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Co-financed by the Connecting Europe Facility of the European Union

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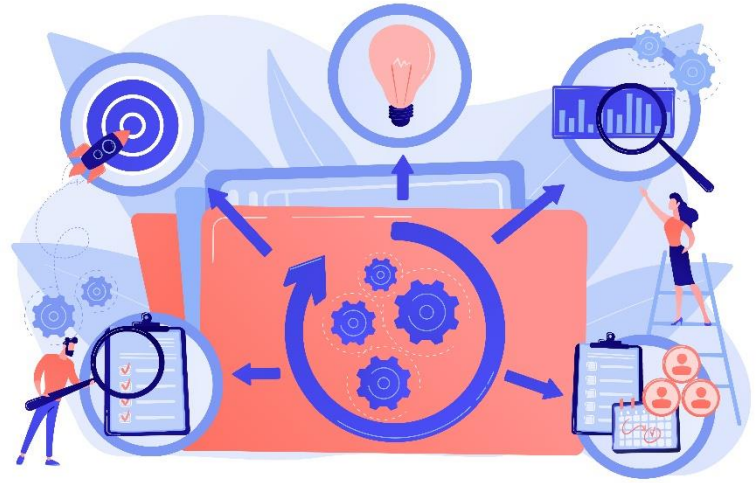
OC-CN

CCCAB Tool – Chapter II

ICCC 2022

Why automation tools for Common Criteria?

- Automate everything!
  - Less time to obtain the certificate
  - Lower economic cost for everyone
- Meet the market expectations
  - Increased number of Common Criteria certifications
  - Fast pace in the evolution of IT
  - Lack of talent



CSA & EUCC Context

- The CSA brings a new paradigm
- Regulation (EC) No 765/2008: 'conformity assessment body' shall mean *a body that performs conformity assessment activities including calibration, testing, certification and inspection;*
- EUCC v1.1.1 further refines this concept:
  - CAB = CB + ITSEF
  - CB: issues certificate → CAB
  - ITSEF: calibrates / tests / samples

Brief & Stakeholders

CAB Making CABs life easy
Powered by jtsec

- CCCAB is co-financed by the Connecting Europe Facility of the European Union.
- ISCOM (OSCI), CCN (OC-CCN) and jtsec

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open source initiative®

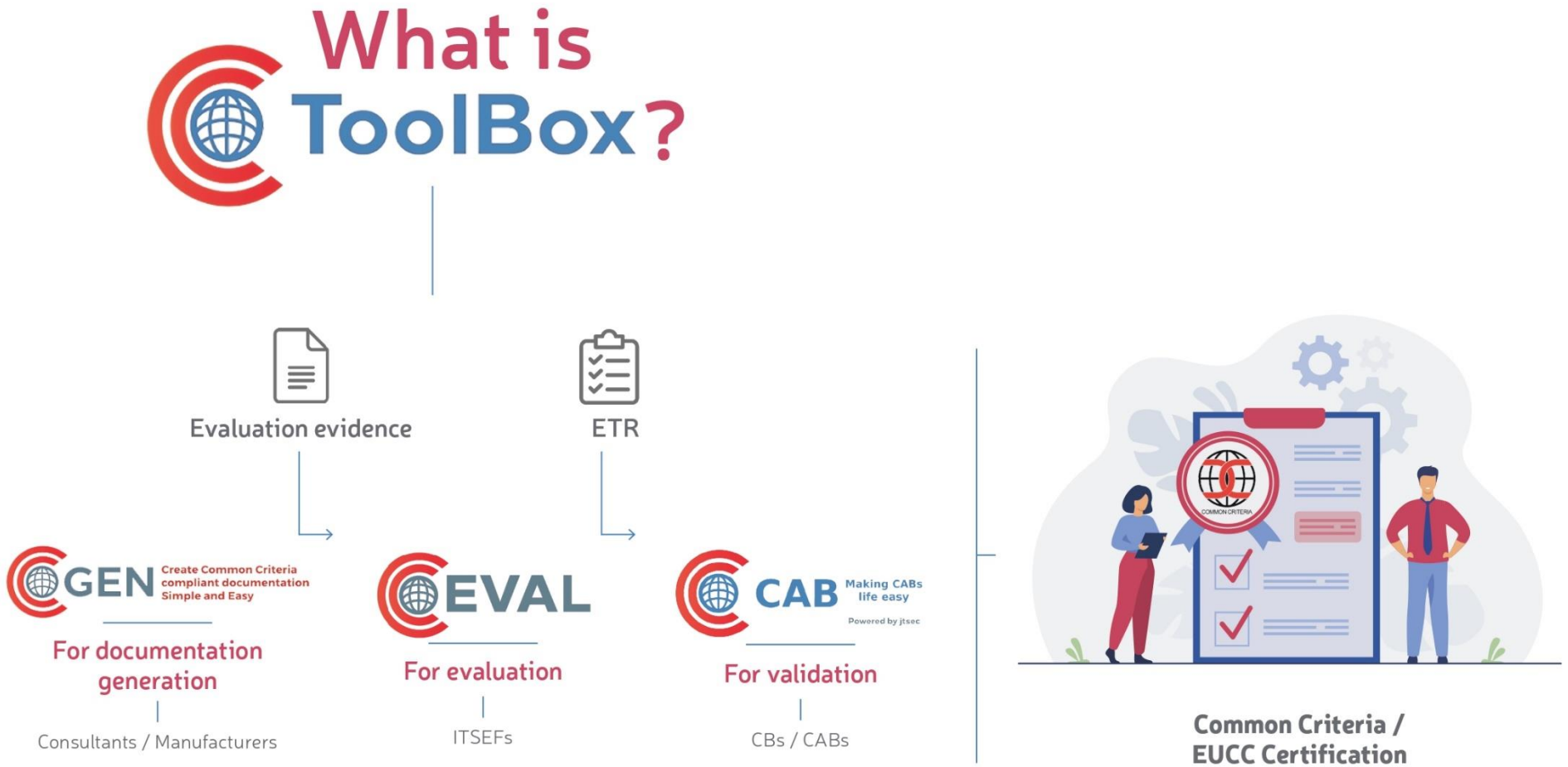
Objectives

- Improve current schemes capabilities to support the high assurance certifications defined in the EUCC
- Build up CAB capabilities for newcomers and for private CABs that will operate under the EUCC for level substantial
- Share good practices between CABs for high and support peer reviews by sharing the same tool
- Enhance the communication flow with ENISA, ITSEFs, manufacturers…
- Allow focus on validation of the reports

Why is CCCAB needed?

- CCCAB provides a framework to manage EUCC certifications smoothing the process and saving around 25% of the certification effort for existing CABs.
- CCCAB will ease the creation of EUCC CABs around Europe given that it will be very easy to deploy the required IT system to manage a CAB.
- CCCAB will be a free open-source tool that could be potentially adapted to be used in other future schemes. Therefore, it could be a key factor for a successful adoption of the EU Cybersecurity Certification framework.

CCCAB as a part of a framework



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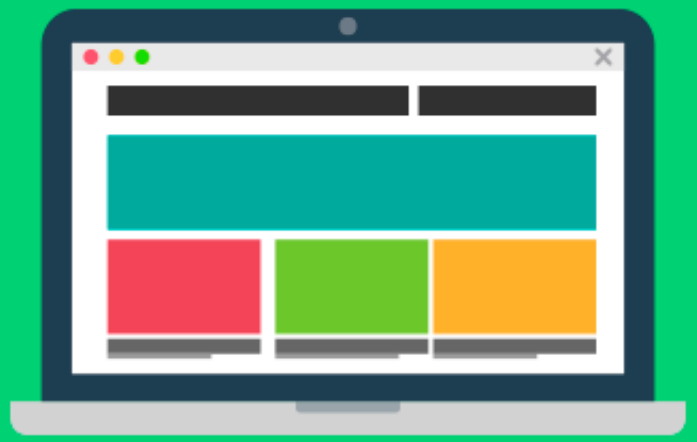
Main technologies used

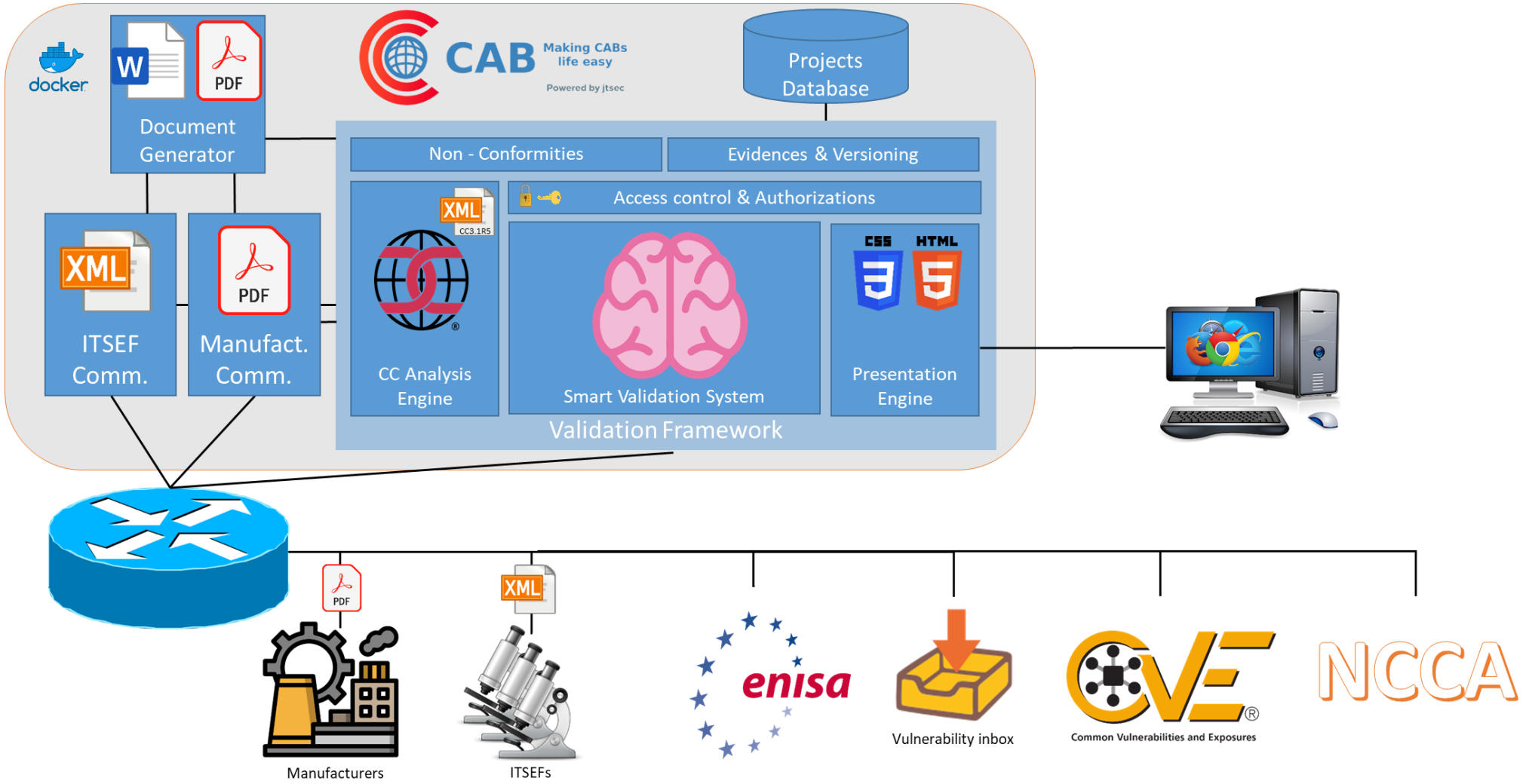


FRONTEND

React

BACKEND

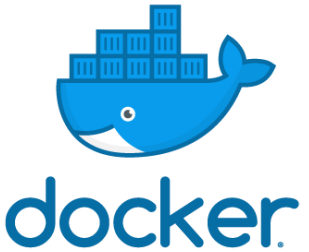
Features


docker
W
PDF
Document Generator
CAB
Making CABs life easy
Powered by jtsec
Projects Database
Non - Conformities
Evidences & Versioning
Access control & Authorizations
XML
CC3.1R5
CC Analysis Engine
Smart Validation System
CSS
HTML
Presentation Engine
Validation Framework
XML
ITSEF Comm.
PDF
Manufact. Comm.
PDF
Manufacturers
XML
ITSEFs
enisa
Vulnerability inbox
CVE
Common Vulnerabilities and Exposures
NCCA

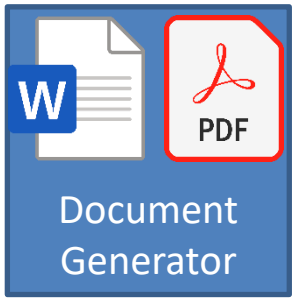
Features

- **Project Management:** CCCAB will allow you to have a global view of all projects in progress, helping in the overall management of the project.

- **Simple installation:** Can be used from anywhere without the need to install any software. Online and offline.

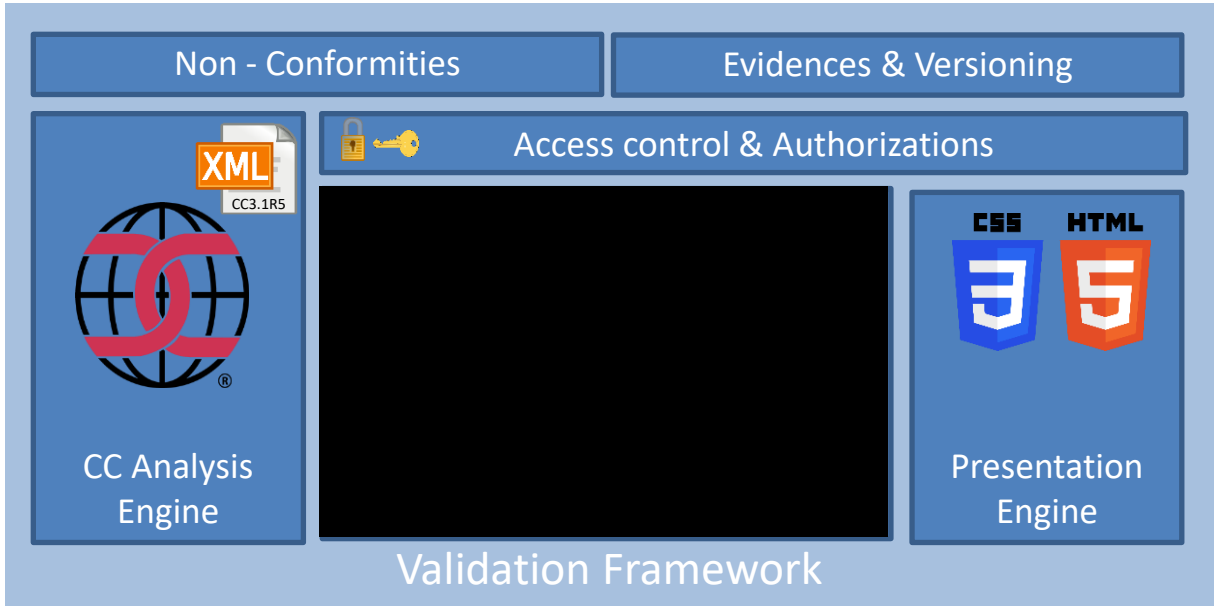


- **Web Edition, docx/pdf Output:** CCCAB will allow the generation in DOCX or PDF format.



Features

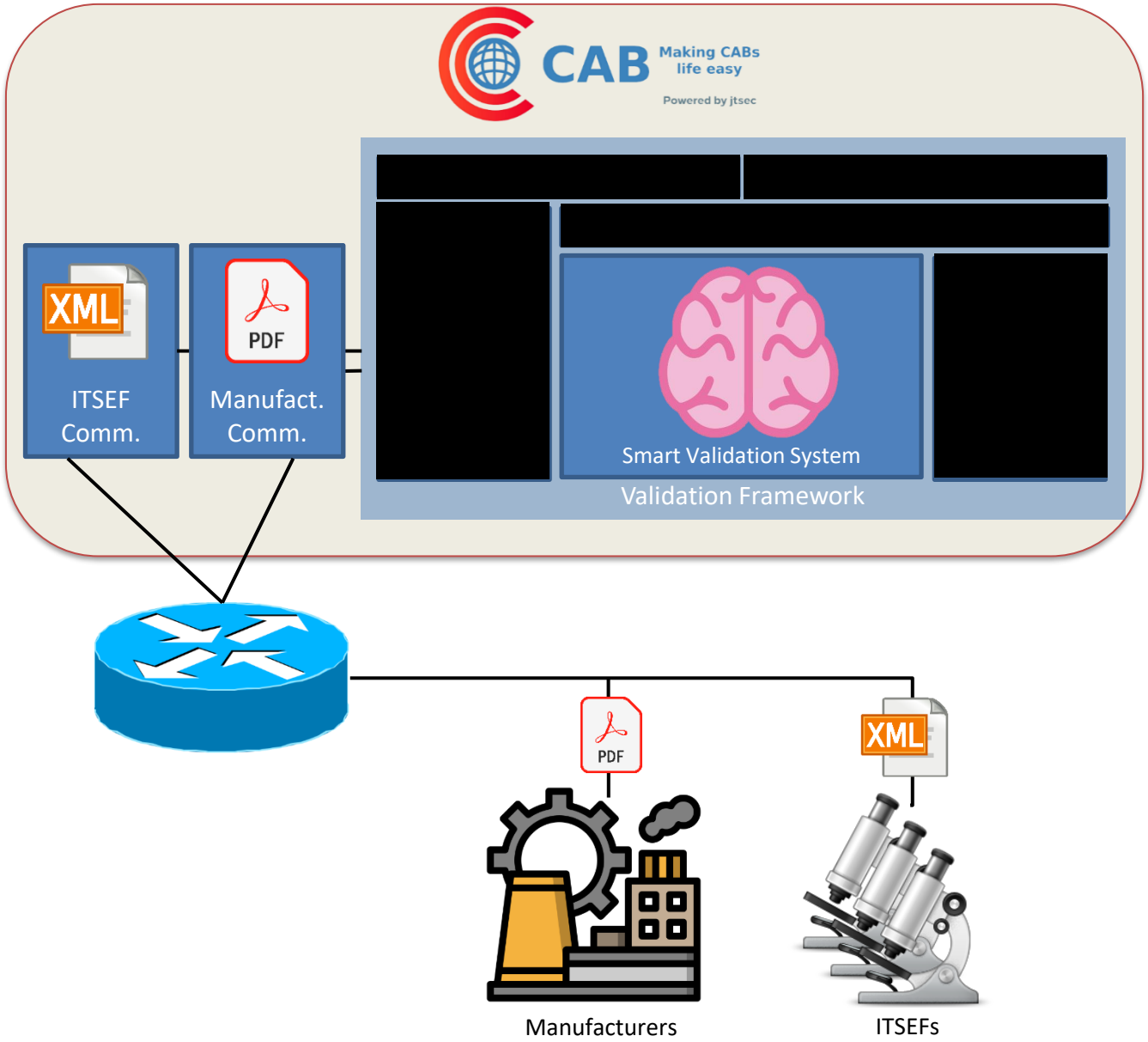
- **Presentation engine**
- **Access control** (I&A, 2FA, …) **and authorization subsystem** (PGP, PAdES, XAdES)
- **Evidence and versioning subsystem**
- **CC Analysis Engine & Expert tips**
- **ITSEF non-conformities subsystem**



Features

- Smart Validation System
- ITSEF communications parser
- Manufacturers communications parser
- Automagic filling

IN PROGRESS



Features

jtsec	Version: 1.0	**Date:** 2021-12-03
	CCAB Information exchange Specification	

TOE evidences

During an assessment, the ITSEF may receive one or more evidences strongly related to the TOE (e.g. an installer, patches...). Through this field, the ITSEF will be able to declare what it has received (what was its input during the evaluation) in terms of TOE.

It should include the following information:

- Code. This is the identifier of the evidence. When the evaluator wants to refer to the evidence in question, this reference should be used.
- Name. Human name of the evidence.
- Version. Version of the evidence (e.g. version of the TOE).
- Path. The evidence will be delivered in a package. This filed indicates where the evidence can be found within the package.
- SHA256 Checksum. Checksum of the evidence calculated using SHA256. Useful to ensure that the evidence has not

During an evaluation, a manufacturer may provide ITSEF with several versions of the TOE, patches... For this reason, this information shall be represented in the form of an array.

As for the information it contains, it is possible to validate it at the JSON-schema level as follows:

Field	Type	Format
Code	string	N/A
Name	string	N/A
Version	string	N/A
Path	string	N/A
SHA256 Checksum	string	[0-9A-Fa-f]{64}

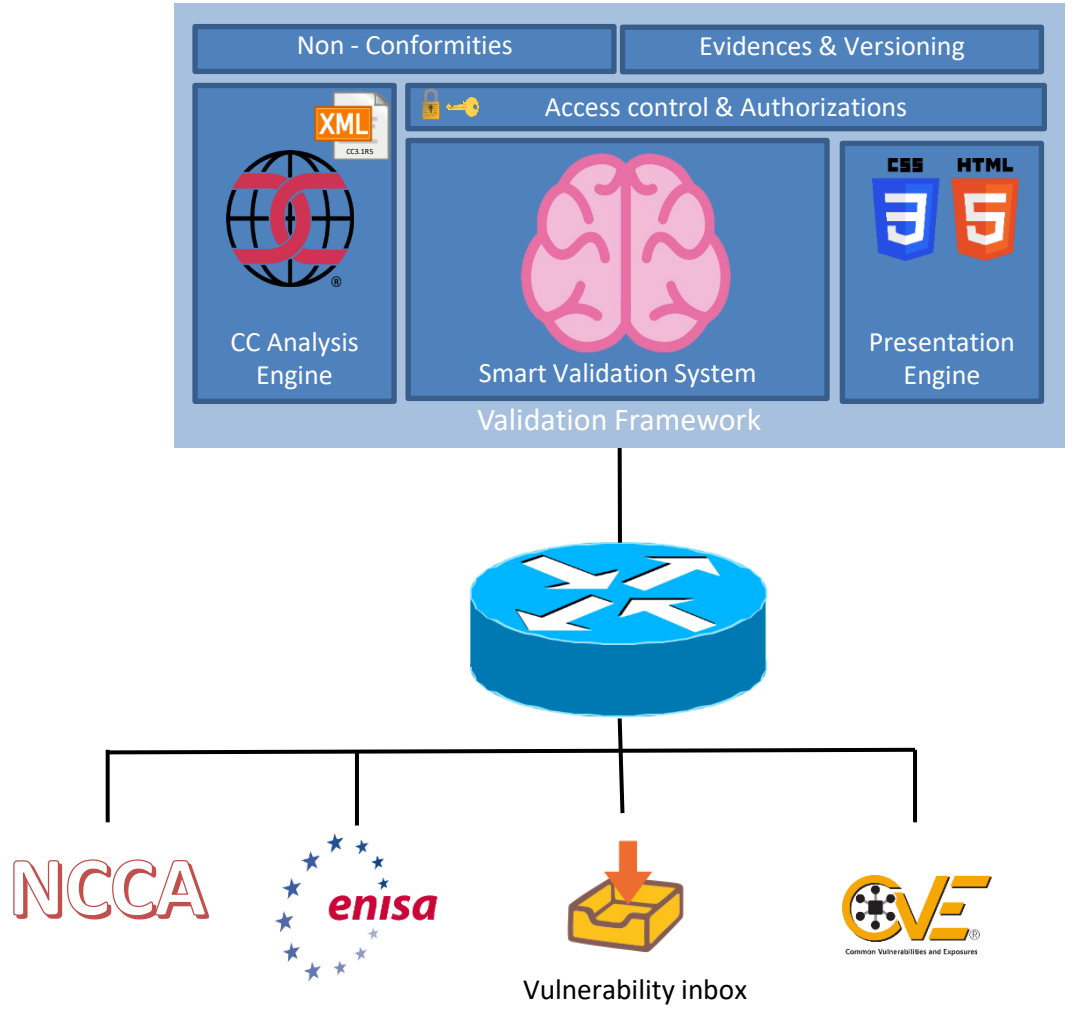
As for application-level validation, it is expected that the following checks can be carried out:

- The reference (code) has to have been referenced at least once in another document.
- The file (path) must exist in the package delivered by ITSEF.

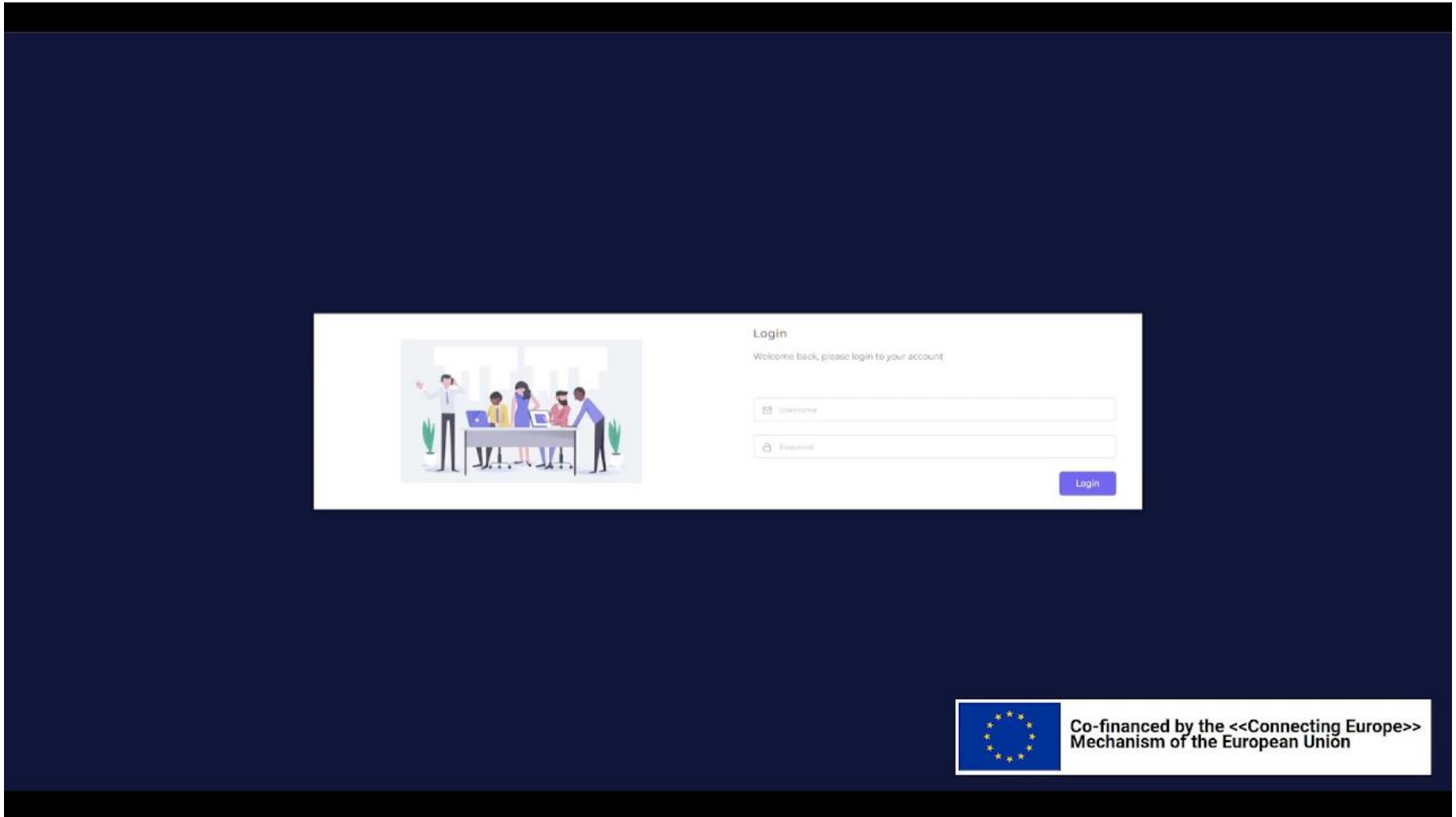
```
"toeEvidences": [
        {
            "code": "INSTALLER-10",
            "name": "TOE installer",
            "version": "1.0",
            "path": "/TOE/installerv1.0.exe",
            "sha256Checksum":
"868bcb6d563b31062b6f27325630954adc264adad4006dbe0702f6669619817 2"
        }
    ],
```

Features

- Adaptation to the EUCC
- Communications with ENISA website
- Compliance System
  - Vulnerability Inbox
  - Vulnerability Monitoring



How it works?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Action plan

CAB Making CABs life easy
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WE ARE HERE

CCCAB Specification
- Analysis of current tools used by CBs
- Information flows identification
- Information Exchange languages specification

Validation Framework
- Access Control and PM system
- Interface development
- Evidence management
- Report printing
- NCs Management
- Version Management

Smart Validation System
- ITSEF Communications parser
- Manufacturer communications parser
- Autofill
- Expert tips

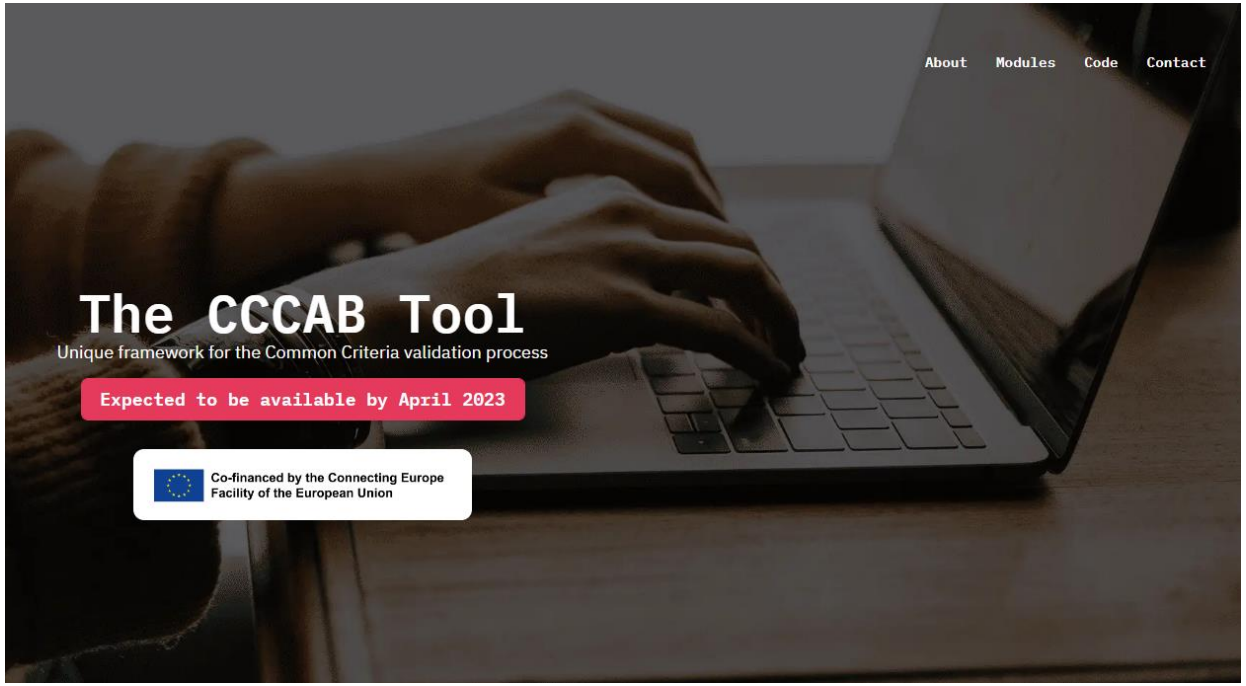
Adaptation to the EUCC scheme
- Communication module with ENISA website
- Compliance Monitoring System and non-compliance handling

WE ARE HERE

Validation
- Full Project using CCCAB
- Guidance development
- Final version release

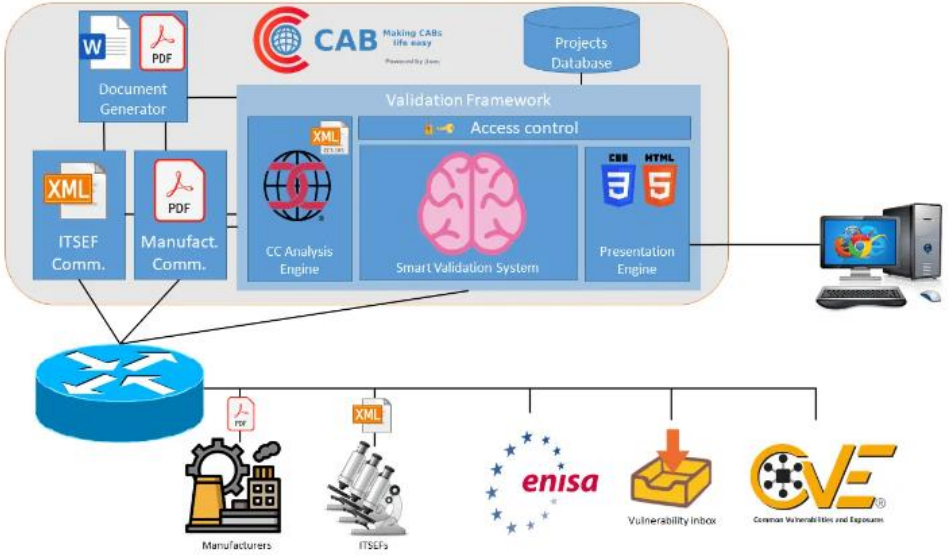
CCCAB website

- https://www.cccab.eu/



CCCab Scheme

Allows Conformance Assessment Bodies to carry out validations/certifications in a more fluid and effective manner using the most modern web technologies



Consortium

The development of this tool is funded by the European Commission in the framework of the Connecting Europe Facility (CEF) program and has three participants within the consortium

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CN-CERT centro criptológico nacional
iscom

CCCAB website

CCCAB Modules

CCCAB is composed of the following modules which will be described in detail in this section: **Validation Framework**, **Smart Validation System (SVS)** and **Adaptation to the EUCC**

- The Validation Framework
- Smart Validation System
- Adaptation to the EUCC

The Validation Framework

CCCAB integrates a user-friendly interface, whose use is intuitive and agile, and allowing configuration of corporate colors and logos, thus ensuring uniformity and consistency.

CCCAB functions as an assistant or wizard, which guides the user step by step in the validation of the ITSEF work, requesting the introduction of the necessary information to validate an evaluation. The wizard informs the validators of the next step in the validation process, as well as detect the parts of the validation that need to be completed or present some kind of problem.

CCCAB also allows knowledge management within the CAB since it is easy to add and check expert comments and tips and suggestions on how to easily validate the Common Criteria standard.

CCCAB allows you to write/generate validation reports.

Below are some of the features of CCCAB's validation framework:

Access control and project management system

CCCAB can be used by multiple validators working on different projects to which they have been assigned. CCCAB is a collaborative tool, so several users are able to collaborate simultaneously online on the same project.

This establishes an administrator user role that is be responsible for controlling the creation and access of different users to projects stored in CCCAB. This administrator user or "CAB Manager" defines basic characteristics of new projects created within CCCAB (name of the product evaluated, manufacturer, certification sponsor, ITSEF, etc.), as well as assigning permissions to the projects.

A user assigned to a project may have the role of validator or the role of reviewer. Among the team of validators, one of them is assigned as the lead validator of the certification.

A notification system allows that the CAB Manager notifies all CCCAB users, a specific user or all validators assigned to a project of an event. Certain events automatically generate notifications (for example, when a project has been finalized).

CCCAB allows you to have a global view of all projects in progress, showing easily the percentage of progress, if there are pending tasks, etc. In addition, each user assigned to a project can fill out a project "log", describing the most important findings or events for project management.

The system also records all user activity and allow the administrator user to review the associated events.

The system configurates of all aspects of the CAB, such as address, logo, styles used in the generation of reports, etc.

Conclusions & ToDos

- Define the Open Source licensing model
- Release the source code
- Test the tool properly in a real use cases with the partners
- Develop the connection with the ENISA website, which is not yet up and running
- Making stakeholders aware of the tool

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"Any fool can make something complicated. It takes a genius to make it simple."
Woody Guthrie