



## **SKAO MID**

**New dark fibre link:**

**Beaufort West to SKAO Cape Town**

**MARKET SURVEY:**

**REGISTERING INTEREST TO TENDER**

Date: March 31<sup>st</sup> 2022


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# 1 Purpose of this document

This document aims to support the first phase of procurement, ie market survey, by SKAO for the provision of dark fibre services. In order to participate, suitable businesses must formally register interest in tendering before April 29<sup>th</sup> 2022 using the SKAO portal: <https://www.kommersannons.se/skaobservatory/> Registration will not be possible after this date.

SKAO procurement policy and processes only will apply. The SKAO procurement policy is available on the SKAO procurement portal [here](#).

This document shall not be interpreted as a request for or authorisation to perform work at SKAO's expense. Any costs incurred by interested parties through the procurement process will not be payable by SKAO. SKAO is not ultimately obliged to complete the process and to procure the services described herein. Engagement with the SKAO procurement process by interested parties constitutes acknowledgement of acceptance of these terms.

# 2 Introduction to SKAO

The Square Kilometre Array Observatory (SKAO), headquartered in the United Kingdom at the University of Manchester's Jodrell Bank Observatory has been established as an intergovernmental organisation under convention to facilitate and promote global collaboration in astronomy for the SKA (Square Kilometre Array). The current prime objective of the SKAO is to construct the SKA.


The SKA will be a large scale, global radio telescope facility with discovery potential far greater than previous instruments. It will give astronomers remarkable insights into the formation of the early universe, including the emergence of the first stars, galaxies and other structures.

The SKA will comprise 2 telescopes, one in Australia configured for low band frequencies, the other in South Africa for middle band frequencies. South Africa will host the SKA-MID telescope at the Karoo in the Northern Cape Province.

# 3 Summary of scope

SKAO wish to procure a private physical optical fibre link for the long haul transmission of data for the SKA-MID telescope. Tenderers are invited to register to offer dark fibre services, based upon the provision of one fibre pair between Beaufort West and iThemba Laboratories, Cape Town, inclusive of en-route co-location facilities and operational support upon the fibre.

The dark fibre link will need to be single mode G.652D / G.657 A1 specification throughout and meet further SKAOs technical requirements which include the capability to operate at a rate of up to 20Tbs<sup>-1</sup>. It is anticipated that the tenderer will offer fibre on the Gauteng to Cape Town NLD fibre route, ~460km, with a

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termination site at a Cape Town POP. Should the tenderer have an alternate, competitive solution which by-passes their Cape Town POP, these can be presented, however tenderers should note that it is critical to keep the fibre route as short as possible. Solutions with excessive fibre route lengths will not be considered.

Interested parties should note:

- Tenderers must cater for an access build if it is required for their solution, in order to connect the SARA0 POP at Beaufort West to the SANReN POP at Beaufort West (-32.350749° S 22.576466° E).
- Similarly, should the tenderers fibre route terminate at a POP site in Cape Town, it is required that the tender submitted includes a further section via diverse fibre ring from the terminating POP to iThemba Laboratories, (-34.025073° S 18.717758° E) with an independent access route into the iThemba facility.

Further technical and services specifications will be available in due course.

## 4 Suitability for registration


Registrants must: hold appropriate credentials; be capable of delivering the scope of services as described in this document; have prior and/or current experience of providing the same or very similar services; and be committed to operational capability located within South Africa. In subsequent phases of the procurement process, tenderers will be requested to confirm their credentials and provide evidence of capability etc in order that SKAO can validate the suitability for continuation of engagement for the ITT phase.

## 5 Contract terms

The contract to be used for engagement of the service provider will be based upon an industry standard approach toward the contracting of dark fibre services and will be subject to detailed examination for acceptability by the SKAO legal team.

Tenderers will, in subsequent phases of the procurement process, be requested to prepare ITT responses offering:

- separate scenarios for contract duration of a 10 year term and a 20 year term;
- service level performance band options, including availability, assuming different offerings are available.

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SKAO require the dark fibre services to be available from approximately Q1 2023, exact date tbc.

## 6 The SKAO procurement process

Once applicants have registered their interest and the market survey phase has closed, a Pre Qualification Questionnaire Pack (PQQ) will be issued to valid registrants. The PQQ will request the provision of information about the applicant, technical capabilities, quality assurance, health and safety policies etc. The PQQ submissions will be assessed by the SKAO Technical Evaluation Panel (TEP).


Following the PQQ phase, shortlisted applicants will be sent a copy of the formal invitation to tender (ITT) and invited to submit formal responses. In the ITT phase, competitive submissions will be evaluated on a value for money basis with a 50% weighting applied to the technical evaluation and a 50% weighting applied to the commercial evaluation. Tenderers ITT responses will need to be submitted via the SKAO portal separately for:

- Technical ITT response.
- Financial ITT response.

SKAO will analyse and score the ITT submissions with an identical approach in each case. Ultimately this is intended to lead to a proposed selection which will be reviewed by the SKAO TSC then submitted for final approval. During this phase tenderers can be requested to provide further information, if required by SKAO. When approved, SKAO can then move to formal contract signatures and official commercial order.

## 7 Schedule

| <b>MID Dark Fibre BW-&gt;CT</b> |                             |                             |
|---------------------------------|-----------------------------|-----------------------------|
| <b>Phase / task</b>             | <b>Start</b>                | <b>End</b>                  |
| ILO notification                | 29 <sup>th</sup> March 2022 | 8 <sup>th</sup> April 2022  |
| Market surveys conducted.       | 4 <sup>th</sup> April 2022  | 29 <sup>th</sup> April 2022 |
| Prequalification of registrants | 2 <sup>nd</sup> May2022     | 13 <sup>th</sup> May 2022   |

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|  |                              |                              |
|--|------------------------------|------------------------------|
| Review PQQ submissions                           | 16 <sup>th</sup> May 2022    | 27 <sup>th</sup> May 2022    |
| Issue ITT, then returned by                      | 20 <sup>th</sup> June 2022   | 12 <sup>th</sup> August 2022 |
| ITT technical & commercial evaluation            | 15 <sup>th</sup> August 2022 | 9 <sup>th</sup> Sept 2022    |
| Prepare award recommendation                     | 12 <sup>th</sup> Sept 2022   | 16 <sup>th</sup> Sept 2022   |
| Internal SKAO review                             | 19 <sup>th</sup> Sept 2022   | 23 <sup>rd</sup> Sept 2022   |
| Review and recommendation for endorsement by TSC | 26 <sup>th</sup> Sept 2022   |                              |
| Approval and contract signature by SKAO DG       | 30 <sup>th</sup> Sept 2022   |                              |
| Contract award                                   | 30 <sup>th</sup> Sept 2022   |                              |

The dates in the table above are subject to change. SKAO will notify registrants of significant changes to the schedule.

## 8 Instructions for registrants


In order to participate, suitable businesses must formally register interest in tendering before April 29<sup>th</sup> 2022 using the SKAO portal: <https://www.kommersannons.se/skaobservatory/> Registration will not be possible after this date.

Questions related to suitability for registration should in the first instance be directed to Ryan Leadbetter - Procurement Specialist with the responsible ILO (Industry Liaison Officer) in Cc.

- Procurement Specialist: Ryan Leadbetter [ryan.leadbetter@skao.int](mailto:ryan.leadbetter@skao.int)
- ILO: [atiplady@sarao.ac.za](mailto:atiplady@sarao.ac.za)


Additional Information:

- Link to SKAO Procurement Website ([www.skatelescope.org/procurement](http://www.skatelescope.org/procurement)).
- The SKAO procurement policy is [here](#).

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## LIST OF ABBREVIATIONS

|         |   |
|---------|---|
| AD      | Applicable document                       |
| AIV     | Assembly, integration and verification    |
| CBF     | Correlator beamformer                     |
| CSP     | Central signal processor                  |
| DG      | Director General                          |
| IGO     | Intergovernmental organization            |
| ILO     | Industry liaison officer                  |
| iThemba | iThemba Laboratories, Cape Town           |
| ITT     | Invitation to tender                      |
| LOW     | The SKA LOW frequency telescope           |
| MID     | The SKA MID frequency telescope           |
| MeerKAT | The Karoo array telescope                 |
| NEC     | New engineering contract                  |
| NLD     | National Long Distance consortium         |
| POP     | Point of presence                         |
| PQQ     | Pre-qualification questionnaire           |
| RD      | Reference document                        |
| SARAO   | South African Radio Astronomy Observatory |
| SANReN  | South African National Research Network   |
| SDP     | Science data processor                    |
| SKA     | Square Kilometre Array                    |
| SKAO    | SKA Observatory                           |
| SLA     | Service level agreement                   |
| TEP     | Technical evaluation panel                |
| Tbc     | To be confirmed                           |
| TSC     | Tender sub committee                      |

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## DOCUMENT HISTORY


| Revision | Date Of Issue               | Engineering Change Number | Comments |
|----------|-----------------------------|---------------------------|----------|
| V1.1     | 30 <sup>th</sup> March 2022 | NA                        |          |
|          |                             |                           |          |

## DOCUMENT SOFTWARE

|                | Package | Version | Filename                             |
|----------------|---------|---------|--------------------------------------|
| Word processor | MS Word |         | MID New Dark Fibre Link BW-CT MKS*.* |
| Block diagrams |         |         |                                      |

## ORGANISATION DETAILS

|                    |  |
|--------------------|--|
| Name               | SKA Observatory  |
| Registered Address | Jodrell Bank<br>Lower Withington<br>Macclesfield<br>Cheshire, SK11 9FT, UK |
| Fax                | +44 (0)161 306 9600  |
| Website            | <a href="http://www.skao.int">www.skao.int</a>                             |

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