Reference No: Alba_Tel_051003

Stockholm University, Department of Astronomy

Invitation to tender

Procurement of: 1 m Optical Telescope

DATE: 2005-10-03

Tenders should be received no later than: 2006-01-10

1. Qualification requirements

Stockholm University (hereafter, **SU)** shall only consider tenders submitted by parties that meet the qualification requirements checked below. The certificates indicated are only intended as examples, and other, equivalent certificates may also be used. Tenderers that do not meet the requirements stated in Public Procurement Act (Lagen om offentlig upphandling) § 1:17 will be disqualified.

Legal status

• Registration certificate from the Swedish Register of Companies or Swedish Trade Register or certificate from other National Register of Companies or Trade Register.

• Certificate proving that the tenderer has paid the required taxes and fees.
(Swedish companies: Use SKV 4820 from the Tax Office)

Economic and financial situation

• Most recent annual accounts approved by auditors.

Technical ability and capacity

• Enclose details of three of the most important projects (relevant to this procurement undertaken in the past year, indicating the amounts, dates etc.)

2. Information on the procurement (Requirement specification)

Time plan

Request for tenders sent	See cover sheet
Deadline for submission of tenders	See cover sheet
Bound by tender & signed agreement	See "4. Administrative conditions"
Date for delivery after closing of deal:	+ one year, if not otherwise agreed
Date for fully operational system after delivery:	+ one month

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Background

The AlbaNova University Centre hosts the departments of Physics of both the Stockholm University and the Royal Technical Institute as well as the Stockholm Observatory. On top of the main building an 8 m diameter Ash dome is located which easily can enclose a 1 m telescope. Two small laboratories are placed adjacent to the dome, one intended for astronomy and the other for environmental research. This ITT concerns a telescope that will serve several purposes:

1. Lidar experiments using UV lasers.
2. FTIR measurements of city air pollution.
3. Checkout astronomical observations with prototype instruments (to be used at better sites).
4. Education in observational techniques.
5. Public shows (directly viewing astronomical objects).

For practical reasons, the telescope should have an alt/az mount and be equipped with two Nasmyth foci (aligned with the elevation axis). This mount has the disadvantage of field rotation, and for this reason a de-rotator is required at least at one of the two foci (that for astronomy).

The future prototype instruments to be tested may turn out to be very bulky and heavy (hundreds of kg). As we realize that requesting the telescope to carry such heavy loads will result in an over-all heavy and expensive telescope, we must be prepared to test sub-systems with lower weight. As a baseline we therefore require 60 kg with the centre of gravity at 40 cm from the mounting flange. We would, however, also appreciate a quotation for a telescope that can carry 120 kg with the centre of gravity at 50 cm from the flange.

Specification of requirements (function/technology)

Volume and extent

One complete optical telescope with electronic drive units and software according to standards set below.

• System overview

Optical telescope with a free aperture of 1 m and equipped with two Nasmyth foci. The telescope must be fully computer controlled and allow blind pointing and object tracking to an accuracy stated below. The mechanical mounting is altitude/azimute and the resulting field rotation shall be compensated for by accurate field de-rotators. The telescope must fit into the AlbaNova 4 m radius dome. The mirrors shall be coated with protected aluminium allowing observations from UV to far-IR.

• Main functions

Operation Conditions

The telescope shall operate at ambient temperature (-20 – +25 C) and humidity (20—90%).

Clear Aperture

The telescope shall have a clear aperture of 1m

Pointing and tracking

It shall be possible to direct the telescope in any direction with elevation > -3 degrees. The azimuth end positions for avoiding cable wind-up shall have an overlapping angle > 20 degrees, centred at the north direction. Tracking of celestial objects shall be accurate in the elevation range 3—85 degrees.
Specify performance.

Foci

The telescope shall have two Nasmyth foci and a mechanism that allows a quick change between the foci.

Software

The telescope shall be fully computer controlled and the software shall be fully documented.

Remote control

The system shall allow remote control via TCP/IP

Additional Hardware

Power supply and necessary computer controller boards shall be included.

• Quantified performance

Clear Aperture: 100 +/- 5 cm

Mounting: Altitude/Azimuth

Size: The telescope must fit into a hemisphere with 3.4 m radius from the centre of the elevation axis.

Total weight: < 4000 kg

Foci: Two Nasmyth foci (in the elevation axis)

Mirror material: Zeurodur or comparable low-expansion material.

Optical quality: lambda/6 peak-to-valley at 4000Å

Reflective coating: Protected Al with reflectivity for one surface > 70% in the wavelength range 0.3 – 13 μm

f/D: 11 +/- 1

Unvignetted field: > 20 arcminutes

Field de-rotators: mechanical

Nominal foci plane: 21 cm from the mounting flange of the de-rotator

Focusing range: > +/- 2cm

Auxiliary instrument support: weight 60 kg at 40 cm centre of gravity from the mounting flange

Option : 120 kg at 50 cm

Blind pointing: better than 30 arcseconds

Slewing speed: > 2 degrees/sec

Differential pointing: better than 1 arcsecond within 1 degree.

Blind tracking: better than 1.5 arcsec RMS in 5 min

Option : Offset guider with a tracking better than 0.5 arcsec RMS

Manual pointing adjustment: separate control box

Computer control: user friendly, fully documented (preferably open source code), standard interfaces to subunits, prepared for remote control.

Software updates: > 2 years at no cost

Ephemeredes: Sun, Moon, Planets and option for including orbit elements for asteroids and new comets

Catalogues: Commonly used like NGC, Messier, BS and PPM.

Input coordinates: RA/DEC 2000, 1950 and current date.

Dome control: standard interface, e.g. RS 232.

Cables: The control room is placed next to the dome (cable lengths 5 – 10 m)

Installation: Complete and in accordance with EU safety standards.

Safety: Complete safety instructions

• Design (i.e. Construction, manufacturing, interfaces, environmental endurance, looks)

Interfaces

It should be well described how user software (e.g. target lists and ‘nodding’ excursions for IR observations) can be interfaced to the telescope software.

• Operational security and maintenance

Service

Service packages for the system should be offered
Specify response time, i.e. expected equipment downtime before repair.
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• Documentation

Full documentation and handbooks shall be included.

• Guarantee and service

1 year guarantee on whole system and software, should be included.
Specify all options and prices.

3 Assessment of tenders

Tenders that do not meet the qualification requirements specified in section 1 shall be disqualified. Omission of the required information may be regarded as a failure to meet the qualification requirements.

Assessment criteria

We shall choose the tender that is the most financially advantageous when all the circumstances are considered together.

The following elements will be given particular weight in our assessment:

1) Technical merits and quality
2) Price
3) Warranty
4) Running and maintenance costs
5) After-sales service.

The assessment criteria are listed in decreasing order of priority.

4 Business conditions

The conditions stated below vary from preferences to absolute requirements. The basic rule is that they should be included in the content of the agreement. Applicants should address or comment on all the below conditions in their tender, in the order they appear. Applicants who fail to do so will risk disqualification, as SU cannot accept tenders that are incomplete or insufficiently clear.

Guarantees

The term and scope of guarantees must be indicated. The guarantee, minimum one year, must be a full guarantee, meaning that the supplier shall pay all costs of corrective measures during the term of the guarantee. The guarantee shall take effect from the approved delivery date. The tenderer should indicate and clearly define any limitation of liability.

Insurance

SU must be assured that any damage caused by the supplier will be duly compensated. Specify all relevant insurance policies held.

References

The tenderer shall submit a list of references (name, telephone number and e-mail address) relevant to the projects indicated under the heading "Technical ability and capacity". SU may contact these references.

Delivery and acceptance testing

Place:
AlbaNova University Center, Astronomy
Attn. Göran Olofsson (tel 5537 8524)
Roslagsvägen 30B
Stockholm

Delivery conditions:

Free and insured by the supplier. DDU on site at the Department of Astronomy

"Approved delivery date" refers to the date the delivery is completed and approved by SU.
"Final acceptance date" refers to the date the equipment is installed, commissioned and finally has been accepted by SU.
SU will only bear the risk of damage or loss of goods occurring after the approved delivery date.

Payment

- 40% of the purchase may be billed after the contract has been signed
- 40 % of the purchase may be billed after the approved delivery date, and the remaining

- 20 % may be billed after the final acceptance date.
- The contract price is the total price for the entire delivery
- Payment conditions: 30 days from receipt of the invoice
- Invoicing charges or other surcharges may not be added
- The amount billed shall be exclusive of VAT
- The invoice shall be correctly addressed to

AlbaNova University Center, Astronomy
Attn Göran Olofsson
SE-106 91 Stockholm

- The supplier may charge arrears interest of 8 % above the current Reference Rate set by the Swedish Riksbank.

Delayed deliveries

A delivery shall be regarded as delayed if the established schedule is not honoured and SU is not responsible for this delay.

Complaints

Complaints shall be submitted within reasonable time after detecting a fault or delay.

Defective goods

Goods shall be regarded as defective if:
- The goods differ from SU's reasonable expectations based on the requirements specification, or
- The supplier has failed to inform SU of circumstances regarding the condition or purpose of the goods that the supplier should have known about and realised was relevant to SU.

Sanctions

- In the event of other defects or delays, the supplier shall pay a penalty fee of 1 % per commenced week. The base for calculating this penalty fee is the contract price exclusive of VAT.
- The supplier shall pay damages for direct damage (unless the supplier can prove that the damage was caused by circumstances beyond his control). The supplier shall also pay damages for indirect damage due to negligence.
- SU may terminate the agreement if a fault or delay causes significant inconvenience to SU, or if it appears likely that the goods cannot be delivered. SU may terminate the agreement if delivery is delayed by more than 60 days.
- The supplier shall be responsible for the payment of any subcontractors.

Other conditions

Quality assurance system

The tenderer shall describe his company's quality assurance routines, and specify whether the company has a quality control system that complies with ISO 9000 or another quality assurance system.

Environment

SU's environmental and sustainability policy states that SU shall actively contribute to sustainable development through all its activities (i.e., it shall actively strive to reduce environmental impact and the depletion of resources through its activities). In view of this, it is vital that tenderers outline their environmental policy (if they have one).

Interpretation of the agreement

The agreement signed by all parties is intended to be exhaustive.
In the event of conflicting information or conflicting interpretations deriving from this agreement, the following documents shall apply in the below order:

1 The agreement
2 The request for tenders
3 The tender.

Applicable law and forum

Any disputes regarding the drawing up, interpretation or application of this agreement shall be determined by a Swedish court according to Swedish law, at the city where SU maintains its headquarters.
Any disputes between the parties arising due to this agreement shall, in the first instance, be settled through negotiation.

5 Administrative conditions

The below conditions are, in principle, non-negotiable. Any comments or objections you may have to these conditions should be specified in the tender. (This section addresses the procurement process and the rules that regulate it.)

Customer

See cover sheet

Form of procurement

SU carries out procurements according to the Public Procurement Act. A *simplified procurement* process shall be used for this procurement. Tenders may be accepted without prior negotiation.

Language

English or Swedish

Tenders

Your tender should include the following points, and should be organised as follows:

1. Description of goods

Freely describe the goods and services offered, bearing in mind SU's activities and requirements.

2. Response to the requirements specification

The tender should be structured as indicated in the requirements specification. It should include detailed responses to the conditions and questions in the requirements specification. References to previous agreements and other similar documents cannot be accepted. If the tender refers to specific documentation, the same should be submitted with the tender.

3. Indication of prices and/or discounts

The tenderer shall state the price (total price) to be paid by SU, exclusive of VAT but including any other costs. Any such additional costs, fees etc. that are not included in the price shall be clearly specified. If the tender offers a discount, this shall be indicated using an established formula such as a specific Sales Price List or Purchase Price List, to make clear the value of the discount.

4. Comments to business conditions and administrative conditions (if any)

The basic rule is that these conditions should be included in the content of the agreement. If they are not included, the tenderer should specify any amendments or objections he wishes to make to these conditions. (NB: Too many or excessively elaborate proposals for amendments may result in disqualification from the procurement process.)

Submission of tenders and receipt of the request for tenders

Tenders shall be submitted in writing in two copies and in electronic form. If brochures and product samples are submitted, one single copy shall be submitted. The tender must be received by SU by the date and time specified on the cover sheet.

(NB: The tender is also submitted electronically, it shall be submitted as a single document, if at all possible. Permitted file format: PDF or MS Word/Excel.)

Tenders arriving after the deadline shall not be accepted.

Requests for tenders may be obtained as computer files.

Address for submitting and sending tenders and obtaining requests for tenders:

See below: Contact person

Courier address:

See below: Contact person

Tenders should be marked with:

Reference no. (see cover sheet)
Other/ additional: “Telescope”.

Term of the tender

The tender shall be binding for 2 months after the application deadline (see cover sheet).

Other information regarding tenders

Tenders may be submitted for a part of the goods or services specified in the request for tenders.
Tenders may be accepted in whole or in part.

Confidentiality and the freedom of information principle

Until an agreement is entered into between SU and the supplier(s) selected, the tenders and their content may not be disclosed to parties other than the submitter of each individual tender. However, after an agreement has been entered into, the tenders and their appurtenant documents shall become public information. Exceptions may only be made “if there is specific reason to believe that the party [including companies] may suffer damage if the information is disclosed”, (Confidentiality Act of Sweden, Chapter 8, § 10).
If you have information that you feel belongs to the above-mentioned category, your tender should include precise details of which information should remain confidential, and the reason for this. SU will then evaluate your request.

Contact person

Any questions regarding the request for tenders may be sent by e-mail or fax to

Göran Olofsson
e-mail olofsson@astro.su.se
phone +46 8 5537 8524
fax +46 8 5537 8510

address

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