CYBERNETICA

Customs Engine

an eCustoms solution

Customs Engine is an eCustoms solution, a suite of web-based integrated applications for **implementing the customs business processes**.

Customs Engine has been in use by the **Estonian Tax and Customs Board since 2006** and has helped improve the work of customs in several ways:

- Customs Engine has brought significant savings as the same job can now be done with **half the customs officers**.
- Less than 50% of customs declarations used to be submitted electronically, but with the Customs Engine in place, the number **rose to 99% within half a year**.
- Customs officers now have **more time for meaningful work**.
- Not only has Customs Engine proven itself to be reliable, but even in a small country like
- Estonia, it has already brought **savings of more than a million Euros per year**.

WorldBank has ranked Estonia fourth in countries where trading across borders is easy.

Customs Engine highlights

Customs Engine, a software-based eCustoms solution, addresses the challenges facing customs authorities.

Reducing costs and paperwork

Customs Engine provides automation features that eliminate unnecessary paperwork, especially where data entry and document preparation are concerned. Less time is required for inland and border formalities. Partnership with the business community and government agencies is easier. Customs data can be exchanged between all stakeholders, from economic operators to customs officers.

Improving supply chain security and risk management

Customs administrations using Customs Engine can exchange pre-arrival and pre-departure data. It keeps a balance between customs control and the speed of trade.

Preventing, targeting, and investigating fraud

In line with legislation, Customs Engine helps to inspect goods and control imports and exports. Customs Engine offers reliable data for analyzing and assessing risks and recognizing patterns of fraud.

Ensuring uniform, harmonized, and proper function of national customs legislation

Customs Engine is highly configurable. The software modules of Customs Engine can be combined with other components created by local software companies providing easy integration.

Ensuring compliance with international ICT standards

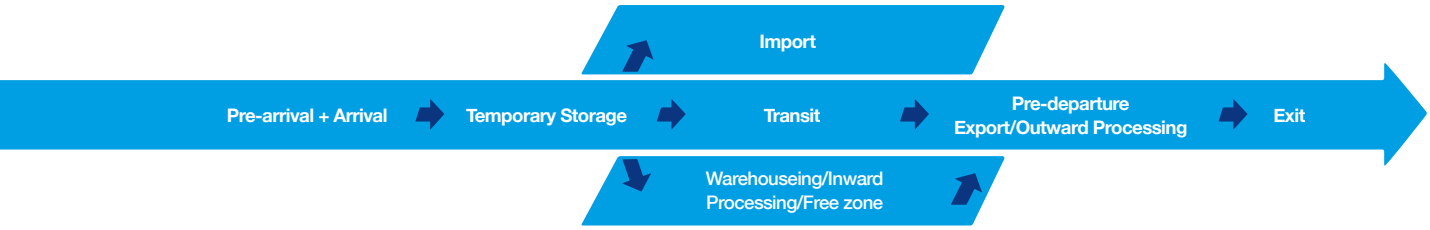
Customs Engine is built on the modern SOA platform with components built using Java EE technology. All documents are managed in the standard XML format.

Integrating with customs information systems of the European Union

As a special feature, Customs Engine contains the full implementation of European Union common customs systems: New Computerized Transit System (NCTS), Export Control System (ECS) and Import Control System (ICS), etc. Customs Engine supports TARIC, AEO and EORI systems.

Overview

Customs Engine coordinates the business processes related to the handling of all essential customs documents such as customs declarations, summary declarations, manifests, TIR carnets, transit declarations, etc. In addition, Customs Engine also contains the full implementation of the European Union's common customs systems: New Computerized Transit System (NCTS), Export Control System (ECS), and Import Control System (ICS); it also supports AEO and EORI systems.



Customs Engine supports all customs processes:

- Pre-arrival processes are important for ensuring safety and security by **applying risk management techniques before the actual arrival of goods**.
- Arrival processes deal with the actual arrival of consignments to the customs territory. They are time-critical, involve many parties and partial information. Efficient and secure arrival processes are possible only by applying **information technology and automation**.
- Temporary storage processes are important from a fiscal and fraud viewpoint. It is important to ensure that all goods go through the customs procedure.
- Transit processes are used to transport the goods through customs territory without paying the import duties and other charges. Transit processes have always been important in order to ensure the fast and efficient delivery of goods and are even more important nowadays as the volume of international trading increases due to the globalization. **Customs Engine supports various kinds of transit, including management of TIR carnets**.
- Import processes deal with placing the goods into free circulation. In this case, the focus is on the fiscal aspects of the customs declaration – **calculation of taxes, accounting and guarantees**.
- Warehousing, inward processing, temporary admission and free zone processes are commonly referred to as procedures with economic impact. It is important to correlate and check the declarations that start and stop the procedure.
- Export, re-export and outward processing deal with sending the goods outside of the customs territory. The fiscal aspects are important when there are export duties or VAT refunds.
- Pre-departure processes deal with security and safety-related risk analysis based on the preliminary data.
- Exit processes deal with the actual exit of consignments from the customs territory.

To foster international trade, enhance clearance processes, and keep a balance between facilitation and control, Customs Engine offers the following:

- Automatic validation of data and instant feedback to traders about warnings, errors and possible loading restrictions of certain goods
- Automatic and optional manual risk analysis of information and the assignment of controls by the customs authorities
- Integration of data provided by different parties to help customs officers make decisions quickly and efficiently
- Calculation of taxes and duties, and checking of non-tariff measures
- Tax accounting, payment, and management of guarantees
- Checking the electronic permits and licenses
- Handling of simplified and supplementary declarations
- Management of notifications and local clearance
- Handling of simplified permit requests
- Notifying of expired temporary storage time limits
- Machine-to-machine and web-based interfaces for logging and amending the customs documents in electronic form

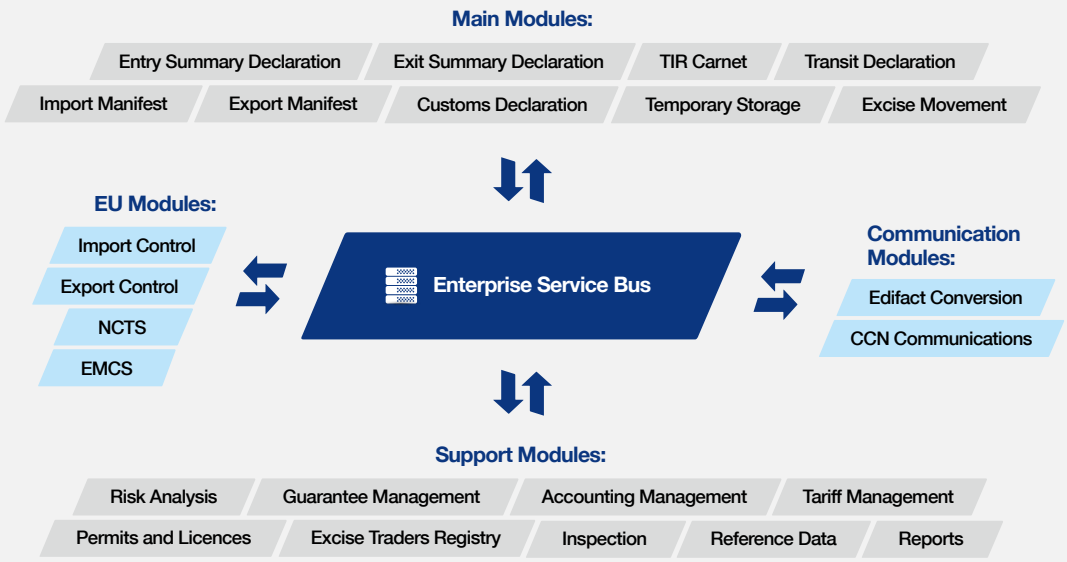
Features of Customs Engine components

Customs Engine is comprised of several independent modules where each module encapsulates the complete processing logic of a particular type of document (such as an entry summary declaration or a customs declaration). Each of those modules is an authoritative source of information when it comes to processing a particular type of document.

This functionality is not duplicated in other modules. Instead, the services provided by the appropriate module are used. This approach ensures the reuse of existing functionalities and a uniform treatment of documents throughout the system.

Modular architecture increases fault tolerance and performance, eases the management of the system, and enables selective deployment of the system.

Modules are dynamically re-configurable and extensible. They automate routine document processing tasks. All modules have a unified, internationalized user interface that end-users can customize to suit their needs and working habits.



The system architecture on the Customs Engine follows the latest information system design trends:

- **Multi-tier architecture** to logically and physically distribute functionality and to separate concerns
- **Component-based architecture** to increase and ease the reuse of code and services
- **Service-oriented architecture** to ease the integration and enable the deployment of value-added services
- **Modular architecture** to increase fault tolerance and performance, ease the management of the system, and enable selective deployment of the system
- **Web-based architecture** to reduce the costs of system deployment, maintenance, and support

Customs Engine offers:

- **Personal Workspace** –Using Customs Engine, users have their own workspace where they are able to customize their working environment, including internationalization (support of various languages).
- **Rich and intuitive user interface** – Customs Engine is designed to be user friendly and allow the users to quickly familiarize themselves with the application without going through a steep learning curve.
- **Zero installation** – Customs Engine is designed to be easy to use right from the start. There is no hardware requirement other than an Internet-enabled desktop or laptop computer. Also, there is no software to install (all operating systems come with a browser installed) and no version upgrades to perform. No technical expertise is required from the user.
- **Access anytime, anywhere** – Since no information is stored on the user's computer, the users need only an Internet-enabled computer to access their information at any time.
- **Security** – Customs Engine is secured by session/transport-level security technologies (such as SSL, X.509 certificate authentication, HTTP Basic Authentication, and HTTP Digest).

eCustoms solution implementation services by Cybernetica

Cybernetica offers eCustoms consulting and system development services to customs authorities. We are willing to work together with local system integrators in order to provide solutions that comply with local laws, regulations, and cultural habits.

Technical implementation services:

- Technology provision, installation, configuration
- Customs software development
- Technical support for administrators
- Software maintenance
- Training and education

eCustoms consulting:

- Consulting
- Analysis and design of customs processes
- Planning
- Development of organizational processes

Contacts

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