
**DEVELOPMENT AND DEPLOYMENT OF CITIZEN SECURITY PLATFORM FOR
MUNICIPALITIES
RG – T4208
TERM OF REFERENCE**

1. Background Information

The Inter-American Development Bank (IDB) is the main source of multilateral financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice, and technical assistance to its borrowing member countries' public and private sectors.

The Institutions for Development Sector (IFD) and the Knowledge, Innovation, and Communications sector (KIC) are requesting the complete development of the Safe Cities Platform, a digital solution that aims to assist local governments in the design and implementation of Citizen Security Municipal Plan built from local data and evidence-based policy.

IDB's Safe Cities platform is a digital solution that seeks to assist city governments in the structuring of comprehensive plans for municipal security management by equipping them with the tools and knowledge that is required for approaching safety issues through a preventive, proactive and micro territorial-based approach.

The platform has been prototyped through a user-centered design process to provide cities with a planning tool that integrates data from different government agencies to offer a 360° view of the security-related "problems" (crimes such as homicides and thefts) and a series of risks and/or protective factors that can act as potential "causes" of these problems (social vulnerabilities such as school dropout).

The platform's MVP includes the first version of a "diagnosis tool", a prioritization functionality, as well as the pathway to connect these problems with probable causes, which are recommended to the users according to IDB's literature review on citizen security social determinants.

Data collection on security "problems" and its "probable causes" has started in the municipality of Florianópolis. Besides this diagnosis tool, the platform will also offer city officials with a tool that will allow them to craft tailored citizen security plans that rely on evidence-based policies extracted from IDB's knowledge base.

The design and conceptualization of this MVP involved representatives from different agencies from the city of Florianópolis, including public security, education, health, and social protection, IADB citizen security specialists, public security experts, and a digital platform vendor.

This Terms of Reference outline the activities and responsibilities of a firm or organization that will help us to fully develop the mature solution to be implemented in Florianópolis. The ToR covers the full platform's development, testing, and launching, using a mix of waterfall and agile approaches with partial releases of functionalities during the project until the entire platform is deployed.

The platform is further described in this [video](#) and in this [presentation](#).

2. Services to be Performed

2.1 Purpose

Fully develop IDB's digital "Safe Cities" platform in Python (whole architecture, front and back-end development), based on the platform's MVP, which is already developed, mockups (presented in Figma), and the roadmap document. This consists of the platform's back-end and front-end development, including infrastructure setup, scalable data ingestion, and processing models to prioritize problems, match problems with probable causes, and suggest possible evidence-based solutions. We also require integration with a geo-referenced data visualization tool and front-end design with interactive features based on user experience best practices applied to all product components.

2.2 Scope

The platform will contain six main functionalities: (I) Integration of georeferenced data from public security, social services, health, education, city infrastructure, and other key public policy sectors; (II) A data-based diagnosis of the municipality's crime and violence problems and probable causes; (III) Suggestions of evidence-based policies from around the world that are best suited for the municipality according to its diagnosis (the policies are already mapped); (IV) Automatic structuring of the municipality's public security plan according to choices made through the platform's steps; (V) Monitoring of municipal security plans; (VI) Systematization of data security and privacy protocols and ethical assessment of the platform's output.

Work alongside the IDB Website Project team to ensure all Bank regulations and requirements are followed during the website's development, testing, and launching.

REPORTS / OUTPUTS:

2.3 Key Activities

Key activities	Description
Kickoff	Team identification and initial coordination meetings
Context and coordination	Understand the institutional context and limitations with IDB and its partners.
Sprints definition	Review the prototype and all related documents and define the sprints' scope. Current roadmap.

Data gathering, development of data treatment models, and analytics	<p>Gathering of additional pertinent crime ("problems") and vulnerability ("causes") data from the secretaries of security (municipal and state), health, education, social protection, urbanism, and state penitentiary administration and tutelage council from Florianópolis.</p> <p>** most indicators are already mapped</p> <p>** data collection has started in Florianópolis</p> <p>** data sharing approvals are already structured in Florianópolis.</p> <p>Development of data treatment models replicable for future updates and development of analytics tools to generate intelligence for the platform.</p>
Platform intelligence	<p>Development of intelligence to connect public security problems with probable causes according to data and probable causes with best-suited programs, according to data and evidence database.</p> <p>Development of public security plan that considers pre-inputted constraints, such as budget.</p>
Platform integrations	<p>Define and develop APIs to integrate the platform with other systems such as georeference software, visualization tools, and Microsoft suite.</p>
Data Integration/ Interfaces	<p>Define API contracts to integrate with municipal internal systems.</p> <p>Implementation of mock data API for the data interfaces while they are being developed. Implement performing queries to the needed API's</p>
User interface development	<p>Review, design, and develop in Python, front-end interface for the following user functionalities:</p> <ul style="list-style-type: none"> - Identify and prioritize citizen security problems - Identify and prioritize causes for these problems - Relate evidence-based solutions and programs with problems and causes - Structure and monitor municipal security plans <p>following current design guidelines and look and feel.</p>

2.4. Project Schedule and Timeline

Timelines will be determined through the work order and associated bids by providing proposed work plans and total costs for that work order. Over the contract execution period, it is expected that there will be approximately six to twelve orders a year. Where shorter timelines are required, the winning firm will be able to put multiple consultants and/or experts on the project task.

2.5 Expected Deliverables

We expect the following reports on the project:

Key report	Description
Project Plan	Work plan detailing activities with their dependencies, timeline, team involved, as well as the objectives of each activity and KPIs proposal.
Sprint plans	Detailed description of the developments and changes to be conducted during the sprint
Sprint retrospective reports	Upon completion of the sprint, report of the result of activities.
Test cases, automated tests, and Testing results	Full documentation of test cases, automated cases, and test results.
Metrics and dashboard design	Metrics proposed including data sources and frequency. Mockup of the dashboard.
Technical Documentation & user training videos	Solution specifications and configuration document with complete detail of the configurations made to the infrastructure, CMS and analytics.

The key deliverables for the project are:

Product 1:

- Data models and integrations approved by product owner
- Recommendation algorithms documented and approved by product owner
- Working and tested APIs approved by product owner

Product 2:

- Validated mock-up design of front-end
- Front-end interfaces approved by product owner:
 - Citizen security problems
 - Causes for these problems

Product 3:

- Validated mock-up design of front-end
- Front-end interfaces approved by product owner:
 - Evidence-based solutions and programs with problems
 - Structuring of municipal security plans

Product 4:

- Validated mock-up design of front-end
- Front-end interfaces approved by product owner:
 - Monitoring of municipal security plans

Product 5:

- Testing documentation of the full solution (penetration test, user acceptance test, functional test), approved by users and product owner

- Final documentation and deployment of the project in PROD environment.

The products must achieve complete documentation of the digital platform, including all integrations, evidence of successful testing, fully functional deployment.

The firm will invoice the agreed fee accumulated each month. The payment schedule is divided into three payments:

2.6. Professional profiles of the consulting firm

2.6.1. It will be expected that winning consulting firms will have the following:

- Proved expertise in the design of digital platforms for the public or private sector
- Proved expertise in the development of digital platforms for the public or private sector
- Proved expertise with data gathering, treatment and analytics, as well as the development of scalable data models
- Proved expertise in development of AI models
- Active presence in IDB borrowing member countries previous to the first work order

2.6.2. In a Proposal, firms must submit experience in the types of services outlined in the Framework Agreement and identify countries in the LAC region where this experience has taken place.

2.7. Reporting

2.7.1. Unless otherwise notified by the Bank, Ana Laura Sposito (anasp@iadb.org) of KIC/ISU, shall act as the Bank's designated representative regarding this Agreement. The consultant shall report to the Project Team Lead, Rodrigo Serrano (rodrigose@iadb.org) of IFD/ICS and Project Member Julia Dias (juliav@iadb.org) of KIC/ICD.

2.8. Administrative Control:

2.8.1. Designated Representatives, Notices and Requests: The Consultant and the Bank shall give written notice of their respective representatives authorized to act pursuant to this Agreement. Such notice shall be given upon execution of this Agreement and from time to time thereafter upon each party's designation of other designated representatives. Any notice or request required to be given or made under this Agreement shall be deemed to have been duly given or made when delivered by hand, mail or fax to the party's designated representative at the address specified below:

Consultant: xxxxxxxxxxxx

Address, country

Telephones #

Attention: Mr. xxx,

Email: xxxxx

Bank: INTER-AMERICAN DEVELOPMENT BANK

1300 New York Avenue, N.W.

Washington, D.C. 20577

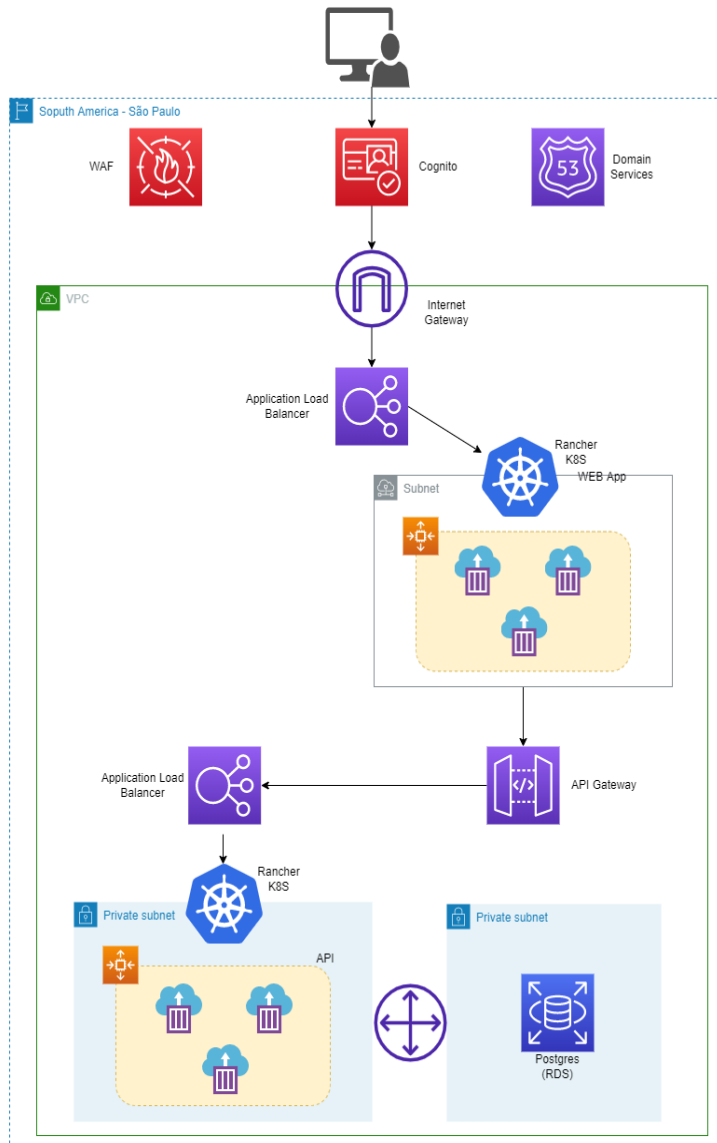
Telephone # (202) 942-8224

Fax: (202) 623-2101

Attention: Mrs. Ana Laura Sposito, Email: anasp@iadb.org

Mr. Rodrigo Serrano, Email: rodrigose@iadb.org

1. Annex A: Current architecture



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3. Background Information

The Inter-American Development Bank (IDB) is the main source of multilateral financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice, and technical assistance to its borrowing member countries' public and private sectors.

The Institutions for Development Sector (IFD) and the Knowledge, Innovation, and Communications sector (KIC) are requesting the complete development of the Safe Cities Platform, a digital solution that aims to assist local governments in the design and implementation of Citizen Security Municipal Plan built from local data and evidence-based policy.

IDB's Safe Cities platform is a digital solution that seeks to assist city governments in the structuring of comprehensive plans for municipal security management by equipping them with the tools and knowledge that is required for approaching safety issues through a preventive, proactive and micro territorial-based approach.

The platform has been developed through a user-centered design process to provide cities with a planning tool that integrates data from different government agencies to offer a 360° view of the security-related "problems" (crimes such as homicides and thefts) and a series of risks and/or protective factors that can act as potential "causes" of these problems (social vulnerabilities such as school dropout).

The platform contains six main functionalities: (I) Integration of georeferenced data from public security, social services, health, education, city infrastructure, and other key public policy sectors; (II) A data-based diagnosis of the municipality's crime and violence problems and probable causes; (III) Suggestions of evidence-based policies from around the world that are best suited for the municipality according to its diagnosis (the policies are already mapped); (IV) Automatic structuring of the municipality's public security plan according to choices made through the platform's steps; (V) Monitoring of municipal security plans; (VI) Systematization of data security and privacy protocols and ethical assessment of the platform's output

This Terms of Reference outline the activities and responsibilities of a firm or organization that will help us implement the platform, which has been deployed in Florianópolis/BR, in a second city in Chile/México and consolidate it as a product scalable to medium size cities throughout Latin America and the Caribbean. This ToR covers the full platform's translation, adaptation, and implementation in a second city in Chile/México, as well as the consolidation of the platform as a scalable product.

The platform is further described in this [video](#) and in this [presentation](#).

2. Services to be Performed

2.1. Purpose

Fully implement Safe Cities in a city in Chile/México and consolidate it as a product scalable to medium size cities throughout Latin America and the Caribbean.

2.2. Scope

Implementation of Safe City platform in a second city in Chile/México: (i) the adaptation of the platform to a second city's context and data; (ii) the platform's full implementation in that city; (iii) an evaluation of the effectiveness, usability, and bottlenecks of the platform and all its components; (iv) the consolidation of a product and business model that is scalable to medium size cities throughout Latin America and the Caribbean through IDB's loans, technical cooperation, and fee for services.

Work alongside the IDB Website Project team to ensure all Bank regulations and requirements are followed during the website's development, testing, and launching.

REPORTS / OUTPUTS:

2.3. Key Activities

Key activities	Description
Kickoff	Team identification and initial coordination meetings
Context and coordination	Understand the institutional context and limitations with IDB and its partners.
Sprints definition	Review the product and all related documents and define the sprints' scope.
Data gathering, development of data treatment models, and analytics	Gathering of pertinent crime ("problems") and vulnerability ("causes") data from included but not limited to secretaries of security (municipal and state), health, education, social protection, urbanism, and penitentiary administration and tutelage council from the second city. ** Indicators are already mapped for the first city, but might have to be adapted to the second city Adaptation of current data treatment models that generate intelligence for the platform might be necessary.
Platform intelligence	Review and possible adaptation of intelligence to connect public security problems with probable causes according to data and probable causes with best-suited programs, according to data and evidence database.
Platform integrations	Adaptation to APIs that integrate the platform with other systems might be necessary.

Data Integration/ Interfaces	Define API contracts to integrate with municipal internal systems.
User interface development	<p>Translate to Spanish, review, and adapt in Python, front-end interface for the following user functionalities:</p> <ul style="list-style-type: none"> - Identify and prioritize citizen security problems - Identify and prioritize causes for these problems - Relate evidence-based solutions and programs with problems and causes - Structure and monitor municipal security plans <p>following current design guidelines and look and feel.</p>

2.4. Project Schedule and Timeline

Timelines will be determined through the work order and associated bids by providing proposed work plans and total costs for that work order. Over the contract execution period, it is expected that there will be approximately six to twelve orders a year. Where shorter timelines are required, the winning firm will be able to put multiple consultants and/or experts on the project task.

2.5. Expected Deliverables

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Metrics and dashboard design	Metrics proposed including data sources and frequency. Mockup of the dashboard.
Technical Documentation & user training videos	Solution specifications and configuration document with complete detail of the configurations made to the infrastructure, CMS and analytics.

The key deliverables for the project are:

Product 1:

- Data gathering

Product 2:

- Translation to Spanish of product's back-end and documentation
- Adaptation of current data treatment models approved by product owner
- Review and possible adaptation of recommendation algorithms documented and approved by product owner
- Review and possible adaptation of APIs approved by product owner

Product 3:

- Translation, review, and adaptation of front-end interfaces approved by product owner:
 - Citizen security problems
 - Causes for these problems
 - Evidence-based solutions and programs with problems

Product 4:

- Translation, review, and adaptation of front-end interfaces approved by product owner:
 - Structuring of municipal security plans
 - Monitoring of municipal security plans

Product 5:

- Testing documentation of the full solution (penetration test, user acceptance test, functional test), approved by users and product owner
- Final documentation and deployment of the project in PROD environment.

The products must achieve complete documentation of the digital platform, including all integrations, evidence of successful testing, fully functional deployment.

The firm will invoice the agreed fee accumulated each month. The payment schedule is divided into three payments:

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- Proved expertise in the development of digital platforms for the public or private sector
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- Proved expertise in development of AI models
- Active presence in IDB borrowing member countries previous to the first work order

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Consultant: xxxxxxxxxxxx

Address, country

Telephones #

Attention: Mr. xxx,

Email: xxxxx

Bank: INTER-AMERICAN DEVELOPMENT BANK

1300 New York Avenue, N.W.

Washington, D.C. 20577

Telephone # (202) 942-8224

Fax: (202) 623-2101

Attention: Mrs. Ana Laura Sposito, Email: anasp@iadb.org

Mr. Rodrigo Serrano, Email: rodrigose@iadb.org

TERMS OF REFERENCE FOR KOREAN CONSULTANT

INNOVATION AND CREATIVITY DIVISION KNOWLEDGE, INNOVATION AND COMMUNICATION SECTOR

Background:

Established in 1959, the Inter-American Development Bank (“IDBG”, “IDB” or “Bank”) is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

The Innovation and Creativity Division (“ICD”) supports strengthening the Bank’s internal capacities to innovate through raising awareness, building capacity, and developing innovative and creative products to development challenges. We collect and disseminate lessons learned from innovative practices; design and implement capacity building products for IDBG teams, while leveraging strategic partnerships with the private sector and academia to catalyze innovation; and facilitate the design of innovative products which have the potential to be replicable and scalable in the Latin American and Caribbean region through the adoption of disruptive technologies and creativity.

ICD is supporting - technically and financially – IDB’s citizen security and justice team from the Innovations in Citizen Services Division in developing IDB’s Safe Cities platform. The platform is a digital solution that seeks to assist city governments in the structuring of comprehensive plans for municipal security management by equipping them with the tools and knowledge that is required for approaching safety issues through a preventive, proactive and micro territorial-based approach.

The platform has been prototyped through a design thinking process to provide cities with a diagnosis and planning tool that integrates data from different government agencies to offer a 360° view of the security-related "problems" (crimes such as homicides and thefts) and a series of risks and/or protective factors that can act as potential "causes" of these problems (social vulnerabilities such as school dropout). We are currently developing the platform for the city of Florianopolis, as well as preparing the technology models to scale throughout Latin America and the Caribbean.

The support of Korea, which is well known for its well-developed innovation and technology efforts as well as its safety indicators, will be essential to guarantee the platform’s success, both in terms of the quality of the platform, as well as the evidence-based solutions it suggests.

Consultancy objectives:

- Further strengthen the ongoing collaboration between Korea and IDB, through knowledge sharing, communication, and administrative support.
- Support and participate in planning and coordination workshops between Korea, IDB and project partners.
- Support the development and implementation of Safe Cities by supporting the data analysis pillar of the platform, which includes:
 - Gathering of crime ("problems") and vulnerability ("causes") data, working with the cities’ counterparts to identify the databases that contain data needed, help them clean and anonymize these databases, integrate databases, and load them into the system.

- Development of data cleaning and treatment models and ETLs.
- Development of scalable data ingestion models
- Setting up of data infrastructure
- Development of recommendation algorithms in Python to link crime problems to possible causes and causes to possible solutions, which are contained in a knowledge base in the platform.
- Update of the diagnosis model for the problems (crimes) and develop one for the causes (quantitative models to generate prioritization insights)
- Creation of mechanisms to avoid inducing bias when prioritizing problems, causes, and programs
- Assist other related works to achieve the main objectives.

What you'll need:

Citizenship: You are a citizen of Korea.

Consanguinity: You have no family members (up to fourth degree of consanguinity and second degree of affinity, including spouse) working at the IDB Group.

Education: Bachelor's Degree (master preferable) in computer science, economy, mathematics, statistic, or related areas.

Experience: A minimum of three years of experience in data gathering, development of data treatment models, analytics projects, SQL Server and RDS, data visualization tools, and website scripts.

Languages: Proficiency in English and Spanish is required. Portuguese is a plus.

Opportunity Summary:

- **Type of contract and modality:** Full Time Consultant -
- **Length of contract:** - 24 months
- **Place of work:** IDB headquarters, Washington, DC -, USA.
- **Responsible person:** Lorena Cano (KIC/ICD)
- **Requirements:** You must be a citizen of Korea and have no family members currently working at the IDB Group.

Our culture:

Our people are committed and passionate about improving lives in Latin-America and the Caribbean, and they get to do what they love in a diverse, collaborative and stimulating work environment. We are the first Latin American and Caribbean development institution to be awarded the EDGE certification, recognizing our strong commitment to gender equality. As an employee you can be part of internal resource groups that connect our diverse community around common interests.

Because we are committed to providing equal opportunities in employment, we embrace diversity based on gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, and religion. We encourage women, Afro-descendants and persons of indigenous origins to apply.

About us:

At the IDB, we are committed to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their

decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.