



Progress status report

WP.30/GE.1 – 1st session
TIR Secretariat - 20 January 2021





- Our development approach
- The eTIR international system (IS)
- The International TIR DataBank (ITDB)
- Reliability of the system
- Continuous Integration (CI) pipeline
- Documentation
- Interconnection projects – proposed plan
- Next steps

Our development approach



✓ Approach

- ✓ Following an **Agile** methodology and **DevOps** principles and best practices
- ✓ Technology stack based on Open Source Software (OSS): Java, SOAP/XML, PostgreSQL

✓ Three guiding principles

- ✓ Security
- ✓ Reliability
- ✓ Ease of connectivity for stakeholders

Our Development Approach



- ✓ **Security**
 - ✓ SOAP messages electronically signed (non-repudiation)
 - ✓ TLS protocol used for encryption (confidentiality)
- ✓ **Reliability**
 - ✓ Static code analysis
 - ✓ Strict versioning on the source code and database changes
 - ✓ Unit test / Non-regression functional test coverage
 - ✓ Using Continuous Integration (CI) pipeline to build, test and deploy the system
- ✓ **Ease of connectivity for stakeholders**
 - ✓ Guidelines for the Interconnection project
 - ✓ Latest documentation available on the eTIR documentation portal

The eTIR international system (IS)



✓ **Web services**

- ✓ Fully implemented and tested according to the eTIR specifications v4.1
- Implementing and testing the updates needed according to the eTIR specifications v4.3
 - Introduction of Metadata information (v4.2)
 - Development of E13/E14 (v4.3)
 - Development of I19/I20 (v4.3)
 - Forward E9~E14 from Holders to Customs (v4.3)

The eTIR international system (IS)



- ✓ **eTIR database**
 - ✓ Around 160 changes identified last summer
 - ✓ Applied 10 important corrections (priority 1)
 - ✓ Started to version all database changes using Liquibase
 - Other improvements and optimizations should be applied later in 2021 (priority 2 and 3)
- ✓ **Development environments**
 - ✓ Local development workstations (DEV)
 - ✓ System Integration Testing (SIT) environment
 - ✓ Used internally by the Continuous Integration (CI) pipeline
 - ✓ User Acceptance Tests (UAT) environments
 - ✓ Secured using IP whitelisting and used by eTIR stakeholders for tests
 - Production (PRD) environment to be provisioned

The eTIR international system (IS)



✓ eTIR Data Model (DM)

- ✓ Procured and trained on the Gefeg.FX software
 - ✓ Started to version the eTIR DM on Git
 - ✓ Automated the process to generate the assets (tables, diagrams) inserted in the documentation (eTIR specifications, technical guides)
 - ✓ Updated the eTIR DM to reflect the amendments approved by the GE.1
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- Optimizing the eTIR DM to ease its future maintainability
 - Working with the WCO to continuously align our data model with theirs
 - Eventually have it multi-lingual (French, English and Russian)

The International TIR DataBank (ITDB)



✓ Recent achievements

- ✓ Completed ITDB server security upgrades (9 Sept 2020)
- ✓ Deployed to production improvements (notification by regions + minor changes) for the [Holders module]
- ✓ Deployed for test the customs office code validation web service [I19/I20]
- ✓ Deployed in production the customs office public web interface (not activated yet) & the customs office code validation web services [Customs office module & I19/I20]

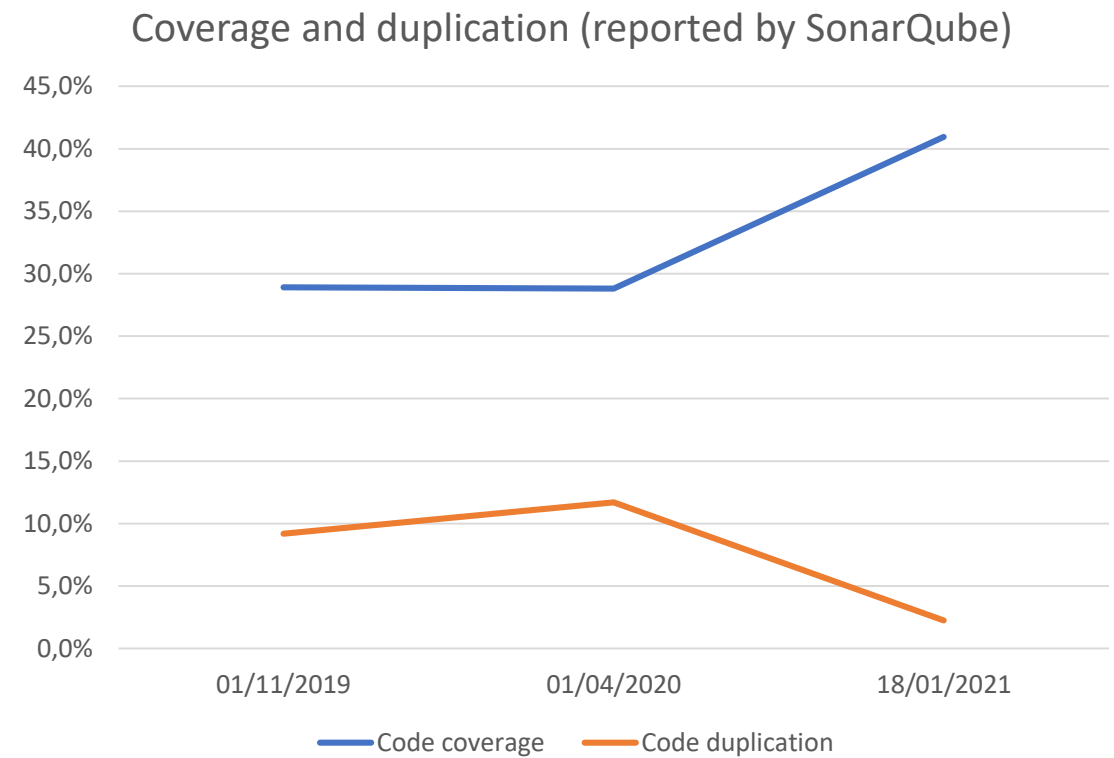
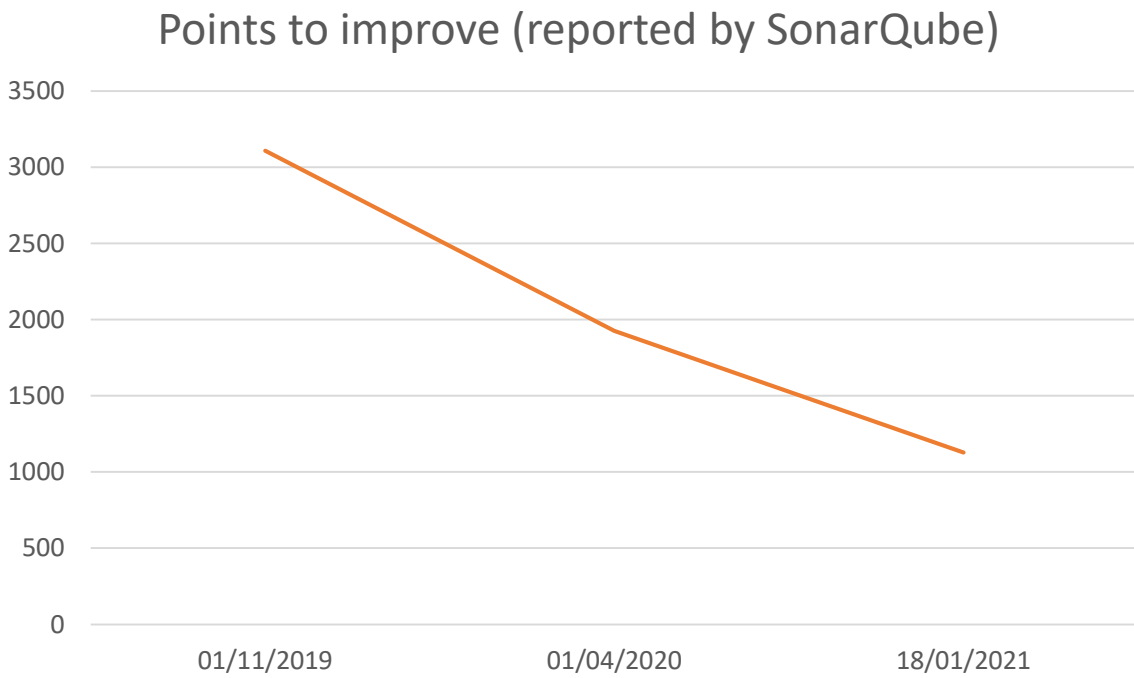
➤ Next steps

- Upgrading the underlying framework and libraries
- Validate customs office data and activate & the customs office public web interface
- Continue preparing the specifications for the [Certificates of Approval module]

Reliability of the system



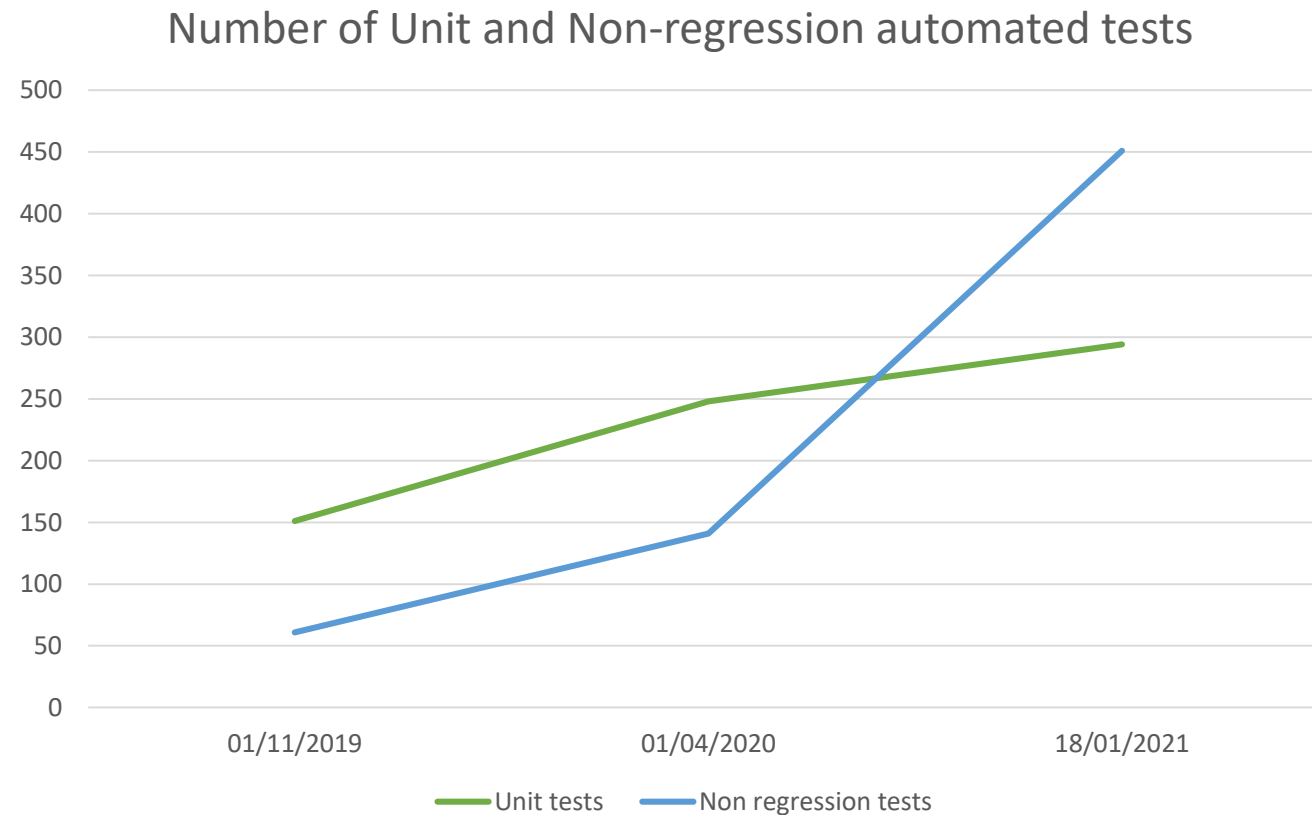
- ✓ Static code analysis using SonarQube and gives indications on the quality of the code
- Progressively optimize the quality of the source code



Reliability of the system



➤ Also increase the number of our automated tests (Unit and Non-regression)



Continuous Integration (CI) pipeline



- ✓ Automation of development tasks to:
 - ✓ Maintain an excellent **reliability/quality** level of the system
 - ✓ Increase the **productivity** of the team

- ✓ Completed the automation of our CI Pipeline:
 1. Build triggered on code push in Git
 2. Unit tests executed
 3. Automatic deployment of eTIR IS on the SIT environment
 4. Non regression tests executed
 5. Posting build failures on MS Teams

Documentation



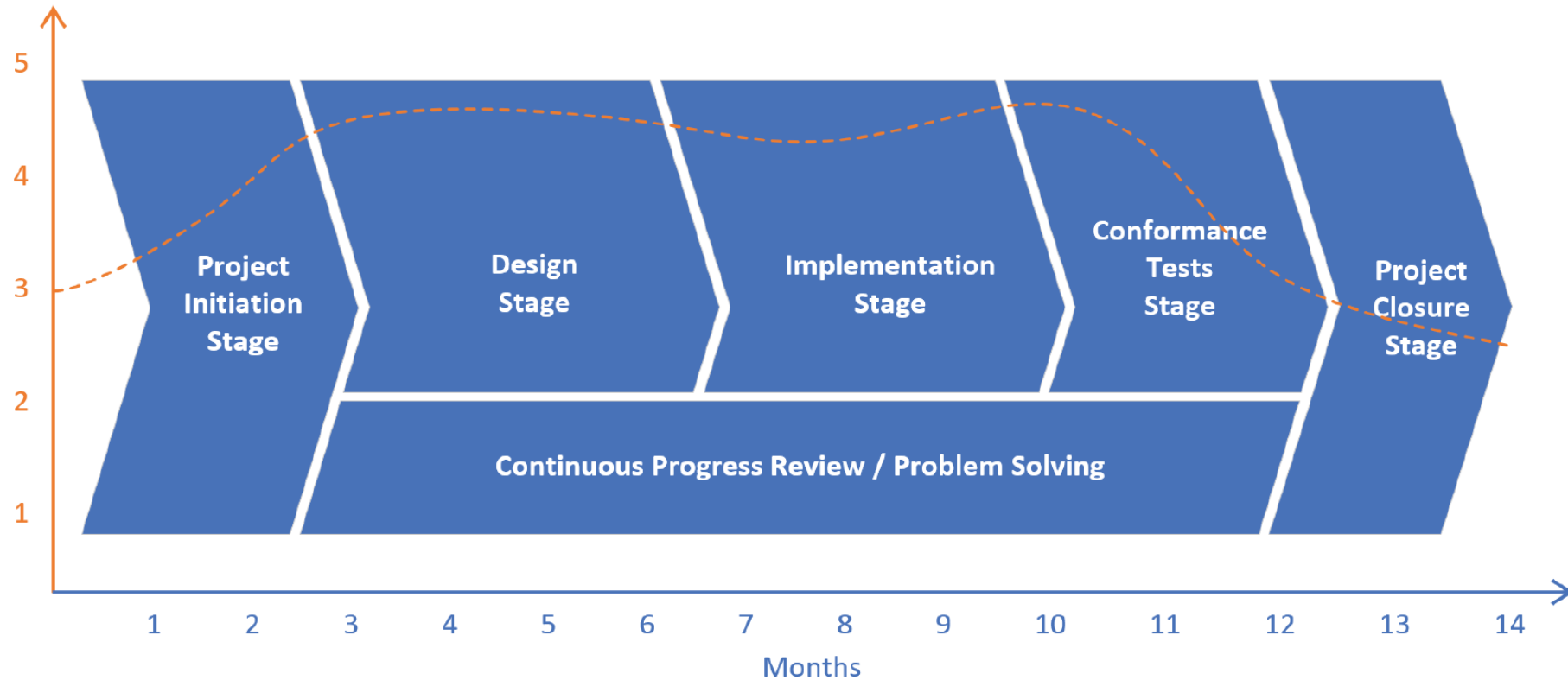
- ✓ Completed writing eight guides for the interconnection between eTIR IS and national customs systems:
 - ✓ Project guidelines
 - ✓ Technical guides:
 - ✓ Introduction on the eTIR web services
 - ✓ I1/I2, I5/I6, I7/I8, I9/I10, I11/I12 and I13/I14 message pairs
- Working on the next set of guides
 - I17/I18, I15/I16, E9/E10, E11/E12 and E13/E14 message pairs

Documents available on the [eTIR documentation portal](#)

Interconnection projects – proposed plan



Customs Authorities
Resources



Source: « Project guidelines » document, available on the [eTIR documentation portal](#)

Next steps



- Complete the implementation and tests of the eTIR IS (according to the eTIR specifications v4.3)
- Complete the technical guides and the eTIR technical specifications
- Support Customs Authorities in connecting to the eTIR IS
- Prepare the conformance tests
- Continue improving our development practices
- Continue working on the new server hosting arrangement

Thank you!

Sébastien Galtier
For the IT Team of the TIR secretariat
Contact: etir@un.org

UNECE

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