# D 4.3.4 – Commissioning Report

## Activity 4.3 – Integration and Testing

June, 2022

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# VERSION CONTROL

| Data | Vers | Prep | Revision | Appr | Rev | Comment |
|------|------|------|----------|------|-----|---------|
|  |  |  |  |  |  |  |
| June, 2022 |  | Giovanni Massimiliano Lanzillotta | Emanuele Giglio |  |  |  |
|  |  |  |  |  |  |  |

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## ACRONYMS / ABBREVIATIONS

| ACRONYM | DEFINITION |
|---------|------------|
| SoA | State of the Art |
| PP | Project partners |
| PT | Project Team |
| TC | Technical task coordinator |
| WP | Work package |
| IT | Information Technologies |
| | |
| | |

## REFERENCE DOCUMENTATION

| No | TITLE | REPORT No. | PUBLISHED BY |
|----|-------|-----------|--------------|
| 1 | **Application Form – E-CHAIN - Enhanced Connectivity and Harmonization of data for the Adriatic Intermodal Network**<br><br>2014 - 2020 Interreg V-A Italy - Croatia CBC Programme Call for proposal 2017 Standard - E-CHAIN<br>Priority Axis: Maritime transport | Application ID: 10048282 | Lead Applicant: Municipality of Ancona |
| 2 | D 4.2.1 – E-CHAIN software environment | | |
| 3 | D 4.2.2 – E-CHAIN platform (first release). Platform developed | | |
| 4 | D 4.2.3 – Interface development kit | | |
| 5 | D 4.2.4 – E-CHAIN platform (final release) | | |

# 1. INTRODUCTION
## 1.1 PURPOSE OF THE DOCUMENT

This document is relevant to the activity 4.3 Integration and testing of E-CHAIN project - Enhanced Connectivity and Harmonization of data for the Adriatic Intermodal Network.

The purpose of this document is to identify and document the testing procedures for services and components of the platform and to provides guidelines for developers for the final release of E-CHAIN platform. The reporting of testing of E-CHAIN platform components is needed to assure the quality of the solution provided and will will be done in cooperation with the all partners of the project.

It is the operational document for the execution of the project being used:

- by the Task Manager (TM) and Project Team (PT) to provide testing procedures and initial testing results for E-CHAIN platform during the last stage of platform development

## 1.2 WORKING PRINCIPLE

Documents the Verification and Commissioning environment and procedures applied in practice for services and components of the platform.

The main sources of data for defining test procedures derive from other deliverables, as follows:

D 4.3.2 – E-CHAIN commissioning requirements. The commissioning process is the integrated application of a set of procedures to check, inspect, and test every operational component. It consists of defining requirements and procedures for documenting, testing and accepting a complete system before it goes into production

D 4.3.3 – Test environment report. Documents the development testing procedures for services and components of the platform and provides guidelines for developers.

## 2. BACKGROUND INFORMATION

E-CHAIN (Enhanced Connectivity and Harmonization of data for the Adriatic Intermodal Network) main objective is to enhance connectivity and harmonization of data for the Adriatic Intermodal Network, through the realization of a modular integrated software (E-CHAIN platform) for the management of intermodal transport services in port areas for passenger transport. To enhance the current situation, E-CHAIN will focus on providing new services such as an improved Port multimodal info mobility system for the passengers, a ticketing system integrated with other transport modes, an advanced touristic co-marketing tool for the operators. These services will be designed and deployed in the selected pilot sites (Ancona, Split and Venice). A Business model suited to adapt the technology developed in the three applicative contexts will be created and specific needs will be taken into account.

The aim of WP4 is to develop, test and implement all components of E-CHAIN platform.

For this reason, development shall comprise a set of customer oriented services, related to mobility and tourism that have been selected in the WP3. Specific objectives:

- Develop selected services according to the specifics (technical and not) identified in WP3;
- Roll out service versions at pilot sites;
- Develop WSs to allow the integration between different services/systems for a multimodal and interoperable transportation
    - Timetables and travel solution optimizing resources (vehicles, staff), real-time events (e.g. delays) in a seamless solution: from Ancona centre to Split, train+bus+ferry complete information available by APP, WEB, totem.
    - Booking and ticketing modules to allow the payment of transport modes operated by different operators (Conerobus in Ancona + Trenitalia + Jadrolinjia), thanks to the integration between different IT systems and stakeholder involvement.
- Develop help-desk system to assist travellers during the trip according to their needs.

# 3. COMMISSIONING REPORT

## 3.1. INTRODUCTION

The purpose of this chapter is to show and comment the work done, prepared during the D 4.3.2 and tested in the D 4.3.3.

The test procedures, according to D.4.3.2 Commissioning Requirements, has verified in details the functionalities of all components of E-CHAIN platform.

Every test has a well-defined test procedure with:

- a Code to facilitate its identification;
- a Title summarizing the scope of the specific test;
- a Scope describing the scope of the test;
- a set of Pre-Conditions describing the initial conditions of the system and of the test environment and facilities before to execute the test procedure;
- a Procedure describing how the test will be carried out;
- the Successful Expected Results describing the set of results to consider the test successfully passed.

## 3.2. E-CHAIN FUNCTIONALITY TEST LIST

Here is the lists of test for every aspect of the E-CHAIN platform

| Code | Description of the functionality to be tested |
|------|-----------------------------------------------|
| B2C-D1 | B2C -  Home page -  Screen Apperiance (design test) |
| B2C-F-1.1 | B2C – Home page - Language selection functionality |
| B2C-F-1.2 | B2C – Home page – Menu items selection functionality |
| B2C-F1.3 | B2C – Plan section – Route planning/searching |
| B2C-F1.3.1 | B2C – Route transport options selection/detailes |

| B2C-F1.4 | B2C – Travel section – Sign up form content/functionality |
|---|---|
| B2C-F1.4.2 | B2C – email communication functionality |
| B2C-F1.5 | B2C – Share section display with hastag #greenechain |
| B2B-D1 | B2B - Home page - Screen Apperiance (design test) |
| B2B-F-1.1 | B2B – Home page - Language selection functionality |
| B2B-F-1.2 | B2B – Home page – Restricted zone Log in functionality |
| B2B-F1.3 | B2B – Home page –/ "Join now"/ "Sign up"/ "Join in" form content and functionality |
| B2B-F1.4 | B2B – email communication functionality |
| B2B-F1.5 | B2B – Restricted zone/Web services functionality |
| B2B-F1.5.1 | B2B –Web services for transport providers – GTFS data upload |
| B2B-F1.5.2 | B2B –Web services for Tourist services providers - data upload functionality |
| B2B-F1.5.3 | B2B –Web services for Green experiences and activities providers - data upload functionality |
| PA-D-1 | PA - Home page - Screen Apperiance (design test) |
| PA-F-1.1 | PA - Home page - Language functionality |
| PA-F-1.2 | PA - Home page – Restricted zone Log in functionality |
| PA-F-1.2 | PA – Home page – "Enter the network" form functionality |
| PA-F1.3 | PA – email communication functionality |
| PA-F1.4 | PA – Restricted zone/Web services functionality |
| BO-F1 | BO - |
| BO-F2 | BO - |
| TO-A-D-1 | TO-Ancona – Home page Screen Apperiance and content |
| TO-A-F1 | Totem Ancona – Language functionality |
| TO-A-F2 | Totem Ancona – "Travel" Info Group functionality |
| TO-A-F3 | Totem Ancona – "Experience Ancona" Info Group functionality |
| TO-A-F4 | Totem Ancona – "Moving in the City" functionality |

| TO-A-F5 | Totem Ancona – "Usefull info" functionality |
|---------|---------------------------------------------|
| TO-S-D-1 | Totem Split – Home page Screen Apperiance and content |
| TO-S-F1 | Totem Split – Language functionality |
| TO-S-F2 | Totem Split – "Travel" Info Group functionality |
| TO-S-F3 | Totem Split– "Experience Ancona" Info Group functionality |
| TO-S-F4 | Totem Split – "Moving in the City" functionality |
| TO-S-F5 | Totem Spit – "Useful info" functionality |
| TO-V-D-1 | Totem Venice – Home page Screen Apperiance and content |
| TO-V-F1 | Totem Venice – Language functionality |
| TO-V-F2 | Totem Venice – "Travel" Info Group functionality |
| TO-V-F3 | Totem Venice – "Experience Ancona" Info Group functionality |
| TO-V-F4 | Totem Venice – "Moving in the City" functionality |
| TO-V-F5 | Totem Venice – "Useful info" functionality |

# 4. TESTS RESULTS

| Test Code | Description | Result | Comment |
|-----------|-------------|--------|---------|
| **B2C-D1** | B2C - Home page - Screen Apperiance (design test) | OK | Problem of STEP 02 corrected |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| Checking how web content is displayed on different devices and OS and Internet browsers; check the display of design elements | | | |
| **Test Procedure** | | | |
| STEP 01 | Home page on the Top screen - check that the elements are displayed in accordance with the design: E-CHAIN logo on the left, menu items and language icons on the right | OK | |
| STEP 02 | Home page Bottom - check that the elements are displayed in accordance with the design: E-CHAIN LP and other PP logos with links to their respective web pages. | NOT OK | Prosoft – link to incorrect http address, needs to be corrected to https://www.prosoftri.com/ |
| STEP 03 | Home page Central part of the scrolable screen – check its design arranged in sections against the document_____ with clickable buttons (language depending). | OK | |
| /TEST CODE/ Test Report Section Date    6.4.2022 | | | |

| Test Code | Description | Result | Comment |
|-----------|-------------|--------|---------|
| **B2C-F-1.1** | B2C – Home page - Language selection functionality | | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| This test checks the language features, whether the language of the web platform is consistently changed in accordance with the choice of language. | | | |
| **Test Procedure** | | | |
| STEP 01 | The default language is English. Make sure all elements are expressed in English. | OK | |
| STEP 02 | Select and click on the flag icon in the upper right corner of the screen and check that the content and all elements of the page have changed according to the selection. | NOT OK | After clicking the Croatian flag the language switch to english |
| STEP 03 | Click on the buttons and check the language compliance on the forms. Are the form elements displayed in the selected language? | NOT OK | Forms always in english |
| /TEST CODE/ Test Report Section Date 6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|-----------|-------------|--------|---------|
| **B2C-F-1.2** | B2C – Home page - Menu items selection functionality | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| This test checks the proper functioning of the menu items | | | |
| **Test Procedure** | | | |
| STEP 01 | Click on the "Plan" menu item and check if it took you to the "Plan your journey" section with the form where you can enter the departure and arrival point and the date of travel. Clicking on "Plan your next journey" should have the same functionality. | OK | |
| STEP 02 | Selecting the "Travel" menu item should take you to the "Always stay green" section with the "Sign up now" clickable button. | OK | |
| STEP 03 | Go to the "Share" menu item that should lead you to the "Become a testimonial" section where users are invited to share experiences from their sustainable and green journeys on social media using the hashtag *#greenechain*. | OK | |
| /TEST CODE/ Test Report Section Date       6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2C-F-1.3** | B2C – Plan section – Route planning/searching | NOT OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | | |
| **Test Objectives** | | | |
| Test route planning form functionality | | | |
| **Test Procedure** | | | |
| STEP 01 | Select 'Plan' menu item and enter departure and arrival locations in the appropriate fields, and select date. Click on "Search" button. The new window opens showing route travel options on the left side with mean(s) of the transport with estimated CO2 consumption and map showing travel options on the right site of the screen. | NOT OK | After putting the input for the desired travel the page is blocked with the charging symbol |
| STEP 02 | Above the map and travel option, user can change the departure and arrival point and select different date for the travel. Selecting "Search" button, new route options are shown | NOT OK | After putting the input for the desired travel the page is blocked with the charging symbol |
| STEP 03 | Clicking on the "Go to back" arrow previous page (from history) is available. | | |
| /TEST CODE/ Test Report Section Date      6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2C-F-1.3.1** | B2C – Route transport options selection/detailes | | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| Test route transport options and link to transport provider booking page | | | |
| **Test Procedure** | | | |
| STEP 01 | When page with travel options is open, click on one of the offered travel options. The window containing selected option should expand showing detailes about  expected time of departure and arrival, distance, mean of the transport and travel duration. | NOT OK | Impossible to see this page |
| STEP 02 | If you click on  "ferry", "train" or "bus" travel option,  if transport provider is one of E-CHAIN stakeholders or partners, a button with link to its booking page is available. | NOT OK | Impossible to see this page |
| STEP 03 | Click on "ticket" button should lead you to the providers booking page | NOT OK | Impossible to see this page |
| /TEST CODE/ Test Report Section Date       6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2C-F-1.4** | B2C – Travel section – Sign up form content/functionality | | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| Test email communication functionality | | | |
| **Test Procedure** | | | |
| STEP 01 | When 'Travel' menu item is selected you'll be lead to "Always stay green" page section | OK | |
| STEP 02 | Click on "Sign up now" button and an email form will appear on the screen. Fill in all required fields and try to send it without accepting privacy disclosure statement. The message should not be sent. | NOT OK | The fields "Plan" "From Location" and "To Location" are impossible to be filled |
| STEP 03 | Accept the privacy disclosure and try to send the message again. The message should be sent and confirmation on the action visible on the screen. | NOT OK | |
| /TEST CODE/ Test Report Section Date     /   / | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2C-F-1.5** | B2C – Share section display with hastag #greenechain | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2c up and running; Test device (desktop, tablet, mobile device) with internet access | | | |
| **Test Objectives** | | | |
| Test e-chain hashtag functionality | | | |
| **Test Procedure** | | | |
| STEP 01 | Click on one of the cards will lead you to the original e-chain Instagram post | OK | |
| STEP 02 | | | |
| STEP 03 | | | |
| /TEST CODE/ Test Report Section Date     6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2B-D1** | B2B - Home page - Screen Appearance (design test) | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2b up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| Checking how web content is displayed on different devices and OS and Internet browsers; check the display of design elements | | | |
| **Test Procedure** | | | |
| STEP 01 | Home page on the Top screen - check that the elements are displayed in accordance with the design: E-CHAIN logo on the left, menu items and language icons on the right | OK | |
| STEP 02 | Home page Bottom - check that the elements are displayed in accordance with the design: E-CHAIN LP and other PP logos with links to their respective web pages. | OK | |
| STEP 03 | Home page Central part of the scrollable screen – check its design arranged in sections against the document_____ with clickable buttons (language depending). | OK | |
| /TEST CODE/ Test Report Section Date      6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2B-F-1.1** | B2B – Home page - Language selection functionality | | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2b up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| This test checks the language features, ie whether the language of the web platform is consistently changed in accordance with the choice of language. | | | |
| **Test Procedure** | | | |
| STEP 01 | The default language is English. Make sure all elements are expressed in English. | OK | |
| STEP 02 | Select and click on the flag icon in the upper right corner of the screen and check that the content and all elements of the page have changed according to the selection. | NOT OK | Clicking on the Croatian Flag the language still remain English |
| STEP 03 | Click on the buttons and check the language compliance on the forms. Are the form elements displayed in the selected language? | NOT OK | It works for Italian and English languages, for Croatian one is still in English |
| /TEST CODE/ Test Report Section Date 6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2B-F-1.2** | B2C – Home page - Menu items selection functionality | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2b up and running; Test device (desktop, tablet, mobile device) with internet access | | | |
| **Test Objectives** | | | |
| This test checks the proper functioning of the menu items | | | |
| **Test Procedure** | | | |
| STEP 01 | Click on the "The Project" menu item and check if it took you to the "The Project" section of the page. | OK | |
| STEP 02 | Selecting the "Enter the network" menu item should take you to the "Suppliers of the intermodal transport services" section with the "Join now" clickable button. | OK | |
| STEP 03 | Go to the "Restricted access" menu item that should open Login Form. | OK | |
| /TEST CODE/ Test Report Section Date      6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2B-F-1.3** | B2B – Home page – Restricted zone Log in functionality | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2b up and running; Test device (desktop, tablet, mobile device) with internet access | | | |
| **Test Objectives** | | | |
| This test checks the Login Form functionality to access Restricted zone for transport and service providers | | | |
| **Test Procedure** | | | |
| STEP 01 | Select the "Restricted zone" menu item and Login form will pop-up. | OK | |
| STEP 02 | Enter given test login credentials and click on "Login" button to enter into the restricted zone. Was it successful? | OK | |
| STEP 03 | | | |
| /TEST CODE/ Test Report Section Date 6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **B2B-F-1.4** | B2B – Home page –/ "Join now"/ "Sign up"/ "Join in" form content and functionality | OK | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/b2b up and running; Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| This test checks the functionality of "Signup" request form to enter Restricted zone | | | |
| **Test Procedure** | | | |
| STEP 01 | Select the "Enter the network" menu item and click on "Join now" button. The "TRANSPORT Provider Signup" form should pop-up. | OK | |
| STEP 02 | Fill in all required data and try to send the form without accepting privacy discloser statement. The form should not be sent. | OK | |
| STEP 03 | Accept privacy discloser statement by switching on radio button. Click on "Send request" button to send a message. The form should be sent and a confirmation on sent message should be displayed. | OK | |
| /TEST CODE/ Test Report Section Date      6.4.2022 | | | |
| This section logs the result. | | | |

| Test Code | Description | Result | Comment |
|---|---|---|---|
| **PA-D1** | PA-D1 - Home page - Screen Appearance (design test) | Ok | |
| **Preconditions** | | | |
| Web server https://e-chain.eu/m/transit-finder/web/pa up and running;<br>Test device (desktop, tablet, mobile device) with internet access | | OK | |
| **Test Objectives** | | | |
| Checking how web content is displayed on different devices and OS and Internet browsers;<br>check the display of design elements | | | |
| **Test Procedure** | | | |
| STEP 01 | Home page on the Top screen - check that the elements are displayed in accordance with the design: E-CHAIN logo on the left, menu items and language icons on the right | OK | |
| STEP 02 | Home page Bottom - check that the elements are displayed in accordance with the design: E-CHAIN LP and other PP logos with links to their respective web pages. | OK | |
| STEP 03 | Home page Central part of the scrollable screen – check its design arranged in sections against the document_____ with clickable buttons (language depending). | OK | |
| /TEST CODE/ Test Report Section<br>Date      6.4.2022 | | | |
| This section logs the result. | | | |

# 5. CONCLUSIONS

The work done reached the task to test the different aspects of the platform, it helped to find errors and bugs to fix and to improve the usability and the experience of the different types of users.