D 4.1.1 – Hardware procurement for Municipality of Ancona

Activity 4.1 – Hardware procurement

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VERSION CONTROL

Data	Vers	Prep	Revision	Appr	Rev	Comment
June, 2021	Draft	Alessandro Caponi	Andrea di Giuseppe		draft	
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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** 2014 - 2020 Interreg V-A Italy - Croatia CBC Programme Call for proposal 2017 Standard - E-CHAIN Priority Axis: Maritime transport	Application ID: 10048282	Lead Applicant: Municipality of Ancona

1. INTRODUCTION
1.1 PURPOSE OF THE DOCUMENT

This document is relevant to the activity 4.1 Hardware procurement of E-CHAIN project - Enhanced Connectivity and Harmonization of data for the Adriatic Intermodal Network.

Three info panels with the E-CHAIN platform will be installed in the City of Ancona, which will offer the service of availability of harmonized data of the Adriatic Intermodal Network. The information provided in this report, together with information supplied in "Technical and non-technical requirements" (D 3.3.2), serve for hardware installation and implementation.

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

• by the Activities of WP 4 Platform and Service Implementation and namely for Activity 4.2 Software development and 4.3 Integration and testing

• by the Activities of WP 5 Services and Transport Vehicle Integration in Activity 5.1 Pilot implementation for deployment definition in the Pilot Sites

1.2 WORKING PRINCIPLE

LP, together with its technicians and external experts, carried out a series of inspections on various possible positions on which to install the totems. Based on the assessments of a series of technical, security, connectivity aspects but also of timing, the choices have an impact on the three current positions.

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 design platform and services and to prepare the E-CHAIN services for deployment in the pilot sites (Ancona, Split and Venice). The specific objectives of this WP are to:

- 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

3. LIST OF HARDWARE

HARDWARE	DESCRIPTION	QUANTITY
Info-panel (Totem)	Interactive indoor panel in antivandal housing with touch screen min dimensions 55" and multiple connectivity options	2
Info-panel with touch "through glass" film	Interactive screen behind window + pc case and through glass film of 55" and multiple connectivity options	1
TOTAL QUANTITY		3

4. INFO-PANEL – HW & SW TECHNICAL SPECIFICATIONS

Two of the totems will be located in a demanding indoor environment not exposed to atmospheric influences but can be the target of vandals and are intended for intensive

interactive use. The quality and robustness of the device and the outer casing must correspond to the operating conditions in order to perform its E-CHAIN project function in the long run.

It is necessary to ensure stable power supply and internet connection of sufficient bandwidth as well as a system backup.
After the installation and initial setup of the operating system, the totems will be software maintained and its contents updated online. The panels are intended for interaction with users and display of real time information, so non-stop availability is necessary.

Accordingly, the hardware and software technical specifications requirements are as follows:

Housing:

- width from 80 to 100 mm
- height from 2000 to 2200 mm

Screen:

- 55 "diagonal or larger screen with touch function
- Resolution 1920x1080
- Screen brightness 1000 cd/m2
- Min. 8 bit color, IPS WRGB panel
- 24/7 operation, panel life 50.000 hours

Computer:

- At least Intel i5 10th gen. or equivalent processor
- memory 8GB DDR4-3200 disk NVMe SSD, M.2, 128GB
- 1x HDMI,
- 3x USB3.2
- 1x GbE 2.5 LAN, WiFi6, BT 5.x, 3G / 4G / LTE,
- Installed Operating System MS Windows 10 Professional license with kiosk mode enabled or Armored linux
- Google Chrome 19 or higher

Other:

- Connectivity: USB, LAN, WIFI / LTE

- power supply 9-12 V DC
- Enabled internet management of operating system (i.e. Microsoft remote desktop)
- at least 3 years "On-site Service" (24x7x365 technical support remote)

One of the totems will be located in a protected indoor environment not exposed to atmospheric influences and is intended for intensive interactive use. The screen will be behind a window glass and the user will use the touch system through the glass The protection of the devices depends on the robustness of the glass.

It is necessary to ensure stable power supply and internet connection of sufficient bandwidth as well as a system backup.
After the installation and initial setup of the operating system, the totem will be software maintained and its contents updated online. The panels are intended for interaction with users and display of real time information, so non-stop availability is necessary.

Accordingly, the hardware and software technical specifications requirements are as follows:

Touch surface:

- Capacity film 55'' "Through Glass", 40 Points (same size of the screen) with USB connection

Screen:

- 55 "diagonal or larger screen with touch function
- Resolution 1920x1080
- Screen brightness 1000 cd/m2
- Min. 8 bit color, IPS WRGB panel
- 24/7 operation, panel life 50.000 hours

Computer:

- At least Intel i5 10th gen. or equivalent processor
- memory 8GB DDR4-3200 disk NVMe SSD, M.2, 128GB
- 1x HDMI,
- 3x USB3.2

- 1x GbE 2.5 LAN, WiFi6, BT 5.x, 3G / 4G / LTE,
- Installed Operating System MS Windows 10 Professional license with kiosk mode enabled or Armored linux
- Google Chrome 19 or higher

Other:

- Connectivity: USB, LAN, WIFI / LTE
- power supply 9-12 V DC
- Enabled internet management of operating system (i.e. Microsoft remote desktop)
- at least 3 years "On-site Service" (24x7x365 technical support remote)

The above minimum configuration may contain other components that are necessary for pc connection and operations.

Procurement for **Devices, PCs and system software packages** subject to simple procurement procedures based on the Public Procurement Act.

Technical specifications of the subject of procurement must contain at least the following:

Totems with large screen for digital signage and user interaction

The above minimum configuration may contain other components that are necessary for pc connection and operations.

5. TOTEMS' INSTALLATION REQUIREMENTS (RESTRICTION DUE TO INTERMISSIONS, SECURITY AND SAFETY IN PUBLIC PROPERTY)

The screen of the panel must be placed in such a way that a person with an average height of approximately 175 cm can use it without hindrance.

In order to ensure a harmonized visual identity of the European Regional Development Fund, Interreg IT-HR program, the panels should be delivered with the recognizable mark of the E-CHAIN project. In accordance with the branding rules of the INTERREG Italy - Croatia project, the Logo with the E-CHAIN acronym of appropriate size, but not less than 46 millimeters, engraved or on plate should be permanently marked in the area of the housing on the front of the totem.

Internet access:

- the optics terminal is provided at the panel location (distance 1 to 2 m)
- physical connection is performed via STP Cat5e cable that connects to 1 free RJ45 port switch

  and/or optical converter located on the optics terminal next to the panel.

Power supply:

- the 220V / 50Hz power supply is available at the panel location (distance 1 to 2 m)
- physical power supply by a power cord connected to a power source on site
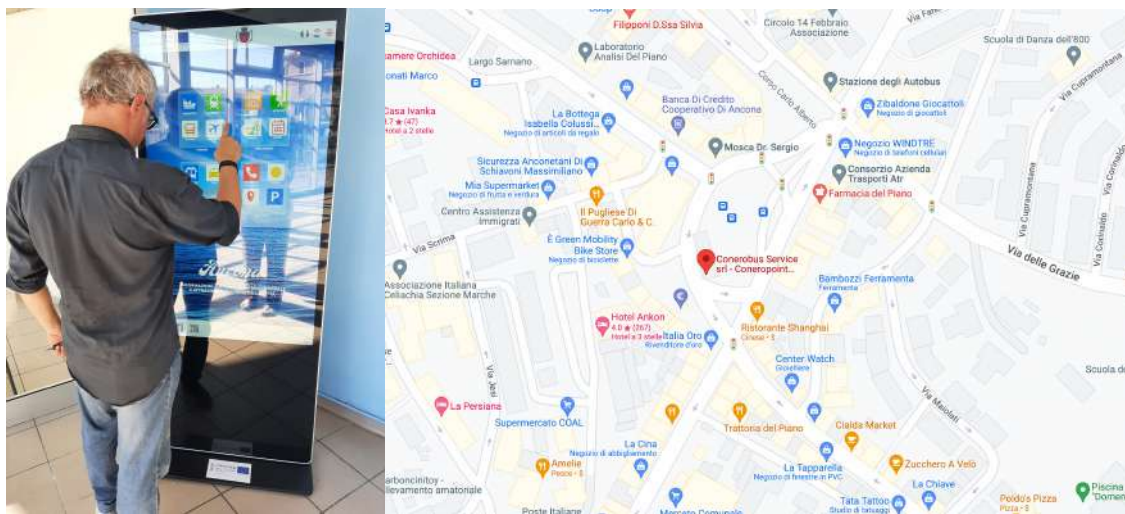
Installation/construction work:

- adequate preparation of a mounting base
- connection to power supply and internet (ethernet)

6. INFO-PANELS PHISICAL ARCHITECTURE

Location 1: Coneroservicepoint - Piazza Ugo bassi, sn - Ancona

Location description: inside Coneroservicepoint
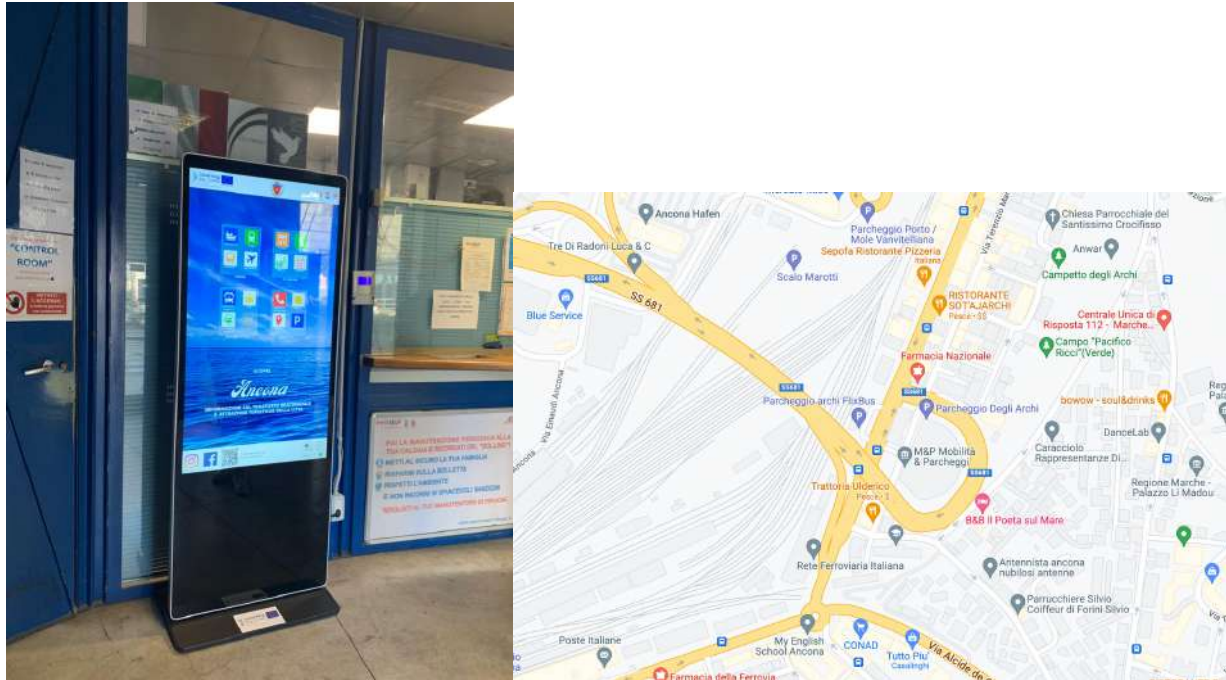
Latitude: 43.603406, **Longitude:** 13.507027

Panel position and Installation requirements:

- One-sided panel on the corner of the entrance of the building
- Power supply - 220V available from the back of the bus station
- Internet Link – via ethernet

Location 2: Parking "Parcheggio Scambiatore degli Archi" - via Mamiani - Ancona

Location description: inside the pedestrian entrance of the parking

Latitude: 43.609942, **Longitude:** 13.503561
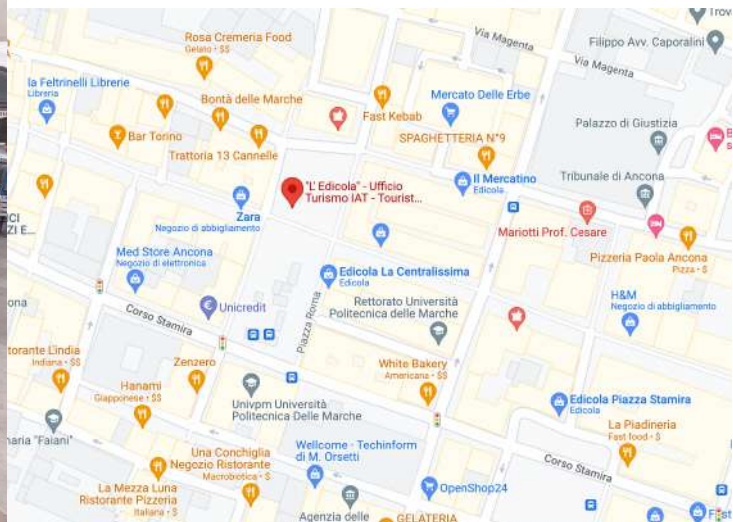

Panel position and Installation requirements:

- One-sided panel facing the entrance
- Power supply - 220V available from the back of the bus station
- Internet Link – via ethernet

Location 3: "L' Edicola" - Ufficio Turismo IAT - Piazza Roma, Ancona (square center)

Location description: inside the tourism office, with capacitive film attached to the window

Latitude: 43.618020,   **Longitude:** 13.513035

Panel position and Installation requirements:

- PC and montor inside the office, capacitive film attached to the window under the tourism office sign
- Power supply - 220V available from the back of the bus station
- Internet Link – via ethernet