Once-Only Technical System Projectathon, 18-20 October 2023, Brussels

Event report

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DOCUMENT HISTORY

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EXECUTIVE SUMMARY

> "*This event has been instrumental in advancing technical development and should undoubtedly be continued in the future for sustained progress.*" (Projectathon satisfaction survey, October 2023)

On 18-20 October 2023, the European Commission organised the third Once-Only Technical System Projectathon. Projectathons are marathons of peer-to-peer interoperability and compliance tests in a structured environment.

Using a specific testing platform, Member States teamed up to test with each other in "real" exchanges using test data. Technical experts, acting as Monitors, supervised and verified the tests over the three days. The Projectathon focused on five evidence exchange scenarios "without a preview area", five evidence exchange scenarios "with a preview area", and two optional maintenance flow scenarios.

Participants executed 478 peer-to-peer tests, compared to 59 tests in April 2023, and 149 in June (tests shared between two Member States). The October Projectathon concluded with a success rate of 91% for tests between participants. Six tests failed (1%), and 26 tests were "partially verified" (5%); these tests were close to be "verified" but were missing additional proofs from the Member States (such as evidence request or response messages). At the close of the event, 10 (2%) tests were still "running", meaning that the test was initiated but could not progress to a full test case validation.

Ahead of the 12 December 2023 legal deadline to implement the Once-Only Technical System, the European Commission is organising an accelerator event (OOTS Go-Live Accelerator) consisting in two parallel tracks (a learning track, and a testing track) on 11 and 12 December, allowing the participating teams to build on their experiences with a focus on production-ready outputs.

* Notice: Please note that the April, June, and October 2023 Projectathons were testing events on a limited scale. While these Projectathons aim to support participants with their respective Once-Only implementations, the results, analysis, and figures contained within this report are not a benchmark or measure of the readiness of any given Once-Only implementation or its development status.

1. INTRODUCTION

Figure 1: The plenary rooms used during the October Once-Only Technical System Projectathon

On 18-20 October 2023, the Commission organised the third Once-Only Technical System (OOTS) Projectathon. This hands-on event allowed Member States to test their implementation of the technical components that underpin national Once-Only implementations ahead of the December 2023 legal deadline for implementing the system.

The event participants had differing levels of maturity in their implementations. As this was the last planned Projectathon before the legal deadline, the option for Member State teams to come as observers was removed to encourage all Member States to come as active participants. With 24 Member States actively participating mainly on site (only one being remote), this event clearly showed the progress being made at national level in terms of implementing the Once-Only Technical System, and the great value of such large-scale testing events.

The April and June 2023 Projectathons were an opportunity for stakeholders to learn, make mistakes, help each other, and assess the status of their respective Once-Only implementations. Building on these events, the 18-20 October 2023 event focused on assessing the production readiness of the Once-Only Technical System components and was stricter in evaluating Test Cases. Nevertheless, a final event before the deadline, the OOTS Go-Live Accelerator, consisting in two parallel tracks (a learning track, and a testing track) has been added to further support the Member States on the last days before the deadline.

> *"The value of these events go beyond the actual testing and its benefits. The possibility to exchange ideas and best practices, and discuss the challenges with colleagues from other* Member States *is important. Thank you for organising!"* (Projectathon satisfaction survey, October 2023)

This report summarises key results from the testing that took place from 18-20 October 2023. It also provides an overview of lessons learnt and serves as inspiration for other projects aiming to utilise the concepts and methodologies used in the preparation and execution of this hands-on event.

This report contains some technical terminology, which is mostly explained in footnotes. Please consult the SDGOO Glossary and the Technical Design Documents glossary for additional information about key concepts used in the context of this report.

1.1.   CONTEXT

The Single Digital Gateway (SDG) is a critical contribution to the well-functioning of the Single Market and the long-term competitiveness of the EU as it increases transparency and cuts red tape for citizens and businesses. As mandated by Article 14 of the SDG Regulation (EU) 2018/1724, the key objective is to make administrative procedures fully online by the end of 2023 and connected to the Once-Only Technical System for the automated cross-border exchange of official documents.

The Once-Only Technical System will greatly facilitate life for everyone who is travelling, living, or learning abroad. It will enable citizens to transfer evidence (e.g., a document) automatically without the need to search, retrieve and re-submit documents across borders while keeping the user in control of their data. The Once-Only Technical System also supports more transparency and less red tape for companies to improve business environment in the EU.

The Once-Only Technical System is a technical framework for data sharing between competent authorities in the Member States to complete cross-border administrative procedures for studying, working, moving, and doing business in the EU. It intends to connect the authentic data sources of EU public authorities – population registers, business registers, etc. – so they can exchange official documents and evidence, for example, registering an address or vehicle when moving abroad. This eliminates complicated manual search and fetching of evidence to complete administrative procedures in other EU countries.

In 2022, the Commission adopted Implementing Regulation (EU) 2022/1463, which provides a comprehensive framework to implement the Once-Only Technical System. It drives Member States to reuse existing EU digital solutions, based on Open Standards and aligned to EU regulations to entrench EU values of trust, good governance, and smart investment (eIDAS, GDPR, procurement, etc.).

The Once-Only Technical System project is a collaboration between the Commission's Directorate-General for Informatics (DIGIT) and the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW).

The Once-Only Technical System Projectathon series matches the 30th anniversary of the Single Market, highlighting Europe's commitment to the Digital Decade and a go-live date for the Once-Only Technical System of December 2023.

1.2. OBJECTIVE & BENEFITS

> *"This is a key element of getting the OOTS production ready delivered in a fun and informative format."*. (Projectathon satisfaction survey, October 2023)

The key objective of the Once-Only Technical System Projectathon series is to facilitate the implementation of the Once-Only Technical System by the Member States by offering a 'safe space' environment for testing between the various participating teams.

The June Projectathon allowed certain teams to perform basic tests relating to their technical implementations. Other teams could consolidate progress made in the April Projectathon ahead of the October 2023 event. The October event focused more on production-ready Once-Only components. Specifically during the October Projectathon, EMREX[1] joined as a participant equivalent the Member States, covering the testing of a technical bridge concept to a related system (note that they don't appear in the statistics as they are not a Member State team). They were present in exploratory room sessions as well (see Related systems).

Monitors validated the peer-to-peer transactions relevant to their areas or expertise[2]. In addition, the Once-Only Support team assisted participants in logging issues and requests, notifying issues related to eDelivery, logging organisational requests and issues, requesting assistance in component level testing and logging questions relating to the Technical Design Documents. Participants could access the Gazelle test bed ([3]), supported by a dedicated team of Commission experts.

In addition, participants learnt about topics related to Once-Only Technical System, such as Semantic Repository, UX Lab, Common Services UX, OOTS Operational Governance, LCM and eDelivery integration, Related systems and Onboarding (section Exploration rooms, provides more details on this topic). In addition to the topics presented above, there was also a session dedicated to the trilateral pilot between Austria, Germany and the Netherlands, on doing business abroad and eIDAS for legal persons.

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[1] EMREX is a technical solution used to securely exchange educational data between students and third parties, for example between higher education institutions, admission offices or future employers. See: https://emrex.eu/

[2] Monitors are neutral experts who are familiar with the Once-Only Technical System specifications or with building blocks that are reused in the Once-Only Technical System architecture, such as eDelivery or eIDAS eID, or members of the OOTS Support team, TDD team or Testing team (see chapter 1.4 "Preparation" for more details).

[3] The "Gazelle" platform test management tool manages all the elements necessary for peer-to-peer interoperability tests. It offers a series of tools (validators and simulators) to verify the compliance of messages and documents with specifications, or to test the interoperability of an application during a controlled test. This platform originated from the eHealth domain and can be reused in different contexts where peer-to-peer interoperability tests are relevant.

1.3.   SCOPE

The October 2023 Projectathon was based on the Once-Only Technical System Technical Design Documents version 2023 Q3 (TDDs). Based on this version, the Organising team prepared a mix of Test cases (TC).

Most test cases in scope of this event were taken over from the April and June 2023 Projectathons, as these largely reflected the Member States' requirements (as described below). There were five evidence exchange scenarios "without a preview area", five evidence exchange scenarios "with a preview area", and two optional maintenance flow scenarios (Common Service updates). The tests began with static and pre-agreed data. Participants tested basic Once-Only Technical System functionalities.

A high-level overview and summary of test cases was made available and presented to the testing and deployment sub-group (restricted on the Once-Only collaborative wiki) ([4]). The test cases are visible in the Gazelle platform (restricted to participants).

The Once-Only Technical System Preview Space

Exchanging evidences through Once-Only Technical System will happen at the request of the user. The user should remain free to submit evidence by other means outside the technical system and, crucially, the user should have the possibility to preview the evidence and the right to choose not to proceed with the exchange of evidence in cases where the user, after previewing the evidence to be exchanged, discovers that the information is inaccurate, out-of-date, or goes beyond what is necessary for the procedure in question. The data in the preview should not be stored longer than is technically necessary.

The following test cases were dedicated to testing "without a preview area":

- TC01: Basic evidence request without preview
- TC02: Basic evidence request without evidence match
- TC03: Evidence request error flow due to Basic Registry error
- TC04: Evidence request error flow due to Access Point error
- TC05: Evidence request, with an additional DSD conversation

The following test cases were dedicated to testing "with a preview area":

- TC06: Basic evidence request with preview and reauthentication
- TC07: Evidence request with preview and reauthentication at two different Evidence Providers (note that this TC involved 3 participants: one Requesting Member State, and two Providing Member States)
- TC08: Evidence request with preview rejection by user and reauthentication
- TC09: Evidence request with preview error (closure or timeout) and reauthentication
- TC10: Evidence request with preview (including human readable transformation) and reauthentication

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([4]) The Testing & Deployment sub-group's (T&D) main objective is to define a testing approach and provide testing services to the Member State teams.

Chapter 2.3. "Testing results" provides detailed information about the tests executed.

Before this event, the Commission asked the participants to perform mandatory pre-Projectathon testing via the Gazelle testing platform. These pre-tests were a pre-requisite for participants to perform peer-to-peer tests during the Projectathon.

1.4.   PREPARATION

National coordinators, experts, and integration teams from the Member States actively contributed to the preparation of this event, supported by different teams from the Commission. This event is a major milestone in the Once-Only Technical System implementation journey, both for the Member States, as implementers, and the Commission in its efforts to help the Member States reach the legal deadline of December 2023.

Between April and October 2023, Commission experts from DIGIT and DG GROW, the Once-Only Technical System Project Management Office, the Once-Only Technical System Support team, and a Communications team contributed to the preparation this event. This included the following key elements:

- The 13 September 2023 October Projectathon kick-off meeting was an opportunity for participants and observers to learn about preparatory and connectivity tests ahead of the Projectathon, what to expect during the three-day event, and what will come afterwards, such as the publication of test reports.
- The 2022-2023 Once-Only Technical System Implementers' Café webinar series provided an open forum for discussion between the teams implementing the Once-Only Technical System and other stakeholders.
- The Once-Only Technical System Projectathon Participant Playbook provided detailed information about the Projectathon, including definitions, participating teams, how to undertake testing before and during a Projectathon and useful FAQs.
- The June 2023 Projectathon event report offered key results from the testing that took place from 14-16 June 2023. It also provided a useful overview of lessons learnt and recommendations for the October Projectathons.

The graph below provides an overview of the October 2023 Projectathon timeline and the various activities in preparation of this event.

| JUNE | SEPTEMBER | OCTOBER | NOVEMBER |

1 Information

29 June 2023

Attend the **Projectathon Deep-Dive session** during the **OOTS Implementers Café** on 29 June 2023.

Signal your intention to participate to the October 2023 Projectathon as Members States (can be with multiple teams)

> **Implementers Café #6**
> "Common Services Admin App & Projectathon Debrief (June event) and Preparation (October event)"
> 29/06/2023

2 Registration

1 – 12 September 2023

1. Register for the event via the **EU survey** and provide your consent to the Projectathon personal data privacy statement.

2. Register* your organization , system under test (SUT), SUT operator(s) and features to be tested in **Gazelle**.

* or duplicate it from previous registration

3 Pre-projectathon test

> **Projectathon Kick-off session with all participants**
> Online event on 13 September, 9:30-12:00 CET

14 September – 13 October 2023

Perform **Preparatory Test** to get your system, test data and yourself ready before Projectathon.

2 - 13 October 2023

Perform **Connectivity Test** to ensure network connection of SUTs are well configured before Projectathon.

4 Projectathon

> 18-20 October 2023

Game on!

Connect and perform Peer-to-Peer marathon test!

5 Post Projectathon

7 November 2023

Publication of **Test Reports**, lessons learned and best practices

> **Implementers Café #7**
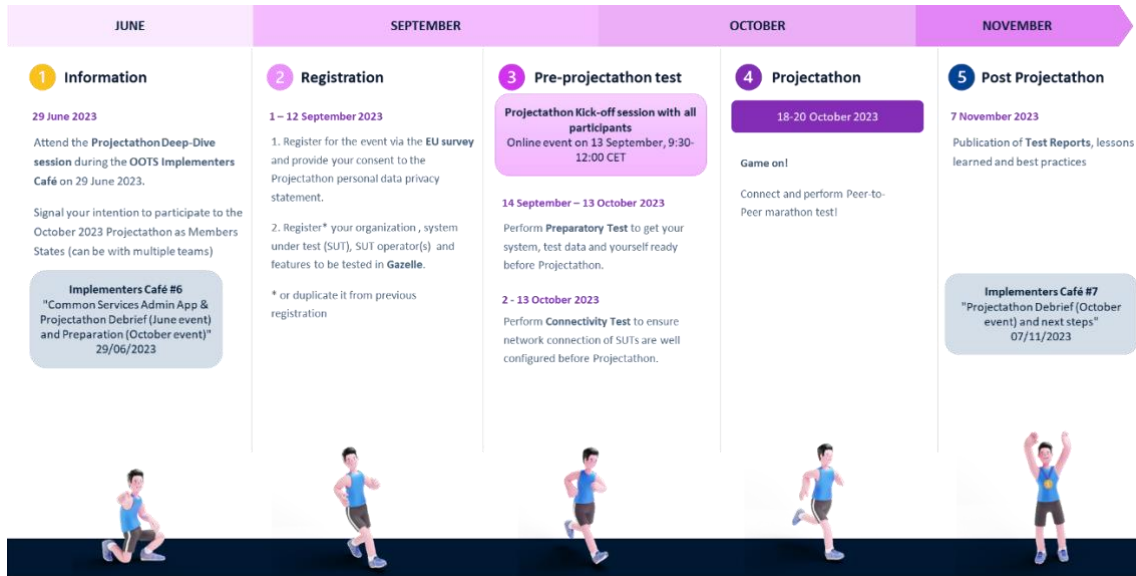> "Projectathon Debrief (October event) and next steps"
> 07/11/2023

Figure 2: October 2023 Projectathon - timeline

2. PROJECTATHON RESULTS

This chapter presents an overview of the Projectathon participants, tests performed and key testing results. Please note that this report summarises the test results and is therefore not exhaustive (i.e., it does not provide details of the testing). Member States can access their test upon request to the Support team.

2.1. PARTICIPATING MEMBER STATES

This event brought together 24 EU Member States as active participants for a marathon of peer-to-peer interoperability testing. These 24 Member States tested together in pairs, with a data requester Member State on one side, and a data provider on the other side (or two in the specific case of TC07). EMREX participated as a Member State, covering the testing of a bridge to a related system, but didn't appear in the statistics as they are not an EU Member State.

Compared to the June 2023 Projectathon, there were three additional participating Member States present during the October 2023 event (Bulgaria, Estonia, and Luxembourg). Only one Member State was remote: Slovakia.

The table below provides an overview of participants of the October 2023 Projectathon, either on-site or remotely. As this was the last planned Projectathon before the legal deadline, we removed the option for Member State teams to come as observer and encouraged all Member States to come as active participants. In the end, Cyprus, Denmark, and Lithuania were not in a position to attend as active participants.

Table 1: Participants during the October 2023 Projectathon

	Participants
On-site	Austria, Belgium, **Bulgaria** *, Croatia, Czech Republic, **Estonia** *, Finland, France, Germany, Greece, Hungary***, Italy, Ireland **, Latvia **, **Luxembourg** *, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Spain ***, Sweden ***
Remotely	Slovakia

* Changed status from "observer" in the June 2023 Projectathon to "participant" in the October 2023 Projectathon.

** Changed status from "participant" in the April 2023 Projectathon to "observer" in the June 2023 Projectathon, and back as "participant in October Projectathon".

*** Changed status from "remote participant" in June 2023 Projectathon to "on site participant" in the October 2023 Projectathon

The graph below presents an overview of participants in the October 2023 Projectathon, and of non-participants.

Figure 3: Participants and non-participants in the October 2023 Projectathon

2.2. TESTING PROCESS

Figure 4: Projectathon testing (October 2023 Projectathon)

This three-day testing event provided a unique opportunity for participants to set up their testing in the beginning of the event, thus allowing them to carry out gradually ever more tests in a structured manner.

A Day 0 was added specially for this October session, taking place the day before the event began. The objective of Day 0 was to help the Member State teams set-up and prepare effectively before the actual Projectathon. The Support Team was available at the venue to help the Member States perform some initial tests or check their Access Point connectivity against the support team's or other present Member States' Access Points. A smaller number of teams were present (around eight collaborating closely). Due to the last-minute closure of Commission buildings in Brussels, Day 0 took place in an external location. Despite the challenges involved, Day 0 was a success thanks to the agility of all teams involved.

Based upon the feedback from the Member States in the June Projectathon, a Member State capabilities overview sheet was shared between the Member States during this October Projectathon to facilitate the testing process between the Member States. This document included all the Member States capabilities and a Projectathon contact point before and during the October event.

On Day 1, participants started their testing in pairs by connecting their systems to ensure optimal system performance before launching their test cases. They decided bilaterally who they would test with and when. This decision was based, for example, on longstanding cooperation between some Member States. Some participants decided to test until the test was successful, while others chose to test with several Member States at the same time. The implementers jointly troubleshooted any issues, often in collaboration with other participants who were facing similar problems. Commission experts

and Monitors provided technical support. The participants recorded their test results in the Gazelle testbed for verification by the Monitors.

The participants informed the Monitors about tests with a "to be verified" status. The Monitors marked these tests either as "verified" or "failed". If more evidence was needed, the Monitors marked the test as "partially verified" until a final verification could be done. The respective participants and Monitors then added the necessary proof demonstrating a successful test to the test case before concluding the test (e.g., an XML response).

2.3.   TESTING RESULTS

The October 2023 Projectathon concluded with a success rate of 91% for tests between participants, compared to a success rate of 86% in June 2023 and 92% in April 2023. The slight increase in the success rate between the events is largely due to the increasing maturity of the Member State systems executing the diverse test cases.

In total, the participants executed 478 peer-to-peer tests, compared to 148 tests in June and 59 tests in April 2023 (tests shared between two Member States). The increase in the number of test cases executed between the three events is due to the following reasons:

- a higher number of active participants (16 active participants in April, 19 in June and 24 in October),
- the participants were more experienced in testing and their systems were more mature,
- a dashboard was shared on Webex and on the main venue room's screens, showing the test status global overview, the test status for each Member State, and the test status per test case,
- the organisers included the concept of Gamification (introduced below) in this October Projectathon.

As the last Projectathon before the deadline, Member States were motivated to do the maximum amount of peer-to-peer testing. As presented in the previous paragraph, during this specific Projectathon of October 2023, the organisers introduced the notion of gamification. It was based on three simple steps: (a) the definition of simple and verifiable criteria (number of different Test Cases successfully covered; the number of different Member States as test partners across the successful exchanges; and the number of successful Test Case executions), (b) the scoring of Member States according to weighted criteria: 0.6* <number Test Cases covered> + 0.3* <number testing partners> + 0.1* <number of test cases successfully executed>, (c) ranking of the Member States according to their score.

Overall feedback on this gamification yielded positive results. It motivated participating teams and encouraged them to cover more test Cases and test partners. The Member States had the possibility to opt-out, as did five Member States out of the 24 participating (namely Austria, Belgium, France, Spain, and Estonia).

The results were used only for the purposes of this event and are not planned to be published outside of the event itself.

During testing, the participants could execute five dedicated tests "without a preview area", and five tests "with a preview area" (see chapter 1.3 "Scope" for a description of "without a preview area" and "with a preview area").

Out of the total number of tests, 10 tests were still "running" (2%), where Monitors could not verify them. So-called "running" tests are tests that are initiated but cannot progress to the stage where a full test case validation is possible. Six tests failed (1%), and 26 tests were "partially verified" (6%); these tests were close to be "verified" but were missing additional proofs from the Member States (such as evidence request or response messages).

The graph below presents an overview of the October 2023 Once-Only Technical System Projectathon test results by category.

STATUS		
● Verified	436	91.21 %
● Partially Verified	26	5.44 %
● Running	10	2.09 %
● Failed	6	1.26 %
= Total	478	100 %

● Failed – 1.26%
● Partially Verified – 5.44%
● Running – 2.09%
● Verified – 91.21%
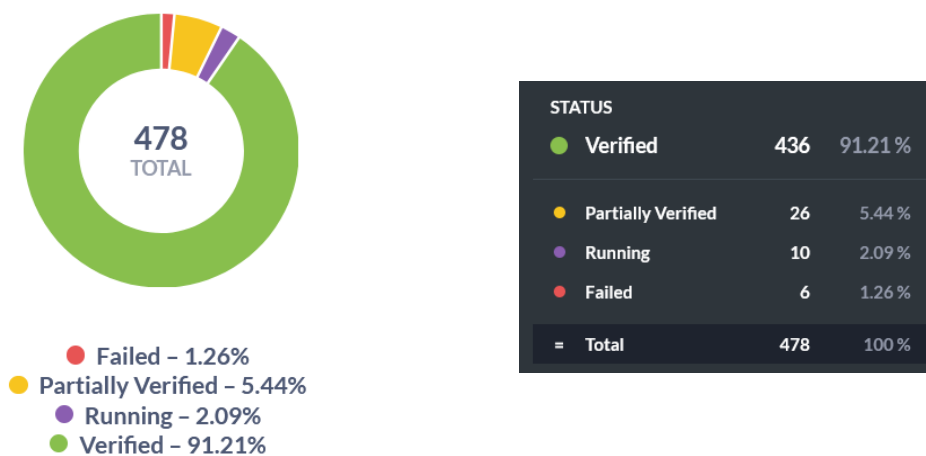
Figure 5: October 2023 Projectathon test results

Most tests focused on test cases "without preview area" (Test Cases TC01 to TC05). This is partly because participants who did not attend the April and June 2023 Projectathons started their test executions with the initial set of test cases. In addition, not all Member States are at the stage where they have a preview area available for testing.

In October 2023 event, participants executed 360 tests "without a preview area", 118 "with a preview area". This slight increase is largely due to a higher number of participants and the fact that they were more prepared and ready for testing than they were in April and in June. 25% of the tests focussed on testing the preview area, compared to 18% of the tests in June, and 2% of the tests in April 2023, showing again that the Member States systems were more mature, and that more of them had a Preview Area available for testing.

The table below presents an overview of the test cases "without a preview area".

Table 2: Test cases "without a preview area" (October 2023 Projectathon)

TC01: Basic evidence request without preview. This test case was executed for 29% of the tests between the participants.

TC02: Basic evidence request without evidence match, executed in 16% of the tests.

TC03: Evidence request error flow due to Basic Registry error, executed in 7% of the tests.

TC04: Evidence request error flow due to Access Point error, executed in 15% of the tests.

TC05: Evidence request, with an additional DSD conversation, without preview, executed in 9% of the tests.

The participants performed 118 tests "with a preview area" in October 2023, compared to 27 in June 2023 and only one test "with preview" in April 2023. There was an increase of 16% of tests executed "with preview" between the April and June 2023 event, and of 7% between the June and October 2023 events (2%,18% and 25%, respectively). This means that the Member State's respective implementations were more mature than in April and June 2023, since more Member States had a preview area available.

The table below presents an overview of tests "with a preview area".

Table 3: Test cases "with a preview area" (October 2023 Projectathon)

TC06: Basic evidence request with preview and reauthentication. This test case was executed in 10% of the tests between the participants.

TC07: Evidence request with preview and reauthentication at two different Evidence Providers, executed in 3% of the tests.

TC08: Evidence request with preview rejection by user and reauthentication, executed in 6% of the tests.

TC09: Evidence request with preview error (closure or timeout) and reauthentication, executed in 4% of the tests.

TC10: Evidence request with preview (including human readable transformation) and reauthentication, executed in 3% of the tests.

The figure below presents an overview of all test cases performed during the October 2023 Projectathon.
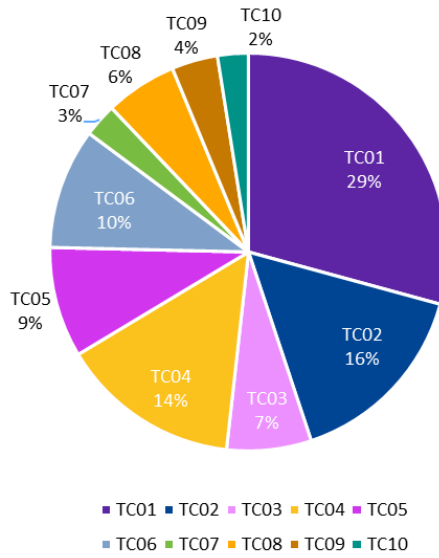

Figure 6: Test cases "with preview" and "without preview" (October 2023 Projectathon)

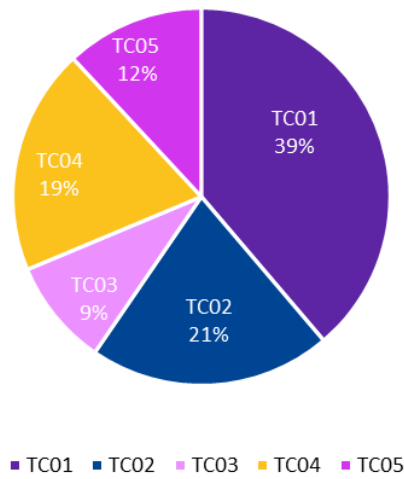The figure below presents and overview of test cases "without a preview area" (75% of all tests).

Figure 7: Tests cases "without a preview area" (October 2023 Projectathon)

The figure below presents an overview of test cases "with a preview area" (25% of all tests).
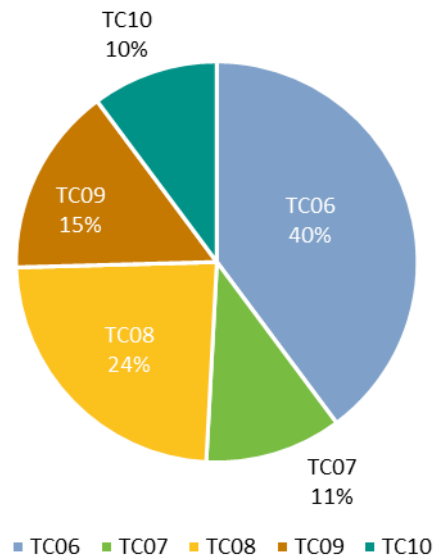
Figure 8: Tests cases "with a preview area" (October 2023 Projectathon)

The participants executed all the test cases at least 12 times, including tests "with a preview area".

A big different between this October Projectathon and the other ones is that from Day 1, all test cases were tested at least once, from TC01 to TC10. During this first day, the tests focussed more on TC01 (58), TC02 (30), TC04 (10), TC06 (11), and TC08 (8). The other test cases, TC03, TC07, TC09 and TC10 were executed from three to four times.

The Member States tested more intensively on Day 2. The reason is that Day 1 was used for setup (even if a Day 0 was added for this and diminished the quantity of setup to be done on Day 1), and Day 3 was used to correct bugs and validate tests. Indeed, a total of 222 tests were executed on Day 2, in comparison to 139 tests on Day 1, and 117 tests on Day 3 (we count here all the tests, and not only successful tests).

On Day 2, the Member states executed nearly as much TC01 and TC02 as on Day 1 (58 on Day 1 and 59 Day 2 for TC01, 30 on Day 1 and 29 on Day 2 for TC02). In the introduction session of Day 2, the Member States were asked to focus more on the tests that were not so much executed on Day 1, they indeed focussed on executing TC03, TC04, TC05 without preview, but also TC06, TC07 and TC09 with preview. Globally they tested more on Day 2 all the test cases in comparison to Day 1 (even the tests cases not listed before).

On the third day, participants performed some additional tests correcting bugs and providing additional evidence to validate successful tests.

In total they executed 117 test cases on Day 3, focusing particularly on TC01, TC02, TC04, TC05 and TC06, but continuing to execute tests with preview.

The figure below provides an overview of the test cases with a ("without a preview area") status grouped both per test case, and per day, clearly showing the progress of the tests during the three days of the October 2023 Projectathon.
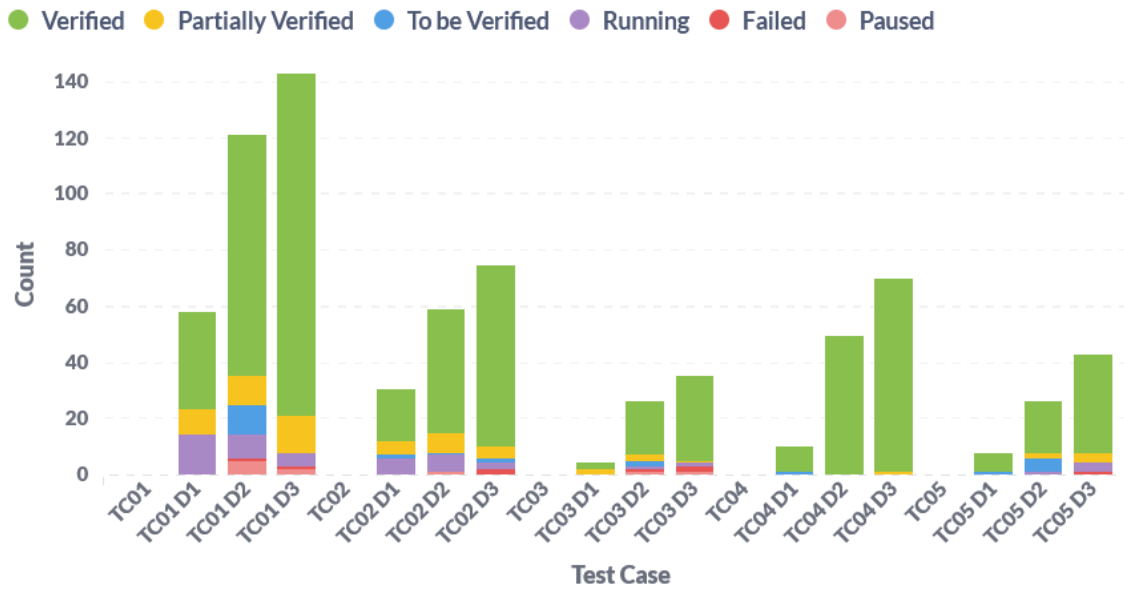
Figure 9: Test cases status "without a preview area" – days 1, 2 and 3 of the October Projectathon

The graph below presents an overview of tests "with a preview area".
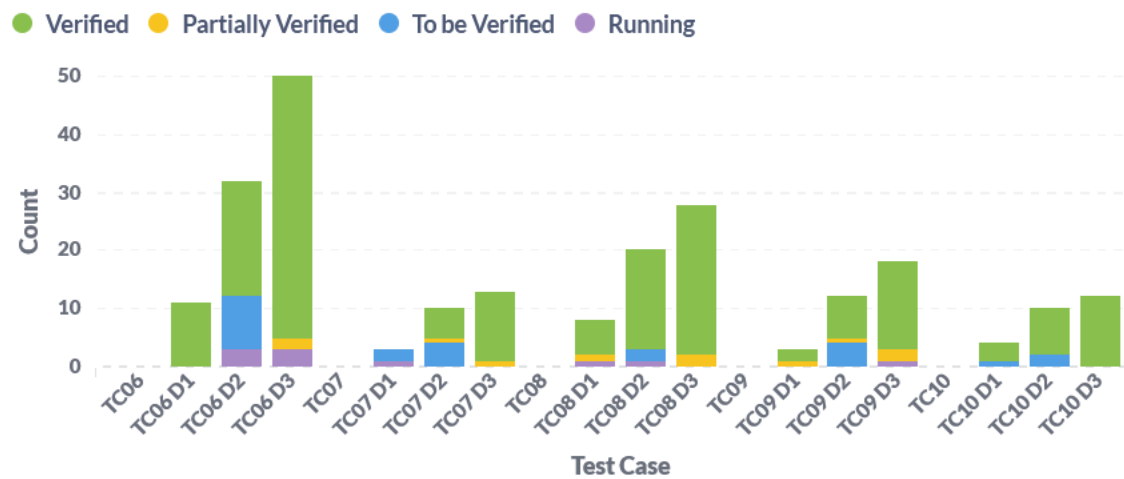
Figure 10: Test cases status "with a preview area" – days 1, 2 and 3 of the October Projectathon

The figure below shows the progress of Test Cases successfully executed between the April, June, and October events, showing the big increase of tests in the October Projectathon for all Test Cases.
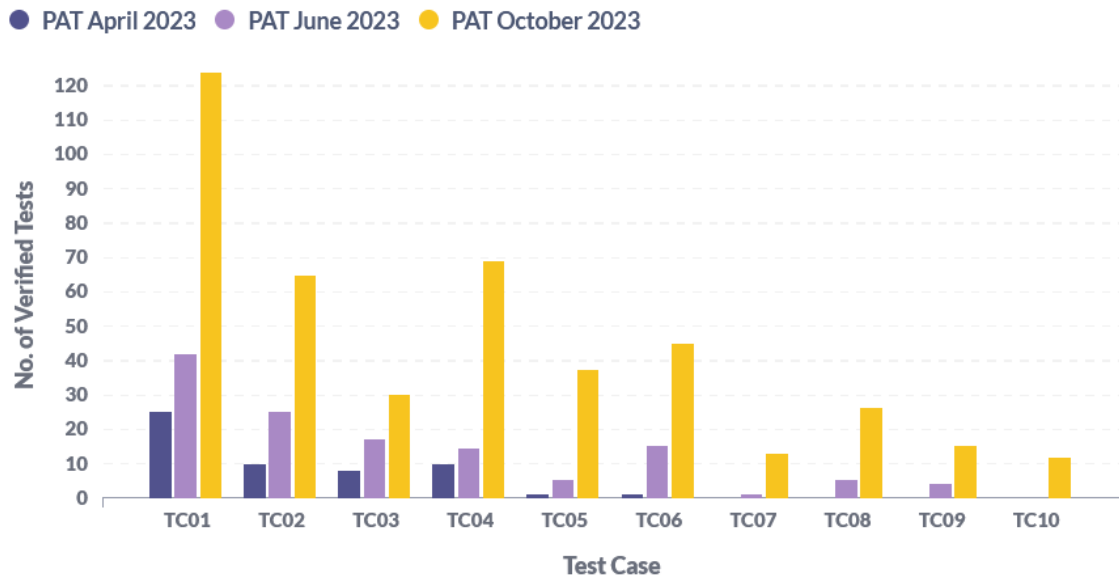
Figure 11: Test cases successfully executed in April, June, and October Projectathons

And finally, below can be seen the progress of the total number of tests executed in the three Projectathons.
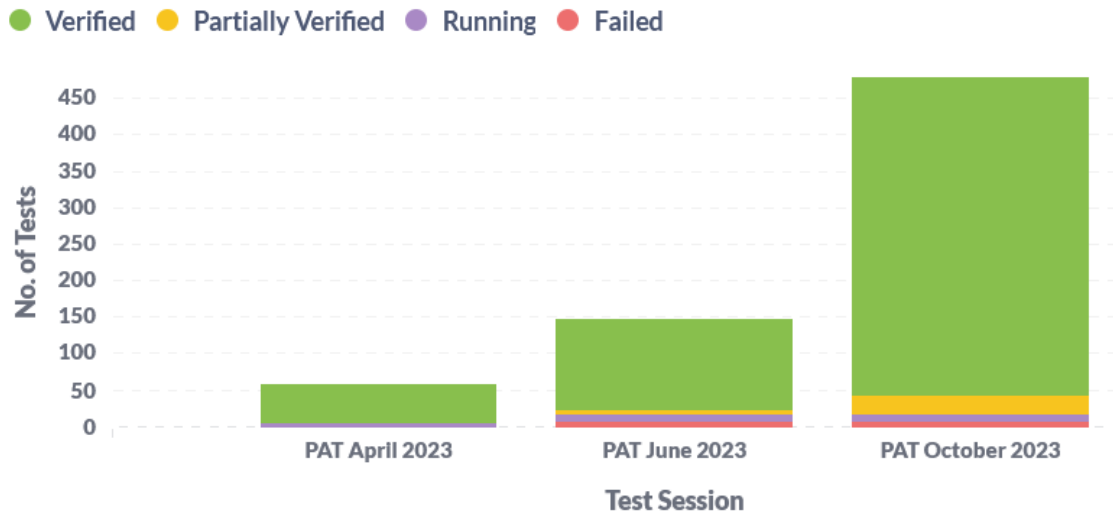
Figure 12: Test progress between April, June, and October Projectathons

The graph below compares key results between the April, June, and October 2023 Projectathons.
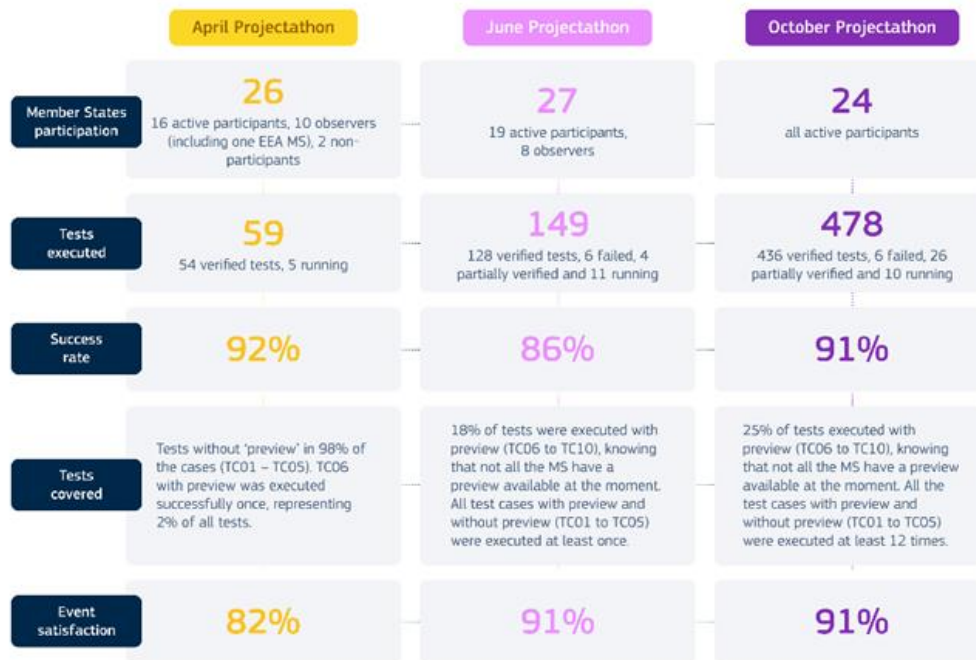
Figure 13: Comparison of April, June, and October results

3. EXPLORATION ROOMS

In parallel to interoperability testing, this event offered "exploration rooms" for event participants to learn about topics relevant for the Once-Only Technical System. This chapter summarises key results from these exploratory sessions. According to the October Projectathon satisfaction survey results, the participants found the exploratory sessions very valuable to discuss specific topics with relevant experts and other teams.

3.1. SEMANTIC REPOSITORY

Animated by Javier Gutierrez Martinez (NTT Data), Day 1 (13:30-14:30)

Figure 14: The Semantic Repository exploratory room during the October Projectathon

The session introduced the OOTS Semantic Repository (SR) and explained its benefits and expected use cases. The presentation covered several topics including SR key features and expected benefits, current development status, future evolution plans and why it plays an important role in enabling interoperability in OOTS along with the rest of Common Services.

After the general presentation, a live demonstration of the tools current capabilities was shown to the public. This included sample URI resolutions of several asset types such as Procedures, Requirements and Evidence Types. The SR public service call delivered XML representations of the asset metadata so the participants could check how the data was structured.

The session closed with a Q&A session. Some participants asked questions about future standardisation of Evidence Types in structured data. While this is not the mission of the SR (it is more a Standardisation sub-group task), it was explained how the SR could help to accelerate the development of new assets in this direction.

Other participants asked how the SR data would be filled before production (and updated afterwards). The SR team explained that this would be achieved by receiving all Common Services data via LCM or Admin Application and then the SR will automatically create the assets based on the information provided. For those countries implementing their own Common Services but not the SR.

Finally, some participants were interested in developing their own SR. This is a possibility enabled by the Implementing Regulation and therefore all information available from the Commission implementation will be published, especially regarding the data model for asset representation agreed with SEMIC.

3.2.   UX LAB WORKSHOP

Animated by Saskia Choffel, Satomi Hamabe and Nils Mc Grath; Day 1 (13:30-16:00), Day 2 (10:00-16:00) and Day 3 (10:00-12:00)

Figure 15: The UX Lab Workshop during the October Projectathon

This collaborative hybrid workshop provided a comprehensive understanding of each step of the Once-Only Technical System user journey and shaped actionable recommendations for the Member States implementers. The workshop consisted of four sessions that were organised based on the Once-Only Technical System user journey steps. In each session, the European Commission's UX Lab team presented their prototype and proposed recommendations. In a collaborative exchange of ideas, the Member States participants also showcased their prototype, facilitating a thorough assessment of their approach and in-depth UX issue discussions. At the end of each session, we collectively validated nine items from the proposed recommendations.

Looking ahead, the results of this collaboration will be published as Once-Only Technical System UX guidelines, making them accessible to anyone working on the implementation of the Once-Only Technical System in different Member States. The first set of recommendations will be available on the Once-Only Hub starting 10 November. The Once-Only Technical System UX Lab will continue collaborating closely to progressively add new recommendations to the guidelines.

3.3.   COMMON SERVICES UX TESTING (BY APPOINTMENT)

Animated by Paula Vizarrage Roldan, Melis Yamaner (NTT Data) and Nils Mc Grath; Day 1 (13:30-16:00), Day 2 (10:00-16:00) and Day 3 (10:00-12:00)

Figure 16: The Usability Testing Lab during the October Projectathon

During the Usability Testing Lab, the UX team of the OOTS Common Services Admin Platform tested the platform with 14 volunteer Member States. The team performed research sessions on-site to continue improving the Common Services Admin tool. In those sessions, people from different Member States discussed the Common Services and some key functionalities such as "Add a procedure of your Member State", "Dashboard" and the User Management tool. While participants performed some tasks, the UX team asked some questions to understand how they experienced the platform.

Participants noted that Status is useful for users, but the validation flow needs to be reviewed. Finding key functionalities in the platform was difficult for users. Users required more detailed explanations to input data. Some users required more guidance to understand the mapping concept. Some fields were not perceived by users in forms and users would like to be informed about changes.

Concerning the Dashboard, users would like to see key information about their Member State; Progress charts are key for Member States; dashboards should show different information depending on the role. Finally, users would like to customise what they see in the dashboard.

Concerning the User Management tool, specific roles for Competent Authorities are needed. Users would also like to have a unique platform Users also noted that usernames do not help Member States to recognise an individual/user. Finally, users need more explanation when creating a new user.

3.4.   OOTS OPERATIONAL GOVERNANCE

Animated by Rena Gurbanova; Day 2 (10:00-11:30)

Figure 17: The OOTS Operational Governance exploratory room during the October Projectathon

This session aimed at presenting the existing OOTS SLAs developed for the Common Services and eDelivery Access Points, and the SLT reporting template of EU Send project. These presentations facilitated the brainstorming between the participants with the goal of establishing a clear understanding of the SLT reporting metrics and template structure.

Overall, this session allowed the participants to deepen their understanding on reporting templates. During the brainstorming organised in a format of a roundtable, the Rapporteur of the Operational Governance sub-group gathered valuable insights and called the participant to actively participate in the National domain discussions in the upcoming sub-group meetings in November and December.

3.5. LCM AND EDELIVERY INTEGRATION

Animated by Jerry Dimitriou, Day 2 (10:30-17:00)

The objective of the session was to acquaint the users with the complete LCM process and provide an interactive session to test current implementations of member states. Through the LCM breakout sessions, the Member State familiarised themselves with the use of the Sandbox environment for testing their implementations.

Overall, 11 countries participated in the sessions. No Member States were able to demonstrate and use a system to generate their own LCM messages. 1 participating Member State was able to demonstrate and use a system to directly submit and process LCM messages using eDelivery. Six Member States were able to configure and use their Projectathon eDelivery access points to submit LCM Messages. Three Member States were not able to actively participate and send messages either because they were taking precautions to misconfigure their AP to handle both LCM and Evidence Exchange Messages or had firewall issues. Overall, the key results were that although LCM concepts are now better understood, most Member States are not mature enough to use LCM Interface for Common Service updates.

Going forward, it is important to continue providing support through events and webinars to help MS users better utilize Sandbox and LCM, as MS's current support for LCM is not mature yet.

3.6. RELATED SYSTEMS

Animated by Pim Van Der Eijk; Day 2 (13:30-14:30)

In the exploratory room session on related sessions, participants discussed the integration of existing cross-border data exchange systems into OOTS using the so-called "bridge" pattern. In a bridge pattern, the bridge decouples two existing messaging networks, obviating systems in one network from having to implement the protocols and formats of the other network, thus providing a low-cost, scalable integration solution. For OOTS, a simple messaging bridge is not sufficient, as it must also bridge the user flows (preview, return) and registry information.

Among the participants in the session, Gerald Groot Roessink, a representative of EMREX introduced this voluntary initiative to support the cross-border exchange of diplomas that is used in several EU Member States and other parts of the world. EMREX was the specific focus of the session. EMREX is like OOTS in using user redirections, XML and PDF, and a registry of providers but is different in many details. It is based on an XML schema called ELMO that can carry embedded PDF.

Participants discussed and looked at a demonstration of an implemented OOTS-EMREX proof-of-concept by the Commission that allows OOTS evidence requesters to retrieve diplomas from EMREX-based evidence providers. It includes actual eDelivery access points and connects to existing EMREX test servers.

Celine Jambon, from the Directorate General for Employment, Social Affairs & Inclusion (EMPL) presented the European Learning Model (ELM), which supports exchange of data on qualifications, learning opportunities, accreditation, and the European Digital Credentials for Learning, and which is

compatible with ELMO. She suggested automated conversion from ELMO to ELM and use of ELM and EMREX could be explored in future use of the OOTS.

The proof-of-concept was included as a test provider in the Projectathon, and successful evidence exchange tests were carried out with the OOTS systems of Poland, Slovenia and Italy and some others were completed in the days after the Projectathon. Some issues in the PoC implementation were found and fixed during the Projectathon, and some others have been resolved since.

3.7. ONBOARDING

Animated by Alexandros and Jorge (NTT Data); Day 2 (15:00-16:00)

Figure 18: The Onboarding team, presenting the Onboarding exploratory room during the October Projectathon

The session aimed to introduce the OOTS Onboarding Task and explain its scope and objectives, as well as present the status of the deliverables (D1, D2 & D3). The scope of the Onboarding journey is to help Member States to be ready to use OOTS from the organisational, legal, financial, and technical perspective.

The presentation covered several topics including: the status of the D1-OOTS Onboarding and Operations framework; the presentation of the D2- OOTS Onboarding Playbook; the status of the D3-OOTS Onboarding Toolkit. The OOTS Onboarding Playbook and the OOTS Onboarding Toolkit will be published in the Once-Only Hub.

The general presentation covered the main objectives, approach, key deliverables, and timeline of the OOTS Onboarding Task, as well as assessed the Legal, Organisational, Financial, Semantic and Technical requirements based on the European Interoperability Framework (EIF) layers.

Following the general presentation of the OOTS Onboarding Task, a live demonstration of the D2- OOTS Onboarding Playbook, which is in progress, was presented to the public. This included a walkthrough the deliverable that is published in the Confluence co-working space (https://ec.europa.eu/digital-building-blocks/wikis/pages/viewpage.action?spaceKey=SDGOO&title=OOTS+Onboarding+Playbook) and is available for comments/feedback from the Member States experts that have access to the these Confluence spaces. Feedback on the existing OOTS Onboarding material has been requested from the participants while giving the opportunity to the public to provide feedback and comments during the session or later, until Thursday 26 October 2023.

In addition, the Onboarding team mentioned that they are currently working on the structure of the OOTS Onboarding Toolkit. The delivery date of the OOTS Onboarding Toolkit is end of November.

Finally, the session closed with the presentation of the OOTS Onboarding Team and a Q&A session. Some participants asked questions about the way of improving the look and feel of the D2- OOTS Onboarding Playbook in Confluence, which will be coved in the OOTS Hub by the respective experts where the D2 & D3 will be published before the 12 December 2023 legal deadline.

Other participants asked how to provide feedback for the deliverables as well as the review process of the deliverables of the OOTS Onboarding Task. The Onboarding team mentioned that comments/feedback from the Member States will be evaluated within the implementation of the deliverables and can be tackled by the end of the OOTS Onboarding Task in a flexible way.

Finally, the Onboarding Team invited the Member States to provide the Cost Estimation of the OOTS implementation to provide a proper analysis on the financial stream. In the Member State feedback Confluence space, the cost Estimation has been received only from six Member States.

Meaningful feedback has been received from the Member States during the session while more comments/suggestions are expected during the incremental releases of the D2 & D3 that are planned for November 2023.

3.8.   TRILATERAL PILOT ON DOING BUSINESS ABROAD AND EIDAS FOR LEGAL PERSONS

Animated by Austria, Germany, and the Netherlands; Day 3 (10:00-12:00)

Figure 19: The Trilateral Pilot exploratory room during the October Projectathon

EU countries Austria, the Netherlands and Germany are working together on piloting SDG in the business sector. One of the main subjects of this pilot is the usage of eIDAS for legal persons and the question of powers and mandates. The pilot is based on a former project between Germany and the Netherlands from 2022, where the companies from other Member States and the exchange of data from business registries where piloted.

During the session, the partner countries presented their project and showed a demo of their technical solutions. They discussed with other member states what is important if you want to work together with other countries, like some knowledge on eIDAS, the agreement on standardised and structured evidence and realistic timelines are very important.

The project will work out a list of requirements on how other member states can participate and publish it on the Once-Only hub.

4. NETWORKING

The October 2023 Projectathon built further on the work undertaken in April and in June to develop and foster a real community that works together to build the Once-Only Technical System. Event participants were able to discuss their implementations in a relaxed setting during an informal dinner. Some teams printed matching sweaters, contributing to building a genuine community of technical implementers, and a photobooth was made available to the different teams to boost the collaborative aspect.

> *"Thanks for good and very useful event", "It was a good time with other MS". (Projectathon satisfaction survey, October 2023)*

Figure 20: Team Belgium – October 2023 Projectathon

5. COMMUNICATION

> "This is a massive step forward for EU as it will, finally, become the single market we have been always promised. I am proud to be part of Team Ireland in their journey. (Ireland, LinkedIn)
>
> "Just landed in Sweden after three great days in Brussels and the Projectathon. I've got so much new knowledge and so many great new contacts. I'm so incredibly thankful." (Sweden, LinkedIn)
>
> "The event has once again been both useful and inspiring, thank you to our own Finnish team, to all the colleagues from other member states and from the Commission!" (Finland, LinkedIn)
>
> "Thanks to the organisers and all the Member States who tested with us and supported us in our journey to reach this outstanding milestone!" (Malta, LinkedIn)

The Commission promoted this event on social media.

Additionally, Member State teams were very active on social media and took it on themselves to add a new and special dimension to the Projectathon. These teams took the time sharing their experiences and findings of the Projectathon with others and bringing home the message.

Moreover, the Once-Only Hub provided reliable information, services, and support for the Projectathon (articles, for example, highlighted specific aspects of the Projectathon series).

Lastly, interviews with Member States' experts offered readers a unique opportunity to look beyond the technical cross-border interconnection of digital services in Europe and get to know the architects of our digital Europe and what motivates them.

6. LESSONS LEARNT

Based on the participants' feedback[5], the Projectathon demonstrated the value of coming together and working in union to progress on the implementation of the Once-Only Technical System. Group tests enabled participants to test with each other in "real" exchanges and not only in isolation via Commission test services.

The figure below presents participants' motivation to participate in the Projectathon.
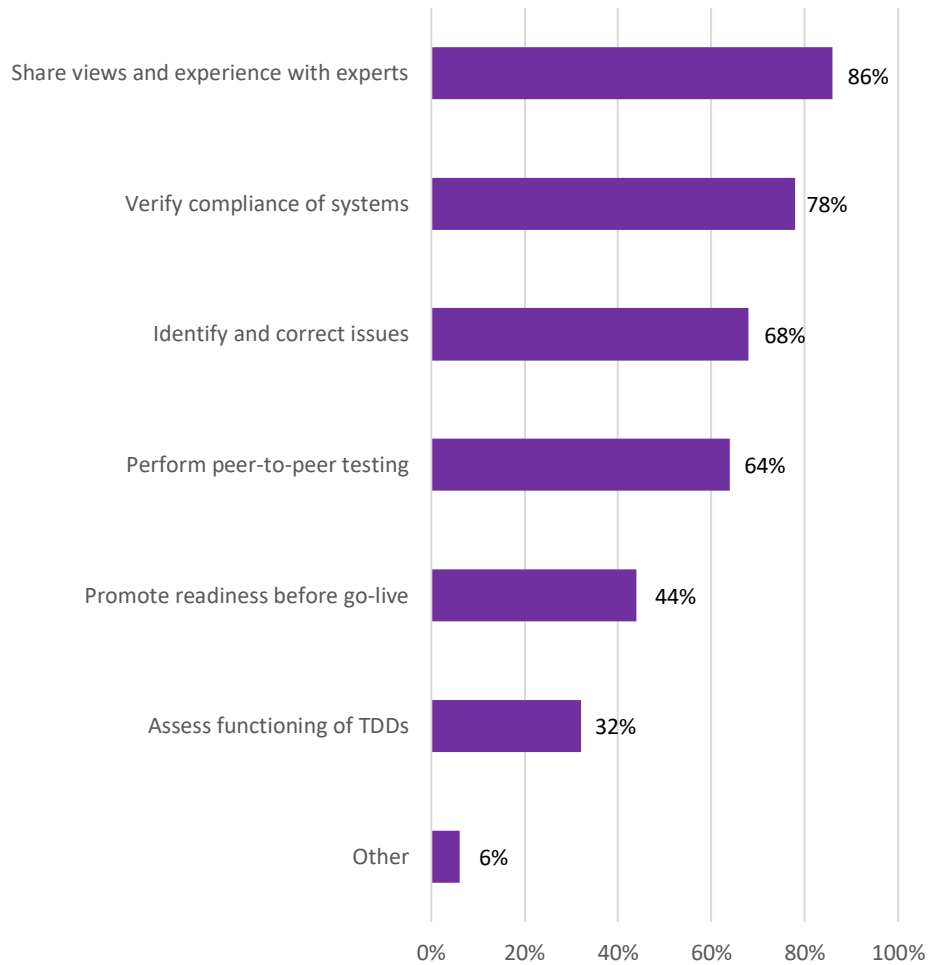
Figure 21: Participants' motivation to participate in the Projectathon (Projectathon satisfaction survey, October 2023)

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[5]   Based on the October 2023 Projectathon satisfaction survey, carried out by the European Commission in October 2023.

The figure below presents participants' satisfaction with the organisation of this event. Overall, the participants were satisfied with the registration process and the pre-Projectathon preparation.

Figure 22: Satisfaction survey - registration process and preparation (Projectathon satisfaction survey, October 2023)

The figure below presents participants' overall satisfaction with the October 2023 Projectathon.

Figure 23: Satisfaction survey - overall satisfaction (Projectathon satisfaction survey, October 2023)

The figure below presents the answer of participants to the question: "Would you like to see more Projectathons, or similar events organised in the future?"
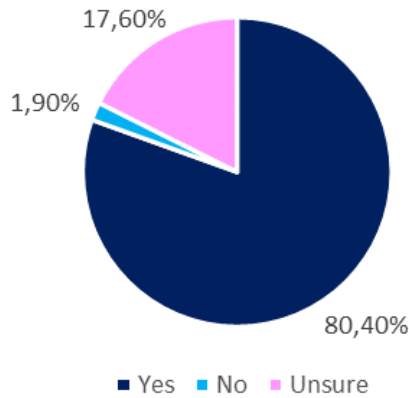
Figure 24: Satisfaction survey - demand of similar events (Projectathon satisfaction survey, October 2023)

The table below summarises Preparatory and Connectivity testing related lessons learnt from this event.

Table 4: Preparatory and Connectivity testing related - lessons learnt.

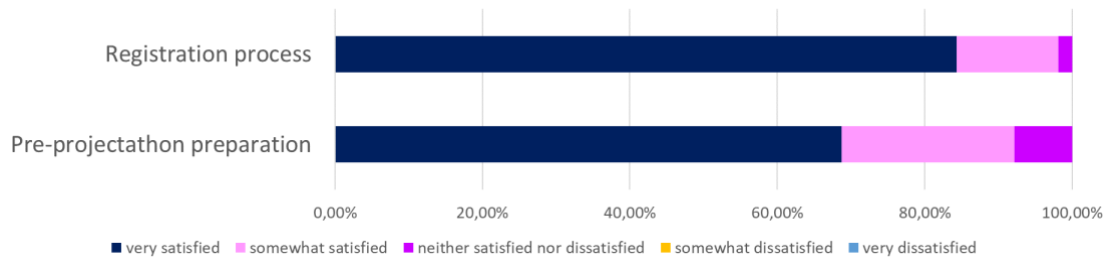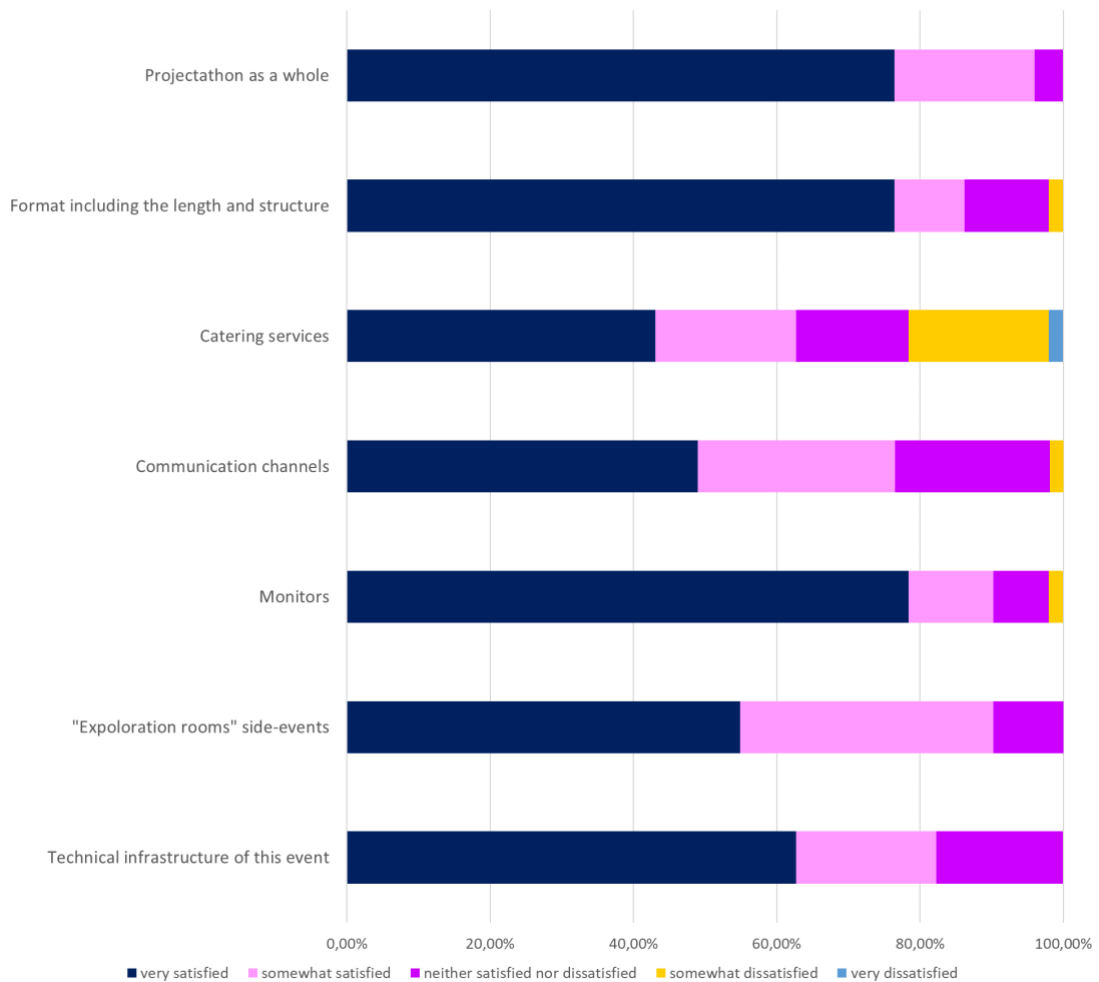| Preparatory and Connectivity testing related lessons learnt |
| --- |
| Compared to the April and June Projectathons, both the preparatory and connectivity testing coverage increased for the October Projectathon. |
| For the preparatory Test Cases:

•   Many teams covered a good amount of test cases

•   Some teams only focused on Test Cases marked as mandatory ones, while the optional test cases are recommended as well for comprehensive preparation

•   Some teams did not perform them (or at least did not report them in the Gazelle testbed) |
| As there is a positive correlation in Projectathon rest results and preparatory test results, we strongly encourage all teams to perform as many preparatory test cases (both marked as mandatory and as optional) in advance of the event. |
| For the connectivity test cases:

•   Many teams provided their configuration input in time and kept their connection stable

•   Some teams were late in providing their configuration input or changed configuration after the start of the connectivity tests, leading to retests across all other teams |
| As part of the connectivity testing phase and as part of the actual Projectathon, some connectivity issues, mostly related to certificates were detected. Although issues are never welcome, it is positive that they are detected now, so that they can be addressed before actually going into production. |

Preparatory and Connectivity testing related lessons learnt
Similar to previous Projectathons, the testing and support team shared some useful sample data with Member State teams to facilitate their system configuration and preparation. This includes:
•   PMode configurations for the eDelivery sample software and truststores containing all public keys of Access Points as provided by Member State teams
•   Evidence exchange examples (requests, responses and errors messages)
•   Common Service lookups (postman projects for Evidence Broker and Data Service Directory queries)
This activity seems much appreciated by most participating teams and if there are suggestions for future improvements, teams are encouraged to provide their feedback.

The table below presents lessons learned related to the actual Projectathon testing.

Table 5: Projectathon testing related - lessons learnt

Projectathon testing related lessons learnt
In preparation of the October Projectathon, based on the Member State teams' feedback of the June Projectathon, the testing and deployment sub-group prepared a template to be used as overview sheet of Member State capabilities and a Projectathon contact point before and during the October event.
This way Member States could complete necessary supporting information and could properly prepare with which other partners to perform tests (during preparatory tests and/or actual Projectathon tests).
In the end, this capabilities overview sheet was completed and used by most Member State teams. Moreover, the feedback was that this concept was useful and should be repeated in the future for preparing test rounds or test executions.
The Test Cases executed were relatively stable (with some adaptations in the details of the test steps and verifications) across all three Projectathons in 2023.
TC01 remains the stable Test Case to verify an Evidence Exchange without Preview Space and TC06 remains the stable Test Case to verify an Evidence Exchange including Preview Space interaction.
Even though we were expecting most Member State teams to have a Preview Space available, this was not the case, so that TC01 remained the most executed test case instead of the more advanced TC06.
TC07 (Evidence request with preview and reauthentication at two different Evidence Providers) and TC10 (Evidence request with preview including human readable transformation and reauthentication) had more transactions during the October Projectathon, but there are still several teams not yet covering these Test Cases.
For future testing events, we suggest that Member State teams go further than the currently defined and tested (generic) Test Cases and propose some variations to existing Test Cases or more domain specific Test Cases.
Even though we were expecting Member State teams to propose more custom data sets and/or use dynamic data sets, most of the Test Case executions were relying on the pre-shared and pre-agreed data sets that have been taken over (with some adaptations) from previous Projectathons. Some teams used different, custom or dynamic data sets and resultingly, Additional Member State teams should bring forward more diverse data sets.

Projectathon testing related lessons learnt

Participants suggested that it might be even more effective to have the Commission teams themselves actively participating in testing and performing tests against Member State components. It is important to note that the Commission teams have no active role developing EC evidence requester (such as Procedure Portals) or evidence provider components (such as Preview Spaces) as there is also no such role for the Commission in production scenarios. However, the Commission teams have engaged in various ways during the October Projectathon by:

• Performing TC10 test cases with a Commission/Member State hybrid team to demonstrate the related systems technical bridge concept (with EMREX as related system in the education domain)

• Operating Projectathon instances of the Common Services (EB and DSD) that are called by Member State systems in all the test runs

• Having various support teams (OOTS, eDelivery, eID) on site for monitoring transactions and answering questions

• Drill down on Common Service connectivity and usage in exploratory room sessions (e.g. the 'Common Services UX testing' and 'LCM and eDelivery integration' session)

Even if across the Projectathons, the Test Case descriptions were updated to require less evidences and to provide more detailed instructions on evidences, the evidence provision and validation remains a burden to many teams. Therefore, the Commission will analyse together with the Gazelle team whether further improvements can be made on these topics.

The Gazelle live dashboard that was introduced in the October Projectathon was a useful new feature. It reduced manual work in providing statistics, was flexible to adapt as needed and received positive feedback from most Member State teams.

The gamification element was a new concept in the October Projectathon to motivate and further engage the participating testing teams. Its main intention was to (in this priority order) firstly and most importantly encourage Test Case coverage, then widen test partner coverage and lastly increase the number of Test Case executions overall.

Based on comments from Member State teams, the concept was further refined to:

• Allow teams to opt-out of the gamification and not have their results displayed

• Only display the top 10 during the event

• Not promote the results outside of the event

Eventually, only five teams opted-out and the majority of Projectathon participants liked the concept and indicated they were encouraged to push things a little further and perform some extra tests, resulting in the main objectives to be achieved.

Nonetheless, some comments were made in the satisfaction survey and some possible shortcuts are brought to the attention, but overall, those ending in the top five or top 10 after reconsideration are indeed the countries that are generally advanced.

In case it is preferred to keep the gamification out of a future event, both participants and organisers should collectively think of other means to encourage team involvement and motivation to make the most out of the event.

The Projectathon results, together with dashboards and more detailed testing results, allow a grouping of Member State readiness into categories.

• Teams that are most advanced

• Teams that are showing significant progress, but still need to cover some ground or move from mocks or manual steps to fully automated systems

• Teams that are just starting up and are getting up to speed to catch up with the others

Projectathon testing related lessons learnt
Some issues or configuration difficulties found during testing were at least partially caused by not using the latest version of software solutions. Accordingly, users are advised to track the software updates to benefit from the latest security patches, bug-fixes and improvements to their components and environments.
TDD or validation artefact related findings have been identified and the TDD subgroup already reviewed these findings in the meeting of 3 November. All the necessary improvements will be made as soon as possible before the next subsequent meeting.

The table below summarises TDD or validation artefact related findings from this event.

Table 6: TDD or validation artefact related findings

TDD or validation artefact related findings
Participating Member States clearly spent time improving the evidence requests and responses (using the test tool) but seem to have paid less attention to the header rules. This resulted in issues such as wrong MIME types being used.
Shortly before the Projectathon, the rules for validating the return URL were updated to just checking the use of the "https" scheme. This was initially also not done in the EDM-REQ rules (not just in the EDM-ERR rules).
Some clearly incorrect structures are not reported as such by our Schematrons and are valid against the RegRep XSD. For example, a slot can omit a SlotValue child. It is therefore necessary to include rules to prove that collection value types at least have one rim:Element for CollectionValueTypes. In this case, this element is always present – a rule will be added for this.
In the rules for the ebMS header, Member States should take into account the optional xml:id, s12:mustUnderstand and wsu:Id attributes. These may be present when an artefact is returned from an AS4 engine.
The preview URL that is returned in the first response should be used in the relevant slot in the second request. The return URL should not be appended to it in the second request. The return URL is only added in the user flow of the browser. Also, there is no need to wrap the URL in a CDATA section, just the regular XML entity encoding suffices.
In matching the person attributes, all attributes provided by eIDAS should be included and matched, in particular unambiguous ones like date of birth should be fatal. Name mismatching may not be "fatal" but should at least be flagged.
Need for cross-artifact validation: current Schematrons are per-artifact, they do not check that some values in one step must be reused in a subsequent check.
SchemeID attribute in all rules allows postfixes in unregistered schemes. The one value must be proven with with prefix 'urn:cef.eu:names:identifier:EAS:[Code] while the other value must have fixed value of 'urn:oasis:names:tc:ebcore:partyid-type:unregistered.
Discussion with one Member State that the DSD response for a jurisdiction requiring a code of some NUTS level or LAU related to a Member State should return that list. Either in the DSD response (ERROR05), or as a URL that calls (via SR or CS) a service that returns a subset based on some filtering criteria should be envisioned.
ConversationId: our specification requires the reuse of ConversationId for all messages in a user session, even those involving different Data Services. So potentially not just the two or four messages for one exchange, but a multiple of this. This was not clearly reflected in the monitoring instructions.

TDD or validation artefact related findings
Some minor issues were found with existing Schematron rules, and/or the need to validate that they cover all variations.

The table below summarises Organisation related lessons learnt from this event.

Organisation related lessons learnt
Although there was a 12-day registration period, 31% of Projectathon participants registered after the official closing of the registration period. As the number of participants at that moment, increased with a 15% buffer, was used for placing the food/drinks/catering orders and to assess the logistical capacity we needed to absorb an additional 15% of participants into the existing context. This resulted in some negative experiences and comments, mainly related to catering.
As the organising team did not want to reject anyone from actively joining the Projectathon on site, we encourage everyone to register within the designated registration period. Nonetheless, the organisers ask to receive participants' suggestions for future improvements, such as: •   Having a strict closure of the registration period at a specific date, optionally with a bit of flexibility or a limited number of wildcards for late registrations per team? •   Having a 15% buffer that is handed out on a first come (late), first served basis? •   Leaving it open and try to absorb capacity as best as possible?
Security checks are mandatory for events taking place in Commission buildings. During the October Projectathon, there were increased checks following an event in Brussels prior to the Projectathon. Moreover, on Friday, queuing at security faced an increase in waiting time as many participants were carrying their suitcase on the last day of the Projectathon. As the length of the queues can never be fully estimated beforehand, we encourage everyone to calculate some extra time in the morning to arrive at the building.
The additional Day 0 concept was a clear success. This provided the opportunity for a smaller number of teams to be in separate rooms, talking to each other and collaborating closely in their final preparations to the actual event.
Even though the Day 0 became challenging due to the last-minute closure of Commission buildings, it was possible to make a last-minute move to an alternative location. Thanks to everyone's agility and drive to make it happen, it was a success after all.
During the October Projectathon, the Day 0 concept was used mostly by teams that could benefit from getting up to speed by performing some initial tests and performing connectivity checks against the support team's or other present Member States' Access Points. In any future events, it is a suggestion that the Day 0 concept could be used as brainstorming/improvement session for more advanced teams as well.
Day 2 is the most productive testing day of the Projectathon. This could be explained by the fact that most teams used parts of Day 1 (or Day 0) to do and check their setup and that interactions were boosted after everyone had the ability to meet and discuss during the social event of Day 1.
The concept of exploratory sessions is well-established by now and they offer an opportunity to take advantage of the presence of the various teams on site to explore some topics into more detail, brainstorm about certain details and collect relevant feedback from the participants. These sessions were mainly planned on Day 2 and during the morning of Day 3. In case more/less or different sessions would be preferred, participants are invited to provide their suggestions.

Organisation related lessons learnt
Even if some participants would have liked to be able to fully participate to the main testing track and at the same time attend all exploratory sessions, it makes sense to keep some parallel sessions (e.g. the UX lab workshops and Common Service UX testing) as they are mainly intended for a complementary audience and/or are providing timeslots to a limited audience by appointment.
Feedback about all exploratory sessions was mainly positive with clear results related to information sharing or advancing the OOTS developments.
On the option to make exploratory sessions remotely accessible as well for online participants, the plan was not to provide remote access by default, mainly for two important reasons. The first being that a good audio/remote connection can't always be guaranteed and that this might cause disruptions to all onsite participants. The second being that opening these sessions to remote participants that might not be fully involved in the relevant discussions, might delay or disrupt the session of the onsite participants. If a session would need to be repeated to a wider audience, this can always be done on request outside of the Projectathon context (in a webinar, for example).
During the October Projectathon, the organising team offered a pre-registration option for the exploratory sessions, but that was only used by a limited amount (+- 25%) of participants. This could partly be explained by the fact that the pre-registration concept was new and partly because participants could still join sessions ad-hoc on-site if they were not with a limited audience and already full.
Different communication channels were used to announce the Projectathon and to prepare for it: sub-group meetings, gateway coordination group meetings, the Once-Only Hub, a Member State Microsoft Teams channels and mailings. These communication channels seem to be complementary and needed to reach all the relevant participants. In case alternative channels are needed, participants are invited to provide their suggestions.
Communication between the organisers and participants, including between participants themselves, during the Projectathon is done via Member State teams (in addition to the general announcements/presentations in the Projectathon room). This option might not suite everyone perfectly, but if there is a preferred and workable alternative that everyone would endorse, the subject can be reassessed.
The organisers have noticed a significant Increase in website traffic to the Once Only Hub and internal wiki visits in preparation to the October Projectathon. This demonstrates that the Projectathon is a good booster for making progress across the relevant participating teams.
The Projectathon Playbook and supporting guidance, videos and tutorials have been useful in informing all participants about the practical details of preparing for and joining the Projectathon.
The social part of meeting each other during the Projectathon, not only while testing but also while talking more informally, is good for building stronger and longer term (cross-)team spirit and lays the foundation for more collaboration on an ongoing basis after the events.
Member State teams were very active on social media and took it on themselves to add a new and special dimension to the Projectathon. These teams took the time sharing their experiences and findings of the Projectathon with others and bringing home the message.

The table below summarises general outcomes: looking back and forward from this event.

Table 8: General outcomes: looking back and forward

General outcomes: looking back and forward
The October Projectathon was a success. Once more, the event was an opportunity for all parties to make mistakes, to learn, to help each other and to assess their current state of play regarding their OOTS developments.
While most teams made significant advancements, Member States and the Commission should also altogether take the perspective of the reality check that some results point to, meaning that not all systems are bug-free or fully automated. Most teams can use the results from the test executions to identify which bugs to solve, which parts of the system need to be refactored or which components need to be automated instead of relying on mocks or manual steps. Those teams that want to benefit from an individual analysis to assess their readiness and/or a discussion on the optimal next steps, can contact us for a follow-up bilateral.
Many Projectathon participants expressed their views and provided their comments, via different channels, during and after the Projectathon. Globally the feedback was very good, confirming the good work done by all teams in preparation of and during the event and expressing the usefulness or need for more similar events in the future. On some items, the comments are going into multiple or different directions, e.g. on the optimal duration of the event and the number of (parallel) exploratory sessions, so here we aim to find and keep the middle ground. A minority of comments indicated that in retrospect, some things should have been done differently. Even if these comments contain an important message, it is unfortunate that these suggestions were not expressed earlier as part of the requests for feedback in sub-group meetings, the Projectathon kick-off meeting or Gateway Coordination Group meetings. A potential explanation is that the Projectathon events are more focused, compressed and result in more participant interaction than other meetings. In any case, these comments will be taken on board for the future and let's make it a collective best practice to be as interactive as possible during preparatory meetings.
During the October Projectathon, the focus shifted more on assessing production readiness of the various OOTS components. In that context, Test Cases have been assessed in a stricter way. However, there were no decisions about the automation level of systems and the compromise solution was to allow everyone to join as-is (even if some test cases were performed with mock systems or manual steps). Therefore, the major goal for all participating teams continued to be making progress, finding potential issues and advancing the implementation status of the OOTS components as much as possible. To cover a variety of participant readiness statuses: • A Member State capabilities overview sheet allowed less and more-advanced teams to find each other • The Test Cases supported allowed a variety of complexity levels to be tested or retested • Various support teams (OOTS, eDelivery, eID and sub-group representatives) were available for answering questions or guiding teams throughout the test cases
As a synopsis after three Projectathons during this year: it has been a very active year, with lots of advancements across all teams and related OOTS components, but still some additional effort is needed to move into production and get all relevant parties across and inside the Member States on board.

General outcomes: looking back and forward

As a next step in this direction, a Once-Only Technical System Go-Live Accelerator event will be organised on 11-12 December 2023. This hybrid event aims to accelerate the transition from the testing phase of the project to the operational phase of the system. It will mark the point at which the system is deemed to be established and the Common Services ready to be used by Member States. A successful accelerator event will build confidence among teams when they come together to either validate the readiness of their national system or to ensure that clerks and support teams are adequately trained to enter data in the Common Services.

Even after the production date, it is relevant to continue testing events and/or roll-out campaigns to:

•   Perform regression testing and ensure interoperability

•   Test new features

•   Add new partners (Competent Authorities) as the OOTS ecosystem grows within the Member States and/or across new procedures

Member State teams are invited to express their needs and opinions on future events, for example:

• Have continuous ongoing test sessions between multiple or all Member States online. More concretely, this could entail having test sessions without a closure date, where teams can schedule and perform tests with another team at any time. Instead of having monitors that are available to guide or assess a test like during a Projectathon, the teams could perform self-validation with the validator tools and only contact the Commission/Monitor support teams if there is any problem or question.

• Open up the Projectathon concept/platform as a service to facilitate Member States to organise Projectathons within the country (Onsite or Online). Specifically, this could entail enabling various governmental entities or departments within the country to acquire the capabilities to facilitate Projectathons. Projectathons can then be conducted at national level or in collaboration with partnering countries, to ensure seamless interoperability between these entities and departments. In addition to the logistical capability and capacity, the organising team would need to identify and recruit/hire monitors to validate the tests.

• Have the Commission teams continue to perform a facilitating and coordinating role by organising one or more Projectathons, similar to past events. Some variations or further improvements on the number of participants for (hybrid) teams or exploratory sessions could be made. Similarly, some events could be facilitated with the assistance of Member State teams (e.g. hosting the event in a Member State facility or involving/training Member State experts to become test monitors, etc.) to promote a future transition of the concept to the Member State level. In case this option would be the preferred (transitory) option, then at least the expectation is that a majority of Member States would support and join these events, to make the most out of the concept.

7. BEST PRACTICES AND RECOMMENDATIONS

Based on the participants' feedback, observation and lessons-learnt from the April, June, and October Projectathons, there are several best practices and recommendations for potential future upcoming Projectathons or related events. The table below summarises key recommendations.

Table 9: Best practices and recommendations

Best practices and recommendations
Participate to as many Projectathons as possible as each one is an opportunity to gain experience and boost your progress.
Provide feedback or recommendations to improve future Projectathons on all aspects such as test cases, test data, test components to cover or any relevant improvement to the preparation or execution of the Projectathon.
Even if you think you are not completely ready, join as an active participant and be prepared to increase your capabilities during the event.
Keep on improving and retesting your systems and if you have a temporary setback, remember that not all evolutions go up in a straight line.
On site participation is key for ensuring a good testing and networking experience.
If the whole team cannot be on site, having 1 or 2 coordinators on site clearly increases your level of effective involvement.
Read the Projectathon Participant Playbook and its Annexes to get the necessary background information and guidelines.
Before the Projectathon, prepare a planning across your team and a target division of work, related to both test case execution and exploration room participation to fully benefit from all the opportunities that a Projectathon event offers.
Register to the Member State Teams collaborative space to receive information (messages and files) from the organising team and to exchange information with other participants.
Respect the timelines: • Register all your team members in time • Register your SUT in time, including the test and connection details
Perform as many preparatory tests as possible.
Perform the connectivity test to not loose valuable testing time during the event (and keep you own connection details stable).
Reach out to the support team before, during or after the event as they are highly effective in sorting out questions and problems.
Reach out to the monitors during the event for any question related to testing or documenting/logging test cases.
Check out the exploratory sessions details in advance so you can plan to participate to them while still having other team members covering the test case executions.
Come with a mindset to learn and help each other.
Connection links should be shared in advance, as early as possible before the start of the event.
Think about your future needs and express your needs and opinions on future events and testing services.

8.   CONCLUSIONS AND NEXT STEPS

The October Projectathon was the last planned before the deadline of December, just two months before the legal deadline This event is designed to cater for all teams, irrespective of their progress in their Once-Only journey, with a range of tests to match different progress levels. It specifically aims to:

- have all Member State teams as "active participants" with an on-site team or onsite representation.
- allow participants to build and advance on the testing they have thus far undertaken, including updating the common services and completing outstanding testing rounds.
- shift the focus more on assessing production readiness.
- allow for testing to include actual base registers and eID nodes for more dynamic data testing and to involve other related systems.

Progress in these areas means development can look to the integration of competent authorities, business registers and achieving bug-free connections.

The October Projectathon has, on balance, greatly advanced the position of the Member States as regards their respective Once-Only implementations. Looking to the future, the results from this event should demonstrably help the Member States prepare for the December deadline, itself a critical point in Europe's Once-Only journey. An Accelerator event has been added just before the deadline of 12 of December, on 11-12 of December with two parallel tracks: a track dedicated to training clerks who enter data into the Common Services, and a track for readiness checks of national components and connectivity to the Common Services.

As the go-live date marks the start of a new phase in the Once-Only journey, Member State teams are invited to express their needs and opinions on future events and testing services.