



**NET
ZERO
CITIES**
SGA2-NZC

**Non-Mission City Portal
Usage and User Satisfaction
Report**

Deliverable D1.8

Authors: Rohit Mondal (Polimi), Sabrina Bresciani (Polimi), Angelica Alejandra Gomez Castilla (Polimi), Emma Forde-MacNaughton (Metabolic Institute), Maria Paz Garcia (Metabolic Institute), Ida Jusic (EuC), Tara Nelson (EuC), Julia Kantorovitch (VTT), Sean Errey (CKIC) and Nicola Manisi (LGI)

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Please note that for the purposes of this document, the designation “Mission-minded city/cities” is used in place of the previous term “Non-Mission city/cities”. This terminological update is consistent with the revised nomenclature recently endorsed by the consortium.

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Abbreviations and acronyms

Acronym	Description
WP	Work Package
MMC	Mission-minded city (previously referred to as Non-mission City)
MC	Mission City
KPI	Key Performance Indicator
UX	User Experience
WCAG	Web Content Accessibility Guidelines
EAA	European Accessibility Act
GDPR	General Data Protection Regulation

Summary

This deliverable presents a comprehensive evaluation of the User Experience (UX) and usability of the Mission Portal and contributes a rigorous framework of continuous evaluation, key insights, and recommendations for improvements as part of SGA2-NZC T1.3.1. The report analyses the portal's performance through a 2-layered assessment: (1) comparing a quantitative baseline of Key Performance Indicators (KPIs) (extracted from the Portal's Analytics Dashboard and integrated analytics tools facilitated through SGA2-NZC T1.2.2) of the portal conducted in January 2025 against continuous evaluation data from November 2025, and (2) qualitative assessment of heuristics, accessibility and user behaviour and satisfaction. The primary objective is to assess usage patterns, identify critical usability bottlenecks, and evaluate user satisfaction to ensure the portal effectively supports cities (notably the expanding number of Mission-minded cities) in their pathways towards climate neutrality.

Between January and November 2025, the portal experienced strong growth, with total registrations increasing by 32% to 7,975 users and clear seasonal peaks driven by major NetZeroCities events. Users are intended as any typology of user, including Mission Cities, Mission-minded cities, community of practice members and any other category of user registered on the portal. Engagement metrics also improved significantly: average session length grew from 14.03 to 14.23 minutes, pages viewed per session rose from 4 to 4.7, and the bounce rate decreased from 50.6% to 48.2%. Traffic remains concentrated in Spain, France, Germany, Italy, and Belgium, and the platform is predominantly accessed via desktop devices (94%). Users show high initial interest but low depth of interaction, with most viewing only the first fold of pages, and historically logging in infrequently, though returning users are now engaging more consistently. Popular content types include technical factsheets, Climate City Contracts, and articles. User feedback reflects strong satisfaction with the portal overall (4.16/5) and with the knowledge repository (4.4/5), but significantly lower ratings for tools (2.8/5), indicating ongoing challenges with navigation, mobile compatibility, user guidance, terminology consistency, accessibility and technical performance. Overall, while the portal's user base, engagement and satisfaction have improved significantly, the analysis highlights clear opportunities to improve the user experience and lays a strong foundation for continued monitoring and future improvements.

This deliverable builds on – and it has been planned as complementary to - [D1.5](#) “Design of Non-mission Cities Portal User Experience and Customer Journey” delivered at M18. This deliverable further establishes the foundation for ongoing UX and usability assessment by defining an evaluation strategy, identifying suitable tools, conducting baseline evaluations of portal performance, and outlining the data issues that must be addressed to enable continuous monitoring. The follow-up deliverable due in M48 (D1.9) will build on this foundation by continuously monitoring the portal performances and UX, reporting results in line with the timeline specified in Section 2 and in comparison with the 2025 baseline results presented here.

Keywords

User Experience (UX), Usability; Heuristic Evaluation; Web accessibility; Mission-minded cities; Portal Analytics; Key Performance Indicators (KPIs)

1 Introduction

With over 7,975 users (including 1,259 Mission-minded city users), 1,390 resources, and 34 partners actively building and maintaining content, the portal is scaling significantly year on year. Given the increasing magnitude and complexity of this growth, it is paramount to strategically assess and monitor the portal's usability and user experience (UX) performance. A robust and systematic assessment strategy is therefore essential to ensure the portal remains effective, accessible, and centred on user needs. Based on the work conducted in SGA2-NZC T1.3.1, this report presents an evaluation of the UX and usability of the Mission Portal for the Mission 100 Climate Neutral and Smart Cities. It is based on a baseline analysis of quantitative usage metrics (conducted in January 2025) and qualitative assessments (including heuristic, accessibility, user behaviour, and user satisfaction evaluations) conducted in September 2024 and June–July 2025. It also establishes a roadmap for continuous UX and usability evaluation and provides a secondary analysis of portal performance using data from November 2025, enabling comparison with the January baseline.

The findings indicate significant growth in the portal's city user base, reaching 3,413 users across 430 Mission-minded cities (with 1,259 users) and 111 Mission Cities (2,154 users), with new registrations increasing by more than 32% between January and November 2025. From the data captured between January 2024 and January 2025, it is observed that most city users (i.e., 93.62%) log in once a month, with seasonal peaks in line with scheduled NetZeroCities events. Furthermore, the average session length for portal users recorded from January 2024-25 is 14.03 minutes. During this period, users on average viewed 4 pages on the portal. Despite these positive trends, the qualitative assessments reveal several usability and UX issues that warrant attention. Key concerns include a lack of mobile compatibility, slow page loading speeds, inconsistent page layouts, colour contrast issues, and gaps in portal analytics that currently limit more granular performance evaluation across user groups.

To address these challenges, the report recommends implementing a comprehensive KPI framework to improve user data segmentation, adopting responsive design standards to ensure mobile accessibility, conducting a technical audit to resolve performance bottlenecks, and introducing consistent usability and accessibility standards across portal pages. The report is structured as follows: (1) an overview of portal usage by Mission-minded City users; (2) a roadmap for continuous evaluation from M9 to M48; (3) an overview of tools and testing methods; (4) baseline quantitative evaluation and qualitative insights from heuristic, accessibility, and behavioural assessments; (5) a summary of implemented changes and the first cycle of continuous evaluation (November 2025), with subsequent cycles planned through M48; (6) a proposed comprehensive KPI framework informed by data gaps identified in baseline assessments; and (7) key recommendations for future portal development.

In line with Milestone MS6, a UX team was established at the start of the task and launched User Panels—an expanded version of the earlier City Panels—based on insights from Mission Cities. These sessions engaged cities in testing the Mission Portal's tools and providing feedback, but due to limited participation, the initiative was rebranded as the [Tool Training Series](#) to broaden engagement and offer more in-depth guidance on the Portal's tools and partner resources.

To support the continuous evaluation of the portal, the UX team implemented structured testing methodologies, including a [User Experience Iterative Flow Canvas](#) aligned with the Double Diamond design process (Kochanowska et al., 2022), and a list of [User Experience Testing Methods](#) (both summarised in [Appendix A6](#)). This approach provides continuous feedback, refinement and re-testing to enhance usability while adapting to evolving user needs. Additionally, a Portal Tool Integration Handbook was created to guide consortium members in developing and integrating tools within the portal. The handbook ensures that each tool is relevant and responsive to city users' needs, emphasising the importance of avoiding overlaps and understanding user challenges and applications within the portal.

Through this task, the UX team systematically conducted a baseline evaluation of the quantitative KPIs from the portal's dashboard and [Hotjar Analytics](#) (a third-party analytics tool integrated with the portal) in January 2025. This resulted in not only establishing baseline numbers against which the portal can be evaluated in the future but also identifying data gaps that are necessary for the comprehensive

evaluation of the portal's UX. Insights and issues emerging from this assessment were reported to the development team for future rounds of evaluation. A comparative assessment was conducted in November 2025, with some of the changes implemented to evaluate the portal's performance relative to the January baseline; the insights from this evaluation have also been included in this report. Furthermore, 2 qualitative assessments were conducted through September 2024 and June-July 2025 to establish the baseline performance of the portal in terms of navigation, heuristics, usability, accessibility, and user behaviour, resulting in the identification of several critical and non-critical issues reported in this document. The quantitative and qualitative insights from these evaluations have been used to systematically plan and implement improvements to enhance the overall User Experience of the portal, specifically for Mission-minded City Users.

As of November 2025, the portal hosts over 7,900 registered users. The user base currently comprises 111 Mission Cities and 430 Mission-minded cities, with the latter group demonstrating strong engagement from Southern and Eastern Europe, particularly from Turkish cities. By examining traffic distribution, device usage, resource interactions and qualitative UX insights, this report provides evidence-based recommendations to enhance the portal's usability, user experience, accessibility and technical performance, and provides a basis for continuous evaluation.

1.1 Current usage of the portal by Mission-minded Cities

As of November 2025, the usage data shows that there are **430 Mission-minded cities**, with **1,259 users** registered on the portal. On the other hand, there are currently **111 Mission Cities** registered on the portal, comprising a total of **2154 users** (Figure 1). This shows that although Mission-minded cities are more numerous, their engagement per city is significantly lower, indicating a key opportunity to strengthen outreach and activation within this group.

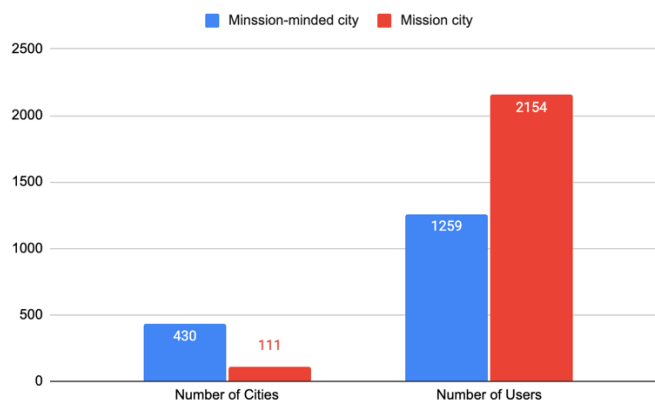


Figure 1: Mission-minded VS Mission Cities Portal Usage Statistics

The 430 Mission-minded cities span **61 countries**. Among them, **126 cities are located in Southern Europe**, **57 in Eastern Europe**, **52 in Northern Europe**, and **29 in Central Europe**. Notably, **Türkiye** has the highest number of registered mission-minded city users on the portal, accounting for **239 users (22.48% of the total)** across **94 Turkish cities**. Beyond Europe, the portal also includes Mission-minded city users from **10 Asian cities**, **6 African cities**, **5 North American cities**, **4 South American cities**, and **2 Australian cities** (Figure 2). Table A2 in the appendix shows the total distribution of Mission-minded cities registered on the portal.

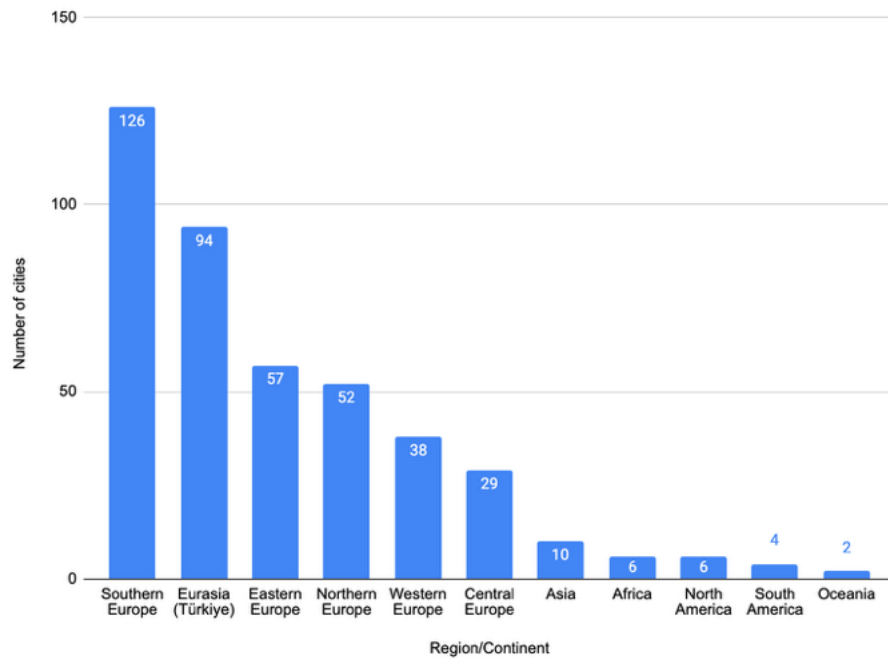


Figure 2: Distribution of the number of Mission-minded cities registered on the portal

The data also shows that among Mission-minded cities, there is a growing level of interest in the portal’s offerings, evidenced by a **high degree of engagement** (i.e., interactions with city users’ posts, including likes and comments) and **frequent logins** (referred to as monthly connections on the portal analytics dashboard) by Mission-minded city users. Figure 3 illustrates the top 20 mission-minded cities currently active on the portal, with **Galway (Ireland)** emerging as the most active Mission-minded city on the portal, recording an exceptionally **high number of interactions (1439) and connections (1170)**. The next set of 18 cities shows moderate engagement on the portal (comparable to each other), after which all other Mission-minded cities show relatively low engagement.

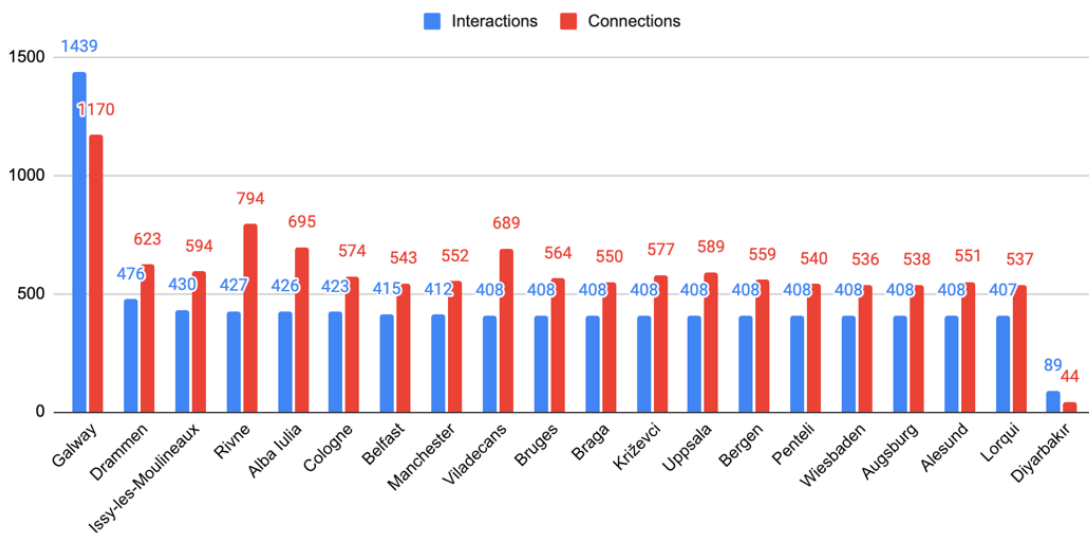


Figure 3: Top 20 Mission-minded City Engagement Metrics

This overview of Mission-minded City users supports the design and development of the portal’s UX, customised to meet the needs of the target audience. For instance, by knowing which countries or

regions are most represented or active on the portal, the translation of the platform or resources to other languages can be decided and prioritised. Furthermore, it can help in providing more targeted support (through resources and tools on the portal) to Mission-minded cities based on the most represented local or regional contexts.

1.2 Portal Tools Testing

The [Tool Training Series](#), delivered under SGA2-NZC T1.3.1, is a dedicated series of workshops focused on testing services and tools developed in the NetZeroCities (NZC, SGA-NZC, SGA2-NZC) projects. Based on the experience in NZC's city panels, the panels in SGA2 (called user panels) have been conceived as workshops regarding services and tools available on the Portal (such as the [Barometer](#), [Finance Guidance Tool](#), and the [NetZero Planner](#)) to collect cities' feedback on those tools. The primary target group is Mission-minded cities, although Mission Cities and members of the Community of Practice (CoP) can also benefit from the series.

The first series was designed to maximise learning continuity and engagement, delivered bi-monthly between February and June 2025, with an additional session in October 2025. In total, four sessions were held (see [Appendix A5](#) for more details) and made [available on the Portal](#). Each session included a comprehensive presentation of the tool, structured around the "3 Ws" (What, Whom, and Why) to ensure clarity of purpose. This was followed by a live demonstration to provide hands-on guidance and to encourage interactive exploration of the tool's functionalities. Where relevant and feasible, a Mission City shared its experience with the tool. Sessions concluded with an opportunity for participants to give feedback.

The first series saw strong participation and engagement from Mission-minded cities, with 198 registrations in Session 1, 126 in Session 2, 62 in Session 3, and 78 in Session 4. This consistent involvement highlighted the value of the programme and the interest it generated across the network. Building on this success, a second series is already planned to run from January to September 2026, starting with testing the social innovation actionable pathways, tools and engagement tools.

2 Assessment Plan

This chapter outlines the roadmap for the continuous evaluation of the portal's user experience and usability. This deliverable establishes the foundation for continuous UX and usability assessment by defining a clear **evaluation strategy**, **identifying appropriate tools** ([Section 2.1](#)), **conducting baseline performance evaluations**, and highlighting **key data issues** that must be addressed to support continuous evaluation of the portal's performance. The subsequent deliverable (D1.9), due in M48, will build on this foundation by tracking the portal's performance over time, following the timeline outlined in Table 1 and benchmarking progress against the 2025 baseline results presented later in this report.

This chapter first introduces specific qualitative (Table 2) and quantitative (Table 3) evaluation criteria that will be utilised to track the platform's performance over time. This systematic approach ensures that future enhancements to the portal's design and functionality are driven by consistent data analysis and evolving user needs. Then, building on the [User Experience Testing Methods](#) and the [User Experience Iterative Flow Canvas](#) developed earlier in Task 1.3.1 (See [Appendix A6](#)), this deliverable lists the industry-leading methods, tools and frameworks (Table 4) used to evaluate the portal.

Chapter 3 begins by detailing the **baseline assessment of quantitative usage data** (conducted in January 2025) and **qualitative evaluation** (conducted in September 2024 and June-July 2025) to establish initial performance standards regarding **navigation, heuristics, accessibility, and user behaviour**. This baseline serves as the primary reference point for measuring subsequent progress and identifying critical areas for immediate improvement.

Chapter 4 presents a **secondary quantitative assessment of the portal's key performance indicators** (KPIs) conducted in November 2025, comparing it to the January baseline numbers. This analysis demonstrates how continuous evaluation of the portal should be conducted by benchmarking

results against previous rounds of evaluation. It also **highlights the changes implemented** to the **portal's analytics dashboard** based on insights from the January 2025 baseline evaluations. Lastly, this chapter also includes implemented changes to the portal's UX from June 2024 (as part of SGA2-NZC tasks T1.3.3 and SGA-NZC T5.2) onwards to highlight how usability and UX issues are tackled thus far.

The deliverable concludes with Chapter 5, focusing on key recommendations to improve the portal's UX and usability based on the insights of the evaluations, categorised as:

- Recommendations for improving portal navigation and heuristics.
- Recommendations for improving the portal's accessibility.
- Recommendation for improving Portal analytics for continuous UX and usability evaluation.
 - It also includes a **Comprehensive Portal KPI Framework**, based on data analytics issues identified during the baseline evaluation and on industry best practices.

Note: All analyses presented in this report are based on the analytics data available at the time the assessments were conducted (as detailed in Table 1). **Certain methodological limitations** should be acknowledged, **including the unavailability of usage data categorised by user type for multiple data points, as highlighted in the following sections of this report (e.g., MMCs, MCs, and others)**. These limitations have been communicated to the portal development team and are reflected in the high-priority recommendations included later in this document.

In line with the objectives of the portal's continuous evaluation tasks (T1.3.1), **the assessment plan has been structured to ensure that these limitations can be addressed in future evaluation cycles**. Once the recommended analytics enhancements are implemented and more granular, user-segmented data becomes available, **updated findings will be included in the live document that constitutes D1.9 (Second Non-Mission City Portal Usage & User Satisfaction Report) due in M48**.

Table 1: Timeframe for Continuous UX and Usability Evaluation for D1.8 and D1.9*

Evaluation Type	Baseline Evaluation for D1.8				Continuous Evaluation for D1.9*			
	M9	M12	M18	M23-24	M30	M36	M42	M47-48
Quantitative Evaluation		Baseline Evaluation		Continuous Evaluation		Continuous Evaluation		Continuous Evaluation
Qualitative Evaluation	Baseline Evaluation		Baseline Evaluation		Continuous Evaluation		Continuous Evaluation	
Deliverable Reporting				D1.8				D1.9

**D1.9 is due in M48, however, the continuous evaluation timeframe is planned as indicated in this table*

Table 2: Qualitative Evaluation Criteria, Testing Conditions and Evaluation Frequency

Qualitative Evaluation Criteria	Testing Considerations	Evaluation Frequency
Navigation (Umar et al., 2024)	Easy-to-use and intuitive page navigation with clear CTAs, labels and recognisable icons for both Mobile and Desktop	12 Months
Heuristic Evaluation (Nielsen, 2000)	Usability of the web platform based on the 10 heuristics by the N-M Group	12 Months
Web Accessibility (Droutsas et al., 2025)	Web accessibility assessment of the portal based on EAA 2025 guidelines to ensure that people with different abilities can use the portal and to comply with the EU Accessibility Act (mandatory from	12 Months

	June 2026) and Web Content Accessibility Guidelines (WCAG 2.2)	
Functional Bugs*	Assessment of broken links, missing functionality, crash reports and page loading times	based on tickets raised by portal users and Hotjar reports
User Behaviour Analysis (Heatmaps) (Georges et al., 2016)	Assessment of heatmaps and Screen Recordings to identify usability and functionality issues	12 Months
Other User Feedback (From Integrated Usability Survey) *	Assessment of the feedback/ suggestions for usability improvements by portal users from time to time captured from screen recordings and integrated user satisfaction surveys	Based on tickets raised by portal users and Hotjar survey results

*These evaluation criteria will be assessed as and when they are reported, but will be compiled as part of the deliverables D1.8 and D1.9 in M24 and M48, respectively.

Table 3: Quantitative Evaluation Criteria, Description and Evaluation Frequency

Quantitative Evaluation Criteria	Description	Evaluation Frequency
Existing Portal KPI's		
Active Users	Frequent Users; Unique Users; Frequent Connections; User Type; New Portal Connections	9-12 Months
Resources	Document; Visual Case Study; Climate City Contract; Video; Method; Case Study; Canvas; Article; Factsheet	
City	Top City; Flop City	
Active Groups	Private (Hidden); Private (Visible); Public; Series 4; Top Groups; Flop Groups	
Created Events	Number of Events	
Administration	City Advisors logged in Once a Week; Tickets; Engagement	
Posts	Post Type; Feed General; Channel; Group; Event; Post Engagement	
[Proposed] Portal KPI's*		
Session Duration	Average length of user sessions (in minutes)	9-12 Months
Page Popularity	Most Viewed (10+); Least Viewed Pages (10+)	
Device Split	% Mobile Users; % Desktop Users	
Site Loading Time	The loading time of Pages in the portal	
Bounce Rates	% users exiting the platform before signing up/ logging in	

*See full list of KPIs in the Proposed Comprehensive Portal KPI Framework Section.

In addition to evaluating the above-mentioned qualitative and quantitative metrics, this deliverable includes suggestions for improvement and essential features (such as translations and mobile responsiveness). These suggestions have been communicated to the Portal Development Team in 2024 and 2025, and the current status of their implementation has been included in this report.

2.1 Testing Methods, Frameworks and Tools for Evaluation

The UX and usability evaluation of the portal draws on industry-standard frameworks, tools, and metrics to ensure a comprehensive assessment. The baseline evaluation was conducted screen by screen in September 2024 and June–July 2025, examining key dimensions such as navigation, heuristic performance, accessibility, functional bugs, and user behaviour. This was complemented by an analysis of the portal’s existing Key Performance Indicators (KPIs) in January 2025 to determine the essential metrics required for ongoing UX and usability monitoring. Table 4 outlines the frameworks and tools employed in this evaluation and the specific UX components they were used to assess.

Table 4: Testing Methods, Frameworks and Tools for Evaluation

Qualitative Evaluation Criteria	Methods/Framework/Tools for Evaluation	Elements Tested
Navigation	Screen-by-screen expert evaluation of navigation elements	Menu Options (Site Map); Search Functionality and filters; Scrolls and Scroll Length; Path/ link redundancy; CTA, Icons and labels; Information Hierarchy; consistency of navigation design patterns (tabs, modals, pop-ups, accordions, carousels, etc)
Heuristic Evaluation	Usability of the web platform based on the 10 heuristics by the N-M Group	<ol style="list-style-type: none"> 1. Visibility of system status 2. Match between system and the real world 3. User control and freedom 4. Consistency and standards 5. Error prevention 6. Recognition rather than recall 7. Flexibility and efficiency of use 8. Aesthetic and minimalist design 9. Help users recognize, diagnose, and recover from errors 10. Help and documentation
Web Accessibility	POUR Principles of Web Accessibility (Using the Assessment Tool SilkTide)	Colour Contrast Ratios; Alt Text; Screen reader and other assistive technology compatibility; Focus Order; Headings
Functional Bugs*	Screen-by-screen expert evaluation of page level functionality	Low, Medium and High-impact bugs in terms of broken links, missing CTAs, page loading errors and loading time of pages
User Behaviour Analysis	Hotjar Heatmaps and Recordings Assessments	Analysis of clicks, scrolls, engagement zones, rage clicks and U-Turns
Other User Feedback (From Integrated Usability Survey)	Hotjar Integrated Survey	Analysis of user feedback/ suggestions from the integrated Hotjar NPS Survey Widget

*These evaluation criteria will be assessed as and when they are reported but will be compiled as part of the deliverables D1.8 and D1.9 in M24 and M48, respectively.

3 UX Baseline Evaluations

The portal's user experience and usability assessment was systematically conducted, beginning with 2 baseline assessments:

1. **Quantitative metrics assessment of the portal's usage statistics (January 2025):** This includes usage data (i.e., key performance indicators) analysis and traffic distribution data available on the Portal Analytics Dashboard and Hotjar (an integrated analytic tool embedded into the portal).
2. **Qualitative assessment of the portal's UX (September 2024; June-July 2025):** This includes navigation and heuristic evaluations, web accessibility assessment, and user behaviour and satisfaction analysis (including heatmaps, user behaviour recordings and user survey to assess usability issues and functional bugs).

These evaluations not only provided a baseline for future rounds of UX and usability assessment but also highlighted key data issues and missing metrics that need to be addressed for comprehensive, continuous UX and usability evaluation of the portal. The results of the evaluations are presented below, highlighting **key issues, insights, and suggestions** summarised for each section, to support the planning of future improvements to the portal's user experience and analytics. The evaluation has also led to the development of a **comprehensive list of portal KPIs** (See [section 4.3](#)), addressing identified gaps in the portal's analytics dashboard, crucial for continuous monitoring of the portal's performance.

3.1 Quantitative Metrics Assessment: Portal Usage Statistics

This evaluation encompassed multiple metrics grouped into **(1) usage data and (2) traffic distribution data**

3.1.1 Usage Data:

Distribution of User Types:

A total of **6,032 registered users** were recorded **until January 2025**, distributed across **7 user types** as shown in Table 5:

Table 5: Distribution of Portal Users by Type

Type	Description	Count	% Distribution
Super Admin	Internal Consortium users with additional rights to edit pages of the portal	15	0.25%
Consortium User	General Consortium Users	616	10.21%
CoP or Local Partner	A person working on sustainable issues within a private or public organisation	2951	48.92%
City User	An officer within a municipality	1547	25.65%
Public Authority User	A person working in a regional, nation or European Authority	596	9.88%
City Administrators	A person working within a city's municipality	144	2.39%
City Advisors	City Advisor user accounts	21	0.35%
Simple Users	All other types of users	142	2.35%
Total		6032	100%

It is observed that while the type, **Community of Practice (CoP or Local Partner)**, accounted for almost half the number of users (48.92%), the number of **City Users is the second highest**, accounting for 25.65% at the time of conducting analysis (January 2025). On further analysis of past data since 2022, it was inferred that each user type has a **specific period of activity** on the portal. City users remain active on the portal for a period of 7-9 months from the time of signing up, while for CoP and Public authority users, it is between 6-8 months. From a user experience standpoint, this trend may be attributed to factors such as:

1. Resources on the portal no longer remain relevant to the user's needs
2. The user may have changed roles or left the organisation, resulting in a drop in activity.
3. Issues related to the usability and findability of resources on the portal.

Frequency of Usage, Average Session Lengths and Bounce Rates:

The portal data also provides a distribution of **frequent users** (those who log in at least once a week), **unique visitors** (users who log in once a month), and **unique connections** (users who have never logged in after registering). From this data captured between January 2024 and January 2025, it is observed that most city users (i.e., 93.62%) log in once a month, with seasonal peaks in line with scheduled NetZeroCities events. Only 2.40% are frequent users logging in at least once a week, while 3.98% of city users have never used the portal after signing up. In fact, upon extending this analysis to all user types tracked on the portal (Table 5), the trend remains consistent, indicating that city users' behaviour in terms of frequency of use of the portal is the same as any other user (with the exception of internal consortium users who comprise 10% of the total user base).

According to Hotjar analytics, the **average session length** for portal users recorded from January 2024-25 is **14.03 minutes**. During this period, users on average **viewed 4 pages** on the portal. However, in all tracked sessions on Hotjar, **50.6% users only viewed 1 page** (indicating a **high bounce rate**). Primary causes of a high bounce rate include:

1. **Slow Page Loading Time:** Slow page loading speeds have been frequently reported on the portal from multiple users in the past 12 months and continue to affect the user experience of the portal. When tested with Google's Page Speed Insights (Last tested on November 2, 2025; URL: <https://netzerocities.app/knowledge>), the portal has failed the Core Web Vitals assessment over the last 28 days (Figure 4).

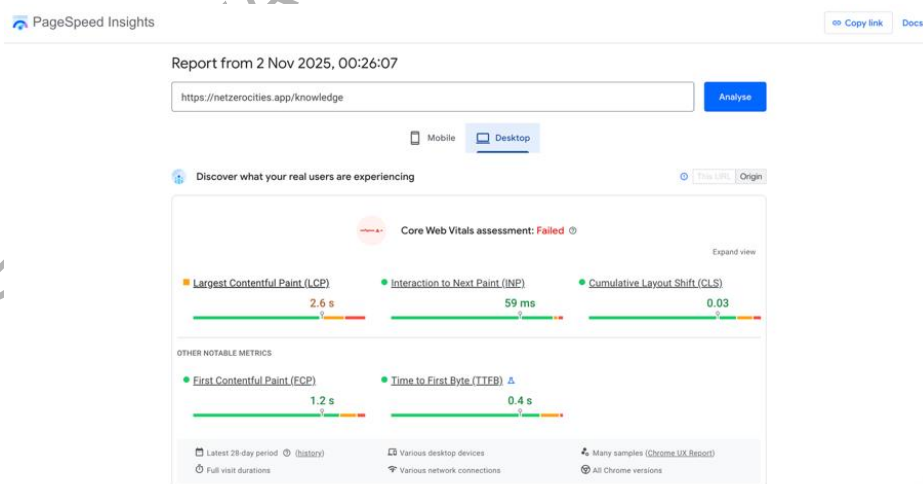


Figure 4: Page loading time test conducted with [PageSpeed Insights](#) (November 2, 2025)

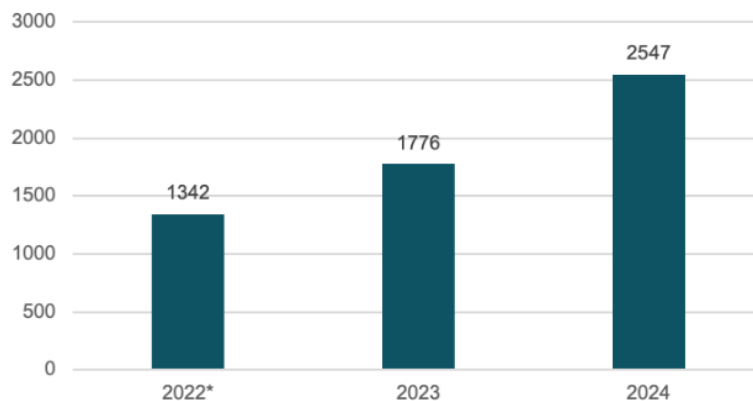
2. **Lack of Clear Navigation:** Between January 2024 and 2025, the portal lacked a systematic menu navigation system, contributing to a poor user experience as users were unable to find resources on the portal. This is addressed in T1.3.2-3, following an internal Co-design

session with Consortium partners, resulting in **the new Portal menu as already reported in D1.5. This is further elaborated in Section 4.4 of this report.**

3. **Resource metadata (title and meta descriptions):** Resources on the portal are not always consistent in terms of their metadata, design and quality, adding cognitive load to the city user’s experience to find resources specific to their needs, especially if the resources are not categorised by city user types.

New VS Returning users:

The number of new users on the portal is available from May 2022, accounting for the total signups each year (Figure 5). On average, **6-7 new users sign up to the portal every day**. While the number of **sign-ups has increased by 30% from 2023 to 2024**, there are seasonal peaks (especially in September and October) that account for the maximum number of sign-ups (Figure 6) linked to scheduled NZC calendar events during these months each year, such as the online planning lab which started in Sept 2025, as well as the applications to the twinning program and online discussion groups with had the deadline in mid September.



**In 2022, the data is available from May*

Figure 5: Total new portal sign-ups yearly

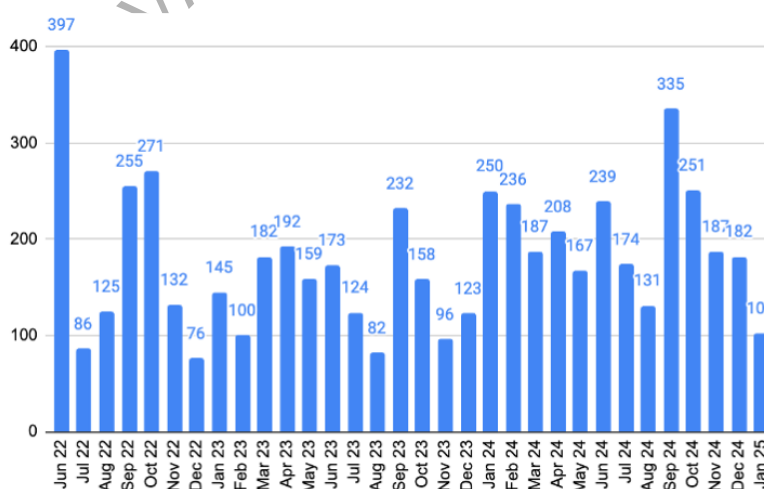


Figure 6: Distribution of monthly sign-ups since June 2022

Based on the data recorded in Hotjar Analytics, it is observed that the ratio of **new versus returning users** over a period of 12 months is **40 to 60**. This ratio is consistent even when

measured for a period of 30 days (Figure 7). It should be noted that the data sample available on Hotjar analytics is limited to 500 sessions per day, accounting for upto 44,000 tracked sessions collected over the past 12 months (i.e., from January 2024 to January 2025).

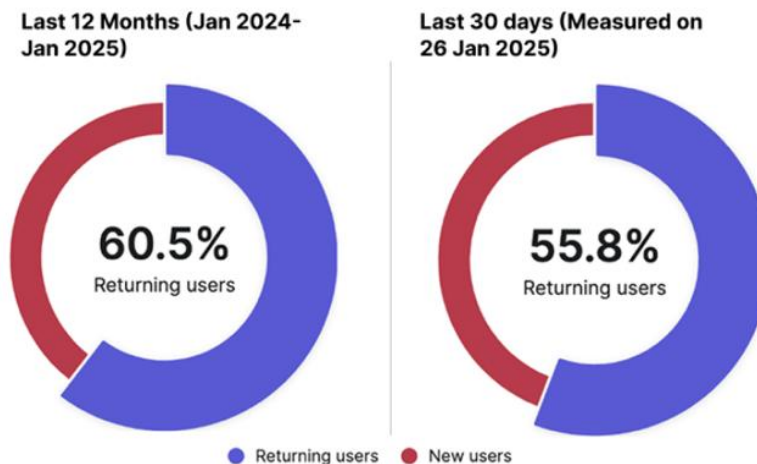


Figure 7: New vs returning portal users from Hotjar analytics

Resource Usage Metrics:

To provide a baseline for comparison, the **total number of portal resources** available until January 2025 was **1083**, spanning **9 resource types** as shown in [Appendix A7 \(Table 19\)](#).

It is observed that although Methods account for 20.96% of all resources, they do not appear among the top ten most frequently used resources as of January 2025. Instead, the **most interacted resource types are factsheets, documents, Climate City Contracts (CCCs), and articles**, as shown in Table 7. While this pattern provides insight into the types of resources users generally find most useful, a key limitation of the dataset is the **absence of a breakdown by city user type**, which is essential for evaluating the relevance and usefulness of specific resources across different user categories (particularly relating to the data in Tables 6 and Table 17 in [Appendix A7](#)).

Table 6: 10 most used resources until January 2025

Resource Name	Total Interactions	Resource Type
Grey water treatment (including Nature Based Solutions) and reuse	3938	Factsheet
Learn from Mission Cities and propel your city's climate neutrality journey!	1206	Document
Passive building design strategies: building orientation, passive heating and cooling	943	Factsheet
NetZeroCities Winter School Program	915	Document
Impact pathways, Monitoring, Evaluation and Learning framework and indicators	915	Article
NetZeroCities Comprehensive Indicator Framework	900	Document
Madrid Climate City Contract	891	CCC
CCC - 2030 Climate Neutrality Action Plan (template)	887	Document

CCC Document Completeness and Coherence Checklist	862	Document
Stockholm Climate City Contract	859	CCC

Other User Engagement Metrics (Groups, Posts and Events):

- Groups:** In January 2025, there were a **total of 207 groups** (consisting of both private and public groups). Among these, the most active groups were (1) Community of Practice (CoP) (130 users; 661 interactions), (2) Mission Cities (74 users; 389 interactions), (3) Twinning Learning Programme (49 users; 286 interactions), (4) NetZeroCities Consortium Users (38 users; 243 interactions) and (5) NZC Seasonal School Users (24 users; 180 interactions). However, the data available at the time of this assessment is limited to just the top 5 groups, none of which are dedicated to Mission-minded Cities. This limitation was reported to the development team, and the metric was later improved to include all groups, as seen in [Section 4.1](#). Groups are an important portal service to support Mission-minded cities on the portal, as highlighted in D1.1 (Non-Mission City Needs & Pathways - First Report); to tackle specific challenges of Mission-minded cities through peer learning and online peer discussion.
- User posts** (such as posts within [NZC's social feed](#)) are also recorded in the portal analytics dashboard to gauge user engagement. **678 posts** were recorded until January 2025, across 4 categories, including general feed (28.55%), groups (55.48%), channels (8.16%) and events (7.81%). Lastly, the portal also tracked **97 Events** organised as part of NZC until March 2025; however, neither of these metrics provided adequate insights into user engagement statistics, as the breakdown per user type was not available to conduct a quantitative evaluation of user engagement.

Key Insights

1. User Composition & Activity:

Nearly half of all users defined themselves as members of the Community of Practice (48.9%), followed by City Users (25.6%). Users typically remain active for only 6–9 months, possibly due to declining resource relevance and usability challenges. The portal could better support sustained engagement by tailoring resource pathways to each city user type, improving onboarding, and triggering re-engagement prompts (through targeted automated emailers) sent before typical drop-off periods.

2. Low Engagement & High Bounce Rates:

While most City Users (93.6%) log in once a month, over half of all sessions involve viewing just one page. Slow page loading, unclear navigation, and inconsistent metadata may be the reason of this behaviour. Improving load performance, restructuring navigation, and standardising metadata would help users find what they need more efficiently and stay on the platform longer.

3. Resource Use Patterns:

Although more than 1,000 resources are available, user interaction is concentrated on factsheets, documents, CCCs, and articles. Future resource development should be guided by a clearer understanding of what cities, particularly Mission-minded cities, are actually using, based on detailed usage data segmented by user type.

Data Analytics Issues Reported

- The existing categorisation does not provide the breakdown of city users as Mission Cities, Mission-minded cities, Pilot Cities and Twin Cities. This data gap in the portal KPIs has been addressed in the recommended Proposed Data Analytics Structure

presented later in this report.

- Temporal breakdown of the usage data (i.e., Daily, Weekly, Monthly, and Yearly) is not available on current version of portal analytics dashboard. This level of granularity is required for continuous UX and usability assessment, in line with industry standards.

3.1.2 Traffic Distribution Data

Traffic Distribution by Geography:

Based on available data on the Portal KPI Dashboard since 2022 (and until January 2025), the top fifteen cities from where users belong are illustrated in Figure 8. It is observed that all the cities in this list are Mission Cities with ongoing pilot projects, with the **highest number of users** recorded in the **Turkish cities** of Istanbul (47 users) and Izmir (45 users). However, since the types of users in each city and the monthly breakdown of this data is not available, further analysis on which pages, tools or resources in the portal are most used by city users is limited.

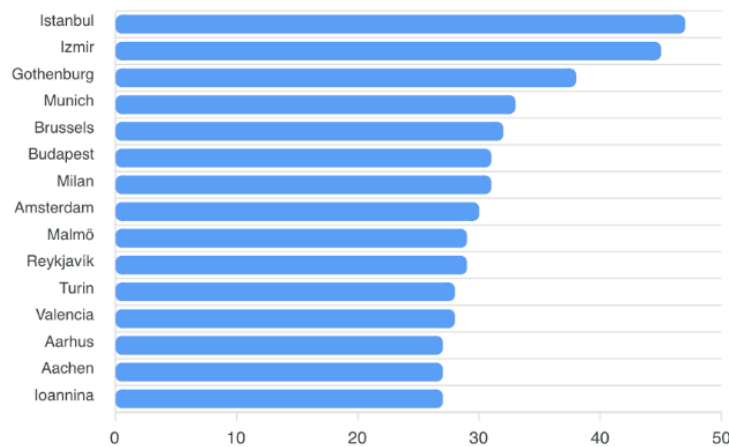


Figure 8: Top 15 cities in terms of portal traffic volume

Another data point which was available on the portal in January 2025 was the “**Top-City**” metric, calculated in terms of the **cumulative interactions of the users’ posts** (including likes and comments) per city. Based on this metric, the top 5 (“Top-city”) (See Table 7). Here again, it is observed that only mission cities are among the most active cities. However, since the monthly breakdown of the metric and the full list of cities (excluding the top and bottom five) were not available, further analysis was limited in terms of monthly variations of city engagement.

These limitations were communicated to the development team, and the current version of the metric (renamed as the “**Cities**” Metric on the portal Analytics Dashboard) **was expanded to include a full list of all cities, categorised into Mission and Mission-minded cities** (See Section 4.2).

Table 7: Top-City Metric calculated in terms of cumulative user interactions

Top City	Number of Users (All Time Cumulative)	Number of Interactions (All time Cumulative)
Turin	28	1328
Bergamo	21	1321
Vitoria Gasteiz	12	1301

Zaragoza	22	1280
Glasgow	9	1280

Lastly, Hotjar provides the distribution **of traffic across countries**, estimated by the number of sessions from each country. The data captured from January 2024 to January 2025 shows the top 5 countries in terms of portal traffic include Spain, France, Germany, Italy and Belgium. Frequent monitoring of this metric is crucial to support the **prioritisation for translation of portal resources in multiple languages**, and a comparative assessment of this data point for November 2025 has been provided in section 4.3.2 of this document (Figure 29).

Traffic Distribution by Device and Browser Type:

Based on Hotjar insights, it is observed that from January 2024 to January 2025, users predominantly use desktop devices (including laptops) to access the portal (desktop accounting for about 94% of all device types). However, it should be noted that one of the primary causes for this may be attributed to the fact that **most of the pages of the portal were not designed to be responsive for mobile devices (not showing the entire menu) until January 2025** (Figure 9). Upon further analysis of Hotjar screen recordings, it was observed that new users (specifically from Mission-minded Cities) attempting to create an account on the portal primarily faced issues progressing beyond the sign-up flow, leading them to drop off. On the other hand, several returning users who tried to access NZC tools (especially the Barometer and NetZero Planner tool) on their mobile devices also showed low engagement due to unresponsive screen layouts, as shown in Figure 9.

Mobile VS Desktop Users (January 2025)



Screenshot of Portal Pages on Mobile Devices

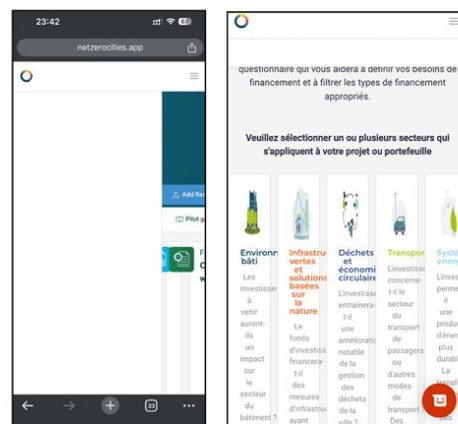


Figure 9: Portal usage on mobile devices and screenshots of the portal on mobile devices (Source: Hotjar)

In terms of traffic distribution by **browser and Operating System (OS) type**, Figure 10 illustrates trends from January 2024 to January 2025, showing that a majority uses **Google Chrome** as their internet browser and **Microsoft Windows** as their Operating System (OS). This is important to note because browsers and OSs render websites and their elements (such as images and code) in unique ways, **affecting browser- and OS-specific usability and accessibility**, which, in turn, affects the overall user experience. Thus, future developments on the portal need to account for cross-browser and operating system compatibility testing to ensure a consistent user experience for all users.

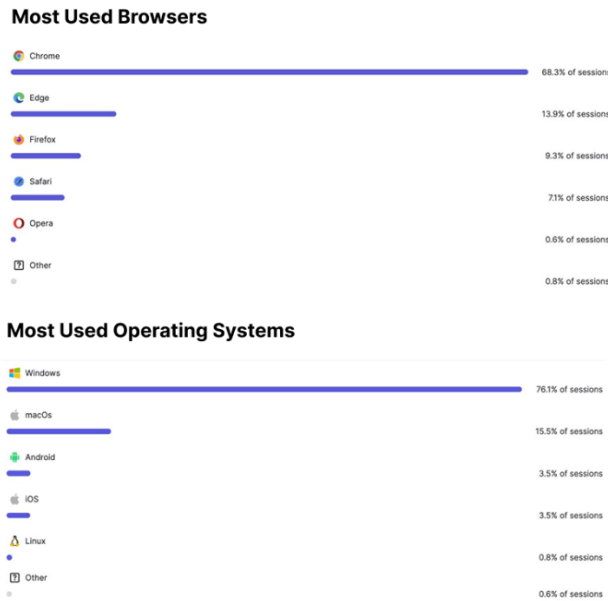


Figure 10: Most used browsers and operating systems by portal users (Source: Hotjar)

Key Insights

1. Traffic Distribution Pattern:

Portal traffic is predominantly driven by Mission Cities, with Istanbul and Izmir leading in user volume and cities with active pilot projects showing the highest engagement. However, limited visibility into user types, monthly trends, and mid-range city activity restricted deeper insight into how cities use the portal. On the other hand, country-level traffic patterns, led by Spain, France, Germany, Italy and Belgium, provides initial insights into how future resources development can be informed by traffic distribution patterns (for example, what languages should specific resources be made available in), reinforcing the need for continued monitoring to align portal content with portal usage data.

2. Device and Browser Usage:

Portal usage is overwhelmingly desktop-based (94%), largely because the platform is not fully mobile-responsive. Mobile users, particularly Mission-minded Cities during onboarding, frequently experienced sign-up failures, while returning users faced usability barriers when accessing tools on mobile. Improving responsive design, especially for high-value tools such as the Barometer and NetZero Planner, is essential to reduce drop-offs. Similarly, as most users rely on Chrome and Windows, cross-browser and cross-OS compatibility testing should be integrated into all future development cycles.

Data Analytics Issues Reported

1. The existing categorisation does not provide the breakdown of city users as Mission Cities, Mission-minded cities, Pilot Cities and Twin Cities. This data gap in the portal KPIs has been addressed in the recommended Proposed Data Analytics Structure presented later in this report.
2. The sample size of the data is capped to 500 sessions a day on Hotjar analytics due to the opted subscription plan, which may not accurately report user traffic distribution of the platform. This issue has been addressed later by a secondary integration of Fathom Analytics to bridge data gaps until an integrated native analytics solution is implemented.

3.2 Qualitative assessment of the portal's UX

This section provides a detailed qualitative overview of the portal's **baseline** UX conducted in 2024, based on 3 qualitative evaluation criteria:

1. Navigation and Heuristics Evaluation.
2. Web Accessibility Assessment.
3. User Behaviour Analysis and Satisfaction.

For the purpose of this evaluation, the NetZeroCities website landing page, the Signup/ Login flow and the Portal's existing sections (consisting of 14 linked tools and resources within the top navigation) have been evaluated (See [Appendix A7 – Table 18](#)).

The baseline evaluation has been conducted on the Portal through September 2024 and then again in June-July 2025, to gather a thorough understanding of usability issues, functional bugs and accessibility limitations prior to the portal redesign and development efforts.

3.2.1 Navigation and Heuristics Evaluation

Baseline navigation and heuristic analysis generated key insights which supported the development of updated portal elements and the improvement of user experiences. A summary of the main insights for key pages updated between the initial (September 2024) and most recent (June-July 2025) heuristic analysis of the portal is listed below. More in-depth insights from the most recent heuristics analysis in [Section 3.2.1.1](#).

Sign-up flow:

- There is little visual differentiation between the 'sign up' and 'sign in' buttons, which can confuse users who do not know the difference.
- Relatively stable flow with users able to navigate backwards as needed.
- Some challenges noted with the progress bar – provides a false affordance that you can navigate the steps by clicking on it.
- White text on a light background, as well as the low contrast on some buttons within the sign-up process, are found to be inaccessible.

Homepage:

- Long-scrolling page with limited direct access to core elements of the portal.
- Lack of labelling of the calendar function.
- Weight is given to liking posts rather than substantially engaging with them.
- Unnecessary repetition of the onboarding function.
- Poorly functioning post-translate feature.
- Some accessibility issues were noted with the light teal text present on a white background.
- Some broken links were noted within the CTM.

Knowledge Repository:

- Lack of onboarding steps or product tours available to guide new users, which may hinder their initial experience and understanding of the platform.
- Adding resources is problematic, taking over 20 seconds to load and often resulting in a 504 Gateway timeout error.
- The platform experiences very high load times, averaging 6-8 seconds per page.
- Multiple alt texts are missing for labels and images, impacting accessibility.
- There is low contrast in sub-copy and metadata, which may affect readability.
- Text alignment is inconsistent; resource card text is centre-aligned while tags are justified.
- No loading state is provided when pages are loading, which can confuse users.
- Only a call-to-action (CTA) in the top navigation provides access to bookmarked content.
- The "Back to Knowledge" CTA does not retrace the previous step but redirects to the default state of the Knowledge Repository.
- There are no breadcrumbs to facilitate easy navigation between pages.
- There is no pagination for long lists of content materials, making navigation cumbersome.
- The platform lacks sorting functionality, which can hinder content organisation and retrieval.

Changes to these spaces and their initial state, as referenced above within the portal, have improved the portal's user experience, making key spaces more accessible, supporting better integration and onboarding onto the platform with user group-specific information and improving the searchability of key resources present within the portal's knowledge space. Details that unpack quantitative differences in user behaviour can be found in section 3.2.3. The work that improved the spaces listed above occurred within SGA2-NZC T1.2, SGA2-NZC T1.3 and SGA-NZC T5.2.

3.2.1.1 In-depth Navigation and Heuristic Evaluation

As part of the ongoing effort to enhance the overall user experience of the Portal, an analysis was conducted during June and July 2025 on key sections of the platform, covering majority pages of the "Connect" and "Learn" spaces, except those related to live work programmes such as the focus on pages, among other relevant features like the Climate Transition Map. Note this analysis reviews all portal UI and UX live to that point.

The review focused on Heuristic evaluation, a method in which digital platforms are evaluated against 10 dimensions of usability by experience design professionals. This mode of analysis addresses aesthetic issues that may distract users, inefficient navigation that makes it harder to access resources, functionality-reducing bugs, and general areas for improvement. Identifying these issues and proposing effective alternatives is essential to enhancing usability, facilitating user interactions, and ensuring a more intuitive and engaging experience.

Heuristic observations, as well as other functionality and accessibility limitations, were conglomerated [here](#). For each observation, the following information was collected: Portal section and subsection (Table 10), possible solution, category (Heuristics, Accessibility, Bugs, Content), level of priority, and reference image and/or URL.

Findings:

A total of 120 observations were made, most of which were identified in the Groups space, as well as the Knowledge repository and the Events page (Tables 8 and 9).

Table 8: Evaluated portal sections

Portal section	Portal space	Observations
Connect	Chat	4
	Cities	12
	User directory	8
	Events	16
	Groups	35
Learn	Knowledge repository: articles, factsheets, videos, visual case studies	19
Others	Support Pathways	11
	Climate Transition Map	8
	Settings	7
	Total	120

Table 9: Observations distribution

Portal space	Bugs & access limitations	Content	Heuristics	Total
Chat	3		1	4
Cities	1	6	5	12
Climate Transition Map	1	3	4	8
Events	7		9	16
Groups	7	1	27	35
Knowledge repository	2	3	14	19
Settings	5	1	1	7
Support Pathways		2	9	11
User directory	3		5	8
Total	29	16	75	120

Main findings per portal space are summarised below.

User Directory:

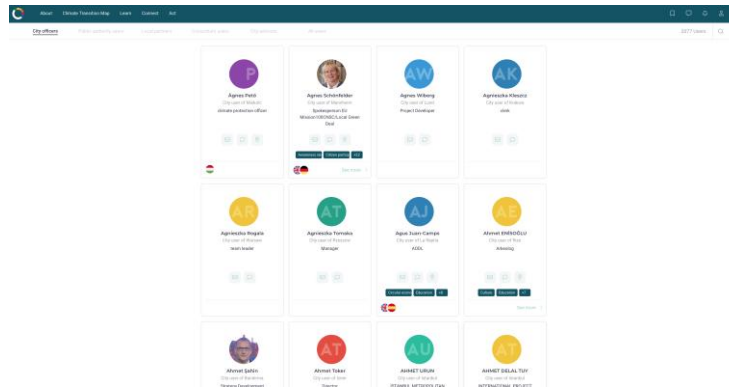


Figure 11: User Directory age on the portal (as on June-July 2025)

Key Issues: Inconsistent tab order compared to other directories, missing filters (e.g., by tags or location), small UX bugs like mis ordered names, poor spacing, and clickable icons with no function.

Suggestions: Align tab order with other sections, improve filtering options, fix icon behaviours, enhance readability through spacing and label improvements, and evaluate if it would be useful to add explanatory options to define city advisors, consortium members, etc.

Chat:

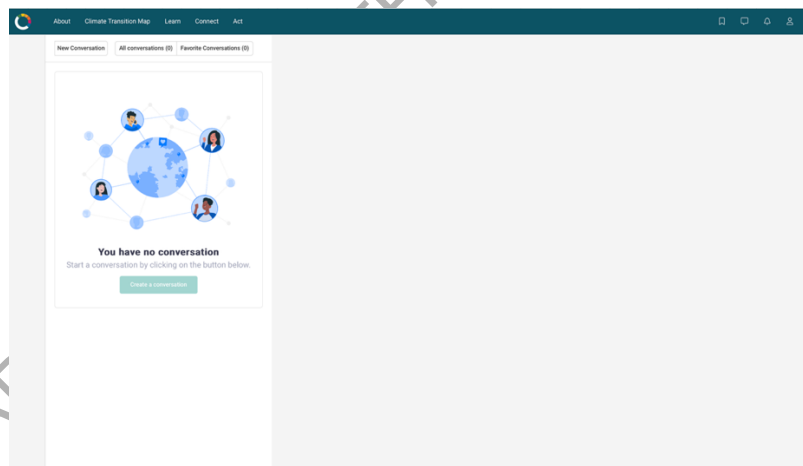


Figure 12: Chat feature on the portal (as on June-July 2025)

Key Issues: Limited chat management (can't edit members, leave, or delete conversations), inconsistent behaviour with existing chats, and unclear labels.

Suggestions: Add chat management features, improve conversation detection (when coming from the user directory), clarify terminology (e.g., "discussion" vs. "conversation"), and fix hyperlink formatting.

Cities Directory & City Pages:

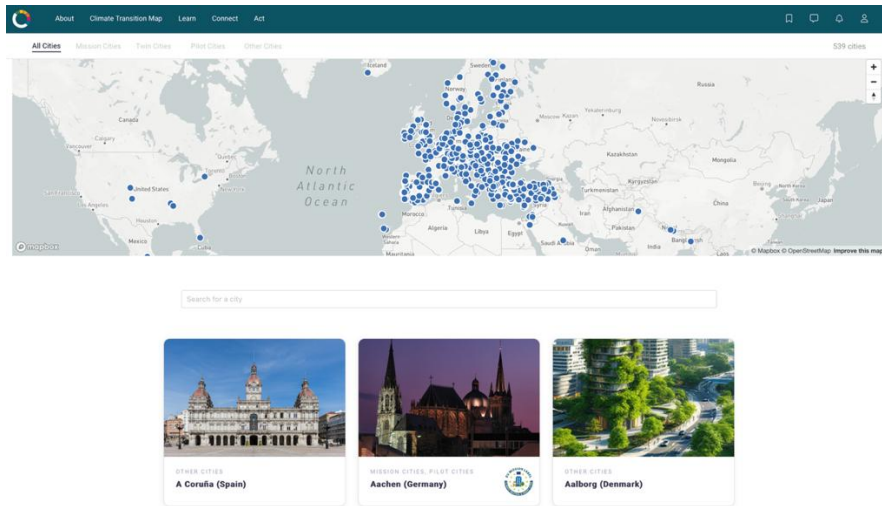


Figure 13: Cities Directory & City Pages (as on June-July 2025)

Key Issues: Lack of clarity for terms like “twin,” “pilot,” or “mission” cities for new users. Duplicate city pages, missing key info in the city pages (e.g., mission label date, Twin city partner, PCP status, etc), and inconsistent map views.

Suggestions: Add info icons/tooltips, highlight mission cities with distinct colours in the map, standardize and update introductory information for city pages and their profile in general, and improve map defaults and visual clarity.

Climate Transition Map:

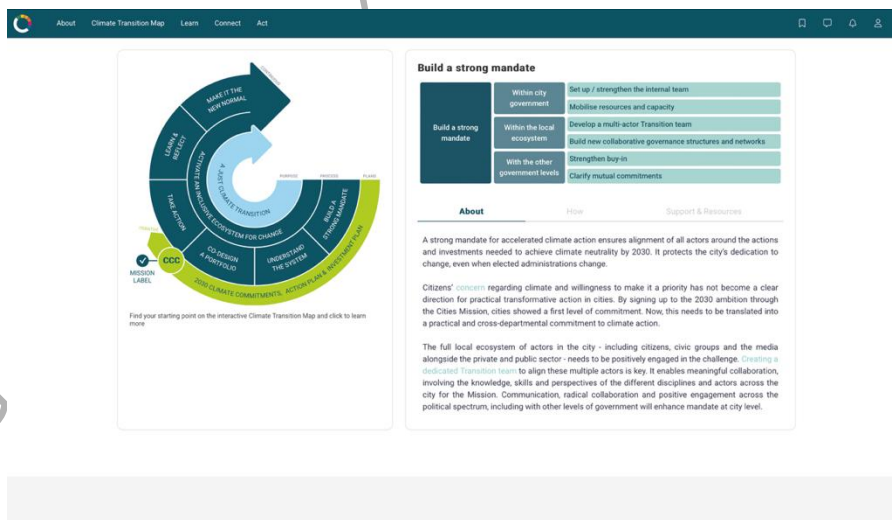


Figure 14: Climate transition map

Key Issues: Menu lacks clarity on reading flow, repeated introductory texts across tabs, inconsistent formatting. Unclear that resources are under the greyed out tabs (support & resources)

Suggestions: redesign (already in development and forecasted to be online in spring 2026)

Groups (Directory & Individual Pages):

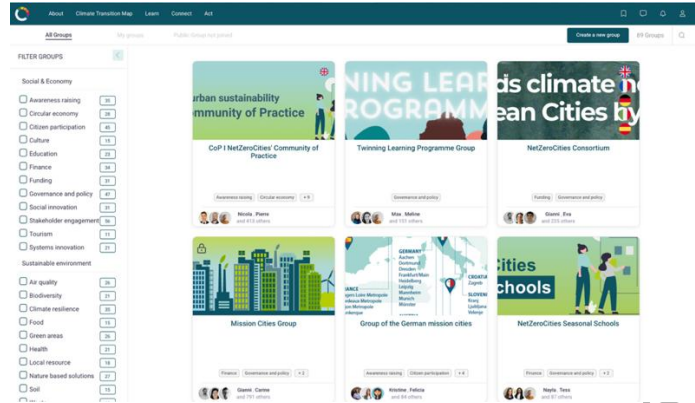


Figure 15: Groups (Directory & Individual Pages as of June-July 2025)

Key Issues: Limited filtering, scale of profile images, no exit group option, hard to view the private icon, unclickable tags, inconsistent elements like fonts or spacing, and distracting video behaviour.

Suggestions: Improve filter capabilities, improve group management visibility, allow users to exit groups, and improve multimedia layout and behaviour.

Events (Directory, Individual, and Own Events):

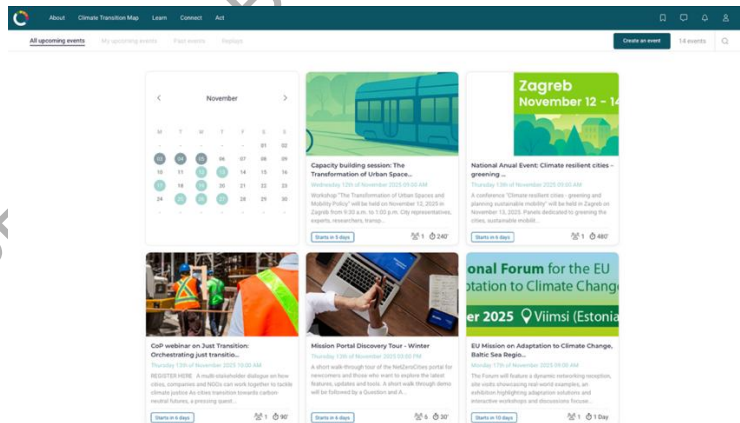


Figure 16: Events (Directory, Individual, and Own Events as of June-July 2025)

Key Issues: Inconsistent time formats, visual layout issues (cut images, alignment), mismatched countdowns, insufficient support for event edits or exits.

Suggestions: Improve spacing and formatting, sync time displays, and enhance event editing and exiting options. A new layout of event is developed and scheduled to be launched in early 2026.

Knowledge Repository:

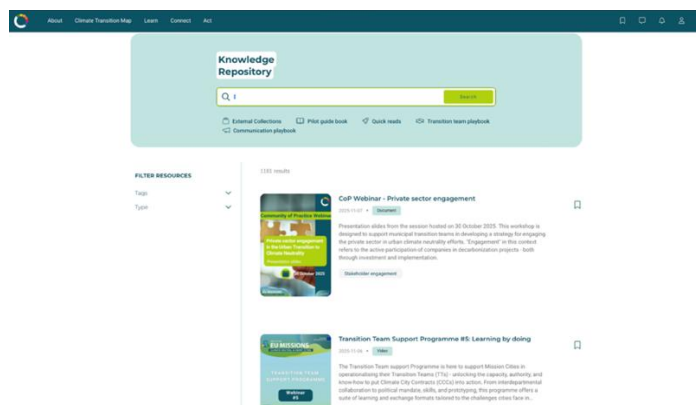


Figure 17: Knowledge Repository (as on June-July 2025)

Key Issues: Formatting inconsistencies (headings, tables, sources), accessibility issues, non-functional links or buttons.

Suggestions: improve options for layout that consortium users can use to create content, fix accessibility issues.

Settings:

Key Issues: Spelling mistakes, inconsistent button styles, unclear field limits, and feedback form too broad.

Suggestions: Fix typos, unify button design, add character limits, and expand the feedback form with section-specific questions.

Support Pathways:

Key Issues: inconsistent language compared to the NetZeroCities impact pathways/theory of change and climate transition map; placeholder texts are still present, content is not fully updated in many cases (not ready to be published).

Suggestions: Improve image quality, unify layout structure, and ensure updated and consistent content across pages.

Action taken

From the 120 observations, 20 (mainly bugs) were sent to LGI via the Help Desk on the Portal (Table 10), 18 relate to the ongoing community redesign work (Table 11), 27 need to be discussed internally to propose more concrete solutions, and the rest (55) will remain pending for afterwards review.

Table 10: Observations sent as bugs through the Help desk platform on the portal

Portal space	Observations
Chat	Users are not able to edit the members of the conversation, leave a chat, or delete it. Options are not available for this.
Cities	In the cities directory, the zoom out on the map is unlimited and creates a wrong view with repetition of the world map.
Climate Transition Map	The "Investment Plan" and "CCC" sections have titles on CAPITAL LETTERS
	Climate Transition Map main title not clickable from the menu.
Events	Events directory: In the "My next events" tab, when there are no events on agenda, the default text says "You have no event" which is grammatically incorrect and may cause confusion.
	Individual Event page: "Starts in XX" on the overview page does not match the "XX days left..." on the individual page of the event. Happens with all the events, and it's always off by one day.
Groups	Groups directory: If you want to preview a private group you get the following Warning message: "You must join the channel to access it". Using the word channel can be confusing considering that is also a feature of the group.
	Groups directory: In the main page, when you click your personal icon and then go to "My groups", it takes you to the incorrect tab: "All Groups".
	Individual group page: When clicking the name of the group in each post (see G.20), you get an error. This happens for different pages. It gives the option to ' Go back', but instead of getting back to the group page, it sends you to the community Spaces
	Individual group page: Time of posting seems to be only updating on the minute count, not by the hour—similar situation in the events posts.
	Own group page: If you update the title of your own group it gets saved and you can see it in the feed, but the URL remains with the original name
Knowledge repository: Focus on	Focus on Policy and Partnerships: The image is clickable but leads to a Not found page. However, the correct URL is already linked to the "Relationship map (Kumu)" text
Settings	Fields of interest: In the 'Fields of interest' description there is a typing mistake.
	Fields of interest: When saving your fields of interest, there is a typing mistake
	Security: In the 'Connected devices' description, there is a typing mistake
	Privacy and Notifications: There is a different colour for some of the buttons
User directory	There is no space " " between the organisation of the user and its position making it difficult to read.

	The buttons in each user are 3 icons. Email, chat and location. The first two open a new page. Even though the third one allows you to click it, it does not open any new page or content.
	When clicking the chat icon for a specific user, the conversation page opens, and they indicate that no discussion exists with the user. Giving the option to create one. But they don't pre-make a chat with the user you clicked, it just sends you to the general page.
	Even when a conversation with the user already exists, the page does not seem to recognise it.

Table 11: Observations to be incorporated into the community redesign process

Portal space	Observations
User directory	In the events and groups directory pages, the first tab is "All ..." In the user directory is the opposite; you first have the different categories like "City officers" and "Public authority users" and at the end it shows the "All users" tab
	The terms used in all tabs are known by most users of the portal. However, it could be helpful to have a brief description of each user category as a note at the start of the page.
	It is only possible to filter users by the different tabs, like city officers or local partners.
Groups directory	Groups directory: It is only possible to filter the groups by the tags/topic. This is limiting.
	The tags that are used for filtering appear in the individual page of each group; however, they are not clickable.
	The Members tab of the individual group page has a bigger spacing than the rest of the tabs.
	The channels section in the feed does not stand out. The font is too light in comparison to other sections.
	Members tab in the Channels do not show the members. Probably because they are repeated in the main group page.
	Channels in a group will only appear after you have joined. This causes some confusion of where to find the channels section before you join the group.
	When creating a group page or a channel, it is not possible to go back from step 2 to step 1
	How to invite members to your group as an admin is not working properly. Search tool by name to invite members not working properly, not all results shown
Individual Event page	On the individual page of each event, there is a calendar icon and a text "Scheduled on 0"
	When an event lasts more than a day, you can see "From XX XX XXXX to XX XX XXXX"
	If there are 0 days left before the start of the event, text shows "0 left before the start of the event"
	There is no option to leave an event you just joined
Cities directory	For a first-time user of the page, it might not be clear the definition of Twin cities, Pilot, Mission, etc. Also important to understand if all pilot cities are mission cities etc.

Chat	Even though I have two conversations with the same user, when clicking the user, it says: "No discussion exists with User. Do you want to create one?" If the user clicks yes, nothing happens.
	Inserting a URL in the message linked to a text is not working properly.

The benefit of undertaking repeat heuristics analysis of the portal is that it allows pages developed in isolation to be reviewed within the broader context of the portal. The complexity of working in such a complex consortium environment requires considered UX review processes to occur at high levels to ensure that user experience is consistent across the portal and not weighted solely to pages, tools, etc, which are newly deployed in the live portal environment.

It is anticipated that future evaluations of the portal will continue to yield fruitful results in refining it and supporting seamless interaction.

Development of an updated onboarding process to meet the needs of Mission Minded Cities:

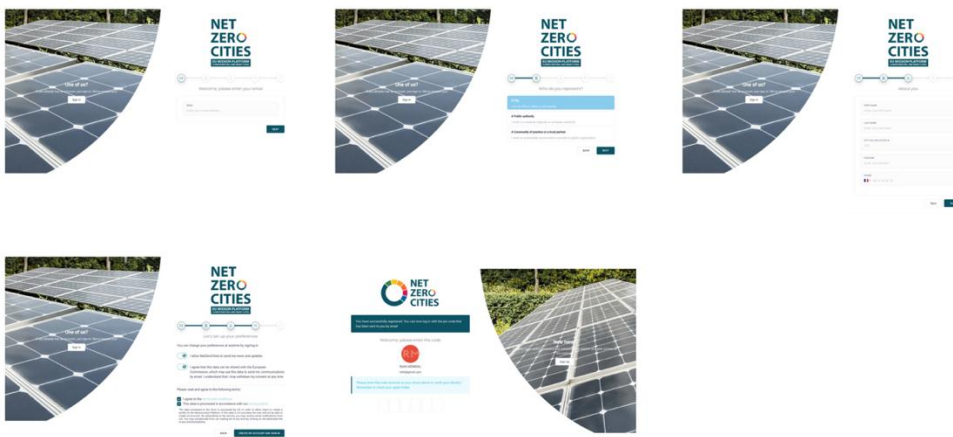


Figure 18: Screenshots of the initial account creation flow portal

Within SGA-NZC T5.2, a new account creation process and onboarding carousel were created in 2024 to support a more tailored experience for users on the portal. It was noted that many of the personalisation features on the portal were not functioning properly because they relied on fields of interest from a user's profile, which they could only input from their profile settings within the portal. Moving relevant questions related to the population of a user profile into the account creation user flow improves the tailored nature of a user's experience, supporting relevant resources as well as creating a better knowledge base to support connections between portal users.

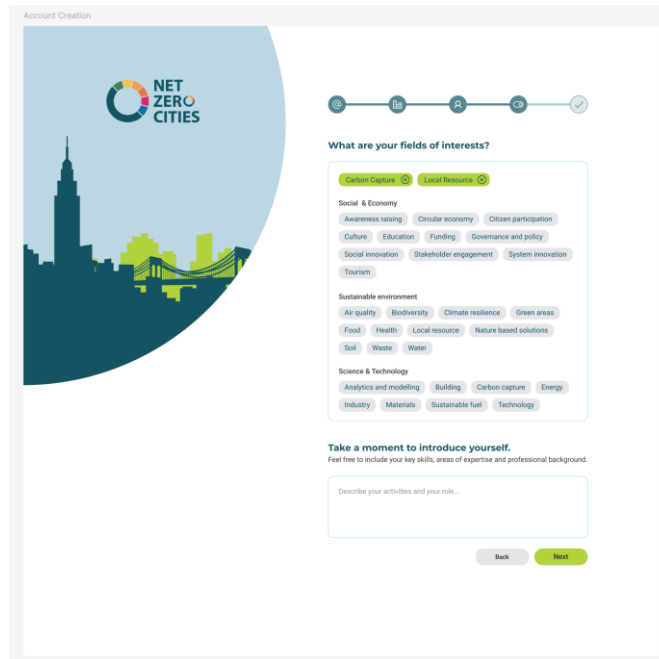


Figure 19: Key additions to the NZC account creation flow

3.2.2 Web Accessibility Assessment

A thorough Web Accessibility Audit was conducted following Web Content Accessibility Guidelines (WCAG 2.1) and the European Accessibility Act (EAA – mandatory from June 2025). The audit was conducted using a browser integration tool called SilkTide, recommended by WCAG’s Web Accessibility Evaluation Tools List. All portal pages listed in Table 18 (See Appendix A7) were tested to ensure all stages of a user’s journey are tested, starting from the NZC homepage. The primary findings are listed below:

Colour Contrast Ratios:

According to WCAG, contrast ratios should be at least 4.5:1 for normal text and 3:1 for large text. Several pages (or sections on pages) on the portal failed to meet the recommended Colour Contrast Ratio range between the foreground text and background colour, as shown in the example image below (Figure 20). Specifically, the use of grey foreground text over a white background was observed across several components of the platform (such as metadata for search results on the knowledge repository and call-to-action buttons).

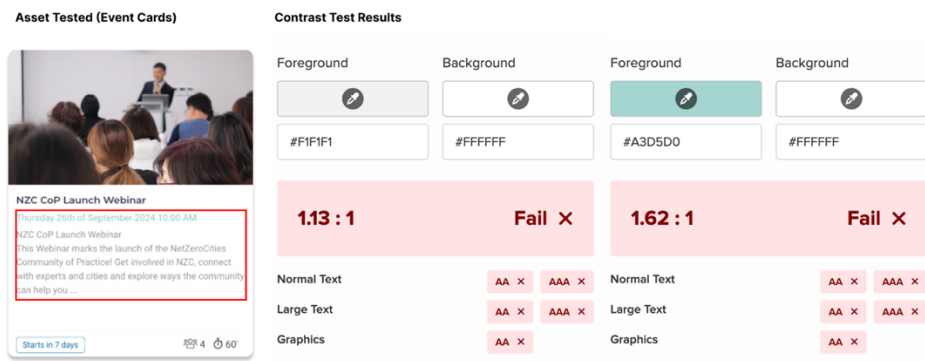


Figure 20: Colour contrast issues identified in the accessibility audit

With the handover of the homepage redesign (see Section 4.5) to the developers (LGI), the design team (at Metabolic) raised recommendations to address contrast issues with the existing colours

across the entire portal; however, these updates are yet to be implemented.

Form control contrast:

This refers to the prompt text in search bars and text fields, which require user input. The border or the control (i.e., the prompt text) itself must maintain a minimum colour contrast ratio of 3:1 against the adjacent background as per WCAG. However, the design component used for search bars, forms and text input fields on the portal fails to achieve this contrast ratio as shown in Figure 21.

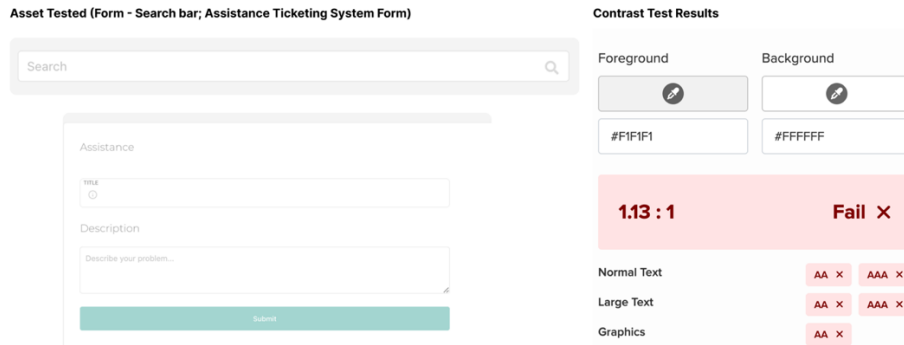


Figure 21: Form control contrast issues

Consistency of Headings:

Heading across different pages on the portal are not systematically categorised (following the H1 to H6 HTML convention). For example, what appears as the heading on the “Knowledge Repository” page hasn’t been defined as one. Headings should always be defined correctly using heading tags, such as <h1>, <h2>, <h3> and so on, for assistive devices to identify them (Figure 22). It is not sufficient to rely on the style of text to convey that it is a heading.

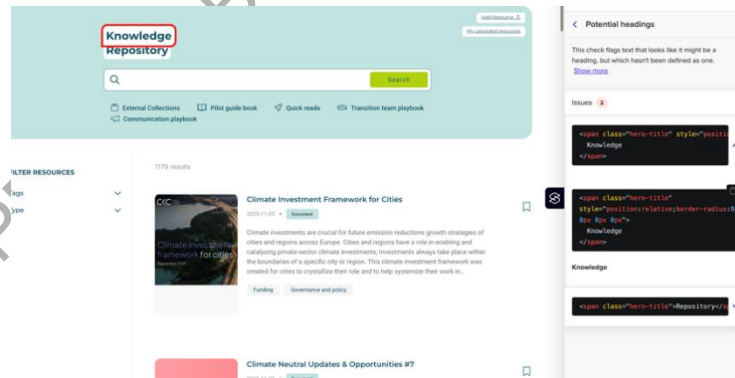


Figure 22: Page header consistency issues

Keyboard Navigation Assessment - Focus Order:

The layout of portal pages does not follow a consistent template or UI assets (such as buttons, cards, carousels, etc), resulting in vastly varying navigation styles across different parts of the platform. While unconventional layouts may add aesthetic value to certain pages, they can be challenging for those who rely solely on keyboards to navigate the site because the order in which a keyboard points from one element to another may not be sequential or linear. This can be better understood with two examples:

- Portal homepage: as seen in the image below (Figure 23), the focus order of the page does not follow a linear pattern, and when it needs to be navigated only using the “tab” key on a keyboard, the focus boxes of a page jump from one part of the screen to another without following a sequential order.

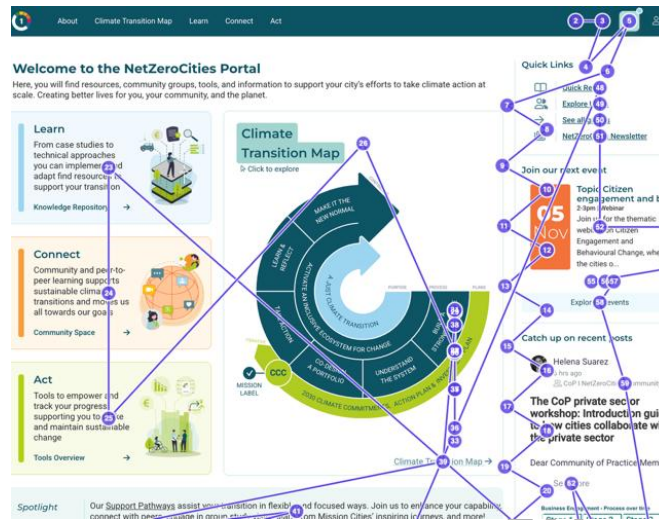


Figure 23: Focus order issue on the homepage

- Mission Cities Page: On the other hand, pages with a more linear sequence, allow users to easily follow the page from left to right using a keyboard (Figure 24).

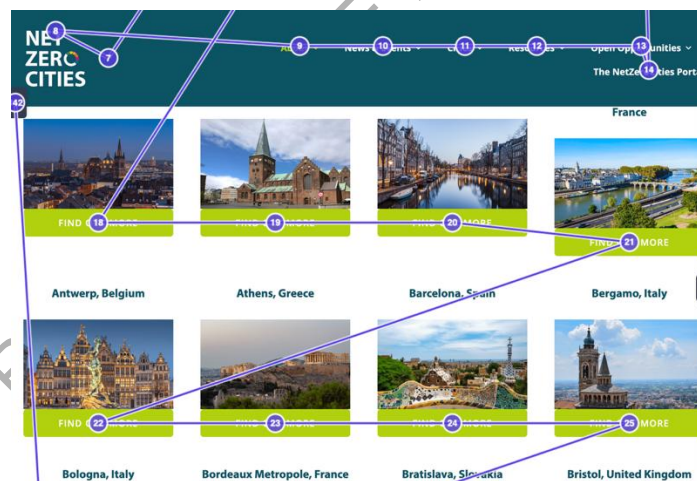


Figure 24: Linear layout example (cities page) showing compatibility for keyboard-only navigation

Alt Text and Screen Reader Compatibility:

When an image is the sole content of a link, it must include alternative text (using the alt attribute in the HTML). This text should clearly describe the purpose of the link, not just the image itself. Without appropriate alternative text, users relying on screen readers will be unable to understand the link’s function. Most components of the portal lack or provide misleading alternative text, making it incompatible with screen readers. For instance, as seen in Figure 25, the very first page of the NetZeroCities website lacks alternative texts for all the images, making them considered as “decorative” assets by assistive technology such as screen-readers. Moreover, the alternative texts for other links are not different from their meta-titles or meta-descriptions, which may make it difficult

for those dependent on screen readers to understand the hierarchy of information on the platform's interface. This issue is also observed with most call-to-actions, where the alternative text is the same as the actual text on the button, which may not always provide users with an affordance to indicate where it is supposed to take them. The issue is more profound, especially on more complex pages with multiple links and buttons, such as the tools and Focus pages, making it impossible for some users to use them. Future portal development should include usability guidelines for content creators.

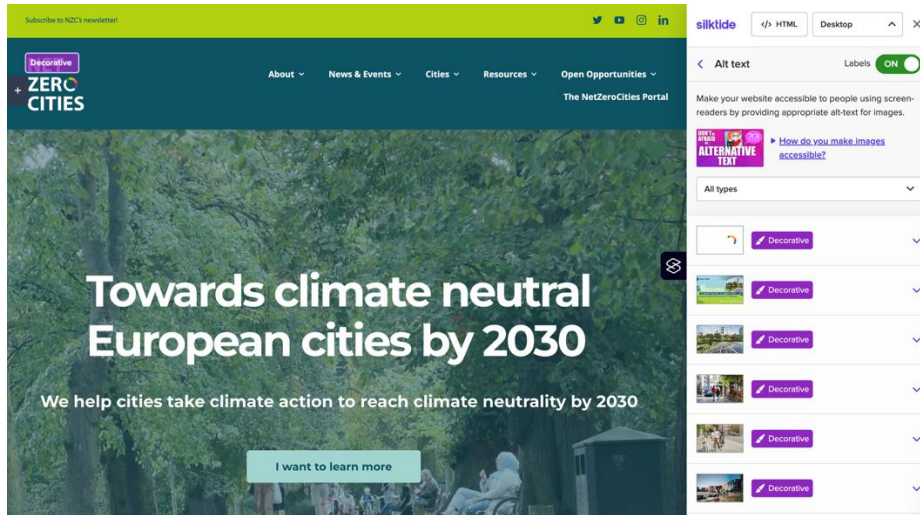


Figure 25: Missing alt text (marked as “decorative”) for images on the NetZeroCities website landing page

Multi-lingual support for portal pages and resources:

Currently, the portal and its resources are available only in English. With the growing number of Mission-minded cities across diverse geographies, it is essential to introduce multilingual support to ensure equitable access, improve usability, and strengthen engagement across different linguistic contexts.

In addition, as per [WCAG 2.1 guidelines “Language of Page” criterion \(SC 3.1.1\)](#), meeting accessibility best practices requires that each page clearly defines its default language and that any mixed-language content is marked adequately so assistive technologies can interpret it correctly. Implementing multilingual versions of key pages and resources, while ensuring the correct use of language attributes, will significantly improve inclusivity and overall user experience.

Key Insights :

1. **Colour Contrasts is a major issue across the portal** but can be improved by following the WCAG 3.1 foreground/background ratios to the design system implemented in the portal. This recommendation has already been communicated by the UX design team to the development team.
2. **Alt text:** Clear and descriptive Alt text is crucial for making the platform assistive technology friendly. **Currently the platform misses alt text for most image assets** (which appear as "decorative" assets in screen readers)
3. **Page layouts:** Varying page layouts across different pages on the portal makes it impossible for users using only a keyboard for navigation to effectively use the platform. A **consistent linear template is therefore recommended** for any future

developments on the portal, and for updating existing pages that are not designed for keyboard-only navigation

4. Create usability and inclusivity guidelines for Mission portal content creators
5. **Multilingual support and clearly defined language attributes** should be introduced across portal pages to enhance accessibility, inclusivity, and engagement for Mission-minded cities.

3.2.3 User Behaviour Analysis and Satisfaction

User behaviour on the portal was evaluated using Hotjar analytics, which provided heatmaps, anonymised screen recordings and integrated user satisfaction rating surveys. The data was collected between November 2024 and November 2025 and analysed periodically. The data samples over 60,000 anonymised user sessions.

3.2.3.1 Heatmap analysis

Heatmaps on Hotjar provide insights into the most interacted parts of a page on the portal, indicating primary engagement zones (i.e., parts of a page where users engage the most), page scroll depth (i.e., how deep into the page users scroll on a page), clicks (i.e., where users click the most) and movement (i.e., how users typically move their mouse pointers on the screen). This analysis is essential to gauge how users are actually using design pages on the portal and identify potential issues or areas of improvement that may improve the users' experience of using the page.

The analysis indicates that most users rarely scroll beyond the first fold of a page. Approximately 65% scroll past the initial screen height, while fewer than 30% reach the second fold. When this is compared with click and engagement data, pages that position their primary calls to action within the top fold—the most visible area—consistently achieve higher interaction rates. This suggests that key information should be placed within the first fold to maximise visibility and engagement. Additional or optional content can be positioned lower on the page, ideally supported by anchor links placed near the top to help users navigate efficiently.

For example, the image below (Figure 26) illustrates user data collected over a six-month period on the portal's homepage, showing how far users typically scroll. The homepage layout was intentionally designed with these scrolling patterns in mind, ensuring that key information and calls to action appear where users are most likely to see them. In contrast, other sections of the portal, such as the "Groups" page, feature long, vertically stacked content. As a result, elements positioned near the bottom receive noticeably less engagement, even when the information is highly relevant to users. In such cases, breaking the content feed into smaller chunks with pagination is recommended.

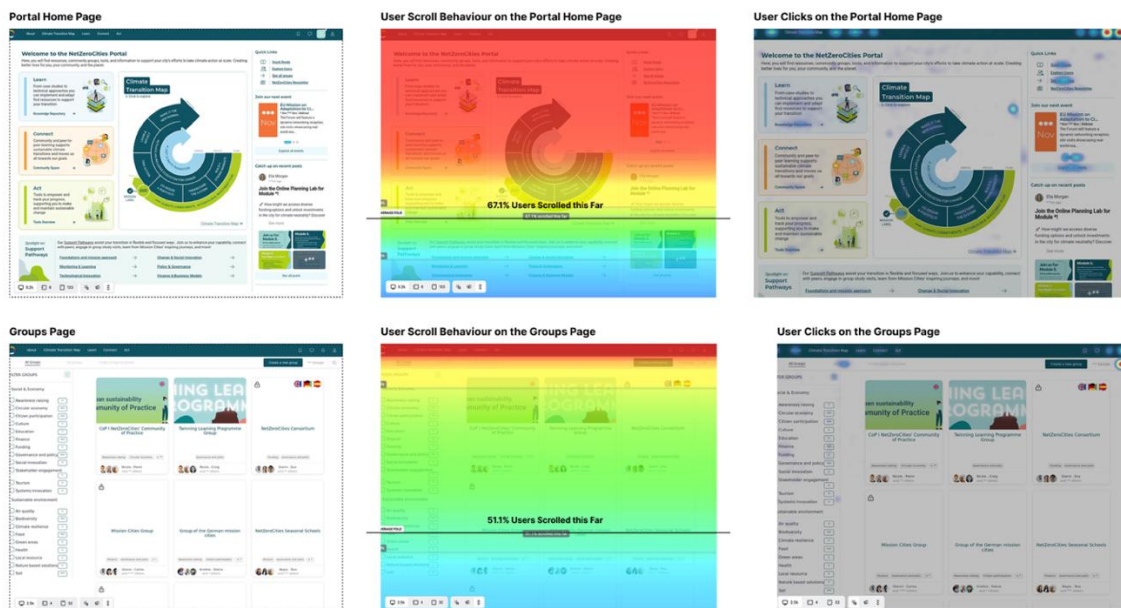


Figure 26: Heatmap analysis of user behaviour

3.2.3.2 User Behaviour Analysis through Anonymised Screen Recordings


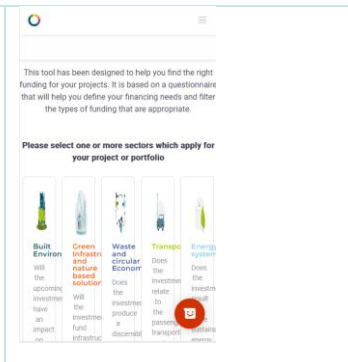
Anonymised screen recordings collected through Hotjar enabled the observation of real user behaviour as they navigate different portal pages. For this analysis, recorded sessions from Nov 2024 to November 2025 from a range of portal areas, including the sign-up and onboarding flow, the Knowledge Repository, NZC tools, and the Homepage, were collected and reviewed. These recordings provide in-context evidence of how users interact with the platform, where they encounter friction, and how effectively they can complete their tasks.

The review focused on identifying specific indicators of usability issues, such as user frustration points, “rage clicks” (i.e., repeated clicking on the same element without achieving the intended outcome), “U-turns” (i.e., abrupt page exits or immediate backtracking when a page fails to meet user expectations), and other behavioural patterns signaling confusion, unmet needs, or functional bugs. In several instances, the recordings also highlighted broken links, unclear navigational cues, slow-loading components, and interface elements that were either unresponsive or misinterpreted by users. A few instances of these issues are summarised in Table 12, which outlines concrete examples captured in the recordings and more details and examples can be found in [Table 20 in the Appendix](#).

The traffic represented in this dataset includes sessions from both Mission-minded City users and Mission City users, enabling comparisons across user groups with varying levels of portal familiarity and expertise. Interactions captured from both mobile and desktop devices were analysed to account for differences in behaviour linked to screen size and device constraints. Together, these insights provide a solid base to understand current pain points and prioritise improvements to the portal’s user experience.

Table 12: Examples of key issues identified from anonymised screen recordings of user behaviour

#	Screenshot	Country	Device	Issue Type	Observed Issue Description	Possible Solution	Page	Date of Recording
---	------------	---------	--------	------------	----------------------------	-------------------	------	-------------------

1		Netherlands	Desktop	Rage Click	Trying to click on the tags of a group	Make tags clickable (to take user to a filtered search in Kr)	Groups	16/06/2025
2		Jordan	Mobile	Not-responsiveness, difficulty clicking	User has issues reading and selecting the desired elements due to lack of resizing on mobile	Make elements responsive	Finance Guidance Tool	15/09/2025

3.2.3.3 User Satisfaction Survey

Since August 2024, integrated user satisfaction and feedback forms were set up in Hotjar to collect continuous live feedback from users, on the UX and usability of the Knowledge Repository, all the NZC tools and one specifically on the Barometer tool. 36 users from both Mission and Mission-minded cities responded by rating their experience as they used specific pages on the tool, across both mobile and desktop devices. The advantage of such surveys is that the system records exactly the point at which users respond, which can be investigated later and be verified if the user's rating matches their actual experience, leading to an efficient way to identify potential issues or bugs.

For the **knowledge repository**, an average rating of **4.4/5** was recorded from 15 users (4 belonging to MMCs), with some additional feedback provided by a few. For example, one user responded by rating their experience with a particular resource they were browsing (<https://netzerocities.app/resource-648>) on a Mobile device. The user also indicated that the *“article has unexplained acronyms (e.g. RES is never explained) and is riddled with grammatical errors. These affect both user accessibility and trustworthiness. The information once disentangled from the jargon is quite useful”*. This feedback enabled the partners to pinpoint the issue and revise the resource.

For **the tools**, a total of 18 responses were recorded across various pages, and the average rating recorded till November 2025 is **2.8/5 stars**. Upon investigating recordings of each page corresponding to the rating provided by each respondent, several issues were reported ([See Appendix A7 Table 19](#)).

- Across the tools, users encountered recurring challenges related to **navigation clarity, technical stability, content comprehension, and screen responsiveness**.
- In the **Solutions Outliner**, users struggled to move beyond the first screen due to unclear next steps, indicating a need for descriptive tooltips and clearer CTAs.
- In the **Solution Bundle**, some users were unable to proceed because JavaScript was disabled, highlighting the need for clear error messages and simple instructions for resolving browser configuration issues, and avoid the several introductory pages before the actual bundles (requiring 4 clicks to get to the content).
- Users experienced significant usability issues with **the Barometer** tool on mobile devices due to its poor mobile responsiveness. It was recommended to consider if mobile optimisation is possible, ensuring that key navigation elements remain accessible to allow users to browse the platform easily.
- The **Project Navigator** showed issues such as missing windows within the KUMU iframe, a lack of tooltips or guidance for complex filters and search features, and occasional loading

failures. These findings suggest disabling empty sections, adding onboarding cues, and investigating loading problems. The purpose of the tool and how it should be used, it is unclear.

- The **Finance Guidance Tool** presented many action points at once, creating cognitive overload for non-experts. A staged, simplified flow with more explicit instructions would reduce user friction.
- The **Engagement Guidance Tool** exhibited poor responsiveness on smaller screens, with a constant stream of questions that caused frustration and prevented completion. This underscores the need for reliable mobile adaptation and a more manageable pacing of questions.
- For the **Climate Transition Map**, users experienced difficulty dismissing an on-screen survey due to responsiveness issues, struggled with an unfamiliar navigation model, and were repeatedly prompted to sign up when not logged in. Another user found the copy overly jargon-heavy and unhelpful. This points to the need for clearer navigation support, deferred sign-up prompts, improved mobile responsiveness, and plain-language content.

Overall, the tools' UX challenges centre **on unclear navigation, limited guidance for complex tools, technical and loading issues, poor mobile responsiveness, and inconsistent terminology and vocabulary across tools**. Increasing coherence of terms and categorisation, strengthening tooltips, adding onboarding guidance, improving error handling, enhancing responsiveness across devices, and simplifying language would collectively improve usability and reduce drop-off.

On the other hand, the average feedback score is recorded from the [integrated feedback tool](#) of the portal shows that the overall user satisfaction rating of the portal stands at **4.16 out of 5** (rated by 31 users). The distribution of ratings indicates a predominantly positive reception, as 17 respondents awarded the maximum score of 5, whilst eight provided a rating of 4, with only a small minority submitting lower scores. Some key issues were highlighted by users included the portal's stability, non-functional registration process and a "messy," unintuitive navigation structure (noted before the implementation of the new portal Menu). Specific technical bugs were also identified, including the inability to access full profiles from the user directory and a missing participation link for a finance-related event. Furthermore, users flagged content limitations, noting the absence of key tags such as "urban planning and architecture" in the "Fields of Interest" section, as well as grammatical errors in system notification messages. **All these issues have been addressed and closed as of November 2025.**

To date (November 2025), 214 assistance requests submitted through the Portal's help section have been resolved. Since integrating a Smartsheet-based ticketing system into the Portal, the process for addressing bugs, responding to "how-to" questions, gathering open feedback and suggestions, and managing user requests for access or support with the NetZero Planner tool has become far more efficient. Most user-identified issues are now resolved within 2–4 business days.

However, the system currently does not notify users once their issue has been resolved; this has been noted later in this document as a recommendation for future updates to the Portal's ticketing workflow.

Key Insights :

1. User Behaviour and engagement :

Insights from a heatmap analysis show that user interaction is heavily concentrated within the top fold of the UI, with significantly reduced engagement observed on lower sections of extensive content feeds, (For example, within the Groups directory). Furthermore, mobile accessibility is critically limited; despite a high demand for flexible access, 94% of traffic remains desktop-based due to unresponsive layouts that effectively block essential tasks such as the Sign-up flow and limit the use of tools, specifically the Barometer and NetZero Planner, which are unusable on smaller screens.

2. User Satisfaction and Usability Improvements:

While the net satisfaction rating of the portal (4.16/5) and the Knowledge Repository (4.4/5) from users has been positive, the experience of using NZC tools (2.8/5) has significant room for improvement. The integrated user feedback highlights substantial friction caused by technical instability across specific pages. Notable issues include a non-functional Registration process, broken participation links for Events, and the inability to access full profiles within the User Directory. To rectify these issues and maximise engagement, it is recommended that critical information be positioned prominently, content be paginated, and industry-standard responsive design be implemented to ensure consistency across all devices.

4 Implemented Changes and Continuous Evaluation of the Portal's UX

4.1 Updates based on insights from the navigation and heuristics baseline analysis

By November 2025, several key updates were delivered across the portal as part of coordinated work between SGA2-NZC T1.2.2 and SGA-NZC T5.2, with further improvements continuing to strengthen the overall user experience (See [Appendix A3](#)). The City Profiles underwent a significant redesign to improve clarity, comparability, and access to essential information on cities' progress toward climate neutrality. These changes were driven by heuristic analysis, which revealed formatting inconsistencies, and user feedback that highlighted the need for more frequent updates and easier access to critical resources such as the City Climate Contract. As a result, the profiles were restructured with a clearer visual hierarchy and more coherent metadata, fully embedded into the main portal, and are now being populated systematically prioritising Mission Cities.

In parallel, the Knowledge Repository received targeted enhancements to reduce user friction and improve discoverability. Early updates centred on a refreshed user interface and the integration of Algolia's smart search tool, which directly addressed user calls for more intuitive navigation and better alignment between search queries and results. These improvements have already eased reliance on city-facing support partners by streamlining access to guidance materials. The next stage of work will concentrate on making tagging more accessible and rolling out a broader UI update, supported by the recent completion of the global tagging system redesign, with finalised designs scheduled for developer handover in early December 2025.

Updates to the Barometer

In July 2025, a third version of the Barometer tool was delivered. Here, firstly, additional insights were added, increasing the amount of content visualised through the tool. Secondly, changes were made throughout the page to make the tool more visually appealing and intuitive - aligning colour palettes, overall design and communication styles across the page, and implementing show/hide buttons for text blocks to alleviate focus from text-heavy sections towards the visualisations.

Updated Onboarding, Now Segmented by MC, MMC, and COP/Other Users

In early 2025, the onboarding experience was tailored by user type alongside updates to the account creation user flow. This strategic change provided users with role-relevant starting points and established clearer pathways into key sections of the portal.

This initiative directly addressed key findings:

- Users struggled to understand where to begin.
- Users needed clearer guidance based on their specific responsibilities.
- Users required quicker access to frequently used tools and resources.

Furthermore, this update leveraged an opportunity to integrate user profile questions directly into the account creation flow. This improved the overall completeness of user profiles on the portal, which solved two critical issues caused by a prior lack of profile information:

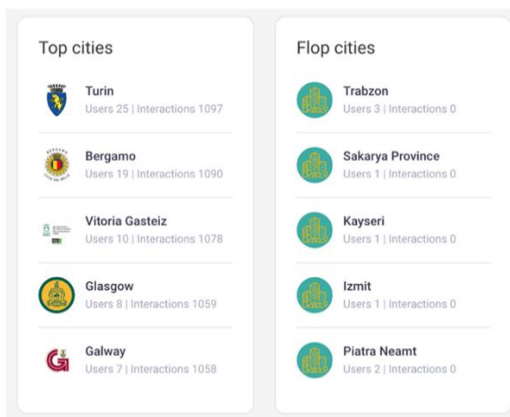
1. It removed the impediment to creating genuinely personalised content for individual users, which can be leveraged in future.
2. It made it clearer which users could be strong connections for peer-to-peer knowledge sharing.

4.2 Improvements to Portal Analytics Dashboard

Categorisation of Mission Cities and Mission-minded Cities in Portal Metrics:

The “Top-City” metric (now renamed as the “Cities” metric) on the portal’s analytics dashboard was improved and expanded to include a full list of all cities, categorised into **Mission and Mission-minded cities**, following the issues reported from the baseline assessment. The metric can now be sorted in increasing or decreasing order of the number of users or interactions, and also allows for the search for specific cities registered on the portal using an integrated search functionality. Additionally, the metric now includes the **number of active users** (i.e., users who have made at least one post) per city, thereby increasing the level of granularity available for this data point (Figure 27).

Top Cities VS Flop Cities Metric (January 2025)



New Cities' Metric (November 2025)

Name	Type	Users	Active users	Interactions	Connections
Vitoria Gasteiz	Mission city	17	9	1546	1556
Turin	Mission city	30	8	1507	1961
Bergamo	Mission city	22	7	1499	1760
Zaragoza	Mission city	26	6	1458	1329
Glasgow	Mission city	10	6	1458	1226
Madrid	Mission city	24	7	1452	1469
Cluj	Mission city	15	5	1449	1233
Valladolid	Mission city	17	6	1448	1442
Sønderborg	Mission city	13	4	1443	1273
Galway	Non-mission ...	8	3	1439	1170

Figure 27: New updates to the Cities Metric on the Portal Analytics Dashboard

Furthermore, the new version of the metric allows data to be extracted into a spreadsheet, enabling further analysis of the number of users, active users, interactions and connections at the granularity of Mission and Mission-minded city. While this change will significantly strengthen future portal usage evaluations, the functionality to **filter data by time period** (i.e., monthly, yearly or custom dates) is

recommended to enable customised data pulls, keeping pace with current industry standards for web analytics.

Improvements to the “Groups” Metric:

Previously, the “groups” metric was limited to the top and bottom 5 groups by activity. This limitation data set has now been addressed and expanded to show the full list of groups available on the portal.

Integration Fathom Analytics:

To bridge the data limitations on the portal’s analytics dashboard and Hotjar, in March 2025, a third-party universal analytics tool called **Fathom Analytics** (Figure 28) was implemented as an interim solution to reduce pressure on developers to upgrade the existing analytics architecture of the portal, while providing consortium members with actionable insights. Fathom offers a simple, privacy-focused solution for collecting insights while safeguarding user trust and ensuring full legal compliance. Combined with the portal’s existing metrics and Hotjar, the integration now enables accurate tracking of usage data across time periods, device types, browsers, and operating systems. Compared to the baseline data from January 2025, the current portal analytics solution provides a comprehensive and reliable overview of user engagement, user behaviour, alongside usability insights from Hotjar, supporting more informed decisions for future rounds of design and development.

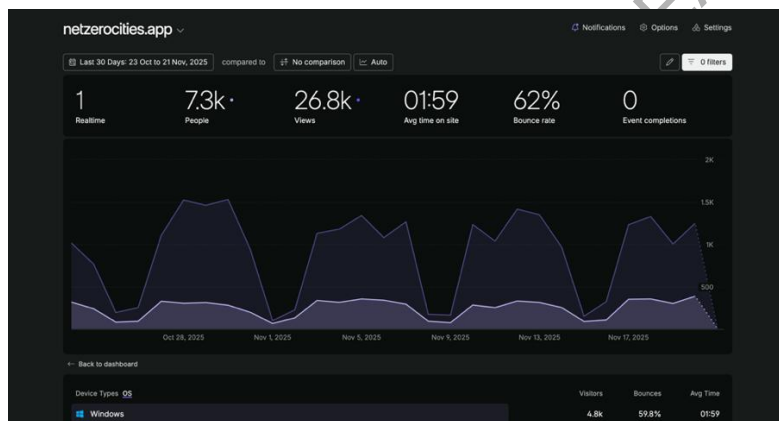


Figure 28: Fathom Analytics Interface

4.3 Continuous Evaluation of Key Quantitative Portal Metrics in M23 (November 2025)

Following the baseline evaluation in January 2025, a **comparative analysis of the key quantitative portal metrics was conducted in November 2025** to evaluate the portal’s performance

4.3.1 Usage Data Comparative Analysis

Distribution of User Types:

A **total of 7975** users were registered on the portal as of 18 November 2025. This is 1,943 new users who have registered on the portal since January 2025 (which stood at 6032), recording a **32.21% increase in the total number of users in 10 months**. Table 13 presents a comparison of the number of users by type for January and November 2025.

Table 13: Comparative analysis of the number of portal users in January and November 2025

Type	Description	January '25	November '25	Change %
Super Admin	Internal Consortium users with additional rights to edit pages of the portal	15	26	+73.33%
Consortium User	General Consortium Users	616	666	+8.12%
CoP or Local Partner	A person working on sustainable issues within a private or public organisation	2951	4037	+36.80%
City User	An officer within a municipality	1547	2099	+35.68%
Public Authority User	A person working in a regional, nation or European Authority	596	741	+24.33%
City Administrators	A person working within a city's municipality	144	383	+165.97%
City Advisors	City Advisor user accounts	21	21	0.00%
Simple Users	All other types of users	142	2	-98.59%
Total		6032	7975	32.21%

Between January and November 2025, the portal saw substantial growth across nearly all user categories. The most pronounced increase was among City Administrators, rising from 144 to 383 users (165.97%), which might be due to the launch of the learning programs for Mission-minded cities of SGA2 WP1, including the online planning lab, the Twinning program, online discussion groups, and national events organised in relation to national platforms development. City Users grew by 13.19%, including 327 new Mission-minded City users and 225 Mission City users. The CoP or Local Partner and Public Authority categories also expanded notably, by 36.89% and 24.33% respectively. Overall, compared with the baseline evaluation, the portal has experienced significant growth across all user groups and now provides a strong basis for tracking and comparing progress in future rounds of continuous evaluation.

Frequency of Usage, Average Session Lengths and Bounce Rates:

As seen in Table 14, while the distribution of frequent users and unique visitors is relatively similar in November 2025 as compared to January 2025, the unique connections have increased by 49%. This can be attributed to the surge in the total number of users on the platform in the past 10 months, which has also increased the number of one-time visitors. On the other hand, average session length has increased by 1.4% from 14.03 minutes to 14.23 minutes. The average number of pages viewed by users has also improved by 17.5% (increasing from 4 pages to 4.7 pages), and the bounce rate has shown a reduction from 50.6% to 48.2% in actual terms from January to November, indicating incremental improvement achieved with the ongoing updates made to the portal's user experience.

Table 14: Comparative analysis of traffic distribution metrics in January and November 2025

Evaluation Metric	January 2025	November 2025	Variation
Frequent User (% share)	2.40%	2.23%	-0.17

Unique User (% share)	93.62%	91.81%	-1.81
Unique Connection (% share)	3.98%	5.96%	+1.98
Average Session Length (Minutes)	14.03	14.23	+0.20
Average Page Views per session	4.0	4.7	+0.7
Average Bounce Rate	50.6%	48.2%	-2.4

New VS Returning users:

The portal shows a steady growth in the total number of new signups (1,943 in 2025 until November as seen in Figure 29), averaging 5-6 signups per day, slightly lower than what was recorded in January (6-7 signups per day).

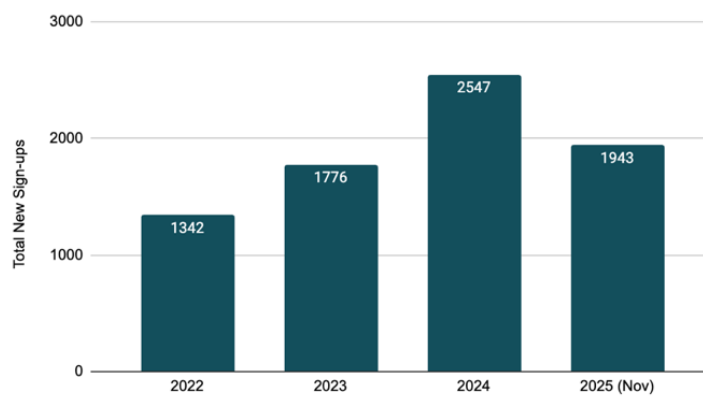


Figure 29: Total new portal sign-ups yearly until November 2025

However, data from Hotjar Analytics shows a marked shift in the **ratio of new to returning users, from 60:40 in January 2025 to 93:7 in November 2025 (Figure 30)**. This suggests that although the portal continues to attract a high volume of new users, registered users are returning more frequently and engaging more consistently with the platform. These shifts in usage patterns can be linked to enhancements in the portal menu, portal content, service offering and to the Knowledge Repository’s search functionality following the integration of

Algolia's AI-powered search (February 2025; SGA-NZC), which has improved the discoverability of resources and tools across the portal.

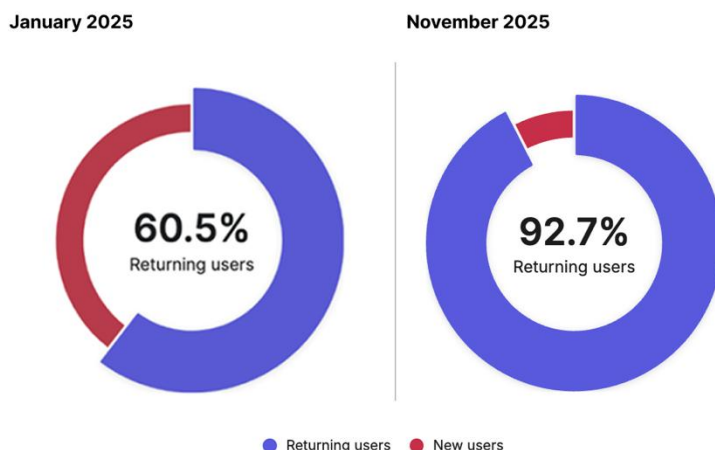


Figure 30: Comparison of New vs returning portal users between January and November 2025

Resource Usage Metrics:

As of 18 November 2025, a total of 1390 resources are available on the portal, recording 309 new resources since January 2025 (Table 15).

Table 15: Resource types available on the portal

Type	January 2025	November 2025	Change %
Document	221	347	+57.01%
Video	91	94	+3.30%
Article	95	177	+86.32%
Factsheet	228	228	0.00%
Method	227	227	0.00%
Case Study	38	25	-34.21%
Canvas	15	17	+13.33%
CCC	100	102	+2.00%
Visual Case Study	68	108	+58.82%
Total	1083	1390	28.35%

On the other hand, when the top 10 used resources in January and November 2025 are compared, it is seen that only 2 resources are common to both the lists, as seen in Table 16 (1. [Grey water treatment \(including Nature Based Solutions\) and reuse](#) and 2. [Impact pathways, Monitoring, Evaluation and Learning framework and indicators](#)). In November, the article on the Online Planning Lab ([Design Your City's Net Zero Strategy: Online Planning Lab](#)) is by far the most interacted resource. This resource supports the NZC online course, which started on 16 September 2025 and is being attended by both Mission and Mission-minded Cities. In fact, another resource linked to one of the modules of this course ([Module 1 - Core Session: How can NetZeroCities support my city's climate transition goals?](#)) is also listed as one of the top 10 resources. In addition, the Top 10 resources in November are largely made up of Articles and CCCs, whereas Factsheets and Documents dominated January's list. From a UX perspective, this shift is noteworthy as it indicates the types of resources users are more likely to engage with over time. However, even at this point, the number of interactions for each resource is not

categorised by user types (especially in terms of Mission and Mission Minded City users), which prevents further analysis.

Table 16: Comparison of Top 10 resources in November 2025

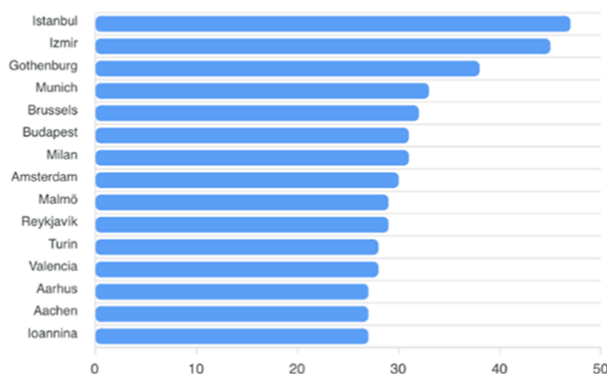
Top 10 resources until November 2025		
Resource Name	Interactions	Resource Type
Design Your City's Net Zero Strategy: Online Planning Lab	6440	Article
Grey water treatment (including Nature Based Solutions) and reuse	2309	Factsheet
Mannheim Climate City Contract	1915	CCC
Klagenfurt Climate City Contract	1525	CCC
Financing the ambition of NetZeroCities	1435	Article
Impact pathways, Monitoring, Evaluation and Learning framework and indicators	1170	Article
Social Innovation for Climate Neutrality: full collection of resources, cases and methods	1158	Article
Seville Climate City Contract	1104	CCC
Module 1 - Core Session: How can NetZeroCities support my city's climate transition goals?	1095	Article
The KredEx Revolving Fund Estonia	1057	Document

4.3.2 Traffic Distribution Data Comparative Analysis

Comparative traffic distribution in January and November 2025:

In November 2025, the Turkish cities of Istanbul (69 users) and Izmir (59 users) continue to be the most represented in terms of the number of users. No significant change is observed in the list of the top 15 most represented cities, except that Stockholm (Sweden) replaced Ioannina (Greece) in November 2025. This metric is important to track because it provides insights into what languages should be prioritised to create resources or tools on the portal that would benefit a majority of users (Figure 31).

January 2025



November 2025



Figure 31: Comparison of the most represented cities in January and November 2025

Top Countries:

In November 2025, the top five countries remained consistent compared to January 2025; however, Italy rose to the second position after Spain, followed by France, Germany and Belgium in terms of total number of sessions per user. (Figure 32).

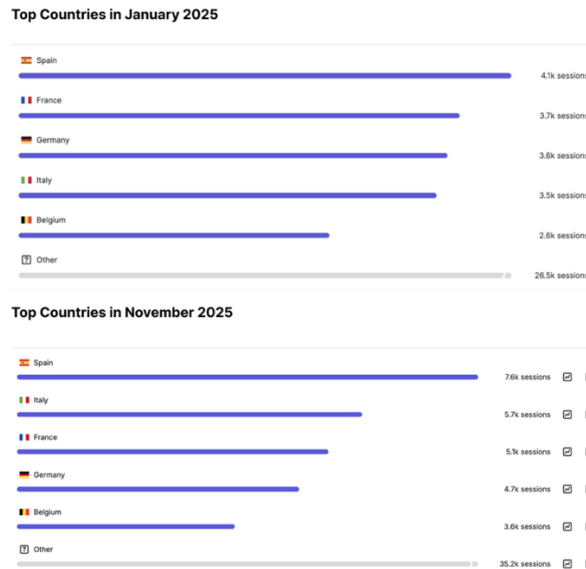


Figure 32: Distribution of the most represented countries in January and November 2025

Traffic Distribution by Device and Browser Type:

Based on data gathered from Fathom Analytics and Hotjar Analytics, no changes were observed in November 2025 in terms of the browser, operating system and device types preferred by users. However, several pages on the portal remain unoptimised for mobile viewing, especially the tools, rendering a poor user experience for a growing number of mobile users.

Summary and Key Insights:

- The portal has grown substantially; number of users have increased by 32.21%** between January and November 2025. This growth is particularly noticeable among new City Administrator users, Mission-minded City users, and Community of Practice (CoP) members joining the portal.
- The ratio of new to returning users has shifted dramatically from 60:40 in January to 93:7 in November 2025**, highlighting a significant change in usage patterns. Additionally, the portal shows steady improvements in session length, average page views per session, and bounce rate, indicating enhancements to overall UX and usability. These improvements are likely linked to the integration of Algolia’s AI-powered search in the Knowledge Repository, which has made it easier for users to locate relevant resources and tools.
- The total number of resources on the portal has increased from 1,083 in January to 1,390 in November 2025**, representing a **28.35%** rise. The composition of the Top 10 most-interacted-with resources has also changed: While in January 2025, Documents and Factsheets were popular among users, **Articles and CCCs are now the most popular resource types** in November driven by high interactions (6440) of the online planning lab page.
- No significant changes were observed in November 2025 from the traffic distribution data in terms of the most represented cities, top countries, and browser, OS and device

type of traffic channels. However, several portal pages are still not optimised for mobile viewing rendering a poor user experience for a growing number of mobile users.

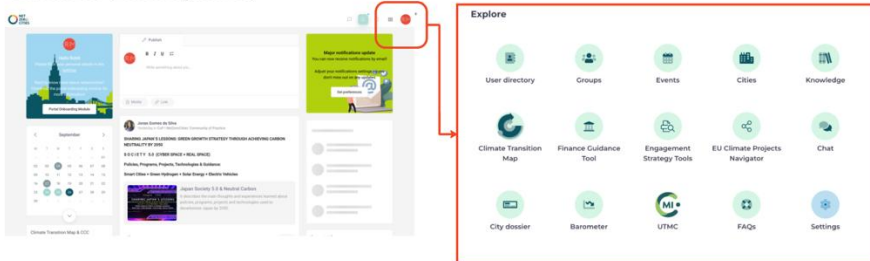
4.4 Redesign of the Portal Menu Navigation (T1.3)

As previously described in depth in deliverable [SGA2-NZC D1.5](#) from task T1.3.3, the reorganisation of the Portal’s main navigation in Spring of 2024 aimed to address the lack of a clear information hierarchy and create a more intuitive, accessible menu that could support both new and experienced users and improve user experience as the number of tools and resources expanded (Figure 33).

The redesign of the menu was informed by a combination of user analytics, co-design activities with consortium partners and UX best practices conducted in T1.3 (T1.3.1, 1.3.2, 1.3.3). These co-design activities included a Card Sorting activity, with 16 consortium partners, which led to the identification of 17 thematic clusters. Building on these findings, a series of iterative “DIY Menu” activities was conducted, where participants refined the proposed structure according to their needs and expertise. The proposed menu structure was handed over to SGA-NZC T5.2 to complete and refine the menu. Testing occurred with city advisors and with direct city representatives in the Covenant of Mayors workshop session hosted on July 9th, 2024, resulting in a final menu structure that enhances usability and provides a more intuitive experience for both new and experienced users.

This structure guided the design of a new navigation system, live since October 2024, designed around 3 key pillars: *Learn*, *Connect*, and *Act*.

Old Menu (uncategorised)



New Menu (Categorised into About, Climate Transition Map, Learn, Connect & Act)

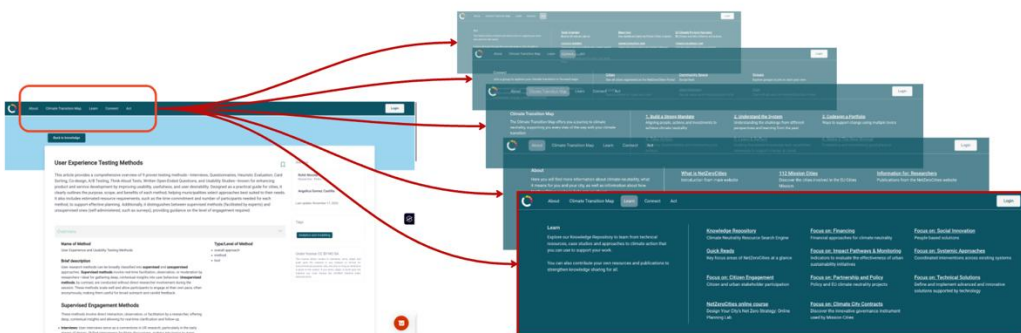


Figure 33: Old vs New Menu

4.5 Homepage and Landing Page Improvements

Updates to the portal homepage occurred within the remit of SGA-NZC Task 5.2 in 2024. The development hinged on the synthesis of diverse insights, bringing together existing knowledge across the consortium (including [D13.1 Report on City Needs, Drivers and Barriers Towards Climate Neutrality](#), [D1.1 Non-Mission City Needs & Pathways - First Report](#), [Non-Mission City User and Gap Analysis](#), [D3.1 Design and Specification for the Portal and the Platform](#) and [Portal analytics](#) -admin access only) with values-based user interviews and insights from experience capture tools (Hotjar). Hotjar was implemented into the portal on 4 June 2024. The insights gained from it were used to guide the design and strategy of the homepage. The main findings from Hotjar at that time included the highest click rates on the homepage, scrolling behaviours, most visited pages, and pages with high bounce rates.

In SGA-NZC Task 5.2, User interviews conducted in 2024 with 22 participants (City Actors, City Advisors and other relevant consortium members) brought a lens to this work, focusing on pain points and opportunities being experienced both within the portal and in general work supporting varied transitions towards climate neutrality.

On July 9th 2024, a two-hour-long session was run in collaboration with the Covenant of Mayors for Climate and Energy. In this session, 20 participants representing 17 organisations provided feedback on the development of the homepage, focusing on in-development wireframes. Insights from this session influenced the approach of the consolidated high-fidelity wireframes, which were handed over to LGI and deployed into the live portal environment in late 2024. A comprehensive view of the development and updated design of the homepage is available in [SGA-NZC D5.1](#).

A breakdown of the analysis of the existing homepage, in its current state, is shown in the Appendix ([A2 Implemented changes to the Portal's UX](#)).

4.6 Integration of Algolia's AI-powered search into the Knowledge Repository

With the integration of [Algolia's AI-powered search](#) carried out in SGA-NZC, features into the Knowledge Repository in February 2025, and the findability of resources on the portal has significantly improved, reflected in faster search response times and lower average Click Position scores. Click Position, a metric provided by Algolia, indicates the rank of the clicked search result; lower values signal that users are finding relevant results more quickly. A comparative A/B analysis using available data from August to November 2025 shows clear month-on-month improvements. Between October and November (Test A), the average Click Position decreased to 5.43 (based on 1,072 searches with clicks), compared with 8.43 in the previous period (Test B, 1,560 searches with clicks). The average number of searches per user increased from 3 in Test B (4,950 searches) to 4 in Test A (2,830 searches). The conversion rate improved from 28.38% (Test B) to 32.16% (Test A), and the Click-Through Rate rose from 31.94% to 37.66% respectively. The No-Click Rate showed a slight decline in Test A, which will require further monitoring.

These results, illustrated in Figure 34, indicate strong potential for continued improvement as the AI model learns over time. It is therefore recommended to expand the search functionality across the entire portal, enabling users to search not only for resources but also for tools, pages, events, social media posts, and other searchable items.

It should be noted that the current subscription plan only provides access to 90 days of historical analytics data, limiting the depth of analysis. Nevertheless, this A/B study serves as a valuable baseline for future UX evaluation cycles.



Figure 34: Search Metrics A/B test

4.7 On-going developments

A series of iterative enhancements is currently underway to further strengthen the usability, clarity, and overall user experience of the Portal. These efforts build on insights from the heuristic assessment, user analytics, and continuous feedback from Mission Cities, Mission Minded Cities, and other user groups such as the COP.

4.7.1 Secondary Research to Enhance User Experience

Planned Changes:

Continuous secondary research (Roach, 2024) is being conducted to benchmark the portal against recognised best practices in digital service design, review comparable sectoral platforms, and examine user-centred design patterns relevant to complex information environments. This occurs in this task and in related portal tasks, and will extend into SGA3-NZCT5.2.

Rationale and Expected UX Improvements:

This research ensures the portal remains aligned with usability standards and supports identifying opportunities to refine navigation, page structure, and content presentation. The findings will inform evidence-based design decisions that reduce friction within user journeys and enhance clarity across the interface.

Assessment Metrics:

- User behaviour indicators (e.g., time on page, bounce rates, scroll depth).
- Feedback obtained from targeted usability testing.
- Trends in user support queries that may signal persistent usability issues.

4.7.2 Learning Hub Development

As outlined in [SGA2-NZC D1.5](#), the value proposition of the Learning Hub (Figure 35) is to offer a combination of original content and curated materials linked to other sections of the Portal, positioning it as a central access point for educational and learning resources. Although primarily aimed at Mission-minded city users, the Learning Hub is open and suitable to a wide range of stakeholders (public administrators, researchers, civic organisations, policymakers, consultants, and change-makers).

This Learning Hub has been designed as a dedicated Portal space for hybrid learning opportunities, combining self-paced content and group learning experiences through topic-based learning and interactive visualisations, reflecting the range of city practitioners' real-world needs and learning patterns.

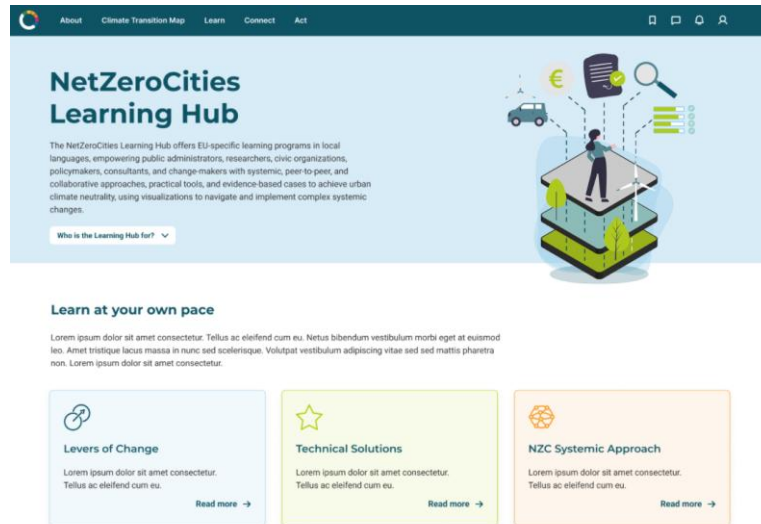


Figure 35: Learning Hub landing page (Under development)

4.7.3 Major Update to the Knowledge Repository (KR)

Planned Changes:

A comprehensive update to the Knowledge Repository is in progress, focusing on improved search functionality, more intuitive and standardised tagging structures, enhanced content organisation, and clearer pathways for exploration. The update will also include improved visibility of the breadth of available resources through curated collections, key links, and recent additions.

Rationale and Expected UX Improvements:

These improvements are intended to support more efficient information retrieval, reduce dependency on direct search terms, and increase the discoverability of under-utilised content. Enhanced tagging and filtering structures will help users more effectively locate relevant materials and gain a clearer understanding of the repository's scope.

Assessment Metrics:

- Alignment of tags to city-relevant language and international standards
- Increased utilisation of filters and tags.
- Higher search success rates and reduced zero-result queries.
- Changes in user satisfaction related to knowledge discovery.
- Higher engagement with curated resources.

Indicative Timeline:

Design is set to be handed over to developers for the beginning of 2026, followed by implementation in the following months. Metrics will be assessed after implementation to validate the success of the updates and tweak as needed.

4.7.4 Updates to community elements of the portal

Planned changes:

Updates are focusing on the community-related sections of the portal, specifically Groups, Events, and User Profiles. These updates are designed to enhance the overall user experience and improve consistency across the platform.

Rationale and Expected UX Improvements:

The changes are being driven by issues highlighted in the heuristic analysis, including:

- A lack of ability to easily contact other users.
- A lack of clarity regarding event start times.
- Difficulties with content and event shareability.

These actions will also ensure that the community spaces are brought into alignment with the portal's visual brand and consistent with the rest of the portal.

Assessment Metrics:

- Increased user contact through messages.
- Increased engagement with events (through sign-ups, event creation, etc.).
- Increased engagement with groups (through sign-ups, group creation, etc.).
- Increased attendance at events and a rise in group sign-ups.
- A measurable increase in messages and interactions between users.

Indicative Timeline:

Initial issues have been signalled through the undertaken Heuristic analysis, and draft wireframes have been created. It is anticipated that these additions to the portal will be handed over to developers in the first quarter of 2026, barring any delay.

4.7.5 Resolution of High-Impact Bugs and Performance Stabilisation

Planned Changes:

Ongoing technical work aims to resolve high-impact bugs, enhance overall platform stability, and optimise performance across core functionalities (See [Appendix A4](#)).

Rationale and Expected UX Improvements:

Stabilisation efforts are expected to reduce interruptions and foster greater confidence in the platform's reliability. These improvements directly support smoother onboarding, more efficient task completion, and reduced user frustration.

Assessment Metrics:

- Volume and severity of bug-related support tickets.
- Platform performance indicators, such as response and load times.
- Reduction in session terminations associated with errors.
- Patterns observed in helpdesk queries over time.

Indicative Timeline:

Performance improvements are ongoing, with declines in ticket volume already noted.

4.7.6 Other Ongoing Changes

- **Climate Transition Map:** a visually improved interactive version has already been created and will be integrated in the portal in early 2026.
- **Events (Directory, Individual, and Own Events):** The Events area shows inconsistent time formats, layout issues (cut images, misalignment), mismatched countdowns, and insufficient editing or exit options. A new enhanced format has been developed and will be live shortly.

5 Key Recommendations for future developments

Based on insights gathered from both quantitative and qualitative evaluations, this chapter outlines targeted recommendations to enhance the portal's overall user experience and usability. The recommendations span four key areas: improvements to portal navigation and heuristic performance; enhancements to accessibility and inclusive design; updates to analytics and performance monitoring; and a set of broader functional or interface refinements. To support effective implementation, each recommendation is categorised by priority level. High Priority items refer to issues that are critical to improving the portal's immediate performance, user comprehension, and workflow efficiency, whereas Medium to Long Term improvements address enhancements that are not urgent but remain essential for ensuring long-term stability, consistency, and a more robust user experience over time. Collectively, these recommendations form a coherent roadmap for elevating the portal's functionality, accessibility, and overall user satisfaction.

5.1 Recommendations for improving portal navigation

High Priority

- **Mobile device compatibility for multiple screen sizes and browser types:** As seen in [Section 3.1.2](#), several pages on the portal are not optimised for mobile devices. To address this, breakpoints (i.e., a specific screen width at which a website or application's layout changes to adapt to different devices and screen sizes, optimising the user experience) for all pages should be defined following industry standards (such as Google's [Material Design](#)). Existing and new pages on the portal should be tested across at least 3 aspect ratio categories:
 - **Smartphone:** 320 x 480; 393 x 852
 - **Tablet device:** 744 x 1133; 1024 x 768
 - **Laptops and Desktop devices:** 1028 x 832; 1727 x 1117

If any part of the website (such as the Barometer) cannot be fully responsive for smaller screen sizes, the user should be informed to use a desktop device to access such pages for the optimal user experience. It is recommended to follow responsive design standards (such as Material Design or similar) to ensure the UI on mobile devices remains intact in terms of the layout anatomy, grid and spacing.

- **Improving page loading speed:** Page loading speed continues to remain slow and fails core benchmarks (on Google's [PageSpeed Insights](#)), affecting the overall user experience (see [Section 3.1.2](#)) for both desktop and mobile devices. A technical audit to investigate the cause of persistent slow loading speeds is recommended, considering (but not limited to the following points):
 - **Caching effectiveness:**
 - Check for proper browser caching of static assets (images, CSS, JS).
 - Verify that server-side caching is active for frequently accessed pages.
 - Test whether repeated search results are being cached correctly.
 - **Media Optimisation:**
 - Check for oversized images, PDFs or media files.
 - Verify that images are served in next-gen formats (WebP, AVIF).
 - Test lazy-loading to ensure media loads only when needed.

- **JavaScript Loading Impact:**
 - Check for unused or heavy JavaScript that increases execution time.
 - Verify that scripts are minified and bundled.
 - Test deferring or asynchronously loading non-critical scripts.
- **Third-party script impact:**
 - Check for unused or legacy integrations.
 - Test loading third-party scripts asynchronously.
 - Verify whether heavy external tools can be replaced with lighter alternatives.
- **Multilingual support should be considered where relevant:** Depending on the portal's user base (see [Section 4.2.2](#) and [Section 1.2](#)), users should be able to switch between supported languages. Translated content should be professionally reviewed (if generated using AI) to ensure cultural and contextual accuracy. Language switching should remain persistent across pages, with no resets on navigation. Prioritisation of translations for resources should be done based on the most interacted resources as per the portal analytics dashboard (see [Section 4.2.1](#)). It's important to note character counts while designing for multiple languages because languages other than English may use additional characters, which need to be accounted for in the design of page layouts.
- **Enhancing search functionality and findability of resources on the portal:** The search functionality on the Knowledge Repository, which has been enhanced with Algolia's AI search integration, should be extended as a **global search** across the entire portal to enable users to search for any type of content across the platform. Furthermore, harnessing the usage data of city user type (i.e., Mission City and Mission Minded Cities), search recommendations should be provided to city users (e.g., "Most popular resources among Mission-minded Cities", or, Most searched terms drawing from Algolia's analytics dashboard).
- **Knowledge Repository:** The repository contains **formatting inconsistencies** (headings, tables, sources), **accessibility issues**, and **non-functional links or buttons**. It is recommended to **improve the layout of factsheets**, improve design elements, separate categorisation of format from content, improve **referencing formats**, and fix **accessibility problems**.
 - **Knowledge repository tags** are not consistently aligned with the content, reducing visibility to content that may be relevant to search queries.
- **Website-Portal Alignment:** The relationship between the main website and the portal is confusing for users, especially for **Mission-Minded Cities**. Certain information intended for these cities appears on the website without links to the portal, while some resources, such as publications, are hosted on the website rather than in the repository. It is recommended to clarify the **division of content between the website and portal**, **ensure consistent cross-linking**, and **centralise key materials** to improve navigation and user understanding.

Important Recommendations

- The **"visual case studies"** format is currently being used by partners for pages that are not actual case studies, because it offers a visual layout. This leads to misclassification and makes it difficult to distinguish genuine case studies from general content. It is recommended to **revise the template usage guidelines**, ensure **proper cataloguing of true case studies**, and **establish clear criteria** for when this format should or should not be used.
- The **Knowledge Repository** should also include a **search result sorting functionality** to allow users to sort search results based on "most recent" and "most relevant"

Medium to long-term improvements

- **User Directory:** The User Directory currently presents several usability issues, including **inconsistent tab order compared with other sections**, **limited filtering options** (such as missing tag or location filters), and **minor UX bugs** such as mis-ordered names, inadequate spacing, and non-functional clickable icons. It is recommended **to harmonise the tab order** with the rest of the platform, expand filtering options to include tags and location, resolve issues with icon behaviour, and **improve readability through better spacing and clearer labels**. Additionally, consider whether adding **brief explanatory descriptors for roles** such as city advisors and consortium members would support user understanding.
- **Email notifications to inactive users with integrated survey:** Following industry standards, if users remain inactive (i.e., do not log on to the portal) for an extended period of time (i.e., up to 4 weeks), an automated email communication should be sent out to them, suggesting new content and with an **integrated feedback** form inquiring about potential issues or reasons for their inactivity. The email should also contain links to customised resources based on the city user type, to encourage them to start reusing the portal.
- **Cities Directory & City Pages:** The cities directory and individual pages lack clarity for new users, particularly regarding terms such as “twin”, “pilot”, or “mission” cities. Additional issues include **duplicate city pages**, **missing key information** (mission label date, twin city partner, PCP status), and **inconsistent map views**. It is recommended to add **info icons/tooltips**, highlight **mission cities** through distinct map colours, **standardise and update** introductory and profile information, and improve **map defaults** and overall clarity.
- **Settings:** The Settings section includes **spelling mistakes**, **inconsistent button styles**, **unclear field limits**, and an **overly broad feedback form**. It is recommended to fix **typos**, unify **button design**, implement **character limits**, and expand the feedback form with **section-specific questions**.
- **Support Pathways:** Support Pathways pages show **placeholder text**, and **inconsistent vocabulary compared to the NetZeroCities theory or change and Transition map**. It is recommended to align with the upcoming learning hub and rather focus the pathways on user experience pathways (through and beyond the portal).
- **Contextual Help & Onboarding:** Introducing tooltips, inline guidance, and a first-time user walkthrough specifically for all tools to support learning and reduce dependence on external help resources.
- **Chat:** The chat feature presents issues with **limited chat management** (inability to **edit members**, **leave**, or **delete** conversations), **inconsistent behaviour** when navigating from existing chats, and **unclear terminology**. It is recommended to introduce **full chat management options**, improve **conversation detection** when originating from the user directory, clarify **naming conventions** (e.g., “discussion” vs. “conversation”), and fix **hyperlink formatting**.
- **Groups (Directory & Individual Pages):** The Groups section suffers from limited filtering, oversized profile images, no exit option, low-visibility private icons, unclickable tags, inconsistent spacing and fonts, and distracting video behaviour. It is recommended to enhance filtering, improve group management visibility, allow users to exit groups, and refine multimedia layout and behaviour.
- **Clear System Status Feedback:** Loading indicators, progress bars, and success/error notifications should be standardised to improve user experience in the sign-up flow and tools that require user input.

5.2 Recommendations for improving accessibility of the portal

High Priority

- **Colour Contrast:** All components should meet [WCAG 2.2 \(Level AA\) colour contrast requirements](#). Text, icons, and interactive elements across the portal frequently fall below required contrast thresholds. The design system should therefore adopt a revised colour palette, ensuring a **minimum ratio of 4.5:1 for body text and 3:1 for large text or non-text UI components**. Buttons, breadcrumb labels, sidebar elements, body copy and tab titles should be reviewed and updated accordingly. Please note that colours should also be colour-blind friendly following the WCAG “[use of colour](#)” standards.
- **Form elements should include semantic labels, accessible descriptions, and explicit error states:** Visible form labels and programmatic label associations should be used instead of placeholder-only text. Error messages should be positioned adjacent to the relevant field and include specific remediation guidance. Complex components such as date pickers, multi-select fields, and nested dropdowns **should include [ARIA roles](#) and [screen-reader-friendly descriptions](#)**. Changes to forms should be made to (1) Signup flow, (2) Knowledge Repository, (3) User Settings page, (4) User Feedback page and (5) search-filter navigation components across the platform, including groups, events, and NZC social feed.
- **Alt Text for Images and other graphical content:** The current version of the portal majorly lacks Alt Text to describe images for screen-readers and other assistive technology. First, images on (1) all pages linked in the “about” section of the [NZC website landing page](#) (2) Quick Reads should be addressed, as these pages have high visibility for all city users (new and existing). Incorporation of alt-text to resources, tools and other pages, including iFrames, should be planned based on the most interacted pages list to ensure accessibility to the majority of traffic on the portal.

Medium to Long-Term Improvements

- **Keyboard accessibility and focus management should be fully supported:** All interactive elements, including buttons, dropdowns, modals, and pagination controls, should be accessible via keyboard-only navigation. For this, it is recommended all clear, consistent focus indicators should be applied throughout the interface. Modal windows must properly trap focus and return focus to the original triggering element once closed, preventing navigation interruptions.
- **A dedicated accessibility settings panel should be introduced:** Users should have the ability to activate high-contrast themes, enlarge text, reduce animations, or use a dyslexia-friendly font. A toggle for keyboard navigation mode could enhance focus state visibility for users with motor or visual impairments.
- **A full WCAG 2.2 (Level AA) accessibility audit should be conducted:** In future rounds of the portal’s usability assessment, manual and automated testing should be completed using assistive technologies such as NVDA, VoiceOver, and JAWS. This process should evaluate ARIA landmarks, semantic HTML structure, logical reading order, and script-driven interactions. A formal remediation roadmap should follow the audit’s findings.
- **An accessibility guide and template for resource creation should be developed:** An easy-to-use guide and template for implementing accessibility for resources following WCAG 2.2 standards should be developed for the creation of all future resources.
- **Accessible alternatives for data visualisations should be developed:** AI could be deployed to provide for all charts and graphical elements, text-based summaries describing core insights.

Accessible data tables should be provided as equivalents for charts. Colour palettes used in visualisations should be made colour-blind friendly and tested for recognisability.

5.3 Recommendation for improving Portal analytics for continuous UX and usability evaluation

High Priority

- **Implementing the Comprehensive Portal KPIs Framework for continuous evaluation:** As noted in both the baseline evaluation conducted in January 2025 and the second continuous evaluation conducted in November 2025, most portal metrics **are currently not categorised by user types** (especially, the data on Resource use by Mission and Mission-minded Cities) and have an inconsistent level of granularity in terms of availability of the **data across multiple time-periods** (i.e., daily, weekly, monthly, yearly and all-time). The [comprehensive Portal KPI framework](#) has been developed to address these issues, and its **implementation needs to be prioritised for continuous UX assessment**. Moreover, all captured data on the portal's analytics dashboard needs to be made usable by **making all CSV files available and integrating interactive visualisations wherever missing**. These visualisations should be customisable as per the filters applied by consortium users (for example, filtering the indicator "Most Interacted Resources" by Mission-minded cities for a period of 6 months).
- **Monthly automated portal KPIs for consortium users and UX teams:** An automated report (as a spreadsheet) should be set up with all KPIs listed in the comprehensive indicator framework, including indicators from third-party analytics tools such as Hotjar, Fathom Analytics and Algolia to enable continuous and transparent evaluation by UX design teams and developers to identify and address key usability and UX issues.
- **Automated issue resolution status updates to reporters raising tickets on the platform:** As of November 2025, when an issue is reported using the integrated ticketing system on the portal, **the reporter is not informed about the status of progress made on the issue**. **Automated email notification should be sent** to the reporter not only at the time of creating the issue, but also when the issue has been **marked "as resolved"** by the development team, to help reporters track and test the changes in time.

Medium to long-term improvements

- **A unified analytics dashboard should be created for consortium users and UX teams:** After the implementation of the Comprehensive Portal KPIs Framework, it is recommended that all required KPIs be brought together in a centralised analytics dashboard, reducing the dependency on third-party integrations that affect the page loading time of the portal. Customised reporting templates based on industry benchmarks (such as Fathom Analytics or Google Analytics) should be followed to design and develop this integrated dashboard, ensuring flexibility in data analysis in terms of data filters, time-period filters, sorting functionality and interactive data visualisation features.
- **Centralised event logging and real-time user feedback collection should be implemented:** All significant user interactions, including failed actions, invalid form submissions, search queries, repeated attempts, and unexpected system responses, should be logged systematically. A real-time error monitoring tool (e.g., [Sentry](#) or equivalent) should allow rapid identification of bugs, system failures or UI issues.

On the other hand, real-time user feedback should be captured more frequently. While currently, Hotjar survey integrations serve this purpose to some extent on some portal pages, it does not sufficiently capture user satisfaction feedback across all user types. The user rating and feedback modal (currently hidden within the settings menu) should be made more visible to users to capture a larger volume of real-time user feedback categorised by user and issue types.

This feedback is necessary for planning continuous improvements to the user experience of the portal.

5.3.1 Proposed Comprehensive Portal KPI Framework

Building on the insights, key data issues identified from the baseline evaluation of quantitative metrics completed in January 2025, and industry best practices, a comprehensive framework of Key Performance Indicators (KPIs) has been developed to guide future assessments of the portal's user experience (UX) and usability (See [Appendix A1](#)). This framework not only consolidates all relevant indicators for usability evaluation but also defines each metric, specifies its units of measurement, and recommends an appropriate measurement frequency (daily, weekly, monthly, yearly, or all-time).

The proposed set of indicators extends the portal's existing KPI analytics architecture, addressing gaps in current metrics and incorporating additional analytics sources already integrated with the platform, including Hotjar, Fathom Analytics, and Algolia's search-query dashboard.

The primary aim of this expanded KPI framework is to enable continuous, granular monitoring of UX and usability, particularly across different user groups such as Mission Cities and Mission-minded Cities, and to equip consortium members with detailed and actionable usage insights to support the creation of pages, resources and tools on the portal. Furthermore, following industry best practices, the Comprehensive Portal KPI Framework is designed for **preparing automated reports**. When implemented, it can be regularly shared with consortium partners to assist their work on creating user-centric portal resources and tools.

6 Conclusion

This deliverable presents a baseline and a periodic evaluation framework for the user experience (UX) and usability of the Portal, keeping Mission-minded city users central to the analysis. The comparative assessment until November 2025 reveals a platform that is rapidly expanding in reach and relevance. The **user base has grown significantly by 32.21%**, reaching 7,975 users, with strong representation from the target audience of **430 Mission-minded Cities**. A critical indicator of success is the dramatic shift in user retention; **the ratio of new to returning users evolved from 60:40 in the baseline to 93:7** in the continuous evaluation, suggesting that the portal is transitioning from a **tool for initial discovery to a resource for continuous engagement**.

Despite these positive engagement trends, the qualitative and quantitative evaluations uncovered structural usability barriers that pose a **risk to limit the portal's long-term impact**. Technical performance remains a primary friction point, with **slow page loading times** consistently failing [Core Web Vitals benchmarks](#) and **contributing to user drop-off**. **Accessibility gaps** are evident, particularly regarding **colour contrast ratios** and **screen reader compatibility**, which currently fall short of [WCAG 2.1 \(Level AA\)](#) and **European Accessibility Act** standards. Furthermore, the platform remains largely **unoptimized for mobile devices**, evidenced by 93.4% of traffic relying on desktops and significant usability issues reported on smaller screens. Lastly, data gaps in the existing analytics framework remain a barrier to comprehensive UX evaluations at the granularity of user types (such as Mission-minded and Mission City users).

To address these challenges and sustain the portal's growth, this report recommends the implementation of a [Comprehensive Portal KPI Framework](#). This framework addresses current analytics gaps by enabling granular segmentation of data between Mission Cities and Mission-minded Cities and standardising reporting frequencies. Additionally, the report also highlights ongoing and implemented changes to the portal's UX to gauge how usability and UX issues have been tackled thus far. Finally, the deliverable contributes a list of Key recommendations for future development based on the actionable insights drawn from the comprehensive evaluations.

Key Recommendations for Future Development:

- Loading time



- **Mobile Optimisation:** Prioritise implementing responsive design standards (e.g., Material Design) and define specific breakpoints to ensure full functionality across smartphones and tablets.
- **Multilingual support** through AI translations
- **Technical Remediation:** Conduct a comprehensive technical audit to resolve page loading bottlenecks through caching strategies, media optimisation, and script minification.
- **Accessibility Compliance:** Revise the design system to meet WCAG 2.2 (Level AA) standards, specifically targeting colour contrast and semantic HTML structure to ensure inclusivity.
- **Enhanced Analytics:** Transition to a unified analytics dashboard that automates the reporting of the new comprehensive KPIs, providing transparency for consortium partners.

In conclusion, this deliverable has defined the evaluation strategy, identified critical data gaps, and provided a roadmap for remediation. These outcomes lay the necessary foundation for Deliverable D1.9 (due M48), which will report on the implementation of these recommendations and track the long-term performance of the portal against the baselines established herein.

AWAITING APPROVAL BY THE EUROPEAN COMMISSION

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Appendix

A1: Comprehensive Portal KPI Framework

It should be noted that this framework is based on the current requirements and industry best practices and should be reviewed and revised from time to time to include other metrics as necessary.

Evaluation Category	#	Metric [unit]	Definition	Daily	Weekly	Monthly	Yearly	All-time	Source	Comments on existing status of metric
Metric Category	S.no.	Name and unit of Metric	What is being measured?	Required but N/A	Not required	Available			Portal KPI Dashboard; Portal KPI Dashboard+; Hotjar; Fathom Analytics; Algolia	Note 1: Data is not available in Multiple Frequencies (Weekly, Monthly and Yearly). Note 2: CSV file and/or data visualisation is missing.
1. Existing User Data	1.1	Total Active Users [No.]	An active user is a user logging in every week						Portal KPI Dashboard	Note 1; Note 2
	1.2	Total Visitors	Visitors only counts logged in users						Portal KPI Dashboard	Note 1; Note 2
	1.3	Super Admin [No.]	Users with Super-admin access						Portal KPI Dashboard	Note 1; Note 2
	1.4	City Advisors [No.]	No. of City Advisor accounts						Portal KPI Dashboard	Note 1; Note 2
	1.5	Consortium Users [No.]	No. of Consortium Member accounts						Portal KPI Dashboard	Note 1; Note 2
	1.6	Public Authority Users [No.]	No. of Public Authority User accounts						Portal KPI Dashboard	Note 1; Note 2
	1.7	City Users [No.] (by Mission and Mission Minded City)	No. of City User Accounts						Portal KPI Dashboard	Note 1; Note 2
	1.8	CoP or Local Partners [No.]	Community of Practice users						Portal KPI Dashboard	Note 1; Note 2
	1.9	Simple Users [No.]	Any other type of user						Portal KPI Dashboard	Note 1; Note 2
2. New user Data (Sign-ups)	2.1	New Sign-ups [No.]	Total Number of new sign-ups						Portal KPI Dashboard	Monthly and Yearly totals can be derived from the CSV file
	2.2	[Proposed] Average daily sign-ups [No.]	Average number of new users signing-up on the portal daily						Portal KPI Dashboard+	Average daily sign-ups can be derived from the CSV file on a monthly and yearly basis
	2.3	Super Admin Sign ups [No.]	No. of Super Admin Profiles added						Portal KPI Dashboard	
	2.4	City Advisors Sign ups [No.]	No. of City Advisor Profiles added						Portal KPI Dashboard	
	2.5	Consortium Users Sign ups [No.]	No. of Consortium users added						Portal KPI Dashboard	
	2.6	Public Authority	No. of Public Authority Users added						Portal KPI Dashboard	

	Users Sign ups [No.]								
2.7	City Users Signups [No.] (by Mission and Mission Minded City)	No. of City Users added							Portal KPI Dashboard
2.8	CoP or Local Partners Signups [No.]	No. of CoP or Local Partner profiles added							Portal KPI Dashboard

3. Traffic Trend Data	3.1	New VS Returning Users	% of new VS returning users						Hotjar
	3.2	Total Number of Sessions [No.]	Total number of sessions						Hotjar
	3.3	Session Durations [Minutes]	Average length of user sessions [in minutes]						Hotjar, Fathom Analytics
	3.4	Device Split [%]	% Mobile Users; % Desktop Users						Hotjar, Fathom Analytics
	3.5	Browser Split [%]	What are the most popular internet browsers among users (Google Chrome; Safari)						Hotjar, Fathom Analytics
	3.6	OS Split [%]	What are the most popular OS among users (Ex.: Windows, MacOS)						Hotjar, Fathom Analytics
	3.7	Page Popularity [Page Names/ URLs]	Most Viewed (Top 5);						Hotjar
	3.8	Bounce Rates [%]	Sessions that begin and end on the same page of the site						Hotjar
	3.9	Site Loading Time [In Seconds]	The loading time of Pages in the portal						https://pagespeed.web.dev/
	3.10	Top Traffic Channels [Name of Traffic Channels]	Most frequent source of traffic (example google)						Hotjar, Fathom Analytics

The following indicators needs to be segregated by user types (1.1 to 1.9) where indicated with *

4. Resources Data	4.1	[Proposed] Total Resources [No.]	Total resources on the portal						Portal KPI Dashboard	Can be extracted from existing portal resources data
	4.2	Document [No.; %]	Number of document type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
	4.3	Visual Case Study [No.; %]	Number of Visual Case Study type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
	4.4	Climate City Contract [No.; %]	Number of Climate City Contract type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
	4.5	Video [No.; %]	Number of Video type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number

									of resources; Note 1; Note 2;
4.6	Method [No.;%]	Number of Method type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.7	Case Study [No.;%]	Number of Case Study type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.8	Canvas [No.;%]	Number of Canvas type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.9	Article [No.;%]	Number of Article type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.10	Factsheet [No.;%]	Number of Factsheet type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.11	[New] Document Genially [No.; %]	Number of Genially type resources						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.12	Resource Interactions [No; %]*	Most to least interacted resources in the portal						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
4.13	Resource Interactions (by Type) [Resource name with: No.; %]*	% of each resource type						Portal KPI Dashboard	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;

5.City/ Region/ Country	5.1	Most Active Cities/ Least active Cities [Name of city with no. of users and interactions]*	List of cities categorised in terms of the number of users and interactions					Portal KPI Dashboard	
	5.2	Top City Users [Name of cities with total number of users]*	Total number of users per city					Portal KPI Dashboard	
	5.3	Top Countries [Name and No. of Sessions (Hotjar) / % visitors (Fathom)]	Countries with the highest number of sessions and/or visitors					Hotjar, Fathom Analytics	

6. Active Groups	6.1	Private (Hidden) [No. and %]*	Number of Private (Hidden) Type Groups					Portal KPI Dashboard+	% missing in data but can be calculated from the total number
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										of resources; Note 1; Note 2;
	6.2	Private (Visible) [No. and %]*	Number of Private (Visible) Type Groups						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
	6.3	Public [No. and %]*	Number of Public Type Groups						Portal KPI Dashboard+	% missing in data but can be calculated from the total number of resources; Note 1; Note 2;
	6.5	Active Groups [Name of Groups with no. of users and interactions]*	Groups in terms of number of users and interactions						Portal KPI Dashboard	Note 1; Note 2;
7. Created Events										
	7.1	Number of Events [No.]	Number of events each month						Portal KPI Dashboard	Note 1; Note 2;
	7.2	[Proposed] Total number of Events [No.]	Total of all events created						Portal KPI Dashboard+	Note 1; Note 2;
8. Posts										
	8.1	Engagement Rate [%]*	Number of interactions (likes and comments) divided by its reach (users who can view the post).						Portal KPI Dashboard	Note 1; Note 2; Engagement rate not defined
	8.2	Feed General [No. and %]*	Number of General Feed Type Posts						Portal KPI Dashboard	Note 1; Note 2;
	8.3	Channel [No. and %]*	Number of Channel-related posts						Portal KPI Dashboard	Note 1; Note 2;
	8.4	Group [No. and %]*	Number of group-related posts						Portal KPI Dashboard	Note 1; Note 2;
	8.5	Event [No. and %]*	Number of Event-Related Posts						Portal KPI Dashboard	Note 1; Note 2;
9. Others										
	9.1	Tickets [No.; % resolved]	Number of Tickets created/ resolved						Portal KPI Dashboard	Note 1; Note 2;
	9.2	City advisors logged on once a week [No.]							Portal KPI Dashboard	Note 1; Note 2;
	9.3	User Ratings and Reviews survey	Integrated rating system to capture spot rating and reviews of the portal UX from users.						Hotjar and Portal KPI Dashboard	Rating surveys are available on Hotjar Analytics;
	9.4	Search Query Terms [Terms and frequency of Search]	All user search queries on the Knowledge Repository search function						Algolia's Integrated Dashboard	
	9.5	Search Click Position [%]	Click Position, a metric provided by Algolia, indicates the rank of the clicked search result; lower values signal that users are finding relevant results more quickly.						Algolia's Integrated Dashboard	
	9.6	Search Usage Metrics [No. and %]	This includes number of searches, click-through rates, conversion rates and no-click rates.						Algolia's Integrated Dashboard	

A2: All mission-minded city users on the portal (as of November 2025)

Name	Users	Country	Region/Continent	Interactions	Connections
Galway	8	Ireland	Northern Europe	1439	1170
Drammen	7	Norway	Northern Europe	476	623
Issy-les-Moulineaux	5	France	Western Europe	430	594
Rivne	8	Ukraine	Eastern Europe	427	794
Alba Iulia	9	Romania	Eastern Europe	426	695
Cologne	5	Germany	Central Europe	423	574
Belfast	4	UK	Northern Europe	415	543
Manchester	8	UK	Northern Europe	412	552
Viladecans	14	Spain	Southern Europe	408	689
Bruges	9	Belgium	Western Europe	408	564
Braga	8	Portugal	Southern Europe	408	550
Križevci	8	Croatia	Southern Europe	408	577
Uppsala	7	Sweden	Northern Europe	408	589
Bergen	6	Norway	Northern Europe	408	559
Penteli	5	Greece	Southern Europe	408	540
Wiesbaden	5	Germany	Central Europe	408	536
Augsburg	5	Germany	Central Europe	408	538
Alesund	5	Norway	Northern Europe	408	551
Lorqui	5	Spain	Southern Europe	407	537
Diyarbakır	5	Turkey	Eurasia (Turkiye)	89	44
Rimini	14	Italy	Southern Europe	17	43
Tønder	3	Denmark	Northern Europe	17	7
Eleşkirt	2	Turkey	Eurasia (Turkiye)	17	2
Nigrita	2	Greece	Southern Europe	15	6
Çorlu	2	Turkey	Eurasia (Turkiye)	13	5
Saint-Quentin	2	France	Western Europe	12	5
Manisa	9	Turkey	Eurasia (Turkiye)	11	93
Konya	7	Turkey	Eurasia (Turkiye)	9	138
Plymouth	7	UK	Northern Europe	8	31
Szeged	3	Hungary	Eastern Europe	8	5
Frankfurt/Main	5	Germany	Central Europe	7	74
Waterford	3	Ireland	Northern Europe	6	11
Sekondi-Takoradi	2	Ghana	Africa	6	1
Nusaybin	2	Turkey	Eurasia (Turkiye)	6	4
Kayseri	7	Turkey	Eurasia (Turkiye)	5	11
Pisa	3	Italy	Southern Europe	5	7
Truşeni	3	Moldova	Eastern Europe	5	34
Bonn	2	Germany	Central Europe	5	12

Scandicci	2	Italy	Southern Europe	5	2
Graz	4	Austria	Central Europe	4	10
Valongo	4	Portugal	Southern Europe	4	19
Niagara Falls	2	Canada	North America	4	5
Genova	6	Italy	Southern Europe	3	53
Treviso	5	Italy	Southern Europe	3	16
L'Aquila	4	Italy	Southern Europe	3	5
Arezzo	4	Italy	Southern Europe	3	10
Cesena	4	Italy	Southern Europe	3	31
Jyväskylä	3	Finland	Northern Europe	3	21
Lecce	3	Italy	Southern Europe	3	3
Savona	3	Italy	Southern Europe	3	3
Verona	3	Italy	Southern Europe	3	5
Artvin	3	Turkey	Eurasia (Turkiye)	3	5
Fort-de-France	2	France (Martinique)	North America	3	10
Chişinău	3	Moldova	Eastern Europe	2	38
Selçuk	2	Turkey	Eurasia (Turkiye)	2	1
Murcia	4	Spain	Southern Europe	1	5
Addis Ababa	2	Ethiopia	Africa	1	1
Aladağ	2	Turkey	Eurasia (Turkiye)	1	1
Acıpayam	2	Turkey	Eurasia (Turkiye)	1	4
Bursa	12	Turkey	Eurasia (Turkiye)	0	103
Ankara	10	Turkey	Eurasia (Turkiye)	0	62
London	10	UK	Northern Europe	0	35
Gaziantep	10	Turkey	Eurasia (Turkiye)	0	40
Eskisehir	8	Turkey	Eurasia (Turkiye)	0	26
Bilbao	8	Spain	Southern Europe	0	62
Split	7	Croatia	Southern Europe	0	28
Ghent	7	Belgium	Western Europe	0	11
Prague	7	Czechia	Eastern Europe	0	34
Strasbourg	7	France	Western Europe	0	19
Malaga	7	Spain	Southern Europe	0	63
Torres Vedras	6	Portugal	Southern Europe	0	38
Vila Franca de Xira	6	Portugal	Southern Europe	0	12
Schaerbeek	6	Belgium	Western Europe	0	21
Şanlıurfa	6	Turkey	Eurasia (Turkiye)	0	86
Esplugues de Llobregat	6	Spain	Southern Europe	0	15
Tallinn	5	Estonia	Northern Europe	0	45
Vari-Voula-Vouliagmeni	5	Greece	Southern Europe	0	23
Würzburg	5	Germany	Central Europe	0	11
Logroño	5	Spain	Southern Europe	0	25
Amstelveen	5	Netherlands	Western Europe	0	9
Balikesir	5	Turkey	Eurasia (Turkiye)	0	6

Larissa	5	Greece	Southern Europe	0	24
Sant Boi de Llobregat	5	Spain	Southern Europe	0	67
Sakarya	5	Turkey	Eurasia (Turkiye)	0	10
Karlıktepe	5	Turkey	Eurasia (Turkiye)	0	30
Braşov	5	Romania	Eastern Europe	0	12
Mardin	5	Turkey	Eurasia (Turkiye)	0	8
Assen	5	Netherlands	Western Europe	0	16
Helmond	4	Netherlands	Western Europe	0	8
Burgas	4	Bulgaria	Eastern Europe	0	11
Pisek	4	Czechia	Eastern Europe	0	16
Clermont-Ferrand	4	France	Western Europe	0	19
Mechelen	4	Belgium	Western Europe	0	13
Kardzali	4	Bulgaria	Eastern Europe	0	8
Vantaa	4	Finland	Northern Europe	0	70
Rennes	4	France	Western Europe	0	55
Egaleo	4	Greece	Southern Europe	0	16
Limerick	4	Ireland	Northern Europe	0	24
Trabzon	4	Turkey	Eurasia (Turkiye)	0	28
Cartagena	4	Spain	Southern Europe	0	3
Maribor	4	Slovenia	Southern Europe	0	5
Mudanya	4	Turkey	Eurasia (Turkiye)	0	7
Oeiras	4	Portugal	Southern Europe	0	86
Veszprém	4	Hungary	Eastern Europe	0	8
Torres Vedras	4	Portugal	Southern Europe	0	7
Antalya	4	Turkey	Eurasia (Turkiye)	0	5
Milton Keynes	4	UK	Northern Europe	0	13
Tekirdağ	4	Turkey	Eurasia (Turkiye)	0	11
Reggio Emilia	4	Italy	Southern Europe	0	4
Chiclana de la Frontera	4	Spain	Southern Europe	0	3
Fundão	3	Portugal	Southern Europe	0	26
Jerusalem	3	Israel	Asia	0	10
Matosinhos	3	Portugal	Southern Europe	0	7
Palaio Faliro	3	Greece	Southern Europe	0	12
Slavonski Brod	3	Croatia	Southern Europe	0	15
Roeselare	3	Belgium	Western Europe	0	2
Strovolos	3	Cyprus	Southern Europe	0	8
Lüneburg	3	Germany	Central Europe	0	4
Szombathely	3	Hungary	Eastern Europe	0	11
Constanta	3	Romania	Eastern Europe	0	3
Piatra Neamt	3	Romania	Eastern Europe	0	6
Izmit	3	Turkey	Eurasia (Turkiye)	0	3
Arnhem	3	Netherlands	Western Europe	0	8
Auckland	3	New Zealand	Oceania	0	2

Bodo	3	Norway	Northern Europe	0	2
Bremerhaven	3	Germany	Central Europe	0	3
Çorum	3	Turkey	Eurasia (Turkiye)	0	8
Debrecen	3	Hungary	Eastern Europe	0	22
Denizli	3	Turkey	Eurasia (Turkiye)	0	9
Edirne	3	Turkey	Eurasia (Turkiye)	0	2
Enschede	3	Netherlands	Western Europe	0	4
Gdańsk	3	Poland	Eastern Europe	0	3
Kaunas	3	Lithuania	Northern Europe	0	4
Konstanz	3	Germany	Central Europe	0	6
Kronoby	3	Finland	Northern Europe	0	7
Linz	3	Austria	Central Europe	0	8
Muğla	3	Turkey	Eurasia (Turkiye)	0	6
Ostend	3	Belgium	Western Europe	0	2
Ordu	3	Turkey	Eurasia (Turkiye)	0	4
Roubaix	3	France	Western Europe	0	2
Tokat	3	Turkey	Eurasia (Turkiye)	0	4
Viana do Castelo	3	Portugal	Southern Europe	0	2
Pamplona	3	Spain	Southern Europe	0	14
Kristiansand	3	Norway	Northern Europe	0	6
Tetovo	3	North Macedonia	Southern Europe	0	3
Fribourg	3	Switzerland	Central Europe	0	2
Cascais	3	Portugal	Southern Europe	0	3
City of Westminster	3	UK	Northern Europe	0	18
Sivas	3	Turkey	Eurasia (Turkiye)	0	7
Karaman	3	Turkey	Eurasia (Turkiye)	0	6
Jönköping	3	Sweden	Northern Europe	0	4
Varberg	3	Sweden	Northern Europe	0	3
Boyarka	3	Ukraine	Eastern Europe	0	2
Pristina	3	Kosovo	Southern Europe	0	6
Amersfoort	3	Netherlands	Western Europe	0	11
Malatya	3	Turkey	Eurasia (Turkiye)	0	2
Vaasa	3	Finland	Northern Europe	0	4
Mersin	3	Turkey	Eurasia (Turkiye)	0	17
Kifisia	3	Greece	Southern Europe	0	3
Marmaris	3	Turkey	Eurasia (Turkiye)	0	5
Jablonec nad Nisou	3	Czechia	Eastern Europe	0	3
Giresun	3	Turkey	Eurasia (Turkiye)	0	2
Metz	3	France	Western Europe	0	2
Fuenlabrada	3	Spain	Southern Europe	0	2
Funchal	3	Portugal	Southern Europe	0	1
Takoradi	3	Ghana	Africa	0	10
Lviv	3	Ukraine	Eastern Europe	0	7

Bandırma	3	Turkey	Eurasia (Turkiye)	0	55
Heraklion	3	Greece	Southern Europe	0	5
Leeuwarden	3	Netherlands	Western Europe	0	2
Vienna	3	Austria	Central Europe	0	4
Kathmandu	3	Nepal	Asia	0	0
Mainz	3	Germany	Central Europe	0	11
Erzurum	3	Turkey	Eurasia (Turkiye)	0	1
Kadıköy	3	Turkey	Eurasia (Turkiye)	0	6
Van	3	Turkey	Eurasia (Turkiye)	0	3
Vânju Mare	3	Romania	Eastern Europe	0	6
Hopa	3	Turkey	Eurasia (Turkiye)	0	5
Kızıltepe	3	Turkey	Eurasia (Turkiye)	0	1
Liège	3	Belgium	Western Europe	0	3
Innsbruck	3	Austria	Central Europe	0	7
Kharkiv	2	Ukraine	Eastern Europe	0	4
Luleå	2	Sweden	Northern Europe	0	1
Mytilene	2	Greece	Southern Europe	0	10
Westminster	2	UK	Northern Europe	0	4
Afyonkarahisar	2	Turkey	Eurasia (Turkiye)	0	1
Almada	2	Portugal	Southern Europe	0	10
Balsu	2	Turkey	Eurasia (Turkiye)	0	1
Belgrade	2	Serbia	Southern Europe	0	4
Bodrum	2	Turkey	Eurasia (Turkiye)	0	12
Câmara de Lobos	2	Portugal	Southern Europe	0	4
Çankaya	2	Turkey	Eurasia (Turkiye)	0	12
Cēsis	2	Latvia	Northern Europe	0	2
Coimbra	2	Portugal	Southern Europe	0	1
A Coruña	2	Spain	Southern Europe	0	1
Dan	2	Unknown	N/A	0	1
Dunaújváros	2	Hungary	Eastern Europe	0	2
Edinburgh	2	UK	Northern Europe	0	2
Elche	2	Spain	Southern Europe	0	1
Gibraltar	2	Gibraltar	Southern Europe	0	2
Görlitz	2	Germany	Central Europe	0	1
Granollers	2	Spain	Southern Europe	0	1
Helsingør	2	Denmark	Northern Europe	0	1
Herne	2	Germany	Central Europe	0	1
Hradec Kralove	2	Czechia	Eastern Europe	0	4
Ilkadam	2	Turkey	Eurasia (Turkiye)	0	2
Izola	2	Slovenia	Southern Europe	0	1
Kauniainen	2	Finland	Northern Europe	0	4
Târgu Secuiesc	2	Romania	Eastern Europe	0	7
Kiel	2	Germany	Central Europe	0	2

Konotop	2	Ukraine	Eastern Europe	0	11
La Ràpita	2	Spain	Southern Europe	0	3
Lagoa	2	Portugal	Southern Europe	0	1
Leeds	2	UK	Northern Europe	0	1
Le Mans	2	France	Western Europe	0	1
Lille	2	France	Western Europe	0	4
Lleida	2	Spain	Southern Europe	0	1
Mengíbar	2	Spain	Southern Europe	0	1
Merzifon	2	Turkey	Eurasia (Turkiye)	0	5
Mezitli	2	Turkey	Eurasia (Turkiye)	0	14
Miami-Dade	2	USA	North America	0	1
Puck	2	Poland	Eastern Europe	0	1
Nancy	2	France	Western Europe	0	2
Nicosia	2	Cyprus	Southern Europe	0	1
Nyborg	2	Denmark	Northern Europe	0	1
Pau	2	France	Western Europe	0	5
Peterborough	2	UK	Northern Europe	0	2
Plaine	2	France	Western Europe	0	2
Płock	2	Poland	Eastern Europe	0	1
Radom	2	Poland	Eastern Europe	0	1
Sandikli	2	Turkey	Eurasia (Turkiye)	0	1
Santa Perpètua de Mogoda	2	Spain	Southern Europe	0	3
Santander	2	Spain	Southern Europe	0	2
Serik	2	Turkey	Eurasia (Turkiye)	0	2
Slavutych	2	Ukraine	Eastern Europe	0	2
Stuttgart	2	Germany	Central Europe	0	1
Sunderland	2	UK	Northern Europe	0	2
Świdnica	2	Poland	Eastern Europe	0	1
Trenčín	2	Slovakia	Eastern Europe	0	1
Trollhättan	2	Sweden	Northern Europe	0	2
Üsküdar	2	Turkey	Eurasia (Turkiye)	0	0
Voznesens	2	Ukraine	Eastern Europe	0	1
Wuppertal	2	Germany	Central Europe	0	1
Jesenik	2	Czechia	Eastern Europe	0	1
Holbæk	2	Denmark	Northern Europe	0	9
Bois d'Arcy	2	France	Western Europe	0	2
Karlovac	2	Croatia	Southern Europe	0	2
Dos Hermanas	2	Spain	Southern Europe	0	6
Kruševac	2	Serbia	Southern Europe	0	1
Caen	2	France	Western Europe	0	1
Longmont	2	USA	North America	0	2
Erzincan	2	Turkey	Eurasia (Turkiye)	0	17
Navan	2	Ireland	Northern Europe	0	1

Mostar	2	Bosnia and Herzegovina	Southern Europe	0	1
Bournemouth, Christchurch and Poole	2	UK	Northern Europe	0	1
Santa Cruz	2	Spain	Southern Europe	0	1
Korosten'	2	Ukraine	Eastern Europe	0	0
Chortkiv	2	Ukraine	Eastern Europe	0	2
Slavuta	2	Ukraine	Eastern Europe	0	17
Karditsa	2	Greece	Southern Europe	0	9
Farkadona	2	Greece	Southern Europe	0	10
Kallithea	2	Greece	Southern Europe	0	2
Győr	2	Hungary	Eastern Europe	0	0
Las Rozas de Madrid	2	Spain	Southern Europe	0	4
Ilidža	2	Bosnia and Herzegovina	Southern Europe	0	1
Érd	2	Hungary	Eastern Europe	0	14
Las Palmas de Gran Canaria	2	Spain	Southern Europe	0	0
Maia	2	Portugal	Southern Europe	0	1
Saint-Germain-en-Laye	2	France	Western Europe	0	0
Vila Nova de Cerveira	2	Portugal	Southern Europe	0	1
Dunavitsi	2	Ukraine	Eastern Europe	0	4
Shepetivka	2	Ukraine	Eastern Europe	0	9
São Paulo	2	Brazil	South America	0	2
Râmnicu Vâlcea	2	Romania	Eastern Europe	0	2
Basel	2	Switzerland	Central Europe	0	1
Alexandroupoli	2	Greece	Southern Europe	0	8
Trinidad	2	Unknown	N/A	0	0
Essen	2	Germany	Central Europe	0	1
Başakşehir	2	Turkey	Eurasia (Turkiye)	0	0
Luján de Cuyo	2	Argentina	South America	0	1
Menemen	2	Turkey	Eurasia (Turkiye)	0	1
Poreč	2	Croatia	Southern Europe	0	0
Sheffield	2	UK	Northern Europe	0	1
Novara	2	Italy	Southern Europe	0	1
Belësh	2	Albania	Southern Europe	0	2
Ferlach	2	Austria	Central Europe	0	2
Veria	2	Greece	Southern Europe	0	1
Lörrach	2	Germany	Central Europe	0	1
Arachinovo	2	North Macedonia	Southern Europe	0	2
Turda	2	Romania	Eastern Europe	0	2
Santarem	2	Portugal	Southern Europe	0	1
Surabaya	2	Indonesia	Asia	0	2
Amasra	2	Turkey	Eurasia (Turkiye)	0	1
Çine	2	Turkey	Eurasia (Turkiye)	0	26
Tepebaşı	2	Turkey	Eurasia (Turkiye)	0	12

Kilis	2	Turkey	Eurasia (Turkiye)	0	1
Mexico City	2	Mexico	North America	0	1
Ahmetbey	2	Turkey	Eurasia (Turkiye)	0	2
Aalborg	2	Denmark	Northern Europe	0	3
Irbid	2	Jordan	Asia	0	3
Montegrotto Terme	2	Italy	Southern Europe	0	10
Rize	2	Turkey	Eurasia (Turkiye)	0	1
Gzira	2	Malta	Southern Europe	0	2
Küçükçekmece	2	Turkey	Eurasia (Turkiye)	0	4
Yalova	2	Turkey	Eurasia (Turkiye)	0	1
Kam'yanets'-Podil's'kyi	2	Ukraine	Eastern Europe	0	4
Çayırılı	2	Turkey	Eurasia (Turkiye)	0	2
Sandviken	2	Sweden	Northern Europe	0	2
Gisors	2	France	Western Europe	0	0
Rionegro	2	Colombia	South America	0	3
Riyadh	2	Saudi Arabia	Asia	0	1
Samsun	2	Turkey	Eurasia (Turkiye)	0	5
Tavşanlı	2	Turkey	Eurasia (Turkiye)	0	1
Chios	2	Greece	Southern Europe	0	2
Chalcis	2	Greece	Southern Europe	0	1
Catanzaro	2	Italy	Southern Europe	0	1
Kozyatyn	2	Ukraine	Eastern Europe	0	5
Poznań	2	Poland	Eastern Europe	0	11
Jakobsberg	2	Sweden	Northern Europe	0	2
Erenler	2	Turkey	Eurasia (Turkiye)	0	2
Galați	2	Romania	Eastern Europe	0	1
Kotka	2	Finland	Northern Europe	0	1
Dinar	2	Turkey	Eurasia (Turkiye)	0	3
Kralupy nad Vltavou	2	Czechia	Eastern Europe	0	1
Sineu	2	Spain	Southern Europe	0	1
Bad Schwalbach	2	Germany	Central Europe	0	0
Drama	2	Greece	Southern Europe	0	2
Gradiška	2	Bosnia and Herzegovina	Southern Europe	0	1
San Lucido	2	Italy	Southern Europe	0	2
Crispiano	2	Italy	Southern Europe	0	1
Nottingham	2	UK	Northern Europe	0	5
Rawalpindi	2	Pakistan	Asia	0	1
Janikowo	2	Poland	Eastern Europe	0	1
Bettembourg	2	Luxembourg	Western Europe	0	2
Campos	2	Unknown	N/A	0	1
Saray	2	Turkey	Eurasia (Turkiye)	0	3
Varto	2	Turkey	Eurasia (Turkiye)	0	1
Ponte de Sor	2	Portugal	Southern Europe	0	2

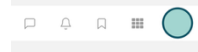
Vila do Bispo	2	Portugal	Southern Europe	0	1
Guarda	2	Portugal	Southern Europe	0	1
Prijedor	2	Bosnia and Herzegovina	Southern Europe	0	1
Medijana	2	Serbia	Southern Europe	0	2
Penafiel	2	Portugal	Southern Europe	0	5
Ddwaniro	2	Uganda	Africa	0	0
Sanga	2	Unknown	N/A	0	1
Tomar	2	Portugal	Southern Europe	0	0
Jakobstad	2	Finland	Northern Europe	0	1
Monza	2	Italy	Southern Europe	0	1
Drohobych	2	Ukraine	Eastern Europe	0	2
Kortrijk	2	Belgium	Western Europe	0	3
Mykolaiv	2	Ukraine	Eastern Europe	0	1
Habiganj	2	Bangladesh	Asia	0	1
Boden	2	Sweden	Northern Europe	0	2
Exeter	2	UK	Northern Europe	0	3
Tanahunsur	2	Nepal	Asia	0	0
Darmstadt	2	Germany	Central Europe	0	4
Piano di Sorrento	2	Italy	Southern Europe	0	4
Kokkola	2	Finland	Northern Europe	0	1
Urbino	2	Italy	Southern Europe	0	1
Kapaklı	2	Turkey	Eurasia (Turkiye)	0	6
Siverek	2	Turkey	Eurasia (Turkiye)	0	7
Hakkâri	2	Turkey	Eurasia (Turkiye)	0	1
Testour	2	Tunisia	Africa	0	12
Yenice	2	Turkey	Eurasia (Turkiye)	0	2
Lagny-sur-Marne	2	France	Western Europe	0	2
Bremen	2	Germany	Central Europe	0	1
Arnavutköy	2	Turkey	Eurasia (Turkiye)	0	0
Sydney	2	Australia	Oceania	0	2
Баштанка	2	Ukraine	Eastern Europe	0	2
Sintra	2	Portugal	Southern Europe	0	1
Castellón de la Plana	2	Spain	Southern Europe	0	2
Ústí nad Labem	2	Czechia	Eastern Europe	0	1
Manaus	2	Brazil	South America	0	0
Orvieto	2	Italy	Southern Europe	0	1
Busto Arsizio	2	Italy	Southern Europe	0	2
Egypt	2	Egypt	Africa	0	1
Leganés	2	Spain	Southern Europe	0	1
Santec	2	France	Western Europe	0	1
Cornellà de Llobregat	2	Spain	Southern Europe	0	1
Первомайск	2	Ukraine	Eastern Europe	0	2
Joensuu	2	Finland	Northern Europe	0	1




Altıntaş	2	Turkey	Eurasia (Turkiye)	0	1
Haarlem	2	Netherlands	Western Europe	0	1
Manresa	2	Spain	Southern Europe	0	2
Ula	2	Turkey	Eurasia (Turkiye)	0	1
Kaynarca	2	Turkey	Eurasia (Turkiye)	0	1
Burdur, Burdur Merkez	2	Turkey	Eurasia (Turkiye)	0	1
Anamur	2	Turkey	Eurasia (Turkiye)	0	2
Çayırova	2	Turkey	Eurasia (Turkiye)	0	1
Kepez/Çanakkale Merkez	2	Turkey	Eurasia (Turkiye)	0	1
Konak, Milas	2	Turkey	Eurasia (Turkiye)	0	7
Bornova, Kızılay, Bornova	2	Turkey	Eurasia (Turkiye)	0	2
Memphis	2	USA	North America	0	1
Kahramankazan	2	Turkey	Eurasia (Turkiye)	0	2
Mantova	2	Italy	Southern Europe	0	2
Orsay	2	France	Western Europe	0	1
Pavia	2	Italy	Southern Europe	0	2
Çiğli, Dulkadiroğlu	2	Turkey	Eurasia (Turkiye)	0	1
Liverpool	2	UK	Northern Europe	0	1
Nilüfer, Nilüferköy, Osmangazi	2	Turkey	Eurasia (Turkiye)	0	3
Fındıklı	2	Turkey	Eurasia (Turkiye)	0	2
Çeşme, Ovacık, Çeşme	2	Turkey	Eurasia (Turkiye)	0	2
Sivrihisar	2	Turkey	Eurasia (Turkiye)	0	2
Emirler, Yenişehir	2	Turkey	Eurasia (Turkiye)	0	1
Kecskemét	2	Hungary	Eastern Europe	0	3
Bydgoszcz	2	Poland	Eastern Europe	0	7
Teslic	2	Bosnia and Herzegovina	Southern Europe	0	21
Oman	2	Jordan	Asia	0	1
Rethymnon	2	Greece	Southern Europe	0	1
Gondomar	2	Portugal	Southern Europe	0	1
Bilhorod-Dnistrovskiy	2	Ukraine	Eastern Europe	0	1
Berlin	2	Germany	Central Europe	0	5
Mollet del Vallès	2	Spain	Southern Europe	0	3
Almería	2	Spain	Southern Europe	0	1
Zonguldak, Zonguldak Merkez	2	Turkey	Eurasia (Turkiye)	0	2
Reggio Calabria	2	Italy	Southern Europe	0	1
Hengelo	2	Netherlands	Western Europe	0	0
Vinnytsia	2	Ukraine	Eastern Europe	0	2
Jašiūnų sen.	2	Lithuania	Northern Europe	0	1
Shtip	2	North Macedonia	Southern Europe	0	1
Freiburg im Breisgau	2	Germany	Central Europe	0	0
Or Yehuda	1	Israel	Asia	0	0
Oulu	1	Finland	Northern Europe	0	0

Soria	1	Spain	Southern Europe	0	0
Sakarya Province	1	Turkey	Eurasia (Turkiye)	0	0
Santa Cruz de Tenerife	1	Spain	Southern Europe	0	0
Hertogenbosch	1	Netherlands	Western Europe	0	0
Missolonghi	1	Greece	Southern Europe	0	0
Santa Cruz de Tenerife	1	Spain	Southern Europe	0	0

Please note that some city data may be incomplete, as the data is user-sourced


A3: Implemented Changes to the portal's UX

Element	Image	Initial State	User Knowledge	UX/UI analysis	Changes actioned in the updated homepage
Navigation Bar		Link to messages, notifications, bookmarked resources, menu and user profile	<p>High engagement with menu icon tracked through Hotjar, to be expected but an interesting contrast to the navigation that could occur through other elements on the homepage.</p> <p>Work undertaken previously into the navigation of the portal found test participants struggled to find resources or complete tasks across the portal based on the current navigational structure.</p> <p>User interviews cited easy access to resources and clear pathways as significant.</p> <p>Challenges noted with the reliability of the notification and message functionality on the portal. If the portal aims to act as a place for communication and community addressing these technical challenges are key.</p>	<p>An updated menu and navigational structure lays the groundwork for more focused user research and understanding of distinct user journeys happening in parallel.</p> <p>The current menu icon is not universally recognised and may cause confusion.</p> <p>Many of the navigable items within the menu lack proper context and may create inconsistent experiences for users out of line with their expectations.</p>	Updated menu structure built between SGA2-NZC T13. And SGA-NZC T5.2

<p>Introduction panel</p>		<p>Contains static image of user icon (in duplicate with other areas on the homepage)</p> <p>Link to settings</p> <p>Link to onboarding function</p> <p>Background image</p>	<p>Some engagement noted through Hotjar but not comparable to the main engagement avenues (navigation, notifications and NZC logo)</p>	<p>With clear navigation these elements need not be repeated on the homepage.</p> <p>The white text in this feature does not meet AAA accessibility standards</p>	<p>Link for settings and onboarding module moved into updated main navigation menu of the portal.</p>
<p>Events Calendar</p>		<p>Monthly calendar without heading, past events highlighted in grey, upcoming events shown in aqua</p> <p>Ability to navigate forwards and backwards by month</p> <p>Ability to create events on days that aren't prepopulated.</p>	<p>Advised within consortium that most event sign ups occur in the 10 days leading up to the event and are most successful when coupled with promotion through specific groups or other channels (i.e. email)</p> <p>Hotjar user insights show low engagement with this feature on the homepage</p> <p>Participants in the Covenant of Mayors user testing sessions supported future state proposal</p>	<p>The lack of heading to contextualise the element as an upcoming event feature does not enable accessible navigation. Colour and contrast not sufficient for accessible and vision impaired design.</p> <p>The use of a calendar in this way places greater emphasis on the timing of events, rendering their content a secondary element.</p>	<p>Calendar replaced with upcoming event function highlighting the details and content of events.</p> <p>Focus on content of the event.</p> <p>Link to main events page is still available for clear navigation</p>
<p>Climate Transition Map & CCC highlight</p>		<p>Static Image of Climate transition map and link to main Climate Transition Map page.</p>	<p>Low engagement with this avenue to the Climate Transition Map noted through Hotjar insights.</p> <p>Interviews with City advisors highlight some challenges faced by cities navigating and understanding the CTM.</p> <p>Work to make this element more accessible for different city users is a key piece of design work to come.</p> <p>Participants at the Covenant of Mayors Session favoured a more expanded view of the Climate Transition Map and its position to</p>	<p>"Find your starting point on the interactive Climate Transition Map and click to learn more" may create a perceived affordance in users that the segment which you select when navigating the the main CTM page will remain the highlighted area - in actuality you are redirected to another intro page and from there asked to make a decision about which area of the Map you would like to know more about.</p> <p>Current scale not conducive with high visual accessibility.</p>	<p>CTM made more prominent in the homepage. Work to update the format and content paused.</p> <p>Link to main CTM page maintained</p>

			better connect users to resources, tools, and facilitate appropriate connections.		
Social Feed		Publish function and feed of recent posts (amalgamation of portal wide and group posts)	<p>Hotjar insights show minimal engagement with the main social feed on the homepage and a very low scroll rate on the homepage. Users are unlikely to scroll at all below the digital fold of the user interface.</p> <p>Posts are not very consistent, receive low engagement and there is strong consortium presence activating the space.</p> <p>Covenant of Mayors participants shared that the social feed was not something that was a key priority for them, they were more interested in navigating to insights and resources.</p> <p>Participants in user interviews have highlighted the power of learning from others and the significance of connection, while these views may seem to contradict the insights shared by CoM session attendees it can be considered that the social feed is not the most appropriate way to drive connection on the portal.</p>	<p>There is no clear call to action for the social feed. Prompting language like 'share something about you...' for the publish function may not be specific enough to create a community space with clear vision, expectations and engagement.</p> <p>The social feed prioritises 'liking' posts over substantial engagement with them like commenting.</p> <p>Some accessibility pain points (low contrast text and sub optimal text sizes)</p>	<p>Main social feed moved to own 'community page'.</p> <p>Highlight of the most recent post present in homepage with a link to see all posts. Expanded user research proposed related to activating community. Community elements of the portal under design exploration within this task and T1.2.2 occurring as at July 2025.</p>

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<p>Suggested Users and groups</p>	<p><i>Note: Suggested user function currently inoperable, reason unknown</i></p> 	<p>Features which show a selection of users and groups suggested to an individual user based on their selection of "fields of interest" (currently only accessible through settings, not included in the creation flow of a user account).</p>	<p>Low engagement with these functions tracked through Hotjar.</p> <p>During user interviews it was consistently highlighted that city users struggle with collaboration across siloed areas within a municipality or nationally (including in the face of changing political mandates and challenges retaining skilled resources).</p> <p>MMCs highlight networking with like minded cities as the second most valuable benefit of engaging in international initiatives (NMC needs assessment survey).</p>	<p>Trust between user and platform may suffer when users are presented with features that claim to be user specific but are not seen as relevant by the end user. Tailoring in the portal is significant and nuance has been a key thread throughout user interviews and past research undertaken into experience but the current offering does not facilitate this well.</p> <p>Accessibility challenges with the light teal on white text.</p> <p>Exploration needed into the right level of information and the metadata associated with groups and users to inspire users to connect/ join.</p>	<p>We propose an intermediate state of a direct link prioritised at the top of the homepage to groups and users more substantively while work is done to understand the right threads to pull to meaningful suggestions to users about people they may like to interact with and groups that may be beneficial for them to join.</p>
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A4: On-going and Planned Portal Improvements

Portal section	Subsection	Observation	Possible solution	Category	Subcategory	Priority	Status
User directory	User directory	In the events and groups directory pages, the first tab is "All ..." In the user directory is the opposite; you first have the different categories like "City officers" and "Public authority users" and at the end it shows the "All users" tab	Following the same order across categories	Heuristics	Consistency & Standards	Low	Community
User directory	User directory	The terms used in all tabs are known by most users of the portal. However, it could be helpful to have a brief description of each user category as a note at the start of the page.	For example: add an "i" icon/button with extra information to help the user remember key definitions	Heuristics	Recognition	Low	Community
User directory	User directory	Users are shown in alphabetical order. However, on the "Local partners" tab the first user does not fit the order.		Heuristics	Aesthetic	Low	Pending
Chat	Chat	I am not able to edit the members of the conversation, leave a chat, or delete it. Options are not available for this.		Accessibility	Bugs	Average	SENT AS BUG
Cities	Cities directory	The zoom out on the map is unlimited and creates a wrong view		Bugs	Bugs	Average	SENT AS BUG

Climate Transition Map	Climate Transition Map	The "Investment Plan" and "CCC" sections have titles on CAPITAL LETTERS	Changing the format	Heuristics	Consistency & Standards	Low	SENT AS BUG
Climate Transition Map	Climate Transition Map	Climate Transition Map not clickable from the menu		Bugs	Bugs	Average	SENT AS BUG
Events	Events directory	In the "My next events" tab, when there are no events on agenda the default text says "You have no event"	Replacing with "You have no events" or "You don't have any schedule events"	Bugs	Bugs	Low	SENT AS BUG
User directory	User directory	It is only possible to filter users by the different tabs, like city officers or local partners.	It would be interesting to filter users by their tags or location, since that type of information is sometimes available	Heuristics	Flexibility & Efficiency	Low	Community
Groups	Groups directory	In the overview page, some groups have selected pictures with text, but the picture is not well-fitted. It is not possible to read the text since it's cut and it is a bit distracting. Example: CoP NetZeroCities Community of Practice	Option to add a border or scale the picture in order to fit the scale	Heuristics	Aesthetic	Low	Pending
Groups	Groups directory	It is only possible to filter the groups by the tags/topic. This is limiting.	Enabling filtering by most recent activity, or #members	Heuristics	Flexibility & Efficiency	Average	Community
Groups	Groups directory	When clicking "My groups" I can't see in which ones I am the admin	Would be interesting to add this feature, making it easier for admins to spot the groups they manage.	Heuristics	Recognition	Average	Internal discussion
Events	Individual Event page	The date of the event and the "Starts in XX hours" do not match the present time.		Bugs	Bugs	High	Pending
Groups	Groups directory	There is a lock icon on the private groups overview page, but it is sometimes not visible because of the background photo.	Making the icon more visible	Heuristics	Aesthetic	Low	Internal discussion
Groups	Individual group page	There is no option to exit a group	Enabling this option by adding a button	Heuristics	User control	High	Internal discussion
Groups	Individual group page	The tags that are used for filtering appear in the individual page of each group, however, they are not clickable.	Good opportunity to make them clickable and then go back to the overview page and have it filtered by that tag. But evaluate if this is a priority.	Heuristics	Consistency & Standards	Average	Community
Groups	Individual group page	Some posts have likes, but as a participant is not possible to see who has liked these posts. This could be important considering that it allows to see who is more active .	Usually in other pages you are able to put your mouse on top of the heart (not clicking) and see who liked it, if you click the heart then you like the post. Maybe we could implement something similar.	Heuristics	Consistency & Standards	Low	Internal discussion
Groups	Individual group page	On a post, when you click on the message or heart icon, they stay highlighted. Forces you to click again on an empty space so that it is not highlighted anymore.		Heuristics	Status	Low	Update: Happens also on Explorer
Groups	Individual group page	Photos and video section in the feed has three dots on the side. These dots allow to check the full amount of videos/photos. If you don't click the dots you don't think that there are more videos/pictures. Since photos show 6 boxes, and video shows 3	Replacing the three dots directly with the 'View all videos/pictures' button.	Heuristics	Flexibility & Efficiency	Low	Internal discussion

		boxes, that might also give the impression that there are fewer videos.					
Groups	Individual group page	When clicking the photos or videos, there is no access to their related post in order to get context.	Enabling that once you click the video/photo, you can see a header/footer with the title of the post, if you click the title, then it can take you to the original post.	Heuristics	Recognition	High	Internal discussion
Groups	Individual group page	It seems like we are using the same font for the subtitle and group description. The space above and below the tag block is also a bit reduced in comparison with the rest of paragraph spacings in the page	Making the subtitle cursive or in a bigger font could help differentiate the levels of information. INcrease the spacing before and after tags	Heuristics	Aesthetic	Low	Internal discussion
Groups	Individual group page	The Members tab of the individual group page has a bigger spacing than the rest of the tabs.	Standardize across all tabs: feed, files, media, members	Heuristics	Aesthetic	Low	Community
Groups	Individual group page	In the members tab, it is only possible to filter members by one filter at a time	Enabling multiple filtering through a check format. If needed.	Heuristics	Flexibility & Efficiency	Average	Internal discussion
Groups	Individual group page	The channels section in the feed does not stand out. Font is too light in comparison to other sections.	Changing the font to a darker color. Maybe exchanging position with calendar.	Heuristics	Aesthetic	Low	Community
Groups	Individual group page	Members tab in the Channels do not show the members. Probably because they are repeted in the main group page.	Deleting the members tab if there will be no information included.	Bugs	Bugs	Average	Community
Events	Individual Event page	"Starts in XX" on the overview page does not match the "XX days left..." on the individual page of the event. Happens with all the events, and its always off by one day.	Matching the days could make it less confussing	Bugs	Bugs	High	SENT AS BUG
Groups	Individual group page	Channels in a group will only appear after you have joined. This causes some confusion of where to find the channels section before you join the group.	Adding a pop up text (or an 'i') next to the '#channels' mentioning that they will become visible once you join the group	Heuristics	Diagnose erros	Average	Community
Groups	Individual group page	The Files tab only shows the ones that have been directly uploaded. If you include a file in your post does it go there as well?		Content	Content	Average	Internal discussion
Groups	Individual group page	The calendar icon in posts that is accompanied by the name of the group is a bit confusing and repetitive, since you are already on the group page.	Changing to an icon that better represents people	Heuristics	Real world	Average	Internal discussion
Events	Own event	When creating the description or details of the event, the bullet points can be used but are later not seen in the feed.		Bugs	Bugs	Average	Pending
Groups	Individual group page	Community posts have more options in comparison to group options/complementary tools. Such as tags, media and link.	Standardizing same amount of 'add ins' for community and group posts.	Heuristics	Flexibility & Efficiency	Low	Pending
Groups	Groups directory	If you want to preview a private group you get the following Warning message: "You must join the channel to access it". Using the word channel can be confussing considering that is also a feature of the group.	Changing the text to 'This is a private group, you must join to access its content'	Heuristics	Consistency & Standards	High	SENT AS BUG
Groups	Own group page	When creating a group page or a channel, it is not possible to go back from step 2 to step 1	Merging step 1 and 2, since step 1 is usually just an introduction.	Heuristics	User control	Low	Community

Groups	Own group page	When creating a group page, step 1 indicates: "Welcome to the creation of a new group! To start, please enter a group title and description by clicking directly on them". The phrase "By clicking directly on them" is a bit confusing.		Heuristics	Real world	Average	Pending
Groups	Own group page	Buttons across pages have different colors. Just by creating a new group you can spot some differences. For example: Create a new group, next, continue, next, upload a cover picture, etc.		Heuristics	Consistency & Standards	Low	Internal discussion
Groups	Own group page	Delete group button does not follow usual format	Changing to button format, by adding a frame	Heuristics	Consistency & Standards	Low	Pending
Groups	Own group page	In the members tab in your own group, you see a button that changes the view to 'member management'. There is no way of knowing this unless you click it.	If you pass your mouse on top of the icon maybe it could pop up the default name of the button.	Heuristics	Recognition	Low	Pending
Groups	Own group page	How to invite members to your group as an admin is not working properly. Search tool by name to invite members not working properly. Ex, Write Emma, not all results shown		Bugs	Bugs	Average	Community
Groups	Own group page	Invite members to your group. If you search by organization, everyone is automatically selected.	Change to check format	Heuristics	Flexibility & Efficiency	Low	Pending
Groups	Groups directory	In the main page, when you click your personal icon and then go to "My groups", it takes you to the incorrect tab: "All Groups".		Bugs	Bugs	Average	SENT AS BUG
Groups	Own group page	In the tips section of your own page (admin), once you click a resource, a text pop up and a video plays automatically. There is no way to pause the video so if you miss a detail just have to wait till it restarts. E.g., tip for channels		Heuristics	Flexibility & Efficiency	Low	Pending
Groups	Own group page	In the tips section of your own page (admin), once you click a resource, a new page opens. A double scrolling bar appears and makes the scrolling a bit uncomfortable/confusing	Keeping only the scrolling bar of the pop up.	Heuristics	Aesthetic	Low	Pending
Groups	Own group page	In the tips section of your own page (admin), once you click a resource, a new page opens. In the channel tip page, visualization and scrolling is confusing.		Bugs	Bugs	Low	Pending
Groups	Individual group page	Media videos keep popping and are distracting	Once you have watched it it should stop	Heuristics	Aesthetic	Average	Internal discussion
Events	Events directory	In the overview page, some events have selected pictures with text, but the picture is not well-fitted. It is not possible to read the text since it's cut and it is a bit distracting. Example: Accelerare la risposta delle città italiane alla crisi climatica	Option to add a border or scale the picture in order to fit the scale	Heuristics	Aesthetic	Low	Pending
Events	Events directory	Duration of the events are showed by minutes and days. When in minutes, sometimes the numbers are too high, like 540 minutes, which makes it hard to estimate the event duration	Also including an hour timer for the duration.	Heuristics	Real world	Average	Pending
Events	Events directory	Time for the event to happen have extensive numbers like "Starts in 175 days", "Ended 1079 days ago"	Expressing time in months as well, when needed. For example, when the number of days exceeds a month or two.	Heuristics	Real world	Average	Pending
Events	Events directory	In the description of each event, the text sometimes starts after a space/tab	Standardizing the spacing of the text	Heuristics	Aesthetic	Low	Internal discussion

Groups	Individual group page	When clicking the name of the group in each post (see G.20), you get an error. This happens for different pages. It gives the option to 'Go back', but instead of getting back to the group page, it sends you to the community Spaces		Bugs	Bugs	High	SENT AS BUG
Events	Individual Event page	On the individual page of each event, there is a calendar icon and a text "Schedueled on 0"		Bugs	Bugs	High	Community
Events	Individual Event page	When an event lasts more than a day, you can see "From XX XX XXXX to XX XX XXXX"	Adding a "/" or "-" on the dates.	Heuristics	Real world	Average	Community
Events	Individual Event page	If there are 0 days left before the start of the event, text shows "0 left before the start of the event"	Replacing with "0 days left before the start of the event"	Bugs	Bugs	Average	Community
Groups	Individual group page	Time of posting seems to be only updating on the minute count, not by the hour—similar situation in the events posts.	Check both image examples.	Bugs	Bugs	High	SENT AS BUG
Groups	Own group page	If you update the title of your own group it gets saved and you can see it in the feed, but the URL remains with the original name		Bugs	Bugs	Average	SENT AS BUG
Events	Individual Event page	On the page of each group the headline for the description is "Details", but it has the same format as the description text	Changing "Description" to a bold format so that it is clear that its a headline/title or just deleting the header, since it is clear that the following text is the description of the event	Heuristics	Asthetic	Average	Pending
Events	Individual Event page	There is no option to leave an event you just joined	Adding a button to exit the event	Heuristics	User control	High	Community
Events	Own event	Is there a way to invite members to the created event? There is an option in the 'Settings' tab that indicates: "Invite all group members to participate at this event." This is not very clear, does it mean that you can only invite members of your own groups, the user gets to select between them?		Heuristics	Flexibility & Efficiency	High	Internal discussion
Events	Own event	When creating an event. It is not possible to go back from step 2 to step 1.		Heuristics	User control	Low	Pending
Knowledge repository	Focus on	Focus on Policy and Partnerships: The image is clickable but leads to a Not found page. However the correct URL is already linked to the "Relationship map (Kumu)" text	Remove the URL from the picture	Bugs	Bugs	Low	SENT AS BUG
Events	Own event	When deleting a post I made in my own event it seems to be gone. But after reloading the page it reappears		Bugs	Bugs	High	Pending
Climate Transition Map	Climate Transition Map	It is clear from the "Climate Transition Map" menu what the order should be to read the process of the Map: 1. Build a strong mandate, 2. Understand the system... etc. However, there is no guidance for the rest of the map. The menu does not show the rest of the steps.	Recommend the path that the map should be read. Where to start so that it does not turn confusing. For example, should a user start reading from inside and then go to the outer sections	Heuristics	Help and documentation	Average	Internal discussion
Climate Transition Map	Climate Transition Map	It would be useful to have some additional examples of the cities that are in the different steps of the map		Content	Content	Low	Pending
Climate Transition Map	Climate Transition Map	"Investment plan", "action plan", "2030 climate commitments" and "CCC" all have the same introduction content about "Climate City Contract (Overview)". Makes it repetitive.	Evaluating if this content is really needed in each tab	Content	Content	Average	Pending

Climate Transition Map	Climate Transition Map	"CCC" section has repetitive content with the resource pack	Keeping the content in the resource pack and delete from the overview	Content	Content	Average	Pending
Climate Transition Map	Climate Transition Map	The charts have a slight similar format to the buttons across the pages, so it might generate confusion		Heuristics	Consistency & Standards	Low	Pending
Cities	Cities directory	For a first time user of the page it might not be clear the definition of Twin cities, Pilot, Mission, etc. Also important to understand if all pilot cities are mission cities etc.	For example: add an "i" icon/button with extra information to help the user remember key definitions	Heuristics	Recognition	Average	Community
Cities	Cities directory	Cities with collage pictures disrupt a bit the aesthetic	Not at all a priority, but wondering if there is a way to suggest them not to	Heuristics	Aesthetic	Low	Pending
Cities	Cities directory	Map in the "All cities" Tab shows all cities in blue. Is it possible to add different color for mission cities?	Add a different color just for mission cities, maybe change the pattern for pilots or twin cities.	Heuristics	Flexibility & Efficiency	Low	Pending
Cities	Cities directory	Some cities have created two pages (duplicates)		Content	Content	Average	Pending
Cities	Cities directory	Default map view (figure 1) does not cover the full extent of cities locations (figure 2)	Making Figure 2 the default view could be an option, but I understand the focus is Europe	Content	Content	Average	Pending
Settings	Help	Update the term "Other City" to Mission minded (when needed)		Bugs	Bugs	Low	Pending
Cities	Individual city page	The content of the "Description and feed" tab varies a lot, some cities have no information, others extract general info from wikipedia and others have a description of their CCC or Pilot project.	At least, mission, pilots and twin cities should have a description.	Content	Content	Average	Pending
Cities	Individual city page	Mission cities don't have a direct access to their CCC in their description, unless the cities have mentioned it as a link	Adding a button to redirect to their CCC	Content	Content	Average	Pending
Cities	Individual city page	Pilot cities don't have a direct access to their PCP description. Sometimes they don't even mention they have a pilot.	Adding a button to redirect to the respective PCP link https://netzerocities.eu/pilot-cities-cohort-1-2022/	Content	Content	Average	Pending
Cities	Individual city page	Cities groups: The Default text says "The city has not yet created a group". This seems to be the common case across cities. Is there any case where the city has created a group?	If it is not common for cities to create groups, perhaps consider to adapt this section of the page	Heuristics	Error prevention	Low	Internal discussion
Cities	Individual city page	Some cities, like Alesund, have a title but no actual text description. Others, like Amersfoort, have no text at all.	When no text or description is available, maybe a message that says the information has not been provided yet can be included	Heuristics	Status	Low	Pending
Cities	Individual city page	Missing introduction information on key aspects: when they joined the mission, when they got their EU mission label, when they started their pilot and the name of the pilot. For twin cities, what is their respective twin.	Adding a section with key information	Content	Content	Average	Pending
Chat	Chat	On the conversation title, it says "participants names if empty", it might generate confusion and make the users think the section can be used to introduce the participants names.	Add spacing between the conversation title and the "Add members" section. "Conversation title" could now go inside the bar	Heuristics	Consistency & Standards	Low	Internal discussion

			space as "Add conversation title"				
Settings	Settings	Fields of interest: In the 'Fields of interest' description there is a typing mistake.	Joining both sentences and replacing '= ' with a comma	Bugs	Bugs	Low	SENT AS BUG
Chat	Chat	Even tho I have two conversations with the same user, when clicking the user, it says: "No discussion exists with User. Do you want to create one?" If you click yes, nothing happens. Also, the word "discussion" refers to the same as "conversation"?		Bugs	Bugs	High	Community
Chat	Chat	Inserting a URL in the message linked to a text is not working properly.		Bugs	Bugs	Average	Community
Settings	Settings	Fields of interest: When saving your fields of interest, there is a typing mistake	Replacing 'files' with 'fields'	Bugs	Bugs	Low	SENT AS BUG
Climate Transition Map	Climate Transition Map	The "A just climate transition" section is the only one which title is not the same as the text shown in the arros	Keeping the same title as in the arrow can help the user remember which section they clicked.	Heuristics	Recognition	Average	Pending
Knowledge repository	Visual case study	When playing a video, the view changes to a bigger area (youtube page) but the size of the video remains the same.	If it is possible to just play the video without changing the format/size.	Heuristics	Asthetic	Low	Pending
Knowledge repository	Visual case study	It misses some details from the average Knowledge repository resource like: last update, tags, and license	Adding the missing items in a standardize formats	Content	Content	Average	Internal discussion
Knowledge repository	Visual case study	In some visual case studies the main text is centered and in others is aligned to the side or justified	Giving a design suggestion for uploads to follow the same text alignment	Heuristics	Asthetic	Low	Pending
Knowledge repository	Visual case study	Next to all subtitles, there is a chain icon button: "Copy the anchor link". It is confussing since all of them lead to the same URL	Removing the button	Bugs	Bugs	High	Pending
Knowledge repository	Visual case study	Check out for general errors. Spelling mistakes, buttons that cant be clicked, URLs that are not linked. Also, is it possible to add linked URLs in this format?	Implementing a revision process for uploads	Content	Content	Low	Pending
Knowledge repository	Factsheet	Sources [XX] in different format, highlighted in gray and are not linked to a URL or bibliography		Heuristics	Asthetic	Average	Pending
Knowledge repository	Factsheet	Picture sources are provided as a full URL. The URL is sometimes not linked	Not showing the URL. An option is to mention the name of the web page and link it to the word	Heuristics	Asthetic	Average	Pending
Knowledge repository	Factsheet	Spaces next to the pictures are empty. Pictures are sometimes too small.	1. Making pictures bigger, 2. Add text in the empty space next to the pictures, 3. Putting pictures one next to the other to minimize the loss of space.	Heuristics	Asthetic	Low	Pending
Knowledge repository	Factsheet	At the end of what seems to be the full text you find many dropdown buttons. Each one has a big chunk of information. This gives a wrong idea of the structure of the content.		Heuristics	Asthetic	Average	Pending
Knowledge repository	Factsheet	Titles of the dropdown buttons are mainly in MAYUS but some words are in minus	Standardize the format of the titles	Heuristics	Asthetic	Low	Pending
Knowledge repository	General	Lightblue color on grey or white background does not meet accessibility or brand guidelines. Example: Links and dropdowns	Standardize	Heuristics	Asthetic	Low	Pending

Knowledge repository	Video	Because titles include the date of the video, they tend to be very long	Considering adding the date on the next line	Heuristics	Aesthetic	Low	Internal discussion
Knowledge repository	Video	On a video, the authors are the people that created the publication or the speakers of the video?		Content	Content	Average	Pending
Knowledge repository	Article	Many URLs are displayed in the page and format is not ideal. Also happens in the "Focus on" articles	Remove URLs and add as link to the text. Remove "----" lines	Heuristics	Aesthetic	Low	Pending
Knowledge repository	Article	Some articles show subtitles in black bold font, but others do it in green bold font. Also happens in the "Focus on" articles	Define the formats for different type of headings, include font size as a differential parameter as well	Heuristics	Aesthetic	Low	Pending
Knowledge repository	Article	Tables in different color pallete	<u>Unsure if it is necessary to follow the same color pallete of the NetZero Cities page. An appropriate format can be found in https://netzerocities.app/resource-4229</u>	Heuristics	Aesthetic	Low	Pending
Knowledge repository	Focus on	For very long articles, a big proportion of the page is blank, not used.	Dont really know if this can be solved	Heuristics	Aesthetic	Low	Pending
Settings	Settings	Security: In the 'Connected devices' description there is a typing mistake	Replacing 'unliked' with 'unlink'	Bugs	Bugs	Low	SENT AS BUG
Knowledge repository	General	Once you access the source you prefer, wether is a video, a document, or factsheet, it is not possible to see the category of source you are looking at.	Including a label at the top of the page indicating the type of source	Heuristics	Recognition	Low	Pending
Settings	Settings	General: There is no word or character maximum that can limit the extense of the 'Introduction words'	Adding a character count	Heuristics	Error prevention	Low	Internal discussion
Settings	Settings	Privacy and Notifications: There is a different color for some of the buttons	Is there a reason for this difference. Otherwise keep the same color	Bugs	Aesthetic	Low	SENT AS BUG
User directory	User directory	There is no space " " between the organization of the user and its position making it difficult to read.	Adding spacing or send the text to the next line	Bugs	Aesthetic	High	SENT AS BUG
User directory	User directory	The buttons in each user are 3 icons. Email, chat and location. The first two open a new page. Even tho the third one allows to click it, it does not open any new page or content.	Making it non-clickable or give it a different format.	Heuristics	Consistency & Standards	Average	SENT AS BUG
User directory	User directory	When clicking the chat icon for a specific user, the conversation page opens and they indicate that no discussion exists with the user. Giving the option to create one. But they don't pre-make a chat with the user you clicked, it just sends you to the general page.	Pre-making a conversation with the selected user, so that sending a message is easier.	Accessibility	Bugs	Average	SENT AS BUG
User directory	User directory	Even when a conversation with the user already exists, the page does not seem to recognize it.		Bugs	Bugs	High	SENT AS BUG
Settings	Feedback	In general, the page is very broad. Does not give opportunity for the user to give a detail feedback.	Maybe adding a few more subquestions, or giving feedback for specific tools or sections of the portal	Content	Content	Low	Internal discussion
Support Pathways	Support Pathways	Changing to a different page and format makes it feel like you are exiting the Portal.	Keep the same format as with the study cases on the knowledge repository	Heuristics	Consistency & Standards	Average	Internal discussion
Support Pathways	Support Pathways	Empowering cities: Unfinished. Content needs to be updated	Update content for the whole page	Content	Content	High	Pending

Support Pathways	Support Pathways	Some page titles overlap with the background figure	Try to use background pictures that dont contain text or that make visualization harder	Heuristics	Asthetic	Low	Internal discussion
Support Pathways	Support Pathways	This support pathway focusses on', is as normal text in half of the pages and as a heading in the other half.	Giving all of them a heading format	Heuristics	Consistency & Standards	Low	Pending
Support Pathways	Support Pathways	Format of "Key challenges" on this page (check the link) is different from the others. Guide text also present.	Give same format to the title as in the other pages and delete the guide text.	Heuristics	Asthetic	Average	Pending
Support Pathways	Support Pathways	Instructions/guides still present in some of the pages.		Content	Content	High	Pending
Support Pathways	Support Pathways	Resolution of this picture (girl sitting) that gets repeated in every page is low	Increase the resolution of the picture	Heuristics	Asthetic	Low	Pending
Support Pathways	Support Pathways	Resolution of this picture (three people) that gets repeated in every page is low	Increase the resolution of the picture	Heuristics	Asthetic	Low	Internal discussion
Support Pathways	Support Pathways	To exchange section, subheadings are aligned to the left in this pages (see links), while in the rest of the support pathways they are centered.	Uniformizing format across pages	Heuristics	Asthetic	Low	Pending
Support Pathways	Support Pathways	The figure of the girl sitting has a grey thin border.	Remove the border if possible	Heuristics	Asthetic	Low	Internal discussion
Support Pathways	Support Pathways	All pages include the climate transition map tables. The table has been insertet as a chopped image and has low resolution	Include tables in high resolution	Heuristics	Asthetic	Average	Internal discussion

A5: Tool Training Series 1 Summaries

Session Summaries

Each session in the series includes a detailed presentation of the featured tool(s), opportunities for interactive discussion and questions, and (where relevant) real-world insights from Mission Cities. The primary audience for the programme comprises Mission Cities and Mission-minded Cities.

The sessions are delivered online and recorded, with each lasting approximately 1.5 hours. The programme is structured to support continuous learning and engagement, with sessions held bi-monthly between February and June 2025, and an additional Session in October 2025.

Session 1: Discover the Right Funding and Financing Opportunities for Climate Projects: An Introduction to Finance and Funding Tools for European Cities:

This inaugural session introduced participants to the finance tool available on the Portal and highlighted projects involving external partners.

- Date: 26 February 2025; 13:00–14:30
- Presenters: Sylwia Slomiak, Ryan McManus, Charline Mougine
- No. of Participants: 198 registrations, 50 attended
- [Link to Recording](#)

Main focus:

- Introduction to less traditional financing instruments for the energy transition and climate action
- Approaches for selecting appropriate financing options and assessing project readiness, including free tools for cities
- Presentation of the Prospect+ [Finance Readiness Tool](#) and [the NetZeroCities Finance Guidance Tool](#)
- Additional opportunities to strengthen project bankability and secure funding, including through the [Smart Cities Marketplace](#)

Session 2: Assess and Enhance Climate Action Plans Using NetZeroPlanner

The second session focused on the NetZeroPlanner, an online climate investment planning tool that supports cities in evaluating emissions reductions and financial impacts associated with their investments. The tool provides cost–benefit assessments across sectors and stakeholders and produces annual performance reports to guide climate action planning.

- Date: 17 April 2025; 14:00–15:30
- Presenters: Silvia Gugu, Sean Murray, Ryan McManus, Charline Mougín
- No. of Participants: 126 registrations (from 44 cities); 57 attended
- [Link to Recording](#)

Main focus:

- Integrating SECAPs and other sectoral plans into comprehensive climate action planning
- Using [NetZeroPlanner](#) for scenario analysis and validation of climate and investment plans
- Live demonstration of core features, including emissions and financial impact assessments
- Understanding the funding gap and linking climate actions with financial architecture
- Connecting with the Capital Hub for additional financing insights

Session 3: Explore Mission Cities' Pathways to Climate Neutrality with the NetZeroCities Barometer

This session examined Monitoring, Evaluation, and Learning (MEL) frameworks and their role in supporting the implementation of Climate Action Plans. Particular emphasis was placed on the NetZeroCities Barometer, a tool that monitors the progress of the 112 Mission Cities. The Barometer consolidates data from Climate City Contracts, reporting platforms, and public sources, offering insights into cities' visions, actions, and progress toward climate neutrality.

- Date: 19 June 2025; 14:00–15:15
- Presenters: Thijn Verburg, Mira Conci, Charline Mougín
- No. of Participants: 62 registrations (from 24 cities); 29 attended (from 11 cities)
- [Link to Recording](#)

Main focus:

- Examples of MEL frameworks used by Mission Cities and how they support Climate City Contract implementation

- How the [NetZeroCities Barometer](#) provides data on progress toward climate neutrality, including GHG reductions, stakeholder engagement, and action planning
- The role of co-benefits indicators in strengthening MEL frameworks, including insights drawn from Climate City Contracts

Session 4: From Insight to Action: Applying Finance and Funding Tools to Advance Climate Projects in European Cities

This follow-up session expanded upon the introductory financing session held in February 2025. It emphasised the practical application of funding and financing instruments, particularly the [finance guidance tool](#).

- Date: 7 October 2025; 13:00–14:30 (CEST)
- Presenters: Thijn Verburg, Mira Conci, Charline Mouglin
- No. of Participants: 78 registrations (from 28 cities); 50 attended (from 15 cities)

Main focus:

- Overview of less traditional financing instruments for energy transition and climate action
- Case studies illustrating how Mission City Valladolid and Mission-minded city Albertville have leveraged funding opportunities to advance climate projects
- Strategies for engaging multipliers and external partners to co-finance (blending) or finance (crowd-investing) initiatives
- Discussion of common challenges in securing finance and practical approaches to overcoming them

Key learnings and improvements for upcoming series

For future sessions, several learnings and improvements should be taken into account. Public holidays and school holiday periods in EU countries should be avoided to ensure higher participation.

During the preparation phase before each session, Zoom should be set to send automatic confirmation emails after registration and a same-day reminder should be scheduled. All planned chat messages should be drafted in advance and session questions should be prepared beforehand by the host.

For the follow-up after each session, a follow-up email should be sent within one day of the event. This email should include the session recording and the feedback form. Each session should also be posted in the Tool Training Series group on the Portal.

A6: UX Iterative Flow and User Testing Methods

Iterative UX Design is a continuous, cyclical process that improves digital products and services through repeated research, testing, feedback, and refinement. It integrates user testing throughout all stages to ensure usability, usefulness, and alignment with user needs. The process follows the four phases of the Double Diamond Methodology and an additional launch and post-launch phase (See Figures 36-38).

1. **Discovery / Pre-Design:** This phase focuses on understanding users and existing systems. Activities include creating user personas and journeys, benchmarking competitor products and screen real-estate allocation, conducting usability audits for existing products, and running initial user tests to identify pain points.

2. **Define:** Insights from discovery inform feature listing and prioritisation (Must-Have, Good-to-Have, Great-to-Have). Information Architecture (IA) is developed to structure content, functions, and user flows, specifying different user states (zero, recurring, error) and estimating screen requirements.
3. **Product / Service Design:** Design moves from low-fidelity wireframes to high-fidelity interfaces, followed by prototyping to define interactions across screens. A design system is established, including components, copy, accessibility checks, illustrations, and micro-animations. User testing intensifies here, using A/B testing, think-aloud protocols, usability studies, and accessibility audits.
4. **Development:** Technical specifications translate design into development tasks carried out through agile sprints (frontend, backend, QA/QC).
5. **Launch + Post-Launch:** Further user testing—A/B tests, usability studies, think-aloud tests, open-ended feedback—ensures the product continues to evolve based on real user behaviour and needs.

User Testing Methods:

User research and testing methods fall into two broad categories: **supervised and unsupervised**.

Supervised methods involve real-time facilitation, interaction, or observation by researchers, making them ideal for gathering deep, contextual insights. **Unsupervised methods** occur without researcher involvement during the session, allowing participants to contribute at their own pace, often anonymously, enabling large-scale and candid feedback.

Summary of user testing methods:

This section provides a comprehensive list encompassing both supervised and unsupervised methods. This consolidated compilation offers a convenient overview of the various method typologies, complete with descriptions, estimated participation effort, and summarised key benefits and opportunities.

S.No.	Testing Method and Description	ET for Participation	No.of Participants	Benefits and Opportunities
1	Interviews User interviews serve as a cornerstone in the realm of user experience (UX) research, particularly during the nascent stages of product or service design. This method involves skilled interviewers facilitating discussions with participants, probing into various topics to grasp insights, motivations, and pain points. By actively listening and engaging with respondents, researchers uncover valuable information that guides the development process.	30m – 1hr	1	Participating in UX interviews empowers individuals to contribute to the improvement of products or services, influence design decisions, and engage with experts in the field of user experience design.
2	Questionnaires Questionnaire Surveys are a research instrument that consists of a set of questions or other types of prompts that aim to collect information from a respondent. A research questionnaire is typically a mix of close-ended	10-15 m	1	Survey respondents participate conveniently, often anonymously, fostering efficient design research. They freely express opinions, enabling candid feedback and inclusivity, without the

	questions and open-ended questions.			constraints of in-person interactions.
3	Heuristic Evaluation It is an industry-recognized test conducted by experts by asking participants to carry out simple tasks and observing their responses based on pre-defined parameters. It is similar to Think Aloud tests or interviews.	1-2 hr	1	By participating in heuristic evaluations, individuals help identify usability issues in digital products/services, informing UX design processes and ensuring product/service usability.
4	Card sorting Card Sorting is a research method in which study participants place individually labelled cards into groups according to criteria that make the most sense to them.	1-2 hr	10-5 minimum; 20 - 30 is ideal;	Participating in a card sorting exercise empowers users, provides valuable insights for designers, and contributes to the creation of more usable and user-centered interfaces.
5	Co-Design Co-design is a participatory method to collectively arrive at solutions or decisions with involved stakeholders/ experts.	1.5-3 hr (including a break)	Individual sessions: 1 Group Sessions: 3 min-10 max	Participating in co-design promotes collaboration, creativity, and inclusivity, leading to the development of more effective, user-centered, and sustainable solutions to complex problems.
6	A/B testing A/B testing, also known as split testing, is a method used to compare two versions of a product or service (such as a webpage, app, or other digital asset) to determine which one performs better based on given criteria.	Run time: 2 weeks min 6 weeks max	1	Participating in A/B testing empowers individuals to contribute to the improvement of products/services, leading to better user experiences, optimized performance, and informed decision-making based on empirical evidence.
7	Think-out-loud Test During a think-out-loud test, participants are asked to verbalize their thoughts, feelings, and reactions in real time as they complete tasks or navigate through the product.	20-30m	2-3	Participating in a "think out loud" test offers the benefit of providing researchers with valuable insights into users' thought processes and experiences, helping to uncover usability issues, gather feedback, and inform design improvements. Additionally, it allows users to contribute directly to the improvement of the product or interface by sharing their perspectives and preferences in real-time.
8	Written Open-Ended Questions This method allows users (test participants) to express thoughts and feedback from their testing experience in a written format.	1-3 hr	1	The key benefit of this method is that it allows participants to freely express themselves in a written format without having to participate in discussions or to "think out loud", thus overcoming

				language barriers, biases and performance anxiety.
9	<p>Usability Studies In a usability-testing session, a “facilitator” asks a participant to perform tasks, usually using one or more specific user interfaces. While the participant completes each task, the “observer” takes notes of the participant’s behaviour.</p>	30-60m	2-3	Participating in usability studies is a valuable opportunity for users to contribute to the development of products and services, improve their usability and effectiveness, and engage with experts in the field of user experience design.

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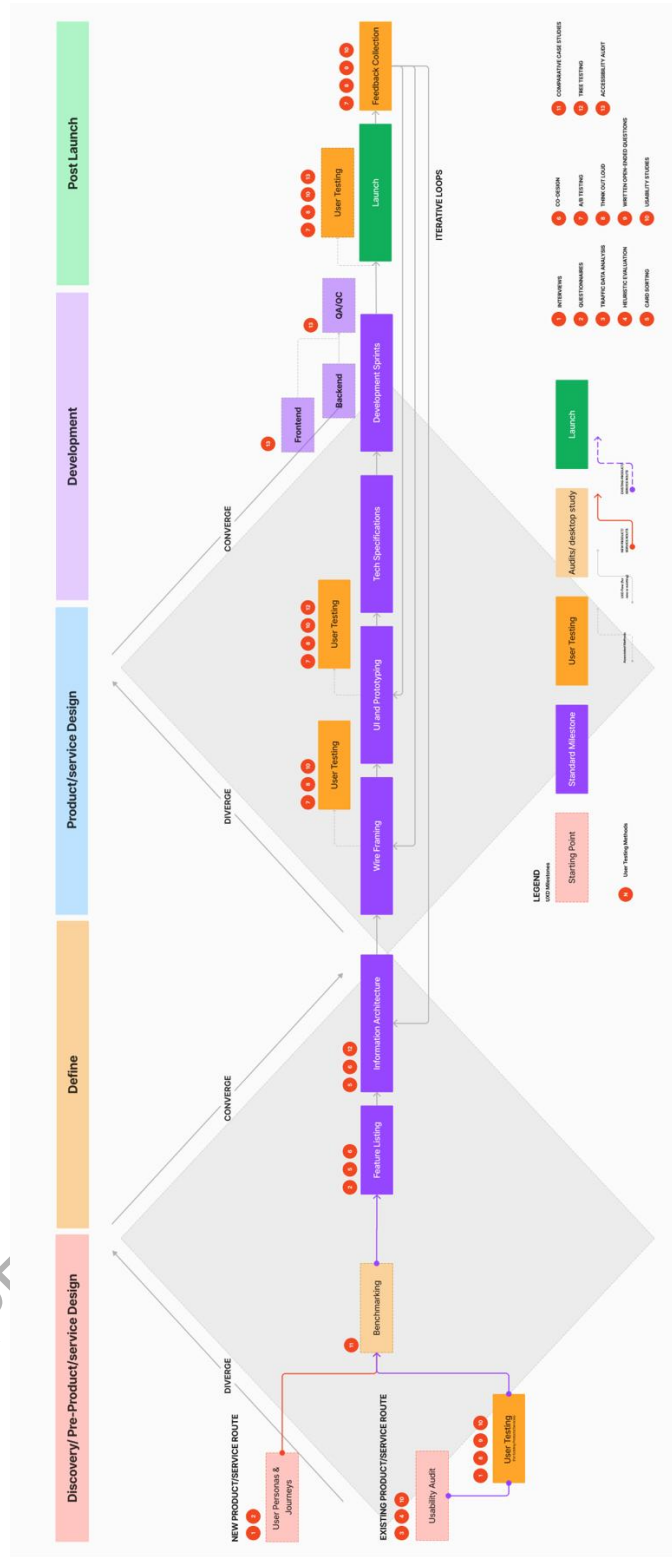


Figure 36: UX Iterative Flow Overview

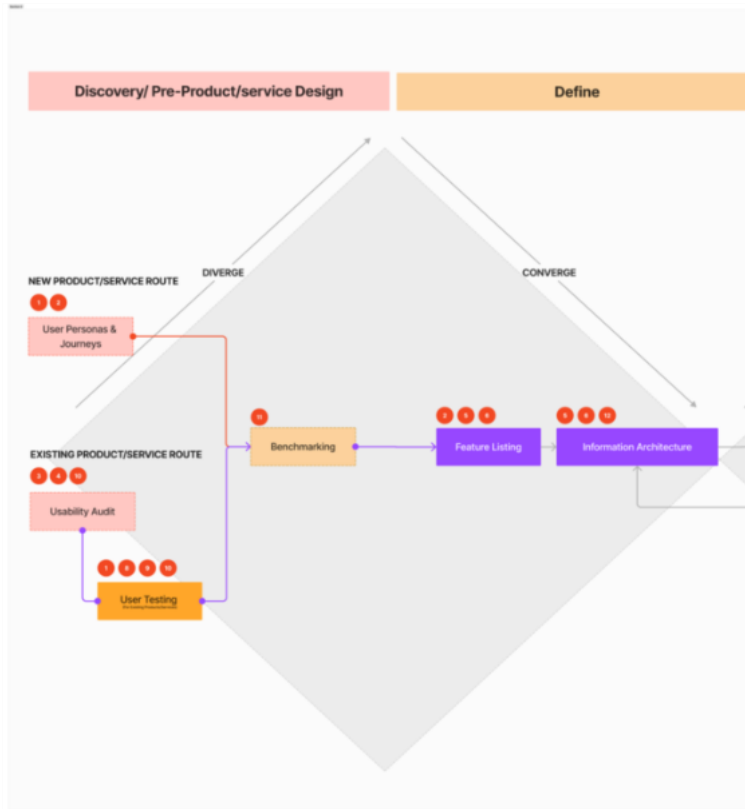


Figure 37: Zoomed-in view of Phases 1 and 2 of the UX iterative flow

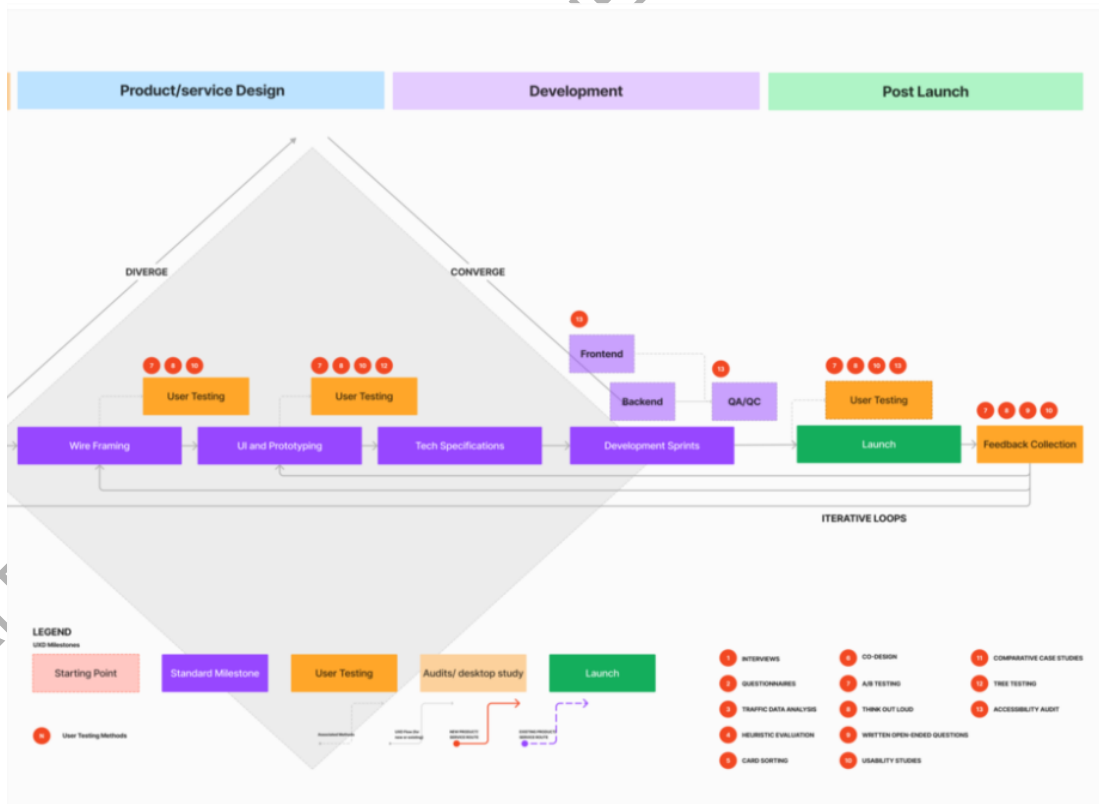


Figure 38: Zoomed-in view of Phases 3, 4 and 5 of the UX iterative flow

A7: Additional Information and Tables

Table 17: Resource types available on the portal (January 2025)

Type	Count	%
Document	221	20.41%
Video	91	8.40%
Article	95	8.77%
Factsheet	228	21.05%
Method	227	20.96%
Case Study	38	3.51%
Canvas	15	1.39%
CCC	100	9.23%
Visual Case Study	68	6.28%
Total	1083	100%

Table 18: List of Pages tested for the Portal Baseline Evaluation

S.no.	Page/ Section of the Portal	Links (If Available)
A. Landing Page and Signup Flow		
1	NetZeroCities website landing Page	https://netzerocities.eu/
2	Signup Flow	
3	Portal Landing Page	https://netzerocities.app/social
B. Portal Tools and Resources		
1.	User Directory	https://netzerocities.app/users
2.	Groups	https://netzerocities.app/groups
3.	Events	https://netzerocities.app/events
4.	Cities	https://netzerocities.app/cities
5.	Knowledge	https://netzerocities.app/knowledge
6.	Climate Transition Map	https://netzerocities.app/ClimateTransitionMap
7.	City Dossier	https://netzerocities.app/citieform
8.	Barometer	https://netzerocities.app/barometer
9.	Financial Guidance Tool	https://netzerocities.app/financeGuidanceTool
10.	Engagement Strategy Tools	https://netzerocities.app/engagementGuidanceTools
11.	EU Project Navigator	https://netzerocities.app/eu-climate-projects-navigator
12.	Chat	https://netzerocities.app/chat
13.	FAQs	https://netzerocities.app/FAQ-1
14.	Settings	https://netzerocities.app/settings?tab=general

Table 19: User Satisfaction survey summary (for portal tools)




#	Date Submitted	Country	Source URL	Device	Rating	Issue Screenshot	Additional Feedback	Issue Description (from Screen Recording)	Recommendations for Improvement
1	11/20/2025	Italy	Solutions Outliner	desktop	4			The user couldn't identify how to proceed beyond the first screen and dropped off	To make the next steps clear with descriptive Tooltips, and CTAs
2	12/2/2025	Spain	Solutions Outliner	desktop	4	Same as (1)		Same as (1)	Same as (1)
3	11/23/2025	Spain	Solution Bundle	desktop	3			The user was unable to proceed because they did not have JavaScript enabled for the web app	Users should be informed with clear instructions on how to resolve a local browser issue: For example an error message such as "This app needs JavaScript to work properly. Please enable JavaScript in your browser or disable any script-blocking extensions." followed by a short "How to" guide will help users navigate this issue
4	11/24/2025	Poland	Solution Bundle	desktop	1	Same as (3)		Same as (3)	Same as (3)
5	11/21/2025	Poland	Project Navigator	desktop	4			Several windows were missing within this KUMU integrated IFRAME, and no guiding instructions or tool tips were provided to the user on how to navigate the tool using the filter and search features, resulting in the user dropping off	Empty sections should be disabled until they are available to prevent users from viewing empty sections. Users should be provided with tool tips or guiding materials to help them navigate complex tools such as this one.
6	11/27/2025	Germany	Project Navigator	desktop	4			The recorded screenshot shows that the tool did not load for the user. However, the recording for this session is not captured in Hotjar for verifying the issue	Possible issues regarding the loading of the tool should be reproduced and investigated, since the recording is not available for this session
7	12/3/2025	Germany	Project Navigator	desktop	4	Same as (6)		Same as (6)	Same as (6)
8	12/4/2025	Italy	Project Navigator	desktop	3	Same as (6)		Same as (6)	Same as (6)
9	12/5/2025	Germany	Project Navigator	desktop	4	Same as (6)		Same as (6)	Same as (6)
10	11/25/2025	France	Finance Guidance Tool	desktop	1			With no clear steps and an overwhelming number of action points the user was not able to proceed beyond the first step	The UX should be simplified in steps, showing fewer action items at a time with clear guidance and CTAs to reduce the user's cognitive Load


11	12/6/2025	Belgium	Finance Guidance Tool	desktop	3			Same as (10)	Same as (10)
12	11/29/2025	Romania	Engagement Guidance Tool	desktop	1		the flux of questions is blocking all the time	The user reported that the constant flux of the questions led to frustration and ultimately dropped off midway through the survey, which is necessary to obtain the results from this tool. Furthermore, it was noted that the user was using a smaller screen size and the page did not correctly adapt causing the UI to completely break and make it impossible for the user to proceed smoothly	This is a major issue of page responsiveness to varying screen sizes, which continues to affect multiple pages on the platform. Mobile responsiveness should be prioritised with defined breakpoints in order to ensure a smooth UX for users across varying screen sizes and screen resolutions.
13	11/22/2025	Philippines	Climate Transition Map	phone	3			While answering this survey, the user could not close the survey, preventing them from proceeding any further. This also points towards a screensize responsiveness issue where the close CTA or the ability to close a bottom-drawer by clicking on the empty space above is not available	Mobile responsiveness should be prioritised for pages, ensuring key navigation elements are available at all times for users to easily browse the platform
14	11/26/2025	Germany	Climate Transition Map	desktop	3			The climate transition map introduced a new way of navigation that users may not be familiar with. The recording shows that the user made several U-turns and clicks to navigate the different elements on the page. Also, since the user was not logged in, the system kept asking the user to sign up, causing the user to ultimately drop off.	A clear, conventional navigation option should be provided alongside the climate transition map, brief onboarding cues should guide first-time users, and sign-up prompts should be deferred until core tasks are completed.
15	11/28/2025	Poland	Climate Transition Map	desktop	1	NA	I don't think I ever read through that many bloated empty words that say nothing substantial.	The user complained about the jargon heavy and confusing copy	Clear, plain-language copy should be provided, replacing jargon-heavy text with concise, user-centred explanations to improve comprehension.
16	11/30/2025	Germany	Climate Transition Map	desktop	1	NA		Recording not captured by Hotjar	NA
17	12/1/2025	Italy	Climate Transition Map	desktop	3	NA		Recording not captured by Hotjar	NA

18	1/23/2025	Belgium	Barometer	mobile	4			The user encountered severe usability issues due to the poor responsiveness of the tool on a mobile device.	Mobile responsiveness should be prioritised for pages, ensuring key navigation elements are available at all times for users to easily browse the platform
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Table 20: Summary of Key issues observed from Hotjar's Anonymised User Behaviour screen recordings

#	Screenshot	Country	Device	Issue Type	Observed Issue Description	Possible Solution	Page	Date of Recording
1		India	Desktop	Rage Click	Expecting text within KR page to be interactive/ a link	Link text key words	KR Resource	25/06/2025
2		Netherlands	Desktop	Rage Click	Trying to click on the tags of a group	Make tags clickable (to take user to a filtered search in Kr)	Groups	16/06/2025
3		Germany	Desktop	Rage Click	Stuck in NZP Instructions	Allow user to click outside to close	NetZero Planner	22/10/2025
4		Netherlands	Desktop	Rage Clicks ; U-Turns	User facing frustration with the hover state of the Menu	The menu should get activated when the user clicks on it and not while hovering near it	Cities	01/06/2025
5		Finland	Desktop	Rage Click; Confusion with selection state forms	The user is trying to select cities within the Barometer but is confused because they are not sure if the selection was made or not	The UX of the selection field for cities within the Barometer needs to be improved to ensure the user receives the right feedback to know that a selection	Barometer	21/02/2025

						has been made		
6		Spain	Desktop	U-Turns, Rage click	User is trying to access their profile by clicking the text "Profile" and "Access your account" (false affordance)	Make the text "Profile" and "Access your account" take the user to their profile	Navigation Menu	06/11/2025
7		UK	Desktop	U-Turns	User is trying to open an author's profile from the resource page in the KR	Allow the Author names in the Authors to take you to their profile	KR Resource	22/09/2025
8		Belgium	Desktop	U-Turns, confusion with selection state forms	User is trying to access resources mentioned in different steps of the Climate Transition map, but these are not linked.	Link the resources in the Transition Map	Climate Transition Map	20/11/2025
9		Türkiye	Desktop	Rage Click, U-turn	Bug is preventing user from replying to a post in the social feed		Social feed	24/09/2025
10		Lithuania	Desktop	Rage Click, U-turn	User can't access section "Climate City Contract" - Tries logging out and in again, but still can't access		Navigation Menu	03/12/2024
11	N/A	Azerbaijan	Mobile	U-turn, bug	User tries to log in but page keeps refreshing		Log in	06/03/2025
12	N/A	Serbia	Mobile	U-Turn, bug	Page keeps refreshing		KR Resource	07/10/2025

13	N/A	Jordan	Mobile	U-Turn, bug	User tries to access different links in the onboarding window (CTA "Find the tools to support your journey here") Onboarding window just moves to the next screen	Fix link	Onboarding	15/09/2025
14		Jordan	Mobile	Not responsive, difficulty clicking	User has issues reading and selecting the desired elements due to lack of resizing on mobile	Make elements responsive	Finance Guidance Tool	15/09/2025

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