



D2.4 CLICK USER Support material

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Abstract

The aim of USER-CHI work package 2 is to design, specify, implement and test a decision support system for the planning of charging infrastructure called “Charging Infrastructure Location and Holistic Planning Kit (CLICK)”. CLICK is an easy to use question-and-answer online tool for the top-down location planning for charging infrastructure, whose purpose is to optimise location planning for new charging infrastructure in cities and TEN-T corridors.

Up to and including Task 2.3, CLICK was designed, specified, developed an integrated. The current deliverable D2.4 “CLICK User Support Material” is a base for the demonstration and testing of CLICK within the current Task 2.4 “Integration & Testing”. It specifies and documents material as a guidance for users of CLICK during tests within the demonstration phase.

Keywords

CLICK, Holistic Planning, Charging Location Planning, Decision Support System, Specification, Architecture

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1 Introduction

1.1 Purpose of the Document

USER-CHI's product 1, the Charging Location and Holistic Planning Kit (CLICK), is an easy-to-use question-and-answer online tool for the top-down location planning for charging infrastructure, which purpose is to optimise the location planning of new charging infrastructure in cities, matching the users' needs, preferences and habits, with the existing charging technologies and typologies available in the market. CLICK will analyse inputs and estimate the optimum charging infrastructure to be deployed in the city.

Furthermore, CLICK can be fed with actual utilisation data of charging infrastructure within the cities and planning areas. This enables a post-planning process of monitoring of the utilisation and thereby enable the demand-oriented expansion of the charging infrastructure network taking actual usage into account.

With the present deliverable D2.4 "CLICK User Support Material", the work to be carried out in Task 2.4 of the USER-CHI project will be documented. Building up to the work carried out up to Task 2.3, the "CLICK User Support Material" will be a base for the demonstration and testing of CLICK within the current Task 2.4 "Integration & Testing". The current document is a first version outlining the basic ideas for the user support material and will be completed up to M39.

1.2 Scope of the Document

D2.4 will specify and document the material provided to users of CLICK as support material during the upcoming demonstration and testing phase. Therefore, it outlines the basic structure, content, and plan for user support material.

Due to global external circumstances, parts of the work within WP2 needed to be adapted, resulting in an extended timeline. First, Task 2.3 was extended to allow for the compensation of previous delays. Secondly, the delivery data of D2.4 was set to M39. In order to be part of the second reporting period of USER-CHI, this current version of D2.4 is submitted as a draft version. It contains the main ideas to be executed within of T2.4. While the connected Task is ongoing, changes and additions to the CLICK user support material will be made and D2.4 will be submitted as a final version in M39.

1.3 Structure of the Document

The present document consists of five major parts:

- Chapter 2 “CLICK Overview” gives an basic overview on CLICK and its functionalities,
- Chapter 3 “User Support Material Overview” outlines the main user support material,
- Chapter 4 “CLICK Handbook” specifies the user support material “Handbook”,
- Chapter 5 “CLICK Webinars” specifies the planned webinars,
- Chapter 6 “Conclusions and Outlook” summarizes the document and draws the outlook.

1.4 Connection to other Tasks

Task 2.4 builds upon Task 2.2, the CLICK Specification and Task 2.3 the CLICK development.

Within Task 2.4, the software platform CLICK is tested by users within the USER-CHI project. Therefore, the presented document is the base for testing and evaluation of CLICK within task 2.4 and the input for the subsequent D2.5 Test Result Report.

2 CLICK Overview

The following chapter will provide an overview on CLICK for the better understanding of the support material.

CLICK is an online tool reachable via an internet browser. It guides the user through the planning process.

The Home Page (Figure 1) is publicly available at <http://click-platform.eu>. There is space to place some general information about the CLICK tool.



Figure 1 CLICK HOME

A new account can be created by clicking on the REGISTER button in the top right corner. The CLICK platform will forward the user to the registration form (Figure 2). There they have to enter a valid e-mail address and define and repeat a secure password. After clicking on register, an e-mail with a confirmation link will be send, and by following this link, the process is completed successfully.

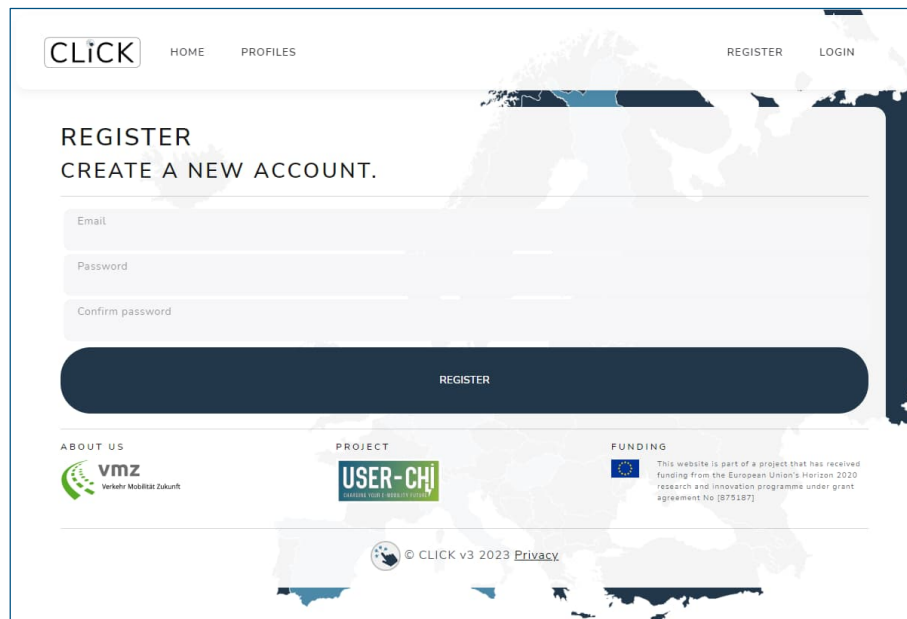


Figure 2 REGISTER

To log in, the user has to browse to the LOGIN button, where they can enter their credentials (Figure 3).

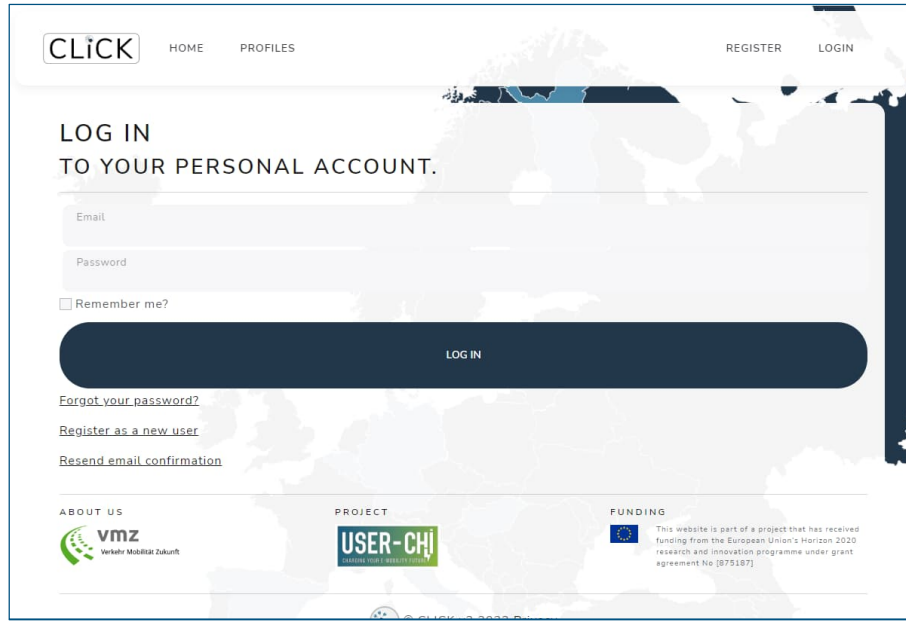


Figure 3 LOG IN

To adapt a personal account, there is an ACCOUNT MANAGEMENT section (Figure 4) reachable over the e-mail address link on the top right corner.

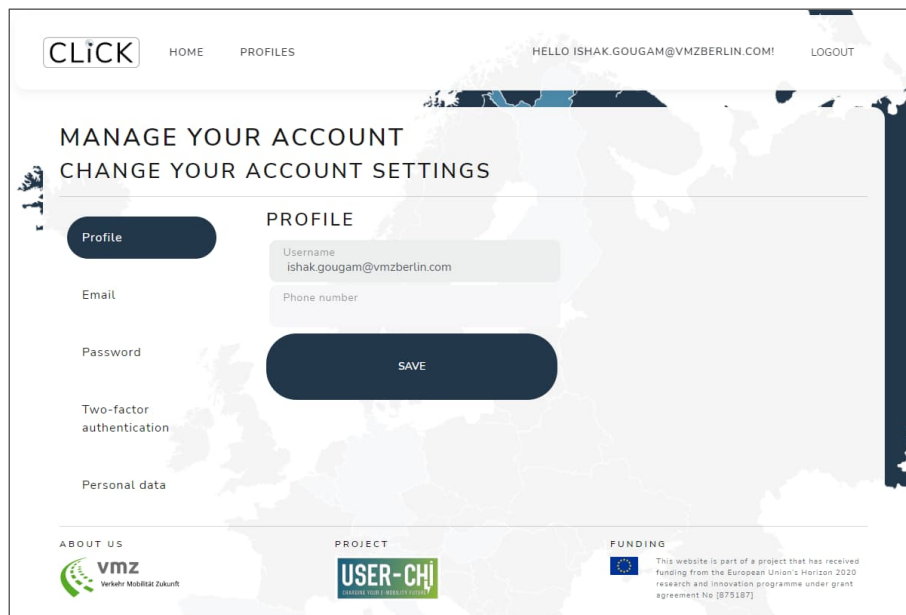


Figure 4 ACCOUNT MANAGEMENT

Logged-In Users can reach the personal page PROFILES (Figure 5). Here all recently planned cities are listed. They can be re-edited, recent results can be reviewed, or cities can be deleted.

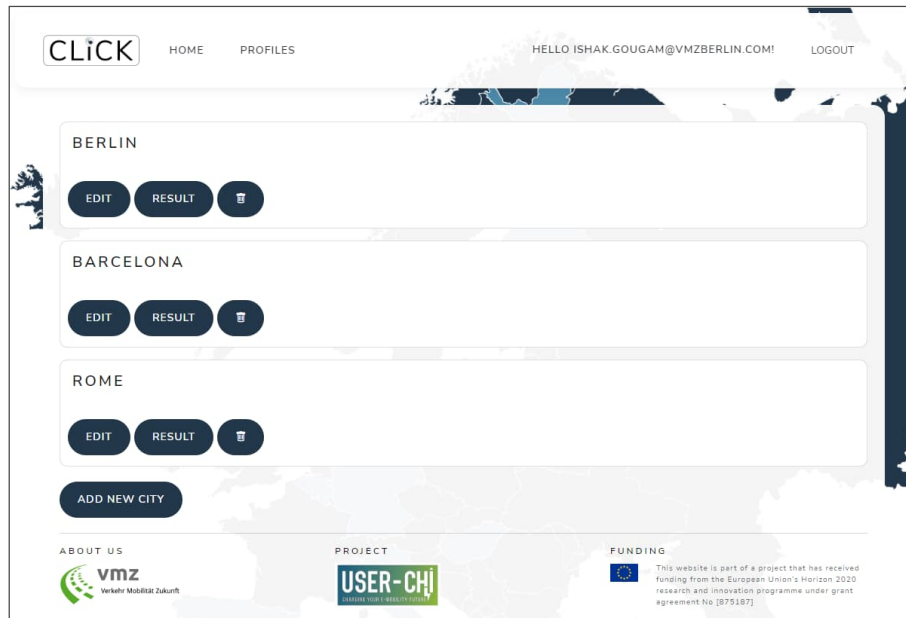


Figure 5 PROFILES

To start a planning process for a new city, the users have to click on ADD NEW CITY. Afterwards they have to enter the name of the city (Figure 6).

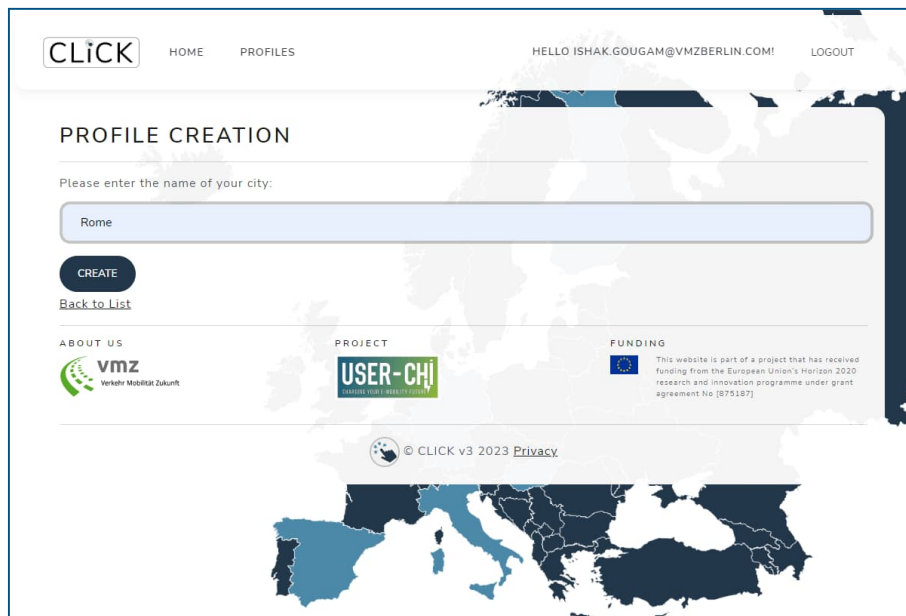


Figure 6 CITY CREATION

After adding a new city, the users will be forwarded to the EDIT page - section Basic Information (Figure 7). There they can fill out or readjust the form.

The screenshot shows the 'EDIT ROME' page with the 'Basic Information' tab selected. The form contains the following fields:

- Country: Italy
- City: Rome
- Inhabitants: 2872800
- City Size (square kilometre): 1287
- Number of Cars: (empty)
- Share of Electric Vehicles (EVs): (empty)

Navigation buttons include 'Basic Information' (active), 'Overall Goals', 'Strategy Details', 'Geographic Details', and a 'RESULT' button in the top right corner.

Figure 7 EDIT - Basic Information

In the next EDIT step – Overall Goals (Figure 8), the users can enter the number of poles they want to distribute. By clicking on the recommendation buttons, the system recommends a number of poles.

The screenshot shows the 'EDIT ROME' page with the 'Overall Goals' tab selected. The form contains the following elements:

- Instruction: Please select your overall poles goal for the planning process:
- Poles: 1335
- Recommendation buttons: PROVIDE A BASIC COVERAGE, ASSIST THE MOBILITY TRANSFORMATION, BECOME A LIGHTHOUSE FOR ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) (selected)
- Navigation buttons: PREVIOUS, NEXT, SUBMIT, and RESULT

Figure 8 EDIT - Overall Goals

In the EDIT – Strategy Details section (Figure 9), the users can enable/disable some strategy features for the calculation.

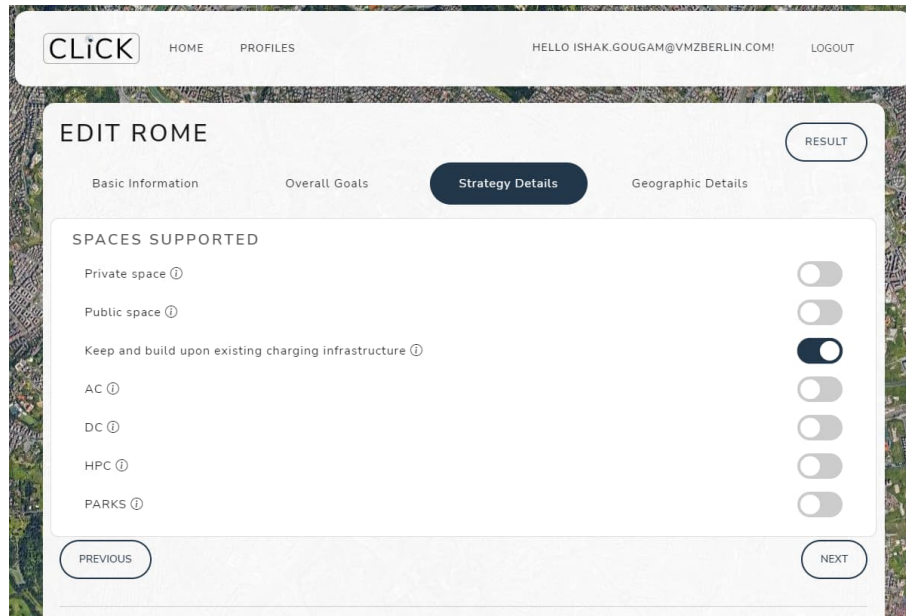


Figure 9 EDIT - Strategy Details

The last section Geographic Details of the EDIT Page, provides space to add data to each geographic module (Figure 10).

- CITY BOUNDARIES DATA
- LANDUSE DATA
- SOCIO-ECONOMIC INFORMATION
- TRAFFIC NETS
- INNER CITY
- AIRPORT
- AMENITY
- BUILDING
- LEISURE
- POWER
- PUBLIC TRANSPORT
- SHOP
- EXISTING CHARGING INFRASTRUCTURE

This can be done by uploading own files, creating new empty files or fetching data from OpenStreetMap for some modules. Almost all modules expect files in a GeoJSON-format. The

SOCIO-ECONOMIC INFORMATION-modul needs the population data in a CSV-format. Users can edit, download or delete their files.

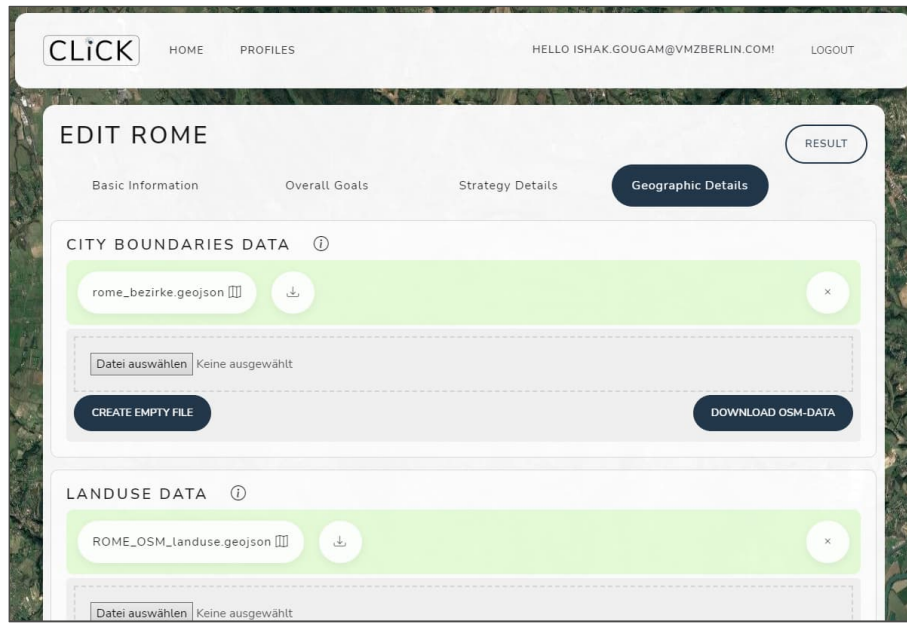


Figure 10 EDIT- Geographic Details

By clicking on a GeoJSON-file, the users can edit them in the DRAW Mode (Figure 11). Polygons, lines and points can be added, edited and deleted. The properties of each geographic features can be modified.

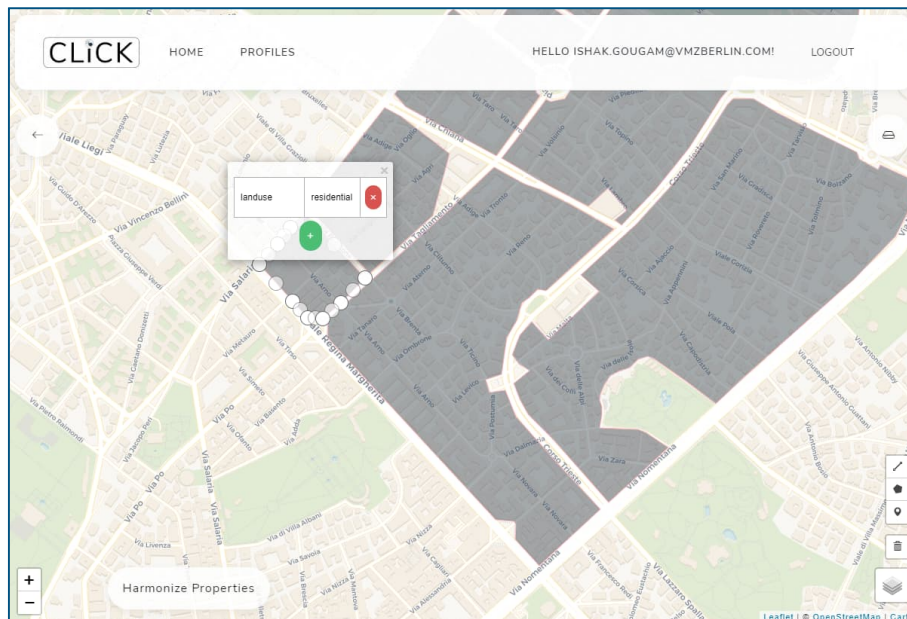


Figure 11 DRAW - Edit a file

After finishing the EDIT part, the users can go over to the RESULT Page (Figure 12). By clicking on CALCULATE a new scenario calculation can be started. Recent Scenarios are also listed on this page. They can be downloaded or deleted.

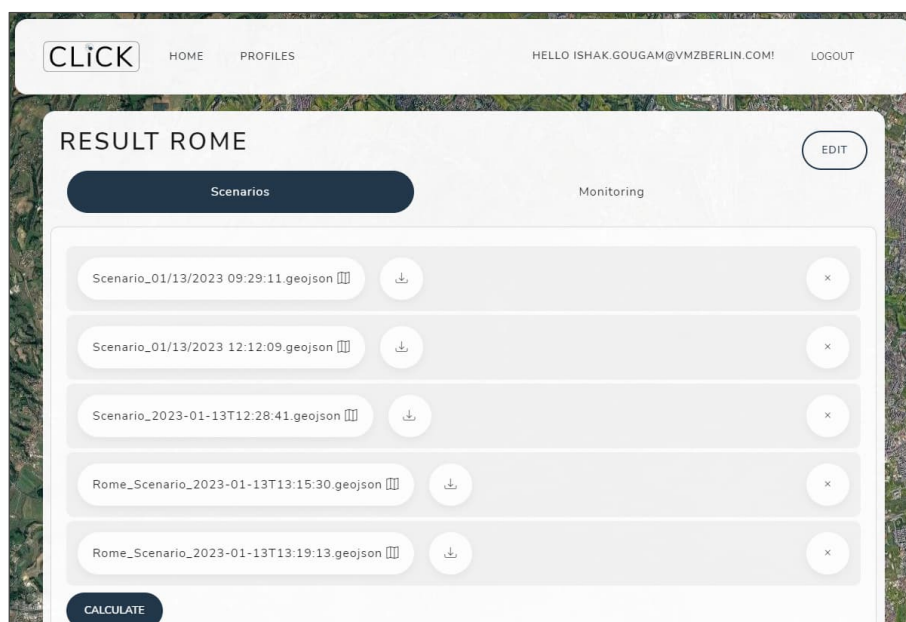


Figure 12 RESULT - Scenarios

By clicking on a scenario file, the users can review the results on a map (Figure 13).

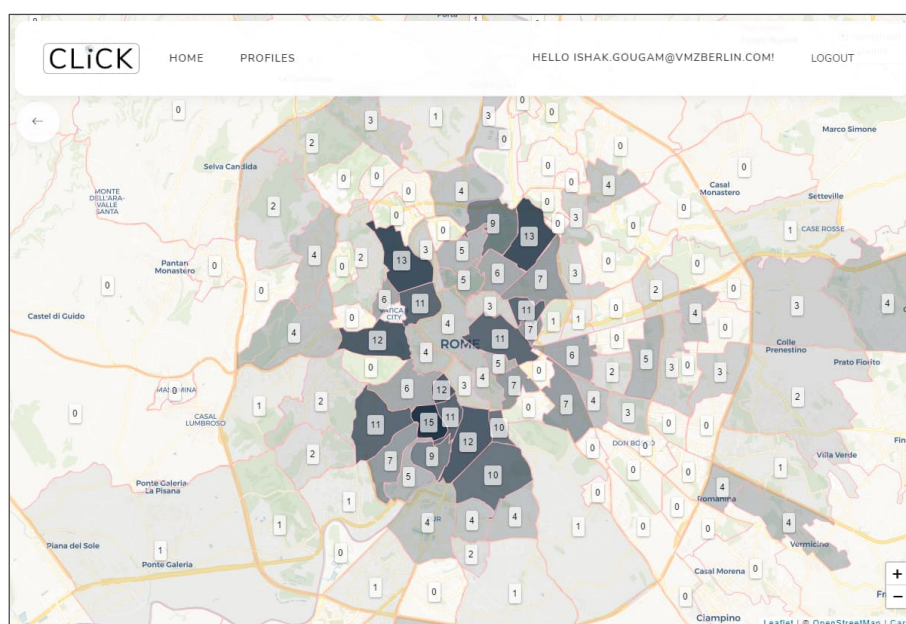


Figure 13 MAPVIEW of a scenario

On the RESULT Page - Section Monitoring, the users can find a link to a monitoring map (Figure 14). This map visualizes live usage data from the ETRA backend.

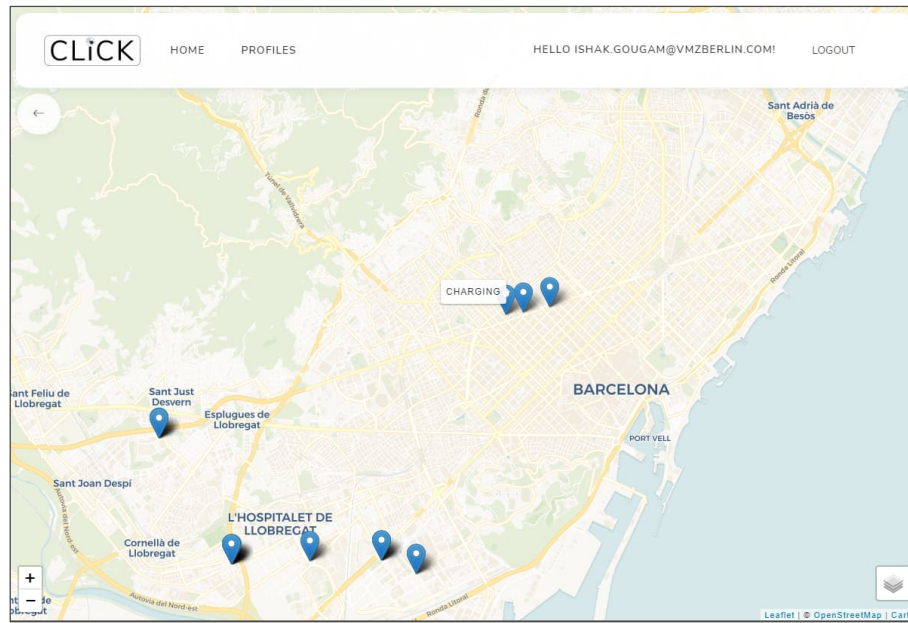
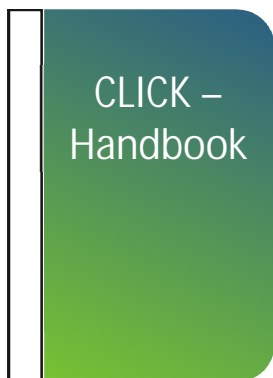


Figure 14 MONITORING

3 User Support Material Overview

The following chapters contains an overview on the planned user support material.

Two kinds of User Support Material will be developed for testers of the CLICK prototype:



First, a handbook that contains a step-by-step guidance through the CLICK platform for the users. The handbook is shown within chapter 4 of this document.



Secondly, users will be supported by a series of webinars. The webinars will be held online and provide users with a personally held step-by-step guidance for the initial use of CLICK. The webinars are explained in more detail within chapter 5 of this document.

4 CLICK Handbook

The CLICK handbook will be an easy-to-handle reference book providing an overview of the general planning process, the main functions and specific limitations of the CLICK tool. It will be designed for city administrations and other potential user groups (like housing companies) to independently learn the usage of CLICK and provide information at hand if urgent questions arise. In order to fulfil this purpose, the handbook will be structured, written and designed in a precise and comprehensible manner. The structure of the handbook will be strictly connected to the individual steps of the planning process that CLICK users have to run through. This process is illustrated in detail in Figure 5 of the [D2.2 CLICK Specification Report](#). The written style of the handbook will be marked by clear step by step instructions in bullet point form that will be complemented with helpful screenshots of the software. An example for such a style is the Microsoft Support. Just like the written style, the overall design of the handbook will be kept very simple and clear with specific highlighting of key information. The aim of the handbook is to simplify the use of CLICK for all user groups. These and other main facts about the CLICK handbook are summarized in Figure 15

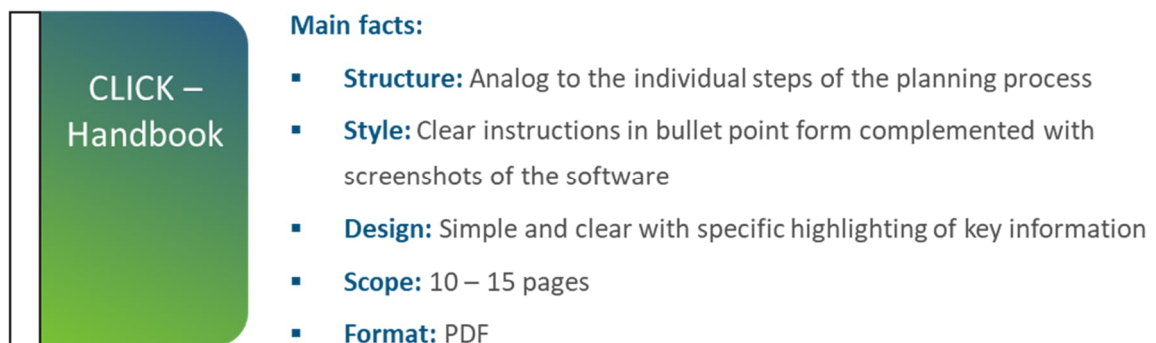


Figure 15: CLICK handbook main facts

During and after the testing phase of CLICK, we will gather valuable feedback from the pilot cities concerning their experiences in handling the tool. As part of the deliverable [D2.5 Test Result Report](#), we will evaluate the feedback and improve the software in correspondence to the findings. Subsequently, those software changes will result in an update of the CLICK handbook to provide consistency.

5 CLICK Webinars

The following chapter contains the explanation of planned activities and contents of the CLICK webinars as part of the user support material.

- Scope: Detailed explanation of the CLICK tool with an integrated Q & A session
- Style: Clear oral instructions by leading through the software step by step and answering questions
- Format: Microsoft Teams Webinar



Webinars will be guided by IKEM and VMZ and held per pilot city. In total five to seven webinars, each around 1 hour will be provided to give participants a structured introduction to the usage of CLICK at the beginning of the demonstration phase.

6 Conclusions and Outlook

The presented D2.4 is a first draft version of the user support material. As an introduction for users of CLICK during the demonstration, they will be provided with a webinar and a handbook showing the intended usage of CLICK. The final version of D2.4 will be presented according to the adjusted timeline in M39 (April 2023).

Based on the user support material, demonstration and testing will be carried out within Task 2.4. The D2.5 Test Result Report will summarize the findings of the demonstration, e.g. gathered with questionnaires for user acceptance.



Acronyms

| Acronym | Meaning |
|----------|---|
| AC | Alternating Current |
| API | Application Programming Interface |
| BPMN | Business Process Modelling Notation |
| CLICK | Charging infrastructure Location and Holistic Planning Kit |
| CPO | Charging Point Operator |
| CSV | Comma-separated values |
| D | Deliverable |
| DC | Direct Current |
| DSS | Decision Support System |
| EV | Electric Vehicle |
| EVSE | Electric Vehicle Supply Equipment |
| FAQ | Frequently Asked Questions |
| GDPR | General Data Protection Regulation |
| GUI | Graphical User Interface |
| HPC | High Power Charging |
| HTTP | Hypertext Transfer Protocol |
| ICT | Information and Communication Technology |
| INCAR | Interoperability, Charging and Parking Platform (product of USER-CHI) |
| JSON | JavaScript Object Notation |
| M2M | Machine to Machine (-Communication) |
| NPE | Nationale Plattform Elektromobilität |
| OS | Operating System |
| POI | Point of Interest |
| REST | Representational State Transfer |
| T | Task |
| TEN-T | Trans-European Transport Network |
| UML | Unified Modeling Language |
| USER-CHI | Project Title: innovative solution for USER centric CHarging Infrastructure |
| VMZ | VMZ Berlin Betreibergesellschaft mbH (project partner) |