GOVERNO DO ESTADO
DO ESPÍRITO SANTO

Secretaria da Ciência, Tecnologia, Inovação e Educação Profissional

GOVERNO DO ESTADO
DO ESPÍRITO SANTO

Espírito Santo Digital Acceleration Project

Programa de Apoio ao Fortalecimento da Gestão Pública do Espírito Santo

ESPÍRITO SANTO MAIS INTELIGENTE

Project P180462
IBRD Loan Agreement 9679 - BR

TERMS OF REFERENCE No. 005

Specialized Consulting in Information Technology

OBJECT: *Contracting of specialized information technology consulting services for* ***the development and implementation of specialized systems with defined interfaces and structures for web services solutions***, technical infrastructure services, architecture, data engineering, data science, and Artificial Intelligence, *covering the entire development cycle, from requirements gathering using agile methods such as Lean Inception, to coding, testing, and system approval.*

SEPTEMBER/2025

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SUMMARY

TERMS OF REFERENCE

Consulting firm specializing in the development and implementation of systems

Procurement Plan Activity: BR-SEG-389942-CS-QCBS.

1. SUMMARY OF THE ES+Inteligente PROGRAM

CATEGORY	INFORMATION
Name	Espírito Santo Mais Inteligente
Borrower (Contracting Party)	Government of the State of Espírito Santo
Executing Agencies	SECTI, SEG, PRODEST, SESP
Objectives	Expand access to services, improve digital quality, public management, security, and service integration
Components	1) Data Infrastructure and Digital Skills 2) Single Service Portal 3) Modernization of Emergency Management 4) Project Management (PMU)
Implementation Deadline	5 years
Amount	US$ 76.5 million (US$ 61.2 million from the World Bank, US$ 15.3 million from the State)

2. CONTEXT

The context and details of the contract are provided in the program's institutional documents, which are available on the SECTI website.

3. JUSTIFICATION

3.1 The Challenge of Digital Fragmentation in Espírito Santo

Component 2 proposes the creation of a unified Digital Government Platform to centralize access to state public services. The initiative seeks to overcome the current fragmentation, identified in a previous diagnosis, which affects the citizen experience. Currently, there are 591 digital services distributed across 4 portals and 58 different *websites*. This dispersion hinders navigation, reduces efficiency, and compromises the standardization of services, namely:

- Inconsistency of the user experience:
- Redundancy of registrations and information
- High maintenance costs
- Difficulty in locating services
- Inefficient digital identity management

3.2 The Solution: X-Via Platform and the Need for a Specialized Software Factory

To address these challenges, the State Government acquired the *X-Via* Platform, a comprehensive technological solution developed specifically to meet the needs of digital government. This

platform, based on the renowned *X-Road* technology https://x-road.global/ originating in Estonia (a global benchmark in digital government), has been adapted to the Brazilian reality and offers a robust architecture for the integration of public services.
The *X-Via* Platform comprises five main layers:
I) Services Portal: Unified *interface* for citizen access, with responsive *design* and consistent experience;
II) Digital Identity Layer: Secure authentication system that allows unique identification of citizens across all services;
III) Interoperability and Security Layer: Infrastructure that enables the secure exchange of information between government systems;
IV) Microservices Orchestrator: Development environment that facilitates the creation and integration of new digital services;
V) Generative Artificial Intelligence: Component that enables service personalization and customer service automation.
However, although the acquisition of the platform represents an important step, its effective implementation requires significant work in terms of customization, adaptation, and integration with existing state government systems. This work demands specialized knowledge, both in terms of the platform and the specific context of public administration in Espírito Santo.

Hiring a specialized software factory is essential to drive this digital transformation, responsible for:

- **Agile and Qualified Development:** Creating and implementing new digital services integrated into the platform, from conception to final approval, using agile methodologies for continuous and incremental deliveries.

- **Improved User Interaction and Experience**: Developing solutions that simplify government-citizen interaction, reducing bureaucracy and improving the usability of services.

- **Standardization and Scalability**: Ensure that digital services are standardized, facilitating maintenance and ensuring scalability and consistency in future implementations.

- **Support for the Digital Product Life Cycle:** Manage the complete cycle of service development and support, ensuring quality, usability, and alignment with the user experience.

The success of this contract will enable the Government of Espírito Santo to deliver comprehensive, citizen-centered digital services, generating benefits for the population, public agencies, and the state administration as a whole.

4. OBJECTIVE

4.1 General Objective

Customize and develop new digital services on the X-Via Platform https://portal.es.gov.br/, focusing on the integration and unification of public services in an Intelligent Portal. The objective is to significantly improve the citizen experience, optimize administrative efficiency, and ensure interoperability between government systems in the State of Espírito Santo, through the hiring of a specialized Software Factory.

4.2 Specific Objectives

- **Strategic Prioritization of Services:** Collaborate with state departments and agencies to identify, prioritize, and define a strategic *roadmap* for digital transformation, considering the impact on citizens, technical feasibility, and government goals.
- **Mapping and Modeling of Digital Processes:** Conduct a detailed survey of the services to be digitized, including current workflows, business rules, and legal requirements, aiming at the optimization and complete modeling of the processes that will guide the development of new solutions.
- **Development and Implementation of Innovative Digital Products:** Develop and implement digital products and services with modern architecture and intuitive, accessible interfaces, ensuring integration with existing systems and incorporating automation and artificial intelligence to optimize the user experience.
- **Continuous Adaptation and Evolution of Systems:** Integrate or implement existing systems into the government service portal architecture, ensuring the continuous improvement and evolution of digital solutions based on user feedback and changing requirements, ensuring that systems remain up-to-date, efficient, and aligned with the demands of public services and citizens.
- **Training and Knowledge Transfer:** Conduct training and capacity-building programs for civil servants and managers, ensuring the efficient use of new systems and the transfer of knowledge to internal state government teams, ensuring autonomy and continuity.

5. PHASES AND IMPLEMENTATION STRUCTURE

The execution of the Software Factory contracting project will be structured in two main phases:

5.1. Phase I: Contract Initialization

This initial phase aims at preparation and alignment for the start of services, covering:

- Preparation for the execution of the contracted services.
- Transfer of knowledge of the work routines, culture, and organizational structure of the State Government.
- Presentation of technical standards, workflows, and tools to be used.
- Understanding of the contract management model.

Initial alignment meetings are expected to be held within **a week**, all in person, with visits to key partners and recognition of the available infrastructure.

5.2. Phase II: Service Execution

This phase comprises the continuous and interactive provision of software development and support services, as well as consulting and training activities. Activities will include team mobilization, customization, development, and testing of digital services on the X-Via Platform, implementation of priority services, and knowledge transfer to state government teams.

The implementation of Phase II will occur through multiple stages, which can be executed in parallel or sequentially, according to the work plan. Details on the structuring of multidisciplinary teams, the work methodology, the stages of adaptation and customization of the Platform, development, systems integration, implementation of Generative AI, and training and knowledge transfer actions, as well as the agile practices applied, should be presented and detailed in the Software Factory Technical Proposal.

Status report meetings are expected to be held throughout this phase II, as per blocks 2 to 8 provided for in item 9 of this term.

6. SCOPE OF SERVICES

The Software Factory shall provide specialized information technology services for the development and evolution of the X-Via Platform as the Intelligent Portal of the State of Espírito Santo. The project includes the digitization, integration, and improvement of approximately *350 digital services,* designed to complement the state's public digital infrastructure, driving digital transformation through high-value deliveries to citizens and the administration.

It shall also comply with the guidelines set forth in the PGMO (WORKFORCE MANAGEMENT PROCEDURES (PGMO)ESInt.pdf) and PEPI (PEPI - Version after public consultation 21.12.2023.pdf) and AAS of the Program (AAS 20.08 Sent to BM.pdf), which are fundamental for the implementation of any activity.

6.1. Effort estimation and pricing

The estimate for the scope of this contract should be prepared considering the following main assumptions, which should support the Software Factory in formulating its proposal:

- **Volume of services:** Approximately **350 digital services** to be created or adapted for the X-Via Platform. The reference list at https://conectacidadao.es.gov.br/servicos TYPE: Digital presents 352 services that can be prioritized and implemented by the contractor.
- **Organizational scope:** At least 20 government departments and agencies, including areas of great complexity and volume such as Education, Finance, Health, Justice, Attorney General's Office, Mobility, and Infrastructure. More departments or entities may be included in the scope of the consultancy based on initial surveys and government demands.
- **Technological diversity:** A wide range of legacy systems with heterogeneous technologies that will need to be integrated.
- **Team organization:** Agile teams structured in *Release Trains*.
- **Project duration: 26 months.**

Approximately, these **350 services** are classified into categories of functional complexity that impact the development effort:

- **Low complexity:** About 5% of services (simple interfaces, basic business rules).
- **Medium complexity:** About 45% of services (moderate number of screens, specific business rules, limited integrations).
- **High complexity:** About 50% of services (rich interfaces, multiple screens and complex rules, as well as various integrations).

Category	% of portfolio	No. of services planned
High	50	175
Average	45	157
Low	5	18

TOTAL:	**350**

TABLE II - Estimated services x complexity

The scope of work covers the following service areas, which will be detailed in accordance with Service Authorizations (SA) and specific work plans:

6.2. Development and Evolution of Digital Products:

- **Prospecting and Design:** Identification and analysis of opportunities for digitizing public services, focusing on user experience and process optimization, using methodologies such as discovery workshops.
- **Implementation**: Development, customization, and deployment of new digital systems and services on the X-Via Platform, with a focus on intuitive, accessible, and inclusive interfaces. Services will be developed iteratively and incrementally, prioritizing continuous value delivery.

6.3. System Integration and Interoperability:

- **Connectivity**: Development of APIs and connectors for secure and fluid integration with State Government legacy systems, including digital identity and electronic process systems. The goal is to create a centralized interoperability layer without replacing existing departmental systems.

6.4. Artificial Intelligence Implementation and Improvement:

- **Intelligent Training:** Configuration and customization of Generative Artificial Intelligence components to improve service personalization, service automation, and semantic search, aiming for greater efficiency and interaction.

6.5. Technical Support and Solution Maintenance:

- **Operational Guarantee:** Provision of specialized technical support and maintenance activities to ensure the continuous operation and stability of the systems and services developed. This includes proactive incident management and the implementation of continuous improvements.

6.6. Knowledge Transfer and Training:

- **Training for Independence and Sustainability:** Development and execution of a comprehensive training and mentoring plan for technical teams and users of the State Government. This plan aims to ensure that the State acquires the internal capacity to use, manage, maintain, and evolve the X-Via Platform and the solutions implemented, promoting its independence and the long-term sustainability of digital services.

6.7 Scope Limitations

The following are not part of the scope of this contract:

- Activities related to the initial implementation of the *X-Via* Platform, which are already being performed by another company.
- Development of initial showcase services, which are already covered by another contract.

- Reformulation of administrative processes of state agencies not directly related to the new digital systems to be developed, or to improvements that may be developed in the interoperability layer.
- Formulation of public policies related to digital transformation.
- Acquisition of hardware or *software* infrastructure beyond that already provided for in the *X-Via* Platform license.
- Complete migration of data from legacy systems, limited to the integration of these systems with the new digital systems.

6.8 Approach and Scope Management:

The execution of Software Factory services will be modular and adaptive, with the scope managed through planning and delivery cycles. The Software Factory will be responsible for:

- **Develop a** detailed **Work Plan** and establish a project governance structure to ensure alignment with the State Government's objectives.
- **Manage development and support demands** flexibly, prioritizing the delivery of continuous value and adaptation to the emerging needs of public administration.

6.9 Coordination, Supervision, and Approval of Work

The Contractor's work will be monitored and coordinated by the State Subsecretariat for Digital Transformation (STD), which will be responsible for the technical approval of deliveries and for providing the information necessary for the execution of services. The UGP Program Management Unit may provide support and act as an interlocutor when designated by the STD, as may the Central Process Office (ECP).

The Contractor shall participate in periodic project monitoring meetings, the frequency of which shall be defined in the Work Plan, as well as extraordinary meetings when requested by the STD.

The STD will formally designate those responsible for supervising and approving the work, who will act as focal points for interaction with the Contractor during the execution of the contract.

7. LEGISLATION AND INFORMATION SECURITY

The Software Factory shall strictly observe and comply with all rules, standards, and legislation applicable to the development and operation of digital government platforms within the State of Espírito Santo and federal legislation. It shall present in its proposal its information security strategies that will be implemented in the software factory, as well as the technical controls with which it already has experience and which will be implemented in the development of the software. The complete regulatory references are detailed in **ANNEX I - Regulatory References.**

8. REPORTS AND EXECUTION

The Software Factory shall produce a set of deliverables, as required, throughout the execution of the contract, which materialize the provision of services and the achievement of the objectives of the Espírito Santo Mais Inteligente Program. These deliverables are organized by milestones or main categories, with a focus on results and added value to the State Government.

- **Block 1**

  - ***Planning of 350 services:*** *Initial organization of the digital services to be developed, based on categorization by impact and complexity (High, Medium, Low).*

- ***Discovery and design workshops (UX, AI):*** *Collaborative sessions to understand user needs and define functional and technical requirements, focusing on user experience and artificial intelligence.*

◆ **Block 2**

- ***50 High category services delivered:*** *First wave of deliveries focused on digital services with the greatest impact and use, prioritized by public value.*
- ***Setup of initial interoperability infrastructure (core APIs):*** *Implementation of the first connectors and APIs for secure communication between systems, ensuring integration with legacy systems.*
- ***Evolution of Generative AI on the https://portal.es.gov.br/ portal:*** *Development of a minimum viable version of complementary features based on generative AI, integrated with the existing chatbot solution on the es.gov.br portal, focusing on testing new capabilities, improving natural language understanding, intelligent recommendation of public services, and personalization of responses. Delivery should include performance evaluation, monitoring interface, and feedback mechanisms for continuous adjustment of the solution.*

◆ **Block 3**

- ***+60 services (High/Medium):*** *Expansion of the portfolio of services delivered, focusing on medium-impact items that add value to the citizen's journey.*
- ***Expansion of connectors with legacy systems:*** *Integrations with new systems from different agencies, expanding interoperability.*
- ***1st wave of internal training:*** *Training with civil servants and technicians on platform use, best practices for development, and security.*
- ***Deliveries with AI integrated into notifications or searches:*** *Adoption of AI in service channels, search engines, and services, with a focus on personalization, automatic responses, recommendations, and notifications.*

◆ **Block 4**

- ***50 new services:*** *Continuity in digital deliveries, maintaining the pace of production and focusing on coverage of the most strategic services.*
- ***Active monitoring and operational support system:*** *Activation of systems for tracking performance, availability, incidents, and metrics in real time.*
- ***Release of usage dashboards (UX/data):*** *Provision of management dashboards with usage indicators, response time, and user satisfaction.*

◆ **Block 5**

- ***+50 services:*** *New wave of deliveries focused on completing medium-priority services.*
- ***Expansion of AI: customization and automation:*** *Evolution of AI with a focus on adapting services to user profiles and automating internal processes.*
- ***Second wave of training and knowledge transfer:*** *Advanced training and start of systematic knowledge transfer to state government teams.*

- **Block 6**

  - ***Last 40% (140) of services (including those with lower priority)***
    Finalization of the total list of services, ensuring complete coverage of the initially planned backlog.
  - ***Full interoperability (consolidated backbone)***
    Completion of the integration layer between systems, ensuring fluidity and scalability for new services.
  - ***Impact and performance reports***
    Delivery of reports with results achieved, perceived improvements, and operational indicators.

- **Block 7**

  - ***Final delivery of the platform and stabilization***
    Finalization of the digital platform in its consolidated format, with technical support and operational stability.
  - ***Active support (operational and technical level)***
    Full support, monitoring, and incident response operation.
  - ***Audit of KPIs, metrics, and SLAs***
    Verification of performance indicators, delivery compliance, and fulfillment of service level agreements.

- **Block 8**

  - ***Completion of full knowledge transfer:*** *Completion of mentoring, training, and technical documentation delivery activities.*
  - ***Closure of evolution backlog:*** *Finalization of adjustments, corrections, and planned increments in the project cycle.*
  - ***Closure reports and lessons learned:*** *Consolidation of project learnings, final execution report, and recommendations for sustainability.*

OVERVIEW:

MONTHS	Key milestones	Scope	Observations
M1–M3	- Planning of 350 services - Discovery and design workshops (UX, AI)	**6.2 / 6.4 / 6.6**	Use of specialists and Agile Masters. Start of team structuring
M2–M6	- 50 **High** category services delivered - Setup of initial interoperability infrastructure (core APIs) - Evolution of the Portal's Generative AI https://portal.es.gov.br/	**6.2 / 6.3 / 6.4**	Start of intensive use of development hours
M5–M9	- +60 services (High/Medium)- Expansion of connectors with legacy systems- 1st wave of internal training- Deliveries with AI integrated	**6.2 / 6.3 / 6.4 / 6.6**	Agile Coach monitors the evolution of flows and metrics

	into chat or searches		
M8–M12	- 50 new services- Active monitoring and operational support system- Release of usage dashboards (UX/data)	**6.2 / 6.5 / 6.3**	Application of continuous improvements and adjustments based on feedback
M10–M15	- +50 services - Expansion of AI: customization and automation - Second wave of training and knowledge transfer	**6.2 / 6.4 / 6.6**	Intensive work by specialists and mentoring
M13–M18	- Last 40% of services (including those with lower priority)- Full interoperability (consolidated backbone)- Impact and performance reports	**6.2 / 6.3 / 6.5**	Refinement and consolidation of solutions
M16–M24	- Final delivery of the platform and stabilization - Active support (operational and technical level) - Audit of KPIs, metrics, and SLAs	**6.5**	Maintenance and support
M23–M26	- Completion of full knowledge transfer - Closure of evolution backlog - Closure reports and lessons learned	**6.6 / 6.5**	Transition to full operation by the State

TABLE V - Overview of work blocks and schedule

8.1 Form of presentation of reports

The results of the work shall be presented in the form of reports, containing analyses in explanatory texts, graphs, and tables (when necessary), which allow for their perfect understanding.
The formatting of the documents must comply with the following characteristics:

- Word processing program: compatible with *Microsoft Word*
- Font: Calibri
- Main title: Calibri, size 12, uppercase, bold
- Subtitle: Calibri, size 11, upper and lower case, bold
- Text: Calibri, size 11, justified
- Numbered pages
- Spacing: 1.15 between lines and one space between paragraphs
- Paper size: A4

Technical documentation relating to deliveries, meetings, and joint task execution will contribute to knowledge transfer and the continued use of deliveries.
At the end of the Contract, the Contractor shall deliver:

- Data models for digital tools
- Databases, in open format, including all related documentation
- Artifacts and products generated throughout the Contract
- Complete and documented source code

9. EXECUTION SCHEDULE

The deadline established for the aforementioned consultancy is 26 (twenty-six) months from the issuance of the Service Order, according to the Implementation Schedule suggested below:

Bloco	T1 (M1–M3)	T2 (M4–M6)	T3 (M7–M9)	T4 (M10–M12)	T5 (M13–M15)	T6 (M16–M18)	T7 (M19–M24)	T8 (M23–M26)
Bloco 1 – Planejamento & Design	✓							
Bloco 2 – Primeiras entregas & MVP IA	✓	✓						
Bloco 3 – Serviços Alta/Média + Capacitação		✓	✓					
Bloco 4 – Novos serviços + Monitoramento			✓	✓				
Bloco 5 – Expansão IA + Capacitação final				✓	✓			
Bloco 6 – Finalização serviços + Interop					✓	✓	✓	
Bloco 7 – Estabilização e Sustentação						✓	✓	✓
Bloco 8 – Transferência final & Encerramento								✓

TABLE VI - Schedule

10. QUALIFICATION OF THE KEY TEAM

10.1. KEY TEAM

The Software Factory shall allocate a key management team that is qualified and experienced, with expertise in the areas necessary for the execution of the services. This team will be responsible for the strategic, technical, and operational coordination of the work, ensuring the achievement of the contract objectives.

The key management team for this project will consist of the following profiles:

- **10.1.1. General Coordinator:**
  - **Key Responsibilities:** Manage the interface and relationship with the State Government, ensure compliance with the scope, schedule, and quality of deliveries, manage risks and resources, and strategically lead the Software Factory team.
  - **Minimum Requirements:**
    - Higher education in Engineering, Computer Science, Information Systems, Administration, or related areas.
    - Experience in managing complex information technology projects and programs, preferably in digital government or software factories.
  - **Desirable Requirements:**

- Postgraduate degree (minimum of 360 hours) or MBA in Project Management or Information Technology (IT).
- Master's degree (or 5 years of work experience) or Doctorate (or 10 years of work experience) in Management, Computing, or related fields.
- Experience in coordinating software factory contracts for the public sector.
- Experience coordinating projects in a SAFe (Scaled Agile Framework) environment.
- Valid certifications such as PMI-PMP® (Project Management Professional from the Project Management Institute) or PRINCE2® Practitioner (Projects IN Controlled Environments).

- **10.1.2. Senior/Master Solutions and Monitoring Architect:**
  - **Key Responsibilities:** responsible for leading the definition and evolution of the technical architecture of the solutions developed by the consultancy, ensuring adherence to X-Via Platform standards, security, scalability, modularity, and system performance. Acts as a technical reference for development teams, guiding critical decisions and ensuring best practices in software engineering, microservices, integration via APIs, and cloud infrastructure. You will also be responsible for supervising the technical monitoring of solutions, maintaining continuous integration and delivery (CI/CD) pipelines, monitoring uptime and service levels (SLA), and responding to incidents. This assignment ensures the resilience and operational stability of the products delivered, with the full performance of an FTE expected to comfortably serve the program's five squads.
  - **Minimum Requirements:**
    - Higher education in Information Technology (IT) or Engineering.
    - Advanced knowledge of software architecture (including microservices and cloud computing).
    - Experience in leading technical decisions in complex software development projects.
  - **Desirable Requirements:**
    - Master's degree (or 5 years of work experience) or Doctorate (or 10 years of work experience) in Computing or Software Engineering.
    - Experience in solution architecture for interoperability platforms, such as X-Road.
    - Experience in defining and managing CI/CD (Continuous Integration/Continuous Deployment) pipelines and monitoring solutions.
    - Valid certifications as a Cloud Solutions Architect (AWS – Amazon Web Services, Azure, or GCP – Google Cloud Platform) or TOGAF® 9 (The Open Group Architecture Framework).
    - Certification in Kubernetes, such as CKA (Certified Kubernetes Administrator) or CKAD (Certified Kubernetes Application Developer).

- **10.1.3. Senior/Master Data Scientist:**
    - **Key Responsibilities:** Lead the strategy and development of solutions based on data and generative artificial intelligence, define analytical and machine learning models, and ensure the quality and strategic use of data for the optimization of public services.
    - **Minimum Qualifications:**
        - Higher education with an analytical focus, such as Data Science, Computing, Applied Mathematics, or related areas.
        - Experience in Data Science and Artificial Intelligence (AI) projects.
    - **Desirable Requirements:**
        - Master's degree (or 5 years of work experience) or Doctorate (or 10 years of work experience) in Data Science or Artificial Intelligence.
        - Experience in projects that used Generative AI in the public sector.
        - Certification in Machine Learning or AI provided by a cloud provider (AWS, Azure, or GCP).
- **10.1.4. Senior/Master Cloud Engineer:**
    - **Key Responsibilities:** Lead the architecture, implementation, and optimization of cloud infrastructure for the development and operation of solutions, ensuring the security, scalability, availability, and cost efficiency of technological environments.
    - **Minimum Requirements:**
        - Higher education in Computer Engineering, Computer Science, or related areas.
        - Proven experience in cloud computing architecture and management, involving providers such as AWS, Azure, or GCP.
    - **Desirable Requirements:**
        - Proven experience in relevant projects using the three main cloud providers: AWS, Azure, and GCP.
        - Proven experience with IaC (Infrastructure as Code) tools, such as Terraform.
        - Professional or Specialty level certifications in AWS, Azure, or GCP.
- **10.1.5. Agile Coach Key Responsibilities:** Promote the adoption and maturation of agile practices and culture throughout the Software Factory organization and act as a mentor to teams and leaders, ensuring efficiency and adaptability in delivering value. Conduct discovery ceremonies for new products and services.
    - **Minimum Requirements:**
        - Higher education.

- Experience as an Agile Coach in large-scale projects.
- Advanced certifications in agile methodologies.

  - **Desirable Requirements:**
    - Experience as an Agile Coach in SAFe (Scaled Agile Framework) implementations.
    - Experience in conducting product discovery ceremonies, such as Lean Inception.
    - Certifications such as SAFe® Program Consultant (SPC), Certified Enterprise Coach (CEC), or Certified Team Coach (CTC). Higher education. Proven experience as an Agile Coach in large-scale projects.

- **10.1.6. Test/Quality Analyst:**
  - **Key Responsibilities:** Responsible for ensuring the functionality, stability, and quality of digital solutions developed by the Software Factory. Preparation and execution of functional, integration, and regression test plans, identification and recording of failures, validation of technical and business requirements, and ensuring compliance with quality standards throughout the development cycle. Facilitate and coordinate synchronization between multiple agile teams working together to deliver significant value increments *(Release Trains)*. Manage dependencies, risks, and impediments at the program level, ensuring continuous workflow and coordinating tests with the requester.
  - **Minimum Requirements:**
    - Higher education.
    - Experience in coordinating multiple agile teams.
    - SAFe RTE (Release Train Engineer) certification.
  - **Desirable Requirements:**
    - Testing certifications, such as CTFL (Certified Tester Foundation Level), CTAL (Certified Tester Advanced Level), or equivalent.
    - Proven experience with test automation tools, such as Selenium or Cypress.
    - Experience in facilitating Program Increment (PI) ceremonies from the SAFe framework. Proven experience in coordinating multiple agile teams. SAFe certification.
- **10.1.7. Agile Master Key Responsibilities:** Responsible for ensuring the smooth functioning of agile teams, facilitating ceremonies such as daily planning, review, and retrospective, removing impediments, and promoting collaboration and self-management. Works in partnership with the product owner to organize demand and work management and maintain a continuous flow of deliveries, using agile metrics (such as lead time and burndown) to guide continuous improvement.

- **Minimum Requirements:**
  - Higher education.
  - Experience as a Scrum Master or Agile Master.
  - Recognized agile certification, such as CSM (Certified ScrumMaster), PSM (Professional Scrum Master), or equivalent.
- **Desirable Requirements:**
  - Advanced certification as a Scrum Master, such as PSM II/III or A-CSM (Advanced Certified ScrumMaster).
  - Proven experience working as an Agile Master or Scrum Master in SAFe environments.
  - Additional certification in Kanban, such as KMP (Kanban Management Professional).

10.2. Support Team

The support team is at the discretion of the Consultant, in the number necessary to perform the services provided for in this TOR, and is not subject to individual evaluation.

The Contractor shall ensure that the professionals allocated have qualifications compatible with the functions they will perform, ensuring the technical capacity necessary for the proper performance of the activities under their responsibility.

Below is a suggested list of positions relevant to the scope:

- Data Scientist
- Data Engineer
- Machine Learning Engineer
- Prompt Engineer
- Cloud Architect
- Cloud Engineer - Development
- Cloud Engineer - Computing
- Cloud Engineer - Analytics
- Cloud Engineer - Security
- Cloud Engineer - FinOps
- Support Managers

11. TRANSITION AND CLOSURE

The transition and closure plan shall be prepared and executed by the Contractor at the end of the contract, or in the event of early termination, ensuring operational continuity, knowledge transfer, complete documentation, and orderly closure of the Contractor's activities.

11.1 Preparation of the Completion Plan

The Contractor shall submit to the Contracting Party, no later than 45 days prior to the completion of the services, a Transition and Closure Plan containing, at a minimum:

- Inventory of assets, deliverables, and technical components of the developed solution;
- Schedule for shutdown or gradual transfer of the operation;
- Plan for knowledge transfer to the Contracting Party's team or designated third parties;
- Procedures to ensure the security, integrity, and availability of applications and data;
- Strategy for migrating environments and repositories (if applicable);
- Plan for closing access, deactivating accounts, and securely removing sensitive data;
- Final list of pending issues and recommended corrective actions;
- Post-closure support plan (when contractually provided for).

11.2 Approval and Execution

The plan must be submitted to the Contracting Party for review and formal approval. Once approved, the Contractor must execute the actions described in accordance with the agreed schedule, with monitoring by the Contracting Party and formal records of each stage completed.

11.3 Knowledge Transfer

The transfer of knowledge aims to ensure that the state government's technical teams acquire autonomy in the use, administration, and evolution of the platform. The training will cover the following topics:

- Architecture and operation of the *X-Via* Platform
- Development of digital services on the platform
- Implementation of integrations with legacy systems
- Configuration and customization of Generative AI components
- Administration and monitoring of the platform
- Agile methodologies applied to the context of digital government

11.4 Training Characteristics

Location: Espírito Santo State Government facilities
Timeframe: Throughout the project, with emphasis on months 6 to 18, according to the implementation schedule
Number of trainees: up to 50 professionals from the state government's technical teams
Facilities: Provided by the GOVERNMENT OF THE STATE OF ESPÍRITO SANTO
Equipment: Provided by the GOVERNMENT OF THE STATE OF ESPÍRITO SANTO, with minimum specifications provided by the Contractor
Duration: A total of 240 hours of training, divided into modules of 20 to 40 hours each
Reception and Coffee Break: Provide participant registration and 1 coffee break for every 4 continuous hours of training, calculated based on a class of up to 50 people.

Type of Material	Quantity per participant	Remarks
Technical Manuals with Practical Guides	1 per module	Technical reference content by topic covered and procedures, workflows, best practices, and operational guidelines.
Digital version of materials	1 digital repository with all content	Available electronically with remote access and updates. Individual and institutional access

TABLE VII - Training materials

11.5 Compliance with Lender Requirements

The transition and closure process must comply with World Bank standards and guidelines, especially with regard to project sustainability, asset reusability, information security, and operational continuity, as applicable.

11.6 Post-completion support

The Contractor shall maintain, for a minimum period of 120 days after the conclusion of the contract, a communication channel to support operational questions or technical clarifications related to the transition process, at no additional cost, except when formally agreed, available Monday through Friday, from 8 a.m. to 6 p.m.

12. INPUTS TO BE PROVIDED

By the CONTRACTING PARTY

- Access to the *X-Via* Platform acquired by the Government of the State of Espírito Santo
- Access to legacy systems for integration purposes
- Technological infrastructure at PRODEST for hosting the solution
- Existing documentation of current systems
- Physical space for face-to-face meetings when necessary
- Access to the Integrated Corporate Network for authorized professionals
- Information on business processes relevant to service development
- Program Operating Manual - MOP
- Stakeholder Engagement Plan - PEPI
- Environmental and Social Commitment Plan - PCAS
- Environmental and Social Assessment - ESA
- Labor Management Plan - LMP
- General Data Protection Law (LGPD) No. 13,709/2028
- Law No. 12,001/2023
- Decree No. 5,682-R, dated April 17, 2024.

12.1. Inputs to be Provided by the Software Factory:

The Software Factory will be responsible for providing, at its own expense and under its management, all the technological, material, and human resources necessary for the perfect execution of the services, including:

- Workstations, *software*, connectivity, and other technical support resources compatible with the project requirements and the State Government's information security guidelines.
- A secure and dedicated cloud development environment, which must be fully virtualized and remotely accessible in a secure manner. This environment should facilitate collaboration and include management, monitoring, *backup*, and disaster recovery tools.
- The cloud platform to be used will be proposed by the Software Factory and subject to approval by the State Government.

13. PLACE OF PERFORMANCE OF SERVICES

The services may be performed, preferably, at the Contractor's headquarters or remotely. Remote work must ensure full communication, security, productivity, and quality of deliveries, according to the established schedule and milestones.

However, requirements gathering activities and in-person alignment meetings may be required at the facilities of secretariats or municipalities served throughout the program, all in the metropolitan region of Vitória/ES. These in-person meetings will be agreed upon in advance, with a minimum of five (5) business days' notice.

13.1 Responsibilities for supervision and acceptance of services

The Contractor will operate under the coordination and monitoring of the State Subsecretariat for Digital Transformation (STD), which will appoint a commission to oversee the services and approve deliveries. The Government of the State of Espírito Santo will appoint a Service Manager who will be responsible for the operational monitoring of the contract and a Contract Supervisor who will act on the formal aspects of contract execution.

13.2 Payments for Services

The consultancy will be carried out under a Time-Based contract, with payments made upon presentation of the Reports described in section 8 of these ToR relating to the activities actually requested and performed in each period. The amounts will be calculated based on the actual hours worked by the team during the various phases of the Contract's execution and the actual reimbursable (operational) costs.

The activities are set out in blocks in section 8 of these ToR.

Payment will be made upon approval of the same, within a maximum period of thirty (30) days.

13.3 Reimbursable Expenses

Expenses incurred in the performance of the intrinsic work covered by this TOR shall be borne by the contracted Consulting Company and shall be classified as reimbursable expenses for reimbursement purposes, provided that they are incurred, effective, and inherent to the performance of the Services. Such expenses may include, for example, airfare, accommodation, transportation, meals, printing, among others, and must be justified for the provision of services.

14. PROVISIONS ON ENVIRONMENTAL AND SOCIAL STANDARDS.

The contractor must comply with the guidelines of the World Bank's Environmental and Social Framework (ESF) and Brazilian environmental legislation, ensuring compliance with Environmental and Social Standards (NAS), especially with regard to impact prevention, inclusion of vulnerable groups, and promotion of sustainability. The services provided shall, where applicable, include the assessment of socio-environmental impacts and the adoption of mitigation measures, in accordance with the commitments made by the Borrower in the Loan Agreement.

Given the nature of the activities of a software factory, the contractor shall adopt sustainable practices that minimize indirect impacts, such as energy consumption, waste generation—especially electronic waste—and excessive use of materials. Criteria for energy efficiency, waste reduction, and accessibility must be observed, promoting the inclusion of people in vulnerable situations, in accordance with the project's environmental and social management principles.

Responsible for Drafting and Reviewing:

(Signed Electronically)

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ANNEX I - Regulatory References

Federal Legislation

D12069 Provides for the National Digital Government Strategy and the National Digital Government Network – Rede Gov.br and establishes the National Digital Government Strategy for the period from 2024 to 2027. And SGD/MGI Ordinance No. 4,248/2024: establishes recommendations for achieving the objectives of the National Digital Government Strategy for the period from 2024 to 2027.

ORDINANCE SGD_MGI No. 4,248, OF JUNE 26, 2024 - ORDINANCE SGD_MGI No. 4,248, OF JUNE 26, 2024 - DOU - National Press.pdf Establishes recommendations for achieving the objectives of the National Digital Government Strategy for the period from 2024 to 2027.

L13146 Establishes the Brazilian Law for the Inclusion of Persons with Disabilities.

L10436 Provides for Brazilian Sign Language and its support and dissemination by the government in general and public service concessionaires.

D11856 Establishes the National Cybersecurity Policy.

D9756 Establishes the single portal "gov.br" and provides for the rules for the unification of the federal government's digital channels.

L6938 National Environmental Policy.

L14129 Provides for principles, rules, and instruments for Digital Government.

L13460 Provides for the participation, protection, and defense of the rights of users of public services provided by the public administration.

L13709 General Personal Data Protection Law (LGPD).

L12527 Access to Information Law (LAI).

L14063 Provides for the use of electronic signatures in interactions with public entities.

D5296 General rules for promoting accessibility in buildings, furniture, spaces, and urban equipment.

D12198 Establishes the Federal Digital Government Strategy for the period from 2024 to 2027 and the National Data Infrastructure, within the scope of the agencies and entities of the direct, autonomous, and foundational federal public administration.

D10046 Provides for governance in data sharing within the federal public administration.

L14133 Law on Bidding and Administrative Contracts.

SGD/ME Normative Instruction No. 1, of April 4, 2019 - compiled version - July/2022 — Digital Government provides for the process of contracting Information and Communication Technology solutions.

Resolution_177_DOCICP05_compiled.pdf Establishes guidelines and technical standards for the issuance of digital certificates.

DEL5452 Consolidation of Labor Laws.

State Legislation

Law No. 9,871/2012 Regulates access to information within the State of Espírito Santo.

Decree 5352 2023 of Espírito Santo ES Provides for the classification of consumer goods purchased to meet the demands of state public administration structures.

DECREE-No.-4576-R-Regulates-CONSIGNMENTS.pdf Regulates payroll consignments for civil servants in the State of Espírito Santo.

Decree 4505 2019 of Espírito Santo ES State Information and Communication Technology - PETI.

Information Security Policy PRODEST Information Security (PSI) and Privacy Policies.

Technical Standards and Norms

SECULT - Visual Identity Manual Visual Identity Manual of the Government of the State of Espírito Santo.

ABNT NBR ISO/IEC 27001 NBRISO/IEC27001 Information security Information technology — Security techniques — Information security management systems.

ABNT ABNT NBR ISO IEC 27002 Information Technology — Security Techniques — Code of Practice for Information Security Management Information Technology — Security Technical — Code Of Pr: Free Download, Borrow, and Streaming: Internet Archive Code of practice for information security controls.

ABNT NBR ISO/IEC 27701 NBRISO/IEC27701 Security techniques — Extension of ABNT NBR ISO/IEC 27001 and ABNT NBR ISO/IEC 27002 for information privacy management.

ABNT NBR ISO/IEC 29110-4-1 NBRISO/IEC29110-4-1 Software and systems engineering — Life cycle profiles for micro-organizations.

Electronic Government Interoperability Standards

eMAG - Accessibility Model in Electronic Government

Web Standards in Electronic Government e-PWG - Usability Primer

Specific Project Guidelines

The documents below are available at the link: https://secti.es.gov.br/es-mais-inteligente

PGMO - Workforce Management Procedures (06/25/24), especially items 2.3. Main risks - office environments (Administrative risks)

PCAS - Negotiated Environmental and Social Commitment Plan - Unofficial Translation (04.18.2024)

PEPI - Stakeholder Engagement Plan (06/25/24)

AAS - Environmental and Social Assessment PRODEST - Component 1 (05.07.25)

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