

Request for Proposals (RFP)

For

The provision of Engineering Design and Development Services to the CSIR

RFP No. 3526/08/07/2022

Date of Issue	Friday, 24 June 2022	
Closing Date	Friday, 08 July 2022 at 16h30	
Place	tender@csir.co.za	
Enquiries	Strategic Procurement Unit	E-mail: tender@csir.co.za
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 Defence and Security Cluster of the CSIR performs Defence related R&D in the fields of defence test and evaluation, development of specialist test and evaluation equipment, stores integration and airborne systems development amongst several other areas. The Aeronautics Systems Impact Area within the Defence & Security Cluster has a track record in aeronautic systems' design and development as well as testing & evaluation of various aerospace related technology demonstrators. The Aeronautics Systems Impact Area is seeking experienced engineering expertise to support the development of custom land-based aircraft support, test and evaluation equipment. The equipment is to comprise high-speed high-pressure actuation and control systems.

3 INVITATION FOR PROPOSAL

Proposals are hereby invited from suitably qualified service providers for supplying specialist engineering expertise for the development of specialist high-speed high-pressure actuation and control systems.

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 proposal to be submitted will be based on an hourly rate for support contracted for the below specified tasks.

A contract will be entered into with the successful suppliers to establish suitability (functional), a contracted rate per hour and availability, not necessarily for a contract task.

Tasks will be contracted with the selected and contracted suppliers on an Ad-Hoc basis once contracts are entered into with CSIR clients and resource requirements are detailed.

Depending on the projects contracted, the selected suppliers will be asked to sign an NDA with the CSIR, and depending on the security status of the projects, might be asked to submit a security clearance.

The Aeronautics Systems Impact Area is in need of experience with:

- 4.1 Mechanical engineering design and draughting, finite element modelling & simulation, structural (static and dynamic) analyses, as well as procurement support, integration and testing, and data pack compilation of the high-speed actuation and control system
- 4.2 System engineering support including documenting and updating requirement specifications, interface requirements, risk (technical, cost and schedule) management, test and evaluation procedures and plans, quality management (assurance and control), procurement support, leading integration and testing efforts, amongst others
- 4.3 Electronic/mechatronic hardware and embedded software design and development (including procurement support, integration and testing, and documentation) for a high-speed actuation and control system.
- 4.4 System Safety Engineering, associated analyses, and documentation

This experience is needed to support the design, procurement, integration and testing, and client demonstration of actuation and control systems, as well as other engineering applications pertinent to the Impact Area.

CSIR TENDER DOCUMENTATION

The proposal submission must include supporting documentation highlighting the criteria stipulated in section 5. The proposal should include an hourly labour rate for the above-mentioned services.

The proposal must also indicate which expertise they are applying for as listed in 4.1 to 4.4 above.

The CSIR should be provided the option to contract each of the above deliverables independently.

The CSIR reserves the right to contract each phase separately and sequentially.

5 FUNCTIONAL EVALUATION CRITERIA

5.1 The evaluation of the proposal will be based on the following criteria for candidates supplying services for expertise described in 4.1:

	Functional Evaluation Criteria	Weight	Score	Result
Suitable qualifications and professional accreditation	<ul style="list-style-type: none"> • BSc (Eng) / BEng in a relevant Engineering discipline (Aeronautical/Mechanical/Mechatronics/Electronics or related) and Professional Engineer Registration with ECSA = 100% • BTech with Professional Engineering Technologist Registration with ECSA = 70% • Incorrect/insufficient qualification and professional accreditation = 0% 	25%	Out of 100	25
Years of relevant experience in design and development of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems.	<ul style="list-style-type: none"> • 10 years or more = 100% • 5 to 9 years = 70% • Less than 5 years = 0% 	25%	Out of 100	25
Engineering capability in performing complex aeronautical/mechanical/mechatronic engineering design, analysis and optimisation	Demonstrable experience with all of the following tool sets: (1) Computer Aided Design and Detailing (CADD), (2) Finite Element Analysis (Static), (3) Multibody Systems Analysis (Dynamic), e.g., Adams, Matlab Simulink (Kinematic/Dynamic Solvers), etc.	25%	Out of 100	25

CSIR TENDER DOCUMENTATION

	Functional Evaluation Criteria	Weight	Score	Result
	<ul style="list-style-type: none"> • Relevant capability in all (CADD, Static and Dynamic analyses) of the above engineering analysis and tools = 100% • Capability in CADD and Static analysis only of the engineering analysis and tools = 50% • none of the above = 0% 			
Track record in the design, development and successful delivery of high-speed high-pressure (incl. hydraulics, pneumatics, and electronics) actuation and control systems	<ul style="list-style-type: none"> • 4 or more successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 100% • 2 to 3 successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 50% • One or none successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 0% 	25%	Out of 100	25
Totals		100%		100

5.2 The evaluation of the proposal will be based on the following criteria for candidates supplying services for expertise described in 4.2:

	Functional Evaluation Criteria	Weight	Score	Result
Suitable qualifications and professional accreditation	<ul style="list-style-type: none"> • BSc (Eng) / BEng in a relevant Engineering discipline (Aeronautical/Mechanical/Mechatronics/Electronics or related) and Professional Engineer Registration with ECSA = 100% • BTech with Professional Engineering Technologist Registration with ECSA = 70% • Incorrect/insufficient qualification and professional accreditation = 0% 	25%	Out of 100	25
Years of relevant experience in design and development of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems.	<ul style="list-style-type: none"> • 10 years or more = 100% • 5 to 9 years = 70% • Less than 5 years = 0% 	25%	Out of 100	25
Engineering capability in performing complex systems' engineering	<p>Demonstrated capability for compiling and delivering relevant configuration items such as Specifications, Design Reviews (leading, documenting and signing-off), SEMP's, TEMP's, ICD's, ATP's, DDP's, Test Instructions and Reports to recognised standards such as MIL and ISO</p> <ul style="list-style-type: none"> • Original compiler of configuration items = 100% 	25%	Out of 100	25

CSIR TENDER DOCUMENTATION

	Functional Evaluation Criteria	Weight	Score	Result
	<ul style="list-style-type: none"> • Revising other compilers' configuration items = 50% • None compiled = 0% 			
Track record in the design, development and successful delivery of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems	<ul style="list-style-type: none"> • 4 or more successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 100% • 2 to 3 successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 50% • One or none successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 0% 	25%	Out of 100	25
Totals		100%		100

5.3 The evaluation of the proposal will be based on the following criteria for candidates supplying services for expertise described in 4.3:

	Functional Evaluation Criteria	Weight	Score	Result
Suitable qualifications and professional accreditation	<ul style="list-style-type: none"> • BSc (Eng) / BEng in a relevant Engineering discipline (Aeronautical/Mechanical/Mechatronics/Electronics or related) and Professional Engineer Registration with ECSA = 100% • BTech with Professional Engineering Technologist Registration with ECSA = 70% • Incorrect/insufficient qualification and professional accreditation = 0% 	25%	Out of 100	25
Years of relevant experience in design and development of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems.	<ul style="list-style-type: none"> • 10 years or more = 100% • 5 to 9 years = 70% • Less than 5 years = 0% 	25%	Out of 100	25
Engineering capability in performing complex aeronautical/mechanical/mechatronic/electronic engineering design, analysis and optimisation	<p>Demonstrable experience with specific electronic hardware and embedded software design and development tools and technologies: Matlab/Simulink, Embedded C/C++, PLC, CAN bus, I²C/SPI</p> <ul style="list-style-type: none"> • 20% per category in the above list (100% max) 	25%	Out of 100	25

CSIR TENDER DOCUMENTATION

	Functional Evaluation Criteria	Weight	Score	Result
Track record in the design, development and successful delivery of high-speed high-pressure (incl. hydraulics, pneumatics, and electronics) actuation and control systems	<ul style="list-style-type: none"> • 4 or more successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 100% • 2 to 3 successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 50% • One or none successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 0% 	25%	Out of 100	25
Totals		100%		100

5.4 The evaluation of the proposal will be based on the following criteria for candidates supplying services for expertise described in 4.4:

	Functional Evaluation Criteria	Weight	Score	Result
Suitable qualifications and professional accreditation	<ul style="list-style-type: none"> • BSc (Eng) / BEng in a relevant Engineering discipline (Aeronautical/Mechanical/Mechatronics/Electronics or related) and Professional Engineer Registration with ECSA = 100% • BTech with Professional Engineering Technologist Registration with ECSA = 70% • Incorrect/insufficient qualification and professional accreditation = 0% 	25%	Out of 100	25
Years of relevant experience in design and development of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems.	<ul style="list-style-type: none"> • 10 years or more = 100% • 5 to 9 years = 70% • Less than 5 years = 0% 	25%	Out of 100	2
Engineering capability in performing complex aeronautical/mechanical/mechatronic/electronic engineering design, analysis and optimisation	Demonstrated capability for compiling and delivering relevant configuration items such as System Safety Assessment planning, Fault Tree Analysis, Hazard Analysis, FMECA, System Safety Assessment Reports, amongst others (relevant Safety Engineering of Defence Systems) to recognised standards such as MIL and ISO	25%	Out of 100	20

CSIR TENDER DOCUMENTATION

	Functional Evaluation Criteria	Weight	Score	Result
	<ul style="list-style-type: none"> • Relevant capability in more than 5 of the above assessments and analyses = 100% • Capability in 4 to 5 = 50% • No capability = 0% 			
Track record in the design, development and successful delivery of high-speed high-pressure (incl. hydraulics, pneumatics, mechanisms, and electronics) actuation and control systems	<ul style="list-style-type: none"> • 4 or more successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 100% • 2 to 3 successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 50% • One or none successfully completed project(s) for the design and development of high-speed high-pressure actuation systems = 0% 	25%	Out of 100	25
Totals		100%		100

5.5 Proposals with functionality / technical points of less than the pre-determined minimum overall percentage of 60% will be eliminated from further evaluation.

6 ELIMINATION CRITERIA

Proposals will be eliminated under the following conditions:

- Submission after the deadline;
- Proposals submitted at incorrect location;
- Suppliers listed on National Treasury list of restricted suppliers;

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 certified copy of their B-BBEE certificate. If no certificate can be provided, no points will be scored during the evaluation process. (RSA suppliers only)

SECTION B – TERMS AND CONDITIONS

8 VENUE FOR PROPOSAL SUBMISSION

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

If mail size exceeds 25MB, then multiple mails must be sent.

No documents on cloud platforms will be accepted

9 TENDER PROGRAMME

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

- Issue of tender documents: 24 June 2022
- Closing / submission Date: 08 July 2022
- Last date for enquiries ` 04 July 2022
- Estimated contract duration 6 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, describing conformance to the required competencies:

RFP 3526/08/07/2022

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

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

10.3 The CSIR will award the supplier status 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 **8 July 2022** 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 90 days calculated from the closing date.

16 APPOINTMENT OF SERVICE PROVIDER

16.1 The service provider status 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 3526/8/7/2022 - The provision of specialist design and development engineering services to CSIR"*** 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 Give preference to locally manufactured goods;
- 26.5 Appoint one or more service providers, separately or jointly (whether or not they submitted a joint proposal);
- 26.6 Award this RFP as a whole or in part;
- 26.7 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.

28 DECLARATION BY TENDERER

RFP No: 3526/08/07/2022

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.**3526/08/07/2022** 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:	

29 ANNEXURE A RETURNABLE CHECKLIST

NOTE: The bidder is required to complete each and every schedule listed below.

The bidder must complete the following returnable documents:

RETURNABLE DOCUMENTS –		
The below documents must be submitted		
Description	Included	
	Yes	No
Central Supplier database (CSD Report)		
BBBEE certificate or sworn affidavit		
Proof of qualifications and professional accreditation		
Proof of relevant experience		
Proof of demonstrated capability		
Proof of track record		
Declaration by tenderer		
SBD 1 Form		