

TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	Regional/IDB
▪ TC Name:	From Industrial Ports to Smart Ports: Addressing Future Challenges through Technological Innovation
▪ TC Number:	RG-T3123
▪ Team Leader/Members:	Krista Lucenti (INT/TIN) Team Leader; Isabel Mejia Rivas (INT/TIN) Alternate Team Leader; Christopher Persaud (INE/TSP); Erick Ivan Feijoo (INE/TSP); Reinaldo Daniel Fioravanti (INE/TSP); Paulo Martelli (INO/IEN); Mikael Larsson (INT/TIN); Sergio Luis Deambrosi (INE/TSP); Margarita Libby Hernandez (INT/TIN); Takiyah De Four (INE/TSP) and Margarita Gomez (INT/TIN).
▪ Taxonomy:	Client Support
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	06 Dec 2017
▪ Beneficiary:	Port Authorities and Operators in LAC
▪ Executing Agency:	Inter-American Development Bank
▪ IDB funding requested:	\$ 500,000.00
▪ Local counterpart funding:	\$ 0.00
▪ Disbursement period:	24 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	Trade & Investment
▪ Unit of Disbursement Responsibility:	Integration & Trade
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Economic integration

II. Objective and Justification

2.1 To support the region’s transition from industrial – and in some cases, digital – ports to smart ports, allowing countries to better leverage technological innovation

2.2 Logistics costs – e.g. cumbersome requirements and documents, or inefficient clearance of goods – and lack of good transportation infrastructure are some of the main obstacles to international trade. Logistics costs in Latin America and the Caribbean (LAC) are excessively high – between 18 and 35 percent of a product’s value (OECD: 8 percent) in a region where around 57 percent of exports are time-sensitive or logistics-intensive (OECD: 17 percent). For small and medium-sized enterprises (SMEs), these costs can make up as much as 40 percent of final product value, which in turn considerably affects their capacity to compete internationally. Meanwhile, LAC countries rank low in terms of overall infrastructure quality, with ports particularly affected by issues such as poor physical planning, low productivity, and excessive reliance on paperwork.

At the same time, the adoption of information and communication technologies (ICT) is making life more digital than ever. The era of Big Data and connected devices – the so-called “Fourth Industrial Revolution” – is set to automate ever-growing portions of consumers’ daily life and radically transform the way industries work, ushering significant gains in productivity. Introducing some of these new digital innovations in the region’s ports and maritime sector could not only improve the region’s logistics

performance, but also address challenges related to ports' spatial constraints, sustainability, productivity, and limited fiscal space. More importantly, moving towards so-called "smart ports" would allow LAC ports – by analyzing the different, large data flows in the Industrial Internet of Things (IIoT) infrastructure – to identify and take advantage of business models based on their position in the supply chain and ecosystem.

Nevertheless, there is no universal definition or benchmark for smart ports; this, in turn, complicates the crafting of a port's digital strategy, as well as the implementation of suitable technologies. Likewise, smart port solutions need to consider the comparatively low connectivity levels in the LAC region – particularly in M2M communication, which forms the core of real-time data analytics solutions. In this sense, the team will make efforts to work with leading ports of the world, such as the Port of Busan, which is 6th largest port of the world with a high-level of automation and integrated technology applications.

- 2.3 Accordingly, this TC will support the region's transition from industrial – and in some cases, digital – ports to smart ports, allowing countries to better leverage technological innovation. Given the variation in the readiness of LAC ports to capitalize on the opportunities available by high-tech developments – Big Data, IIoT, and automation, this TC will support (1) the development of a toolkit which allows countries to benchmark their performance against best practices in smart ports; (2) the preparation of roadmaps for prioritized and coordinated national-level trade and logistics actions; and (3) the assessment of links to other trade facilitation measures, including electronic single windows (ESW). The toolkit and roadmaps will be piloted in three (3) countries in LAC where both governments and the private sector have shown a commitment towards (a) streamlined, more competitive port operations and procedures, and (b) financing implementation of smart, digital solutions.

III. Description of Activities and Outputs

3.1 Component 1: Preparation of a Toolkit to Develop Smart Ports in LAC. It will analyze good practices in smart port implementation in extra-regional ports and produce a toolkit to support countries in benchmarking their own performance against these good practices. This analysis will not only involve a thorough examination of these ports' experience and technological solutions, but also the requisite inter-institutional framework and interfaces with other trade and port facilitation tools. It will consider the relevant legal and regulatory framework for ICT and IIoT technologies, as well as its application in ports. There is no one-size-fits-all approach for smart ports, as ports can reach heterogeneous degrees of digitalization based on a variety of factors. A critical aspect of development of the toolkit is guidance on establishing the baseline by which a country will benchmark its own performance – this baseline will be both quantitative and qualitative. The output from this Component will be relevant and useful for all LAC countries, who can use the toolkit to assess their own performance and to monitor the year-to-year improvements. Component 2: Pilot Benchmarking Assessments and Targeted Roadmaps for LAC ports. The goal is to assess the degree to which key LAC ports can advance in the evolution from industrial or digital ports to smart ports, adopting many of the good practices identified in extra-regional ports such as those in Korea, China and Europe. Using the toolkit developed in Component 1, this activity will support pilot benchmarking assessments and roadmaps in three LAC ports, taking into consideration a) their geographic location to maximize representation of LAC sub-regions; b) the volume and type of goods going through the ports; and c) the country's interest in developing better port and trade facilitation systems. The information gathered will be used to develop targeted roadmaps using the baseline established in Component 1 and the target set by the good practices analysis. Component 3: Communication, Dissemination and Technical Assistance. It will develop a communications strategy to socialize the results of all undertaken research and

consultation activities. Develop a training module so that countries can use the toolkit to establish their own baseline and roadmaps in the future. Lastly, it will provide resources for small dissemination and validation workshops in the 3 piloted countries. Component 4: Exchange of Experiences and Good Practices in LAC Ports and Single Windows. It will seek to generate a space for dialogue so that LAC countries can exchange experiences and lessons learned on ESWs with Port Authorities and Operators. It will support the expansion of the Inter-American Network of Single Windows (Red VUCE) to explore smart port solutions and links with ESW Component 5: Supervision and Monitoring. It will create a coordination point to oversee and monitor all activities undertaken in this TC, given the regional scope which includes the production of status reports, communication with all relevant stakeholders, logistical and content-related organization any necessary meetings (including Red VUCE), and supporting research for Components 1-4.

- 3.2 **Component I: Toolkit for Smart Ports in LAC.** Analyze good practices in smart port implementation in extra-regional ports and produce a toolkit to support countries in benchmarking their own performance.
- 3.3 **Component II: Pilot Benchmarking Assessments and Roadmaps.** Assess the degree to which key LAC ports can advance in the evolution from industrial or digital ports to smart ports, adopting many of the good practices identified in extra-regional ports such as those in Korea, China and Europe.
- 3.4 **Component III: Communication, Dissemination and Technical Assistance.** Develop a communications strategy to socialize the results of all undertaken research and consultation activities. Develop a training module so that countries can use the toolkit to establish their own baseline and roadmaps in the future. Lastly, it will provide resources for small dissemination and validation workshops in the 3 piloted countries.
- 3.5 **Component IV: Meeting of the Red VUCE.** Generate a space for dialogue so that LAC countries can exchange experiences and lessons learned on ESWs with Port Authorities and Operators. It will support the expansion of the Inter-American Network of Single Windows (Red VUCE) to explore smart port solutions and links with ESW.
- 3.6 **Component V: Supervision and Monitoring.** Create a coordination point to oversee and monitor all activities undertaken in this TC, given the regional scope which includes the production of status reports, communication with all relevant stakeholders, logistical and content-related organization any necessary meetings (including Red VUCE), and supporting research for Components 1-4.

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Toolkit for Smart Ports in LAC	\$ 75,000.00	\$ 0.00	\$ 75,000.00
Pilot Benchmarking Assessments and Roadmaps	\$ 265,000.00	\$ 0.00	\$ 265,000.00
Communication, Dissemination and Technical Assistance	\$ 75,000.00	\$ 0.00	\$ 75,000.00
Meeting of the Red VUCE	\$ 65,000.00	\$ 0.00	\$ 65,000.00
Supervision and Monitoring	\$ 20,000.00	\$ 0.00	\$ 20,000.00

V. Executing Agency and Execution Structure

- 5.1 The Bank will be the project's executing agency, through the Trade and Investment Division (INT/TIN) of the Integration and Trade Sector (INT/TIN),
- 5.2 given the regional character of the project and the fact that it needs high level of coordination and interdependence. Likewise, the Bank has the technical experience and capacity to ensure a high quality of products and activities to be carried out for this project.

VI. Project Risks and Issues

- 6.1 Implementation of a regional project implies a higher level of complexity, as well as risks related mainly to inter-institutional coordination and asymmetries in information. It is expected that these risks will be mitigated by having the IDB as the executing agency, especially considering that the Bank has and will continue coordinating relevant and related activities with the different public institutions responsible for trade and port facilitation in the LAC region. Another risk to this project is lack of data to create the baseline necessary for countries to benchmark their performance. This will be mitigated by selecting countries where we are confident robust data exists.

VII. Environmental and Social Classification

- 7.1 The ESG classification for this operation is "C".