# Customs Engine (CuE) information sheet

## Introduction

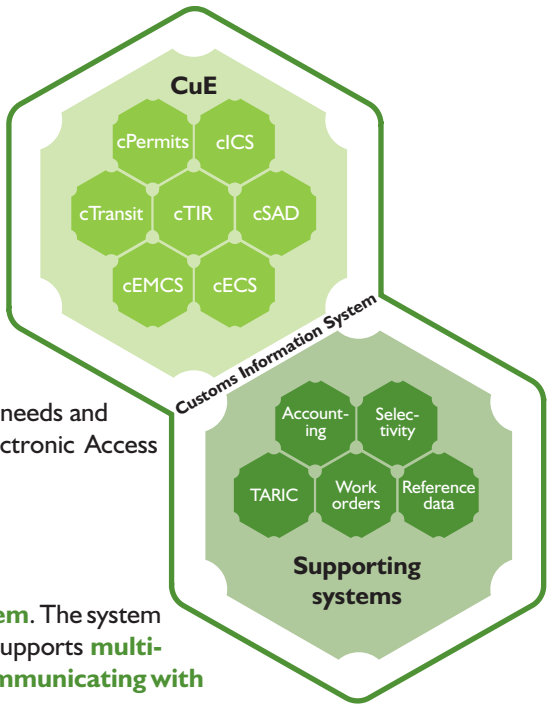
Customs Engine is the most comprehensive software for creating a paperless , e-customs environment. The aim of CuE is to cover the processing of all customs documents: customs declarations, summary declarations, TIR carnets, export notices, etc. CuE covers the whole life cycle of the documents from lodging to archiving.

One of the major goal of CuE is **increasing effectiveness and speed of trade through** automation of the customs processes as much as possible. The completely automated processing of customs documents helps to fulfill the **vision of an e-Government** by making the system **easier to use for traders** and **speeding up the acceptance of customs documents**. In the best case, CuE can fully process the document without the intervention of customs officials. However, if some inspections cannot be carried out automatically, CuE hands over the processing to the officials. This kind of flexibility **minimizes the workload and increases the overall productivity** of a customs office.

## Scope

Our solution includes:

- cSAD – declaration processing system
- cECS – Export Control system
- cICS – Import Control system
- cTIR – TIR Carnet management system
- cEMCS – Excise Movement Control System
- cTransit – New Computerised Transit System (NCTS)
- cPermits – System form managing electronic permits and licenses




In the following years our product development strategy foresees analysis of needs and benefits of developing other IT systems required by MASP (e.g. Single Electronic Access Point) as part of the solution.

## Design Principles

CuE has been designed from the ground up as an **internationally usable system**. The system is flexible and highly configurable with minimal country-specific issues. CuE supports **multi-language user interfaces** and offers simple and **standard interfaces for communicating with other (supporting) systems**.

CuE uses **processing rules** that encapsulate the business logic of document validation. These are small scripts written in a domain specific language that operate directly on XML documents. Since there is almost no validation-related logic in the program code, CuE enables to make **functional changes in processing rules without requiring custom IT development**, thus making CuE highly configurable.

**CuE has extra value in EU countries.** The system is currently running in Estonia and encapsulates processing rules that are to a great extent common to all EU member states and can be used as a baseline when performing the analysis.

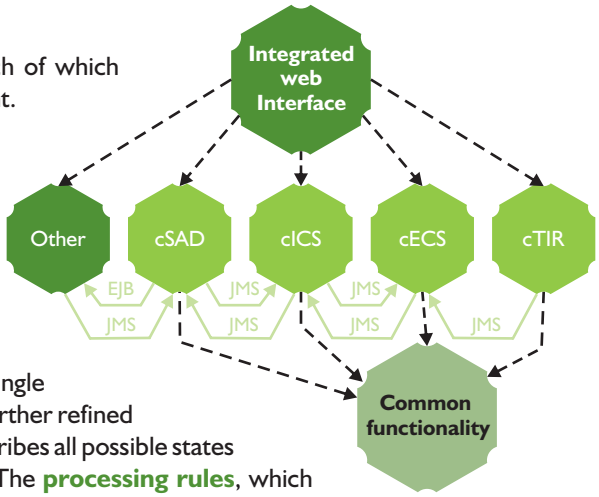
**CuE is highly automated.** The first design principle was to automate document processing as much as possible. Since customs procedures deal with complex issues, however, automating everything is not always useful. From the system design point of view it means that if a task cannot be automated easily, it should be delegated to a customs officer.

**CuE involves clients as much as possible**. CuE is a web-based system that enables clients to do the most of work in processing of particular document. There are 3 ways of submitting documents: entering data through the web-based user interface, uploading XML document or through the SOAP interface.

**CuE copes with ever-changing business rules** and can handle a great variety of declarations (e.g. import and export are very different), thanks to using a domain specific language as mentioned above.

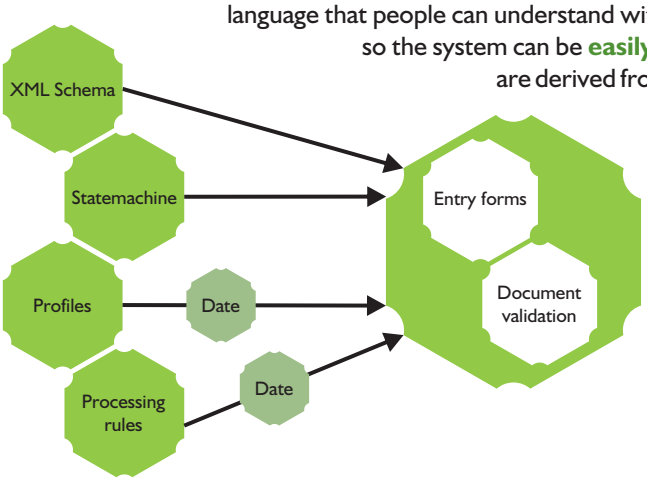
## Architectural Overview

CuE is built upon **independent** and **interconnected** subsystems, each of which encapsulates the complete processing logic of a particular type of document.




**Independence** means that every subsystem can be used independently, e.g. the cECS subsystem can be easily used with other declaration processing systems besides our own. **Interconnectivity** means that there are programmatic interfaces between systems that integrate and automate the inter-system communication. Subsystems communicate via standard JMS, EJB, and SOAP interfaces.

CuE is a **document-centric system**. Each subsystem deals with a single document type defined by means of **XML Schema**. The Schema can be further refined by profiles that provide the required flexibility. A **state machine** that describes all possible states and interactions of the document captures the lifecycle of a document. The **processing rules**, which describe the business rules of processing of a document, are specified in a domain-specific language that people can understand without special training. Also, the rules have a certain **validity period**, so the system can be **easily changed when a change in legislation occurs**. The entry forms are derived from the document definition and profiles.




It is envisioned that our clients themselves will maintain the profiles and processing rules, though Cybernetica's analysts usually provide an initial set of consistent profiles and processing rules that implement current legislation. The **profiles** and **processing rules** enable **to configure the system to great extent without requiring custom IT development**.

For more information about the functionality of CuE and its subsystems visit us at stand 14, look at www.customsengine.eu or contact us directly:

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