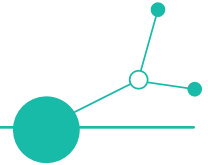


D1.4.1

Report on transferring pilot testing to solution



Final Version

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D1.4.1

Report on transferring pilot testing to solution



1. About the document D1.4.1

This report (Deliverable D1.4.1) provides the conceptual and methodological foundation for the development of the Innovative ICTr Cycling Product within the ICTr-CE project. It outlines the full product development process, beginning with the design and structure of the cycling product concept and extending to its pilot testing, evaluation, and refinement.

The document builds on the results of coordinated pilot actions implemented across the three participating regions—North (Poland-Germany), Central (Czechia-Austria-Slovakia), and South (Hungary-Slovenia-Croatia). It describes how the applied testing methodology facilitated practical, real-life validation of both the cycling product and the participatory ICTr business model. Emphasis is placed on ensuring that product development, business modelling, and sustainability assessment form an integrated, coherent system.

Moreover, the report summarizes the core work steps of the pilot action—Desk Research, Field Trips, Guided Explorer Tours, and the Travel Report—and explains how each contributed essential data and insights for the subsequent fine-tuning of the product architecture, sustainability tools (Carmacal and IMS), and the business model. These findings establish the analytical base for the final scaling recommendations and the transferability guidelines for Pilot Area North.

Overall, the document acts as a key reference for both the conceptualisation and implementation of a market-ready, sustainability-driven cycling tourism product along EuroVelo 13 - Iron Curtain Trail, ensuring methodological consistency and supporting future adoption in all pilot regions.



2. Procedure of the Pilot action for testing the innovative ICTr cycling product and business model

The procedure for the pilot action testing of the innovative ICTr cycling product and participative business model was developed jointly with the responsible project partners. It can be stated that the methodology applied for the testing phase in the pilot regions has proven to be effective, as the pilot actions were successfully implemented and tested under practical, real-life conditions.

The testing methodology applied to the bookable cycling offers along EuroVelo 13 - Iron Curtain Trail mirrors the approach used for evaluating the innovative sustainability tools Carmacal and the Impact Measurement System (IMS). This alignment was intentional, as the innovative ICTr Cycling Product is designed as a fully integrated concept in which product development, business modelling, and sustainability assessment function together.

Before detailing the integrated methodology, the document outlines the basic structure of the innovative ICTr cycling product and the participatory ICTr business model. Product development was carried out in three pilot regions—North (Poland-Germany), Central (Czech Republic-Austria-Slovakia), and South (Hungary-Slovenia-Croatia).

In collaboration with all regional project partners, the Pilot action for testing the innovative ICTr cycling product and business model was carried out in the following work steps:

Desk Research

The desk research formed a central component of the pilot action and provided essential input for the Travel Report. Although desk research traditionally focuses on analysing existing data and literature, in the ICTr-CE project it was expanded with empirical elements such as on-site visits, interviews, and stakeholder consultations across the North, Central, and South pilot regions. The activity examined the condition of the EuroVelo 13 route, including signposting, surface quality, service availability, cycling infrastructure, and cultural points of interest related to the Iron Curtain. It also mapped relevant stakeholders for potential cooperation within the ICTr-CE business model, assessed the competences and digital readiness of tourism SMEs, and reviewed the level of interest among tour operators in becoming “Official ICTr-CE Booking Centres”. Each project partner carried out the desk research for their own region, compiled the data into a shared spreadsheet template, and summarised the main findings within the Travel Report.

Field Trips

It should be noted at the outset that the Field Trips were strongly based on the results of the previously conducted Desk Research. This integrated approach not only increased the quality of the implementation of the Field Trips, but also, conversely, enabled the evaluation and improvement of the data quality of the Desk Research.

Each pilot region carried out a field trip to assess the condition of the EuroVelo 13 - Iron Curtain Trail, verify the availability and quality of cycling-related services, interact with local service providers, and confirm the findings collected during the desk research. All three field trips followed four key principles: they actively involved ICTr-CE stakeholders; they were organised collaboratively across borders; they covered at least five consecutive daily stages of the route; and they required the completion of evaluation tools developed in WP1 and WP2. Each partner prepared a field trip document based on the guideline provided by Westpannon, and a consolidated overview of all field trips was included in the Travel Report. The results of the field trips served as essential input for both Output O1.1 and Output O2.2.

Guided Explorer Tours

As part of the ICTr-CE pilot action, two guided Explorer Tours each were carried out in the Central and South pilot regions to test the innovative ICTr-CE cycling product under real market conditions. These tours were organised by the selected regional booking centres and supervised by Trail Angels, while the Northern



pilot region participated only as an observer. The insights gathered in the North will support Output O1.2, which explores future implementation possibilities of the ICTr-CE business model.

The guided Explorer Tours targeted invited participants, including cycling tourists and enthusiasts. Each tour followed a set of core requirements: at least five invited participants with all costs covered by project partners, cross-border organisation and implementation by the booking centres with support from regional partners, coverage of a minimum of five consecutive daily stages, and completion of evaluation tools by both participants (WP1) and booking centres (WP2).

Compared to the field trips, these guided Explorer Tours were more market- and customer-oriented, focusing on the attractiveness, usability, and overall experience of the innovative ICTr-CE cycling product from the end-user perspective. The feedback collected contributed directly to Trail Angels' capacity-building activities and will be incorporated into deliverables D1.3.1 and D3.1.3, as well as outputs O1.1 and O1.2.

Travel Report

The Travel Report is a central document that provides a structured overview of all pilot action activities carried out in Work Packages 1 and 2, including the desk research, field trips, and guided explorer tours. It forms the basis for the project's key outputs O1.1 and O2.2 and supports the continued development of the EuroVelo 13 - Iron Curtain Trail as well as future cycling tourism products.

The report is divided into two main parts: a summary of desk research findings from each pilot region and an analysis of the field trip results, which also incorporates insights gained from the guided explorer tours. To ensure transparency and compliance with INTERREG Central Europe Programme requirements, all Travel Reports will be published on the official EuroVelo 13 website, the trail booking system BookYourTrail.com, provided by Trail Angels, and the ICTr-CE project website. A standardized template and detailed instructions for preparing the reports were provided by Trail Angels (PP5). Each pilot region—North, Central, and South—produced its own Travel Report with the active involvement of all relevant regional partners.

In conclusion, the Travel Report represents the synthesis of all pilot testing activities. It provides not only a solid data basis for the final design of the Innovative ICTr Cycling Product, but also constitutes a valuable and widely usable knowledge base for the further development of EuroVelo 13 - Iron Curtain Trail by the responsible stakeholders after the end of the project.

Timeline of Pilot Action Implementation

1. **May 2025:** Desk Research (stakeholder mapping, services, route conditions, POIs)
2. **June 2025:** Development of the Tour Script for the field trips
3. **June 2025:** Online training sessions introducing Carmacal and IMS
4. **July 2025:** Partners complete CO₂ and IMS assessments for the field trips using collected data.
5. **June-July 2025:** Implementation of five-day cross-border Field Trips, supervised by Trail Angels
6. **July 2025:** Completion of three evaluation forms covering product design, Carmacal, and IMS
7. **August 2025:** Preparation of regional Field Trip Reports
8. **Sept-Oct 2025:** Guided Explorer Tours in Central and South; guest and Booking Centre feedback collected
9. **October 2025:** Preparation of the comprehensive Travel Report
10. **October 2025:** Finalisation of documents O1.1 and O2.2 by Trail Angels and Westpannon



3. Key findings of pilot testing

This chapter presents the main findings of the pilot testing in a structured manner. The key findings are summarized for each pilot region individually. For improved clarity and comparability, the reports for each pilot region are structured according to the following categories:

- Route & Infrastructure
- Service Providers (Accommodation, Food, Bike Services)
- Points of Interest
- Environmental Impact - Carbon Footprint
- Sustainability Performance - IMS (Impact Measurement System)

Based on these findings, a concise SWOT analysis was added for each pilot region. Each “Key Findings” report concludes with a strategic outlook for the respective pilot region.

a) Key findings for the Pilot Area NORTH (Poland and Germany)

Route & Infrastructure

- The route is generally of high quality: mostly asphalted, flat, well signposted, and separated from traffic - but some sections need improvement as later mentioned.
- Peak-season crowding is a real issue in coastal towns. Wind can make some sections tougher.
- Several stretches (esp. Germany-Poland border sections) suffer from:
 - Mixed/poor surfaces (gravel, cobblestones, sand)
 - Missing or inconsistent EV13/ICTr signage
 - Sandy and hilly sections that can be physically demanding
- POIs linked to Cold War / WWII history are strong and relevant, but trail surface + signage need upgrades in some stages.

Service Providers (Accommodation, Food, Bike Services)

- Providers are mostly small, family-run businesses - friendly to cyclists, but:
 - Limited time/resources for CO₂ tracking or sustainability reporting
 - Often lack cycling-friendly standards (secure bike storage, certifications, cyclist dinners)
 - Language barriers sometimes reduce service quality
- Many providers are open to eco-friendly practices, but need support or tools simple to use.
- Very few mobility services or tour operators for cyclists along the route.
- Providers often don't use the Iron Curtain story in their marketing, because the Baltic Coast Cycle Route (EuroVelo 10) is more popular in this region.

Points of Interest (POIs)

- The route offers lots of strong natural + cultural attractions, especially:
 - WWII and Cold War military sites and museums (e.g. in Gdansk) is a perfect thematic fit for ICTr.
- Seasonality is a problem: many POIs in smaller towns only open in min cycle season → lack of accessible POI's in off season.



Environmental Impact - Carbon Footprint

- The trip is relatively low-carbon compared to mainstream tourism.
- Biggest CO₂ source:
 - Accommodation = ~56% of total emissions
- Food and transport are similar contributors (~17-18% each).
- Activities (cycling, walking, museums) have very low environmental impact - no real impact on the Carbon Footprint.
- The CARMACAL online tool caused usability problems (registration issues, confusing categories).
- The Excel-based tool, was clearly preferred:
 - Easier
 - More practical
 - Better for non-experts
- Recommendation: simplify tools and instructions, especially for SMEs.

Sustainability Performance - IMS - Impact Measurement System

- Overall impact score was very strong (139.17 / 152 points).
- Best performance:
 - Transport on site
 - Tour guiding
 - Booking services
- Weaker areas:
 - Local staffing in accommodations
 - Local food sourcing & plastic-free options
 - Limited economic contribution to local communities via activities
- IMS tool is:
 - Overall the digital based IMS tool (developed by OETE and WestPannon) was highly appreciated
 - Technically very solid for an in-house development.
 - Slightly time-consuming
 - Needs better visuals and explanations for non-expert

SWOT ANALYSIS - Pilot Area NORTH

Strengths

- **High-quality cycling route overall**
Along many sections asphalted, flat, traffic-separated, and well signposted → accessible for wide audiences (families, seniors, leisure cyclists).
- **Strong and unique theme**
Cold War & WWII heritage sites create a compelling, story-driven cycling experience.
- **Rich mix of POIs**
Coastal nature, cultural heritage in gorgeous towns, military/history sites mirroring World War II and the Iron Curtain are ensuring a high experiential value.
- **Low environmental footprint**
Cycling-based tourism performs very well on sustainability metrics.
- **High IMS score (139/152)**
Shows the product already aligns well with sustainable tourism standards.
- **Cross-border appeal (Poland-Germany)**
International route increases market reach and funding potential.



Weaknesses

- **Inconsistent trail surface & signage**
Some sections with gravel, sand, cobblestones and missing EV13/ICT signage need further improvement
- **Peak-season overcrowding**
Coastal sections become congested in summer.
- **Low cycling-service quality in accommodations**
Limited bike storage, few cyclist-friendly certifications, language barriers.
- **Low awareness of ICTr heritage among SMEs**
Businesses don't integrate Iron Curtain storytelling into products/marketing.
- **Limited cycling mobility services**
A lack of bike rentals, luggage transport options, or tour operators along the route.
- **Seasonal POIs**
Many cultural attractions close outside the even long cycle season; during off season limited access.
- **Carbon/impact tools not SME-friendly**
Online tools are complex; reporting will capacity is quite low among small providers.

Opportunities

- **Position EuroVelo 13 - Iron Curain Trail as a flagship sustainable tourism product**
Important for this pilot region: strengthening the awareness of EuroVelo 13 - Iron Curtain Trail beside the dominating EuroVelo 10 - Baltic Coast Cycle Route.
- **Develop a certified "Cyclist-Friendly ICTr Partner" label**
Incentivise bike storage, charging possibilities, basic repair kits, regional food and staff training.
- **Upgrade signposting + surface as a targeted investment**
Compared to other pilot regions improvements for comfort, safety, and international usability are more feasible to implement
- **Tell the Iron Curtain story locally**
Training for service providers to embed heritage storytelling in the bookable offers, partner accommodations, excursions etc.
- **Expand shoulder-season tourism**
Although the Cycle season is quite long in this pilot region, due to climate change, the season could be extended by offering better services in the now off season.
- **Digital route support**
Offer GPS navigation, POI storytelling, and sustainability info in one app/platform. Could also be on paid services to support the business model.
- **Simplify sustainability tools**
Roll out user-friendly digital mobile tools for carbon & impact tracking to inspire stakeholders as well as customers to use it intensively.
- **Cross-border cycle packages**
Most promising chance for this pilot region is to extend product development and management, comparable to those in Pilot Regions Central and South. Transnational multi-day cycle packages undoubtedly have great potential in this region

Threats

- **Overtourism and environmental pressure**
Summer congestion may harm visitor experience and local acceptance as well as availability of cycle services.
- **Climate & weather exposure**
Strong coastal winds and heavy rain can reduce route comfort and safety.
- **Infrastructure degradation**
Without investment, surface quality and signage may worsen over time.
- **SME capacity constraints**
Small businesses may struggle to adopt sustainability standards without support.
- **Competition from other EuroVelo routes**
Better-surfaced or better-branded routes such as EuroVelo 10 - Baltic Coast Cycle Route could outshine EuroVelo 13 - Iron Curtain Trail especially in this pilot region.



Strategic Takeaway

The Pilot Area North (Poland, Germany) of the EuroVelo 13 - Iron Curtain Trail already has the product quality and sustainability credentials to be a flagship cycling destination – it now needs targeted infrastructure upgrades, stronger storytelling, and cyclist-friendly service standards and above all, the resources for integrated development for bookable cycling products and high-quality booking management to unlock its full potential.



b) Key findings for the Pilot Area CENTRAL (Czechia, Slovakia, and Austria)

Route & Infrastructure

- The route has huge experiential value: beautiful diverse landscapes, rich cultural heritage in the heart of Europe and a strong Iron Curtain heritage storytelling are potentials for a real standout cycle product.
- The rideability is still mixed: some sections are excellent (former railway lines, former military roads, riverside paths), while other sections are too demanding for average cyclists (steep climbs, MTB-like gravel stretches, heavy-traffic roads).
- EuroVelo 13 signposting is inconsistent: missing or unclear (especially related to EuroVelo 13 branding) signposting in several sections, which is resulting into navigation issues.
- Surface quality varies (asphalt, gravel, forestry roads); gravel share is high (40-60%) → good for gravel bikes, less ideal for classic touring cyclists.

Service Providers (Accommodation, Food, Bike Services)

- Gaps in accommodation and food services along long stretches of the route.
- Few certified cycling-friendly providers (“Cyclists Welcome” type labels).
- Service quality is generally good where service providers exist (hospitality and regional food rated high), but: more providers need to be onboarded
- Cyclist-specific services (bike storage, tailored meals, info on POI opening hours) need improvement
- SME engagement is difficult: many providers were busy in season and reluctant to cooperate with surveys and sustainability data collection.
- Very low acceptance of debit/credit cards in Czech section, a cash is a must.

Points of Interest (POIs)

- There are many high-quality Iron Curtain-related POIs (bunkers, memorials, museums).
- The theme works very well for building a coherent storytelling product, not just a scenic cycle route.
- Interpretation of Iron Curtain history was rated very strong by testers.

Environmental Impact - Carbon Footprint

- Footprint calculator works technically, but:
- Registration and navigation can be problematic
- Categorising meals & activities is confusing
- The Excel-based tool (in-house development by CROST) is preferred (simpler, faster for practitioners).
- Carbon footprint of test trips was low, confirming cycling as a low-carbon tourism product.

Sustainability Performance - IMS - Impact Measurement System

- Digital IMS-tool (in-house development by OETE and WestPannon) is technically solid and transferable to other routes.
- Instructions and data input are clear.
- Weak point: results are hard to communicate to tourists → visualisation and explanation need improvement.
- IMS scores show good sustainability performance, but booking centres are penalised if not yet certified in a too string way.

SWOT ANALYSIS - Pilot Area CENTRAL



Strengths

- **Powerful theme & storytelling**
The Iron Curtain heritage (bunkers, memorials, museums) creates a unique, emotionally engaging cycling experience.
- **High experiential value**
Scenic landscapes, cultural richness, wine regions, cross-border national parks and untouched river landscapes are offering a great experience for cycle tourists.
- **Product tested and market-ready (guided tour)**
Explorer Tour showed high satisfaction with accommodation, hospitality, bike storage, and POI interpretation.
- **Strong sustainability positioning**
Low carbon footprint; innovative use of CARMACAL + IMS tools strengthen green/sustainable branding of the route
- **Cross-border cycle product/travel (CZ-AT-SK)**
Cross border cycling products/travel is a strong desire for customers and therefore also a precious asset of the route and its destinations
- **Good fit for gravel & e-bike segments**
If addressed in a focused way, the high share of gravel/unpaved sections works well for gravel cyclists and e-MTB users.

Weaknesses

- **Inconsistent route quality**
Mixed surfaces, some technically demanding MTB-like sections, steep climbs in early stages.
- **Exposure to heavy traffic on some segments**
Reduces safety and comfort for average cycling tourists.
- **Missing or inconsistent EuroVelo 13 signposting**
This is a special challenge in this pilot region, especially the heterogenic character of the signposting, lacking the EuroVelo branding. Also resulting into navigation problems, which can undermine user experience.
- **Gaps in service infrastructure**
Long stretches with limited accommodation and catering/dining options.
- **Few certified cycling-friendly providers**
Bike storage, charging possibilities, tailored meals, and cyclist info are not standardized.
- **Low SME engagement capacity**
Providers are busy in peak season and reluctant to support data collection and sustainability reporting.
- **Sustainability tools are limited customer-friendly**
IMS results difficult to communicate to customers; Carmacal has usability issues.

Opportunities

- **Position the Pilot Area Central along the EuroVelo 13 - Iron Curtain Trail as a premium themed cycling route**
Combining Iron Curtain history with wine culture, cultural heritage and pristine nature landscapes, upgraded with the Innovative ICTr product design into a premium cycle product.
- **Target niche markets**
Address mountain-bikers, gravel cyclists, e-bikers, and “history + culture” cycling tourists as special target groups
- **Targeted infrastructure upgrades**
Reroute away from heavy-traffic roads, improve surfaces, and standardize EV13 signposting
- **Cyclist-friendly certification scheme**
Create an “ICTr Partner” label to raise service standards and visibility.



- **Booking Centre development**
Support qualification and resources of the selected Official Booking Centre as a high quality management unit for the implementation of the Innovative ICTr product
- **Leverage sustainability as a USP**
Communicate and market carbon + impact measurement, combined with the Good Impact program as added value vs. competing routes.
- **Capacity building for SMEs**
Simple training on cyclist needs + sustainability reporting.

Threats

- **Safety perception risks**
Busy roads and technically demanding sections may deter mainstream/average cyclists.
- **Fragmented responsibility across borders for infrastructure improvement**
Slows infrastructure upgrades and harmonization and completion of EV-13 signposting
- **Seasonality & limited rural capacity**
Existing service gaps may worsen outside peak season.
- **Competing long-distance routes**
Better developed EuroVelo routes or other long distance cycling routes close to the DACH market may be more attractive to the same target groups.
- **SME fatigue with extra requirements**
Sustainability reporting could be seen as “extra bureaucracy.”
- **Climate impacts**
Due to climate change, heatwaves and extreme weather could reduce cycling comfort and safety.

Strategic takeaway

ICTr Central has standout storytelling and landscape potential and is already sellable as a premium cycling product, also based on the fact, that an official booking center will be installed. But to scale and differ from competing long distance cycling routes, it needs improvements, such as better route quality, consistent EV13 signposting, and a stronger network of cyclist-friendly service providers.



c) Key findings for the Pilot Area SOUTH (Hungary, Slovenia, and Croatia)

Route & Infrastructure

- The route offers very high scenic and cultural value and diversity of landscapes (Alps foothills, wine regions, Pannonian plain, river landscapes).
- Rideability is uneven, because beside many beautiful sections, there are less developed and challenging sections such as some steep climbs, narrow roads, and traffic exposure. This makes parts of the route unsuitable for average cyclists.
- Surface quality is not standardized and varies from asphalt to gravel and forest tracks.
- EuroVelo 13 signposting is inconsistent or missing in several sections, which is resulting navigation problems for cyclists.
- Cross-border character needs better coordination and standardisation.

Service Providers (Accommodation, Food, Bike Services)

- Tourism services exist, but are unevenly distributed along the route.
- Few cyclist-friendly certified accommodations (secure bike storage, e-bike charging, repair kits not standardised).
- Hospitality and food quality are generally high, but:
 - Opening hours are seasonal
 - Some language barriers occur
- Limited specialised cycling services (bike rentals, luggage transport, tour operators) outside main hubs.

Points of Interest (POIs)

- The region has strong Iron Curtain-related POIs (border museums, memorials, historic crossings).
- Thematic fit is excellent, but storytelling and info-infrastructure is fragmented across borders and only visible on some selected spots
- Many POIs are seasonal, weakening shoulder-season tourism potential.

Environmental Impact - Carbon Footprint

- Carbon footprint of cycling trips is low, reinforcing ICTr South as a sustainable tourism product.
- CARMACAL tool:
 - Technically works, but is too complex for regional partners (registration, categorisation issues)
 - Excel version (in-house development by CROST) is preferred by test users

Sustainability Performance - IMS - Impact Measurement System

- Solid methodology and in-house developed online-tool (by OETE and WestOPannon) is working well
- Results are difficult to communicate to cyclists
- SMEs struggle with time and data availability to perate with the IMS tool
- Sustainability measurement is seen as valuable in principle, but needs simplification to be widely adopted.



SWOT ANALYSIS - Pilot Area SOUTH

Strengths

- **Outstanding scenic quality**
Alpine foothills, wine regions, Pannonian plains, pristine river landscapes are offering a high potential for a flagship cycling destination along the EuroVelo 13 - Iron Curtain Trail.
- **Strong thematic fit (Iron Curtain heritage)**
Border museums, memorials, and historic crossings give the route a unique narrative identity.
- **High-quality food & hospitality**
The trinational region performs very well on gastronomy and authentic hospitality (typical for this region)
- **Low-carbon tourism product**
Cycling trips show very low carbon footprint, which opens strong sustainability branding possibilities, when connected and upgraded with the innovative ICTr sustainability tools.
- **Cross-border appeal**
Cross border cycling products/travel is a strong desire for customers and therefore also a precious asset of the route and its three country destination
- **Good fit for e-bikes & experienced cyclists**
Hilly sections become accessible with e-bikes, expanding the target market.

Weaknesses

- **Inconsistent route quality & safety**
Steep climbs, narrow roads, traffic exposure limit suitability for average leisure cyclists.
- **Missing / inconsistent EuroVelo 13 signage**
Navigation issues reduce user confidence and satisfaction.
- **Uneven tourism service distribution**
Long stretches with limited accommodation, food, and cycling services.
- **Few cyclist-friendly certified providers**
Bike storage, charging, repair kits, and cyclist menus not standardised.
- **Fragmented cross-border storytelling**
The interpretation of Iron Curtain heritage is not harmonised, especially not on cross-border level.
- **Seasonality of POIs**
Many attractions are closed or limited outside summer.
- **SME capacity constraints**
Sustainability reporting tools are an additional workload for everyday use.

Opportunities

- **Position the Pilot Area South along the EuroVelo 13 - Iron Curtain Trail as a premium themed cycling route**
Combining Iron Curtain history with the diversity of landscapes, wine culture, cultural heritage and the pristine big rivers (Amazon of Europe), upgraded with the Innovative ICTr product design into a premium cycle product.
- **Target e-bike, gravel, and “culture + nature” cyclists**
Address these special target groups due to the character of the route in this pilot region
- **Target safety & surface upgrades**
Reroute away from busy roads; improve key bottlenecks.
- **Harmonise signposting and branding across borders**
Create a seamless EV13 -Iron Curtain Trail experience with harmonised EV13 signposting
- **Create an ICTr cyclist-friendly partner label**
Incentivise service upgrades and improve visitor trust.



- **Leverage sustainability as a Unique Selling Point called USP**
Communicate and market carbon + impact measurement, combined with the Good Impact program as added value vs. competing routes.

Threats

- **Safety perception risks**
Busy roads and technically demanding sections may deter mainstream/average cyclists (similar to Pilot Region Central)
- **Fragmented responsibility across borders for infrastructure improvement**
Slows infrastructure upgrades and harmonization and completion of EV-13 signposting (similar to Pilot Region Central)
- **Seasonality & limited rural capacity**
Existing service gaps may worsen outside peak season (similar or even more evident than Pilot Region Central)
- **Competing long-distance routes**
Better developed EuroVelo routes or other long distance cycling routes close to the DACH market may be more attractive to the same target groups (similar to Pilot Region Central).
- **Climate impacts**
Due to climate change, heatwaves and extreme weather could reduce cycling comfort and safety (similar or even more evident than Pilot Region Central)
- **SME fatigue with extra requirements**
Sustainability standards may be seen as bureaucracy without incentives.

Strategic takeaway

Similar to Pilot Region Central, the Pilot Region South has standout storytelling and landscape potential and is already sellable as a premium cycling product, also based on the fact, that an official booking centre will be installed. But to scale and differ from competing long distance cycling routes, it needs improvements, such as better route quality, consistent EV13 signposting, and harmonised cross-border storytelling.



4. Fine-tuning for digital solution

The chapter “Fine Tuning” focuses on the description of the final improvements to the participatory ICTr business model, the Innovative ICTr Cycling Product and its technical implementation, based on the results of the Desk Research, Field Trips and Guided Explorer Tours (summarized in the Travel Report). Accordingly, this chapter is structured into three sections:

- Participatory ICTr Business Model
- Innovative ICTr Cycling Product
- Technical Implementation

a) Participatory ICTr Business Model

Before addressing the final design of the participatory ICTr business model, the three overarching objectives of this specific business model are recalled:

1. To create the conditions enabling cyclists to access bookable cycling travel products - in this case the Innovative ICTr Cycling Product. Achieving this objective forms the basis for the long-term, resilient and sustainable management of EuroVelo 13 - Iron Curtain Trail along the defined route sections in the Central and Southern pilot regions.
2. To establish an integrated management structure with the competences and resources required to manage EuroVelo 13 - Iron Curtain Trail and the products mentioned under Objective 1, in particular through the inclusion of small and medium-sized enterprises (SMEs).
3. To create a model that will enable the further development of the Good Impact Programme in the future, through which selected environmental and social projects benefiting the regions along EuroVelo 13 - Iron Curtain Trail can be supported.

Innovative ICTr Cycling Product

A modern and therefore digital access to the Innovative ICTr Cycling Product is essential, as sustainable management of a long-distance cycling route is not possible without such access.

Product access was implemented through dynamic packaging by integrating the product into the online trail information, booking and management system Bookyourtrail, provided by Trail Angels, and into the web platform eurovelo.com, operated by ECF.

This created the conditions for the management structure of EuroVelo 13 - Iron Curtain Trail to dispose of a central asset.

Further details are provided in the following chapters “Fine Tuning Innovative ICTr Cycling Product” and “Fine Tuning Technical Implementation”.



Final Design of a Management Structure for EuroVelo 13 - Iron Curtain Trail

The participatory ICTr business model is based on the following organisation units and their defined functions:

- European Cyclists' Federation
- EuroVelo 13 Partnership
- EuroVelo 13 - Iron Curtain Trail Official Booking Centres
- Good Impact Programme

These four organisational units are - provided they fulfill the functions defined below - essential and indispensable components for the implementation and sustainable operation of the participatory ICTr business model.

The fine tuning of the Good Impact Programme goes beyond the core business field of managing a long-distance cycling route and therefore requires separate consideration.

European Cyclists' Federation

The European Cyclists' Federation (ECF) is the umbrella organisation for cycling organisations in Europe, based in Brussels. Founded in 1983, it acts as the only civil society voice for cycling at pan-European level. It is the coordinating body for EuroVelo, the European cycle route network currently consisting of 17 routes. Only routes approved by ECF may carry this designation.

Due to its expertise and available resources, ECF is ideally suited to fulfill three functions within the participatory ICTr business model:

Coordination and lobbying activities (also in cooperation with the NECCs of the countries concerned) for the further development of EuroVelo 13 - Iron Curtain Trail;

Acting as a Technical Secretariat providing strategic and operational support to the newly established EV13 Partnership;

Implementing management tasks - with a focus on communication and marketing - for the EV13 Partnership based on three-year management contracts.

Integrating ECF as an experienced, competent and well-networked organisation represents a major asset for the participatory ICTr business model, as it ensures resilience, strategic anchoring and operational capacity at European level.

EuroVelo 13 Partnership

The EuroVelo 13 Partnership was designed and implemented as a central organisational unit specifically for the participatory ICTr business model. It represents the key regionally anchored component of the business model and provides the human and financial resources required for the further development of EuroVelo 13 - Iron Curtain Trail.

As a rule, the EuroVelo 13 Partnership is represented by the tourism destinations along the route, in most cases by regional destination management organisations. Cooperation is based on a cooperation agreement developed by ECF and focuses on the following tasks:



1. Implementation of strategic objectives through operational activities for the further development of EuroVelo 13 - Iron Curtain Trail;
2. Provision of resources and active participation in the implementation of the management contract with ECF (three-year duration);
3. Acting as licensor and contact point (in close cooperation with ECF) for the selected EuroVelo 13 - Iron Curtain Trail Official Booking Centres.

The interaction between the EuroVelo 13 Partnership and ECF on the one hand and the selected booking centres on the other is crucial for the success of the participatory ICTr business model. Without strong regional anchoring and commitment, successful development and management of EuroVelo 13 - Iron Curtain Trail is not possible.

EuroVelo 13 - Iron Curtain Trail Official Booking Centres

For the Central and Southern pilot regions, the selection, establishment and training of Official Booking Centres is foreseen. For the Northern pilot region, only the necessary preconditions are to be created within the framework of the present project (see: Transferability Action Plan for Pilot Area North).

The Official Booking Centres are represented by experienced and competent tour operators specialised in cycling tourism. They were selected through an open call and subsequently trained under the leadership of Trail Angels and with the involvement of the responsible project partners.

The Official Booking Centres enter into a licensing agreement with the EuroVelo 13 Partnership as licensor for a duration of three years. Operational support is provided by ECF within the framework of the management contract.

Their main tasks include:

1. Continuous product development with a focus on the further development of the Innovative ICTr Cycling Product;
2. Efficient and professional enquiry and booking management;
3. Participatory integration and management of service providers along the route, with a focus on SMEs;
4. Quality assurance and quality management of the Innovative ICTr Cycling Product, with a focus on SMEs;
5. Evaluation of market-placed products;
6. Reporting to the licensor eg. Number of Bookings, number of booked Travellers, booked overnights for each stage, etc.

The Official Booking Centres are of central importance for the success of the participatory ICTr business model. They enable visitors to experience sustainable cycling tourism, integrate regional SMEs into the value chain and ensure the continuous development and quality of the Innovative ICTr Cycling Product.

Good Impact Programme

The Good Impact Programme (GIP) was developed to generate additional benefits for the regions concerned, based on the design of the Innovative ICTr Cycling Product. These benefits go beyond the value creation generated by the participatory ICTr business model and constitute a specific asset of the overall project.

The Good Impact Programme is financed through a transparently calculated sustainability contribution integrated into the total price of the cycling travel products. The booking centres transfer this



contribution at regular intervals to a dedicated organisation operating similarly to a foundation and responsible for managing the Good Impact Programme.

The Good Impact Programme working group will consist of competent NGOs and similar organisations, organised on a transnational basis, and will fulfil the following tasks:

1. Transparent management of the Good Impact Programme (project selection, allocation of funds, impact monitoring);
2. Reporting to the licensor, the EuroVelo 13 Partnership;
3. Communication activities regarding supported projects for the benefit of EuroVelo 13 - Iron Curtain Trail.

The integration of the GIP represents an additional asset for the participatory ICTr business model and provides EuroVelo 13 - Iron Curtain Trail with a genuine unique selling point.

SUMMARY

From the perspective of Trail Angels, the fine tuning process for the participatory ICTr business model can be assessed as successful. If all components of the business model are implemented and integrated effectively, the conditions for a successful, resilient and sustainable operation in the pilot regions and for further scaling are in place:

- ECF contributes expertise, management capacity and European networking;
- the EuroVelo 13 Partnership provides regional identification, resources and commitment;
- the Booking Centres ensure services, product quality and a strong focus on the Innovative ICTr Cycling Product;
- the Good Impact Programme represents a unique additional asset, creating added value for the destinations concerned and providing EuroVelo 13 - Iron Curtain Trail with a true distinctive feature.



b) Innovative ICTr Cycling Product

Introduction

The ICTr Innovative Cycling Product was developed as an integrated, market-ready solution designed to transform selected sections (Pilot Regions Central and South) of EuroVelo 13 - Iron Curtain Trail into a bookable, sustainable long-distance cycling experience. The solution is structured around a unified **product architecture**, a **scalable development methodology**, and an **evidence-based sustainability system**, ensuring a consistent standard across all pilot regions. The aim is to deliver a customer-oriented, high-quality, and sustainability-driven cycling tourism product.

1. Core Product Solution: The “Good Impact Cycling” Product Architecture

The central solution consists of the *Good Impact Cycling* architecture, which integrates experience design with innovative sustainability tools. The product architecture provides a **dynamic, modular format** for individual cycling trips along EuroVelo 13, ensuring both individualisation and operational standardisation.

The branding of “Good Impact Cycling” has been developed within Work Package 3, to offer a market-ready communications solution for the product portfolio, so long named under the working title “Innovative ICTr Cycle Product”.

The key features of the “Good Impact Cycling” product architecture include:

- Dynamic packaging on selected sections strictly the original EV13 route, ensuring brand integrity and historical authenticity.
- Stage-based long-distance tours (minimum 10 daily stages per pilot region), matching market preference for point-to-point cycling.
- Flexible individualisation options, including accommodation category, food options, add-on services, and flexible arrival dates.
- Service modules (luggage transport, transfers, trail hotline, digital documents) that can be added or removed with minimal effort.
- During this initial project phase, a portfolio of six packages was developed in the two pilot regions, Central and South, which can be expanded by the booking centres following initial evaluation.
- Scalable design, ready for extension to additional sections (e.g. Pilot Region North) and other EuroVelo routes.

This architecture ensures standardised handling for booking centres while preserving the core desire (combing personal freedom with services) for the targeted cyclists - the Normtrotter target group.

2. Integration of Sustainability Tools

A defining innovation of the product solution is the integration of three sustainability tools into the booking process, to be able to present an evidence-based and holistic picture of sustainability in cycling products. An integrated approach that represents an absolute innovation in the tourism market in this form. These digital sustainability tools are as followed:

1. **Carbon Footprint (Carmacal)**
2. **Impact Measurement System (IMS)**
3. **Good Impact Programme (GIP)**

These tools are described in detail in other deliverable reports. However, it should be added at this point that they together form the **Sustainability Score**, which is:



- calculated per traveller,
- compared with international recognized benchmark,
- monetised into a sustainability contribution already included in the travel price,
- and transferred to the EV13 management structure (as described in the chapter before) to support regional sustainability initiatives within the Good Impact Programme.

This approach is based on generating evidence-based data and transparent calculation of sustainability contributions in order to counteract the widespread mistrust in tourism towards greenwashing of tourism products advertised as sustainable.

3. Integrated Product Development Methodology

The solution was tested through a structured methodology combining the milestones as described prior:

- desk research,
- field trips,
- guided explorer tours, and
- a final travel report per pilot region.

This method enabled:

- assessment of infrastructure quality,
- identification of service and POI integration needs,
- pilot testing of Carmacal and IMS,
- refinement of the business model for booking centres.

Three pilot regions were developed:

- **North** (PL-DE) non-bookable, but fully mapped for future scalability
- **Central** (CZ-AT-SK)
- **South** (HU-SI-HR)

For Central and South, **three bookable “Good Impact Cycling” offers per region** were created:

- one full 10-stage long-distance product,
- two shorter 5-stage products, reflecting optimal market demand for week-long cycling trips.

4. Market-Driven Product Requirements

The final solution integrates key market insights:

- strong demand for **individual, self-guided, service-backed cycling travel**,
- high relevance of cultural and natural experiences,
- need for easy service access (e-bikes, digital documents, quality infrastructure),
- compliance with the requirement for evidence-based demonstration of sustainability for bookable cycle products to build trust and to differ from competitors.

These insights shaped the architecture to ensure the product is competitive and appealing within the DACH cycling tourism market, enriched by the asset of the evidence-based sustainability model.



5. Guidelines for Future Product Development

The product architecture also enables the integration of a comprehensive guideline framework for an ongoing future product development:

- continuous product improvement based on evidence-based evaluation and customer feedback, strictly focusing on Good Impact Cycling strategy
- development of bookable products in the Pilot Area North,
- scaling to other EuroVelo routes.

The Guidelines define:

- experience design standards, focusing on the original route of EuroVelo 13 - Iron Curtain Trail
- storytelling rules based on EV13 heritage, to strengthen the core story board of the trail
- requirements for infrastructure development and partner involvement and participation
- sustainability integration principles, focusing on the described sustainability tools
- governance and quality management mechanisms.

6. Output: A Complete, Market-Ready Portfolio

The final solution results in six themed Good Impact Cycling products, showcasing different sections of the EuroVelo 13 - Iron Curtain Trail as well as an evidence-based impact score for each cyclist, resulting into a transparent calculated sustainability contribution for the Good Impact Programme.

This portfolio can be described as an application-oriented and scalable basis for the further development of sustainable Good Impact Cycling products and their commercialisation through the booking centres.

SUMMARY

The product solution, the product architecture of “Good Impact Cycling” is a holistic, scalable, market-ready cycling tourism product, defined by a strong experience design, an operationally robust architecture, and an innovative sustainability model that is transparent, measurable, and integrally linked to regional & ecological development programme, branded as “Good Impact programme”. By embedding the Sustainability Score and Good Impact Programme into the bookable long-distance cycling products, the EuroVelo 13 - Iron Curtain Trail establishes a unique European benchmark for sustainable cycling tourism.



c) Technical Implementation

The technical implementation of the digital solution comprises two milestones:

- 1) upgrading the online trail information, booking and management system Bookyourtrail.com, provided by project partner Trail Angels
- 2) integrating the product portfolio into the official web platform eurovelo.com, operated by project partner ECF.

Bookyourtrail.com

The technical upgrade of the existing information, booking and management system Bookyourtrail, provided by Trail Angels is focusing on the integration of

- the Carmacal Carbon Footprint Calculator to enable automated sustainability calculations for travel offers.
- the impact score, generated by the online tool of the Impact Measurement System, to enable automated impact score calculations for travel offers.
- the pricing of the sustainability contribution within the published travel price.

Implementation design

For the technical implementation of the Carbon Footprint and the Impact Score the design defines a clear workflow consisting of four main steps:

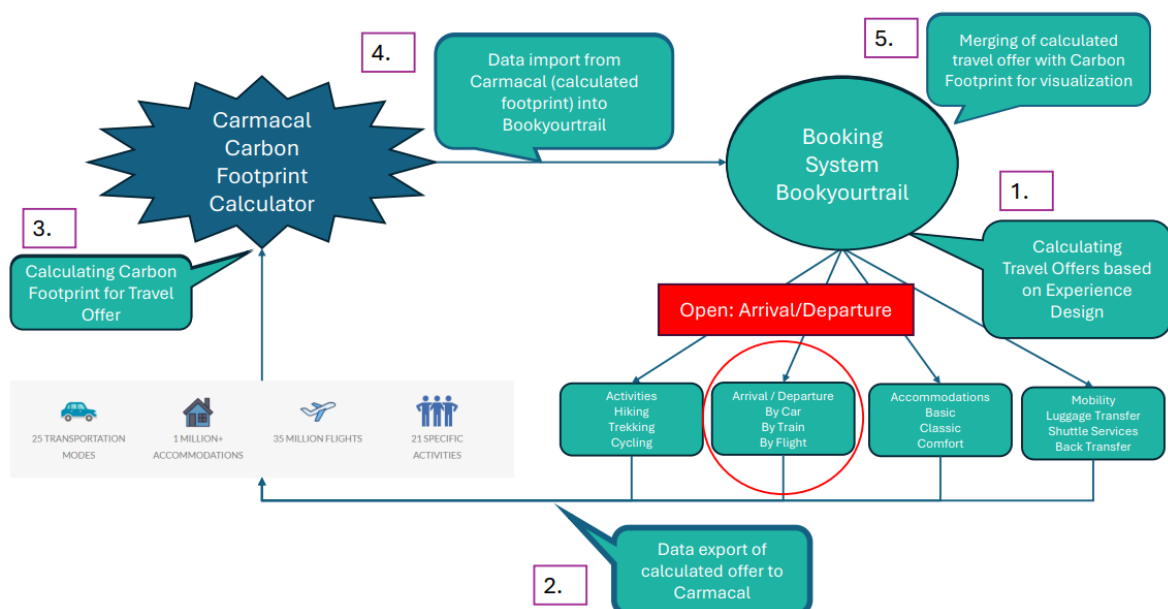
- 1) Bookyourtrail generates a calculated travel offer based on predefined experience design elements including accommodations (Basic, Classic, Comfort), mobility services (luggage transfer, shuttle, back transfer) and other services (museums, etc.).
- 2) Bookyourtrail exports the structured travel-offer data to the described online sustainability tools (Carmacal Carbon Footprint Calculator or it's in-house developed Excel sheet as well as Impact Measurement System).
- 3) Based on the well structured data, optimized for exchange, the sustainability tools are providing the calculated results for the carbon footprint and the impact score for each travel product for standardized re-import into Bookyourtrail.
- 4) Bookyourtrail merges the travel offer with the carbon footprint and impact score results to enable transparent visualization of these results directly within the booking interface.
- 5) Finally, based on the evidence-based results, mentioned above, the sustainability contribution for the travel offer (and further on for each customer) will be calculated and visualized.

This step-by-step methodology ensures that the promotion of evidence-based sustainability data becomes an integral part of product presentation and booking, enabling customers to understand the environmental impact of their selected services.



Furthermore, this methodology enables standardised data exchange between Bookyourtrail and the sustainability tools without the need for time-consuming adaptation of the databases on both sides. This also makes implementation relatively easy to manage and allows for adaptation to future requirements that may arise, for example, from an evaluation.

Full database integration with simultaneous merging of the Bookyourtrail, Carbon Footprint Calculator and Impact Measurement System would be a fascinating future scenario, but it would require the appropriate resources for agile software development.



SUMMARY

A Design was chosen that ensures simple and standardised data exchange between the provided trail online information, booking and management system Bookyourtrail and the sustainability tools developed in-house as part of the ICTr project (the tailor made Excel sheet for calculating the carbon footprint) and the online tool for the Impact Measurement System.

This Design avoids complex interventions in the respective database structure, enables relatively simple handling, opens up flexible adaptations for all components and, at the same time, offers the fascinating prospect - with the appropriate use of resources - of integrated software development to potentially develop the first fully operable booking system for evidence-based sustainable tourism products.



5. Transferability Action plan for Pilot Area North

Introduction

Based on the application form, there is no obligatory in contrast to Pilot Area Central and South to implement Good Impact Cycling products or set up an official booking centre in the Pilot Area North (Poland and Germany).

However, these solutions can be implemented for this pilot area too, in a similar form to that implemented for the central and southern pilot areas on the basis of the data compiled (summary in the Pilot Area North Travel Report) and the scalable product architecture for the Good Impact Cycling product.

In the following we have elaborated a clear structured and applicable set of guidelines for the Pilot Area North to implement the project results developed and tested in Pilot Areas South and Central.

They translate the fine-tuning insights from the previous chapter into practical steps tailored to the current starting point of the Northern region (PL-DE).

Guidelines for Pilot Area North

1. Establish the Organisational Preconditions

Pilot Area North should first replicate the structural and organisational pillars that proved essential in South and Central for the setup of the ICTr Participative Business Model

1.1 Join or Formalise Participation in the EuroVelo 13 Partnership

- Ensure that the EuroVelo 13 partnership will cover the whole pilot area in Poland and Germany.
- Designate regional tourism organisations (DMOs or similar bodies) as official representatives within the EV13 Partnership.
- Commit to resource contributions (staff, funds, coordination) required for the three-year management cycle with ECF.
- Ensure alignment with the cooperation agreement established by ECF.

1.2 Prepare for Collaboration with ECF (European Cyclists' Federation)

- ECF acts as coordinator, technical secretariat, and marketing lead.
- Establish communication routines with ECF for:
 - strategic route development
 - branding alignment
 - ongoing product development
 - preparation for booking centre integration
 - quality management and assurance



1.3 Prepare the Ground for “Official Booking Centres”

Although no booking centre will be established within the project period:

- Identify potential future tour operators with experience in cycling tourism.
- Prepare them for future licensing (standards, requirements, training model as used in Central/South).
- Ensure alignment with:
 - the *Good Impact Cycling* architecture
 - sustainability requirements
 - Bookyourtrail and eurovelo.com integration workflows
 - SME participation
 - Compliance and reporting requirements

2. Implement the “Good Impact Cycling” Product Architecture

Pilot Area North should adopt the same product architecture, experience design rules, and sustainability integration developed for South and Central.

2.1 Adopt the Core Product Architecture

Follow the established structure:

- strict adherence to the original EV13 route
- daily stage-based structure (focusing on the current 5 and 10 stages design for long-distance products)
- product development of at least:
 - **one 10-stage long-distance product,**
 - **two 5-stage short-distance products**based on the experience design requirements for dynamic packaging and mirroring the portfolio structure of pilot areas south & central

2.2 Apply Experience Design Standards

- Use the storytelling and heritage principles defined for EV13 (Iron Curtain Trail narrative).
- Ensure integration of Points of Interest (POIs) based on already finalized desk research and field trips (Travel report Pilot Area North).
- Follow the service level design (luggage transfer, transfers, hotline, digital documents) for individual cycle travel

2.3 Apply the Sustainability Integration Framework

Integrate the three tools for the final implementation of the “Good Impact Cycling Product”

- **Carmacal Carbon Footprint Calculator**
- **Impact Measurement System (IMS)**
- **Good Impact Programme (GIP)**



Pilot Area North must:

- structure product data according to Bookyourtrail data requirements
- apply the sustainability scoring methodology
- calculate the sustainability contribution per travel offer
- visualise sustainability data according to the requirements of Bookyourtrail and Eurvelo.com.

3. Follow the Proven Product Development Methodology

Pilot Areas South and Central used a **standardised four-step methodology**. North should apply the same process. As the milestones 1) Desk Research; 2) Field Trips; 3) Guided Explorer Tour and 4) as the success the Travel Report have been finalized already within the project, these results can be valorized for the product development methodology in an efficient way.

4. Prepare for Digital Integration

Pilot Area North will need to follow the same **technical integration model** implemented in pilot areas central and south.

4.1 Implement the Data Exchange Workflow

Follow the four-step workflow used in South & Central:

1. **Bookyourtrail creates the structured travel offer.**
2. **Export data to:**
 - Carmacal calculation sheet
 - IMS online tool
3. **Import results** (carbon footprint + impact score).
4. **Calculate and visualise** the sustainability contribution.

This ensures identical handling across all regions and allows scalable integration and comparable impact score and sustainability contribution results.

4.3 Prepare Integration into eurovelo.com

- Adapt the product architecture and content for the Good Impact Cycling products to the template requirements of Eurovelo.com
- Contribute additional content and use the marketing power of eurovelo.com (eg. Blogs, news)
- Align with additional ECF requirements for:
 - product presentation
 - Good Impact Cycling branding
 - standardised sustainability communication



5. Long-Term Scaling & Readiness for Booking Centre Activation

Although right now for the Pilot Area North no booking centre has been set up and Good Impact Cycling Products are yet not bookable, the responsible partners should prepare all conditions for future activation.

5.1 Prepare Regional SME-Integration

- Map, inspire and involve service providers (hotels, restaurants, bike shops, mobility partners).
- Train them on:
 - Good Impact standards
 - sustainability contribution communication
 - quality expectations

5.2 Ensure Governance Readiness

- Ensure participation in EV13 Partnership and full coverage of entire pilot area
- Prepare required data for product development (esp. data for Impact measurement system)
- Collaboration with ECF for communication and marketing
- Identification of future Booking Centre candidates

6. Recommended Implementation - Timeline

Phase 1 - Foundation (0-6 months)

- Join EV13 Partnership
- Identify SMEs and potential booking centres
- Establish collaboration with ECF

Phase 2 - Product Development (6-12 months)

- Start product development process based on Good Impact Cycling product architecture
- Create, comparable to pilot areas central and south, at least three bookable Good Impact Cycling packages
- Create content and structured data for Bookyourtrail and Eurovelo.com

Phase 3 - Technical & Sustainability Integration (6 - 12 months; in parallel)

- Perform carbon footprint and IMS calculations
- Integrate sustainability scores and contribution and connect it to Good Impact Programme
- Implement these tools into the final Good Impact Cycling (GIC) packages
- Prepare visualisation (Bookyourtrail and Eurovelo.com) of scores and sustainability's contribution

Phase 4 - Pre-commercial Readiness (12 - 18 months)

- Evaluate GIC product design and architecture



- Align with ECF marketing standards
- Prepare to activate booking centre operations

FINAL SUMMARY

Based on this step-by-step guideline, the Pilot Area North will be able to replicate the applicable blueprint of Pilot Areas South and Central by:

- establishing the required organisational structures (EV13 Partnership, cooperation with ECF, setup of booking centre)
- adopting the Good Impact Cycling product architecture and experience design
- integrating sustainability scoring (Carmacal + IMS + GIP)
- preparing data for digital integration into Bookyourtrail.com and eurovelo.com
- building SME networks and preparing conditions for future Booking Centre

From our point of view, this guideline ensures full transferability, scalability, and consistency not only for the trail sections within pilot Area North, but across the entire EuroVelo 13 - Iron Curtain Trail. Of course, this scale requires a long-term strategy and the necessary resources.



6. Annexes

01.1 Pilot action for testing the ICTr cycling product and business model

02.2 Pilot action on climate neutral ICTr travel by testing the environmental footprint calculator and cycling product impact measurement system

02.3 ICTr Good Impact Programme

ICTr Travel Report North

ICTr Travel Report Center

ICTr Travel Report South

ICTr-CE_Transferability possibilities Pilot Area North_incl. Meeting minutes