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Strengthening the capacities of developing countries  
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to facilitate legitimate border crossing,  
regional cooperation and integration**

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**Regional sub-projects:**

**Economic Commission for Latin America and the Caribbean**

**A GAP ANALYSIS FOR CUSTOMS TO CUSTOMS  
ELECTRONIC DATA EXCHANGE IN COSTA RICA**

**Transmitted by the United Nations Economic Commission for and  
Latin America and the Caribbean**

# A GAP ANALYSIS FOR CUSTOMS TO CUSTOMS ELECTRONIC DATA EXCHANGE IN COSTA RICA

February 2015

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# **A GAP ANALYSIS FOR CUSTOMS TO CUSTOMS ELECTRONIC DATA EXCHANGE IN COSTA RICA**

## **1. EXECUTIVE SUMMARY**

In December 2011, the United Nations General Assembly launched the project "Strengthening the capacities of developing countries and countries with economies in transition to facilitate legitimate border crossing, regional cooperation and integration." In December 2012 the Review Group met under the auspices of the Department of Economic and Social Affairs and approved the final version of the project.

Only a few international conventions provide a legal basis for the exchange of information on the international transport of goods. Among them, the Customs Convention on the international transport of goods under cover of TIR Carnets (TIR Convention) has the most widespread geographical coverage (67 countries). The exchange of electronic information is taken into account via e-TIR project that has been managed by the Economic Commission for Europe (UNECE) since 2002. This project aims to complete automation of the process and eventually replace paper documents with the exchange of electronic messages between customs.

Based on this, the project launched aims to implement and enhance the usability of a computer network between Customs (C2C) for the electronic exchange of information on up to 5 pilot countries with its neighbors and its main trading partners. This will ensure a secure exchange of information relating to goods in transit. In the long term, the network will be designed to facilitate the exchange of information between Customs (C2C) and users (B2C) globally. This network can be sustained by a minimal fee for use, to provide the funds needed for system maintenance. The secure exchange of electronic information between customs will lead to increased safety and reducing delays at border crossings.

Costa Rica is considered as a possible candidate for the implementation of the pilot project. This report identifies legal and technical gaps that can hinder and / or prevent the electronic exchange of information between customs, including transit data.

This document details the surveying methodology used for assessment of the current situation, along with the activities undertaken.

Some statistics on international trade in Costa Rica in recent years are also listed.

A description of the current legal framework is done by analyzing the main laws and regulations that give legal foundation for the electronic exchange of information with other countries' customs, either to send information from Costa Rica as well as to receive data from other countries.

The paper also describes the functional and technical characteristics of the major computer systems in use by the National Customs Service (TICA (Costa Rica customs) and TIM (Secretariat for Central American Economic Integration) respectively)

The main gaps found in both the legal and Information technology aspects are discussed. The gaps in the legal side are not of magnitude (except the need to adhere to CAUCA IV for better support of electronic data exchange), existing space for various improvements on the technical side to increase and improve the exchange of information between customs. The technical gaps are not insurmountable and relate primarily to a lack of investment in the past for the evolutionary maintenance of infrastructure and systems, in line with the growth of international trade. It is very positive that improvements have been made in the past year and plans are being put in place to continue this improvement in 2015

There already exists a platform used for exchanging information electronically with other customs in Central America. This platform is based on the relationship between the Customs of Costa Rica system TICA and Central American TIM International Transit System for goods.

Based on the analysis done, possible improvement actions are proposed to mitigate and / or eliminate some of these gaps. It is recommended to work with SIECA to strengthen and expand the existing platform for information exchange.

Finally some possible actions for training and technical assistance for ECLAC to work with Costa Rica during 2015 are proposed

## **2. INTRODUCTION**

### **2.1Background**

This gap analysis for Costa Rica is part of a larger project conducted since 2013 by the United Nations Economic Commission for Europe (UNECE), in cooperation with other regional commissions and the corresponding United Nations Economic Commission for Latin America and the Caribbean (ECLAC). The objective of this project is to strengthen the capacities of developing countries and countries with economies in transition to facilitate legitimate border crossing, cooperation and regional integration.

The crossing of borders has always been a challenge in transportation and international trade. Despite recent improvements, the international transport still faces many obstacles and costs at borders. The existence of constraints to trade and transport facilitation is detrimental to economic growth and regional integration. The authorities that control borders face security challenges related to smuggling, terrorism, trade and illegal immigration. Given the large number of cross-border operations by transport, customs authorities cannot control each vehicle or container. They need to apply risk management techniques and identify high-risk consignments on the basis of

available data. However, the data provided to analyze risks in a particular country may be incomplete or falsified. Often, the most reliable data on the transported goods are available at the offices of the departure custom at the origin of a movement of traffic that follows an export procedure. These data should be available to the customs authorities of the countries of transit and destination via a common system for Electronic data interchange prior to the arrival.. The dissemination of electronic information about goods in advance and the establishment of interconnected networks between customs were it identified by the World Customs Organization as cornerstones for the security of global supply chains.

## **2.2 Objectives of the Analysis**

This study will do an assessment of the legal and technical gaps that Costa Rica must close to improve the electronic exchange of data with customs of other Central American countries, with the aim of facilitating land transport throughout Central America.

From this analysis, technical assistance for 2015, aimed at reducing the gaps for the electronic exchange of information between customs and/or develop a plan for that purpose is proposed.

## **2.3 Contents of the Document**

The document describes the current legal and information technology framework as well as the present experience concerning electronic data exchange between customs, and between the private sector and customs administrations of other Central American countries. The legal framework includes quoting important aspects of the laws and regulations of Costa Rica, as well as Central American treaties.

The technical and Information Technology assessment describes the core functionality of the systems in use, the level of automation achieved and those cases when the already implemented electronic exchange of information takes place.

Then the report lists gaps found that hinder the exchange of information, and in those cases considered relevant, topics that pose risks to the operation of computer systems.

Finally, possible improvement initiatives that can help mitigate and / or eliminating some of the gaps found are detailed.

## 2.4 Assessment Methodology and activities

The study was performed by analyzing in detail documentation provided by the National Customs Service of Costa Rica. The laws and regulations governing the functioning of the Customs and everything concerning electronic information exchange were analyzed in detail. Also the main international conventions that govern the exchange of data with other countries in Central America were surveyed in detail.

This was supplemented by interviews with Customs and Information Systems area staff, with the support of a structured questionnaire by UNECE. These meetings were held in the offices of Customs, Directorate of Information Technology and Ministry of Finance in San José (Costa Rica) from 24 to 28 November 2014. Interviews were held with:

Deputy Revenue Minister

General Director of Customs

Director of Strategic Projects for Information Technology

Advisory Department for Norms Direction (Legal)

Area of External Affairs and International Relations

Customs Process Department dependent of Technical Direction

Planning and Management Control area

Risk Management, Planning Department and Department of Customs Intelligence

Director of Audit (Fiscalization)

A visit to the Data Center of CODISA Company that provides data center services to Customs was conducted.

With the materials obtained from the interviews the conclusions of the documents analysis were confirmed. During the interviews opinions, needs and gaps were also found. These are gaps that are necessary to close to improve performance in relation to Electronic Data Interchange (EDI).

### 3. MAIN FLOW OF TRANSPORTATION STATISTICS

Costa Rica, as part of Central America is an important country in international trade. Its proximity to the Panama Canal and its customs regimes and procedures are factors that make that the transit of goods is also of importance.

The following data summarize some important figures. Sources for these are data of to the Ministry of Finance of Costa Rica, data from the Costa Rica Customs Service, as well as information available through public organization PROCOMER

In the following tables the trade figures are provided (import and export) in recent years. The values for 2014 are extrapolated for the full year from data available until November and August.

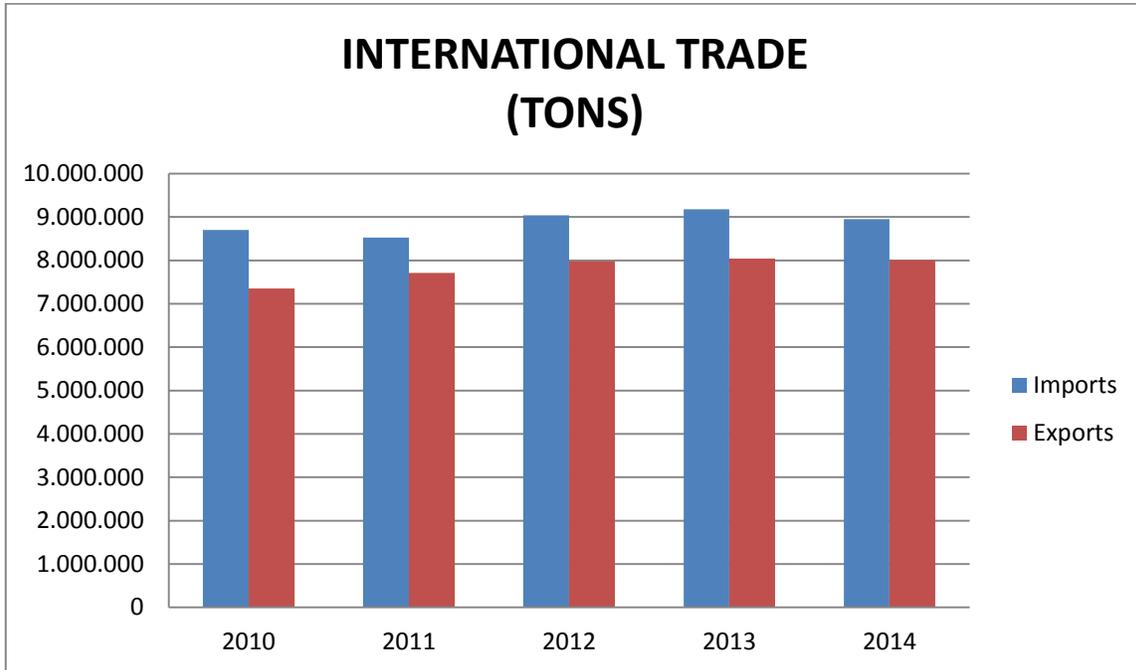
Regardless of annual variations average annual change in the volume of imports in the last 10 years was 9.9% and exports 6.8%

#### TOTAL INTERNATIONAL TRADE DATA

<b>YEAR</b>	<b>Imports</b>	<b>Exports</b>
(Thousand US\$)		
2010	13.569.562	9.471.207
2011	16.215.941	10.375.954
2012	17.572.111	11.386.607
2013	18.001.682	11.543.099
2014	17.090.187	11.452.667
<b>YEAR (TONS)</b>		
2010	8.699.187	7.353.491
2011	8.522.888	7.711.321
2012	9.036.336	7.983.279
2013	9.173.885	8.043.456
2014	8.950.577	8.001.734

A graphic of these data follows





In 2013 76% of exports are from industry sector and 24% of agricultural, livestock and fisheries sectors. In turn, 37% of those for the industrial sector are of Electronics and Electricity

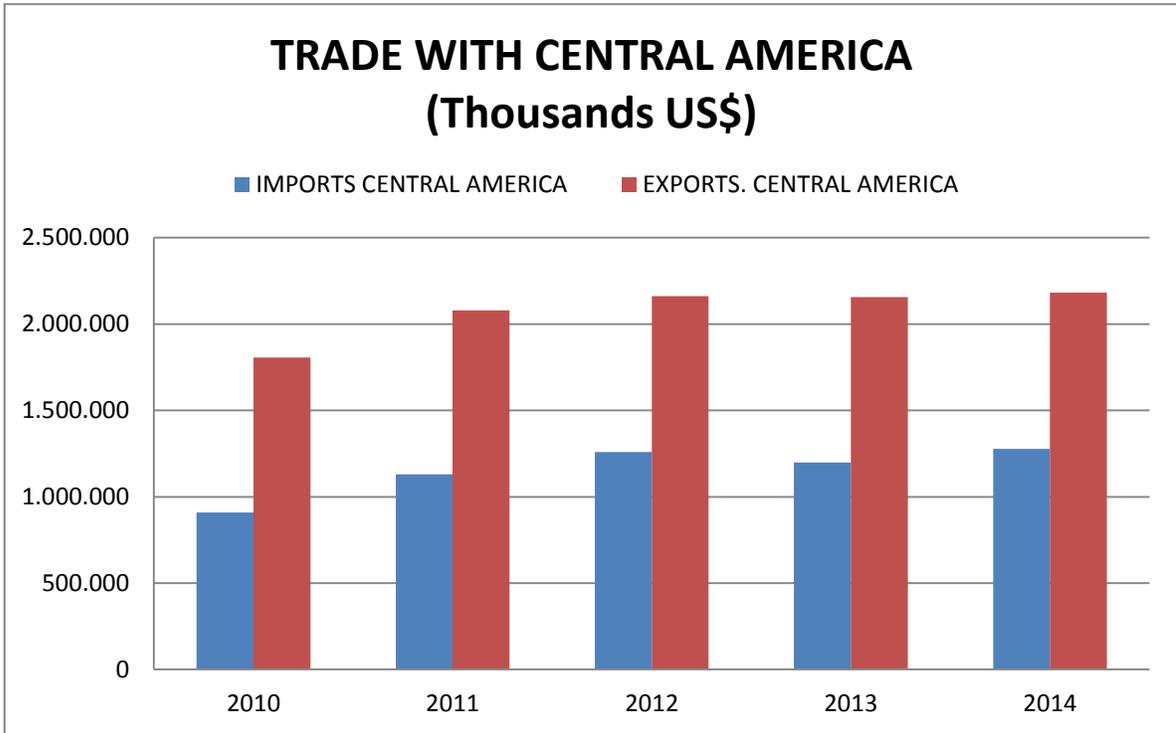
The main imports between 2009 and 2013 are Oil Products, Electronic integrated circuits and Electronic microstructures, telephony equipment, automobiles and drugs.

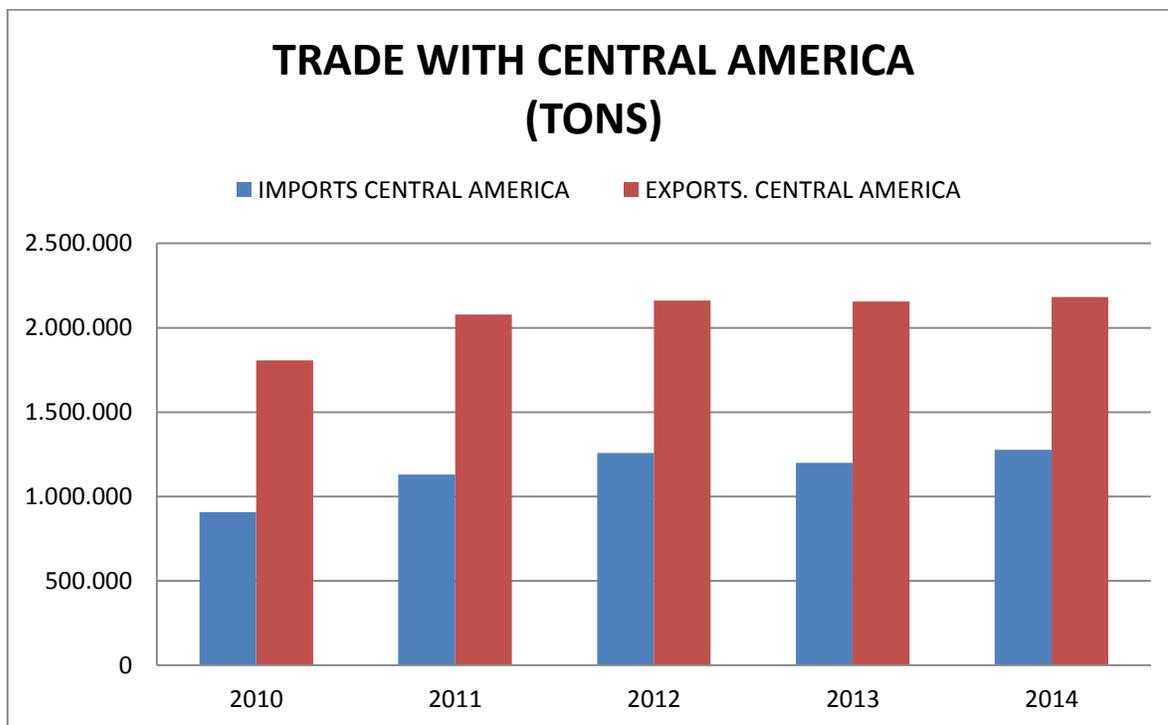
**TRADE DATA WITH CENTRAL AMERICA**

Following data import and export with the countries of Central America are detailed in both tabular and graph format.

<b>YEAR (Thousand US\$)</b>	<b>IMPORTS CENTRAL AMERICA</b>	<b>EXPORTS. CENTRAL AMERICA</b>
2010	908.310	1.806.726
2011	1.130.382	2.079.129
2012	1.259.056	2.161.901
2013	1.198.994	2.155.407
2014	1.276.683	2.182.985

YEAR (TONS)		
2010	715.777	1.566.157
2011	821.738	1.710.405
2012	939.519	1.742.375
2013	957.407	1.719.945
2014	1.070.679	1.623.855



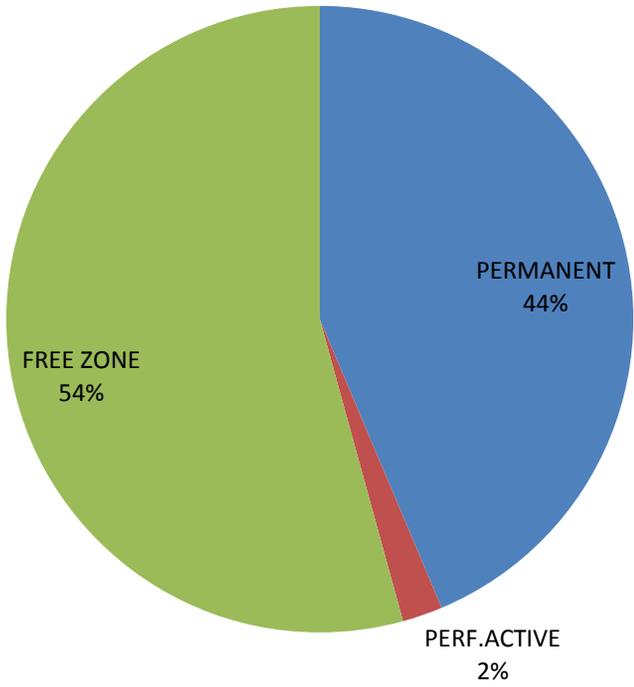


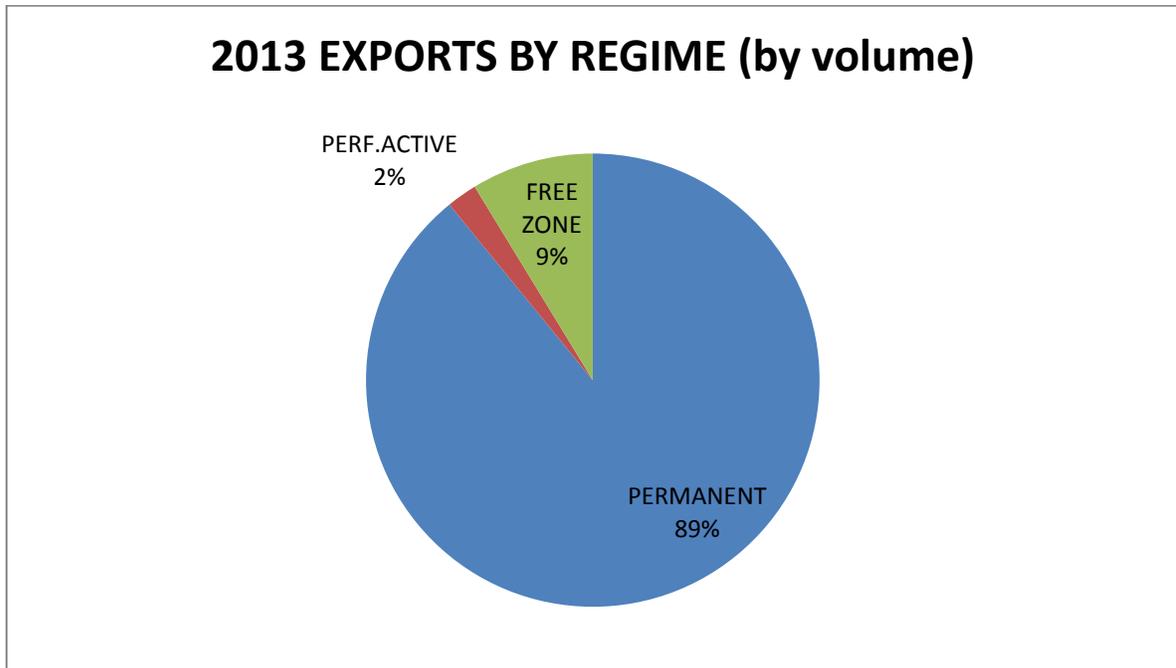
### TRADE DATA BY CUSTOMS REGIME

Data are provided according to the customs Regime.

YEAR	EXPORTS	EXPORTS	EXPORTS
(Thousand US\$)	PERMANENT	PERF.ACTIVE	FREE ZONE
2010	4.360.372	177.871	4.932.964
2011	4.821.724	186.566	5.367.665
2012	5.189.280	229.935	5.967.391
2013	5.037.727	239.773	6.265.598
2014	5.226.004	159.156	6.067.508
YEAR			
(TONS)			
2010	6.711.876	76.766	564.850
2011	6.941.440	95.432	674.448
2012	7.099.540	157.690	726.050
2013	7.166.827	175.360	701.269
2014	7.248.899	78.756	674.078

### 2013 EXPORTS BY REGIME (By value)





Considering the export regime corresponding to the industrial sector without free zone, 60% goes to Central America and 36% to North America being the main destinations Panama, Nicaragua, USA, Guatemala and Honduras.

But if we take the free zone, 50% goes to USA, 24% goes to Asia and 15% to the European Union, being the major import and export with this regime that of integrated circuits and electronic microstructures

If we take into account food industry exports, 44% goes to Central America and 27% to North America. 51% of this industry exports are under the free zone regime.

Considered by value 42% is exported to North America and 19% to Central America

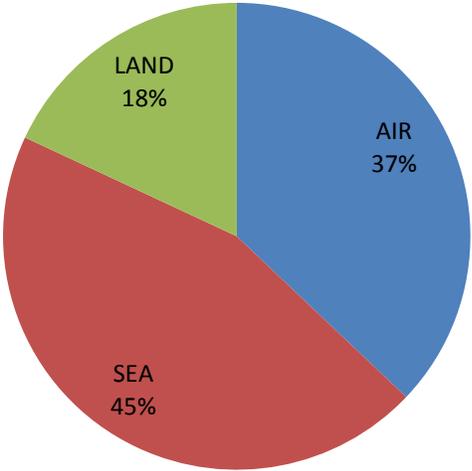
### TRADE DATA BY MODE OF TRANSPORT

<b>YEAR</b>	<b>EXPORTS</b>	<b>EXPORTS</b>	<b>EXPORTS</b>
<b>(Thousand US\$)</b>	<b>AIR</b>	<b>SEA</b>	<b>LAND</b>
2010	3.302.358	3.956.259	1.967.039
2011	3.449.021	4.793.130	1.971.096
2012	4.038.046	4.824.679	2.250.927
2013	4.219.802	5.106.022	2.053.762
2014	3.866.625	4.997.132	2.077.886
<b>YEAR(TONS)</b>			
2010	48.680	5.592.643	1.504.440
2011	51.984	5.887.206	1.691.852
2012	44.817	5.742.042	1.895.917
2013	42.559	6.235.408	1.671.095
2014	39.612	5.454.199	1.576.456

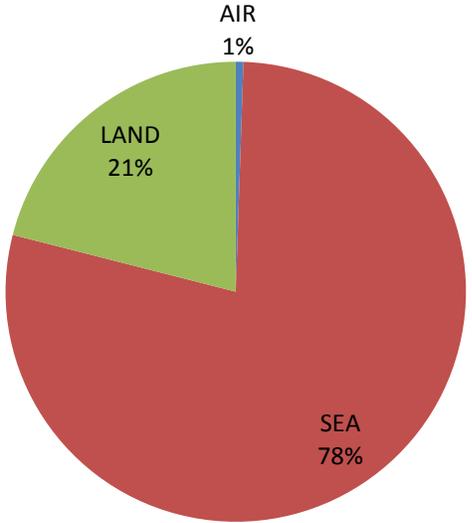
The following table shows that the highest proportion of land exports is through two border crossings (with Panama and Nicaragua respectively)

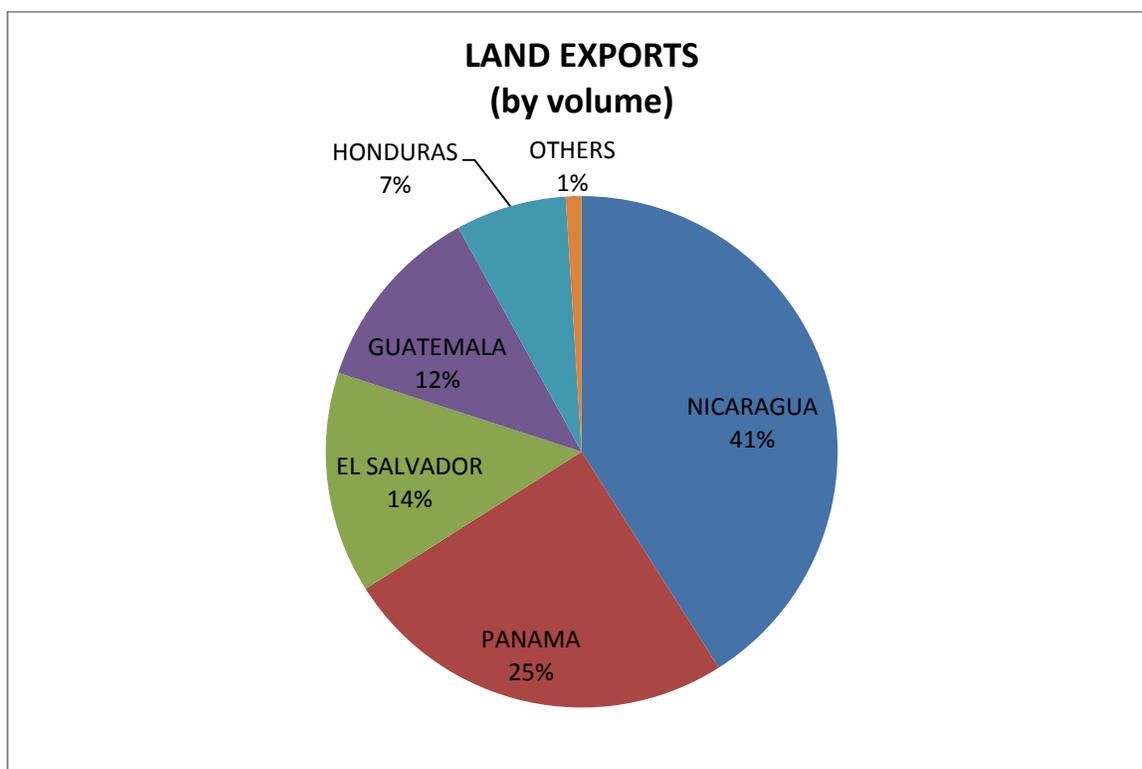
<b>YEAR</b>	<b>EXPORT</b>	<b>EXPORT</b>
<b>(Thousand US\$)</b>	<b>PASO CANOAS</b>	<b>PEÑAS BLANCAS</b>
2011	419.344	1.434.173
2012	477.646	1.543.537
2013	461.760	1.552.998
2014	467.119	1.578.420
<b>YEAR</b>		
<b>(TONS)</b>		
2011	374.624	1.273.556
2012	425.943	1.256.911
2013	374.282	1.249.148
2014	340.658	1.189.207

### 2013 EXPORTS BY MODE OF TRANSPORT (by value)



### 2013 EXPORTS BY MODE OF TRANSPORT (by volume)

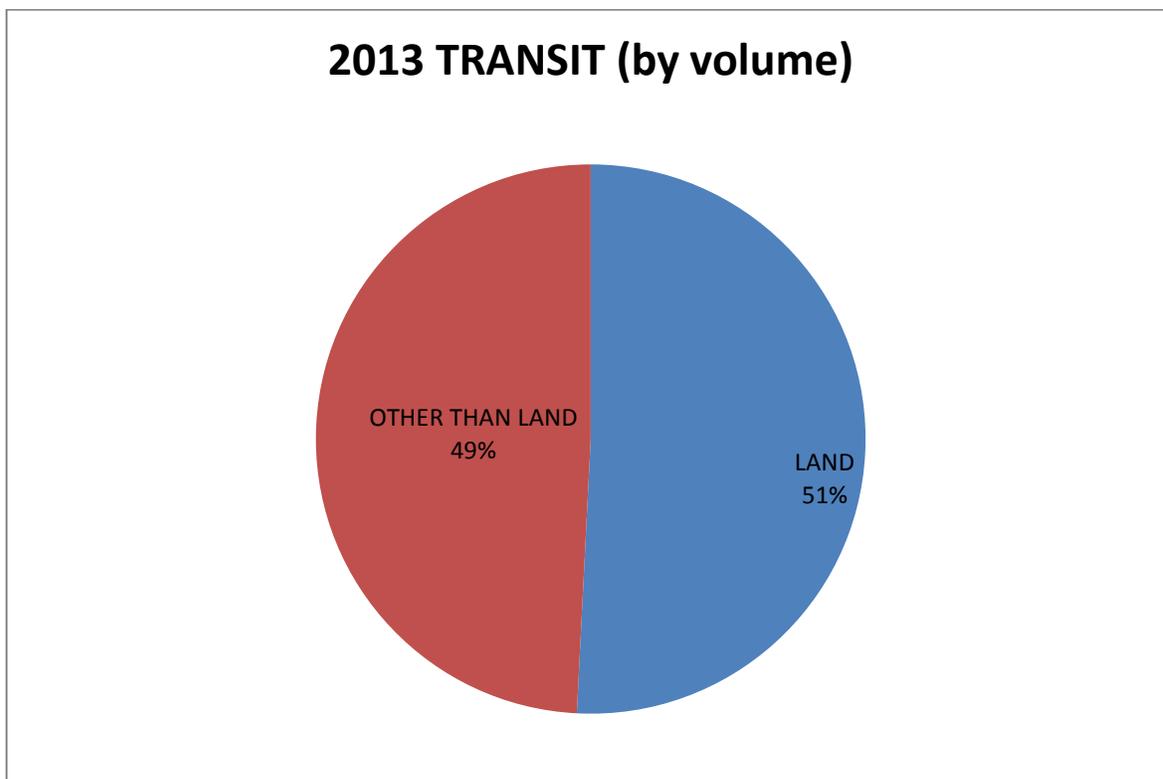




The main export products by land are (measured by value), sauces and preparations, laminated iron and steel products, iron bars or steel bars, fine bakery products, among others.

#### TRANSIT DATA

YEAR	TRANSIT	TRANSIT	TRANSIT
(TONS)	TOTAL	LAND	OTHER THAN LAND
2011	237.726	44.795	192.323
2012	98.693	62.970	35.723
2013	89.168	45.304	43.864
2014	229.987	110.073	119.914



#### **4. LEGAL FRAMEWORK**

The main documents analyzed were

General Customs Act from 1996 with subsequent updates

Regulations of the General Customs Act (2009 update)

Central American Uniform Customs Code (CAUCAIII) (2002)

Regulations for CAUCA. (RECAUCA) (2002)

Digital Signature Act (2005)

Regulations for Customs Transit Land International System

Working plan of the Secretariat for Central American Economic Integration (SIECA) for the period July to December 2014

SIECA presentation on trade facilitation

## 4.1 Organizational framework of customs operations and main laws and regulations for the activity

A. The National Customs Service of Costa Rica has an organizational structure that is prepared to control the functions of entry, exit and transit of goods in the country as well as entry and exit of vehicles and transport units

B. Its major authority is the Director General of Customs, reporting to the Ministry of Finance through the Deputy Minister of Revenue. The Ministry of Finance reports directly to the President of the Republic

C. The following groups report to the Director General of Customs

- Technical Management Directorate
- National Authority for Customs Valuation Verification
- Audit Directorate
- Risk Management Directorate
- Norms and Policy Directorate
- External Affairs and International Relations Area
- Planning and Management Control Area
- Operational Level consisting of the following Customs: Peñas Blancas, Paso Canoas, Central, Santamaria, Caldera, La Anexión and Limon

D. The development, operation and support of the Computer systems is provided by the Information Technology Department reporting to the Ministry of Finance. There is a special department that develops and provides functional support to Customs systems.

E. Customs activity in Costa Rica is governed by **Law No 7557 of 20 October 1995 (with amendments in 2003), known as GENERAL CUSTOMS ACT (LEY GENERAL DE ADUANAS)**. The latest reform was made in 2005 by Law No.8458. Without attempting a complete detailed analysis of the law, some relevant aspects for the purpose of this study are mentioned.

Article 4 establishes the hierarchy of the laws and regulations for customs. The highest rank is given to international treaties and norms of the Central American community, which facilitates the coordination of policies and standards with other countries.

Customs is empowered to keep current with technological changes when these are requirements to improve international trade.

The creation of juxtaposed customs is also enabled, when deemed necessary.

The law also allows reception of information from various customs auxiliaries in electronic format and urges to apply new techniques and procedures to modernize service.

Article 61 gives the force of law to the validity of electronic payment methods

Article 88 states that the customs declaration is considered as received (without implying endorse its content) once it is registered in the Computer System of the National Customs Service.

The Chapter VI of the Act refers to the Application of Information Systems and establishes the validity of such systems as registration and control tools. It validates the use of user name and password or electronic signature, indicating that both mechanisms are equivalent and replace handwritten signature. In particular, Article 106 gives legal validity to any action that is done through computer systems, also introducing the concept of Electronic File.

Article 107 gives legal validity to electronic exchange of information between different national entities and forces to use such transmission mechanism.

With regard to multimodal transport the act (in Article 148) recognizes the legal validity of data transmitted electronically. The same criterion applies to companies operating under the “Perfeccionamiento activo” processing (ie import of goods without payment of duties to be re-exported after undergoing the process)

Article 219 states that it is considered a crime the destruction of information in electronic form. In Chapter II the specificity of cybercrime is recognized. The consultant considers that this is an important step to provide security for the electronic exchange of information with other countries

In Article 236 the possibility to fine those who do not forward prior to the arrival of the transport unit data of goods, vehicles and transport units.

A Customs Valuation Verification National authority is created. One of its functions is to create and manage databases with customs valuation data.

**F. The Customs Act is regulated by the REGULATIONS TO THE GENERAL LAW OF CUSTOMS dated 06/14/1996 and various updates up to the 06/07/2009.**

In this regulation the functions of each of the Directorates and Departments are established in detail.

Article 16bis assigns responsibilities to the Department of Risk Analysis. The main ones are proposing development of computer systems to enable integration with external information systems. Also to recommend to higher levels of the organization to underwrite agreements to exchange tax information and economic information with other public and private, domestic and foreign entities that are considered as useful to improve customs risk management.

Article 18bis states the responsibility of the Department of Technical Management to maintain updated information systems and registration of auxiliaries.

In this regulation the criterion is set that all control functions and definitions related to the use of customs systems are the responsibility of different sectors of Service National Customs.

Article 84 and 85 states again the legal equivalence between a handwritten signature and username and password (or electronic signature).

Article 220 sets the need for an early transmission of cargo manifest, being the deadlines dependent on the mode of transport.

Article 240 establishes the requirement that the format of the customs declaration meets the requirements for integration with the Customs Information System.

Article 279 specifies that for the International Transit regime the International Traffic Community instruments, treaties or approved and ratified by Costa Rica international conventions shall be respected.

## 4.2 Centro American cooperation agreements

A. General Treaty on Central American Economic Integration and its Protocol of Guatemala are essential because they include a commitment to establish a "Common Customs Service" to apply uniform procedures, systems and guidelines. The General Treaty of Central American Economic Integration was signed on December 13, 1960 and Costa Rica adhered to it on July 23, 1962. The Protocol of Guatemala was signed on October 29, 1993 and amended on February 27, 2002

B. A Centro American Agreement on Tariffs and Customs creates the Centro American Tariff and Customs Regime establishing a "Centro American Uniform Customs Code" and its Regulations. These codes are based on the revised Kyoto Convention and the regulatory framework of the World Customs Organization to secure and facilitate international global trade and best practices.

C. The Costa Rica Legislative Assembly approved in July 2003, through Law No.8360 the **Second Protocol Amending the Central American Uniform Customs Code (CAUCA III)**. This legislation, common to all Central America is an essential element to make information exchange between customs on a uniform basis.

This Code has been signed by all Central American countries, namely: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama. It is an agreement which aims to establish basic customs laws of the Contracting States, while respecting the requirements of the Central American Common Market, and other regional integration instruments, mainly the Convention on the Central American Tariff and Customs. Although a detailed analysis exceeds the scope of this report various aspects of electronic exchange of information between customs are noted.

Chapter III discusses the responsibilities in the use of computer systems. Strict legal criteria on the responsibilities of both officials and auxiliary respondents and any authorized person using computer systems and any mean of electronic data transmission connecting with the Customs Service are set.

Article 22 details the need for compliance of safety measures for Information Systems. Article 23 indicates that electronic signatures, codes, confidential passwords or security passwords are equivalent to all legal purposes, to handwritten signatures.

Article 24 recognizes that data recorded in the computer system are proof of the actions accomplished and in 25 the admissibility of records as evidence is stated.

The code establishes as mandatory (unless duly justified exceptions) to do goods declaration by electronic transmission and is considered as accepted when it is registered in the corresponding computer system

D. The Legislative Assembly also approved and put into effect on November 18, 2003 the corresponding **Regulation to the Central American Uniform Customs Code (RECAUCA)**

This Regulation expands on the CAUCA III. It states that for Customs Agents it is mandatory to have the necessary equipment to effect clearance by means of electronic transmission equipment.

It also states, through Article 37, the obligation to electronically transmit the statement and any other information requested, before the arrival of the transport, including the data of the goods transported.

Chapter IV details the appropriate use of computer systems, especially the aspects related to security. Article 47 specifies that the information transmitted via computer systems can be certified by entities specializing in authentication information exchanged in the context of electronic commerce, duly authorized by the superior authority of Customs Service.

Article 55 establishes the requirement for carriers to provide by electronic transmission, the information contained in:

General cargo Manifest

Transport document

Passengers, crew and their luggage lists.

Catering supplies list

Postal Guide

And in Article 55 the need to present the cargo manifest electronically transmitted before the arrival of the means of transport or upon arrival (for ground transportation) is established.

Article 81 specifies that the goods declaration must also be submitted by electronic transmission.

Article 108 refers to goods originating in Central American countries, establishing that are declared in the **Central American Customs Form (FAUCA)**, preferably by electronic transmission.

E. Through **Law No.8880 1-11-2010 the Convention on Mutual Assistance and Technical Cooperation between the tax and customs administrations of Central America was approved.**

The agreement was signed by the governments of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. In this agreement, provisions and mechanisms for Administrations mutual assistance and technical cooperation rendered in management functions, supervision and collection are established.

This agreement allows requirement and provision of mutual assistance and technical cooperation between the Administrations of States Parties on issues relating to:

General or identification information of natural or legal persons as taxpayers, legal representatives, shareholders, partners or participants from other social or collective entities such as customers, creditors or other contributors providers

Transactions or business operations, financial, industrial, intellectual property or any other economic activity

Any other information aimed at ensuring the correct imposition and collection of taxes.

Confidentiality of information and the need to take into account the requirements for protection of personal data is also established.

It is particularly important to highlight Article 13 which provides the framework for information exchange by electronic means by indicating that specialized technical cooperation, at pre-established periods can be used, to contribute to the structures modernization, organization and working methods. This is done appointing specialized staff and technological equipment to fulfill this role.

F. Central American Uniform Customs Code IV(CaucaIV) was approved by Resolution No. 223-2008 of the Council of Ministers for Economic Integration(COMIECO), on April 25, 2008 .. The new code and its regulations discuss in great detail everything related to the "electronic data transmission" in Articles 29-40 of CAUCA IV and the 167-185 of RECAUCA IV-

### **4.3 Protection of information**

Article 8 of the General Customs Act establishes the duty of confidentiality for customs officials on the information obtained by any legal method about taxpayers, responsible, third parties, auxiliaries to the customs public function, importers, exporters, producers and shippers.

Moreover, article 117 of the Tax Rules Code and Procedures, states that the information that the Tax Administration obtains by any method from taxpayers, responsible and third parties, is confidential.

The rules outlined above have support in the Article 24 of the Constitution which establishes the right to privacy, freedom and secrecy of communications.

Regarding protection of personal data, the country has the law on protection of the individual against the treatment of their personal data, Law No. 8968, published in La Gaceta No. 170 of 05 September 2011.

In order to share information with other countries or foreign government agencies a treaty or international agreement needs to be signed because it has superior hierarchy.

In this sense, is in force law No. 8880 of November 1, 2010, by which the legislature adopted the Convention on Mutual Assistance and Technical Cooperation between Tax and Customs Administrations of Central America to establish mechanisms through which mutual assistance and technical cooperation in management functions, supervision and collection will be provided.

For these purposes the following general principles apply;

- a. Legality: Is required to act within the powers and authority conferred by the laws of the States Parties and the legal instruments of Central American economic integration;
- b. Confidentiality: forcing administrations to maintain as confidential information any documents obtained under this Agreement in accordance with the laws of the Signing States.
- c. Celerity. Ensuring to get answers as quickly as possible.
- d. Reciprocity: granting equal treatment and parity in relations between administrations under this Convention.

Article 19 of the Convention on Mutual Assistance and Technical Cooperation between Tax and Customs Administrations of Central America, states:

***"Article 19. Protection of personal data exchanged. When the Administrations exchange information and documentation from taxpayers or their legal representatives, they will consider, in each case, the requirements for the protection of personal data."***

Two Conventions to exchange information currently being negotiated; one under the Free Trade Agreement between Costa Rica and Central America, and the other under the CAFTA-DR

At domestic level, personal data are protected by law.

In the case of business and personal data that are issued by foreign sources in electronic form, these are subject to what is established in the conventions regarding Information Exchange and Mutual Assistance and Technical Cooperation.

#### **4.4 Recognition of Electronic Information**

A. Law No. 8454 Law of Certificates, Digital Signatures and Electronic Documents of 30/08/2005 is the legal basis which empowers the State and all public institutions to use certificates, digital signatures and electronic documents within its fields of competence.

This law was regulated by Executive Decree No. 33018 of 20/03/2006. In these regulations concepts related to digital certificates, electronic documents and digital signature and certified digital signature are established.

Article 3 of the aforementioned Act states the recognition of electronic documents, as follows:

*"Article 3: Recognition of functional equivalence. Any manifest with representative or declaratory character, expressed or transmitted by electronic or computer means, shall be legally equivalent to documents, resident or transmitted by physical means.*

*In any rule of law in reference to a document or communication is made, shall be construed in the same way both electronic and physical. However, the use of electronic media for a given document does not dispense in any case, compliance with the requirements and formalities required by law for each act or legal business in particular. "*

Moreover by Guideline No. 67-MICIT-H-MEIC, published in Official Gazette No. 79 of 25 April 2014, mass deployment and use of digital signatures in the sector is ordered Costa Rican public sector.

Meanwhile the Central American Uniform Customs Code III (hereinafter CAUCA III) in Article 54 refers to information and documents of the goods declaration, referring to domestic law the issue of custody and documentation to support the statement.

Also numeral 23 CAUCA III thereof provides:

*Article 23 Media equivalent to handwritten signatures. Electronic signatures, codes, passwords confidential or security passwords are equivalent, for all legal purposes, to handwritten signatures of officials and customs, support staff, reporting and other authorized persons.*

The Customs Law in the definitions in the ordinal 266 refers to the electronic signature as the result of obtaining through mechanisms or devices, a pattern that univocally is associated to a natural or legal person and his willingness to sign.

In Articles 103-108 of the Customs Law implementing computer systems in customs procedures is summarized.

A sample or example of electronic document is a Single Customs Document (DUA) of the TICA System, which was implemented by Executive Decree No. 32456 of 29/06/2005, published in the Gazette No. 138 of 18/07 / 205 and entered into force on 26/07/2005.

Regarding the recognition of electronic documents issued by official Foreign Offices, Act on Certificates, Digital Signatures and Electronic Documents mentioned in Article 13:

*"Article 13. Recognition of foreign certificates. Full value and legal effect to a digital certificate issued abroad in any of the following cases shall be conferred:*

a) *When supported by a certifying authority registered in the country, pursuant to an existing correspondent relationship in terms of Article 20 of this Law.*

b) *When all the requirements set out in Article 19 of this Act are met, and there is a reciprocal agreement to that effect between Costa Rica and the country of origin of the foreign certifier. "*

*"Article 19. Requirements, procedures and functions. The Directorate for Certifying Digital Signature will be responsible for establishing, through regulations, the requirements, the procedure and functions of persons applying for registration with the Directorate; for it, the ECA, at the request of the Ministry of Science and Technology, shall state the technical requirements for the study, according to Law No. 8279 of May 2, 2002, and practices and international standards. "*

*"Article 20. Correspondent. Registered Certifying may enter correspondent relationships with similar organizations abroad, for the purpose of standardizing the digital certificates issued by these entities or that they do the same on the outside with those issued by certifying registered.*

*It shall inform the Department of Certifying Digital Signature, about establishing relationships of this kind, prior to offering this service to the public. "*

These standards are widely developed in paragraphs 10 to 22 of the Regulations to the Act.

The (not yet in force in Costa Rica) Central American Uniform Customs Code IV sets with respect to the exchange of information as follows:

*"Article 16. Exchange of Information*

*Customs Services shall assist each other to facilitate the exchange of information in all its forms, including general information about: entry, exit or transit of goods; branches of economic activity; simultaneous examinations and conducting examinations abroad. All this in order to ensure control of the load, the precise determination, assessment and collection of taxes, prevention and combat fraud and customs evasion and avoidance, and establish best sources of information on both subjects, respecting the principles of confidentiality that are appropriate.*

*Article 17. Mutual recognition*

*It means accepting mutual recognition performances by the customs authority of a State Party, by the customs authority of another State Party, without requiring further similar actions, except for specific reasons, in exercise of the customs authority.*

*The Customs Services will develop a system of mutual recognition of controls and procedures to facilitate the entry, exit and transit of goods of the relevant customs territories of the States Parties.*

*The requirements and formalities for the mutual recognition of controls through the exchange of information between customs services are those that are established in the Regulations and Conventions subscribing States Parties on the subject.*

It is noteworthy that the above mentioned rules are applicable only to Central American countries, and subject to the signing of the respective agreements.

With regard to Customs in other countries, exchange Conventions have been signed, being mandatory the Convention on Mutual Assistance and Technical Cooperation between Central American Tax and Customs Administrations.

For electronic documents validation purposes in the country, when they come from abroad, a certification body must be involved, through approval procedures and correspondent, as noted by Law of Certificates, Digital Signatures and Electronic Documents. (Articles 13 and 20 above transcript)

## **5. AUTOMATION OF CUSTOMS OPERATIONS**

Customs operations are fully automated through the use of two main systems

TICA (Information Technology for Customs Control). It is the system used by Costa Rica Customs

TIM (International Goods Transit System) operated by the Centro American Secretariat of Economic Integration (SIECA) and used by all the Central American countries to convey land transit declarations (DUT) used to transport goods across one or more countries without need to pay taxes in the transit countries. TIM exchanges electronic information with TICA system

### **5.1 TICA SYSTEM**

TICA System is a software tool supporting a business and process model that has modernized border management through the use of technology.

The system is used by National Customs Service officials, Civil Service Assistants (customs agencies, customs agents, customs warehouses, shipping, air and land transport, courier companies, freight consolidators and transient parking). Users of this system are also port authorities, ministries that issue permits, quotas, sanitary, phytosanitary, safety, such as the Ministries of Health, Agriculture, Security and Foreign Trade.

There is public availability of information procedures and manuals on the Ministry of Finance website ([www.hacienda.go.cr](http://www.hacienda.go.cr))

TICA also interacts with the Interbank Trading System and Electronic Payments (SINPE).

The aim is to manage border crossings so as to serve the public, automating the customs process and its main functions: receipt, validation, integrated tariff, payment, acceptance, selectivity and electronic lift. The model is based on the determination of the amounts payable by the stakeholders and making payments electronically. To do this the system has a centralized database where all transactions are recorded. This enables centralized management control,

The system allowed to establish the Single Customs Declaration (DUA)

It has a risk analysis module integrated into the same system.

TICA system has the facility to attach scanned images associated with the records of transactions.

It was implemented in July 2005 to administer the customs procedure of admission, deposit and import. From July 2008 the operation of export regime was implemented in the system. The free zone regime was introduced in February 2010 and the Inward from March 2011. In November 2011 the connection to the TIM system was implemented

Since TICA is designed to manage processes related to Customs there is documentation detailing these processes. This is the **Customs Procedures Manual**. This manual was created in the year of implementation of TICA (2005) and is being constantly updated as new guidelines, circulars, resolution or regulation that involves a change of procedure are issued. The latest reforms were made in 2014

In this manual the following procedures are detailed, indicating the processes to be performed by each of the stakeholders:

Entry and exit of goods, vehicles and transport units

Customs transit

Down Payment

Export

Drawback procedure

Free zones

Inward

The system is modular and component modules are detailed in the table below

Module	Description
Basic Information (DB)	Provides administrative tools for managing basic system data. The use of these tools is in charge of different customs offices, such as tariffs, binding documents, customs codes, etc.
Variable Certificates (CV)	Allows the electronic exchange of information with the various public institutions and business stakeholders, responsible for issuing all documents required as prerequisites to the customs declaration, and / or are a requirement to continue with different types of procedures.
Metadata (MD)	Module for metadata management that are used to control TICA system
	Registers all changes submitted or generated in a Single Customs Declaration (DUA), either Import, Export and Transit during the process defined as the Document or Physical Review to what the declared goods are subjected.
Auxiliary records Inclusion (RG)	Registers all stakeholders involved in the various customs operations, their states, categories, officials, sanctions, guarantees and other information related to these. For any customs operations in the Customs Service through TICA system, a person must be registered as declarant. Any declarant may also be recognized in the TICA system as Civil Service Assistant, Customs Agent, National or International Carrier and / or establish performances or specific operations within the Customs service. This is known as the process of categorization.
Processing charges, acceptance, settlement, validation, etc.(TD)	TD Module is a monitoring and execution application for the reading process, validation and processing of XML files, which contain information concerning the DUA's. It is responsible for processing XML files sent by the authorized DUA's partners to develop Import, Export, Transit, Free Zone, Inward, re-export and Courier (known as simplified statements DUA) reporting.
Visits management and distribution of staff by Customs (GV)	Allows the Technical Manager to assign a reviewer to the statement. Shows the possible conditions as the type of verification for the goods, either physically (red channel), documentary (yellow channel) or both, the date, time and the group of deposit which will conduct the review of the assigned claims. Also the Manager has the ability to reassign a statement to another available reviewer. In addition he can authorize or reject the channel change from yellow to red.
DUAS Monitor (MO)	<p>It is responsible for moving the DUA between the corresponding status. It uses a graph where state changes are taken into account, including criteria such as the channel type / assigned semaphore. This module performs the following tasks:</p> <ul style="list-style-type: none"> <li>• Monitor the DUA status through all its lifecycle including different possible deductions,</li> </ul>

	<ul style="list-style-type: none"> <li>• Run the process for annulment of DUAs.</li> <li>• Check the due date and annulation of DUAs corresponding to export and transit regimes. It controls also automatic due dates for export declarations.</li> </ul>
Reception Office (ME)	<p>This module performs the following tasks:</p> <ul style="list-style-type: none"> <li>• Automatic revision</li> <li>• Correlated to normal DUAs change</li> <li>• DUAs Correlation and consolidation</li> </ul>
Risk Evaluator (ER)	<p>Allows rule definition and evaluation of their effectiveness. The main purpose of the rules is to create selective risk criteria that apply dynamically any statement regardless of the instantiated entity. It has automatic processes that perform the following tasks:</p> <ul style="list-style-type: none"> <li>• Automatic compilation of risk spaces</li> <li>• Channel and/or semaphore assignment</li> <li>• Electronic label assignment</li> <li>• Evaluation of test spaces</li> </ul>
Labels (TA)	<p>Responsible for providing the means by which the users pay the DUAs charges. This is done through debits in real time (DTR) using Web services created by the Central Bank of Costa Rica, to communicate with the payment system (SINPE).</p>
General cargo / Manifestos (CG)	<p>Cargo manifests of goods (both inwards and outwards the national territory) are recorded. These are manifests in the maritime, land and air modes.</p>
Scheduler (SC)	<p>It works as a monitoring application and schedules execution of applications of TICA, which must be configured to run at specific times</p>
Global Users (GL)	<p>Generic User and core functionalities Control Module. General functions are shared by almost any other module (numerators, math functions and control of users and profiles). Includes options for assigning users and passwords, which in turn allows access control of the various users the options that the administrator authorizes. Each user shall be assigned a specific profile which will contain the default set of access. In addition, the system also has the option of assigning levels to specific users.</p>
Value (VA)	<p>It is responsible for the verification of declared vehicles values as is defined by tax agents' prices.</p>
Tica summary (DD)	<p>Loading processes, which extract data from the TICA production environment database and are inserted into another database called TicaResumenes.</p>

	Summary information for import, export and transit is extracted, including vehicle data. These data can be manipulated by interested parties in order to generate statistics and reports that are requested to the Department of Registration.
International transit TIM (IT)	Responsible for international transit of goods by road, under a Single Transit Declaration (DUT). It was the result of a project with the Interamerican Development Bank (IDB), in order to control traffic through Central America. This module includes developments requested by IDB (i.e:web services), and is integrated with TICA.
Data publication in the web (PB)	It publishes through web services or through files placed in the Virtual Area Network of the Ministry of Finance. It generates XML files with the basic system data and operational data of customs operations (DUAS).
Trips & Gates (TR)	"trips and gates" control , trips meaning truck movements or other means of transport where it is necessary to control arrival and departure dates and times, seals, quantities and weights, drivers and licenses.
Stock and Inventory (SK)	It controls inventories of the Depository Customs, Customs Warehouses, Ports and Airports warehouses. This module allows to control other types of operations that can be applied to these locations as: Revenue, Registration Consignment registry, endorsements, Rights assignment, Groups, Splits, leftover and missing log, End of stay in container, Repacking and Distribution, etc..
Windows and Web queries (CN)	It is designed to facilitate both, external users and the general public, the query process and information display related to the customs declarations that are processed in the Customs Information System TICA. The module consists of a series of queries and reports in Web and Windows environments related to the processing of customs declarations of goods in TICA.
Digitized images (ID)	Processes of image reception and validation when received from the VAN It also manage the association of images to DUAs. For reception, TIF files are processed and for the response an acknowledgement XML file or reject codes are generated. This XML is left in the output folder of the VAN.
Dealers Inventory Golfito (IC)	It is basically made up of two components: a Windows application, where the customs officer may perform all operations that have to do with inventories of dealers and then a process for uploading files in XML format, where dealers transmit to TICA the different movements of goods that affect inventories.
DS-Vehitur	Designed for entry and control of Certificates for Temporary Importation of transport vehicles (land, air and sea) to be used in the country in the form of temporary import, i.e., a suspension of payment of taxes is granted for a specific time lapse and terms and conditions established by the procedure
Professional Courier (DS)	It is responsible for conducting DUAS with a value exceeding \$ 500. This DUA may be associated with an inventory movement as well as a manifesto. The system validates each field and review information

	on each screen before including it in the database.
(LA) Customs Laboratory	Customs laboratory system.

## 5.2 TIM SYSTEM

The TIM (International Transit of Goods) System is an IT system used for international transit of goods by road, under a Single Transit Declaration (DUT) where Customs, Ministry of Agriculture and Migration participate. It implements a common operating procedure at the borders of the countries of the region (Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama). It is an independent system that is accessed by each country. It exchanges information with Costa Rica National Custom system TICA.

The system allows the advance electronic transmission of the declaration of international transit, by transferring the responsibility for the data input from customs officials to transit operators. This allows to have up to date information of incoming transport units and their cargo, allows to have traffic control traceability from the departure to the destination offices and make customs border crossing operations more agile and efficient

The carrier generates an unique Transit Declaration (DUT), associating the manifest, the bill and the quarantine permission when appropriate. The carrier presents itself to the quarantine authority with the DUT and then proceeds to the Customs office of departure so that the DUT is authorized and transit starts

When the carrier passes through a Customs Border pass he does not stop at the exit of the country, and he proceeds directly to the TIM window of the neighboring country. At that time the neighboring country closes the former country trip and the carrier continues its journey.

When he arrives at his destination he shows up in the window of the destination country, with supporting documents and DUT for approval. The trip to the former country is closed and the transit is completed for the Customs office of departure from the country of origin.

There is an electronic information exchange between TIM and TICA systems in real time according to the following description:

If the Transit begins in Costa Rica, the declarant generates a single Customs Declaration (DUA) for export in the TICA system. The carrier generates unique Transit Declaration in TIM. Once

validated, TICA system responds with the associated trip number releasing the retention had been done waiting the transit permission. Once authorized the DUT associated DUA is released.

If the transit ends in Costa Rica, the Central American country of origin sends the DUT and the TICA system generates a trip. The declarant generates an import DUA Tin ICA if the merchandise is nationalized at the border. When the customs officer closes the trip in TICA, communication is automatically sent to the TIM system for the closure of the DUT.

According to the description done, there is already an exchange of information between customs in Central America through the interrelation of TICA and TIM systems. The information exchanged is related to the basic traffic data contained in the unique Transit Declaration (DUT) generated in the TIM system whose data are sent to the TICA system when necessary. Other information that is of interest as data related to risk assessment is exchanged

The Secretariat for Central American Economic Integration (SIECA) is conducting a project (with the approval of its members) to implement a Single Centro American Statement (DUCA) and promote the electronic exchange already done through the Centro American Single Customs Form (FAUCA)

The FAUCA document is used to export products from Central America to any country in Central America. The FAUCA document acts as the certificate of origin, commercial invoice and customs declaration.

Consulting work has been done with World Bank financing that allowed to design the DUCA. The goal is that this declaration works as a single form for all future regimes replacing the various forms and / or existing statements. Regarding this work plan developed by the Secretariat for Central American Economic Integration included the monitoring of the work of the Group of Customs Directors. The Technical Standards group developed a plan whose tasks for the second half of 2014 are the following.

Prepare the conceptual document containing the DUCA implementation strategy

Define the print format

Develop legal proposals for DUCA implementation and corresponding amendments to related resolutions

Submit a proposal to update the Rules of International Customs Transit according to international trade needs.

Regarding adjustments and modifications to TIM, an essential task is to update the matrix of the TIM system mods.

It is interesting to note that there are initiatives carried out with support from the Inter-American Development Bank (IDB), being one of the most important the Support to the Preparation of Operation Steps for Modernization of Land Border crossings in Costa Rica

### **5.3 Other Secretariat of Centro American economic integration initiatives that improve information Exchange between customs**

There are regional data bases accessible by Central American countries with data from Centro American Computerized Tariff and Transport agents.

SIECA has also created a regional information technology platform for electronic exchange of information. It is a software platform that will be the vehicle for the efficient transmission of information in electronic form. It should be used by systems that exchange information (such as the TIM system) .Through it, it is transmitted simultaneously to all of Central America the Central American Customs Form (FAUCA). As future applications of this platform it can be mentioned

- DUCA (Declaration of goods for trade with third countries)

- Criteria and Risk data

- Other documents related to trade (e.g. quarantine permits)

## **6. TECHNICAL AND INFORMATION TECHNOLOGY FRAMEWORK**

### **6.1 TICA System (Information technology for custom control)**

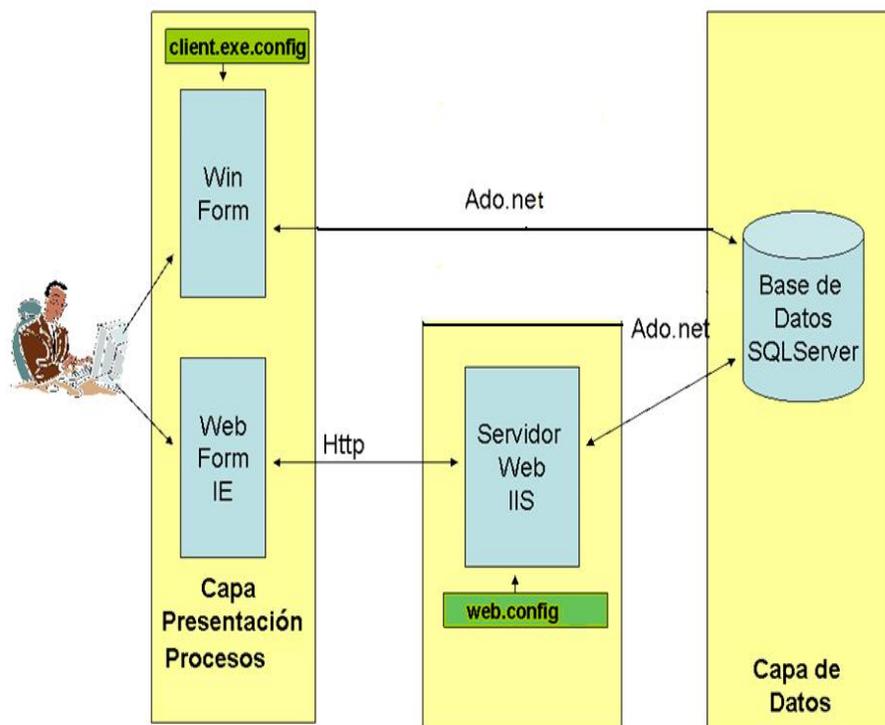
From the infrastructure perspective TICA system is developed in client-server technology, with some query transactions via web.

TICA is installed in INTEL Servers (Windows) and Microsoft SQL-Server 2008 as database management software. The programming development tool used is GENEXUS 10. This tool generates code in C# language and runs on .Net platform Framework 2.

GENEXUS is a cross platform development tool oriented to Windows platform. In its latest versions (not yet implemented for the TICA System in Costa Rica) it supports the development of web applications. It is the main product of the company Artech from Uruguay. Programmers develop in a high level language, from which GENEXUS automatically compiles and generates code for multiple platforms

### Scheme 1: the basic architecture of TICA

Source: Presentation by Directorate General of Customs on the TICA system

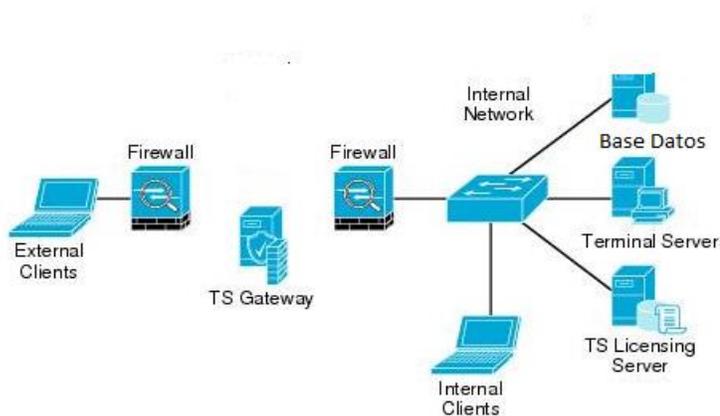


It runs in a Data Center that is undergoing a migration implementation project from the old computer center that does not meet safety standards and availability needed for critical system as TICA to a Data Center Tier 3 supplied by the company CODISA Services.

Internal and external system users communicate with the system via Terminal Services, according to the following scheme

### Scheme 2: System Terminal Services

Source: Presentation by Directorate General of Customs on the TICA system



## 6.2 TIM System (International Transit of goods)

TIM system, used by the countries of Centro America (Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama) is owned and operated by the Secretariat for Central American Economic Integration (SIECA).

The system is accessed through a Portal Management consisting of a high-availability software tool based on Internet. It allows officials and carriers to conduct operations safely on Unique Transit Declarations (DUT) available through the system. TIM has mechanisms of secure communication based on Internet, enabling information exchange to and from the regional server installed at SIECA headquarters in Guatemala

TIM Management Portal consists of functions grouped into modules, which allow the carrier or agent to query and efficiently process the declaration- DUT. At the same time it verifies all the supporting documentation required for the declaration. The main modules are:

**Capturing System:** DUT Capture system is published in the TIM Management portal and can be downloaded by users and staff who have access to this portal. This module includes access to technical documentation related to the capture system.

**Queries and Reports module:** the portal provides a set of queries and reports, which will allow the carrier and staff to track and control DUT statements generated.

**Statistics module:** the portal provides a set of statistics, which will enable the carrier officials to analyze information from DUT declarations issued.

**Quarantine Management module:** the portal provides tools for quarantine institutions, which will allow authorization and closing operations of transits on the DUT statements.

**Security Management Module:** the security module can be accessed by administrators of the regional system and allows the permissions definition associated with users and workgroups.

### **6.3 Electronic messages Exchange infrastructure**

The auxiliaries to customs interact with the system through the generation of XML messages that are automatically received by the system to generate Unique Customs Declarations (DUAs). These messages travel through the Internet. The same procedure is used for auxiliaries to receive XML messages from the TICA system.

XML messages sent by auxiliaries are digitally signed. They install an application to encrypt and sign the XML message on their computers. The purpose of encryption and signing is that TICA system can access its content. With the help of an application a Digital Certificate is added. This Certificate associates the information with a public key and using messaging servers decrypts and validates the digital signature.

The real-time intercommunication between the TICA System used by Costa Rica customs and TIM System installed by the Secretariat of Economic central American Integration is performed through web services.

### **6.4 TICA enhancements**

Risks have been identified both, in system operation and the lack of some functions and features to meet legal and regulatory requirements. Based on a study done by the Information Technology Department obsolescence of important part of the system hardware infrastructure was determined and it was also found that the current system covers 80% of the business needs indicated by laws and regulations and a list of software enhancements to cover that gap of 20% was developed

The first phase of an improvement plan was implemented. This improvement consisted of:

- a. Replacement of 9 obsolete servers without redundancy by 14 new servers to add new technology and redundancy
- b. 30 software functional improvements were completed during 2014.

The second phase of improvements is planned to be done in 2015 (pending allocation of funds when visiting Costa Rica for this report) aims to improve performance, stability and functionality of TICA computer system and to develop process improvements mainly in Revenue, Customs Transit, Customs Warehouse and Definitive Import. Main tasks of this plan are:

Update the hardware platform.

Improve the performance and stability of the load modules.

Update and implement technological continuous improvement plan for the system.

Reduce the gap between present system functionality and the existing customs procedure.

To do this it is planned migration to new servers that run all peripheral services (the core of the system has been already migrated to new servers, as detailed above)

It is also planned the migration to the GENEXUS Evolution 2 platform (released to the market in 2012) to enable the system for a future architecture change from client-server to web technology.

In the work plans it was also included the development of the functionality required for implementation of the Unique Centro American Declaration (DUCA). Such development should in principle be completed in 2014 and the project has not even started..

To complement these tasks the Information Technology Department in conjunction with the Directorate General of Customs plan to determine priorities for development, assemble a project structure for proper monitoring and control of the project and analyze whether it is necessary to add human resources for development.

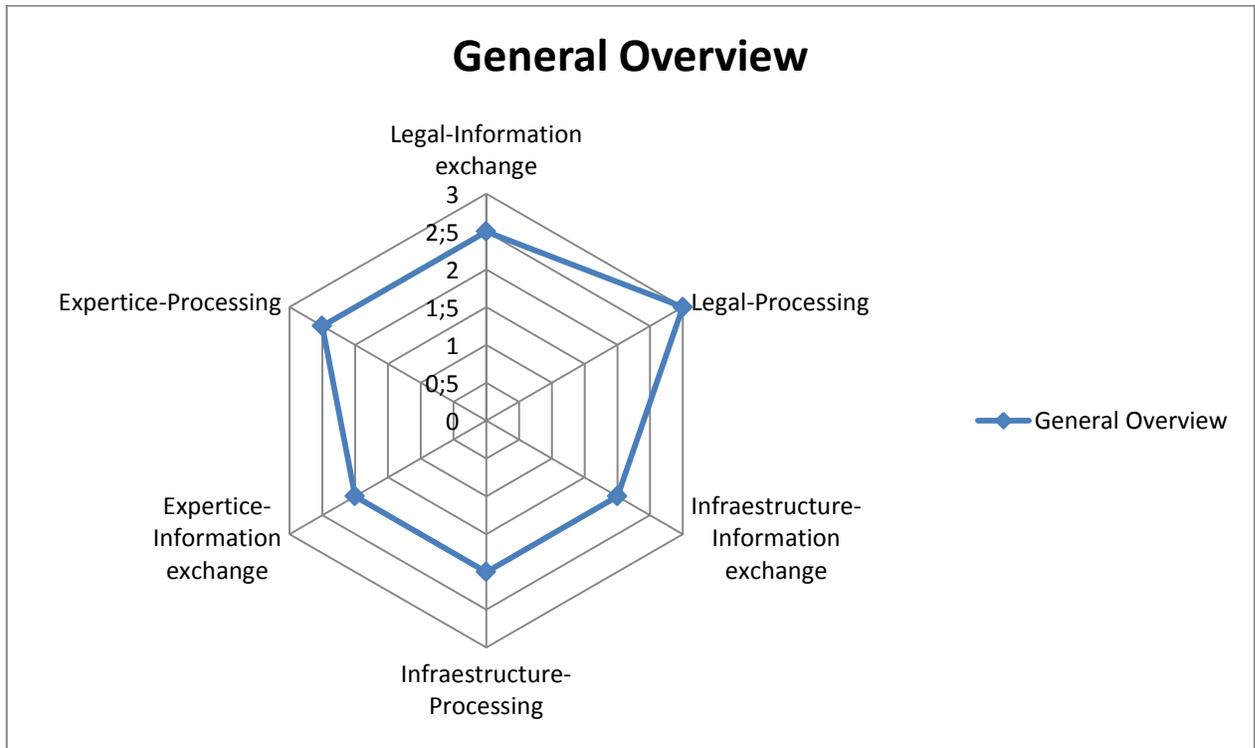
## **7. GAPS AND OPORTUNITIES FOR IMPROVEMENT**

### **7.1 Overview**

Various gaps and areas for improvement to increase the electronic exchange between customs from both legal and technical perspectives were analyzed. As a summary of gaps found, below a rating of the main aspects is given in accordance with the following evaluation criteria. It is understood that the summary values are indicative of a trend and that any action plan must be derived from detailed analysis of the gaps.

Value	Description
0	The current situation gives no possibility of sharing data across systems. Profound changes are required to enable this Exchange
1	The implementation of data exchange through systems requires significant improvements to the present systems and procedures. An action plan is required
2	The implementation of data exchange requires minor improvements, which can quickly be obtained by clearly defined steps
3	The current situation allows Electronic Data Interchange (EDI) without major changes or improvements

FRAMEWORK	SENDING AND RECEIVING INFORMATION	INFORMATION PROCESSING
Legal	Present legislation allows sending information to other customs authorities, provided that there are bilateral or multilateral agreements in place. Law also governs the protection of personal data. No major changes are required to the laws. It is urgent that Costa Rica ratifies CAUCA IV.	The legal framework allows the processing of information. Central America agreements that are in effect give the basis for the information exchange. It is urgent that Costa Rica ratifies CAUCA IV.
Technical and Information infrastructure	Information via XML and Web Services is already being exchanged with Central American countries. The need exists to add developments both in Costa Rica and the Secretariat for Central American Economic Integration (SIECA) to increase the level of trade. Convenience and effort required should be analyzed to adapt data models to the model of WCO. Standards for information exchange should be established	It is necessary to continue the infrastructure and basic software upgrade plan as well as to perform the necessary developments to reduce risks. Work with SIECA is necessary to have a high availability infrastructure to reduce the risk of disruption of services related to information exchange. This infrastructure must be specified after a thorough analysis of existing infrastructure.
Expertise and Capacity	Customs officials have experience in the electronic exchange of information between TIM and TICA systems via XML and Web Services. Training in best practices for information exchange is recommended, as well as in analysis and processing large amounts of data through Business Intelligence techniques	There is already some experience in information exchange systems. Training in best practices for information exchange is required and an analysis of the size and capacities of the IT team dedicated to these issues should be done.



## 7.2 Gaps

### 7.2.1 Detailed legal gaps

Overall, it was found that the gaps from the legal point of view for the electronic exchange of information are small. Gaps found are listed below, even though they do not prevent the electronic exchange of information

- A) Modification process to the regulation of the Customs General Act is underway to detail the processes required to accept electronic invoices
  
- B) Even though some Custom resolutions are electronically most Custom documents are processed with autograph signature.
  
- C) The transit of goods that travel by their own (i.e.: buses) has no uniform treatment across Centro American countries.

- D) Regulations do not promote advance declaration, and delays in data reporting are not penalized.
- E) There is a single certifying entity which is the Central Bank of Costa Rica. Its operation is not adapted to support massive diffusion of digital signature because the process of obtaining it takes several weeks. New certifiers have not been added and the ISO norm chosen involves high implementation costs.
- F) No agreement with other countries to exchange and share risk data in Central America has been signed. There is information exchange only in specific cases
- G) Costa Rica has not signed CAUCA IV yet (the signed version is CAUCA III). CAUCA IV clearly establishes the recognition of documentation electronically issued in every country of Centro America.
- H) Electronic documents issued by other countries must be validated and certified by a certifier authorized by the Ministry of Technology. There are not agreements on mutual recognition of certification in place. At the present time the unique certifier of Costa Rica is the Central Bank. Documents exchanged at present (FAUCA and DUT) do not go through this process
- I) The Bank Secrecy Act of Costa Rica prevents access to data from bank accounts. This hinders accurate risk estimates in many cases
- J) Although customs agents use a token as a digital signature, it is not used for authentication for using the systems.

### **7.2.2 Detailed functional and technical systems gaps**

In general terms a significant capacity exists in both the systems in use that allow the automated management of the majority of customs duties, and also the human resources expertise and knowledge of their responsibilities. Gaps found, detailed below, were originated in periods when necessary investments for maintenance and evolution of information systems were not done. This trend has begun to be reversed and there are plans in place for the near future.

- a) Information Systems in use are not prepared to receive electronic invoices (even though the legislation recognizes this possibility). While it is now necessary to digitize the commercial invoice for customs clearance and this is attached to the Unique Custom Declaration (DUA) in image format, it can be altered by the applicant in order to decrease the value of the due taxes to pay. This causes economic loss to Costa Rica state, mainly due to sub invoicing of imports.
- b) In many cases neighboring countries do not close transits that end in their country in the TIM system, leaving outdated information in the system and in Costa Rica system TICA.
- c) There is no function to assure and/or enhance "Data Quality" for the TICA system. Due to data quality problems in several opportunities the expected results cannot be obtained through the systems. By way of example, not closed transits cause errors such as not being able to know if goods in transit to other country arrived or it did arrive and was not properly informed to the system. This implies several risks as maybe failure to collect import taxes, illegal and/or dangerous goods import among others
- d) For ground transportation declarations (DUAs) are generally not received in advance.
- e) An average of 46,000 DUAs are processed monthly an average 11% are reviewed and 6.7% of them have issues. Any increase in the percentage of control involves more technology investment and / or human resources.
- f) TIM system does not allow to exchange or share risk information
- g) TIM system is not supported 7x24, so when there is a problem at a custom office, related to this system during the weekend no staff trained to solve it is available.
- h) TIM system has no alternative and / or contingency servers in place.
- i) Although there is a list of software improvements to the TIM system agreed between countries, the programming for these has not been developed and therefore these improvements have not been implemented.

- j) There are data quality issues in relation to the description of goods, because these descriptions are very general, hindering further treatment
- k) Although risks related to operation and infrastructure of TICA system are being mitigated, since IT Management has a plan for this, this plan needs to be continued and supported.
- l) Documentation for installation of TICA system is not available.
- m) There are few qualified human resources with technical and functional knowledge regarding development of TICA system.
- n) Based on a gap analysis comparing the TICA system functionality with the Costa Rica legislation it was determined that 80% is covered by the system. It is necessary to cover the 20% that is lacking through developments of functional upgrade to the existing system and not making a complete change of system. This requires a detailed definition of the items to improve TICA system (IT department estimated that the gap is summarized by 140 items). It is also necessary to assign human resources needed to complete these developments and the subsequent exhaustive testing.
- o) There is no relationship between TICA System and the National Tax System, making the case that importers or exporters may not be registered as taxpayers.
- p) An analysis of the adjustments to TICA data model and functions to adapt it to the World Customs Organization data model has not been done.
- q) No Data Warehouses and / or Data Marts to give a more sophisticated treatment of the large volume of data available have been implemented. It is necessary to help to find dependencies, regularities in big amounts of data. The process to browse through the vast information stored is manual.
- r) There is no trained staff with knowledge to manage and obtain conclusions from the analysis of large volumes of data.

- s) The company that provides the software development tool for TICA is a Uruguayan company that although has provided good results until now, it is not an international leader in its field. Risk involved should be assessed.
- t) There are gaps related to the lack of adoption of international best practices in process to share data (i.e.: Risk data, Value data, etc.)

### 7.2.3 Opportunities for improvement

Taking into account the identified gaps, a series of actions to be performed to help eliminate some gaps and reduce others follows. These actions are of diverse magnitude.

In the table below, for each improvement mitigated gaps are indicated. Gaps in lowercase letters are technical and if the reference is in capital letters it indicates a legal gap. In the Term column an approximate estimated duration of the project or task is estimated as Short (up to 6 months), Medium (over 6 months and under 18 months) and long (over 18 months). The estimated cost column indicates if the anticipated cost is low (up to 30,000 U \$ S), medium (between 30,000 and 100,000 U \$ S) and High (more than 100,000 U \$ S)

During the meetings held in Costa Rica many of these actions were indicated as necessary for one or more stakeholders from the National Customs Service and the Department of Information Technology

#	Description	Mitigated Gaps	Term	Cost
1	The creation of a function within Customs, responsible for monitoring TICA System Data quality will improve the usefulness of information available. In that respect it will also help the implementation of system modifications to add validation and consistency checks that are considered essential	b, c, j	Medium	Medium
2	Creation and implementation of complementary controls to strengthen control systems in the 7 Customs of Costa Rica (Central Customs and Border Customs) (e.g. electronic labels, scanners)		Long	High
3	Develop and / or acquire and implement a system for Customs Management Control. The objective is to monitor management parameters such as productivity	e	Long	High

	and revenue. The Customs officials have seen references of different systems available in other regions and highlighted Spain's system as an example in this regard.			
4	Conduct a workload analysis at Customs to determine minimum and maximum number of workers to be assigned at each Customs. The analysis, to be conducted by external consultants, should review processes and ways of improving the possibilities for exchanging information with other countries. These allocations will also be based on the level of technology that is incorporated at each Custom office.	e	Medium	Medium
5	To train agents and auxiliary border management a classroom (face to face) approach is used. This training is done for the first time and on a recurrent basis. Development of an e-learning tool will help to make this easier and will provide standardized training.		Short	Medium
6	Adapt systems to receive electronic invoices, if possible directly from suppliers and when this is not possible, from importers, in order to avoid the declaration of values lower than the actual values	a, E, H	Long	Medium
7	Conduct a study of the amount collected for detected incidences in revisions done according to what is indicated by the risk module, to decide whether it is justified or not (from an economic perspective) to invest in human resources and technology that will increase the revision level.	e	Short	Low
8	Incorporate Business Intelligence and / or data mining tools and train Custom users in their utilization. The objective is to have more information with the aim of exchanging with other customs. The goal is to develop activities with support of specialized consultants to put in place actions to achieve a business intelligence model that facilitates risk management	r	Short	Medium
9	Continue with the plan of hardware and software upgrades performing the necessary agreements and investments (both infrastructure and specialized HR) raised by the Information Technology in conjunction with the National Customs Service	k, l, n	Medium	Medium
10	Complete the migration to the CODISA Tier 3 Data Center, until the Ministry of Finance data center (planned) is built	k, l	Medium	High
11	Availability of an alternate data center for severe contingencies management.	k, l	Long	High
12	Conduct a comprehensive assessment of systems infrastructure to determine possible "single points of failure" and its subsequent resolution (as an example:	k, l	Short	Low

	during 2014 the connection to the TIM system was interrupted 36 hours for lack of an alternative VPN link . After this incident a backup link was contracted)			
13	Improve the Custom systems test environment to perform important testing of software improvements prior to its implementation.	n	Short	Medium
14	Interact with the Secretariat of Centro American Economic Integration (SIECA) to develop and implement functional improvements to the TIM system, install contingency services and establish a 7x24 support structure.	f, g, h, i	Medium	High
15	Develop the necessary functionality in the corresponding systems to implement a Unique Centro American Document (DUCA) primarily for trading with the European Union		Medium	Medium
16	Upgrade TICA system to adapt it together with SIGAF Financial Management System (based on SAP) to International Accounting Standards for the Public Sector.	o	Medium	Medium
17	Train personnel and conduct a study to determine the modifications to be made to adapt the TICA System Data Model to the Data Model indicated by the World Customs Organization. (WCO).	p	Short	Low
18	Train Department of Informatics staff in international best practices for electronic information exchange between customs.		Short	Low
19	Technical collaboration to create a Customs Valuation database in Costa Rica including: transaction values and customs values, benefits and considerations applied to the prices paid or payable, payments for fees, sales commissions, Adjustable reversals,	t	Medium	Low
20	Create a common repository to share among countries that sign the corresponding agreement (in principle Central America) where basic export data are stored and every country can have access to the database. To make it viable it is convenient to include basic data only, as Exporter, tariff classification, customs value, number of pieces, weight, insurance, freight and date.	t	Long	Medium
21	Make the necessary analysis and relevant agreements to exchange between customs certificates of origin in order to build and maintain a "blacklist" to improve a priori risk assessment.	t	Medium	Medium
22	A comparative analysis between practices and processes used under the TIR agreement and processes and practices used in Central America regarding international land transits information exchange. The	t	Short	Low

	purpose is to identify improvements to be applied in Central America to improve the exchange of information and security in the international transit of goods.			
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## 7.2.4 Recommendations for 2015 action plan

A series of actions are recommended to be performed during 2015. The proposed activities will serve to improve capabilities related to the exchange of electronic information between customs administrations for Costa Rica. Improvements related to TIM will help improve communication for all Central American countries.

Recommended actions are

### 1) Training actions

- a. Train Custom staff in the use and techniques of Business Intelligence tools
- b. World Custom Organization (WCO) data model Training
- c. Train Information Technology staff in best practices for electronic information data exchange

### 2) Technical assistance actions

- a. Seminar on TIR convention and practices. The seminar will include a workshop where each country will present a high level gap analysis between its practices and those of TIR. Main topics to be considered are:
  - . Vehicle and container safety
  - . International warranties and case study
  - . Mutual recognition of custom control
  - . Verifying standards and physical goods revision coordination
  - . Border crossing processes automation

- b. Provide support for the design of a custom valuation and risk assessment database to share with other Centro America countries
  - Tasks involved in this activity are.
    - 1) Determine a sector and person to lead the initiative in Costa Rica Custom
    - 2) Preliminary contact with SIECA to inform about the initiative.
    - 3) Preparation of a detailed proposal of information to be shared, indicating methods for information access and provision for each country.  
Information Technology functions to build will also be specified
    - 4) Informatics architecture and platform alternative analysis (TIM upgrade, new exchange architecture design, use platform under construction by UNECE)
    - 5) Financing alternatives for construction and running of the database analysis
    - 6) Prepare a plan for pilot implementation
    - 7) Project presentation
  
- c. Seminar on technical and functional details of the Electronic Information Exchange platform that United Nations is building

### **7.3 Other considerations**

Throughout all the surveying process, managers and directors, both from Costa Rica Customs and from the Department of Informatics were very interested in the project. They provided full support and were very clear and transparent when providing information.

The governing body of the Customs Service of Costa Rica and the Directorate of Information Technology proved to be very proactive when proposing improvement initiatives. That is why it is considered a fertile ground to nominate Costa Rica as a pilot project country.

In particular there are very interesting initiatives to improve treatment of everything related to risk management and exchange of information with other Central American countries. The objective is to improve risk detection.

## 8. SUMMARY OF RESULTS AND CONCLUSIONS

Costa Rica has a knowledgeable team and implemented systems that provide an excellent basis for the implementation of a second phase of ECLAC and UNECE project. The legal gaps are minor, having space for various improvements on the technical side to increase and improve the exchange of information between customs.

The technical gaps are not insurmountable and relate primarily to a lack of investment in the past for the evolutionary maintenance of infrastructure and systems, in line with the growth of international trade. It is positive that improvements have been made in the past year and plans have been developed for 2015

There is already in place a basic platform for electronic exchange of information with other customs in Central America based on the relationship between the Customs system TICA Costa Rica and Central TIM International Transit System for goods.

It is considered that efforts in this regard should privilege the existing technological base reinforcing it.

It is important to mention that working together with the Secretariat of the Central American Economic Integration (SIECA) is key, as there is a strong interdependence and integration among the countries of Central America and any initiative isolated developed by Costa Rica will have less impact than if agreed with other countries in the region

## 9. LIST OF ACRONYMS

BID	Banco Interamericano de Desarrollo – Interamerican Development Bank
CAFTA-DR	Central America Free Trade Agreement Dominican Republic
CAUCA	Codigo Aduanero Uniforme Centroamericano – Uniform Centroamerican Custom code
COMIECO	Consejo de Ministros de Integración Económica – Ministers Council of Economic Integration
DUA	Declaración única aduanera – Unique custom declaration
DUCA	Declaración única centroamericana – Unique centroamerican declaration
DUT	Decaración Unica de Tránsito – Unique transit declaration
ECLAC	Economic Comission for Latin America and Caribbean
FAUCA	Formulario Aduanero Unico Centroamericano – Unique Centro American custom form
IIS	Internet Information Services
MEIC	Ministerio de Economía, Industria y Comercio – Economic, Industry and Commerce Ministry
MICIT	Ministerio de Ciencia y Tecnología – Science and Technology Ministry
PROCOMER	Promotora del Comercio Exterior de Costa Rica – Costa Rica International Trade Promotion

RECAUCA	Reglamento al Código Aduanero Uniforme Centroamericano – Uniform Centro American Custom Code Regulation
SIECA	Secretaria de Integración Económica Centroamericana – Secretariat for Centro American economic integration
SIGAF	Sistema de administración Financiera – Finance Administration System
SINPE	Sistema Interbancario de Negociación y Pagos Electrónicos - Interbank Negotiation and electronic payment system
TICA	Tecnología de Información para el Control Aduanero – Information Technology for Custom Control
TIM	Tránsito internacional de mercancías – International goods transit
TS	Terminal Services
UNECE	United Nations Economic Commission for Europe
XML	Extended Markup Language