



ORGANIZAÇÃO SOCIAL DO MCTI

MCTI SOCIAL ORGANIZATION

**Education, Research, and
Innovation Networks**

TERMS OF REFERENCE

Procurement of a Digital Exam Technology Solution
with a Perpetual License and Unrestricted Institutional
Use

DSS/USDE/GPDC

March/2026

SUMMARY

1.	ABOUT RNP	3
2.	CURRENT PANORAMA.....	4
3.	OBJECTIVE	4
4.	SCOPE OF CONTRACTING THE DIGITAL EXAMS SOLUTION.....	4
5.	RESPONSIBILITIES OF THE CONTRACTOR	20
6.	COMMERCIAL PROPOSAL	22
6.1.	READJUSTMENT AND REVISION	23
7.	COMMERCIAL AND TECHNICAL QUALIFICATION OF THE SUPPLIER.....	24
8.	STAGES OF THE QUALIFICATION PROCESS BY TECHNIQUE AND PRICE.....	28
9.	FORM OF CONTRACTING	29
10.	SANCTIONS	30
11.	CONFIDENTIALITY AGREEMENT	31
12.	APPROVAL	31

1. ABOUT RNP

The National Education and Research Network (RNP) is a private, non-profit institution, headquartered in Rio de Janeiro (RJ), qualified by the Federal Government as a Social Organization and linked to the Ministry of Science and Technology (MCTI) to meet the following strategic objectives made official via a new Management Contract valid for the period 2021-2030:

- To support research and promote technological development and innovation in ICT aimed at the creation and supply of digital services and businesses;
- Promote ubiquitous, secure, high-availability and high-performance advanced cyberinfrastructure for education, research, innovation and digital transformation;
- Promote professional training and the development of skills for the intensive use of ICT;
- Undertake innovative ICT solutions in projects oriented to the demands of the RNP System and its digital transformation;
- Offer platforms, services, specialized technical support and digital applications for education, research and innovation;
- Support public policies in education, science, technology and innovation, and their sectoral applications associated with the Interministerial Program for the Development and Maintenance of the National Education and Research Network (PRO-RNP), aiming at the consolidation and support of the RNP System;
- Promote the promotion and cooperation with the scientific community and the public and private sectors, through partnerships and service provision, articulating global, national, regional and local arrangements.

In this context, it is natural to infer that the hiring of specialized services to increase the capacities of RNP's project teams becomes a conditioning factor for the achievement of such objectives.

This document aims to detail the opportunity identified with one of the initiatives under RNP's responsibility. The reading of the document is a mandatory factor for the preparation of an adequate commercial and technical proposal and, once the partner is defined, for the correct provision of services, reducing the risks associated with technical problems or unforeseen issues, which may compromise the contracted deliveries, as well as the partner's relationship with RNP.

2. CURRENT PANORAMA

In adherence to one of its strategic objectives, that is, to support public policies in education, science, technology and innovation, and within the scope of a cooperation instrument signed with INEP (National Institute of Educational Studies and Research Anísio Teixeira), a federal agency linked to the Ministry of Education (MEC), RNP structured this initiative aimed at modernizing educational evaluation processes, through the adoption of digital exams, currently conducted physically, in different themes. To make this initiative viable, it is up to RNP to hire a technological solution appropriate to its implementation and operation.

3. OBJECTIVE

The purpose of this Term of Reference is to present the technical and functional subsidies necessary for the contracting of a technological solution for the performance of digital exams, within the scope of the INEP initiative, conducted in cooperation with RNP, contemplating licensing of use, implementation, knowledge transfer, maintenance, technical support and assisted operation.

4. SCOPE OF CONTRACTING THE DIGITAL EXAMS SOLUTION

The scope of contracting comprises the components described below, considering all elements, resources, functionalities and services necessary for the full operation of the solution to be included, even if not exhaustively described, provided that they are indispensable for its proper implementation, operation and compliance with the requirements established in this Term of Reference, and no additional charge for such items is allowed.

4.1. Digital Exam Solution Licensing

The contracting must include **perpetual licensing**, unrestricted **and** indefinite **institutional use** of the digital exam solution, ensuring INEP and RNP the right to full use of the platform, without limitation of:

- a) number of users (authors, reviewers, evaluators, candidates, administrators, auditors, etc.);
- b) number of items (questions);
- c) number of item banks;
- d) number of exams or test simulations;
- e) number of simultaneous exam applications;
- f) number of annual application cycles;
- g) volume of data storage associated with the functional logic of the platform (without prejudice to the physical limitations of the infrastructure).

It should be noted that the implementation of the solution will be in a dedicated environment under INEP's governance, and may be operated by INEP itself or by RNP.

The licensing is intended for the institutional use of INEP, within the scope of its competences, and the assignment, sublicensing or subcontracting of the solution is prohibited.

The licensing must include, at least, the following modules or capabilities, and the proponents must understand that all the functionalities described constitute minimum requirements (see mandatory criteria established in Annex I), and their replacement by equivalent functionalities that do not fully meet the specifications established in this Term of Reference and are of full prior acceptance by the parties will not be allowed.

4.1.1. Creating and managing items

Objective description of the minimum functional scope

The solution should natively allow:

- a. Creating items in the following formats:
 - i. multiple choice (single and multiple answer); (CNF01)
 - ii. true/false; (CNF31)
 - iii. short answer; (CNF32)
 - iv. open-ended; (CNF01)
 - v. case study; (CNF33)
 - vi. scenario-based items; (CNF34)
 - vii. items with multimedia attachments (image, audio, video, animations (GIFs, etc)); (CNF02, CNF03, CNF06, CNF08)
 - viii. Diverse digital interactions in item building: (CNF19)
 - 1) Associations between elements;
 - 2) Ordering of elements;
 - 3) Graphic interaction in images by point selection;
 - 4) Filling gaps by dragging elements (Gap Match Filling);
 - 5) Matching items. E.g.: Correlation between elements of two or more columns/rows.
- b. Visual Editor Supporting: (CNF21)
 - i. text formatting;
 - ii. mathematical formulas;
 - iii. insertion of tables and graphs;
 - iv. upload media (image, audio, video, animations (GIFs, etc));
 - v. Scientific notation.
- c. Registration and metadata management: (CNF23)
 - i. thematic area;
 - ii. level of difficulty;
 - iii. ability assessed;
 - iv. author, reviewer, status;
- d. The solution should allow configurable and extensible metadata, in order to enable the management and control of items; (CNF25)
- e. Structured and customizable workflow of: (CNF26)
 - i. elaboration;

- ii. review;
- iii. approval;
- iv. publication;
- v. Archiving.
- f. Full change history; (CNF28)
- g. Structured search engines in the item bank; (CNF29)
 - i. Performing searches for item metadata, whether predefined or configurable.
- h. Exposure control and reuse. (CNF30)

4.1.2. Item flow management and exam assembly

Objective description of the minimum functional scope

The solution should allow:

- a. Creation of reference matrices (*blueprint*); (AVA10)
- b. Parameterization of assembly rules: (AVA11)
 - i. by theme;
 - ii. by level of difficulty;
 - iii. by item type;
- c. Manual and automatic assembly of tests; (AVA12)
- d. Randomization of: (AVA13)
 - i. items;
 - ii. alternatives;
- e. Creation of multiple equivalent versions; (AVA14)
- f. Control of overlapping and exposure of items; (AVA15)
- g. Prior simulation of the exam before publication; (AVA16)
- h. Associating items with specific application cycles. (AVA17)
- i. Structured assembly of exams based on multiple configurable constraints, including criteria such as: (VLA18)
 - i. theme or content area;
 - ii. level of difficulty;
 - iii. type of item;
 - iv. distribution of items by categories defined in the reference matrix;
 - v. control of reuse and display of items.

4.1.3. Creation and delivery of exams

Objective description of the minimum functional scope.

The solution should allow:

- a. Setting up exams with: (AVA20)
 - i. total time;
 - ii. time per section;
 - iii. time per item;

- b. Synchronous and asynchronous application; (AVA21)
- c. Face-to-face and remote application; (AVA22)
- d. Definition of application windows; (AVA23)
- e. Automatic or manual start control; (AVA24)
- f. Controlled technical pause; (AVA25)
- g. Ensure temporary *offline* mode (*buffering*) for network instability. (AVA26)
- h. Session resumption in case of failure; (AVA27)
- i. Control of multiple profiles (candidate, supervisor, evaluator); (AVA28)
- j. Browsing log logging; (AVA29)
- k. Automatic submission at the end of time; (AVA30)
- l. Application of psychometric tests; (AVA31, CNF11)
- m. Definition of psychometric parameters by examination. (AVA32, CNF11)
- n. definition of **configurable correction rules**, including different weights and scoring criteria for the items; (AVA33)
- o. partial **scoring support**, where applicable; (AVA34)
Have functionality to validate the minimum requirements for the operation of the platform; (AVA35)

4.1.4. Pre-simulation and validation of digital exam in non-productive environments

Objective description of the minimum functional scope.

The solution should allow:

- a. Creating Distinct Environments: (VLE16)
 - i. production;
 - ii. homologation;
 - iii. tests/simulation;
 - iv. training;
- b. Complete data isolation between environments; (CON15, CON69, CON70, CON116)
- c. Application of psychometric pre-tests; (CNF11)
- d. Data collection for statistical validation; (AVA42)
- e. Operational tests with no impact on real data; (AVA43)
- f. Controlled replication of configurations. (AVA44)
- g. Allow in test and simulation environments: (AVA45)
 - i. carrying out complete operational tests of the application, including user access, execution of tests and verification of platform operating flows;
 - ii. simulation of application with multiple simultaneous users, in order to validate the stability and performance of the solution before the official application;
 - iii. Controlled replication of scan settings across environments, allowing prior validation prior to publication to a production environment.

4.1.5. Monitoring (pre, during, and post-Exam observability)

Objective description of the minimum functional scope.

The solution should allow:

- a. Before the exam: (REL06)
 - i. List of registered candidates;
 - ii. Qualification status;
 - iii. Candidate environment test;
 - iv. *Readiness* panel;

- b. During the exam: (REL07)

Real-time tracking of:

- i. connected candidates;
 - ii. absent candidates;
 - iii. remaining time;
 - iv. registration of occurrences;
 - v. Operational alerts;
 - vi. Viewing session *logs*;
- c. After the exam: (REL08)
 - i. Automatic consolidation of results;
 - ii. Identification of inconsistencies;
 - iii. Implementation reports;
 - iv. Post-application audit trails.

Note 1: Monitoring must be carried out through administrative panels internal to the platform, and dependence on external tools is prohibited.

4.1.6. Reporting, exporting, importing, and interoperability

Objective description of the minimum functional scope.

The solution should allow:

- a. Reporting Generation: (REL14)
 - i. individual;
 - ii. consolidated;
 - iii. statistical;
- b. Massive export of: (REL15)
 - i. Items;
 - ii. answers;
 - iii. notes;
 - iv. User groups (evaluators, creators, item configurators, auditors)
 - v. *Logs*;
 - vi. Recordings (audio and video, where applicable);
 - vii. Test Versions.
- c. Massive import of: (GUS03, REL16)
 - i. Candidates (students/students);
 - ii. User groups (evaluators, creators, item configurators, auditors);

- iii. items;
- d. Documented APIs for integration with external systems. The documentation of the APIs must be complete, updated and made available to the contractor. (ISG03)
- e. Support, at least, the international interoperability standard: IMS QTI (*Question & Test Interoperability*), version 2.1 or higher; (CNF05, ISG06)
- f. **structured export of application data** to external environments for statistical or psychometric analysis, when necessary, enabling complementary technical studies on the performance of participants and items. Expected formats (e.g., CSV, XLSX, JSON); (REL02, REL03, REL17)

Note 1: The export and import functionalities must be native, complete and not depend on additional development, complementary licensing or contracting of services not provided for in this Term of Reference.

4.1.7. Proctoring

Objective description of the minimum functional scope.

The solution must allow, natively or integrated in a fully functional manner and approved by the manufacturer, without prejudice to the functionalities required in this Term of Reference:

- a. Browser blocking; (PR003)
- b. Restriction of external browsing; (PR002)
- c. Video and audio recording of the candidate; (PR004)
- d. Record of suspicious behavior; (PR002)
- e. *Operating System Lockdown*; (PR005)
- f. *Integrity logs* ; (PR006)
- g. Critical event logging (*eye-tracking*, cheating detection); (PR007)
- h. Consolidated session report; (PR008)
- i. Secure storage of evidence. (PR009)
- j. Remote and/or face-to-face supervision mechanisms. (PR010)
- k. Option to enable/disable the Proctoring feature for the exam. (PR011)
- l. definition of policies for the retention and disposal of recording data, in accordance with the applicable legislation on the protection of personal data (including the LGPD); (PR012)
- m. mechanisms that do not prevent the use of accessibility features provided for exam participants. (PR013)

If you use third-party tool integration: (PR014)

- a. The integration must be officially approved;
- b. It cannot depend on custom development to work.

Note 1: The processing of data resulting from the proctoring functionalities must strictly observe the purpose of the exam, and its use for any other purposes is prohibited.

4.2. Implementation and Knowledge Transfer Service

This term of reference will admit 2 (two) possible modalities for the implementation service of the licensed solution (see item 4.1 and sub-items of this term of reference). Regardless of the implementation model adopted, the solution must ensure operational continuity, full access to data and the possibility of its execution by RNP or INEP, and technical dependence that makes its operation unfeasible is not allowed. These are the modalities:

- a. **Implementation Service - Model A** - Own infrastructure (*on-premise*) made available by INEP, in which the supplier will need to meet the premises and technical requirements set forth by the **cliente** in Annex I (CON09 to CON91); or
- b. **Implementation Service - Model B** - Public cloud infrastructure (AWS, Azure or GCP)
 - All running in the Brazilian region, provisioned by RNP, in which the supplier will need to meet the premises and technical requirements set forth by RNP in Annex I (CON09 to CON11, CON13 to CON18, CON20, CON21, CON23 to CON29, CON31, CON41 to CON46, CON47, CON51 to CON54, CON56, CON57, CON59 to CON68, CON71 to CON83, CON85 to CON87, CON89, CON90, CON93 to CON110).

The vendor may also express its suitability and that of its product for both models (A and B) of the licensed solution's implementation.

However, it should be noted that the required functionalities (item 4.1 and sub-items of this term of reference) must be available regardless of the implementation model adopted, as well as functional limitation, performance degradation or restriction of access to data resulting from the chosen implementation environment.

The knowledge transfer service will observe the technical and functional training, sufficient for operation by RNP and INEP, regardless of the implementation model adopted. It should comprise 2 well-segmented dimensions of training, on which support material and documentation in Portuguese should also be made available (preferably). Also, the transfer of knowledge must be sufficient to ensure the autonomous operation of the solution by RNP and INEP, prohibiting the continuous dependence on the supplier for ordinary operational activities. The minimum requirements for such activity are:

- a. **Knowledge Transfer Service - Implementation** - Aiming at the training of technical staff for the operation of the product in multiple environments (productive and non-productive);
- b. **Knowledge Transfer Service - Business** - Aiming at the functional training of the multiple profiles involved in the operation and use of the platform, including observing the minimum functionalities described in item 4.1 and sub-items of this term of reference, for the licensed product.

It is listed below general responsibilities for the Supplier, RNP and INEP inherent to the technical contexts of the **Implementation Services** of these Models A and B:

4.2.1. Model A – Own infrastructure (*on-premise*) made available by INEP

4.2.1.1. Supplier/Manufacturer Responsibilities

The supplier shall:

- a) Provide the perpetual license executable in *an on-premise* environment, without mandatory dependence on external infrastructure;
- b) Provide:
 - i. installation packages;
 - ii. complete technical documentation;
 - iii. minimum hardware and software requirements;
 - iv. solution architecture manual;
- c) Perform:
 - i. assisted installation;
 - ii. initial parameterization;
 - iii. technical validation tests (performance and safety);
- d) Ensure that the solution:
 - i. operate entirely in a local environment;
 - ii. Don't rely on proprietary SaaS services;
 - iii. allow full control of the database by INEP;
 - iv. ensure the integrity, availability, and consistency of the data processed by the solution;
 - v. is able to go through its own cycles defined by the customer for performance and security validation;
- e) Carry out the transfer of technical and business knowledge;
- f) Provide technical support as contracted (see item 4.3 and sub-items of this term of reference);
- g) Ensure the integrity, availability, and consistency of the data processed by the solution.

4.2.1.2. INEP's responsibilities

INEP is exclusively responsible for:

- a. Provide the necessary technological infrastructure, including:
 - i. physical or virtual servers;
 - ii. network;
 - iii. storage;
 - iv. perimeter security;
 - v. backup;
 - vi. Redundancy;
- b. Ensure:
 - i. High availability of the environment;

- ii. infrastructure operation;
 - iii. application of security policies;
 - iv. Business Continuity;
 - v. Privacy and protection of personal data of data subjects.
- c. Perform:
 - i. environmental administration;
 - ii. access management;
 - iii. infrastructure patching;
 - iv. server monitoring;
- d. Bear the costs of:
 - i. *hardware*;
 - ii. operating system licensing;
 - iii. database (when applicable);
 - iv. energy and data center.
- e. Full governance of the exam.

4.2.1.3. RNP's responsibilities

In Model A, RNP:

- a. It will not provide technological infrastructure;
- b. You will not be responsible for:
 - i. infrastructure operation;
 - ii. administration of servers;
 - iii. database management;
 - iv. network security;
 - v. availability of the environment;
- c. It may, by means of a specific contractual instrument:
 - i. provide advisory guidance services;
 - ii. provide technical support to INEP in the analysis of the tool;
 - iii. support in the validation of technical adherence;
 - iv. support the governance of the project;
- d. It will not be able to directly operate the platform or assume technical infrastructure responsibilities.

4.2.2. Model B – Public cloud infrastructure (AWS, Azure or GCP) – All running in the Brazil region, provisioned by RNP:

4.2.2.1. Supplier/Vendor Responsibilities

The supplier shall:

- a. Provide the executable perpetual license of the solution compatible with AWS, Azure or GCP (Brazil region), without mandatory dependence on external infrastructure (not managed by RNP);
- b. Deliver *cloud-ready architecture*, including:

- i. sizing recommendations, according to ranges of test volumes and other technical aspects listed in Annex I (CON09 to CON11, CON13 to CON18, CON20, CON21, CON23 to CON29, CON31, CON41 to CON46, CON47, CON51 to CON54, CON56, CON57, CON59 to CON68, CON71 to CON83, CON85 to CON87, CON89, CON90, CON93 to CON110);
 - ii. network requirements;
 - iii. high availability model;
 - iv. automated installation packages;
- c. Support RNP in:
 - i. implementation of the solution in the cloud;
 - ii. initial setup;
 - iii. technical parameterization;
 - iv. technical validation tests (performance and safety);
- d. Ensure that:
 - i. the solution can operate under the contractor's cloud account, and RNP must be guaranteed administrative and operational control of the environment, including full access to the solution's data, configurations and records;
 - ii. there is no irreversible technological *lock-in*;
 - iii. allow full control of the database by INEP/RNP;
 - iv. the solution is able to go through its own cycles defined by the customer for performance and security validation;
- e. Carry out the transfer of technical and business knowledge;
- f. Provide technical support as contracted (see item 4.3 and sub-items of this term of reference)

4.2.2.2. RNP (Cloud Infrastructure) Responsibilities

When the cloud infrastructure belongs to RNP, RNP is responsible for:

- a. Make the public cloud account available (AWS, Azure or GCP – Brazil region);
- b. Operate and sustain the technology infrastructure, including:
 - i. provisioning of resources;
 - ii. scalability;
 - iii. load balancing;
 - iv. infrastructure monitoring;
 - v. cost management;
 - vi. Redundancy.
- c. Ensure:
 - i. High availability of the environment;
 - ii. cloud infrastructure security;
 - iii. application of *backup* and recovery policies;
 - iv. access control (IAM);
- d. Implement measures to:
 - i. network security, for the infrastructure, where the deployed solution operates;
 - ii. encryption;

- iii. protection against attacks;
- e. Act as responsible for sustaining the infrastructure layer, where the deployed solution operates.
- f. RNP may count on technical support from the supplier/vendor, when contractually provided. RNP's performance is limited to the infrastructure layer, not covering responsibilities for the application, its data or functionalities, which remain under the responsibility of the supplier. (see item 4.3 and sub-items of this term of reference)

4.2.2.3. INEP's responsibilities

INEP is responsible for:

- a. Define business rules and operational parameters of the application, at least 2 months in advance of the operation of a nationwide exam;
- b. Administer:
 - i. item bank;
 - ii. exams;
 - iii. user profiles;
- c. Manage functional access policies;
- d. Validate solution configurations;
- e. Use the platform according to institutional rules;
- f. Ensure Business Continuity;
- g. Bear the costs of contracting the solution and, as agreed, the corresponding infrastructure;
- h. Full governance of the exam.

4.3. Maintenance Service, Technical Support and Assisted Operation

Although the contracting of the Digital Exams solution, under a perpetual licensing regime, is expected to have a single payment, it is expected that the services listed below will be part of annual contracting cycles, with the possibility of renewals in each cycle. The provision of the services does not condition or restrict the right to use the licensed solution. The services are:

- Corrective maintenance;
- Preventive maintenance;
- Evolutionary maintenance;
- Technical support;
- Assisted operation during the application of exams.

The services will cover the licensed application layer, observing the specific responsibilities according to the implementation model:

- Model A – INEP's own infrastructure (*on-premise*)

- Model B – Public cloud infrastructure (AWS, Azure or GCP – Brazil region), under RNP's management when applicable.

4.3.1. Solution Maintenance

The maintenance, technical support and assisted operation services focus on the application layer of the licensed solution and do not condition, restrict or suspend the right to use the purchased perpetual license.

4.3.1.1. Corrective Maintenance

Set of actions aimed at correcting flaws, defects or vulnerabilities that compromise the operation of the solution.

Minimum Scope Required

- a) Correction of flaws that prevent the application of exams;
- b) Correction of errors in the calculation of grades or reports;
- c) Correction of audio and video recording failures;
- d) Correction of security and privacy vulnerabilities, as well as flaws that compromise the confidentiality, integrity, availability or traceability of the solution's data and records;
- e) Correction of performance failures;
- f) Correction of data integrity failures.

Service Levels – Corrective Maintenance			
Severity	Definition	SLA Response	SLA Resolution
Review	System unavailable	1 hour	Up to 8 hours
High	Essential functionality unavailable	2 hours	Up to 24 hours
Average	Non-blocking error	4 hours	Up to 3 business days
Low	Simple adjustment or improvement	1 business day	Up to 10 business days

Table 1. SLA for Corrective Maintenance – Normal Regime.

It is stated that the response and resolution deadlines count from the registration of the call or the detection of the incident by the supplier, whichever occurs first.

Special Regime – During Exam Application			
Severity	Definition	SLA Response	SLA Resolution
Absolute Critical	Generalized interruption of the examination	15 minutes	Immediate mitigation + solution within 1 hour

Partial Critical	Impact \geq 5% of candidates	15 minutes	Mitigation in up to 30 minutes
High	Relevant functional instability	30 minutes	Correction within the exam window
Average	Punctual failure without systemic impact	1 hour	Up to 4 hours

Table 2. SLA for Corrective Maintenance – Special Regime.

During the ongoing examination, the priority will be immediate mitigation, and the definitive solution may occur after stabilization of the application. In this modality (Special Regime – During Exam Application) the performance considers the availability in 24 x7, x7, however, the mitigation is not to be confused with the definitive resolution, except when it fully restores the functionality and service levels affected.

4.3.1.2. Preventive Maintenance

Updates aimed at preserving security, stability, and technological compatibility.

It is noted that the evolutionary updates covered in this item may not imply functional suppression, performance degradation, architectural change that compromises the contracted operation or additional charge, as long as the corresponding services are kept active

Minimum scope

- a) Security and privacy updates;
- b) Browser compatibility updates;
- c) Updating of internal libraries;
- d) Cumulative corrections.

Minimum Attendance

- a) Preventive releases: at least quarterly;
- b) Critical security and privacy updates: immediate;
- c) Application windows: Scheduled, preferably outside exam periods.

4.3.1.3. Evolutionary Maintenance

Updates resulting from the evolution of the product by the manufacturer/supplier, provided that maintenance, support and assisted operation services are active during the period of validity.

Minimum scope:

- a) Access to new majority versions;
- b) Standard functional updates;
- c) Performance improvements;
- d) Hours Pool.

Recommended frequency

Update Type	Frequency
<i>Critical Hotfix</i>	Immediate
<i>Cumulative release</i>	Quarterly
<i>Release major</i>	Annual
<i>Hour Pool</i>	On-demand

Table 3. Frequency for making evolutionary maintenance available.

For the exclusive purpose of comparability of the proposals, the reference estimate of 1000 hours for the 1-year cycle will be adopted, without this constituting a minimum obligation of contracting by the contractor.

4.3.2. Technical Support

4.3.2.1. Normal Regime (No exam in application)

Service during business hours, Monday to Friday, *Brazil timezone*, between 8 am and 6 pm.

Severity	Definition	SLA Response	SLA Resolution
Review	System unavailable	1 hour	Up to 8 hours
High	Essential functionality compromised	2 hours	Up to 24 hours
Average	Operational error	4 hours	Up to 3 business days
Low	Question or guidance	1 business day	Up to 5 working days

Table 4. SLA for Technical Support – Normal Regime.

4.3.2.2. Special Regime – Application of Exam

From the opening of the official application window to the end of the last active session, without dependence on business hours (24 x7).

Minimum Scope Required

- a) Active technical duty throughout the window;
- b) Dedicated priority channel for RNP and INEP;
- c) Support for continuous monitoring of the licensed application in the RNP or INEP environment (according to implementation);
- d) Guaranteed response within 15 minutes for critical incidents;
- e) Immediate scaling.

SLA during Exam application			
Severity	Definition	SLA Response	SLA Resolution

Absolute Critical	General system outage	15 minutes	Restoration within 1 hour
Partial Critical	≥ 5% candidates impacted	15 minutes	Mitigation in up to 30 minutes
High	Relevant instability	30 minutes	Fix until window ends
Average	Isolated error	1 hour	Up to 4 hours

Table 5. SLA for Technical Support – Special Regime.

Mitigation is not to be confused with definitive resolution, except when it fully restores the functionality and service levels affected.

4.3.3. Assisted Operation

Active follow-up service during the application of exams, aiming to ensure technical and functional support to the contractor throughout the execution phase/actual applications of exams, having a complementary and temporary nature, not implying a definitive transfer to the supplier of the ordinary responsibilities of managing the solution or the governance of the exam. It will include, at least, the following actions:

- Active monitoring of the supplier during the first applications (*shadow mode* or co-operation);
- Real-time session monitoring (user dashboards, load and errors);
- Remote technical support during the exam;
- Contingency team ready to respond to critical failures;
- Joint supervision with the contractor for the validation of the fluidity of the exam and collection of *feedback*.

4.3.3.1. Available modalities:

4.3.3.1.1. Remote Technical Duty (Pre-application of Exam)

General Supplier Performance (Remote on Demand):

- Dedicated team (24 x 7) throughout the exam preparation window;
- Continuous active monitoring regarding the indicators of the solution for the application of the exam;
- Preventive action.

4.3.3.1.2. Virtual War Room (During Exam Window)

Supplier's general performance (active remote):

Dedicated environment with:

- Monitoring of the satellite indicators of the application and their impacts, contemplating at least:
 - Active sessions;
 - Use of resources;
 - Latency;

- iv. Integrity of audio/video recordings;
- v. Authentication failures.
- b) Dedicated staff (24 x 7) throughout the exam application window;
- c) Active and continuous advisory monitoring regarding application indicators;
- d) Mitigation, correction and crisis context during the exam.

4.3.3.1.3. Face-to-face assisted operation

General performance of the Supplier on site (RNP or INEP):

Dedicated environment with:

- e) Monitoring of the satellite indicators of the application and their impacts, contemplating at least:
 - i. Active sessions;
 - ii. Use of resources;
 - iii. Latency;
 - iv. Integrity of audio/video recordings;
 - v. Authentication failures.
- b) Dedicated staff (24 x 7) throughout the exam application window;
- c) Active and continuous advisory monitoring regarding application indicators;
- d) Mitigation, correction and crisis context during the exam.

The request must be submitted to the supplier at least 15 business days in advance to facilitate the assisted operation in Brasília-DF.

In the cost section of the proposal, provide the on-site daily rate, including all expenses necessary to perform the service, such as: number of professionals, air and ground transportation, meals, and lodging (per professional).

This pricing will not be included in the total calculation referred to in item 8, subitem B of these terms of reference. However, once the contract is signed, in the event of on-demand activation, the amount presented will serve as the ceiling.

4.3.3.2. Post-Application Report

Regardless of the type of assisted operation selected, in all cases it will be up to the supplier at the end of each examination cycle to provide a report containing:

- a) Recorded incidents;
- b) Response time;
- c) Resolution time;
- d) Mitigating measures applied;
- e) Technical recommendations.

4.3.4. Penalties for Non-Compliance with SLA

Failure to comply with the service levels (SLA) established in this Section will characterize contractual default, regardless of the immediate proof of material loss, and will be determined based on operational records, technical calls, service reports, monitoring evidence and other available objective elements, subject to the provisions of item 10 – Sanctions of this Term of Reference and the corresponding contractual instrument.

The SLAs provided for in this item are technical-operational in nature and constitute objective parameters for gauging the performance of the CONTRACTOR, recording non-conformities, determining failures in the provision of services and justifying the adoption of administrative measures, disallowances and contractual penalties.

For the purposes of investigation, the response and resolution deadlines will be counted from the registration of the occurrence by the contractor or the unequivocal knowledge of the CONTRACTOR about the incident, whichever occurs first.

The eventual mitigation of the occurrence is not to be confused with its definitive resolution, except when the affected functionality and the conditions of performance, stability, security and availability required in this Term of Reference are fully restored.

Maximum severity will be attributed to occurrences verified during the official exam application window, due to the critical, continuous and sensitive nature of the operation, especially in exams carried out in uninterrupted sessions or with a large volume of candidates, in which case the evaluation of the contractual response will consider, in addition to the response and resolution time, the extent of the impact, the number of users affected, the criticality of the functionality achieved, and the risk to the continuity, smoothness, and reliability of the application.

Without prejudice to the provisions of item 10 – Sanctions, the following administrative measures may be adopted by RNP, separately or cumulatively, according to the severity of the occurrence, its repetition and its operational impacts:

- a) Formal warning;
- b) determination of the presentation and execution of a corrective action plan, with a defined deadline;
- c) proportional disallowance of the amounts related to the period, stage or service affected;
- d) application of the penalties provided for in item 10 of this Term of Reference and in the corresponding contractual instrument;
- d) Application of the penalties provided for in item 10 of this Term of Reference and in the corresponding contractual instrument.

The adoption of an administrative measure or penalty does not remove the CONTRACTOR's obligation to fully remedy the occurrence, reestablish the contracted service levels and adopt the necessary measures to prevent its recurrence

5. RESPONSIBILITIES OF THE CONTRACTOR

It will be up to the CONTRACTOR to fully comply with the obligations described below, which are mandatory minimum requirements for the proper execution of the contractual object:

- i. Licensing within the scope defined in this term of reference;
- ii. technical infrastructure to be defined by RNP, which may include an environment under INEP's governance, according to the implementation model adopted;
- iii. Transfer of technical and functional knowledge, at a level sufficient to ensure the autonomous operation of the solution by RNP and INEP, prohibiting the continuous dependence of the CONTRACTOR for ordinary operational activities;
- iv. Corrective, Preventive, Evolutionary Maintenance, Support and Assisted Operation for 1 year, counted from the approval of the implementation stage in the infrastructure defined by the Customer;
- v. Right to obtain updates of the licensed product, without suppression of the contracted functionalities, and the discontinuity or degradation of the solution due to the non-contracting of additional services is prohibited, observing the contracted maintenance scope;
- vi. Guarantee to the contractor in the environment dedicated to INEP, in the Brazilian region, for the Digital Exams Access Management solution of *software*, ensuring its effective availability to the contractor for auditing, traceability, inspection and export purposes:
 - Access management capabilities throughout the user lifecycle;
 - Identification of anomalous behavior;
 - Features to securely manage users, with the possibility of customizing permissions;
 - Segregation of duties.
 - Session Control:
 - *idle timeout, absolute timeout, re-auth* in sensitive actions;
 - Do not allow the same authenticated user at the same time.
 - Anti-Abuse Protections:
 - *Rate limiting, bot detection*.
- vii. The supplier undertakes at the time of licensing that its product is fully adequate regarding:

- Compliance with ISO 22301 (Business Continuity Management) and ISO 27001 (Information Security) standards.
- Compliance with the General Data Protection Law (LGPD, Law No. 13,709/2018), being fully responsible for security failures, data incidents or non-compliance with applicable rules resulting from the solution;
- Immutable record of all test content management operations (upload, download, access);
- Immutable record of all test execution operations by user;
- Immutable record of all operations after the application of the exam;
- Immutable record of all Platform Management and Access operations.
- Immutable trail (WORM or equivalent), and such records must be complete, auditable and accessible to the contractor, prohibiting any form of alteration, suppression or restriction of access, with at least:
 - Signature/*hashing* of events and *hash chain* per session;
 - Time synchronization (NTP with *leap smearing*, tolerance of $\pm 1s$);
 - Time stamp with time zone and UTC;
 - Correlatable IDs: user, candidate, exam, version, attempt, station/*endpoint*, public/private IP, device *fingerprint*.
- The solution cannot restrict the export of authorial content produced within the scope of the RNP-INEP Cooperation, and must ensure the full portability of items and metadata, without dependence on proprietary tools of the supplier.

6. COMMERCIAL PROPOSAL

Suppliers interested in the contracting process object of this Term of Reference, by means of qualification (eliminary) of the **1st stage**, must submit a Commercial Proposal, which meets all the requirements of the TR, contemplating in a segregated manner the following costs that must be expressed in digits, with only two decimal places after the decimal point and in full, legibly:

- Licensing (according to item 4.1 and sub-items of this Term of Reference).
- Implementation and Transfer of Knowledge (according to item 4.2 and sub-items of this Term of Reference).
- Maintenance, Support and Assisted Operation Service (according to item 4.3 and sub-items of this Term of Reference).

6.1. READJUSTMENT AND REVISION

- The amount related to licensing will be non-recurring, while the amounts related to maintenance, support and assisted operation will have an annual recurring nature, prohibiting any linking of the right to use the solution to the contracting or renewal of services. In case of divergence, the amount in full will prevail.
- After the period of 12 (twelve) months, the values related to the services may be readjusted annually, by applying the IPCA (Extended National Consumer Price Index), calculated by the IBGE, or another official index that may replace it, with the application of an adjustment on the value of the license prohibited.
- The economic and financial rebalancing of the contract will only be admitted on an exceptional basis, upon unequivocal proof of the occurrence of a supervening, unpredictable fact or of incalculable consequences, which significantly alters the economic and financial equation originally agreed.
- Ordinary market variations, foreseeable exchange rate fluctuations, increased operating costs, pricing errors, commercial strategies or any factors inherent to the business risk assumed by the CONTRACTOR will not be considered for rebalancing purposes.
- The request for rebalancing must be formally submitted, duly substantiated and instructed with suitable supporting documentation, and it is up to the CONTRACTOR to demonstrate, objectively, the causal link between the alleged event and the economic and financial impact verified.
- The eventual recomposition will depend on prior and express analysis by RNP, and is not automatic, and may be full, partial or rejected, as the case may be.
- Under no circumstances will the rebalancing imply a review of the contracted scope, a change in the risk matrix or the transfer of responsibilities originally assumed by the CONTRACTOR.
- The following Items must be presented in response to the Term of Reference:
 - **1st Stage** – Institutional communication by the manufacturing company and/or supplier formalizing the acceptance of the agreements of the terms of the business model;
 - **2nd Stage:**
 - Item A: Completed Annex I;
 - Item B: Evidence of similar cases;
 - Commercial proposal.

- **3rd Stage:**

- Implementation of the PoC;
- Demonstration (on dates to be informed);

The values presented must include all direct and indirect costs necessary for the full execution of the object, and additional charges for functionalities, integrations, licenses, infrastructure, support, storage, security, *proctoring* or any other components necessary to comply with this Term of Reference are not allowed.

The proposal presented will be considered binding and irreversible as to the commercial, technical and operational conditions offered, subject to the provisions of this Term of Reference.

Participation in the demonstration and PoC stages does not generate any right to contracting, remuneration or reimbursement of costs by RNP or INEP.

7. COMMERCIAL AND TECHNICAL QUALIFICATION OF THE SUPPLIER

The qualification process will be conducted in 3 (three) stages, of a sequential nature, with the 1st stage being **eliminary** and the 2nd and 3rd **stages qualifying**, under the terms of this Term of Reference.

- **1st Stage:** Commercial Qualification (Product Licensing Business Model). Any supplier who expresses **full agreement** on the request set forth in item 4.1 and respective sub-items of this term of reference will be qualified for the 2nd and 3rd stages.
- **2nd Stage:** Technical Qualification and Price: Only suppliers qualified in the **1st Stage** are invited to make available Items A and B:
 - Item A: Answer the complementary technical questionnaire detailed in Annex I. For classification purposes, the minimum total of points will be observed according to the grouping listed in table 6. The score will be observed through a self-assessment questionnaire sent by the supplier, which will be validated in a demonstration agenda to the RNP technical team, and there may be reclassification during the **3rd stage**, if the item is not demonstrated.

Item	Minimum score	Maximum score
Services of interest in the Digital Exam Solution for contracting	80 points	188 points
Functionalities and Features of Interest in the Digital Exam Solution	212 points	309 points

Table 6. Scoring list for items in Annex I of the TR.

The minimum score is based on full compliance with the mandatory requirements (listed under “Must” in Column B, with a weight of 2).

The maximum score comprises not only the sum of the scores for full compliance with all mandatory requirements but also the sum of the scores for partial or full compliance with all desirable requirements (listed under the “Could” or “Should” option in Column B, with a weight of 1).

- The score will be calculated as defined in Annex I, in the "Codes" tab, and by adding up the manifestation of all the codings listed in Annex I, in the "Questionnaire" tab.
- Item B: Provide a minimum of 1 and a maximum of 3 different real business cases, for the context of the framework (vOSCE) in question, for actions carried out in the last 2 years, as well as the volume of evaluators involved and the number of simultaneous services performed in each case.

Document evaluation criteria

The adherence of the cases presented to the technical, operational and scale characteristics described in this Term of Reference will be evaluated, and RNP may disregard cases that do not present objective evidence of actual execution or compatibility with the object.

- i. Supported = 3 points
 - ii. Partially supported = 1 point
 - iii. Not supported = 0 points
- Item C: Provide the commercial proposal, including a breakdown and total of the costs, as indicated in item 6 of these terms of reference.
- **3rd Stage** – Perform a PoC (*Proof of Concept*) demonstrating through the execution of the solution itself, the business case described in Annex II, and respective environment to the capabilities signaled as essential for assessing the feasibility of meeting the business case of Revalida – 2nd Phase, as listed in Table 7. The PoC will have an exclusively demonstrative and validatory character, and does not constitute, by itself, definitive proof of compliance with the requirements of this Term of Reference. Thus, RNP may, at its sole discretion, request additional clarifications, complementary evidence or new demonstrations, as well as disqualify suppliers whose solution does not consistently prove compliance with the required requirements.

Category	Activity
----------	----------

Implementation of Stations	POC1. Implementation of Virtual Instructor (Avatar), narrator in Portuguese. Responsible for guiding the flow of interaction (videos 1 and 2) context Station 2.
	POC2. Implementation of Station 1.
	POC3. Implementation of Station 2.
Identification on the exam	POC4. It allowed the subject to identify himself by video and audio simultaneously and in a synchronized way.
Types of questions and interactions	POC5. Parameterized timer on at least 1 (one) item in station 1.
	POC6. It allowed the subject to select any station, but once selected, it required the execution of the integral flow.
	POC7. Made available at least 1 (one) item in the interaction of the evaluated by <u>video and audio</u> , for the response of station 1.
	POC8. Made available at least 1 (one) item in the interaction of the evaluated by <u>descriptive text</u> , for the answer of station 2.
	POC9. Made available at least 1 (one) item in the interaction of the evaluated by <u>multiple choice</u> , for the answer of station 1.
	POC10. It made a digital notebook available to the candidate at all times, without compromising the interaction and execution of the exam at the station.
	POC11. It made available at all times a folder for access to the set of <u>support material</u> (digitized clinical exams)
	POC12. Made the action available with active <i>proctoring</i> for the exam, mitigating internal and external access to the candidate's machine during the exam.
Exam Management and Progress	POC13. Made available the action of configuring the correction of the items according to the PEP (Standard Expected Procedure) for at least 1 multiple-choice item, with the use of weights.
	POC14. It made available the report made available after the execution of the exam and a means of exporting data.

	POC15. Demonstrated the Management report for follow-up at the time of the exam.
	POC16. It demonstrated the export of synchronized video and audio from the stations of an evaluated.
Information Security and Privacy Aspects	POC17. It demonstrated the possibility of using anonymization and pseudonymization techniques in data presented in list format.
	POC18. Demonstration of using <i>Proctoring</i> to detect suspicious behavior.
	POC19. Demonstrated authorization methods and access profiles in the solution.
	POC20. Demonstrated use of encryption of data in transit.
	POC21. Demonstrated audit <i>logs</i> of the main events (see item 5 of this term of reference, sub-item vii).
	POC22. It demonstrated the process of registering and managing user profiles (administrators, teachers, students, supervisors, reviewers) and detailed the possible permission levels on the platform.
Aspects of Technological Architecture	<p>POC 23. If microservices architecture has demonstrated the independently deployed components.</p> <p>POC 24. If the <i>backend</i> is horizontally scalable, it has demonstrated more than one deployment of the same component operating together.</p>
Aspects of technological infrastructure	<p>POC 25. If containerized deployment demonstrated the deployed containers.</p> <p>POC 26. If containerized and deployed in a <i>kubernetes environment</i>, it demonstrated <i>rolling update</i> without total interruption of service.</p> <p>POC 27. If automated deployment process demonstrated the deployment of at least one component of the solution in an automated manner.</p>

Table 7. List of items evaluated in the PoC of Annex I and II of the TR.

Supplier PoC delivery format:

- **Brief presentation** (maximum 30 minutes), demonstration in its own tool, and access to the public area for the RNP experimentation team, with guidelines for access in advance.

Evaluation criteria for PoC items

Each activity demonstrated will be evaluated and classified according to the following criteria.

- i. Supported = 3 points
- ii. Partially supported = 1 point
- iii. Not supported = 0 points

It is important to emphasize that participation in the PoC does not imply any bond, contracting obligation, exclusivity or right of first refusal. It is an invitation to a competition without any guarantee of contracting the services or the use of the platform by RNP or INEP, however fundamental for establishing trust and pursuing the analysis strategy that will subsidize future contracting.

It is also understood that there will be no financial or any other remuneration for the time and resources invested by suppliers in the construction and presentation of the PoC.

It is also expected that a period of "experimentation" of the solution offered to the proposed business case will be offered, where users of RNP and INEP will have access to the platform, its functionalities and the solution offered to the business case, for a period of 20 (twenty) business days.

8. STAGES OF THE QUALIFICATION PROCESS BY TECHNIQUE AND PRICE

Suppliers must meet a set of commercial requirements (eliminary), and minimum technical and operational requirements (for classification purposes) that ensure the reliability, safety, performance and continuity of the services described in the object of this document.

The qualification process will be conducted in a **phased, sequential and eliminatory** manner, observing the inputs and criteria defined in items 4 and 7 of this document, as described below:

- A. Only suppliers who confirm full compliance with Stage 1 will be eligible for the subsequent stages (Stages 2 and 3).
- B. The **technical and price ranking** will be determined based on the **sum of the scores obtained in the technical qualification phases (Stage 2: Items A and B + Stage 3), weighted at 60%, and the total cost of the commercial proposal (Stage 2: Item C), weighted at 40%.**

Thus, the following calculation method is used for the final ranking of suppliers:

- **Technical Grade (NT):**

$$\text{Technical Grade} = \frac{\text{Technical Score}}{\text{Best Score}} \times \text{weight}$$

Simplified method:

$$NT = \frac{PT}{PT_{\text{better}}} \cdot p_t$$

Where:

- NT = Technical Grade
- PT = Bidder's Technical Score
- PT_{better} = Best Technical Score among the bidders
- p_t = weight of the technical part

- **Commercial Grade (NC):**

$$\text{Commercial Grade} = \frac{\text{Best Offer}}{\text{Offer}} \times \text{weight}$$

We can write this in a simplified

$$NC = \frac{P_{\text{better}}}{P} \cdot p_c$$

Where:

- NC = Commercial Grade
- P_{better} = Best offer (lowest price, in the case of a lowest-price bid)
- P = Bidder's Offer
- p_c = weight of the commercial component in the overall assessment

Final Score (Supplier Ranking) = NT + NC

Thus, the supplier with the highest ranking will be declared the winner.

9. FORM OF CONTRACTING

The contracting will be formalized by means of a contractual instrument entered into between RNP and the winning supplier, observing the rules applicable to the contracts carried out by RNP and the international nature of the provision.

The winning company will sign a contract with RNP for the **acquisition of a technological solution**, which disciplines:

- a) Granting of perpetual license and rights of use;
- b) Obligations related to implementation, support, maintenance, training, knowledge transfer and technological evolution;
- c) Governance of the solution and responsibilities of the parties;
- d) Penalties, guarantees of continuity and service levels;

e) Transition conditions and mitigation of operational risks.

Payments will be associated with the contractual milestones defined for the acquisition and implementation of the solution, and payment models for use or consumption will not be allowed.

Prices will be fixed and unadjustable for a period of 12 (twelve) months. The criteria for readjustment and review will be those provided for in this TR, as set out in the contract.

Billing will be conditioned to the fulfillment of the contractual milestones provided for in item 4 and respective sub-items of this Term of Reference, duly verified and accepted by RNP. The supplier must present, together with the commercial proposal, the definition of milestones, deadlines and respective durations, which must be consolidated and approved by RNP in the physical-financial schedule to be established at the beginning of the contractual execution.

The winning company must send a *Commercial Invoice* to the nfe@rnp.br e-mail, duly signed and all legal requirements complied with, and RNP is responsible for withholding and paying the IR and INSS or any other taxes that the law so determines.

The payment of the *invoice* is made 30 days after sending it to the financial department.

Processes that generate contracts can only have their first invoice issued and paid from the moment the legal instrument is signed by both parties.

If the winning company fails to comply with any term or condition to which it is bound in this proceeding, by its sole fault, RNP may withhold payment, upon prior notice, until the respective default is remedied, and therefore RNP will not be enforced by any burden resulting from this situation.

10. SANCTIONS

During the execution of the services, in order to ensure the quality standards appropriate to the contracted demands, RNP will be able to evaluate the products generated. If any violation of the quality parameters provided for is verified, RNP may apply a fine on the value of the contract.

SANCTION	CRITERION 1	CRITERION 2	CRITERION 3
Discount of 5% (five percent) on the value of the service provided or installment, received or receivable.	Failure to meet the team building within the deadline set for requests for proposal.	Failure to meet the delivery schedule agreed for the demand or provided for in the requests for proposal.	Performing service or deliveries with low quality , which cause constant calls for corrections, according to criteria defined in the requests for proposal or negotiated at the beginning of the contracted demand service.

Discount of 10% (ten percent) on the value of the service provided or installment, received or to be received.	Recidivism in non-attendance in team building within the deadline set forth in the requests for proposal, in an interval of less than 3 (three) consecutive months or six (6) intercalated months.	Recidivism in the non-compliance with the delivery schedule agreed for the demand or provided for in the requests for proposal, in an interval of less than 3 (three) consecutive months or 6 (six) intercalated months.	Recidivism in the performance of service or deliveries with low quality, which cause constant calls for corrections, according to criteria defined in the requests for proposal or negotiated at the beginning of the contracted demand service, in an interval less than 3 (three) consecutive months or 6 (six) intercalated months.
---	--	--	--

Table 8 - Table of minimum sanctions provided for in the contract

11. CONFIDENTIALITY AGREEMENT

The documentation of each supplier sent to RNP will be considered a reserved matter, preserving its confidentiality, and will not be disclosed to the other participants, even after the declaration of the winning proposal, being disclosed only to those involved in RNP's internal process. In this way, the parties undertake, under penalty of the law, to maintain the strict confidentiality of the information shared.

12. APPROVAL

After completing all stages of the process, only one supplier will be approved, and the purchase order will be forwarded to the winning supplier and, subsequently, the formalization of the contract.

