

Request for Proposals (RFP)

The provision of additional capability to the Medium Speed Wind Tunnel of the CSIR Aeronautic Systems Impact Area for a period of seven months

RFP No. 3458/04/06/2021

Date of Issue	Friday, 21 May 2021
Closing Date	Friday, 4 June 2021 at 16h30
Place of tender submission	tender@csir.co.za Mail size is 30MB please send multiple emails when exceeded
Enquiries	tender@csir.co.za
Last date for submission of queries	31 May 2021
CSIR business hours	08h00 – 16h30
Category	Engineering

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SECTION A – TECHNICAL INFORMATION

1 INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific research and technology development organisations in Africa. In partnership with national and international research and technology institutions, CSIR undertakes directed and multidisciplinary research and technology innovation that contributes to the improvement of the quality of life of South Africans. The CSIR's main site is in Pretoria while it is represented in other provinces of South Africa through regional offices.

2 BACKGROUND

The CSIR operates a suite of wind tunnels of different performance and complexity. The wind tunnel systems have been acquired and commissioned in a period that ranges from the late 1960s to the most modern facility in the late 1980s. These systems are industrial plants in their own right, and are operated via a system of mechatronic hardware and software.

The Wind Tunnels at the CSIR also support the core defence capability of the South African National Defence Force by developing, maintaining and applying a ready aeronautical test and evaluation technology base. In further developing this test and evaluation technology base the CSIR requires additional capability be added to its Medium Speed Wind Tunnel (MSWT) to allow the characterisation of airfoil sections through an appropriate interface test rig.

3 INVITATION FOR PROPOSAL

Proposals are hereby invited for the supply of additional capability to the CSIR's Medium Speed Wind Tunnel to:

- a. Assess the technical feasibility of developing static and dynamic rigs for characterising two-dimensional airfoils in the MSWT of the CSIR.
- b. Design, a complete solution for both static and dynamic airfoil rigs to aerodynamically characterise airfoils in the MSWT of the CSIR. These rigs should provide the wind tunnel with an additional testing capability which can be utilised as an advanced wind tunnel testing technique.

The static and dynamic airfoil rigs must support "2D" wind tunnel model airfoils with a maximum chord of 0.6m. The rigs shall be mounted through the side walls of the MSWT.

1. The Static rig must be able to complete an angle of attack range of $\pm 180^\circ$.

2. The dynamic rig shall be able to undergo sinusoidal motion ($\alpha(t) = \alpha_m - \alpha_a \sin \omega t$) about the quarter chord of the wind tunnel model to complete dynamic stall tests. The mean angle of attack, α_m is defined as ($0^\circ \leq \alpha_m \leq 15^\circ$) and amplitude, α_a , is defined as ($0^\circ \leq \alpha_a \leq 10^\circ$). The rig shall work with a reduced frequency, ($k = \omega c / 2V$), with a range of 0 to 0.15.

Both rigs must meet incidence angle tolerances of $\pm 0.1^\circ$.

The following Inputs will be provided by the CSIR:

- a. Wind tunnel drawings and interfaces
- b. Wind tunnel design review meetings
- c. MSWT facility expert as functional expert – input to the process when needed

4 PROPOSAL SPECIFICATION

All proposals are to be submitted in a format specified in this enquiry. However, tenderers are welcome to submit additional / alternative proposals over and above the originally specified format.

The following deliverables are expected by the CSIR:

Phase 1: Feasibility study report for the Static and Dynamic Airfoil Rigs

Phase 2a: Static test rig

- a. Static rig design (Final CAD, Manufacturing Drawings, List of Off The Shelf (OTS) Items required, Report)

Phase 2b: Dynamic test rig

- b. Dynamic rig design (Final CAD, Manufacturing Drawings, List of Off The Shelf (OTS) Items required, Report)

The CSIR reserves the right to contract each phase independently, separately and sequentially. Should the outcome of the feasibility report be a single rig that satisfies both requirements, then Phase 2a and Phase 2b will be merged into a single phase.

5 FUNCTIONAL EVALUATION CRITERIA

5.1 The evaluation of the functional / technical detail of the proposal will be based on the following criteria:

Functional Scoring Criteria for Design of wind tunnel test rigs				
Item	Criteria	Weight	Score	Max Score
1	<p>Suitable qualifications; - BSc, MSc (or equivalent technical qualifications) in Aeronautical Engineering or a related field.</p> <p>Suitable qualifications; - BSc, MSc (or equivalent technical qualifications) in Mechanical or Aeronautical Engineering or a related field.</p> <ul style="list-style-type: none"> • MSc Qualification = 100% • BSc Qualification = 80% <p>Incorrect qualifications = 0%</p>	10%	Out of 100	100
2	<p>Previous experience in transonic and/or supersonic wind tunnel testing</p> <ul style="list-style-type: none"> • 10 years or more experience = 100% (proof required) • 5 to 10 years' experience = 50% (proof required) <p>Less than 5 years' experience = 0%</p>	20%	Out of 100	100
3	<p>Previous experience in designing, manufacturing and commissioning test rigs for a transonic and/or supersonic wind tunnel. Provide reference letters on projects that have been concluded</p> <ul style="list-style-type: none"> • 3 or more successfully integrated and commissioned test rigs = 100% (proof required) 	25%	Out of 100	100

	<ul style="list-style-type: none"> • 1 to 3 successfully integrated and commissioned test rigs = 50% (proof required) • No successfully integrated and commissioned test rigs = 0% 			
4	<p>Demonstrable experience with all of the following tool sets: (1) Computer Aided Design, (2) Finite Element Analysis, (3) Computational Fluid Dynamics, (4) Matlab Simulink (Kinematic/Dynamic Solvers). Provide detailed curriculum vitae and relevant industry certification.</p> <ul style="list-style-type: none"> • Relevant capability in the above engineering tools = 100% • Capability in some or none of the above = 0% 	25%	Out of 100	100
5	<p>Relevant experience in systems engineering including requirements analysis, systems architecture development, concept design, design analysis, optimisation and costing. Provide company profile with detailed work experience.</p> <ul style="list-style-type: none"> • Relevant capability in systems engineering = 100% • No experience = 0% 	20%	Out of 100	100
	Totals	100%		

5.2 Proposals with functionality / technical points of less than the pre-determined minimum overall percentage of 80% and less than 70% on any of the individual criteria will be eliminated from further evaluation.

5.3 Refer to Annexure A for the scoring sheet that will be used to evaluate functionality.

6 ELIMINATION CRITERIA

Proposals will be eliminated under the following conditions:

- Submission after the deadline;
- Proposals submitted at incorrect location; (Proposals to be submitted electronically to tender@csir.co.za)
- Bidders restricted by National Treasury

7 NATIONAL TREASURY CENTRAL SUPPLIER DATABASE REGISTRATION

Before any negotiations will start with the winning bidder it will be required from the winning bidder to:

- be registered on National Treasury's Central Supplier Database (CSD). Registrations can be completed online at: www.csd.gov.za;
- provide the CSIR of their CSD registration number; and
- provide the CSIR with a valid certified copy of a B-BBEE Certificate or valid sworn affidavit. If no certificate or sworn is provided, no points will be scored on B-BBEE status level during the evaluation process. **B-BBEE certificate must be issued by SANAS accredited agency or a valid sworn affidavit in line with DTI regulations (RSA suppliers only).**

SECTION B – TERMS AND CONDITIONS

8 VENUE FOR PROPOSAL SUBMISSION

All proposals must be submitted at: tender@csir.co.za

9 TENDER PROGRAMME

The tender program, as currently envisaged, incorporates the following key dates:

- Issue of tender documents: 21 May 2021
- Last date for submission of queries: 31 May 2021
- Closing / submission Date: 4 June 2021
- Estimated contract duration (in months) 07 months

10 SUBMISSION OF PROPOSALS

10.1 All proposals are to be clearly marked with the RFP number. Proposals must consist of two parts:

PART 1: Technical Proposal: RFP No 3458/04/06/2021

PART 2: Pricing Proposal, B-BBEE and other Mandatory Documentation:

RFP No.: RFP No 3458/04/06/2021

10.2 Proposals submitted by companies must be signed by a person or persons duly authorised.

10.3 The CSIR will award the contract to qualified tenderer(s)' whose proposal is determined to be the most advantageous to the CSIR, taking into consideration the technical (functional) solution, price and B-BBEE.

11 DEADLINE FOR SUBMISSION

Proposals shall be submitted at the address mentioned above no later than the closing date of **Friday, 4 June 2021** during CSIR's business hours. The CSIR business hours are between 08h00 and 16h30.

Where a proposal is not received by the CSIR by the due date and stipulated place, it will be regarded as a late tender. Late tenders will not be considered.

12 AWARDING OF TENDERS

- 12.1 Awarding of tenders will be published on the National Treasury e-tender portal or the CSIR's tender website. No regret letters will be sent out.

13 EVALUATION PROCESS

13.1 Evaluation of proposals

All proposals will be evaluated by an evaluation team for functionality, price and B-BBEE. Based on the results of the evaluation process and upon successful negotiations, the CSIR will approve the awarding of the contract to successful tenderers.

A two-phase evaluation process will be followed.

- The first phase includes evaluation of **elimination** and **functionality criteria**.
- The second phase includes the evaluation of **price** and **B-BBEE** status.

Pricing Proposals will only be considered after functionality phase has been adjudicated and accepted. Only proposals that achieved the specified minimum qualification scores for functionality will be evaluated further using the preference points system.

13.2 Preference points system

The 80/20 preference point system will be used where 80 points will be dedicated to price and 20 points to B-BBEE status.

14 PRICING PROPOSAL

- 14.1 The supplier shall indicate a **price per hour** (hourly rate) for hours required for the services purchased by the CSIR.
- 14.2 Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.
- 14.3 Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable.
- 14.4 Only firm prices* will be accepted during the tender validity period. Non-firm prices** (including prices subject to rates of exchange variations) will not be considered.

**Firm price is the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise*

duty and any other duty, levy, or tax which, in terms of a law or regulation is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

***Non-firm price is all prices other than “firm” prices.*

14.5 Payment will be according to the CSIR Payment Terms and Conditions.

15 VALIDITY PERIOD OF PROPOSAL

Each **proposal** shall be valid for a minimum period of 120 days calculated from the closing date.

16 APPOINTMENT OF SERVICE PROVIDER

16.1 The contract will be awarded to the tenderer who scores the highest total number of points during the evaluation process, except where the law permits otherwise.

16.2 Appointment as a successful service provider shall be subject to the parties agreeing to mutually acceptable contractual terms and conditions. In the event of the parties failing to reach such agreement CSIR reserves the right to appoint an alternative supplier.

16.3 Awarding of contracts will be announced on the National Treasury website and no regret letters will be sent to unsuccessful bidders.

17 ENQUIRIES AND CONTACT WITH THE CSIR

Any enquiry regarding this RFP shall be submitted in writing to CSIR at tender@csir.co.za with **“RFP No 3458/04/06/2021 – “The provision of additional capability to the Medium Speed Wind Tunnel of the CSIR Aeronautic Systems Impact Area for a period of seven months”** as the subject.

Any other contact with CSIR personnel involved in this tender is not permitted during the RFP process other than as required through existing service arrangements or as requested by the CSIR as part of the RFP process.

18 MEDIUM OF COMMUNICATION

All documentation submitted in response to this RFP must be in English.

19 COST OF PROPOSAL

Tenderers are expected to fully acquaint themselves with the conditions, requirements and specifications of this RFP before submitting proposals. Each tenderer assumes all risks for resource commitment and expenses, direct or indirect, of proposal preparation and participation throughout the RFP process. The CSIR is not responsible directly or indirectly for any costs incurred by tenderers.

20 CORRECTNESS OF RESPONSES

- 20.1 The tenderer must confirm satisfaction regarding the correctness and validity of their proposal and that all prices and rates quoted cover all the work/items specified in the RFP. The prices and rates quoted must cover all obligations under any resulting contract.
- 20.2 The tenderer accepts that any mistakes regarding prices and calculations will be at their own risk.

21 VERIFICATION OF DOCUMENTS

- 21.1 Tenderers should check the numbers of the pages to satisfy themselves that none are missing or duplicated. No liability will be accepted by the CSIR in regard to anything arising from the fact that pages are missing or duplicated.
- 21.2 Electronic copy of each proposal must be submitted.
- 21.3 Pricing schedule and B-BBEE credentials should be submitted with the proposal, but as a separate document and no such information should be available in the technical proposal.

22 SUB-CONTRACTING

- 22.1 A tenderer will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a tenderer intends sub-contracting more than **25%** of the value of the contract to any other enterprise that does not qualify for at least the points that such a

tenderer qualifies for, unless the intended sub-contractor is an exempted micro enterprise that has the capability and ability to execute the sub-contract.

- 22.2 A tenderer awarded a contract may not sub-contract more than **25%** of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an exempted micro enterprise that has the capability and ability to execute the sub-contract.

23 ENGAGEMENT OF CONSULTANTS

The consultants will only be remunerated at the rates:

- 23.1 Determined in the "Guideline for fees", issued by the South African Institute of Chartered Accountants (SAICA); or
- 23.2 Set out in the "Guide on Hourly Fee Rates for Consultants", by the Department of Public Service and Administration (DPSA); or
- 23.3 Prescribed by the body - regulating the profession of the consultant.

24 TRAVEL EXPENSES

- 24.1 All travel expenses for the CSIR's account, be it directly via the CSIR's travel agent or indirectly via re-imburements, must be in line with the CSIR's travel policy. The following will apply:
- 24.1.1 Only economy class tickets will be used.
- 24.1.2 A maximum of R1400 per night for accommodation, dinner, breakfast and parking will be allowed.
- 24.1.3 No car rentals of more than a Group B will be accommodated.

25 ADDITIONAL TERMS AND CONDITIONS

- 25.1 A tenderer shall not assume that information and/or documents supplied to CSIR, at any time prior to this request, are still available to CSIR, and shall consequently not make any reference to such information document in its response to this request.
- 25.2 Copies of any affiliations, memberships and/or accreditations that support your submission must be included in the tender.
- 25.3 In case of proposal from a joint venture, the following must be submitted together with the proposal:

- Joint venture Agreement including split of work signed by both parties;
- The original or certified copy of the B-BBEE certificate of the joint venture;
- The Tax Clearance Certificate of each joint venture member;
- Proof of ownership/shareholder certificates/copies; and
- Company registration certificates.

25.4 An omission to disclose material information, a factual inaccuracy, and/or a misrepresentation of fact may result in the disqualification of a tender, or cancellation of any subsequent contract.

25.5 Failure to comply with any of the terms and conditions as set out in this document will invalidate the Proposal.

26 CSIR RESERVES THE RIGHT TO

26.1 Extend the closing date;

26.2 Verify any information contained in a proposal;

26.3 Request documentary proof regarding any tendering issue;

26.4 Appoint one or more service providers, separately or jointly (whether or not they submitted a joint proposal);

26.5 Award this RFP as a whole or in part;

26.6 Cancel or withdraw this RFP as a whole or in part.

27 DISCLAIMER

This RFP is a request for proposals only and not an offer document. Answers to this RFP must not be construed as acceptance of an offer or imply the existence of a contract between the parties. By submission of its proposal, tenderers shall be deemed to have satisfied themselves with and to have accepted all Terms & Conditions of this RFP. The CSIR makes no representation, warranty, assurance, guarantee or endorsements to tenderer concerning the RFP, whether with regard to its accuracy, completeness or otherwise and the CSIR shall have no liability towards the tenderer or any other party in connection therewith.

DECLARATION BY TENDERER

Only tenderers who completed the declaration below will be considered for evaluation.

RFP No: 3458/04/06/2021

I hereby undertake to render services described in the attached tendering documents to CSIR in accordance with the requirements and task directives / proposal specifications stipulated in RFP No.3458/04/06/2021 at the price/s quoted. My offer/s remains binding upon me and open for acceptance by the CSIR during the validity period indicated and calculated from the closing date of the proposal.

I confirm that I am satisfied with regards to the correctness and validity of my proposal; that the price(s) and rate(s) quoted cover all the services specified in the proposal documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this proposal as the principal liable for the due fulfilment of this proposal.

I declare that I have no participation in any collusive practices with any tenderer or any other person regarding this or any other proposal.

I accept that the CSIR may take appropriate actions, deemed necessary, should there be a conflict of interest or if this declaration proves to be false.

I confirm that I am duly authorised to sign this proposal.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES	
1
2
DATE:	