SATELLITE SYSTEM OF DEFENCE AND STRATEGIC COMMUNICATIONS

REQUEST FOR INFORMATION - RFI

Issue Date: [July 15, 2026]

Contact: [rfi-sgdc2@telebras.com.br]

EXECUTIVE SUMMARY

Request for Information (RFI)

Strategic Sovereign Satellite Program

1. Introduction

TELEBRAS – Telecomunicações Brasileiras S.A. is conducting this Request for Information (RFI) as part of the preliminary definition phase of a new **Strategic Sovereign Satellite Program** intended to establish a next-generation national space capability.

The primary objective of this RFI is to gather technical, operational, industrial and commercial information from leading satellite manufacturers and system integrators worldwide. The information collected will support the development of the Mission Requirements, Concept of Operations (ConOps), System Architecture and acquisition strategy for the future program.

This RFI is issued solely for information-gathering purposes and shall not be interpreted as a commitment to procure products or services, nor as the initiation of a competitive procurement process.

2. Program Vision

The envisioned satellite system will constitute a strategic national asset designed to provide secure, resilient and sovereign space-based communications capable of supporting governmental, institutional and critical national infrastructure requirements over the coming decades.

The future system is expected to leverage state-of-the-art satellite technologies while maintaining sufficient flexibility to accommodate future mission evolution, service expansion and emerging operational demands.

The program seeks solutions that combine:

- High performance;
- Operational flexibility;
- Long-term scalability;
- High availability;
- Electronic Protection;
- Cyber resilience;
- Cost-effectiveness throughout the entire lifecycle;
- Sustainable operation; and
- Technology evolution capability.

3. Scope of the RFI

The attached questionnaire addresses multiple technical and programmatic disciplines, including, but not limited to:

- Mission architecture;
- Space segment;
- Payload technologies;
- Digital payload processing;
- Software-defined satellite capabilities;
- Beamforming architectures;

- Frequency reuse strategies;
- Ground segment;
- Network management;
- Mission operations;
- Satellite control;
- Cybersecurity;
- Electronic Protection;
- Manufacturing approach;
- Industrial participation;
- Integration and testing;
- Launch strategy;
- In-orbit operations;
- Product support;
- Logistics;
- Reliability;
- Availability;
- Maintainability;
- Future technology insertion;
- Lifecycle management;
- Cost considerations.

Respondents are encouraged to propose additional concepts whenever they believe alternative approaches may improve overall system performance or reduce programmatic risks.

4. Desired Industry Contributions

Participants are invited to provide comprehensive responses supported by technical rationale, engineering analyses and, whenever appropriate:

- Recommended system architectures;
- Trade-off analyses;
- Performance assessments;
- Technical assumptions;
- Risk analyses;
- Technology readiness assessment (TRL);
- Reference missions;
- Heritage programs;
- Lessons learned;
- Innovation opportunities;
- Technology roadmaps;
- Manufacturing considerations;
- Supply chain aspects;
- Schedule assumptions;
- Program risks;
- Cost drivers;
- Budgetary estimates.

The objective is to obtain the broadest possible understanding of currently available technological solutions and anticipated developments over the coming years.

5. Budgetary Information

Respondents are requested to provide preliminary Rough Order of Magnitude (ROM) cost estimates whenever possible.

Cost information should preferably include:

- Space segment;
- Payload;
- Ground segment;
- Gateway infrastructure;
- TT&C segment;
- User terminals (if applicable);
- Launch services;
- Integration and test;
- Assembly, Integration and Verification (AIV);
- Mission operations;
- Training;
- Logistics support;
- Long-term maintenance;
- Product support;
- Engineering support;
- Optional capabilities.

Budgetary information will be used exclusively for program planning and affordability assessments.

6. Confidentiality

Given the strategic nature of this initiative, all proprietary information exchanged during this RFI process shall be protected under a mutually executed **Non-Disclosure Agreement (NDA)**.

Information submitted by respondents will be treated as confidential and will be used exclusively for internal technical studies supporting the definition of the future satellite program.

7. Technical Clarifications

The attached RFI has been prepared as a self-contained technical document.

Nevertheless, should clarification be required, questions shall be submitted exclusively by e-mail to:

RFI Technical Focal Point:

E-mail: **rfi-sgdc2@telebras.com.br**

Responses to clarification requests will be provided in accordance with the communication procedures established for this RFI.

8. Technical Workshops

Following the evaluation of the submitted responses, if necessary, each participating organization should be prepared to conduct an individual Technical Workshop.

The workshop may be held:

- In person; or
- Through a secure video conferencing platform.

These sessions will provide an opportunity to:

- Present the proposed solution;
- Clarify technical aspects;
- Discuss architectural alternatives;
- Review assumptions;
- Explore technology roadmaps;
- Address evaluator questions.

Participation in these workshops is considered an important element of the information-gathering process.

9. Evaluation Philosophy

Responses will not be evaluated competitively.

Instead, they will be analyzed to improve the understanding of currently available technologies, industrial capabilities and potential implementation strategies.

Particular interest will be given to:

- Innovative concepts;
- Mission flexibility;
- Digital payload technologies;
- Software-defined architectures;
- Future-proof solutions;
- Open-system concepts;
- Modular designs;
- High-capacity communications;
- Resilience;
- Cybersecurity;
- Electronic Protection
- Affordability;
- Scalability;
- Operational efficiency;
- Low lifecycle cost.

10. Timeline

Considering the strategic importance of this project and the necessity of obtaining comprehensive and timely information to support the development of the Mission Requirements documentation, proponents are requested to give due consideration to the schedule set forth below and to make every reasonable effort to comply with the specified milestones and submission deadlines. Timely responses are essential to ensure the successful execution of the RFI process and the overall project schedule.

RFI Schedule			
Item	**Activity**	**Party Responsible**	**Deadline**
1.	RFI Issuance	Telebras	July 15, 2026
2.	Return of Signed NDA	Proponents	July 31, 2026
3.	Q&A Period	Telebras/Proponents	by August 31, 2026
4.	Submission of RFI Responses	Proponents	by September 15, 2026

10. Closing Remarks

TELEBRAS greatly appreciates the time and resources invested by your organization in responding to this Request for Information.

Your contribution will play a significant role in defining the Mission Requirements of a strategic sovereign satellite capability intended to support national interests for many years to come.

We strongly encourage respondents to provide the most complete, detailed and technically substantiated information possible, including recommendations that extend beyond the explicit scope of the attached questionnaire whenever such recommendations are expected to improve the future program.

We look forward to your valuable participation and thank you in advance for your cooperation.

TELEBRAS – Telecomunicações Brasileiras S.A.

RFI Technical Group

Strategic Sovereign Satellite Program

July 2026

Acronyms

ACM	Adaptive Coding and Modulation
bps	Bits Per Second
BUC	Block Up Converter
CMC	Communications Management Center
CMS	Carrier Monitoring System
COMSEC	Communication Security
DRSS	Data Relay Satellite System
FDS	Flight Dynamic System
FSS	Fixed Satellite Services
GEO	Geostationary Earth orbit
IOT	In-Orbit Testing
ITU	International Telecommunication Union
LEO	Low Earth orbit
LEOP	Launch and Early Orbit Phase
MEO	Medium Earth orbit
MILSATCOM	Military Satellite Communications
M-NMC	Master Network Management Center
MoD	Ministry of Defense
MSS	Mobile Satellite Services
RFI	Request for Information
RFP	Request for Proposal
SCC	Satellite Control Center
SISCOMIS	Brazilian's Military Satellite Communications System
SMC	Multi-Satellite Management Center
SSDC	Defense and Strategic Communications Satellite System
TAP	Technology Absorption Program
TBD	To Be Defined
TC	Telecommand
TM	Telemetry
ToT	Transfer of Technology
TRANSEC	Transmission Security
TT&C	Telemetry, Tracking and Command
VSAT	Very Small Aperture Terminal

Sumário

1. Objective

The objective of this Request for Information (RFI) is to collect information on high-capacity geostationary satellite solutions for the SGDC-2 program, including architectural approaches that facilitate integration with complementary satellite systems and future space communication capabilities, including technical characteristics, operational capabilities, architectural approaches, and associated services. The information gathered will support TELEBRAS in assessing available technologies and market solutions relevant to the SGDC-2 project.

2. Introduction

This RFI aims to identify organizations with capabilities in the development, integration, testing, launch, and support of advanced satellite systems, as well as to gather information on innovative technologies applicable to both the space and ground segments, including payload flexibility and frequency-band diversification.

TELEBRAS is also interested in understanding how the proposed SGDC-2 solution can evolve throughout its operational life and integrate with complementary space and ground communication capabilities while preserving sovereign operation of the Brazilian strategic communications system.

TELEBRAS is also interested in understanding potential commercial and partnership models that could support the economic sustainability of SGDC-2, including possible available civil/commercial capacity not required for governmental, defense or strategic priority use, provided that Brazilian sovereign ownership, control and operational priority are fully preserved.

The proposed architecture should avoid technological lock-in and should, whenever technically feasible, be based on open and widely adopted standards, allowing future integration with additional satellite systems, payloads, terminals and ground infrastructure.

The information provided in this document is preliminary and intended solely for market research and technology assessment purposes. It does not constitute a commitment by TELEBRAS to procure products or services, nor does it initiate a formal procurement process.

Respondents should consider the requirements and specifications contained herein as high level guidelines. Alternative approaches and deviations may be proposed, provided that the proposed solutions satisfy the mission objectives and key performance requirements.

3. Mission Overview

The objective of this RFI is to gather detailed information considering the following technical and operational aspects:

a) The Satellite proposed aims to ensure the continuity of service of the first SGDC to civilian and military/defense users, augmenting the available capacity for both missions;

b) The Satellite proposed shall be a multi-mission, multi-satellite communication system, delivering high throughput, high quality, flexible, low-cost civilian services at Ka-band and military/defense services at X and Ka-military bands;

c) The proposed solution shall consider the SGDC-2 as the sovereign geostationary component of the Brazilian strategic communications architecture and shall describe opportunities for future integration with complementary satellite capabilities, where technically and operationally justified;

d) Satellite platform and Ka-band civil, Ka military and X band payload: Maximum number of beams for full coverage of Brazil, flexibility in power and band redistribution between beams, beam diameter variation, and potential technological limitations;

e) Physical and virtual geographic diversity: Possibilities and benefits for satellite system operations;

f) Integration of multiple frequency bands: Comparative analysis between a single satellite integrating Ka civil, Ka military, and X bands versus dividing these bands into two separate geostationary satellites;

g) Use of Q/V bands in the feeder links: Advantages and operational and technical challenges;

h) Comparison of electric, chemical and hybrid propulsion: Analysis of the advantages and disadvantages of each approach, including impact on mass, orbital insertion time, reliability, and costs;

i) Optimal distribution of gateways for a range of 80 Gbit/s capacity in Ka-band civil: Recommendations on the ideal number of gateways and criteria for their geographic distribution;

j) High-performance requirements for gateways and baseband systems: Recommended functionalities and architectures to optimize system performance.

k) Orbit determination (Flight Dynamics System - FDS) and satellite engineering systems: Specification on whether these systems are proprietary or available from third-party vendors;

l) Payload commissioning and monitoring systems: Detailed description of available solutions;

m) Simulation modules for orbit determination and payload commissioning: Functionalities, benefits, and key features of these tools.

n) Describe possible architecture for future interoperability between the proposed SGDC-2 system and complementary satellite communications systems operating in different orbital regimes, highlighting technical, operational and cybersecurity/electronic protection aspects.

4. System Overview

The SGDC-2 constitutes the sovereign geostationary component of the SSDC. The system architecture should preserve the possibility of future integration with additional satellite communication capabilities whenever this results in operational, technical or economic benefits to the Brazilian State. The SSDC System is composed of:

a) Space Segment;

b) Control Segment,

c) User Segment and,

d) Ground Data Network.

The User Segment is composed of the Civilian Ka-band Broadband Network, the Military Ka-band Network and the Military X-band Network, so that each user network is controlled by its respective baseband.

The system elements and their inter-relationships are depicted in Figure 4.1.

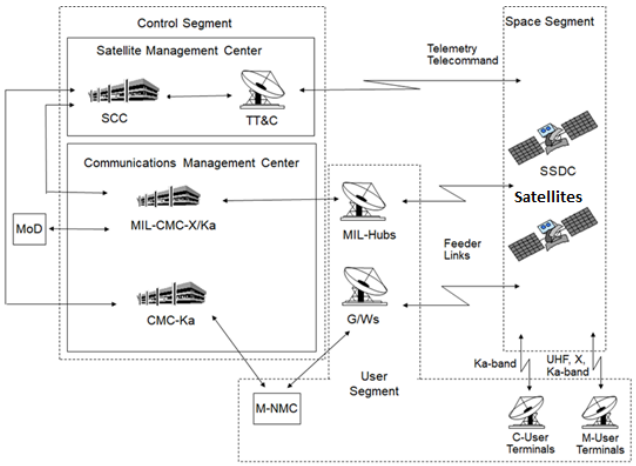


Figure 4.1: SSDC System Elements and Interfaces

Depending on the cost/benefit conditions, the Space Segment at the 57°W position may be provided with only one satellite or more than one satellite. Respondents may propose different payload distribution and satellite configuration options, including architectures that combine or separate civil Ka-band, military Ka-band and X-band payloads across one or multiple spacecraft, provided that the proposed architecture preserves total sovereign and satisfy the strategic mission requirements.

The Control Segment comprises:

a. Two redundant Multi-Satellite Management Centers (SMC) located in Brasília, DF, and Rio de Janeiro, RJ, Brazil.

b. Each SMC is composed of a Satellite Control Center (SCC) and a Telemetry, Tracking and Command Station (TT&C).

   i. Each SCC shall host the SGDC-1 and SGDC-2 satellite control software and equipment as shown in the Figure 4.2.

   ii. The SGDC-2 control software shall share the existing one with SGDC-1.

   iii. The SGDC-2 satellite TT&C Stations (antennas, equipment and building) shall be collocated with the existing SGDC-1 ones, in Rio de Janeiro and Brasília.

c. Two redundant Multi-Satellite Communications Management Center (CMC) are in Brasília, DF, and Rio de Janeiro, RJ, Brazil. Each CMC is composed of the CMC-Ka (civilian) and the CMC-X/Ka (military) centers.

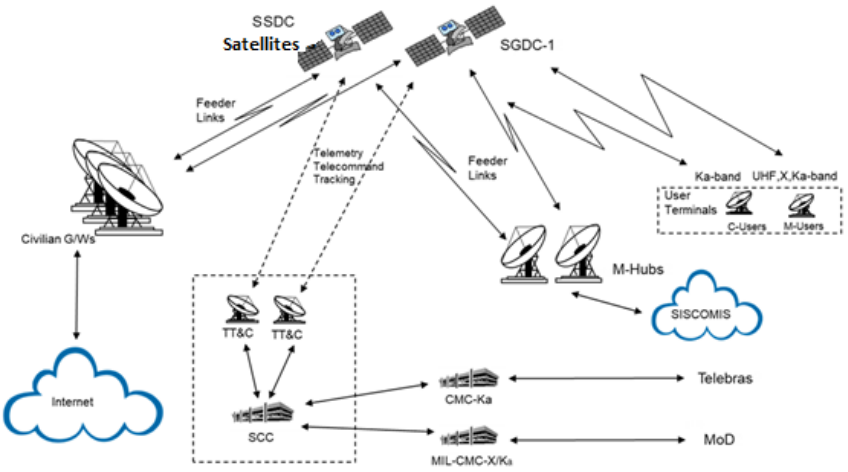


Figure 4.2: SSDC Multi-Satellite Concept

The Civilian Ka-band Broadband Network is composed of:

a. Gateway (GW) stations to connect with civilian end-users (C-Users).

b. Master Network Management Center(s) (M-NMC), responsible for the operational (network management, monitoring and controlling the performance and status of the gateways and end-user stations).

The Military Ka-band Network is composed of:

a. The military Ka-band end-users (M-Ka_Users) and Hub stations (M-Ka_Hubs).

The Military X-band Network is composed of:

a. The military X-band end-users (M-X_Users) and Hub stations (M-X_Hubs).

The Ground Data Network inter-connects the ground elements of the system.

5. Reference And Applicable Documents

NETWORK NAME	LOCATION	CR/C SPECIAL SECTION	DATE OF RECEIPT OF AP4
B-SAT-57W	-57	CR/C/1705	18.07.2023
SISCOMIS	-57	CR/C/6326	03.09.2024

6. System Mission Requirements

Satellite Platform:

a) The SGDC-2 platform shall be designed to meet, in an integrated manner, the strategic needs of the Brazilian State in both civil and military domains, simultaneously supporting Ka-band payloads for civil applications, additionally, Military Ka-band and X-band payloads for defense purposes. The adoption of Q/V-band feeder links should be assessed, considering the potential gains in capacity and spectral efficiency provided by this technology.

b) Satellite architecture should prioritize high levels of operational flexibility, enabling the dynamic redistribution of capacity among coverage beams and the adaptation of

available resources according to the evolving requirements of each mission throughout the system's operational lifetime. This capability reduces the risk of operational obsolescence and increases the efficiency of space resource utilization.

c) Considering the strategic nature of the mission, the platform shall incorporate robust resilience and protection mechanisms against intentional threats, including interference mitigation and anti-jamming capabilities, as well as secure telemetry and telecommand systems. Additional functionalities should also be evaluated, such as TRANSEC mechanisms, laser tracking capabilities, and other solutions aimed at enhancing situational awareness and the security of space operations.

d) The satellite shall have a minimum operational lifetime of fifteen years in geostationary orbit, operating at the Brazilian orbital slot of 57° West, thereby ensuring continuity of the State's strategic services. The platform architecture shall prioritize high reliability through appropriate levels of redundancy and the elimination of single points of failure, maximizing system availability throughout its operational life.

e) Regarding the propulsion subsystem, electric propulsion solutions should preferably be considered due to their higher propellant efficiency and their potential to increase the useful payload capacity of the satellite. However, this option should not be mandatory and should be assessed from the perspective of achieving the best balance between performance, cost, technological risks, and implementation schedule.

f) The proposed architecture should describe how future integration with complementary satellite systems could be supported by the ground segment, network management system and operational architecture, without requiring major redesign of the SGDC-2 infrastructure.

Lifetime Trade-Off Analysis

In addition to the baseline requirement of a minimum operational lifetime of fifteen (15) years in geostationary orbit at 57° West, respondents are requested to provide a trade-off analysis comparing alternative architectures with shorter design lifetimes (for example, eight years) and reduced spacecraft size and mass.

The analysis should address, at a minimum:

a) Impact on overall system cost and affordability over the program lifecycle;

b) Potential advantages in terms of technology refresh, payload flexibility and obsolescence risk;

c) Consequences for launch strategy, platform selection and propellant sizing;

d) Risk considerations are associated with more frequent satellite replacement versus extended lifetime designs.

Respondents are encouraged to identify configurations in which a reduced design lifetime could enable smaller, lighter or more modular satellites while preserving the strategic mission objectives of the SSDC System.

TT&C Requirements:

a) The Telemetry, Tracking, Command and Ranging (TT&C) infrastructure shall be designed to ensure high levels of availability, security, and operational continuity, constituting a critical element for satellite control throughout all phases of the mission.

b) The system should employ dedicated antennas for TT&C functions and a geographically redundant architecture, reducing vulnerability to local failures, technical outages, and severe weather events. Automatic switching mechanisms between stations shall be implemented to maintain satellite control without significant operational intervention.

c) The reuse of existing infrastructure should be considered as a guiding principle for investment optimization, particularly at the Brasília and Rio de Janeiro sites, while also evaluating the use of other available areas within the national teleport network, such as Campo Grande, Florianópolis, and Salvador, to enhance geographical diversity and system resilience.

d) Alternative technological solutions for TT&C links operating in either Ka-band or Q/V-band shall also be assessed, considering not only the technical advantages associated with higher frequency bands but also the impacts on deployment, operation, and maintenance costs within the Brazilian context.

e) Given the strategic nature of this infrastructure, advanced security mechanisms shall be incorporated, including TRANSEC and COMSEC capabilities, as well as the evaluation of systems capable of detecting, locating, and mitigating radio-frequency interference, thereby increasing the protection of space operations against intentional and unintentional threats.

f) Describe whether the proposed control architecture could support future operation of additional sovereign satellite assets without significant modifications.

Additional Questions on Platform, AOCS, Propulsion, LEOP and Orbit Determination:

a) What attitude control systems are available on the proposed new satellite platforms? How do these systems address the accuracy and efficiency of orbital maneuvers?

b) How is the Launch and Early Orbit Phase (LEOP) protocol structured in terms of orbital insertion, spacecraft stabilization, and initialization of onboard systems?

c) What benefits does electric propulsion provide in terms of fuel efficiency and maneuvering capability when compared with traditional propulsion systems? What is the trade-off between maneuver duration and propellant consumption? Is variable-thrust or variable-mode propulsion being adopted to increase mission flexibility?

d) Are there systems that enable a higher level of automation during critical launch and operational phases? How can these systems reduce human intervention and increase the reliability of orbital operations?

e) What types of sensors are available in the proposed new satellite platforms, and how do these sensors contribute to improving satellite attitude control? What actuators, such as reaction wheels, magnetometers, control moment gyroscopes (CMGs), or other devices, and what combinations of actuators are employed?

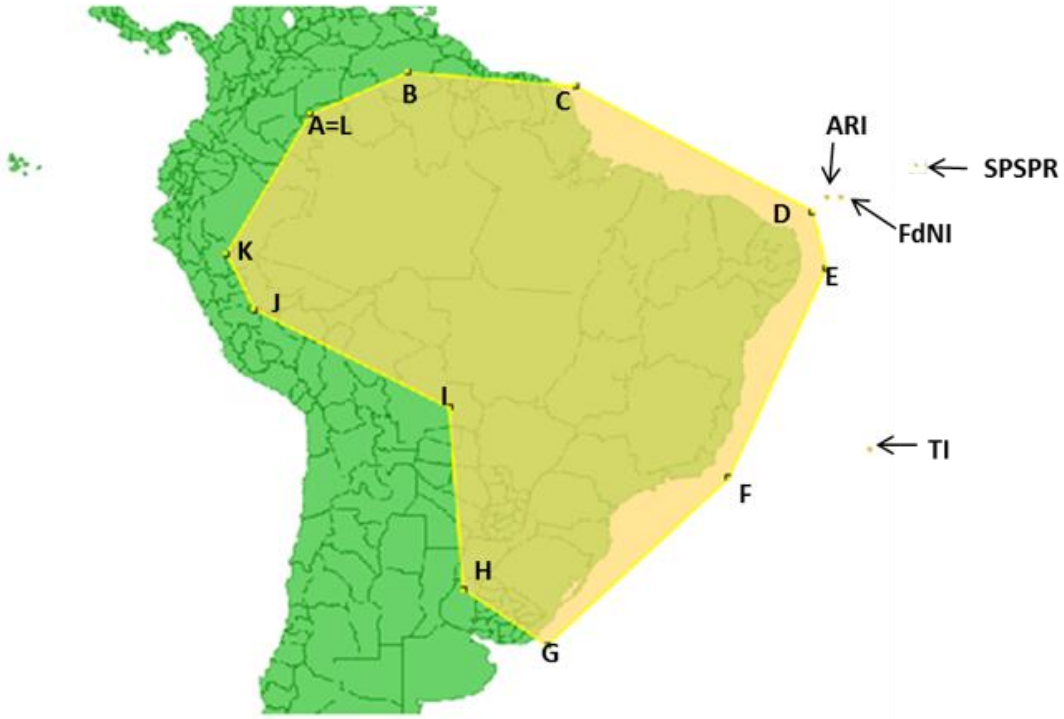
f) Are techniques such as Satellite Laser Ranging (SLR) and Turn Around Ranging (TAR) used to improve orbit determination accuracy in operational scenarios?

g) Describe end-of-life disposal strategy and compliance with current space sustainability and debris mitigation recommendations.

Civil Ka-Band Mission:

a) The SGDC-2 civil mission shall significantly expand Brazil's national strategic communications capacity, ensuring full coverage of the Brazilian territory, including the so-called Blue Amazon, thereby contributing to reducing inequalities in access and strengthening the country's critical infrastructure. The National covered is defined by land and sea enclosed by the polygon defined by the coordinates shown in Figure 5.1 and Tabel 5.1.

Figure 5.1: National Coverage



National Coverage		
Location identifier	**Longitude (°E)**	**Latitude (°N)**
A	-70	3
B	-63	6
C	-51	5
D	-34	-4
E	-33	-8
F	-40	-23
G	-53	-35
H	-59	-31
I	-60	-18
J	-74	-11
K	-76	-7
L	-70	3

Table 5.1: National Coverage definition

Obs.: Straight lines shall be considered in a conical projection as seen from the orbital position of the satellite

b) The preliminary aggregate capacity foreseen for the mission shall range between 80 and 100 Gbps, although it may initially be lower, considering that adjustments may be required following the replacement of SGDC-1 at the 75° West orbital slot around 2035. The project shall prioritize greater resource availability for Brazil's Northern Region due to its high dependence on satellite communications and the limited availability of terrestrial infrastructure. The satellite's initial capacity may therefore be lower at the beginning of operations, utilizing a reduced number of teleport facilities and progressively increasing as national demand and market assessments evolve.

c) Respondents are invited to provide comments on potential market demand for additional civil/commercial capacity, including whether higher aggregate capacity could be justified by long-term commercial commitments, capacity pre-purchase, regional demand or third-party use of available capacity.

d) In addition to supporting digital inclusion initiatives, the system shall support strategic and security-sensitive civil applications, including agencies and services related to power generation and transmission, transportation, air traffic management, highway policing, food security, health surveillance, financial operations, and other services essential to the security and functioning of the Brazilian State.

e) The payload shall provide a high degree of flexibility, enabling dynamic capacity management among coverage beams, traffic redistribution, and adaptation of service offerings without significant disruption to users. The system shall be designed to accommodate both the SGDC-2 mission requirements and those currently fulfilled by SGDC-1, while establishing a technological foundation that facilitates future expansions and customizations associated with a potential SGDC-3 program.

f) Advanced planning and operational capabilities shall also be provided, including simulation systems for beams, transponders, and ground infrastructure, as well as tools enabling automatic and transparent reconfigurations from the users' perspective. In addition, the opportunity to incorporate complementary capabilities, such as a Positioning, Navigation, and Timing (PNT) payload, should be evaluated, further increasing the strategic value of the system for the Brazilian State. (describe optional hosted payloads that could increase the strategic value of SGDC-2, including PNT augmentation, Earth observation support, Space Situational Awareness, IoT and Data Relay capabilities).

g) Bit rates, terminal sizes, availability: The satellite shall be designed to be compatible with the terminals shown in Table 5.2.

Use Case		FWD bit rate	RTN bit rate	Terminal size (m)	Availability
1	End user	60 Mbps	10 Mbps	0.8 or 1.2	99%
2	Government	100 Mbps	12.5 Mbps	0.8 or 1.2	99.5%
3	Mobile Terminals	140 Mbps	20 Mbps	TBD	99.8%

Table 5-2: Parameters to be considered for the Ka-band users.

h) Throughput Density: Uniform throughput density over the land coverage area shall be considered for preliminary dimensioning of the satellite. Optionally, an uniform concentration of 70% of the throughput in the North, Northeast and Central-West Regions may be considered. For the whole sea coverage area, the capacity density (bps/km2) shall be at least 1kbps/km2. The frequency plan and the forward/return throughput ratio shall be compatible with the use cases, shown in Table 5.2.

i) Information regarding availability and estimated costs for BUCs and various antenna sizes, as well as costs for providing higher speeds, with forward bit rates between 150 Mbps and 200 Mbps and return bit rates of 15 Mbps, 20 Mbps, 30 Mbps, and 40 Mbps.

j) System Capacity Calculation: The overall system capacity calculation shall be estimated and the assumptions and methodology shall be presented.

k) Dynamic Capacity Allocation – Flexibility: The satellite shall have dynamic capacity allocation (flexibility) to increase and decrease the throughput density by at least a factor of 30% in each beam. Optionally, the system shall allow the change of association gateway-user beam. Optionally, the system shall allow direct user-beam to user-beam connection between VSATs.

l) Describe whether the proposed gateway and baseband architecture could support future integration with complementary satellite communication systems sharing common operational infrastructure.

m) Gateway Stations: The number of gateway stations should be provided to guarantee the required throughput. Should include the locations of the 5 gateways use for the SGDC-1, as shown in Table 5-3, to minimize installation costs.

Gateway	City	Longitude	Latitude
1	Brasília	47.93º W	15.87º S
2	Rio de Janeiro	43.24º W	22.82 º S
3	Salvador	38.48º W	12.98º S
4	Campo Grande	54.61º W	20.46º S
5	Florianópolis	48.52º W	27.61º S

Table 5-3: SGDC-1 Ka-band gateways locations.

n) It shall be considered, in case of necessity of more than 5 gateways, the locations shown in Table 5-4.

Gateway	City	Longitude	Latitude
6	Fortaleza	38.55º W	3.71º S
7	Recife	35.00º W	8.00º S
8	Cascavel	53.44º W	24.96º S
9	Campinas	47.06º W	22.90º S

10	Vitoria	40.30° W	20.31° S

Table 5-4: Additional Ka-band gateways locations.

o) In case additional locations are necessary, it must be discussed with TELEBRAS.

p) The Ka-band gateway antennas of civilian and military missions may be shared with independent RF paths for each mission.

q) Frequency and Polarization Requirements:

User Links: The satellite shall use Ka-band as defined hereafter.

a) Downlink frequency band: 17.7 to 20.2 GHz, in circular polarization;

b) Uplink frequency band: 27.0 to 30.0 GHz Uplink, in circular polarization.

Gateways Feeder Links: The satellite shall share the Ka-band, as defined above, or use Q/V bands, as defined hereafter, for the feeder links.

a) Uplink frequency band: 42.5 to 43.5 GHz, 47.2 to 50.2 GHz and/or 50.4 to 51.4 GHz, in circular polarization;

b) Downlink frequency band: 37.5 to 42.5 GHz, in circular polarization.

c) The feeder link availability (FWD Uplink and RTN Downlink) shall be not less than 99.8% of an average year.

Militar Ka-Band Mission:

a) The 30–31 GHz uplink and 20,2–21,2 GHz downlink range is a portion of the Ka band frequently allocated to government and military applications in various countries. It offers a large available bandwidth, allowing for high data transmission rates, but requires advanced techniques to mitigate the effects of rain and atmospheric attenuation.

b) In terms of technological trends, the military Ka-band is evolving from a simple communications system to a high-capacity data transport infrastructure, supporting embedded artificial intelligence, multi-domain operations, distributed sensors, autonomous drones, and hybrid GEO/MEO/LEO space architectures. This explains why the 30–31 GHz band is considered strategic in the most modern military programs.

c) For military applications, the military Ka-band payload configuration (30–31 GHz uplink and 20.2–21.2 GHz downlink) strongly depends on the desired operational concept. Unlike a broadband network for fixed users, the main objective is to guarantee mobility, continuous coverage, low probability of interception (LPI), resistance to interference, and operational flexibility.

d) The required capacity of the military Ka-band depends heavily on operational doctrine. A military satellite is not designed to maximize throughput like a commercial HTS, but rather to ensure availability, flexibility, and resilience. However, it is possible to estimate an adequate capacity for a state-of-the-art Brazilian military GEO system.

e) For the composition of the payload in the Military Ka band in SGDC-2, should have a minimum capacity of 20 Gbps;

f) Gateway Stations: The number of gateway stations should be provided to guarantee the required throughput.

g) Should the locations shown in Table 5.3 and Table 5.4 be used for installation of Militar Ka gateways to minimize installation costs.

h) The SGDC-2 military Ka-Band mission shall significantly expand Brazil's national strategic communications capacity, ensuring full coverage of the Brazilian territory, including the so-called Blue Amazon. The National covered is defined by land and sea enclosed by the polygon defined by the coordinates shown in Figure 5.1 and Table 5.1.

i) The payload shall provide a high degree of flexibility, enabling dynamic capacity management among coverage beams, traffic redistribution, and adaptation of service offerings without significant disruption to users. The system shall be designed to accommodate both the SGDC-2 mission requirements and those currently fulfilled by SGDC-1, while establishing a technological foundation that facilitates future expansions and customizations associated with a potential SGDC-3 program.

j) Advanced planning and operational capabilities shall also be provided, including simulation systems for beams, transponders, and ground infrastructure, as well as tools enabling automatic and transparent reconfigurations from the user's perspective. In addition, the opportunity to incorporate complementary capabilities, such as a Positioning, Navigation, and Timing (PNT) payload, should be evaluated, further increasing the strategic value of the system for the Brazilian State. (describe optional hosted payloads that could increase the strategic value of SGDC-2, including PNT augmentation, Earth observation support, Space Situational Awareness, IoT and Data Relay capabilities).

k) System Capacity Calculation: The overall system capacity calculation shall be estimated and the assumptions and methodology shall be presented.

l) Dynamic Capacity Allocation – Flexibility: The satellite shall have dynamic capacity allocation (flexibility) to increase and decrease the throughput density by at least a factor of 30% in each beam. Optionally, the system shall allow the change of association gateway-user beam. Optionally, the system shall allow direct user-beam to user-beam connection between VSATs.

m) Describe whether the proposed gateway and baseband architecture could support future integration with complementary satellite communication systems sharing common operational infrastructure.

n) Capability to perform geolocation.

o) Gateways Feeder Links: The satellite shall share the Ka-band, as defined above, or use Q/V bands, as defined hereafter, for the feeder links.

    a) Uplink frequency band: 42.5 to 43.5 GHz, 47.2 to 50.2 GHz and/or 50.4 to 51.4 GHz, in circular polarization;

    b) Downlink frequency band: 37.5 to 42.5 GHz, in circular polarization.

    c) The feeder link availability (FWD Uplink and RTN Downlink) shall be not less than 99.8% of an average year.

Military X band Mission:

a) The satellites shall include an X-band payload for defense communications, according to the requirements ahead.

b) The X-band payload is to be used for FSS (Fixed Satellite Services) and MSS (Mobile Satellite Services).

c) Frequency Bands - The frequency band shall be within the following intervals:

- Uplink frequency band: 7900-8400 MHz in circular polarization;
- Downlink frequency band: 7250-7750 MHz in circular polarization.
- A 15-MHz guard band shall be provided between each two adjacent transponders.

d) Optionally, the payload shall maximize the use of bandwidth in the X-band, including the use of both circular polarizations.

e) The possibility of the payload with dynamic capacity allocation system shall be described, which means being capable of having a given downlink channel or carrier to be directed by telecommands no matter what the uplink channel.

f) Coverage: The X Band Payload shall encompass the land and maritime areas bounded by the polygon defined by the coordinates specified in Table 5.2 and illustrated in Figure 5.1 and the portion of the Atlantic Ocean extending to the coast of Africa within the satellite visibility area.

g) Optionally, the X-band coverages shall be able to be modified by ground commands being capable of producing nulls and/or concentrating the power.

h) M-Hub Stations

- The system to be proposed should be designed to minimize the number of gateway stations.
- The locations of the X-band Hubs (Brasilia and Rio de Janeiro) used for the SGDC-1 should be considered, to minimize installation costs.

i) The feeder link: The M-Hub feeder link of X-band mission must be within X-band frequencies even if the satellite contains other frequency bands.

j) Capability to perform geolocation.

k) Security:

- The payload shall incorporate anti-jamming protection mechanisms capable of preventing receiver saturation and permanent damage resulting from intentional or unintentional jamming signals.
- Respondents are encouraged to propose additional anti-jamming and secure communication solutions that may enhance overall system performance. Such solutions may include, but are not limited to, low-probability-of-intercept (LPI) and low-probability-of-detection (LPD) techniques, anti-jam waveforms, **TRANSEC** (Transmission Security), **COMSEC** (Communications Security), and other advanced electronic protection and Cybersecurity capabilities. The technical characteristics, operational benefits, and performance improvements of the proposed solutions should be clearly described.

l) Describe whether the proposed gateway and baseband architecture could support future integration with complementary satellite communication systems sharing common operational infrastructure.

Optional Military UHF Payload Trade Study

TELEBRAS is interested in assessing the feasibility, operational value, and programmatic implications of including an optional UHF payload in the SGDC-2 military communications architecture. Respondents are invited to provide a trade-off analysis comparing configurations with and without UHF capability, considering the impact on spacecraft design, mission performance, cost, schedule, and long-term operational flexibility.

The analysis should address, at a minimum, the following aspects:

a) Feasibility of incorporating a UHF payload into the proposed satellite architecture, whether as a fully integrated payload, a hosted payload, or a payload implemented on a separate spacecraft;

b) Estimated impact on spacecraft mass, power, volume, antenna architecture, thermal design, payload accommodation, and launch configuration;

c) Expected operational benefits for military and governmental users, including support for mobile, low-data-rate, highly robust communications, interoperability with legacy terminals, and communications in degraded or contested environments;

d) Technical and operational trade-offs between UHF capability and alternative military communications solutions in X-band and military Ka-band;

e) Possible coverage concepts for UHF service, including national coverage, regional coverage, maritime coverage, and steerable or mission-adaptable beams, if applicable;

f) Ground segment implications, including gateways, control interfaces, terminal ecosystem, integration with existing military communications networks, and cybersecurity considerations;

g) Estimated cost, schedule impact, technology readiness, and key risks associated with the inclusion of UHF capability;

Optional SSA/SDA Optical Sensor Payload Trade Study

TELEBRAS is interested in assessing the feasibility, operational value, and programmatic implications of including an optional electro-optical sensor payload dedicated to local Space Situational Awareness (SSA) and Space Domain Awareness (SDA) as part of the SGDC-2 mission.

This payload would be intended to provide active monitoring of the orbital environment in the vicinity of the satellite, supporting the detection, tracking, and cataloging of nearby resident space objects, improving the accuracy of relative orbit determination, and contributing to more precise collision avoidance maneuver planning.

Respondents are invited to provide a trade-off analysis covering, at a minimum:

a) Technical feasibility of integrating an electro-optical sensor or sensor suite on the proposed satellite platform;

b) Estimated impact on spacecraft mass, power, thermal control, accommodation, attitude, and orbit control systems, and mission operations;

c) Expected benefits for SSA/SDA, including enhanced detection of nearby resident space objects, improved relative orbit estimation for approaching objects, and support for more accurate conjunction assessment and collision avoidance planning;

d) Interfaces with ground-based SSA/SDA systems, including data downlink, processing, fusion with external catalogs, and use within national space surveillance and tracking infrastructure;

e) Cost, schedule, technology readiness level, and key risks associated with the development and integration of such an optical SSA/SDA payload;

Implementation Schedule and Time to Operational Orbit

Respondents shall provide a high-level implementation schedule from contract signature to the start of operational service at the 57° West orbital position.

The schedule should indicate, at a minimum:

a) Estimated duration of design, manufacturing, integration and testing activities;

b) Planned launch window(s) and assumed launch service provider(s) or class of vehicle;

c) Duration of Launch and Early Orbit Phase (LEOP), including orbit-raising and in-orbit testing (IOT);

d) Expected elapsed time between contract signature and satellite availability for operational service at 57° West.

Any assumptions regarding shared launches, dedicated launches, electric versus chemical orbit-raising, and regulatory or coordination milestones shall be explicitly stated.

7. Hub Baseband Equipment and Network Management System (NMS) for Ka-band HTS Networks

a) Purpose and Scope

This section of the Request for Information (RFI) seeks detailed technical, commercial, and roadmap information from manufacturers and suppliers of satellite hub baseband (modem/router, gateway, and SDN-based platforms) and Network Management System (NMS) solutions intended to operate over High Throughput Satellite (HTS) capacity in Ka-band, including multi-spot-beam, software-defined, and potentially multi-orbit (GEO/MEO/LEO) architectures.

b) General and Architectural Information

1. Describe the overall hub/gateway architecture (centralized hub, distributed/virtualized hub, or cloud-native/containerized deployment) and indicate which deployment models are supported (on-premises appliance, private cloud, public cloud — AWS/Azure/GCP, hybrid).

2. Describe how the platform supports multi-beam, multi-gateway, and multi-orbit (GEO/MEO/LEO) operation, including beam handover and capacity pooling across beams and satellites.
3. Indicate whether the baseband architecture is hardware-based (ASIC/FPGA), software-defined (COTS server/x86 or ARM-based), or hybrid, and the implications for scalability, latency, and total cost of ownership.
4. Describe the disaggregation level of the architecture (RF, modem/PHY, MAC/resource management, and routing layers) and whether these functions can be deployed independently (e.g., virtualized modem pools, cloud-based resource managers).
5. Provide the maximum number of remote terminals, beams, carriers, and concurrent users supported per hub chassis/instance, and how the architecture scales horizontally.
6. Describe interoperability with third-party RF chains, antennas, BUCs/SSPAs, frequency converters, and other vendors remote terminals.
7. Describe practical examples where the proposed NMS simultaneously manages satellite resources operating in different orbital regimes.

c) Waveform, Air Interface, and Spectral Efficiency

1. Specify the modulation/coding standards supported (e.g., DVB-S2X, proprietary wideband waveforms, TDMA/MF-TDMA, SCPC) on forward and return links.
2. Describe support for wideband carriers (e.g., >500 MHz, multi-GHz channels) and channel bonding/carrier aggregation capabilities.
3. Describe Adaptive Coding and Modulation (ACM) implementation, including granularity, convergence time, and use of AI/ML-based link adaptation or rain-fade prediction/mitigation algorithms.
4. Describe return-link multiple access schemes supported (MF-TDMA, CDMA-based, Random Access/Contention-based, or any proprietary scheme) and the dynamic bandwidth allocation (DBA) algorithm's responsiveness (frame time, latency under load).
5. Describe spectral efficiency figures (bits/Hz) achieved on forward and return links under typical Ka-band HTS link budgets, and benchmark against DVB-S2X theoretical limits.
6. Describe interference mitigation features: adjacent satellite interference (ASI), adjacent channel interference (ACI), interference cancellation, and co-channel interference handling in dense frequency-reuse plans.

d) Capacity, Throughput, and Quality of Service (QoS)

1. Provide maximum aggregate forward and return throughput per hub/teleport and per beam, and the per-remote peak/sustained throughput achievable.
2. Describe traffic shaping, QoS, and Service Level Agreement (SLA) enforcement mechanisms (per-site, per-application, per-VLAN/per-tenant).

3. Describe support for application-aware traffic acceleration/optimization (TCP/HTTP acceleration, WAN/video optimization, caching), native or via third-party integration.
4. Describe latency performance (one-way and round-trip) under typical and congested network conditions, and any latency-reduction techniques implemented.
5. Describe capacity-pooling and statistical multiplexing schemes across sites/services (e.g., committed information rate vs. burst, pooled bandwidth groups, fair-usage policies).
6. Describe support for multicast/broadcast services for content distribution applications.

e) Network Management System (NMS) – Functional Requirements

1. Describe the NMS architecture (centralized vs. distributed, microservices/containerized, multi-tenant capable) and supported deployment models (on-prem, cloud-hosted, SaaS/managed service).
2. Describe NMS capabilities for fault, configuration, accounting, performance, and security management (FCAPS), including dashboards, alarms, and automated root-cause analysis.
3. Describe real-time and historical performance monitoring capabilities: per-beam, per-carrier, per-remote, and per-service granularity (throughput, SNR/Es/N0, BER, packet loss, jitter, availability).
4. Describe support for predictive analytics, AI/ML-driven anomaly detection, and capacity-planning/forecasting tools.
5. Describe Northbound interface options for integration with OSS/BSS systems (REST/SOAP APIs, NETCONF/YANG, SNMP, Kafka/streaming telemetry) and availability of an open API/SDK for custom integrations and automation (Infrastructure-as-Code, Ansible/Terraform modules).
6. Describe support for zero-touch provisioning (ZTP) and remote terminal commissioning, firmware/software upgrade orchestration (including over-the-air, staged, and rollback capabilities).
7. Describe multi-tenancy and role-based access control (RBAC) features for service providers managing multiple end customers, resellers, or business units from a single NMS instance.
8. Describe Network Operations Center (NOC) tools: ticketing integration, SLA dashboards, geographic/GIS visualization of the network, and reporting/billing data export capabilities.
9. Describe support for policy-based and software-defined network orchestration (SD-WAN integration, NFV/SDN compliance, orchestration via MEF or TM Forum Open APIs).
10. Describe disaster recovery and high-availability architecture for the NMS itself (active-active, geo-redundant data centers, RTO/RPO figures).

f) Cybersecurity and Resilience

1. Describe the security architecture for both baseband and NMS, including encryption (data-in-transit and data-at-rest), authentication (multi-factor, certificate-based), and compliance with relevant standards (e.g., NIST, ISO 27001, FIPS 140-2/3, Common Criteria).
2. Describe protections against known SATCOM vulnerabilities (e.g., supply-chain hardening, secure boot, signed firmware) considering past industry incidents involving compromised ground terminals.
3. Describe support for end-to-end encryption (IPsec, MACsec, or proprietary Layer 2/3 encryption) independent of any encryption already applied by the satellite operator.
4. Describe intrusion detection/prevention capabilities integrated into the NMS, including SIEM integration and audit logging.
5. Describe current and planned use of Artificial Intelligence for spacecraft health monitoring, anomaly detection, predictive maintenance and autonomous mission operations.
6. Describe segregation/isolation mechanisms between government, enterprise, and consumer traffic when sharing common ground infrastructure.

g) Scalability, Future-Proofing, and Multi-Orbit/Multi-Band Support

1. Describe the platform's roadmap for supporting additional frequency bands (Ku, Q/V-band) and multi-orbit operation (GEO, MEO, LEO) within the same hub/NMS framework.
2. Describe compatibility with electronically steerable/flat-panel antennas and multi-orbit terminal roaming (seamless handover between satellites/orbits).
3. Describe the upgrade path for capacity growth (modular scalability, software licensing model, perpetual vs. subscription/throughput-based licensing).
4. Describe virtualization roadmap (transition from appliance-based to fully cloud-native/Kubernetes-orchestrated baseband functions) and any current customer deployments demonstrating this.

h) Vendor Experience, References, and Support

1. Provide a list of comparable Ka-band HTS deployments (commercial, government, or defense) where the proposed baseband/NMS solution is operational, including network scale (number of remotes, beams, throughput) and the satellite operator(s) involved.
2. Describe professional services offered: network design/dimensioning, integration, training, and ongoing managed services/NOC-as-a-Service options.
3. Describe warranty, maintenance, and support tiers (24x7 support, SLA response times, spares provisioning, end-of-life/end-of-support policy for hardware and software).
4. Provide information on interoperability testing/certification with major Ka-band HTS satellite operators relevant to this project's coverage area.

5. Describe total cost of ownership considerations: licensing model, hardware refresh cycles, power consumption, rack space, and any usage-based/consumption pricing options.

8. Industrial Cooperation, Technology Transfer and Capability Development

1. Describe the Technology Transfer (ToT) strategy that could be associated with the proposed solution, including the scope, maturity level, limitations and expected outcomes.
2. Describe the proposed Technology Absorption Program (TAP), including recommended activities for engineering, satellite operations, payload management, ground segment, software development and systems integration.
3. Describe opportunities for participation of Brazilian companies and research institutions during the design, manufacturing, integration, testing, deployment, operation and maintenance phases of the program.
4. Describe which engineering activities could be progressively performed in Brazil throughout the program lifecycle.
5. Describe opportunities for local assembly, integration, testing or maintenance of ground equipment, user terminals or other system components, identifying the expected technical and economic benefits.
6. Describe the proposed training program for TELEBRAS personnel, including satellite operations, payload management, network management, cybersecurity, mission planning and engineering support.
7. Describe the tools, software platforms and engineering environments that could be transferred or licensed to TELEBRAS to support long-term autonomous operation of the system.
8. Describe opportunities for joint research, innovation and development activities involving TELEBRAS, Brazilian universities, research institutes and the respondent.
9. Describe the expected long-term industrial and technological benefits that the proposed solution could generate for the Brazilian space and telecommunications sectors.
10. Describe how the proposed industrial cooperation model could support the future evolution of the Brazilian Defense and Strategic Communications Satellite System (SSDC), including the progressive expansion of national engineering, operational and systems integration capabilities over time.
11. Identify any restrictions related to export control regulations, intellectual property, licensing or third-party technologies that could affect industrial cooperation or technology transfer.

9. Commercial, Documentation and Capacity Partnership Requests

1. Provide current product datasheets, white papers, and architecture diagrams for the proposed baseband and NMS solutions.
2. Provide indicative pricing models (CAPEX vs. OPEX, per-Mbps, per-site licensing) for budgetary planning purposes (non-binding).
3. Describe the technology roadmap expected for the proposed platform during the next fifteen years, including elements such as processor evolution, digital payload capabilities, AI-assisted operations, cybersecurity, optical communications, software upgrades.
4. Describe how additional satellite communication capabilities could be incorporated without replacing the original investment.
5. Describe which components were designed to be reusable in future system expansions.
6. Describe the recommended roadmap for transforming the proposed SGDC-2 into a broader sovereign strategic communications architecture.
7. Considering the mission requirements described in this RFI, what would you recommend changing in the SGDC-2 concept to maximize operational capability, resilience, technological sustainability and cost-effectiveness over the next fifteen years?
8. Indicate whether the respondent, its affiliates, partners, customers or other market players known to the respondent could have interest in using part of the civil/commercial capacity of SGDC-2.
9. Describe possible demand scenarios for SGDC-2 capacity, including potential use cases in Brazil, South America, maritime coverage areas, enterprise connectivity, governmental services, mobility, cellular backhaul, critical infrastructure, remote operations and other relevant markets.
10. Describe whether long-term capacity commitments, IRUs, take-or-pay arrangements or anchor customer agreements could improve the bankability or financing conditions of the SGDC-2 program.
11. Describe possible commercial models under which third parties could use part of SGDC-2 capacity, including, but not limited to, IRU, long-term capacity lease, minimum revenue commitment, anchor customer model, pre-purchase of capacity, take-or-pay arrangements, revenue sharing or other equivalent structures.
12. Describe possible risk allocation structures for capacity-related commercial models, including demand risk, launch risk, service availability risk, regulatory risk, foreign exchange exposure and payment guarantees.
13. Describe whether the respondent would consider or is aware of potential interested parties that could consider, financial participation, co-investment, advance capacity commitment or other mechanisms capable of reducing the direct capital expenditure required from TELEBRAS or the Brazilian State.

14. Describe how such commercial or co-investment models could be structured without affecting the sovereign ownership, control, mission management, cybersecurity, cryptography, governmental priority and strategic operation of SGDC-2.
15. Identify which portions of the capacity, coverage areas, frequency bands, service classes or market segments could be more attractive for commercial use by third parties, while preserving the priority of Brazilian governmental and strategic needs.
16. Describe possible contractual and operational safeguards to ensure that any commercial use of capacity remains subordinated to Brazilian sovereign requirements, national security priorities and TELEBRAS operational governance.
17. Describe whether the proposed satellite architecture could technically support capacity segmentation, virtual networks, traffic isolation, service-level differentiation and independent commercial operation for different users or partners.
18. Describe possible pricing assumptions, economic drivers and market references that could support the evaluation of capacity monetization, co-investment or long-term capacity commitments.
19. Identify any regulatory, export-control, licensing, spectrum, orbital, cybersecurity or contractual restrictions that could affect third-party use of capacity, capacity commercialization or co-investment arrangements.

10. Response Process

a) Interested companies must submit their responses according to the schedule attached to this document, sending the requested material, in PDF format to rfi-sgdc2@telebras.com.br.

b) The information collected will be analyzed by TELEBRAS SATELLITE TEAM to support strategic decisions regarding future acquisitions and solution developments. Participation in this RFI does not create any obligation for supply or contracting.

c) TELEBRAS, at its discretion, after analyzing the documentation received, may invite the proposing company to a workshop to detail its response.

11. Confidentiality

a) To protect the confidentiality of the information that will be passed on, a Confidentiality Agreement is attached for signature by the parties. This Term must be agreed, signed and sent to TELEBRAS according to the attached schedule.

b) All submitted information will be treated as confidential and used solely for internal research and planning purposes.

telebras	

Acordo Mútuo de Confidencialidade (MNDA)	**MUTUAL NON-DISCLOSURE AGREEMENT (MNDA)**
Este Acordo de Confidencialidade Mútua ("Acordo") é celebrado em **[Data de Vigência]**, por e entre:	**This Mutual Non-Disclosure Agreement ("Agreement")** is entered into as of **[Effective Date]**, by and between:
Telecomunicações Brasileiras S.A. - TELEBRAS, uma organização governamental constituída sob as leis do **Brasil**, com sede principal em SIG Quadra 4 Bloco A, Sala 214, Brasília – DF, Brasil, CEP: 70610-440, doravante denominada "**Parte Reveladora**" ou "**Parte Receptora**", conforme aplicável;	**Telecomunicações Brasileiras S.A. - TELEBRAS**, a governmental organization organized under the laws of **Brazil**, having its principal offices at SIG Quadra 4 Bloco A, Sala 214, Brasília – DF, Brazil, CEP: 70610-440, hereinafter referred to as the **"Disclosing Party"** or **"Receiving Party"**, as applicable;
e	and
[Nome da Empresa], uma sociedade constituída sob as leis de **[País]**, com sede em **[Endereço]**, doravante denominada "**Parte Reveladora**" ou "**Parte Receptora**", conforme aplicável.	**[Company Name]**, a corporation organized under the laws of **[Country]**, having its principal offices at **[Address]**, hereinafter referred to as the **"Disclosing Party"** or **"Receiving Party"**, as applicable.
Referidas coletivamente neste documento como as "**Partes**".	Collectively referred to herein as the **"Parties."**
1. Objetivo As Partes pretendem intercambiar informações técnicas, operacionais, comerciais e programáticas relacionadas à **Solicitação de Informações (RFI)** emitida para a definição de um futuro **Programa Estratégico de Satélite Soberano.** O único objetivo desse intercâmbio é subsidiar estudos de definição de missão, atividades de engenharia de sistemas, avaliações tecnológicas e atividades de planejamento correlatas. Nada do que aqui se dispõe obrigará qualquer das Partes a estabelecer qualquer relação contratual futura.	**1. Purpose** The Parties intend to exchange technical, operational, commercial and programmatic information in connection with the **Request for Information (RFI)** issued for the definition of a future **Strategic Sovereign Satellite Program**. The sole purpose of this exchange is to support mission definition studies, system engineering activities, technology assessments and related planning activities. Nothing contained herein shall obligate either Party to enter any future contractual relationship.
2. Definição de Informações Confidenciais Para os fins deste Acordo, "Informações Confidenciais" significam quaisquer informações divulgadas por qualquer uma das Partes, seja na forma escrita, eletrônica,	**2. Definition of Confidential Information** For purposes of this Agreement, "Confidential Information" means any information disclosed by either Party,

oral, visual ou em qualquer outra forma tangível ou intangível, incluindo, mas não se limitando a: • Conceitos de missão; • Arquiteturas de sistemas; • Especificações técnicas; • Análises de engenharia; • Estudos de viabilidade e alternativas (trade studies); • Estimativas de custos; • Informações sobre preços; • Dados de fabricação; • Capacidades industriais; • Software; • Algoritmos; • Código-fonte; • Desenhos técnicos; • Modelos; • Simulações; • Análises de desempenho; • Roteiros de produtos (roadmaps); • Planos de negócios; • Estratégias de aquisição; • Informações sobre a cadeia de suprimentos; • Propriedade intelectual; • Know-how proprietário; • Quaisquer informações marcadas como "Confidencial", "Proprietário", "Restrito" ou que contenham designação semelhante. Divulgações orais serão consideradas Informações Confidenciais quando identificadas como confidenciais no momento da divulgação e confirmadas por escrito no prazo de trinta (30) dias corridos.	whether in written, electronic, oral, visual or any other tangible or intangible form, including but not limited to: • Mission concepts; • System architectures; • Technical specifications; • Engineering analyses; • Trade studies; • Cost estimates; • Pricing information; • Manufacturing data; • Industrial capabilities; • Software; • Algorithms; • Source code; • Technical drawings; • Models; • Simulations; • Performance analyses; • Product roadmaps; • Business plans; • Procurement strategies; • Supply chain information; • Intellectual property; • Proprietary know-how; • Any information marked as "Confidential", "Proprietary", "Restricted", or bearing a similar designation. Oral disclosures shall be considered Confidential Information when identified as confidential at the time of disclosure and confirmed in writing within thirty (30) calendar days.
3. Exclusões As Informações Confidenciais não incluirão informações que: a) sejam ou venham a ser de conhecimento público sem violação deste Acordo; b) fossem legitimamente de conhecimento da Parte Receptora antes da divulgação;	**3. Exclusions** Confidential Information shall not include information that: a) is or becomes publicly available without breach of this Agreement; b) was lawfully known by the Receiving Party before disclosure; c) is independently developed without reference to the disclosed information;

c) sejam desenvolvidas de forma independente, sem referência às informações divulgadas; d) sejam legitimamente obtidas de terceiros, sem restrições de confidencialidade; e) tenham a divulgação pública autorizada por escrito pela Parte Divulgadora.	d) is lawfully obtained from a third party without confidentiality restrictions; e) is approved in writing by the Disclosing Party for public release.
4. Obrigações da Parte Receptora A Parte Receptora concorda em: • Utilizar as Informações Confidenciais exclusivamente para fins relacionados à RFI; • Proteger as Informações Confidenciais utilizando, no mínimo, o mesmo grau de cuidado empregado para proteger suas próprias informações confidenciais e, em nenhuma hipótese, menos do que um grau de cuidado razoável; • Restringir o acesso ao pessoal que tenha uma necessidade legítima de conhecimento; • Assegurar que tal pessoal esteja sujeito a obrigações de confidencialidade não menos restritivas do que aquelas aqui estabelecidas; • Não divulgar as Informações Confidenciais a terceiros sem autorização prévia por escrito da Parte Divulgadora; • Não realizar engenharia reversa, descompilação ou qualquer outra forma de análise de materiais de propriedade exclusiva para fins diversos daqueles previstos neste Acordo; • Notificar prontamente a Parte Divulgadora sobre qualquer divulgação não autorizada ou incidente de segurança envolvendo as Informações Confidenciais.	**4. Obligations of the Receiving Party** The Receiving Party agrees to: • Use Confidential Information exclusively for purposes related to the RFI; • Protect Confidential Information using at least the same degree of care employed to protect its own confidential information, and in no event less than reasonable care; • Restrict access to personnel having a legitimate need to know; • Ensure that such personnel are bound by confidentiality obligations no less restrictive than those contained herein; • Not disclose Confidential Information to any third party without prior written authorization from the Disclosing Party; • Not reverse engineer, decompile or otherwise analyze proprietary materials beyond the purpose of this Agreement; • Promptly notify the Disclosing Party of any unauthorized disclosure or security incident involving Confidential Information.
5. Controle de Exportação Cada Parte reconhece que determinadas informações trocadas no âmbito deste Acordo podem estar sujeitas a leis e regulamentos nacionais de controle de exportação.	**5. Export Control** Each Party acknowledges that certain information exchanged under this Agreement may be subject to national export control laws and regulations.

A Parte Receptora concorda em cumprir todos os regulamentos aplicáveis de controle de exportação e não transferirá informações, tecnologia ou dados técnicos controlados a qualquer pessoa ou entidade não autorizada.	The Receiving Party agrees to comply with all applicable export control regulations and shall not transfer controlled information, technology or technical data to any unauthorized person or entity.
6. Requisitos de Segurança Governamentais As Partes reconhecem que esta RFI subsidia a definição preliminar de uma capacidade estratégica soberana de satélites. Consequentemente, medidas de segurança adicionais, procedimentos de manuseio de documentos, restrições de acesso ou requisitos de classificação poderão ser estabelecidos pela organização emissora e deverão ser observados sempre que aplicável.	**6. Government Security Requirements** The Parties acknowledge that this RFI supports the preliminary definition of a strategic sovereign satellite capability. Accordingly, additional security measures, document handling procedures, access restrictions or classification requirements may be established by the issuing organization and shall be complied with whenever applicable.
7. Propriedade Intelectual Nada do disposto neste Acordo será interpretado como a concessão de qualquer licença, direito de propriedade ou outro interesse em patentes, direitos autorais, marcas, segredos comerciais ou qualquer outra propriedade intelectual pertencente a qualquer das Partes. Toda a propriedade intelectual permanecerá propriedade exclusiva do seu respectivo titular.	**7. Intellectual Property** Nothing contained in this Agreement shall be construed as granting any license, ownership right or other interest in patents, copyrights, trademarks, trade secrets or any other intellectual property belonging to either Party. All intellectual property shall remain the exclusive property of its respective owner.
8. Ausência de Obrigação de Contratação A assinatura deste Acordo e a participação na RFI não deverão: • Constituir uma contratação; • Criar qualquer status de fornecedor preferencial; • Estabelecer qualquer compromisso contratual; • Garantir a participação em qualquer processo de contratação futuro; • Criar qualquer exclusividade entre as Partes.	**8. No Obligation to Procure** Execution of this Agreement and participation in the RFI shall not: • Constitute a procurement; • Create any preferred supplier status; • Establish any contractual commitment; • Guarantee participation in any future procurement process; • Create any exclusivity between the Parties.
9. Devolução ou Destruição de Informações Mediante solicitação por escrito da Parte Reveladora, ou após a conclusão das atividades de RFI, a Parte Receptora deverá, prontamente: • Devolver todas as Informações Confidenciais; ou	**9. Return or Destruction of Information** Upon written request by the Disclosing Party, or upon completion of the RFI activities, the Receiving Party shall promptly: • Return all Confidential Information; or

• Destruir todas as cópias, incluindo cópias eletrônicas, exceto quando a retenção for exigida pela legislação aplicável ou por requisitos internos de conformidade. Mediante solicitação, a Parte Receptora deverá certificar tal destruição por escrito.	• Destroy all copies, including electronic copies, except where retention is required by applicable law or internal compliance requirements. Upon request, the Receiving Party shall certify such destruction in writing.
10. Vigência Este Acordo entrará em vigor na data da última assinatura e permanecerá vigente por **cinco (5) anos**, salvo se rescindido antecipadamente mediante acordo mútuo por escrito. As obrigações de confidencialidade aqui previstas perdurarão após a rescisão deste Acordo pelo prazo de **dez (10) anos**, contados da data de divulgação da respectiva Informação Confidencial.	**10. Term** This Agreement shall become effective upon the date of the last signature and shall remain in force for **five (5) years**, unless terminated earlier by mutual written agreement. The confidentiality obligations contained herein shall survive termination of this Agreement for a period of **ten (10) years** from the date of disclosure of the relevant Confidential Information.
11. Recursos As Partes reconhecem que a divulgação não autorizada de Informações Confidenciais pode causar danos irreparáveis. Consequentemente, a Parte Divulgadora terá o direito de buscar medidas cautelares, execução específica e quaisquer outros recursos disponíveis de acordo com a legislação aplicável, sem prejuízo de quaisquer outros direitos legais.	**11. Remedies** The Parties acknowledge that unauthorized disclosure of Confidential Information may cause irreparable harm. Accordingly, the Disclosing Party shall be entitled to seek injunctive relief, specific performance and any other remedies available under applicable law, without prejudice to any other legal rights.
12. Lei Aplicável Este Acordo será regido e interpretado de acordo com as leis do **Brasil**, excluindo-se as normas de conflito de leis. Qualquer disputa decorrente deste Acordo ou relacionada a ele será submetida aos tribunais competentes do B**rasil**, salvo acordo em contrário por escrito entre as Partes.	**12. Governing Law** This Agreement shall be governed by and construed in accordance with the laws of **Brazil**, excluding its conflict-of-law rules. Any dispute arising under or relating to this Agreement shall be submitted to the competent courts of **Brazil**, unless otherwise agreed in writing by the Parties.
13. Acordo Integral Este Acordo constitui o entendimento integral entre as Partes com relação à confidencialidade referente à Solicitação de Informações e substitui todas as discussões ou acordos anteriores sobre o mesmo assunto.	**13. Entire Agreement** This Agreement constitutes the entire understanding between the Parties concerning confidentiality relating to the RFI and supersedes all prior discussions or agreements on the same subject.

Qualquer alteração deverá ser feita somente por instrumento escrito assinado por representantes autorizados de ambas as Partes.	Any amendment shall be made only by written instrument signed by authorized representatives of both Parties.
14. Notificações Todas as notificações decorrentes deste Acordo deverão ser feitas por escrito e entregues aos seguintes representantes: **Para TELEBRAS** Nome: Sebastião do Nascimento Neto Cargo: Gerente de Engenharia e Operação de Satélites Endereço: SIG Quadra 4 Bloco A, Sala 214, Brasília – DF, Brasil, CEP: 70610-440 E-mail: rfi-sgdc2@telebras.com.br Telefone: +55 (61) 2027-1059 **Para [Nome da Empresa]** Nome: Cargo: Endereço: E-mail: Telefone:	**14. Notices** All notices under this Agreement shall be made in writing and delivered to the following representatives: **For TELEBRAS** Name: Sebastião do Nascimento Neto Title: Engineering and Satellite Operation Manager Address: SIG Quadra 4 Bloco A, Sala 214, Brasília – DF, Brazil, CEP: 70610-440 E-mail: rfi-sgdc2@telebras.com.br Telephone: +55 (61) 2027-1059 **For [Company Name]** Name: Title: Address: E-mail: Telephone:
15. Vias e Assinaturas Eletrônicas Este Acordo poderá ser celebrado em vias separadas, sendo que cada uma delas será considerada um original. Assinaturas eletrônicas e cópias assinadas digitalmente terão o mesmo efeito jurídico que assinaturas originais de próprio punho, na medida permitida pela legislação aplicável. **ASSINATURAS** Pela **TELEBRAS** Nome: André Chagas Leite da Fonseca Cargo: Diretor Técnico-Operacional Assinatura:_____ Data:_____ Pela **[Nome da Empresa]** Nome: Cargo: Assinatura: Data:	**15. Counterparts and Electronic Signatures** This Agreement may be executed in counterparts, each of which shall be deemed an original. Electronic signatures and digitally executed copies shall have the same legal effect as original handwritten signatures, to the extent permitted by applicable law. **SIGNATURES** For **TELEBRAS** Name: André Chagas Leite da Fonseca Title: Technical and Operations Director Signature: _____ Date: _____ For **[Company Name]** Name: Title: Signature: Date: