



**Istituto Nazionale di Astrofisica**  
OSSERVATORIO ASTRONOMIC  
DI BRERA



Prot. N. 399/13  
Titolo III Classe 02  
Milano, 9 MAG 2013

From: Prof. Giovanni Pareschi  
INAF-Osservatorio Astronomico di Brera  
Via Brera, 28  
20121 Milano (MI)  
Italy

TO: **Galbiati Group - Engineering & Machining**  
Via Cà Bianca Pascolo, 26  
23848 Oggiono (Lc)  
Italy

**Subject:** Invitation letter to present an offer for the manufacturing of the electro-mechanical structures for the prototypes of Cherenkov telescope with a dual-reflection layout for supplies relevant to the ASTRI project - Procedura negoziata senza previa pubblicazione di bando di gara (as per DL 163/2006 art. 57, comma 3, let. a) and its subsequent modifications and supplements).

Dear Company,

With the present letter I invite you to submit your best offer to the request for supply in subject.

ASTRI is a flagship project funded by the Italian Ministry for Education, University and Research. More details about the project are presented in the attached document ASTRI-DES-IASFMI-1000-001.

The items subject to this supply are primarily the manufacturing of the electro-mechanical structures for prototypes of Cherenkov telescope with a dual-reflection layout. The items, specified in details in the next paragraphs, are intended for technical, technological and scientific evaluation.

The following Sections describe the technical, financial and procedural framework for the present request.

I.N.A.F. - Istituto Nazionale di Astrofisica  
Sede Legale - Viale del Parco Mellini, 84 00136 ROMA - Codice Fiscale 97220210583 P.Iva 06895721006  
**Osservatorio Astronomico di Brera**  
Via Brera, 28 - 20121 MILANO - Telefono +39 02 723201 - Fax +39 02 72001600  
Via E. Bianchi, 46 - 23807 MERATE - Telefono +39 039 5971100 - Fax +39 039 5971001



## Technical Specifications

The objectives of the present supply are divided into 3 (three) work-packages.

### 1) WP1 – The First Prototype

- a. Supply of 1 (one) electro-mechanical structure of the telescope as described in the executive project presented in the attached documents (applicable documents and drawings list). Design and supply (when specifically requested) of electrical cabinets and subsystems.
- b. Pre-assembly of all structural, electrical and electro-mechanical sub-systems to meet the testing requirements of the subsystems (see attached documents). Complete assembly and test of the entire product to meet the requirements of the system's test (see attached documents).
- c. Transportation, installation and on-site commissioning as per attached guidelines. The destination of the product is Serra la Nave (Monte Etna) at the site of the observatory "M. G. Fracastoro" of INAF-Osservatorio Astrofisico di Catania (Altitude: 1735 m a.s.l. Longitude: +14° 58'.4; Latitude +37° 41'.5). The supply of the foundation work and the lifting equipment (i.e. crane, cherry picker, forklift, etc.) are out of scope.
- d. Documents to be delivered by the Company, during the execution of the activity, shall comprise at least the following:
  - i. Electric project and drawings;
  - ii. "As-built" full series of drawings;
  - iii. Transport and assembly of the prototype on site;
  - iv. Subsystem test plan and procedures;
  - v. Subsystem test report;
  - vi. System test plan and procedures;
  - vii. System test report;
  - viii. Dynamic simulations of the telescope pointing and tracking
  - ix. Product tree;
  - x. User manuals;
  - xi. Maintenance manuals;
  - xii. OEM (Original Equipment Manufacturing) documents;
  - xiii. Certifications (i.e. electrical cabinet);
  - xiv. Compliance Matrices;
  - xv. NCR (Non Conformity Report) as needed;
  - xvi. RFW (Request For Waiver) as needed

### 2) WP2 – Reassessment study.

- a. The Company shall perform a revision of the project based on the lessons learnt during previous activities. The objectives are the overall technical improvements and cost reduction. This study shall also follow the possible CTA requirement revision that could have an impact on the ASTRI requirements. Additional revisions could also come from calibration activities.
- b. Documents to be delivered by the Company, during the execution of the activity, shall comprise at least the list presented in 1.d as needed. Moreover, the Company shall take care of issuing new documents on the base of the Applicable



ones attached to this letter as needed; at least a new issue of the Design Description and Analysis Document is naturally expected.

#### Notes to WP2.

Any design change highlighted at this stage must be agreed with INAF and verified by the Company with adequate analysis or test.

In case of need for external consultant(s), this shall be made clear in the technical proposal. Moreover, the name(s) and references of the consultant(s) shall be listed explicitly in the technical proposal. The role of the consultant(s) shall be clarified in accordance with current regulations (see DL 163/2006 art. 49 and art. 118 and following updates).

INAF reserves the right to verify and/or validate the proposed design changes by external consultant(s).

### 3) WP3 - The Second Prototype

- a. Supply of 3 (three) electro-mechanical structures of the telescope (WP1) updated by the changes coming from the activities of WP2.
- b. The pre-assembly of all structural, electrical and electro-mechanical sub-systems to meet the testing requirements of the subsystems as per the documents listed in 2.b is required for 1 (one) unit. Complete assembly and test of the entire product to meet the requirements of the system's test (as for the documents listed in 2.b).
- c. For the remaining 2 (two) units all the tests considered important to check the repeatability of the process shall be performed and documented. For these 2 (two) units, calibration test shall be carried out completely.
- d. Packaging ready for shipment.

Documents relevant to the present offer are listed in the "document list" and in the CD-ROM attached to this letter. The documents are and will remain property of INAF. Two-dimensional drawings of the structural and electro-mechanical components will be provided in electronic format (.DWG files) only in case of signing the business agreement. In addition, the following list of three-dimensional drawings will be made available at the signing of the business agreement:

OAB.010.005.A01.0_3D	M1 axial actuators assembly
OAB.010.005.S02.1_3D	Azimuth gearbox design
OAB.010.005.S03.1_3D	Azimuth gearbox emergency design
OAB.010.005.S04.0_3D	Azimuth end of stroke, cable wrap and encoder
OAB.010.005.S05.0_3D	Stow Pin design
OAB.010.005.S06.0_3D	Elevation axial actuator design
OAB.010.005.S07.0_3D	Column design
OAB.010.005.S09.0_3D	Elevation axis support design
OAB.010.005.S11.0_3D	Axial actuator fork
OAB.010.005.S12.0_3D	M2 support system design

It is required to the Company to be available to attend to reviews and meetings as needed by the project.

All the documents shall be written in English only.



All the documents and products resulting from the activities of the business agreement are property of INAF.

**Time Schedule guideline**

In order to identify the timeframe of the different work-packages, guidelines are hereafter proposed in terms of solar months. In particular, the activities related to WP2 should not be considered as consecutive to WP1, but they can be affected by an early start and going in overlap with the calibration activities. Moreover, the duration of WP2 can be not considered as continuous activities as a whole, but a total duration of shorter activities to address project requests. The Company can propose motivated changes to the duration of the WPs in accordance with their best offer.

Work-Package	Duration (months)
WP1 "First prototype"	12
WP2 "Reassessment study"	6
WP3 "Second prototype"	15

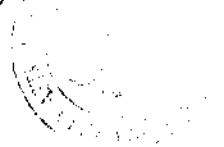
**Review guidelines**

Hereafter a first indication for the data package at various project reviews is presented. The full content of each data package will be established as part of the business agreement.

	WP1				WP2	WP3	
	MRR	TRR	FATR	SATR	FrDR	TRR	FATR
Project schemes and drawings	x		update		update		update
Product tree	x				update		
Dynamic simulations	x		update		update		update
Tests plan and procedures		x				update	
Assembly procedures		x				update	
Test reports			x	x			x
User manuals		x	update	update		update	update
Maintenance manuals			x				update

Where the previous acronyms stand for:

- MRR                      Manufacturing Readiness Review
- TRR                      Tests Readiness Review
- FATR                     Factory Acceptance Tests Review
- SATR                     on-Site Acceptance Tests Review
- FrDR                     Final re-Design Review



**Maximum tender amount**

The maximum value estimated by INAF for the present request to supply is firm fixed to Euro 1.500.000,00 (one-million-and-five-hundred-thousands,00).

**Temporary deposit**

The payment of temporary deposit is requested in order to guarantee the seriousness of the offer. The amount of the deposit corresponds to the 2% of the maximum tender amount, as required by "DL 163/2006 art. 75" and following updates. Hence, the deposit is fixed in Euro 30.000,00 (thirty-thousands,00).

The deposit can be either:

- government bonds to be done through a department of provincial treasury or through an authorized credit institution;
- bank guarantee or insurance policy.

The deposit shall be transferred to:

INAF-Osservatorio Astronomico di Brera

The purpose of the payment shall be: "Cauzione offerta progetto ASTRI - Company name"

**Procedures and deadline for offer submission**

Each one of the following statements shall be strictly followed, penalty of exclusion from the offer evaluation processes.

The full set of documents composing the offer shall be contained into a single envelope, from now on called "main envelope".

The main envelope shall report the words "Offerta progetto ASTRI" well visible on one side.

The main envelope shall be sent by registered express mail.

The deadline for submission is **Saturday 8 June 2013, at 24:00 o'clock**

The deadline is fixed and will not be extended.

If the sending date and time shown on the main envelope is later than the deadline, the Company will be disqualified from the evaluation procedures.

The main envelope shall contain 3 (three) envelopes.

The three envelopes shall be labeled "Documentazione amministrativa", "Proposta tecnica" and "Offerta economica" clearly visible on one side. Each of these envelopes will contain a particular set of documents as detailed in the following.

All the documents contained in each envelope shall be submitted both in paper form and digital form (the latter on CD-ROMs).

Only the hard copies will be used for the offer evaluation. The digital copies will be viewed by the evaluation Committee only in case of need.

Each page of each document presented in hard-copy shall be signed and the last page of each document shall have a full signature.

All the envelopes (including the main envelope) shall be sealed with glue and/or adhesive tape.

All the sealing flaps shall be properly signed.

The content of each envelope shall be:

- A) Envelope "Documentazione amministrativa"



- i. All the documents needed to verify the financial, technical and administrative requirements of the Company as per "DL 163/2006 art. 38, 39, 41 and 42" and following updates. In particular:
    - a. absence of the exclusion reasons as per DL 163/2006 art. 38 and updates;
    - b. enrollment in one of the professional or trade registers;
    - c. the overall turnover of the Company and the amount for the services or supplies of the previous three fiscal years, in the field of concern of the present request for supplies;
    - d. a list of the principal services/supplies provided in the previous three fiscal years, indicating the amounts, dates and recipients of the services/supplies; indication of the educational and professional qualifications of the team involved in the present request for supplies.

The documents can be self-certified as per D.P.R. 445/00 art. 46 et seq.
  - ii. Copy of the document certifying the payment of the deposit.
  - iii. One CD-ROM containing copies of all the documents submitted as hard copies.
- B) Envelope "Proposta tecnica"
- i. The technical proposal answering the "Technical Specifications" of this letter. The proposal shall be divided and detailed into sections and subsections following the bullet list presented in the "Technical Specifications" section of the present letter. The technical proposal shall present also the time schedule proposed by the Company to carry out the work.
  - ii. All additional documents needed to support the technical proposal, as needed by the Company.
  - iii. One CD-ROM containing copies of all the documents submitted as hard copies.
  - iv. Copy of the payment's receipt to AVCP (Autorità per la Vigilanza sui Contratti Pubblici).
- C) Envelope "Offerta economica"
- i. The financial proposal supporting the technical proposal. The proposal shall be divided and detailed into sections and subsections following the bullet list presented in the "Technical Specifications" section of the present letter. The financial proposal shall present also the payment schedule proposed by the Company. To this end, please note that INAF cannot proceed with advance payments by law number 140 dated 28th May 1997.
  - ii. All the additional documents necessary to support the financial proposal, as needed by the Company.
  - iii. One CD-ROM containing copies of all the documents submitted as hard copies.

The main envelope shall be sent to INAF at:

*Prof. Giovanni Pareschi*  
 INAF-Osservatorio Astronomico di Brera  
 Via Brera, 28  
 20121 Milano (MI)  
 Italy

Dr. Stringhetti has been appointed as Head of the procedure as per DL 163/2006 art. 10 and updates.



Any question regarding the content of the procedure shall be sent to the Head of the procedure:

*Dr. Luca Stringhetti*  
 INAF-IASF Milano  
 Via E. Bassini, 15  
 20133 Milano  
 Italy  
 E-mail: [luca@iasf-milano.inaf.it](mailto:luca@iasf-milano.inaf.it)  
 Phone: +39 0223699340

### Evaluation criteria and process

A Committee of technical experts in the field will evaluate the offer. INAF will nominate the Committee only after the deadline to respond to the present invitation letter. The Committee follows the DL 163/2006 art. 84 and following updates. The offer will be evaluated by the criterion of the most economically advantageous tender described by DL 163/2006 art. 83 and following updates. The parameters subject to evaluation are listed in the following table.

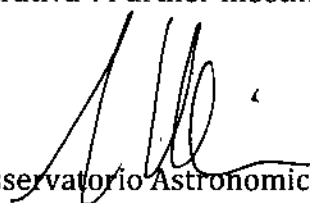
ID	Parameter	Maximum value
1	Value of the technical proposal	50
2	Financial proposal	30
3	Time schedule of the work package "First Prototype"	20
	<b>Total</b>	<b>100,00</b>

The score related to the parameter ID1 will be awarded following "D.P.R. 2007/2010 attachment P letter II.a.4". The scores related to the parameters ID2 and ID3 will be awarded following "D.P.R. 2007/2010 attachment P letter II.b".

The starting date of the evaluation process is fixed on **24<sup>th</sup> June 2013 at 10:30 o'clock**. The Committee will meet in open session at the following INAF venue:

*INAF-Osservatorio Astronomico di Brera*  
 Via Brera 28  
 20121 Milano  
 Italy

The first meeting will be devoted solely to the starting of the evaluation procedure activities with the opening of the Envelope "Documentazione amministrativa". Further meetings will be announced as the evaluation process proceeds.

  
 INAF-Osservatorio Astronomico di Brera  
 The Director  
 Prof. Giovanni Pareschi

