Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

science, technology & innovation
Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA

SANSA
SOUTH AFRICAN NATIONAL SPACE AGENCY

SOUTH AFRICAN NATIONAL SPACE AGENCY (SANSA) SPACE ENGINEERING PROGRAMME

Request for Information (RFI) for the G20 Payload

RFI No.: RFI/SE/011/06/2026

Request for Information Issue Date: **3 June 2026**

Request for Information Due Date**: 22 June 2026 at 16:00**

Pretoria Site
Building 10, CSIR Campus,
Meiring Naude Road, Brummeria,
Pretoria 0184

Hartebeeshoek Site
Farm No 502 JQ
Hartebeeshoek
District Krugersdorp

Hermanus Site
Hospital Street
Hermanus 7200
Western Cape

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

1. INTRODUCTION

The South African National Space Agency (SANSA) was established by an Act of Parliament – SANSA Act 36 of 2008. SANSA's mandate is to provide for the promotion and use of space and cooperation in space-related activities, foster research in space science, advance scientific engineering through human capital and support the creation of an environment conducive to industrial development in space technologies within a framework of national government policy.

Furthermore, SANSA has a legislative mandate to develop the space industry in South Africa.

This RFI is issued as a means of technical discovery and information gathering only, and aims to determine local scope of payloads and indicative costing. This RFI is not an invitation to pre-qualify prospective contractors and participation is voluntary. Furthermore, all the information provided may be used for planning purposes and is none binding on either parties.

2. BACKGROUND

The G20 Satellite Mission is a collaborative initiative announced during a G20 Summit. Its objective is to develop a dedicated satellite for climate and environmental observation through cooperation among G20 nations. The mission is intended to advance space-based technologies, gain scientific insights into environmental and climate change, and address current and emergent issues through fruitful multilateral collaboration.

Under the mission framework, one participating G20 nation, India, through ISRO provides the spacecraft bus, satellite assembly, integration and testing, and launch services. Payload opportunities are extended to other G20 nations in line with the mission's thrust areas and commensurate with national ambitions.

The mission targets six broad application areas. These are the characterisation of aerosols and clouds. The mapping of greenhouse gases including CH_4, CO_2, and NO_2. The detection and mapping of forest fires, outgoing infrared and visible radiation, and cloud cover. Atmospheric temperature and humidity sounding. Studies on winds and soil moisture. And precipitation measurement, including rain and snowfall.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

Each participating nation is expected to contribute a payload addressing one or more of these application areas. The mission therefore seeks a portfolio of complementary payloads from multiple G20 partners.

The mission has defined broad technical parameters at a higher level. The orbit is Sun-Synchronous Low Earth Orbit (LEO) at an approximate altitude of 800 km, though finer details may be finalised based on payload requirements. The launch is planned for approximately February 2027. Payloads are required to be delivered to the satellite integrator by September 2026 before launch to align with the integration timeline.

For ground segment operations, it is envisaged that the lead nation's ground stations will be used for telemetry, tracking and command. However, voluntary contribution by other G20 space agencies with their own ground stations is welcome. For wider data reception across the globe, participating G20 nations are requested to employ their ground stations for data reception. Data will also be downloaded over the lead nation's ground station and will be shared with G20 nations and other interested nations.

South Africa has received a formal invitation to participate in this mission. SANSA now seeks information from South African original equipment manufacturers regarding available, qualified, flight-heritage payloads that can meet the mission's technical requirements within the compressed delivery timeline.

3. INFORMATION REQUESTED

All information shall be submitted in accordance with the instructions provided in this document. Classified responses will not be accepted.

SANSA requests that respondents assess the requirements as stated in Annexure A of this RFI and submit information regarding payload solutions that they are able to provide. The responses should address the technical solution concepts and specifications, compliance with technical budgets (mass, volume, power, interfaces), flight heritage or qualification status, implementation plan and timeline, risk aspects, assumptions made, expected customer supplied items and interfaces, engineering support services.

Respondents are requested to provide only information that is publicly available or that can be disclosed without any confidentiality obligations.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

SANSA does not require access to proprietary, commercially sensitive, or trade secret information at this RFI stage. Respondents should not include any information that would require a Non-Disclosure Agreement (NDA) or any other confidentiality arrangement. If certain technical or commercial details cannot be disclosed without restrictions, respondents may simply indicate the existence of such information without providing the details themselves. Respondents should be aware that if the project proceeds to a subsequent procurement phase, the lead nation's space agency (ISRO) would require access to relevant payload technical specifications for integration purposes. However, for the purposes of this RFI, only publicly available information is sought. SANSA will not enter into any NDA for responses to this RFI.

4. RFI INQUIRIES

Inquiries to this RFI must be submitted to scm@sansa.org.za. No telephone inquiries will be accepted. SANSA will review queries and if relevant post responses on the SANSA website in the RFI site. Queries must be submitted by **15 June 2026** to be considered by SANSA for a response.

5. SUBMISSION INSTRUCTIONS

Responses to this RFI are due **no later than 16:00, on 22 June 2026**. All submissions must be electronically submitted to scm@sansa.org.za, preferably as a PDF file attachment(s) not to exceed 20MB per email. The information provided in response to this RFI will not be disclosed publicly.

The information is requested for planning purposes only. The release of the RFI does not indicate that SANSA will issue a solicitation, nor does it obligate SANSA to invest any resources specific to the targeted application areas as part of this market research activity.

SANSA may request respondents to present their proposal after the submissions have been assessed.

6. DISCLAIMERS AND IMPORTANT NOTES

This RFI is issued solely for information gathering and planning purposes; this RFI does not constitute a formal solicitation.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

Respondents are advised that SANSA is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI and or the processes post receipt of this RFI.

Responses to this RFI are not offers and cannot be accepted by SANSA to form a binding contract. Respondents are solely responsible for all expenses associated with responding to this RFI. SANSA will not provide reimbursement for costs incurred in responding to this RFI. It is the respondent's responsibility to ensure that the submitted information has been approved for public release by the information owner.

Whereas there is a possibility that this RFI process may inform or lead to a future procurement process for the payload and associated engineering support services, any such procurement will be conducted as a separate and independent process. This RFI does not constitute a solicitation or a commitment to procure, and no contract will be awarded on the basis of this RFI alone. Information gathered through this RFI may be used to inform future procurement activities, but SANSA reserves the right to discontinue the process at any stage without obligation or explanation to respondents. Respondents are therefore advised that neither proprietary nor classified information should be included in their response to this RFI.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

Annexure A: G20 Payload Technical Requirements Statement

A.1 PROBLEM STATEMENT / PURPOSE

SANSA has been invited to contribute a payload to the G20 Satellite Mission for Environment and Climate Observation. The payload will be integrated into a satellite bus provided by ISRO in India. The launch is planned for February 2027, and the payload must be delivered by September 2026.

The purpose of this RFI is to establish and obtain information on available South African-made, flight-heritage payloads or alternatively, flight qualified payload, that can meet the mission's technical requirements. SANSA also seeks information on engineering support services that suppliers can provide during integration, testing, launch campaign, and early operations.

A.2 MANDATORY SUPPLIER QUALIFICATION REQUIREMENTS

To be considered, the respondent must meet all of the following mandatory criteria.

a) The payload must be **South African made**, meaning designed and **manufactured in South Africa by a South African registered entity**.

b) The payload **must have flight heritage**. **Proof of previous successful space flight** of the same or substantially similar configuration or proof of qualification processes is required. **Alternatively**, if without direct flight heritage, the payload **must be fully flight qualified with proof of qualification and certificates of conformance**. In such a case, additional justification may be required.

c) The payload must **be available for delivery within three months of contract signature.** Specifically, the qualified flight model must be delivered to SANSA or directly to the lead nation's integration facility by September 2026.

d) The respondent must **demonstrate capacity to provide engineering support services in South Africa and in the lead nation's facilities for integration, testing, pre-launch and post-launch activities (i.e. ISRO facilities in India)**, and early operations support.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

A.3 PAYLOAD TECHNICAL SPECIFICATIONS

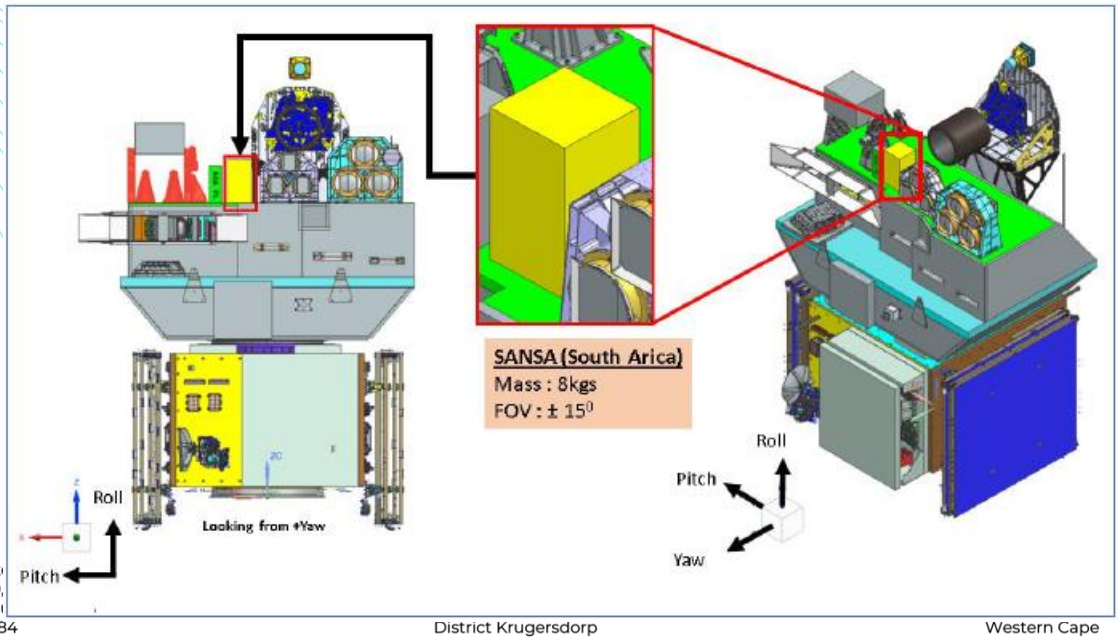
The following technical specifications are required. Respondents must indicate compliance for each characteristic or alternative representation of this specification. The respondent is requested to indicate the most optimal configuration of what they offer.

Characteristic	Description	Requirement
Optical configuration	Target Applications 1. Characterization of Aerosols and Clouds 2. Mapping of CH4, CO2 and NO2 3. Detection and mapping Forest Fire, Outgoing IR & visible radiation and Cloud Cover 4. Atmospheric Temperature and Humidity Sounding 5. Studies on Winds and Soil Moisture 6. Precipitation (Rain / Snow fall) measurement	Required
Mission application	Earth observation for climate, environmental and disaster monitoring	Required
Focal plane	CMOS or equivalent high-performance area or linear detector array	Required
Spectral bands	As per payload	Required
Pan band	As per payload	Required
Swath at 720 km and at 800 km altitude	As per payload	Required
Downlink transfer speed	As per payload	Required
Max mass	≤ 8 kg	Strict limit
Payload volume allowance	≤ 200 mm × 200 mm × 350 mm	Strict limit
Payload interface footprint	≤ 200 mm × 200 mm	Strict limit
Power (average)	≤ 30 W	Required

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

Mode of operation	As per payload	Required
Re-focus Mechanism	Fixed focus (no moving parts) or optional motorised re-focus	Required
Field of View (FOV)	±15°	Strict limit
Ground Sampling Distance (GSD) 720km and at 800 km	As per payload	Required
Radiometric resolution	As per payload	Required
On-board storage	As per payload	Required
On-board processing	As per payload	Required
Data and command interface	LVDS, 1553 Bus (or UART/12C)	Required
Lifetime in LEO	2 years (plus 2 years target)	Required

Please note that the drawing below is not done to scale, it is for indicative location and orientation purposes only. There are no detailed Computer Aided Drawing (CAD) available, and the mounting and field of view (FOV) is assumed and indicated as shown.



Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

A.4 ORBIT AND INTERFACE REQUIREMENTS

The respondent must confirm compliance with the following orbit and interface parameters as communicated by the mission lead.

The orbit is 720 km and at 800 km, 12:00 noon LTDN Sun-Synchronous Polar Orbit (SSPO). Attitude orientation is geodetic or geocentric. Power consumption must be specified for peak, continuous, and standby modes, noting that the spacecraft operates at 28-42V.

The spacecraft provides Position, Velocity and Time with 5m, 5mm/sec and 500ns accuracy; the respondent must confirm whether this is acceptable. Payload data compression details and storage requirements on the spacecraft must be specified.

Thermal design, storage temperature, operational temperature limits, and thermal isolation requirements must be provided. Telemetry and telecommand protocols, interfaces, and type of interface (1553 preferred, or UART/I2C) must be specified. Time stamping requirements must be provided. A 3D or CAD model of the antenna (if applicable) must be made available.

A.5 ENGINEERING SUPPORT SERVICES REQUIREMENT

SANSA recognises that the supplier's engineers may be required to provide support services in South Africa and at the lead nation's integration and launch facilities. These services include integration support, testing support, pre-launch campaign support, post-launch support, and early operations support.

The respondent must indicate the following. The maximum number of engineers that can be made available (SANSA will fund a maximum of two skilled engineers). The hourly labour tariff for engineering hours, inclusive of all overheads. The estimated total engineering hours required for each phase of support (integration, testing, launch campaign, early operations). The respondent must also indicate their standard travel and subsistence cost structure, including international flights, accommodation, S&T, vehicle hire or airport transfers, and any other incidental expenses.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

All engineering hours and associated travel costs will be subject to a Work Authorisation (WA) process. Each foreign deployment will require a prior approved WA accompanied by a proposed Statement of Work and cost estimation. Respondents should confirm their acceptance of this mechanism.

A.6 INFORMATION REQUESTED FROM RESPONDENTS

Respondents are requested to provide the following information in their response.

1) A description of the proposed payload, including its optical configuration, spectral bands, GSD, swath, and any unique capabilities. Proof of flight heritage or, alternatively, full flight qualification certificates and conformance documentation. A compliance table against the technical specifications in Section A.3, clearly indicating compliant, non-compliant, or proposed alternatives with justifications.

2) Pricing data for the payload equipment, including all associated hardware, accessories (mechanical interfaces, harnesses, test adapters), and logistics of shipping (i.e. export to the lead nation's integration facility, Indian Space Research Organisation (ISRO) in India). Pricing data for engineering hours, including labour tariff per hour. Estimated total engineering hours by phase. Indicative travel and subsistence cost structure. It is to be noted that only actual costs and actual hours will be claimable.

3) The respondent is to declare ownership of all intellectual property (IP) embodied in the proposed payload, or otherwise demonstrate lawful authority to supply the payload information without any third-party restrictions. The respondent must confirm that there are no existing or pending IP disputes, claims, or litigation that could affect the delivery, integration, or operation of the payload. If the payload is produced under licence in South Africa, the respondent must disclose the licensing arrangement, including the identity of the licensor, the scope, and any restrictions on export, data rights, or technology transfer. The respondent must further confirm that the payload qualifies as South African made for the purposes of this RFI, meaning that the final assembly, integration, and qualification of the flight-ready unit are performed within South Africa by a South African registered entity. This declaration is essential to ensure that no let down occurs on the requirement for a genuine South African-made and qualified payload.

Docusign Envelope ID: C7B8C5A7-4111-8E09-82DB-59F5B7ED1832

4) The respondent's acceptance of the Work Authorisation process for support services. The respondent's proposed delivery schedule, confirming ability to deliver the qualified flight model by September 2026.

A.7 RESPONSE FORMAT

Responses should be structured as follows:

Section 1: Executive summary and payload overview.
Section 2: Compliance table against technical specifications or your offer.
Section 3: Flight heritage evidence or qualification evidence.
Section 4: Delivery schedule.
Section 5: Engineering support services description and labour tariff pricing.
Section 6: Indicative Pricing summary for hardware.
Section 7: IP Ownership/ licensing, data rights, export control.
Section 8: Any additional relevant information (brochures, technical / operational datasheets, interface control document(s), etc).

Responses must be submitted in PDF format to scm@sansa.org.za by the closing date, with the subject line: **RFI/SE/011/06/2026 – South African Qualified Payload and integration support service for the G20 Satellite Mission for Environment and Climate Observation.**

-o0o-