



INFRADINAMICA

Transport Division
Infrastructure and Energy Sector

**A digital and collaborative solution for
remote supervision**

INFRADINAMICA is a collaborative platform developed by the INTER-AMERICAN DEVELOPMENT BANK (IDB), to rapidly obtain data for decision making processes and to allow efficient and dynamic project supervision, achieving cost and time efficiencies. Construction project supervisors and/or owners would not have to be on site to accurately monitor progress, thereby minimizing COVID-19 contagion risk.



Platform benefits



Instant access to information on infrastructure projects to analyze management efficiency.



Improve control of public spending on projects by governments in LAC.



Georeferencing of data to visualize progress of works.



Forecast data behaviors to create alerts to improve the implementation of work.



Improve coordination and communication between project stakeholders.



High level of efficiency when completing development projects for vulnerable communities

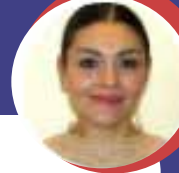


With the adoption of **INFRADINAMICA** users will achieve greater efficiency in decision making, risk control and transparency of processes.

Our team



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for IDB in Costa Rica



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Transport sector analyst
for IDB in HQ-Washington



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Transport sector specialist
for IDB in Colombia



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Operations consultant
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Communication consultant
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INFRADINAMICA was designed by a multidisciplinary team of civil engineers, technology and social communication experts, with broad skills in planning, execution, supervision and operations of public infrastructure projects. The IDB is an institution with more than 60 years in development projects in Latin America and the Caribbean (LAC).

Key issues in Infrastructure Projects (Roads)

In LAC typical infrastructure projects exceed timescales by **20%** and are up to **80%** over budget

This **increases public spending** by governments and causes delays and non-compliance of public works

The **excessive use of paper** combined with a lack of digitization of processes for development projects have **environmental and economic impacts on the projects**



9 out of 10 transportation projects cost, on average, **28%** over original budgets

The combined effects of project inefficiencies impact on the **social and economic wellbeing** of communities and the region

In LAC almost **80%** of the causes of time lost in **project management** can be avoided through greater control mechanisms and the use of new technologies



PRODUCT OVERVIEW



**Shared
Information
Platform**



IFRADINAMICA:
app for public
transport
Previously
developed

4 Technologies
1 Platform and
2 Applications

**Drones and
APP:**
measurement
of project
progress



Crowdsourcing:
contractor
participation,
supervision,
agency and
IDB



INFRA DINAMICA offers national infrastructure agencies a service portfolio for:

- Remote monitoring system for public works
- Latin America and the Caribbean infrastructure data sets
- Community interaction system for public works

Management



Individuals



Web Platform

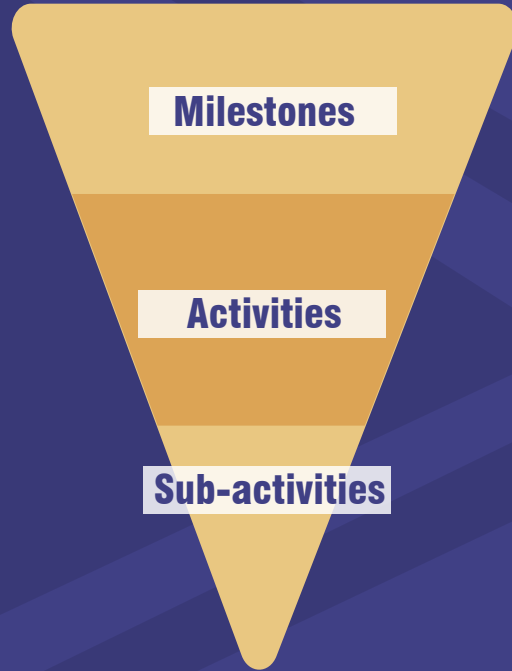


How **INFRADINAMICA** works

Prioritization of Activities

Definition of Milestones

Indicators of Progress



Date of work report

Activity Duration

Completion time

Progress Indicator =

Performance Indicator =

Amount achieved to date
Contract amounts

Amount achieved to date
Theoretical amount to date



INFRADINAMICA application

La Paz - El Alto highway (Bolivia)

February 2016



PROJECT COMMENCED



February 2017



CHANGE IN THE SCOPE:

Tendered Project considered the replacement of 2,875 slabs: 30% of the highway

TECHNICAL WEAKNESS IN THE SUPERVISION

Late surveys identify the need to replace 100% of the slabs

2017-2018



CURRENT SITUATION

Completed the contract for supervision

ROLE OF THE BANK

Bank support becomes crucial after design changes and reviews of the work



Drones:

measurement of project progress

Infodynamics:

app for public transport
Previously developed



Shared Information Platform

Crowdsourcing:

contractor participation, supervision, agency and IDB

SWOT ANALYSIS



S TRENGTHS

- MVP is working
- MVP is scalable
- IDB team knowledge of public works construction in LAC

*MVP: Minimum viable product



W EAKNESSES

- IDB is not a research or commercial institution
- IDB internal team lack technical resources to operate and maintain the MVP for long periods, but the system requires continuous monitoring to maximize efficiencies and to review privacy politics



O PPORTUNITIES

- Construction sector requires significant technological improvements to reduce overruns and delays.
- Due to COVID-19 almost all public works agencies in LAC, are demanding remote monitoring systems
- Other development banks in the LAC region are looking for remote monitoring system solutions.



T HREATS

- Construction work team's refusal to change
- Institutional weakness of LAC public works agencies

There are similar commercial solutions in the market but they are expensive and do not have all the features that **INFRADINAMICA** offers, therefore they are not direct competitors. Additionally, there are other projects, such as **ANIscoPIO, Aerologix and Smartloo Platform** that could have similar goals as **INFRADINAMICA**, but their targets sectors and markets are different. Nevertheless the following table shows the differences between **INFRADINAMICA** and the competition

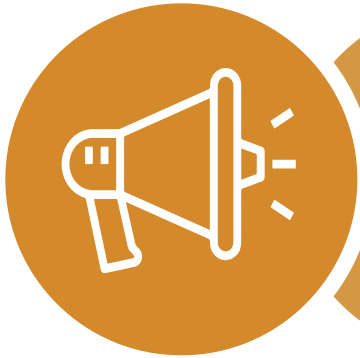


Features	Comercial Solutions	ANIscoPIO	Aerologix	Smartloo Platform	INFRADINAMICA
Lowest cost	X	X	X	X	✓
Minimum Value Product in operation	X	X	X	X	✓
Allows full real-time remote monitoring of works	✓	X	X	X	✓
Facilitates concerns and communications from communities	X	X	X	X	✓
It is a modular design capable of connecting with other infrastructure information systems	✓	ND	ND	ND	✓
It is scalable to other countries	X	X	X	X	✓
It is compatible with database systems	✓	ND	ND	ND	✓
Provides information from cameras, telephones, and drones	✓	ND	ND	ND	✓
Output data-sets can be used in Big Data or AI analysis	✓	ND	ND	ND	✓

The IDB has 4 official languages: Spanish, English, French and Portuguese enabling a global approach to clients



BUSINESS MODEL



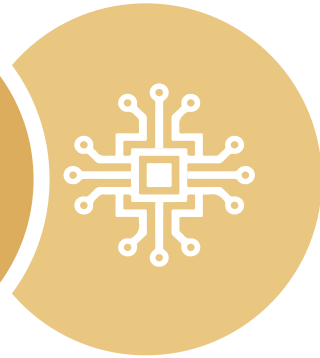
MARKETING



TRAINING



ASSESSMENT



TECHNOLOGY





MARKET SIZE

100%

26 countries in which the IDB group supports **social and economic** infrastructure projects

81%

Potential market: 21 countries that could be willing to use the **INFRADINAMICA** platform in the management of infrastructure project

19%

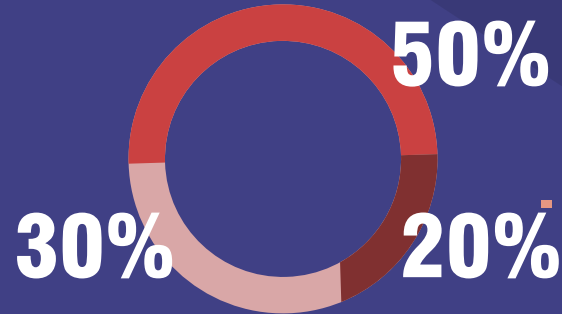
Existing market: 5 countries that use the INFRADINAMICA platform and its **CAPTUDATA** module as a technological tool for infrastructure monitoring

INVESTMENT TARGET

\$100,000

Total expenses to complete the development of **INFRA**DINAMICA

Development of additional modules with data integration for **ARTIFICIAL INTELLIGENCE** and project management alerts



Includes new functionalities to **reduce COVID-19 risks** such as social distancing and body temperature, etc.

Development of new modules to **enhance scalability** (language, data standardization and indicators)

TIMING

Diagnosis of data required for business intelligence

2 Months

Acquisition and installation of equipment and licenses

1 Month

Methodology Communication plan and scalability plan for LAC countries

4 Months

3 Months

Development of architecture and APIs, for data integration and analysis

2 Months

Development of programming and functional tests



NEXT STEPS



Coupling of modules for project monitoring and analysis

INFRADINAMICA



Development AL modules of the data integration platform and artificial intelligence

SMART BIDDING



Development of scalability and adaption to the needs of market users

INFRADINAMICA EXTNSIONS



THANK YOU

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