€, corresponding to a ≈ 0.77 M€ yearly budget);
- The **financial turnover / annual account** that highlights the relationships between assets and liabilities;
- An equivalent document required by current Italian Laws or required by regulations and / or by-laws, which is certified by a third party and allows the contracting authority to assess the capacity of the bidder to economically support the development/construction of the W-band multibeam receiver.

For Companies whose financial operations are less than three years, the financial turnover requirements must be referred to the period of activity.

The proof of the requirement can be provided pursuant to art. 86, paragraph 4 and all. XVII part I, of the Code.

Pursuant to art. 86, paragraph 4, of the Code, the economic operator that for well-motivated reasons cannot present the above listed documents, must prove the economic and financial capacity by any other document that would be evaluated as a suitable substitution by the contracting authority.

Art. 15 Requirements: technical capability

A market analysis performed by the contracting authority has shown that the technological know-how required to develop the OR1 "W-band multibeam receiver for SRT" is available in a very limited number of organizations in the international context. In fact, the development of the receiver, subject of this supply contract, requires specialized know-how and considerable heritage in various and diverse high-tech disciplines and technologies. These include cryogenics, vacuum technologies, millimetre-wave technologies, low-noise microwave and millimetre-wave devices, quasi-optics, feeding system, waveguide circuitries, analogue signal processing, high-frequency and low frequency electronics, precision mechanics, remote monitor and control software, etc. These disciplines and technologies are mastered and available only at few high-tech companies, research institutions and University laboratories.



The economic operators (institutions/companies/consortia) shall demonstrate to possess the necessary technical know-how to successfully complete the instrument within the assigned timescale (approximately 22 months from contract signature) and budget (maximum net of VAT 2.3 M€). To be admitted to the competitive dialogue (admission to Phase II) the economic operators must meet both the financial and the technical requirements listed further down.

The bidder shall then demonstrate to have the required expertise, adequate human resources with technical and managerial teams, laboratory equipment and laboratory space allowing to complete the W-band receiver within the foreseen timescale and budget.

The bidder shall demonstrate to have a heritage in developing state-of-the-art receivers for radio astronomy by the adoption of design principles and techniques focussed on reliability and ease of operation based on experience. In particular, the tenderer shall provide a description of the background of its organisation relevant to this OR1 tender, including the organisation's knowledge, skills and experience in the fields of radio astronomy receivers or components at frequencies greater than 20 GHz. Examples of relevant instrumentation previously designed and constructed should be included.

In particular, in order to fulfil the admission criteria, the economic operators shall own at least one among the three following requirements:

- 1) Experience in developing radio astronomy cryogenic receivers at frequencies greater than 20 GHz;
- 2) Experience in design, fabrication and test of passive or active components for radio astronomy receivers or radiometers for frequencies greater than 20 GHz;
- 3) Demonstrated managerial capacity in the framework of developing radio astronomy cryogenic receivers;

The possession of the above indicated technical-professional capacities by the bidder shall be demonstrated by certifications proofing that radio astronomy receivers or components were either developed for its radio astronomy facilities or supplied to external institutions.

Valid certifications are publications or technical reports prepared by the tenderer that describe the supplied receivers and/or components as well as documents released by customers (public administrations or private companies) that describe the provided instrument/device along with the amount and time of contract execution. In case the publications and technical reports on relevant development are authored by a team of people belonging to multiple organizations, the contribution of the tenderer team shall be clearly stated.

Economic operators will therefore have to demonstrate that they possess the technical capacity requirements through the following:

- An organization chart illustrating which and how many human resources will be involved in the development of the W-band receiver for the SRT. This chart should allow the assessment of the actual availability of a team with adequate experience, competence, efficiency and reliability, developed with the provision of supplies with characteristics similar to that required for this tender.
- A document that illustrates the technological infrastructures, installations and instrumentation that will be used in the development/construction of the W-band receiver.

This document will allow INAF to assess the actual infrastructural availability of the potential bidders and the capacity to develop the instrument.

The proof of the requirement is provided, by original or certified copy of the certificates issued by the administration / contracting authority / private entity, indicating the object, the amount and the period of execution. If a foreign economic operator has intervened, any other document considered suitable by the contracting authority will be evaluated.

These documents (certifications, reports, organization chart, etc.) aiming at demonstrating the possession of the admission criteria must be attached to the application form (see Art. 25).

Art. 16 Indications for Temporary Groups, ordinary consortia, aggregations of network companies, EEIGs.

The subjects referred to in art. 45 paragraph 2, lett. d), e), f) and g) of the Code must possess the requisites of participation in the terms indicated in the previous paragraph. To the aggregations of companies adhering to the network contract, to the ordinary consortia and to the EEIGs, the discipline envisaged for temporary groupings of companies is applied, insofar as it is compatible. In ordinary consortia, the consortium member that assumes the largest share of executive activities has the role of leader that must be assimilated to the agent. In the event that the representative / agent of a temporary grouping of companies is a sub-association, in the form of an established consortium or a grouping of network companies, the related requirements for participation are satisfied according to the same methods indicated for groupings.

The requirement relating to registration in the professional and trade registers must be owned by:

- a) each of the companies grouped, consortium members or EEIG;
- b) each of the companies participating in the network contract indicated as executors and by the network itself in the event that it has legal subjectivity.

The technical capacity requirement referred to in the previous article must be possessed at least by the group representative. The group representative or a single consortium member must in any case possess the requisite and perform the services in a majority way in a relative sense.

NOTE Pursuant to art. 48 paragraph 11 of the Code, the economic operator that has individually submitted a request for participation and has been admitted individually to the competitive dialogue phase, that is, has been invited to present the technical solution that will be the subject of the dialogue phase and the subsequent final offer, has the right to present an offer or to negotiate for himself or as an agent of combined operators. The possibility of submitting an offer as principal of another operator also admitted to the competitive dialogue phase is therefore **excluded**. Two operators, both invited to the competitive dialogue phase, will therefore **not be allowed to join** as “temporary grouping of companies (RTI)” when presenting the solution based on the competitive dialogue and the final offer.

Art. 17 Indications for the Consortia of cooperatives and craft enterprises

and the permanent Consortia

Both the Consortium and their member which is proposed as supplier must be enrolled in the Chamber of Commerce, Industry, Arts and Crafts Registry of Companies.

The Consortia listed by art. 45 sub. 2 lett. b) must satisfy the economic and technical requirements.

The Consortia listed by art. 45 sub. 2 lett. c) can satisfy the economic and technical requirements also taking advantage of those owned by the member..

Art. 18 Availment

Pursuant to art. 89 of the Code, the economic operator, single or associated, can demonstrate the possession of the requisites requested by taking advantage of the capabilities of other subjects, including those participating in the grouping.

Availment is not permitted for the demonstration of general requirements and professional suitability.

Pursuant to art. 89, paragraph 1, of the Code, the reliance contract contains, **under penalty of nullity**, the specification of the requirements provided and the resources made available by the auxiliary. The tenderer and the auxiliary company are jointly and severally liable to the contracting authority in relation to the performance of the contract. The use of several auxiliaries is allowed. The auxiliary company cannot in turn make use of another economic operator.

Pursuant to art. 89, paragraph 7 of the Code, under penalty of exclusion, it is not allowed for the auxiliary to make use of more than one competitor and to participate in the tender both by the auxiliary company and by the company that makes use of the requirements. The auxiliary may assume the role of subcontractor within the limits of the requirements provided.

In the case of false declarations, the tenderer will be excluded and the guarantee will be enforced pursuant to art. 89, paragraph 1, without prejudice to the application of the art. 80, paragraph 12 of the Code. With the exception of cases in which false declarations exist, if for the auxiliary there are obligatory reasons for exclusion or where it does not satisfy the relevant selection criteria, the contracting authority imposes, pursuant to art. 89, paragraph 3 of the Code, to the tenderer to replace the auxiliary.

It is possible to remedy, by means of a special procedure, the non-production of the declaration of validity or the validation contract, on condition that the aforementioned elements are pre-existing and provable with documents of a certain date, prior to the deadline for submission of the offer. Failure to indicate the requirements and resources made available by the auxiliary company cannot be remedied as a cause of invalidity of the service contract.

Art. 19 Subcontracts

The “Company” that will be awarded with the supply contract has to execute it.

However, subcontracting might be authorized pursuant to art. 105 of the Code. In order to be able to subcontract, companies must preliminary list which part(s) of the offer that



they intend to subcontract to third parties, within the total amount of **40% of the contract value**, pursuant to art. 105 of the Code.

Please note again that the subcontract is subject to the requirement of prior authorization from the contracting authority, and will be authorized only when:

- a) the subcontractor meets the requirements of article 80 of the Code;
- b) at the time of the offer, the parts of the service or supplies to be subcontracted have been indicated.

Art. 20 Provisional guarantee / Bid Bond / Bank Guarantee

Due to the specific tender procedure, the **bid bond will be requested only to candidates who have passed the prequalification** and have therefore been admitted to the competitive dialogue.

The bid bond, as defined by the art. 93 of the Code, will be equal to € **46.000,00**, corresponding to 2% of the tender value. Reduction of the due amount will be pursuant to art. 93, paragraph 7 of the Code.

Pursuant to art. 93, paragraph 6 of the Code, the bid bond covers the non-signing of the contract, after the award, due to any fact attributable to the contractor or to the adoption of disqualifying anti-mafia information issued pursuant to articles 84 and 91 of the d. lgs. 6 September 2011, n. 159. The non-proof of possession of the general and special requirements are attributable to the assignee, among other things; failure to produce the documentation required and necessary for the stipulation of the contract. Any exclusion from the tender prior to the award, except in the cases referred to in art. 89 paragraph 1 of the Code, will not involve the provision of the provisional guarantee.

The provisional guarantee covers, pursuant to art. 89, paragraph 1 of the Code, also false declarations made in the context of the availment.

It is possible to remedy, by means of preliminary investigation, the failure to present the provisional guarantee and / or the commitment to issue a performance bond only on condition that they have already been set up before the presentation of the offer. It is the economic operator's responsibility to prove that these documents are issued on a date not later than the deadline for the submission of bids. Pursuant to art. 20 of Legislative Decree 82/2005, the date and time of formation of the electronic document can be opposed to third parties if applied in accordance with the technical rules on validation (e.g. time stamp).

The submission of a guarantee of lesser value or one or more of the characteristics indicated above (heading only to some participants in the Temporary Association, lack of mandatory clauses, etc.) can also be remedied.

Art. 21 Preliminary site visit.

Evaluating the tender and the related supply, the contracting authority **does not oblige** the companies to carry out the inspection at the Sardinia Radio Telescope site.



Art. 22 Payment of the contribution in favour of ANAC (ANAC fee).

Pursuant to the ANAC Resolution number 1174 of December 19, 2018 on "Implementation of the art. 1, paragraphs 65 and 67, of the law of 23 December 2005, n. 266" ("Resolution"), for the year 2019, the due **contribution** by the bidder.

Description	CIG	Due amount to ANAC
Competitive dialogue OR1 - WBAND	8018611F1D	€ 140,00

Outside the hypotheses referred to in Article 83, paragraph 9 of the Code, the contracting authority is entitled, if necessary, to invite competitors to provide clarifications regarding the content of the certificates, documents and declarations presented.

Art. 23 Sequential "electronic" steps of the tender procedure

Pursuant to art. 40 and 52 of the Code, communications and information exchanges within the tender procedures must use electronic means of communication. As already stated, the contracting authority will use the electronic platform made available by INAF through the CINECA Consortium, identified with the acronym "**U-Buy**". Take note of the U-Buy internet website address where economic operators has to logging-in

<https://inaf.ubuy.cineca.it/PortaleAppalti/it/>

Notwithstanding, the contracting authority is aware that the electronic **U-Buy** platform, by default used for the management of online tenders, does not make available a specific tool (sequence) for the development and electronic management of the various phases and documentary flows envisaged in the competitive dialogue. Therefore has adopted, with the master Decision Act ("**Determinazione a contrarre**"), the following:

Phase I - the prequalification application forms must be submitted, together with the annexes below listed (and within the deadline of the Call), to the mail inafoacagliari@pcert.postecert.it

Phase I - the Administration of the contracting authority will take care of registering the bidders on the electronic U-Buy platform. At the end of this registration procedure, the U-Buy will send, to the e-mail address indicated by bidders in their application form, a standard message requesting confirmation of registration and selection of the password. At the end of this procedure, only the bidders will know their username and password, so that they can actually logging-in to the U-Buy in order to join the further steps of the competitive dialogue.

Phase II - in order to send to the bidders, the invitation letter to participate in the competitive dialogue, and get back from them the preliminary technical documentation / design study, the contracting authority will adopt the U-Buy electronic tender ("e-tender") form of the "*negotiated procedure without prior publication of notice*": the e-tender will be identified by an internal code "Gxxx", where "xxx" is a numeric string. The exchange of

information, question and answers, during the dialogue phase, will be handled inside the U-Buy e-platform.

Phase III – once the dialogue is closed, the contracting authority will adopt again the U-Buy electronic tender form of the "*negotiated procedure without prior publication of notice*": this new e-tender will be identified by a new internal code, not linked to that used during Phase II. The contracting authority will then request to the candidates deemed suitable in the dialogue phase, to submit their final technical and economic offer, which will be evaluated by the selection Board.

Art. 24 Sign and Submit the documentation

All the documents uploaded shall be digitally signed by the authorized signatory of the bidder. The tender documents will be digitally signed through an electronic signature, in compliance with the specific requirements that will be given on the electronic platform used by the contracting authority. The documentation of the tenderer are also valid if, instead of signing them with a digital signature, subscribes manually in paper form and scans them, accompanying it to a copy of a valid identity document.

The digital signature can also be produced in the Pades-BES format. The contracting authority is aware that economic operators based abroad may not easily manage the digital signature according to this format. Therefore, economic operators that can use other formats, such as the Pades-BASIC, are therefore admitted. Conversely, the participation of economic operators that cannot submit the documentation with a digital signature format is not admissible.

Section 4 – Phase I – Documentation submission and evaluation.

Art. 25 Prequalifying - Documentation

Economic operators that intend to get invited to the competitive dialogue must submit by e-mail to the address inafoacagliari@pcert.postecert.it the following:

Administrative documentation.

With these documents, the bidders must demonstrate the compliance with the access requirements requested by the Code and the contracting authority. This set of documents includes:

- a. the Application form (with attached documentation)
- b. the European Single Procurement Document
- c. the Liability Act
- d. the PASSOE receipt
- e. the ANAC tax payment receipt
- f. further attachments which might be needed in order to be fully compliant with the tender administrative rules



Application Form

The application form is submitted, officially stamped (**€ 16,00**), using the form provided as attachment n. 2.

The candidate (potential bidder) indicates whether the application is submitted as a single economic operator or in association with other economic operators.

In case of participation in RTI, ordinary consortium, aggregation of network companies, GEIE, the competitor provides the identification data (company name, fiscal code, registered office) and the role of each company (agent / agent, leader / consortium member).

In the case of a consortium of cooperatives and craft enterprises or permanent consortium as per art. 45, paragraph 2 letter. b) and c) of the Code, the consortium lists the consortium member(s) on behalf of which it competes in the tender; if the consortium does not list for which consortium member(s) it competes it is understood that the consortium participates on its own account.

The Application Form will be signed:

- in the case of a temporary grouping or ordinary consortium constituted by the agent / leader;
- in the case of a temporary grouping or ordinary consortium not yet established, by all the subjects that will constitute the grouping or consortium;
- in the case of aggregations of companies adhering to the network contract, reference is made to the rules envisaged for temporary groupings of companies, insofar as it is compatible. In particular:
 - o if the network has a common body with representative power and legal subjectivity, pursuant to art. 3, paragraph 4-quater, of Legislative Decree February 10th, 2009, n. 5, the request to participate must be signed by the sole economic operator who holds the function of common body;
 - o if the network has a common body with power of representation but is devoid of legal subjectivity, pursuant to art. 3, paragraph 4-quater, of Legislative Decree 10 February 2009, n. 5, the application for participation must be signed by the company that holds the functions of the common body as well as by each of the companies participating in the network contract participating in the tender;
 - o if the network has a common body lacking the power of representation or if the network does not have a common body, or if the common body lacks the qualification requisites required to take on the role of mandatary, the application for participation must be signed by the company belonging to the network that holds the status of agent, or, in the case of participation in the form of the group to be established, by each of the companies participating in the network contract that participates in the tender.

In the case of a consortium of cooperatives and craft enterprises or permanent consortium as per art. 45, paragraph 2 letter. b) and c) of the Code, the Application is signed by the same consortium.

European Single Procurement Documentation (ESPD) (Italian DGUE)

The ESPD, which also includes relevant ancillary statements, is submitted electronically using the form provided by the contracting authority as attachment n. 3. Bidders are warned that the ESPD must be submitted by:

- in the case of temporary groupings, ordinary consortia, EEIGs, all economic operators participating in the joint procedure;
- in the case of aggregations of network companies from each of the network companies, if the entire network participates, or from the common body and the individual network companies indicated;
- in the case of cooperative consortia, artisan consortia and permanent consortia, the consortium and the consortium members on whose behalf the consortium contributes.

Liability Act

The Act must be submitted electronically using the form provided by the contracting authority as attachment n. 4. Bidders are invited to use the specific submission options listed in the ESPD paragraph.

PASSOE certificate

In order to get the PASSOE certificate, **potential bidders must register** to the Italian National Anti-corruption Authority (ANAC) electronic platform, which can be accessed at <http://www.anticorruzione.it/portal/public/classic/Servizi/ServiziOnline/AVCpass>

This electronic service is free of charge.

ANAC fee

Bidders must submit one of the following:

- a scan of the original paper copy of the receipt (together with a copy of an ID document of the signatory);
- a digital copy of the fee.

Foreign bidders only: it is possible to make the payment also by international bank transfer, to the bank account n. 4806788, opened at the Monte dei Paschi di Siena (IBAN: IT 77 or 01030 03200 0000 04806788 - BIC: PASCITMMROM) registered to the National Anti-Corruption Authority.

The purpose of the payment must only include the identification code for tax purposes used in the country of residence or headquarters of the participant (e.g. VAT number) and the CIG that identifies the procedure to which it intends to participate.

Specific further documentation

The following items only apply to the specific bidder administrative status:

Temporary groups already established

- authentic copy of the irrevocable collective mandate with representation conferred on the agent by public deed or authenticated private deed.
- statement indicating, pursuant to art. 48, co. 4 of the Code, that the service will be performed by the individual economic operators assembled or associated.



Ordinary consortia or EEIGs already established

- deed of incorporation and statute of the consortium or EEIG, in certified copy, with indication of the designated subject as leader.
- statement indicating, pursuant to art. 48, co. 4 of the Code, the percentage that will be performed by the individual economic operators associated with it.

Temporary groupings or ordinary consortia or EEIGs not yet established.

Statement attesting:

- the economic operator to whom, in the case of contract awarding, a special mandate will be conferred with representation or functions of the group leader;
- the commitment, if awarded, to comply with the regulations in force with regard to temporary groups or consortia or EEIGs pursuant to art. 48 paragraph 8 of the Code conferring special collective mandate with representation to the qualified company as agent that will stipulate the contract in the name and on behalf of the principals / consortium members;
- statement indicating, pursuant to art. 48, paragraph 4 of the Code, the percentage that will be carried out by the individual economic operators assembled or associated.

Aggregations of economic operators adhering to the network contract:

if the network has a common body with representative power and legal subjectivity

- act digitally signed pursuant to art. 25 of Legislative Decree 82/2005, with indication of the common body acting on behalf of the network;
- declaration, signed by the legal representative of the common body, indicating for which companies the network competes;
- declaration indicating the percentage that will be performed by the individual economic operators aggregated in the network.

Aggregations of economic operators adhering to the network contract:

if the network has a common body with power of representation but is devoid of legal subjectivity

- act digitally signed pursuant to art. 25 of Legislative Decree 82/2005, bearing the irrevocable collective mandate with representation conferred on the mandatory company; if the network contract has been drawn up with a non-authenticated digital signature pursuant to art. 24 of Legislative Decree 82/2005, the mandate in the network contract cannot be considered sufficient and it will be mandatory to confer a new mandate in the form of authenticated private writing, also pursuant to art. 25 of Legislative Decree 82/2005;
- declaration indicating the percentage that will be performed by the individual economic operators aggregated in the network.

Aggregations of companies adhering to the network contract:

if the network has a common body lacking the power of representation or if the network does not have a common body, or, if the joint body lacks the requisites of qualification required, it participates in the forms of the RTI constituted or constituting:

- in the case of a temporary consortium: act digitally signed pursuant to art. 25 of Legislative Decree 82/2005 with attached the irrevocable collective mandate with representation conferred on the agent, indicating the person designated as



the agent and the percentage that will be performed by the individual economic operators aggregated in the network; if the network contract has been drawn up with a non-authenticated digital signature pursuant to art. 24 of Legislative Decree 82/2005, the mandate must take the form of an authentic deed or private deed, also pursuant to art. 25 of Legislative Decree 82/2005;

- in the case of RTI constituting: act digitally signed in accordance with art. 25 of Legislative Decree 82/2005, with attached declarations, made by each competitor adhering to the network contract, attesting to:
 - o which competitor, if awarded, a special mandate will be conferred with representation or functions of the group leader;
 - o the commitment, if awarded, to comply with the regulations in force on temporary groupings;
 - o the percentage of supplies that will be performed by individual economic operators aggregated in the network.

The irrevocable collective mandate with representation may be conferred on the agent by private agreement.

If the network contract has been drawn up with a mere digital signature not authenticated pursuant to art. 24 of Legislative Decree 82/2005, the mandate must take the form of an authentic deed or private deed, also pursuant to art. 25 of Legislative Decree 82/2005.

The declarations referred to in this paragraph may be made or in the form of attachments to the Application.

Art. 26 Examination of the application form

The contracting authority will preliminary analyse the actual administrative documentation submitted by the potential bidder, in order to check if it is compliant to the economic and technical capability requested by the Call for tender.

The evaluation process will be held by the Manager of the tender procedure, known in the Code as “Responsabile del procedimento” or shortly “RUP” (Officer in charge of the procedure), supported by the Principal Investigator. The contracting authority, solicited by the RUP proposal, will decide the admission and exclusion of the bidders at the next stage of the tender procedure.

The contracting authority will exclude the bidder:

- if the documentation is received after the deadline;
- if the documentation is not compliant with the requirements of the call for tenders;
- if the non-possession of one of the requirements is ascertained;
- if it is established that the competitor has made false declarations.

Art. 27 Amendments to bidding documents

The deficiencies of any formal element of the application, and in particular, the lack, the incompleteness and any other essential irregularity of the elements and of the single European tender document (ESPD) referred to in art. 85 of the Code, with the exclusion of those



pertaining to the economic offer and the technical offer, can be remedied through the procedure for the preliminary investigation pursuant to art. 83, paragraph 9 of the Code.

The essential irregularity can be remedied if it is not accompanied by a substantial deficiency of the requirement for which the omitted or irregularly produced documentation was finalized. The subsequent correction or integration of documents will be allowed where it allows to certify the existence of pre-existing circumstances, i.e. requirements for participation and documents / elements accompanying the offer. The following rules apply:

- failure to meet the prescribed requirements for participation cannot be remedied by means of preliminary investigation and determines the exclusion from the tender procedure;
- the omitted or incomplete and irregular submission of declarations about the possession of the participation requirements and any other lack, incompleteness or irregularity of the ESPD and of the application, including the underwriting defect, can be remedied, with the exception of false declarations;
- the failed production of the declaration of reliance or the related contract may be subject to the present procedure only if the aforementioned elements were pre-existing and provable with documents of a certain date prior to the deadline for submission of the offer;
- failure to submit elements accompanying the offer (e.g. provisional guarantee and commitment of the guarantor) or conditions of tender participation (e.g. special collective mandate or commitment to grant collective mandate), both relevant in the tender phase, can be remedied, only if pre-existing and provable with documents of a certain date, prior to the deadline for submission of the offer;
- failure to submit statements and/or elements accompanying the offer, which are relevant in the executive phase, can be remedied.

For the purposes of the procedure, the contracting authority will assign the competitor a deadline, not exceeding ten days, in order for the necessary declarations to be made, integrated or regularized, indicating the content and the subjects that must make them.

If the competitor produces declarations or documents that are not perfectly consistent with the request, the contracting authority may request further clarifications, setting a final deadline under penalty of exclusion.

In the event of unnecessary expiry of the deadline, the contracting authority will exclude the competitor from the procedure.

Outside the hypotheses referred to in Article 83, paragraph 9 of the Code, the contracting authority is entitled, if necessary, to invite competitors to provide clarifications regarding the content of the certificates, documents and declarations presented.

Section 5 – Phase II. Starting the competitive dialogue

Art. 28 Kick-off Phase II – Letter of invitation

The contracting authority, with a special invitation letter, will inform the admitted candidates of the start of the competitive dialogue, inviting them to present their design

solutions, according to the indications and prescriptions contained in the technical annex to the present specification and of the further indications eventually contained in the letter of Invitation. In the "Invitation to participate in the dialogue" will be detailed, among other things:

- methods and terms of presentation of the design solution;
- procedures for presenting the provisional deposit;
- ways in which the dialogue will be conducted (see the following paragraph).

Art. 29 Formal sequence of the Phase II

The contracting authority will identify, in agreement with the PON Project Office, a technical working group to support the RUP, dedicated to the analysis of the design solutions, to the conduct of the dialogue phases, such as the recording of the documentation relating to the meetings and to communications with economic operators.

After the first analysis of the "design solutions" presented, the contracting authority will provide a calendar of meetings with the bidders. Each meeting will be carried out for each of them separately, aimed at illustrating the proposals. Bidders will be informed about date and time of each meeting by e-mail and via the electronic U-Buy platform, at least 3 days before.

Subsequent meetings may follow, of which prior notice will be given, during which the contracting authority will be able to continue the dialogue with the individual economic operators.

Minutes will be written down for each meeting and audio/video recordings may be scheduled; of each request of document integration, clarification or improvement of the "Design Solution" the relative documentation will be saved as an attachment to the minutes.

If carried out, the registration, used in compliance with the legislation concerning the processing of personal data and the right of access, will be a mere aid to the recording operations and the relative content will be destroyed, in accordance with the law, expired the terms to propose appeal against the tender documents and/or tender orders.

The Legal Representative of the economic operator or subject - including the general or special attorney - equipped with proven powers of representation (of which a copy of the relative power of attorney must be produced on the day of the convocation), accompanied by any collaborators, are eligible to participate in the dialogue. competent for specific issues that will be the subject of comparison, in a maximum number of 5 (five).

All communications and/or requests for information, document integration or clarification addressed to the aforementioned subjects, other than the Legal Representative, and the related findings will have value as if they were made directly to and from the latter.

During the dialogue phase, the contracting authority guarantees equal treatment for all competitors. To this end, no information is provided that may benefit certain competitors over others.

In this phase INAF, in compliance with Article 91 of the Code, does not disclose to the other participants confidential information communicated by a bidder participating in the negotiations without the latter's agreement. This agreement does not take the form of a

general exception, but is considered to refer to the communication of specific information expressly indicated.

During the dialogue then the contracting authority:

- may discuss with the candidates all aspects of the solutions proposed, including the general approach and the elements to be developed in the project to be entrusted from a technical, organizational and performance standpoint, and any other aspect deemed worthy of analysis and evaluation for the purposes of project implementation;
- will be able to verify the non-existence or the existence of critical issues:
 - the methods of formulation of the technical offer and the economic offer;
 - technical type of the tendered project;
 - linked in general terms to the financial sustainability of the project, without expressly providing an economic quotation, under penalty of exclusion from the procedure;
- guarantee equal treatment for all participants;
- will not provide information in a discriminatory manner in order to favor some participants over others;
- will not reveal to the other participants the critical points highlighted or the solutions proposed by the candidates nor other confidential information communicated by the candidate, except in any case make any modification and / or integration deemed necessary to the tender documentation;
- may request competitors to clarify, specify, improve or improve their solutions;
- will be able to reduce the proposed design solutions if these, or the relative prototypes, are not suitable to meet the needs and objectives set

The contracting authority will proceed with the Dialogue phase until the solution or solutions that meet the needs, minimum conditions and objectives set in the Specifications and in the descriptive technical document will be identified.

The contracting authority reserves the right to identify the best elements of the proposals and solutions presented in Phase II; in this sense, participation in the tender involves the form-assent to the disclosure of the data contained in the proposals themselves, with the exception of those covered by copyright, by industrial patent, by patent or by other forms of protection provided by law.

The contracting authority may then proceed to adjust the content of the tender documents to the outcome of the dialogue, in compliance with the equal treatment and non-discrimination of the competitors.

The contracting authority may always justifiably acknowledge that none of the solutions proposed has satisfied its needs, and in this case it will immediately inform the candidates who will not be entitled to any compensation or compensation.

The contracting authority reserves the right to proceed with the dialogue even in the presence of only one request for participation deemed suitable and to proceed to Phase III even in the presence of only one design solution deemed valid.

The estimated duration for Phase II is 60 (sixty) calendar days; this duration may also be reduced or increased depending on the number and complexity of the solutions to be examined.



From the moment of receiving the invitation letter the candidates will have **21 (twenty-one) calendar days to present their initial technical proposal (preliminary technical offer)**.

The conclusion of the dialogue phase will be communicated to each of the admitted competitors.

Art. 30 Phase II - Preliminary technical solutions

The tenderer must transmit, through the U-Buy e-procurement website, a **“Report”** describing a **“preliminary technical solution”** for the development of the **W-band multibeam receiver**, whose minimum requirements are detailed in document “PON-OR1-01-SPE-01-All_1.pdf”. The Report shall describe one or more technical solutions that meet the minimum receiver requirements and shall include:

- a) a **preliminary feasibility analysis** with a list of the main receiver specification that the tenderer proposes to achieve: receiver configuration, number of pixels within the usable area of the focal plane, down-conversion scheme, RF and IF bands, receiver noise temperature, image sideband rejection;
- b) a **receiver system diagram**;
- c) the **intended technical solution for the cryogenic dual-polarization focal plane array**:
 - configurations 3×3, 3×4, 4×4, other?
 - main specification of feed-horns, OMTs, vacuum window and infrared filters;
 - main specifications of the cryogenic Low Noise Amplification (LNA) modules (single dual-polarization LNA module? one LNA module per polarization channel? two cascaded LNAs per polarization channel? other?) with indication of the pixel footprint size;
- d) the **proposed technical solution for the down-conversion system** (sideband separation or single side band schemes? downconverter placement outside or inside the cryostat? Local Oscillator distribution scheme? mechanical arrangement with one module per dual-polarization pixel? one module per multiple pixels? other?);
- e) a statement on **how the tenderer intends to procure the key passive and active components of the receiver**, in particular the feeds, OMTs, the LNAs and the downconverters;
- f) **any additional technical element** that will allow INAF, during the official meetings to behold during the competitive dialogue (Phase II), to prepare the final technical specification of the W-band receiver (cryostat configuration, calibration system, solar filters, integration with mechanical de-rotator and mechanical frame, etc.);
- g) the facilities and tools (simulation software programs, fabrication labs, component packaging, receiver integration, main test instruments, laboratory space, etc.) that the tenderer will have access to in order develop and built the receiver;
- h) a **brief description of each team member** including a statement of how team members complement each other to meet the knowledge and required skills. Additionally, the tenderer might include an estimate of the workload and the information in the table below:



Key personnel				
Name and affiliation	Area of expertise relevant to this assignment	Assigned tasks	Base location	Number of days

- h) **a preliminary work plan** with analysis, reporting, and project milestones. In particular, the preliminary work plan shall include a project timeline to describe the proposed approach on how to design, fabricate, integrate, test and deliver the W-band receiver and its spare parts to the SRT within the timeframe imposed by the tender contract (less than 22 months from contract signature);
- i) the proposed quality assurance method (if possible, also include who will do the quality assurance for the receiver and sub-assemblies);
- l) the tenderer shall anticipate any applicable laws to foresee any potential Intellectual Property (IP) issues related to the competitive dialogue, in order to assist both parties in determining the types of IP that will be included in the contract in case of contract award (IP protection, IP duration, confidentiality, Non-Disclosure Agreement, special clauses, etc.).

Section 6 – Phase III - Final. Soliciting Technical and Economic Offer

Art. 31 Kick-off Phase III – Letter of invitation

The contracting authority, after closing the dialogue / Phase II, will send to the admitted bidders, on the U-Buy e-platform, an invitation letter soliciting them to upload their Offer, both Technical as well as Economic.

In the invitation letter the contracting authority:

- defines the final technical documentation of the tender, based on the outcome of the dialogue;
- specify the terms, conditions and methods of presentation of the final Offer (technical and economic);
- will specify the evaluation criteria, the scores attributable and the related motivational criteria, in compliance with the principles of competition and non-discrimination.

Offers will not be accepted:

- when presented by parties other than those who participated in the second Phases of the competitive dialogue (Phase II)
- if incomplete, partial or subject to conditions

- if bid value is higher than the tender value

The award will be based on the criterion of the most economically advantageous offer identified on the basis of the best quality / price ratio, pursuant to art. 95 paragraph 6 of the Code.

The contracting station reserves the right to proceed with further negotiation with the proposed winning bidder of Phase III, in order to define some contractual terms, without modifying the conditions of the contract and guaranteeing equal treatment and non-discrimination.

Pursuant to paragraph 13 of the art. 64 of Legislative Decree 50/2016, a **€ 10.000,00 award** (VAT at the rate of 22% included) will be granted to the three bidders best ranked in the competitive dialogue final ranking (including the winner).

Art. 32 Content of the final Technical and Economic offer

The bidder will have to upload, through the U-Buy portal, its own bidding documents. Both of them must be digitally signed through one of the above indicated methods for the subscription of the Application Form.

The **technical offer** should have a maximum number of pages equal to 100 (one hundred), body font 12, (excluding attachments / graphic schemes).

The **economic offer**, the “price bid document”, pursuant to art. 95 paragraph 10 of the Code, must quote:

- the bidder’s own labour costs;
- the bidder’s charges concerning the fulfilment of health and safety provisions in their workplace.

Important note: specific attention must be paid to the definition of the cost of the items listed below, which must be explicitly estimated and indicated separately in the **economic offer**, so that such items can be recognized as eligible for payment by the EU:

- charges for packaging
- installation
- conformity verification
- enrolment fees
- duties
- clearance charges.

Art. 33 Award criteria and scoring methods

The contract is awarded because of the evaluation made by a selection Board, which must also state the product's compliance with the minimum requirements imposed by the contracting authority with the technical specifications.

The contract is awarded based on the most economically advantageous bid criterion identified on the basis of the best quality / price ratio.

Award criteria - General

The evaluation of the technical and of the economic offers will be based on the following preliminary top scores:

	MAXIMUM SCORE
Technical Offer	95
Economic Offer	5
TOTAL	100

Award criteria – Technical score, criteria and sub criteria

The score of the technical offer is attributed on the basis of the evaluation criteria and sub-criteria listed in the table below, with the relative distribution of the scores. If the total technical score, before the parameter adjustment/normalization, is **less than 50 (fifty) points**, the technical offer will be deemed inadequate to meet the needs of the contracting authority. The evaluation and attribution of the score will be carried out even if only one bid will be submitted.

Main technical criteria	Number of pixels, RF & IF bandwidths, Receiver noise temperature, Sideband rejection ratio.
Secondary technical criteria	All other receiver performance figures: antenna efficiency, passband flatness, cross-polarization efficiency, spillover efficiency, sidelobe level, calibration system, level of spurious harmonics, pixels angular spacing, gain stability, solar filter performance, receiver weight and size, etc.
Discretionary criteria	Quality of the technical proposal; logistics considerations;
Other criteria	Number of spare parts beyond the number foreseen by the contract, economic-financial offer, on-site intervention time during the one-year guarantee, on-site service beyond the one-year guaranteed time, early receiver delivery, etc.

In order to homogenize the evaluation operations and improve the accountability of the motivation, the Board will proceed to express for each discretionary evaluation criterion a synthetic judgment corresponding to one of five predetermined judgments. Each of these judgments, according to the shown evaluation grid, will automatically correspond to a mathematical coefficient, to be used for the actual attribution of scores.

EVALUATION	COEFFICIENT
Level 5. Top level. The proposal presents a mix of elements, specifications and conditions such as to guarantee high quality standards in the pursuit of aims, objectives and expected results defined with the tender documents.	1



Level 4. More than adequate. The proposal has elements, specifications and conditions that guarantee the achievement of a level that is more than adequate for what concerns finality, objectives and expected results defined with the tender documents	0,75
Level 3. Partially Adequate. The proposal has elements, specifications and conditions that appear to be partially adequate to guarantee the pursuit of objectives, objectives and expected results defined with the tender documents	0,5
Level 2. Partially inadequate. The proposal has elements, specifications and conditions that appear partially inadequate to guarantee the pursuit of objectives, objectives and expected results defined with the tender documents.	0,3
Level 1. Totally inadequate. The proposal appears totally inadequate for the pursuit of objectives, objectives and expected results defined with the tender documents	0

The definitive coefficient of each evaluation criterion is given by the average of the coefficients assigned by each commissioner. The score assigned for each criterion is given by the product between the final coefficient and the score of the specific criterion. The overall score is given by the sum of the scores assigned to each criterion.

Award criteria - Economic Offer - score attribution algorithm

The selection Board has a **5 points** score to assign to the bidder according to the bid price, which is obtained from the application of the discount offered with respect to the amount based on the tender. The economic score of the offer "a" will be calculated by associating a coefficient, which is bounded in the interval [0,1], $P(a)$, according to the following linear interpolation formula:

$$P(a) = \frac{R(a)}{Rmax}$$

Where

- R(a) is the discount value (percentage) for the bidder "a";
- Rmax is the the maximum discount value (percentage) offered

The score for the tenderer's economic offer "a", $E(a)$, will be computed as $E(a) = 5 * P(a)$.

Method for computing the total score

The selection Board, once done the allocation of the coefficients to the qualitative elements (even if expressed in tabular form) and quantitative elements, will proceed, in relation to each offer, to the attribution of the scores for each single criterion according to the aggregative-compensator method. The calculation of the total technical and economic score to be attributed to the individual tenderers will therefore be made using the following formula:

$$C(a) = \sum_{i=1}^n [W_i * V_{(a)i}] + E(a)$$

$V_{(a)i}$ is the technical performance coefficient, variable in the interval $[0,1]$, of the tenderer's bid "a" with respect to the i -th criterion (see previous criteria table). The calculation of $V_{(a)i}$ is done according to a table criterion.

W_i is the weight chosen by the contracting authority for each of the evaluation criteria included in the technical score's table.

$C(a)$ is the total score, sum of the overall technical and economic score, obtained by the competitor "a", which defines the final ranking used for the award proposal.

Art. 34 Selection Board working activity

According to the note of the President of the Anticorruption Authority of 9 January 2019, entitled "Deferral of the operations of the Register of Selection Board Members pursuant to Article 78 of the Legislative Decree of 19 April 2016, n. 50", with which the Authority deems necessary, in order to avoid repercussions on the procurement market, to defer the start-up time of the system of the register of tender commissioners to 15 April 2019, for the purpose of carrying out the tender sessions and of the relative award proposal, the Director of the contracting authority, after the deadline set for the submission of tenders, will appoint the judging Commission. Pursuant to art. 77 co. 3 of the Code, the Selection Board's members are identified by the contracting authorities by public draw from a list of candidates consisting of a number of natives at least twice as many as that of the members to be nominated".

If there is only one valid offer, the commission will have to proceed with the evaluation of the adequacy of the technical offer, assigning the scores in accordance with the arrangement illustrated above.

All the tender phases and the operations carried out by the Commission will be recorded in specific reports. Any exclusions will be carried out by the person in charge of the procedure, who will have to give detailed justification.

Art. 35 Tender operations – Evaluation of technical and economic offers

After informing the admitted competitors, the selection Board will open the digital envelopes of the technical offers in "public session", and will verify the electronic presence of the documents required by the present specification.

In one or more private sessions the commission will proceed with the examination and evaluation of the technical offers and the assignment of the relative scores by applying the criteria and the formulas listed above.

Art. 36 Tender operations – Evaluation of the offer / price bid anomaly

To the occurrence of the assumptions of the art. 97, paragraph 3, of the Code, and in any other case in which, on the basis of specific elements, the tender proposed as the successful bidder appears to have an abnormally low price bid, the contracting authority / RUP, using the technical support of the Board, assesses their congruity, reliability, sustainability and feasibility.

The RUP

- will proceed to verify the first best offer abnormally low. If this offer is found to be abnormal
- will proceed in the same way with the subsequent offers, until the best offer deemed non-anomalous is found
- has the right to proceed simultaneously with the verification of the adequacy of all abnormally low bids.

The RUP requests in writing the tenderer who submitted the offer that is considered potentially anomalous, the presentation, in writing, of the explanations, if necessary indicating the specific components of the offer deemed anomalous. To this end, it assigns the bidder deadline for the transmission of explanations not less than fifteen days from the receipt of the request sent by the contracting station.

The RUP examines in a confidential session the explanations provided by the bidder and, if it deems them insufficient to exclude the anomaly, it can request, also through face-to-face meeting, further clarifications, assigning a maximum deadline for feedback.

The RUP excludes, pursuant to articles 59, paragraph 3 letter. c) and 97, paragraphs 5 and 6 of the Code, the offers which, based on the examination of the elements supplied with the explanations are, on the whole, unreliable and proceeds to formulate the award proposal for the first non-anomalous offer present in the ranking.

Section 7 – Award phase

Art. 37 Award - Control over the reasons for exclusion

Based on the outcome of the evaluation of the offers and after verification and approval of the award proposal submitted by the RUP, pursuant to articles 32, paragraph 5 and 33, paragraph 1 of the Code, the contracting authority awards the contract. It is understood that, if no offer is suitable or appropriate in relation to the object of the contract, the contracting authority reserves the right not to proceed with the awarding pursuant to art. 95, paragraph 12 of the Code.

Pursuant to art. 32 co. 7 of the Code, the awarding becomes effective only after verification of the inexistence of the reasons for exclusion provided for by art. 80. In the event of a negative outcome of the checks, the contracting authority will proceed with the revocation of the award, the report to the ANAC and the forfeiture of the provisional guarantee (if requested). The contracting authority will, therefore, award the second on the list, proceeding also to the verifications in the terms indicated above.

Art. 38 Award - Final guarantee – Performance Bond

Pursuant to art. 103 of the Code, at the time of stipulating the contract the contractor must compulsorily establish a guarantee of a minimum amount equal to 10% of the net al-



lotment price but in any case related to the percentage discounted, pursuant to the aforementioned art. 103 of the Code. Failure to provide the guarantee will result in the forfeiture of the award. The guarantee will be given through a bank or insurance policy, issued by an authorized institution, attached to the Ministerial Decree n. 123 of 2004, in compliance with the clauses set out in the standard model 1.2 attached to the aforementioned decree, supplemented by the explicit waiver clause pursuant to Article 1957, paragraph 2, of the Civil Code, in accordance with Article 103 of the Code with a duration of not less than six months beyond the deadline for completing the activities. The guarantee is presented in original form to the contracting authority before the formal submission of the contract, even limited to the technical sheet. The bank guarantee or the insurance policy must therefore be unconditional and expressly provide for the renunciation of the benefit of the preventive enforcement of the principal debtor and its operation within 15 days by simple written request of the contracting authority.

The deposit is presented to guarantee the exact fulfilment of all the obligations of the contract and the compensation for damages deriving from the possible non-fulfilment of the obligations in the phases of carrying out the service.

The Contracting authority has the right to avail itself of the bail for the possible greater expense, sustained for the execution of the contract, in the case of termination of the contract arranged to the detriment of the Contractor; he also has the right to use the deposit to pay the amount owed by the Successful Bidder for non-compliance resulting from the non-observance of the rules and provisions of collective agreements, laws and regulations on protection, protection, insurance, assistance and security physical labour. The Contracting authority also has the right to use the security for the compensation of the penalty due in case of deviation of the company's time commitments with respect to the Technical Offer.

The Contracting authority has the right to ask the contractor for the reinstatement of the security if it has failed in whole or in part. The costs relating to the provision of the security and any reinstatement are the responsibility of the contractor.

The forfeiture of the security does not prejudice the further actions to which the non-fulfilment of the obligations assumed by the contractor may give rise to.

Art. 39 Award - Signature of the Contract / Order Submission

Pursuant to art. 32, paragraphs 9 and 10, the dilatory term of the contract stipulation does not apply to this contract. Furthermore, the stipulation of this contract is not subject to the positive outcome of the procedures envisaged by current legislation on the fight against the mafia.

The stipulation will take place within 60 days of the effectiveness of the award pursuant to art. 32, paragraph 8 of the Code, except for the deferral expressly provided for by the contracting authority.

The contract will be signed electronically, by private deed, and is subject to the obligations regarding the traceability of financial flows pursuant to Law of 13 August 2010, n. 136.

In the cases referred to in art. 110 paragraph 1 of the Code, the contracting authority will progressively consult the parties that participated in the tender procedure, resulting from



the relative ranking, in order to enter into a new contract for the assignment of the execution or completion of the supply.

The contractor is also responsible for all contractual costs, tax charges such as taxes and duties - including registration fees where due - relating to the stipulation of the contract. Pursuant to art. 105, paragraph 2 of the Code the contractor notifies, for each subcontract that does not constitute subcontract, the amount and the subject of the same, as well as the name of the subcontractor, before the beginning of the service.

The contractor deposits, before or at the time of signing the contract, the ongoing cooperation, service and / or supply contracts pursuant to art. 105, paragraph 3, lett. c bis) of the Code.

Art. 40 Award - Starting activities before signing the contract

Without prejudice to the provisions of art. 32 paragraph 7 of the Code regarding the effectiveness of the award, having taken note of the binding and strict timing of execution of the contract, the contracting station, having assessed that the failure to immediately execute the service object of the tender would cause serious damage to the public interest which is destined to satisfy, including the loss of EU funding, believes that the conditions exist to start the execution of the contract urgently, pursuant to art. 32 paragraph 8 of the Code.

Section 8 – Execution phase. General statements.

Art. 41 Change in the price bid

The price bid is set as the maximum amount which can be paid by the contracting authority, and cannot be increased. That price will remain valid for not less than six months from the date of presentation of the offer.

Art. 42 Advance Payment

Pursuant to art. 35 paragraph 18 of the Code, the contracting authority will grant, within fifteen days of the actual start of the activities, an advance payment which is equal to the 20 percent of the value of the contract. The payment of the advance is subject to the constitution of a bank or insurance guarantee for an amount equal to the advance plus the legal interest rate applied to the period necessary for the recovery of the advance itself according to the schedule of the activities. The aforementioned guarantee is issued by banking companies authorized pursuant to legislative decree 1 September 1993, n. 385, (Text of banking and credit laws) or insurance laws authorized to cover the risks to which the insurance refers and which meet the solvency requirements provided for by the laws governing their respective activities. The guarantee can also be issued by financial intermediaries registered in the list of financial intermediaries referred to in Article 106 of Legislative Decree 1 September 1993, n. 385. The amount of the guarantee is gradually and automatically reduced during the activities.



Art. 43 IPR - Intellectual property rights

With the presentation of the offer, the bidder relieves the contracting authority of any responsibility and possible consequences deriving from the infringement of industrial and / or intellectual property rights committed with the execution of the contract. The contractor will finalize the contract awarded by supplying goods and services on which there are no private rights, by way of example and absolutely not exhaustive, rights to designs or models, patents or trademarks, trade names.

The contracting authority, without any further charges, is therefore recognized the set of rights of economic use and the intellectual property rights that the laws in force recognize to the author and to the owner of the copyright, however inherent, consequential or connected to the object of this tender procedure.

The system that is the subject of the supply will also remain the exclusive property of the INAF, for which the contractor cannot claim rights, for parts or for the whole of the goods supplied. The contractor also guarantees that the goods supplied do not contain hardware and / or software elements subject to exclusive rights and that they entail the establishment of a technical lock-in for the contracting authority and a consequent future constraint for its ordinary and extraordinary maintenance.

Art. 44 Use of pictures, logos and images by the contractor

It is **expressly forbidden** to the contractor, single or associated according to the different methods provided for by the Code, including its subcontractors, the use of images and / or videos, with references to the contract awarded, for advertising purposes and / or marketing.

It is expressly forbidden, remaining excluded the possible obligations connected with the safety signs or other constraints imposed by normative disposals, to exhibit, by way of non-exhaustive example, panels, banners, banners, labels, on elements, parts, buildings, facilities owned by INAF subject of the contract to be awarded.

If the contractor wants to include images and / or photos and / or buildings and / or spaces belonging to INAF in his / her portfolio of activities that have as subject the images and / or buildings and / or spaces, he / she must request for use, also after the regular execution of the contract, express authorization to the contracting authority.

Art. 45 Payments

The contracting authority will make the payment of the contractual fee once the services have been performed, following the authorization of the Director of contract execution as confirmed by the RUP upon presentation of an electronic invoice (this applies only to contractors based in Italy). The contractor may issue the invoice only upon explicit authorization by the Director of the execution of the contract or of the RUP.

The payment mandate may be issued only in the presence of a positive verification of the regular assessment in terms of contributions payment.

If the contractor is a Temporary Grouping of Companies, the Administration has now that the billing is carried out, for the entire amount due on account and in full, by the agent alone, against whom the commitment will be taken relative expense.

Pursuant to Legislative Decree 192/2012 the payment will be executed, in the presence of regular contributions, within thirty days from the date of acceptance of the (electronic) invoice.

Since the contracting authority is one of the public administrations subject to split payment, the contractor based in Italy must issue an invoice with the words "Operation subject to split payment with VAT not collected by the transferor pursuant to Article 17-ter of Presidential Decree 633/1972" and will collect only the taxable amount, while VAT will be paid to the Treasury by the same contracting authority, instead of to the supplier.

A project timeline for the final contract execution phase, Phase IV "Receiver construction, testing, delivery and installation", immediately following the contract signature, is summarized below. Here, we assume the contract signature is at time $T_0=20/03/2020$.

- 20/03/20: M0-Start of execution phase and first instalment (20% of awarded budget - requires provisional warranty);
- 20/03/20-19/03/21: M1-Subsystem design and fabrication. Factory acceptance test and second instalment (30% of awarded budget);
- 22/03/21-20/12/21: M2-Factory acceptance test of full receiver and third instalment (40% of awarded budget);
- 21/12/21-21/01/22: Dismounting receiver, packaging and delivery of the receiver to the SRT site;
- 24/01/22-10/02/22: M3-Receiver installation on the SRT, receiver acceptance test on telescope and final settlement (10% of awarded budget);
- 11/02/22-24/02/22: Financial closure and end of project.

The advanced payment M0 will amount to 20% of the total awarded budget. The advanced milestone payment M0 might be issued at contract signature only if the awarded economic operator can provide a provisional warranty as a security for the completion of the work defined in the SOW (Statement of Work) document. If not, there will not be advanced milestone payment M0 and the second (M1) and third (M2) instalments will be 45% each. The final settlement (M3) will be 10% of the awarded budget.

A table summarizing the proposed milestone payments is indicated below. The third and last columns indicate, respectively the expected milestone time (to be defined in the contract) and the maximum payment amount, assuming the contract is awarded for the tenderer top amount. The actual payable amount at each milestone will be normalized to the awarded amount (less or equal to the top amount):

Milestone payment	Month of payment	Expected time	Reason	Payment percentage of contract award	Maximum net amount
M0	0	T_0 , 20/03/20	First instalment	20%	460 k€

M1	12	19/03/21	Second instalment	30%	690 k€
M2	21	20/12/21	Third instalment	40%	920 k€
M3	22	10/02/22	Final settlement	10%	230 k€

Art. 46 Disputes - Defaults - Penalties

46.1. General - Penalties for breaches

If the contractor fails to comply with the obligations set forth in the SOW/Technical Specifications, will incur in penalties in the measure specified below, without prejudice, in any case, to the indemnification of further damage (Article 1382 of the Italian Civil Code.

46.2. Findings – Communications

Penalties will be applied and the relative amounts will be debited in accounting with the simple ascertainment of the RUP or its appointee, in the presence of the contractor or his appointee. If the Successful Bidder or his representative is not present, the notice of the RUP will still be valid.

46.3. Charge of penalties

All the penalties listed below are accounted for as a deduction on the payment immediately following the event occurrence.

For each discrepancy in the execution of the contract with respect to the technical offer (a non-compliance of one among the specification settings) the contracting authority will apply a penalty of 0.2% (0.2 percent) of the awarded contract amount. Upon application of the aforementioned penalty, a formal warning will be issued by the RUP; whenever in the event of non-fulfilment, the contracting authority will, in the absence of a plausible justification, proceed to the dispute in writing of the detected irregularity/irregularities.

The total amount of the penalties cannot exceed 10% (ten percent) of the awarded contract amount; if the discrepancies lead to a penalty for an amount exceeding the aforementioned percentage, the article regarding the termination of the contract applies.

In the event of reiteration of the failure to comply with the aforementioned parameters for more than three times, the Contracting authority reserves the right to terminate the contract.

The application of the penalties does not affect the compensation for any damages or additional charges incurred by the contracting authority due to delays.

The other cases of termination of the contract envisaged by current legislation, not covered here, remain unaffected.

The penalties are cumulative.

46.4. Payments to subcontractors

If the contractor entrusts subcontracted services and fails to transmit to the contracting authority the documentation of the payment made to the subcontractors within 20 days, a penalty of 100 € (one hundred euros) will be applied for each day and each subcontractor that will be subtracted from the due residual amount.

Art. 47 Withdrawal by the Administration for reasons of public interest

The contracting authority may unilaterally withdraw, for reasons of public interest, from the contract that will be stipulated, even if the activities have started. In this case, notwithstanding the art. 1671 of the Civil Code, the contractor will have the right to receive only the fraction of the awarded contract amount related to the services performed up to the moment of the communication of the withdrawal. The communication of the withdrawal will be formalized by registered letter with acknowledgment of receipt by observing a notice of at least thirty calendar days. In such an event, the contracting authority will give up any claim of compensation or reimbursement.

Art. 48 Bankruptcy of the contractor

In case of bankruptcy of the contractor, the contracting authority may refer and use the procedure envisaged by the art. 110 of the Code.

Art. 49 Termination of the contract

Automatic resolution

The Contracting authority may proceed to declare the automatic termination of the contract pursuant to art. 1456 of the Civil Code by communication via electronic certified mail PEC (or corporate e-mail) without formal notice or without the intervention of a Judge, and without prejudice, however, to the penalties to be imposed and all liability arising for the company, also if only one of the following cases occurs:

1. non-correspondence of the services to the technical specifications required by the tender or improved with the technical offer presented by the contractor;
2. for repeated non-compliance and contractual violations;
3. in cases of fraud, gross negligence in the performance of contractual obligations by the company or failure to reinstate the performance bond, if required;
4. in the event of termination of the company, cessation of activity, arrangement with creditors, bankruptcy or moratorium status;
5. in the event of death of the owner of the contractor, when the consideration of the contracting authority is a qualifying reason for the contract award;
6. in the event of death of some of the shareholders in companies set up in a de-facto or collective name; or of one of the general partners in limited partnerships, when in the judgment of the contracting authority is a qualifying reason for the contract award;

7. in case the contractor merges with another economic operator after contract award, when the contracting authority does not want to continue its contractual relationship with the new economic operator;
8. non-fulfilment of the provisions of the RUP for the correct execution of activities within the times and methods described in the tender documents;
9. non-compliance with the law on accident prevention, occupational safety, mandatory insurance for operators, failure to comply with safety regulations in the workplace or product safety regulations;
10. subcontracting or even partial transfer of the contract out of the cases not expressly permitted by the present specification or by the current legislation;

Irregularities - Delays

Any delays in the contract, with respect to the final timeline exceeding 30 (thirty) consecutive natural days will determine the termination of the contract, at the discretion of the contracting authority and without obligation of further motivation, pursuant to article 110 of the Code.

The termination of the contract will be applied after sending the formal notice to the contractor following a face-to-face meeting.

Art. 50 Execution in damage

Pursuant to art. 1456 of the Civil Code, the contracting authority has the right to terminate the contract by means of a registered letter without need of formal notice and without the intervention of a Judge.

Effects and consequences

With the termination of the contract, the Contracting authority is entitled to conclude the contract with third parties for the execution in damage of the defaulting contractor.

If the contractor is in breach of any provision of the contract it will be notified, according to the agreed procedure. In this case, the defaulting contractor will be charged all the additional expenses incurred by the contracting authority by withdrawing that additional amount from the performance bond.

The execution in damage does not exempt the defaulting contractor from the civil responsibilities in which it incurs according to the law and according to the signed contract.

Art. 51 Express termination clause

Pursuant to art. 1456 cc, it is expressly agreed, and will be stipulated in this sense, that the contract will be terminated, on a simple unilateral act by the contracting authority, in the event that the contract is delivered in advance and subsequently communicated by a Public Administration certifying the existence of a reason for exclusion pursuant to art. 80 of the Code. In this case the contractor will have the right to receive only the fraction of the awarded contract amount related to the services performed up to the moment of the communication of the withdrawal.



Art. 52 Definition of disputes – Place of jurisdiction / Competent Court

Disputes that may arise in connection with the interpretation and execution of the contract will be devolved to the ordinary judicial authority. In the event of a dispute, if the contractor wishes to take proceedings against INAF or if INAF wishes to take proceedings against the contractor, it should do so under the laws of Italy and through the Italian Court of Cagliari.

Art. 53 Appeals procedures

Any appeals in Court may be submitted, within 30 (thirty) days from the day in which the deed was fully known, to the Regional Administrative Court of Sardinia, via Sassari 17, I-090124 Cagliari, tel. +39 070 679751, according to the terms and conditions provided for the exclusion or award.

Art. 54 Confidentiality of information – Processing of personal data

1. Pursuant to article 13 of the "Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 concerning the protection of physical persons with regard to the processing of personal data, as well as the free circulation of such data, and repealing Directive 95/46 / EC ", also known as the " General Regulation on Data Protection ", as a data controller, the National Institute for Astrophysics informs that the processing of data personal data provided by the representatives and representatives of the Companies that will apply for participation in this tender procedure, or in any case acquired for this purpose by the Institute, is aimed solely at the completion of the tender activities and will be carried out by the persons in charge of the procedure, also by the selection committee, at the National Institute of Astrophysics. In relation to the aforementioned purposes, the provision of such data is necessary to verify the participation requirements and their failure to indicate it may preclude such verification.
2. The processing will take place with the use of computerized procedures, in the ways and within the limits necessary to pursue the aforementioned purposes, also in the event of any communication to third parties. The data may also be processed through the use of the "Google Drive" electronic platform of the company Google LLC, which, as a provider of IT services for the benefit of the National Institute for Astrophysics, has been identified as data controller, pursuant to Article 28 of the General Data Protection Regulation.
3. Data will be kept for the time strictly necessary for the completion of the tender activities, for the duration of the contractual relationship and, subsequently, for the time in which the National Institute of Astrophysics is subject to conservation obligations. for tax, contributory or other purposes provided for by law or regulation.
4. To the interested parties are recognized the rights referred to in articles 15 and following of the "General Regulation on Data Protection" and, in particular, the right to access their personal data, to request their correction, deletion, limitation of the treatment, as well as to oppose the processing, which may be exercised by sending a request to the



"National Institute of Astrophysics", based in Rome, in Viale del Parco Mellini number 84, Postal Code 00136, in the manner defined in next paragraph.

5. Rights listed above may take place, without any formality, by sending a request to the Head of Data Protection of the National Institute of Astrophysics:
 - a) by registered letter with acknowledgment of receipt to the address: Viale del Parco Mellini, 84 - 00136 Rome;
 - b) by e-mail sent to the following address: rpd@inaf.it;
 - c) by certified e-mail sent to the following address: rpd-inaf@legalmail.it.
6. People who consider that the processing of personal data referring to them is in violation of the provisions of the Regulations have the right to lodge a complaint with the Guarantor for the protection of personal data, as envisaged by art. 77 of the same Regulation, or to take the appropriate judicial seats (art. 79 of the Regulation).