# The eCustoms Central Applications Platform for the Government to Government (G2G) and Government to Business (G2B) Data Exchange and Retrieval

Iraj Namdarian[1]

[1] Library, Dissemination and Telematics Unit, Italian Institute of Agricultural Economics, Italy, email: namdarian@inea.it

**Abstract.** For more than 15 years, the EU customs policy has required the implementation of IT trans-European systems to enable the exchange of information between national customs administration, the Commission, and in some cases traders. Since 2003, when the Commission issued a Communication on a simple and paperless environment for customs and trade that was subsequently endorsed by the Council, the efforts towards creating increasingly efficient, effective and interoperable information and communication systems have been bundled under the electronic customs initiative.
In parallel, the emergence of the Web and the irresistible push towards eGovernment offers an increasing number of services to the citizen. These services provide the citizen with a view of the critical business information which is exchanged between the Commission and the national administrations[1]. DG TAXUD also provides IT services to serve its own internal business needs in the area of customs. It is crucially important to understand that, in order to serve its Member States base, DG TAXUD manages IT services which rely on "Centrally Developed Applications" operated by the Commission acting as Government-to-Government service.

**Key words:** eGovernment, Interoperability, eCustoms, G2G, G2B, Service Oriented Architecture, Web Services

## 1. Introduction

At present, the C2013 programme provides funding for more than 20 separate IT systems in the area of customs. In some cases, this means covering the development and maintenance cost of central customs applications that are common to the Commission and all Member States (such as TARif Intégré Communautaire – TARIC, or the Community Risk Management System – CRMS). In other cases, each Member State operates its own national IT system, but these need to be interoperable and comply with common specifications. For such trans-European systems (such as the New Computerized Transit System –NCTS or the Export Control System– ECS), C2013 supports the production of common system specifications, co-ordination of the deployment, conformance testing, quality of service monitoring, etc.
Most of the central and trans-European customs systems rely on the secure Common Communications Network (CCN-CSI) to supply the necessary communication services and associated connectivity. CCN links national customs and taxation

1 http://ec.europa.eu/taxation_customs/common/databases/index_en.htm




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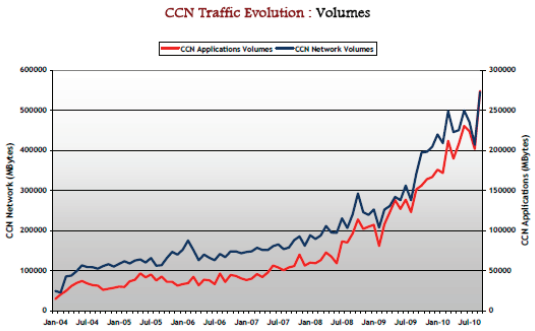
administrations in 29 countries, DG TAXUD and other DGs, like OLAF. It allows them to exchange data in a large number of customs and taxation domains. The graphs below provide an indication of the evolution of the volume of traffic through CCN, and of the percentage of the total number of messages exchanged that correspond to different applications (Vogel T. et al, 2008).

*Figure **1** – CCN traffic evolution (Volumes: 2004-2010)*




## 2. Customs 2013 Programme

Customs 2013 is a programme which gives the national customs administrations of the EU, together with the European Commission, the opportunity to co-operate in areas of common and high interest.
The Customs 2013 programme was established by Decision 624/2007/EC of 23 May 2007 and will run from 1 January 2008 to 31 December 2013.

### 2.1 Objectives

The Customs 2013 programme was designed to meet five objectives specified in the Decision, namely ensuring that customs administrations:

a) Carry out coordinated action to make sure that customs activities match the needs of the internal market, including supply chain security and trade facilitation, as well as support the strategy for growth and jobs;
b) Interact and perform their duties as efficiently as though they were one administration, ensuring controls with equivalent results at every point of the Community customs territory and the support of legitimate business activity;
c) Provide the necessary protection of the financial interests of the Community;
d) Contribute to strengthening security and safety; and
e) Take the necessary steps to prepare the countries for accession, including by means of the sharing of experience and knowledge with the customs administrations of those countries.

The Customs 2013 programme is primarily aimed at providing support to and fostering co-operation and co-ordination between the national customs administrations of the Member States - who are the programme's primary beneficiaries - to ensure the effective functioning of the internal market in the customs field.

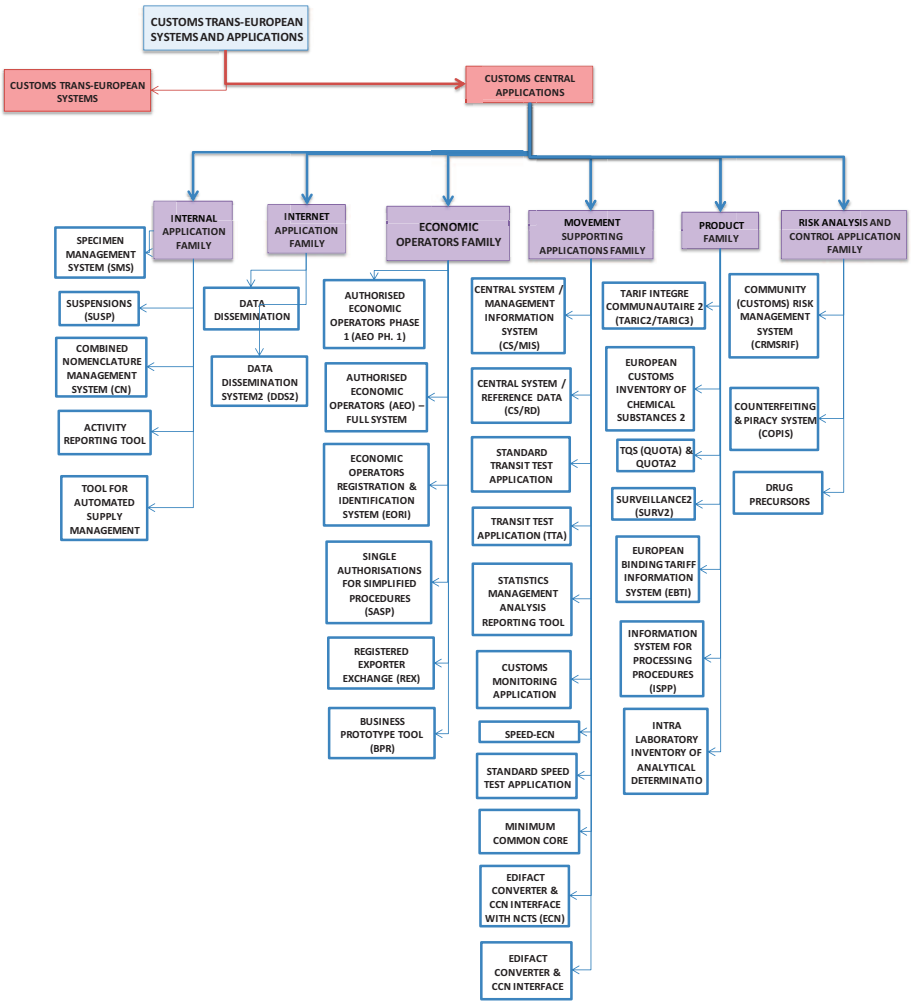
## 3. Customs Central Applications

The customs applications developed by DG TAXUD, and their operational status are organised by families as follows:

- Internal Application Family: includes applications that are used by commission staff to manage the publications (e.g. the Combined Nomenclature), the budget and other deliverables,
- Internet Application Family: is mainly represented by the unique application (DDS – Data Dissemination Systems) that permits citizens to consult public information retrieved from the CDAs (Centrally Developed Applications) through the Internet,
- Economic Operators Application Family: includes applications that identify and certify economic operators,
- Movement Supporting Application Family: includes all CDAs that are used by NCTS and ECS for the management of reference data and statistics, and for reporting and testing purposes,
- Product Family: includes all applications that concern products and product classification,
- Risk Analysis and Control Application Family: includes applications that are used to analyse and control customs risks.

The following figure and table provide a summary of the customs applications developed by DG TAXUD:

Figure 2 – Custom Central Applications



| Customs Central Applications | |
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| In general, if DG TAXUD decides to move to a more "centralised systems" implementation model, the functionality and interface of most of the customs applications will be affected, and the volume of specification and development work will increase. | |
| **1 Internal Application Family** | |
| **1.1. Specimen Management System (SMS)** | at the Community border, for importation or transit, they are accompanied by documents and/or authentication attributes such as stamps, seals, signatures, etc. These may be subject to forgery, usually with the aim of obtaining a more advantageous tariff regime. In order to fight fraud, the Commission co-operates with the competent government authorities in partner and third countries. Partner countries are those which are closely involved in implementing the co-operation procedure. They deliver information to the Commission and also take part in the dissemination of it. The co-operation is established in several domains under the centralised administration of the Commission. Depending on the domain, the partner countries are all the Member States, and possibly other countries. |
| **Business Overview** | The IT system offers functionality to:<br>• create, modify and consult the required information,<br>• generate a notification to registered users whenever SMS information is created or changed,<br>• allow the Member States to develop their own information system based on a system-to-system interface. |
| **1.2. Suspension (SUSP)** | The IT system is offers functionality to:<br>• create, modify and consult the required information;<br>• generate information and control reports and produce statistical information;<br>• transfer nomenclature descriptions to the TARIC system. |
| **1.3. Combined Nomenclature Management System (CN)** | The CN application manages and prepares combined nomenclature publications.<br>In order to monitor the flow of goods into and out of the European Union, the goods are identified with reference to a nomenclature for tariff and statistical purposes, the Combined Nomenclature. The CN consists of a table of goods descriptions with related codes together with rules and notes for its interpretation.<br>The CN management system enables the users to:<br>• edit the CN regulation/CNENs electronically and in a user-friendly way;<br>• manage the version process;<br>• manage the translation process;<br>• produce a voting document;<br>• assess the impact of a set of changes, proposed or already approved, on the regulation as a whole;<br>• provide OOPEC with the manuscript in electronic form;<br>• export all/updated CN descriptions to TARIC. |
| **1.4. Active Reporting Tool (ART)** | The information to be gathered concerns both the follow-up of activities and the management of the financial data.<br>The IT system is based on a central database and it offers |

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| | functionality to:<br>• create, modify and consult the required information;<br>• generate information reports and produce statistical information. |
| **1.5. Tool for Automated Supply Management (TASMAN)** | TASMAN will be the future information system of DG TAXUD Units A3 & A4 to follow up and control the outsourced IT deliverables and services from contract initiation to invoice verification ("conforme aux faits" process). TASMAN does not offer any budget, financial and contractual related functions. Its objective is to provide an automated workflow to support the relevant supply management processes between the sectors of Units A3 & A4, to improve the monitoring of the IT supply management as a whole, to reduce risks by enforcing compliance with internal controls, and to ensure more efficiency in the administrative work. TASMAN will be implemented in phases and it will provide the following functionalities:<br>• Registration and filing of deliverables (interface with ARES8 and CIRCA),<br>• Definition, planning and tracking of deliverables,<br>• Deliverable review/acceptance process,<br>• Service Quantities monitoring process (alias stock management),<br>• Performance & Quality monitoring process via quality indicators (SQIs /GQIs),<br>• User interface for Commission staff and contractors;<br>• Tracking of orders (RfE, Triggers, RFA),<br>• Support to operational verification of deliveries (tracking deliverables and services linked to payment terms). |
| **2. Internet Application Family** | |
| **2.1. Data Dissemination System (DDS2)** | DDS2 is a technological evolution of DDS. Basically all services will be migrated from DDS to DDS2. DDS2 will also include Web Content Management techniques permitting the publication of non-structured information such as newsletters, newsflashes and specific documents.<br>DDS2 is scheduled to be operational in 09/2009. |
| **3. Economic Operators Family** | |
| **3.1. Authorised Economic Operators Phase 1 (AEO PH. 1)** | AEO provides an operational tool at the initial stage of the AEO introduction. AEO phase 1 system will primarily enable:<br>• central management of the AEO applications and certificates;<br>• downloading of the information on AEO into the national operational systems and<br>• publishing the list of AEOs who gave their prior agreement on DDS/Internet. |
| **3.2. Authorised Economic Operators (AEO) – Full System** | AEO Full System builds on AEO Phase 1 and adds the workflow and/or collaborative functions. |
| **Business Overview** | The AEO Full System will provide, in addition to the AEO Phase 1 functionalities, for AEO certificate re-assessment management; different consultations between MS and timeline |

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| | management as of 1 July 2009. |
| **3.3. Economic Operators' Registration and Identification System (EORI)** | EORI was created to make the implementation of the security measures in Regulation 648/2005 more effective by enabling persons concerned to be identified by a common number that is unique to each person and valid throughout the Community. The EORI system of registration and identification for economic operators is meant to include recognition of authorisations granted to an economic operator. Therefore, it is understood that through this single system all authorisations given by any of the Member States will be identified and recognised across the Community.<br>A central electronic information and communication system will be developed for storing data on the registration of economic operators and for the exchange of data on the EORI numbers between Customs authorities. Customs authorities in the EU will thus have easy and reliable access to economic operator's EORI data. From their national systems, Member States will upload EORI information to the EU central system. The central system will in turn "push" EORI data to all Member States' system, thereby synchronising the national systems to the central system. |
| **Business Overview** | The objective of the Economic Operators' Registration and Identification System (EORI) is to establish in the EU a system of registration and identification for EO. EO will have a single registration number that can be used for all customs operations throughout the EU. This will also facilitate administrative tasks, as the customs operations will be simplified and will be highly secured. The system will also allow the recognition of all the authorisations granted to the economic operators.<br>From an IT architectural viewpoint, information will be consolidated at a central point and MS will be responsible for replicating this data in their national systems at regular intervals. |
| **3.4. Single Authorization for Simplified Procedures (SASP)** | The objective is to create an IT system to manage the application and consultation procedures in respect of single authorisations for simplified procedures in cases where more than one customs administration is involved. The system will also enable decisions and information flow related to the management of:<br>• Single Authorisations for simplified procedures;<br>• Single Authorisations for customs procedures with economic impact and end-use,for which rules are laid down in Regulation (EEC) No 2454/93, Articles 292 and 500. |
| **Business Overview** | • for the administrations: to have at their disposal a system capable of handling the application/authorisation process for Single Authorisations for simplified procedures, customs procedures with economic impact and end-use; to maintain a database for all Single Authorisations and similar authorisations.<br>• for the economic operators: the possibility of using the simplified procedure in more than one MS under only one authorisation issued by the customs authority of the MS |

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| | where they are established; an easier and automated system to apply for and be granted Single Authorisations and similar authorisations. |
| **3.5. Registered Exporters Exchange (REX)** | The objective of the Registered Exporters system (REX) is to make available up-to-date and complete information on registered exporters established in third countries concerned with the export of goods to the EU enjoying preferential tariff rates based upon compliance with the applicable rules of origin. Registered Exporters are seen as known and trusted partners in a particular set of rules of origin. The system will also include exporters to be registered in the EU for the purpose of exporting to partner countries who enjoy preferential arrangements Only Registered Exporters will be entitled to make out statements on the origin of the goods they export under preferential arrangements. The Commission will set up a system to disseminate information concerning Registered Exporters, which will be available throughout the EU and in the partner countries for authorised users. While the system at first will only cover some preferential arrangements (GSP and later on ACP-EPAs) , it might be expected that a similar approach could be taken for all preferential arrangements, whereby all information would be available in a single system. |
| **Business Overview** | for administrations: availability of up to date and complete information, will be useful for input on risk analysis and will be a good basis for subsequent verifications of origin and fraud investigations;<br>for economic operators: the REX system will help importers to identify reliable exporters which will increase the chances that preferential rates can be obtained without difficulties. Exporters will be able to state the origin without the need of requesting certificates for every consignment. |
| **4. Movement Supporting Applications Family** | |
| | The applications in this family support the NCTS, ECS and ICS Trans-European Systems. More specifically, applications under this family include:<br>• MCC (Minimal Common Core) application for supporting the transit movements exchange between national administrations in NCTS,<br>• ECN (EDIFACT CSI Node) application supporting the transit/export movements between national administrations in NCTS and ECS T€S systems,<br>• ECN+ (light ECS application) for supporting the MS in the context of the ECS system,<br>• CS/MIS (Central Services/Management Information System) for supporting the Commission and national administrations under NCTS, ECS and ICS T€S systems,<br>• CS/RD (Central Services/Reference Data) for supporting the Commission and national administrations under NCTS, ECS and ICS T€S systems,<br>• STTA (Standard Transit Test Application) for supporting conformance testing activities under NCTS, ECS and ICS |

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| | T€S systems,<br>• TTA (Transit Test Application) conformance testing activities under NCTS, ECS and ICS TES systems,<br>• SPEED-ECN for supporting the Automated Information Exchange with 3rd countries (currently it supports the NCTS TIR Russia T€S system),<br>• SSTA (Standard SPEED Test Application) for testing the Automated Information Exchange with 3rd countries, and<br>• Customs Monitoring Application (CMA) for monitoring availability of the central and national systems. |
| **5. Product Family** | |
| **5.1. Tarif Integre Communautaire2 (TARIC2/TARIC3)** | The aim of the TARIC is to be a compilation of the community tariff, commercial and agricultural legislation, codified in a unique and consistent way. It is implemented by a central database managed by DG Taxation and Customs Union.<br>By integrating and coding these measures, the TARIC secures their uniform application and gives all economic operators a clear view of all measures to be undertaken when importing or exporting goods. It also makes it possible to collect Community-wide statistics for the measures concerned.<br>It should be noted that the TARIC contains tariff measures (third country duty, suspension of duties, tariff quotas and tariff preferences), agricultural measures (agricultural components, additional duties on sugar and flour contents, countervailing charges and refunds for export of basic agricultural goods), commercial measures (antidumping measures, countervailing duties, safeguard measures, retaliation measures); measures relating to restriction of movements (import and export prohibitions, import and export restrictions and quantitative limits) and measures for gathering of statistical data (import and export surveillances). |
| **Business Overview** | • for the administrations: consistent application of tariff and commercial legislation throughout the customs union;<br>• for the economic operators: TARIC provides immediate and up-to-date information |
| **5.2. European Customs Inventory of Chemical Substances2 (ECICS2)** | ECICS Ensures a consistent and harmonized classification of chemical products in the EU and help customs authorities to identify chemical products.<br>With ECICS already functioning, the current initiative is an update of the system to improve its performance and add new tools according to the needs expressed by different types of users. |
| **5.3. Surveillance 2** | The main purpose of Surveillance 2 is to ensure the collection of data in the framework of import - export monitoring (surveillance). |
| **Business Overview** | for the administrations: automatic delivery of statistics required by several services of the Commission (DG OLAF, DG TRADE, DG AGRI, etc.).. |
| **5.4. European Binding Tariff Information System (EBTI 3)** | EBTI ensures the correct issuing of all BTIs and to have a database of all applications and issued BTIs.<br>A further evolution could result from the Modernised Customs |

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| | Code when the holder of a BTI will have the obligation to apply the BTI when declaring the covered goods. |
| **Business Overview** | • for the administrations: allow for faster and better comparisons of any request with existing BTIs avoiding all divergences; enable control of the use of BTIs;<br>• for the economic operators: provides legal certainty with regard to the tariff classification of goods for a specific period of time, and consequently certainty with regard to customs duties and any other customs charges dependant on classification for which those goods may be liable. |
| **5.5. Information System for Processing Procedure (ISPP)** | The main objective of the application is to manage information concerning the IPR (Inward Processing Relief) authorizations. The system facilities allow registration of applications for import with a view to processing and re-exportation (inward processing) and decisions regarding granting, rejection, annulment, revocation.<br>The inward processing arrangements allow Community operators to be relieved from import duties for components imported from third countries with a view to being processed in the Community and subsequently re-exported. Inward processing is categorized as a customs procedure with economic impact. Therefore the use of this regime is conditional upon the grant of an authorization by the customs authorities. This authorization contains all particulars and conditions in relation to the use of the procedure. |
| **5.6. Intra Laboratory Inventory of Analytical Determination (ILIADE)** | The "Intra-Laboratory Inventory for Analytical Determination" database is currently hosted by the Italian administration. The Member States have suggested transferring the application to DG TAXUD in order to secure its maintenance and operational continuity. |
| **6. Risk Analysis and Control Application Family** | |
| **6.1. Community (Customs) Risk Management System (CRMS-RIF)** | The objective of the Community Customs Risk Management System is to provide for the rapid, direct and secure exchange of risk information to support targeting of consignments for customs controls, and for the Commission to be able to disseminate information concerning Community-wide threats.<br>The first phase of the CRMS, the electronic Risk Information Form system, was launched in April 2005. The second phase involved an upgrade of the RIF system to include new user requirements arising from the practical experience gained by the users of the system. This second phase was launched in April 2007. The RIF and CPCA constitute together the CRMS. |
| **Business Overview** | For administrations: risk information can be communicated rapidly and directly to all customs offices to be incorporated into national and local risk profiles; customs administrations will benefit from the use of RIF/CRMS because controls can be better focused on higher risk consignments. |
| **6.2. Counterfeiting & Piracy System (COPIS)** | The purpose of the Counterfeiting and Piracy System (COPIS) is to protect the Intellectual Property Rights as set down in the Council Regulation (EC) No 1383/2003 and the Commission Regulation (EC) No 1891/2004. To protect themselves from |

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| | counterfeiting and piracy, right holders can request the intervention of customs in order to take measures against goods infringing certain intellectual property rights at the border. COPIS will simplify and reduce the work in MS and COM and improve the cooperation in the area of IPR protection. |
| **Business Overview** | COPIS will provide services for:<br>• compiling all Community Applications for Action,<br>• storing all the valid National Applications for Action,<br>• collecting and managing all the data provided by Art. 8 of Commission Regulation No 1891/2004. |

## 4. Conclusions

The future perspectives for IT in customs applications are composed of:
1, major upgrades of the current systems; 2, the emergence of other small- or medium-sized systems and applications; and 3, the deployment of major new IT systems (Raus, M., 2010).
The following steps need to be made to make the system functional and Europe-wide harmonized:

- a potential decision is necessary from DG TAXUD to move gradually from decentralised systems (mostly the case now) to more centralised systems in future in order to meet more effectively the high complexity brought about by the implementation of the new MCC;.
- the emerging need to exchange data with the customs administrations of neighbouring countries (Ukraine for example) and other third countries such as, but not limited to, China and Russia needs to be recognized;
- the evolution towards a single standard technical architecture framework for the central applications needs to be pursued;
- the Modernised Customs Code (MCC) needs to be implemented by 2013, especially in the import and export domain;
- the Single Electronic Access Point needs to be implemented by 2014 for ECS, NCTS and AIS.

The issues of capacity, continuity, availability and security management (associated with risk management) will be of increasing importance for DG TAXUD in the coming years. In addition, it is likely that DG TAXUD will have to deploy and provide yet other new IT services, as well as upgrades of existing ones, to meet the future business needs which will arise in the scope of the Community customs policies (Kuiper, E. J., 2007).
From a geographical perspective, the provision of IT services may expand from the current 27 Member States (MS), the EFTA countries (Switzerland, Norway, Iceland, Liechtenstein) to other Candidate Countries such as Croatia (HR), the former Yugoslav Republic of Macedonia (MK), and Turkey (TR), to other neighbouring countries, and to other third countries such as, but not limited to, China, Japan, USA and Russia as needed.

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