



3

2

1

## Bridging the digital gap in mobility across Europe

*DIGNITY's journey towards inclusive digital mobility*

## Table of Contents

DIGNITY's team .....	3
Preface .....	4
The DIGNITY Project.....	5
DIGNITY's Approach.....	5
Meet DIGNITY's pilots.....	6
DIGNITY's keywords.....	7
From 'framing' the digital gap in mobility to 'bridging' it.....	7
Engaging digital mobility market players: the Inclusive Design Wheel in DIGNITY.....	8
Background: why inclusive design matters .....	8
The Inclusive Design Wheel (IDW) .....	9
The phases of the IDW.....	10
Local implementation of the IDW in.....	12
Insights from the IDW process for mobility service providers and developers .....	16
Empowering the Institutional System: Scenario Building in DIGNITY .....	16
The mobility Scenario Building (SB) technique .....	17
Local implementation of the SB process in.....	18
SB's contribution to informed decision-making in transport policies .....	21
Turning DIGNITY's lessons into winning long-term digital transport strategies .....	24
Background: developing an inclusive transport strategy during massive digital transition.....	24
Local strategies and action plans to build an inclusive digital travel eco-system .....	26
All on Board! - DIGNITY's final tools and recommendations.....	28
DIGNITY's Toolkit .....	29
Moving towards inclusive digital mobility .....	30

This publication was produced within the *DIGNITY Project* and edited by Silvia Gaggi (ISINNOVA, Italy).

The contents of this publication are based on the following project deliverables:

[D3.3 - Report on the meso level process \(Inclusive Design Wheel\)](#)

Authors: Joy Goodman-Deane, Mike Bradley (Engineering Design Centre, University of Cambridge - UCAM)

[D3.4 - Report on the macro level process \(Scenario Building\)](#)

Authors: Ingo Kollosche, André Uhl (IZT - Institut für Zukunftsstudien und Technologiebewertung)

[D3.5 - Four local strategies for an inclusive digital travel eco-system](#)

Authors: Sam Delespaul, Els Vandenbroeck (Mobiell 21), Ingo Kollosche (IZT - Institut für Zukunftsstudien und Technologiebewertung)

[D4.2 - Pilot cases - Evaluation Report](#)

Authors: Boris Lazzarini, Elisabet Roca (Institute for Sustainability, Science and Technology - Universitat Politècnica de Catalunya - UPC).

[D4.5 - Final Recommendations](#)

Authors: Boris Lazzarini, Elisabet Roca (Institute for Sustainability, Science and Technology - Universitat Politècnica de Catalunya - UPC).

LEGAL NOTICE: The sole responsibility for the content of this document lies with the authors. It does not necessarily reflect the opinion of the European Union. The European Commission is not responsible for any use that may be made of the information contained therein.

Additional information related to the project and to inclusive transport research is available at [www.dignity-project.eu](http://www.dignity-project.eu)

Manuscript completed in December 2022

Reproduction is authorised provided the source is acknowledged | First Edition | Printed in Italy.

Cover photo: [www.freepik](http://www.freepik)

Copyright credits for photos: [www.freepik](http://www.freepik), [www.unsplash](http://www.unsplash)

## DIGNITY's team

DIGNITY's team includes **research groups** with academic backgrounds, **experts in mobility and innovation** and **local public and private partners from the pilot areas** involved in the project in different parts of Europe (Barcelona Metropolitan Area, City of Tilburg, City of Ancona and the Flanders Region), working directly with the four **city and regional decision-makers** who play a key role in regulating and providing transport services.

## Project partners



## Project coordinator

**ISINNOVA** is an independent multidisciplinary research institute delivering strategic and innovative solutions to complex challenges.

ISINNOVA supports communities, policymakers and industry in shaping research-based and collaborative paths to inspire well-informed transitions towards sustainable futures. ISINNOVA's international and interdisciplinary think-tank team includes experienced researchers, skilled project managers, innovation experts and communication strategists. From the heart of Rome to the heart of Europe, ISINNOVA has taken part, both as a leader and as a partner, in over 100 research and innovation projects funded by the European Commission. The rich and solid international network built over the years is a major asset to the company's global reach.

**SILVIA GAGGI | Lead Researcher**

[sgaggi@isinnova.org](mailto:sgaggi@isinnova.org)

**ISINNOVA**  
research innovation sustainability

## Preface

The DIGNITY project has been a three-year exploration of **inclusive transport and digital mobility in Europe**, funded by the European Union's **Horizon 2020 Research and Innovation programme**. Combining literature review with established research modes and hands-on case studies, DIGNITY has produced a wealth of knowledge about the digital mobility landscape and a number of tools to assist in developing more inclusive digital mobility solutions.

*Bridging the Gap* is DIGNITY's second publication, following [Framing the Gap](#), which takes the project's story to other levels: **behind the scenes with mobility providers (and end-users) designing digital mobility services and inside co-creation workshops**. Some strategic time-travelling will allow to **envision possible future mobility scenarios** and identify which strategy developments could point to the preferred mobility of the future: fair and inclusive.

*Bridging the Gap* builds on the outcomes of DIGNITY's Framing the Gap phase (self-assessment framework, surveys, CJM and Focus Groups) to bring into the picture two main bridging methodologies (**Inclusive Design Wheel** and **Scenario building**) that will help explore the digital market players' sphere (meso level) and inform the institutional framework (macro level).

The present publication will highlight how **DIGNITY's bridging methodology** has been applied in pilot areas while sharing some results from the testing phase in real context.

If you are a local, regional, or national authority approaching the digital **divide in mobility** in your area and are looking for ways to **engage digital mobility providers, by connecting them to end-users**, and **foster inclusive transport policies**, DIGNITY's findings and methods might be helpful and/or inspiring.

A final DIGNITY publication, *The Gender Gap - Building a gender-neutral transportation system*, will feed on the project's research to deep dive into the transversal aspects of gender, mobility and digitalisation.

In the meantime, please sit back, relax and enjoy the (inclusive) ride!



## The DIGNITY Project

DIGNITY's overarching goal is to **foster a sustainable, integrated and user-friendly digital travel eco-system** - one with improved accessibility and social inclusion, where quality in daily travel experiences of all citizens is paramount; one that makes sure no one is left behind!

The project delves into today's digital transport eco-system to **grasp the full range of factors that might lead to disparities in the uptake of digitalized mobility solutions** by different user groups in Europe.

Analysing the digital transition from the **users', providers' and policy perspective**, DIGNITY looks at the challenges brought about by digitalization to then design, test and validate the DIGNITY approach: a novel concept seeking to become the 'ABC for a digital inclusive travel system'.

### DIGNITY's Approach

To help achieve and implement a digitally inclusive mobility system, the DIGNITY approach has three main parts:

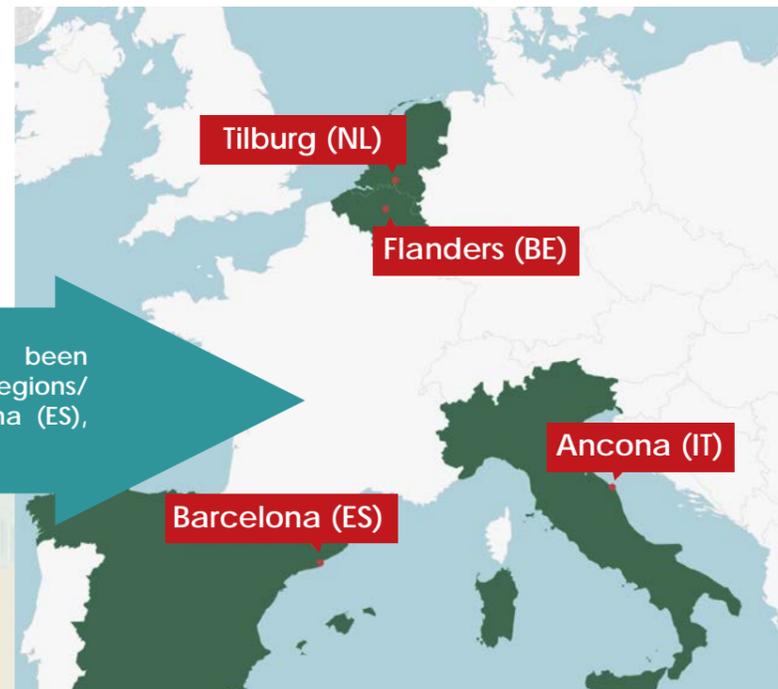
- framing the digital gap in mobility,
- **bridging the digital gap in mobility**,
- validating, evaluating and accelerating results to make inclusive digital mobility the norm.

The approach combines established inclusive design methodologies with the principles of foresight analysis to examine how a structured involvement of all actors - local institutions, market players, interest groups and end users - can help bridge the digital gap by **co-creating more inclusive mobility solutions** and by **formulating user-centred policy frameworks**.

The idea is to **support public and private mobility providers in conceiving mainstream digital products** or services that are accessible to and usable by as many people as possible, regardless of their income, social background, health situation or age. At the same time, the aim is to **help policy makers formulate long-term strategies** that promote innovation in transport, while responding to global social, demographic and economic changes, including the challenges of poverty and migration.

## Meet DIGNITY's pilots

The DIGNITY framing methodology has been implemented and tested in four pilot regions/metropolitan areas across Europe: Barcelona (ES), Flanders (BE), Ancona (IT), and Tilburg (NL).



**Barcelona** is the capital city of the Spanish region of Catalonia. The focus within the DIGNITY project lies mainly on the Metropolitan Area of Barcelona, with a population size of around 3,2 million, half of which live in the city itself. In recent years the city is undergoing a smart city revolution, which makes it highly digitalized.

**Key objective in DIGNITY** → Increase the participation of vulnerable groups in the co-design of digital mobility solutions such as inclusive last-mile services.



The Region of **Flanders** is an area of about 13,000 km<sup>2</sup>, situated in the north of Belgium. Counting 6,5 million inhabitants, Flanders is the biggest of all three Belgian regions. Flanders includes a number of mid-sized cities, among which are Antwerp (500,000 inhabitants), Ghent (257,000 inhabitants) and Bruges (118,000 inhabitants).

**Key objective in DIGNITY** → Implement a MaaS scheme throughout the region and develop a digital inclusion policy strategy focused on older, low-income and disabled people.



**Tilburg** is a city located in the south of the Netherlands counting 225,000 inhabitants. The city is part of the metropolitan area of Brabantstad, which counts 2,5 million inhabitants and is made up of five main cities.

**Key objective in DIGNITY** → Implement mobility solutions, such as a bikeshare scheme, to benefit older, low-income and other marginalised users.



**Ancona** is the capital city of the Marche region, located in the centre of Italy with around 100,000 inhabitants. Partly due to its location next to the Adriatic sea, there are three major interchange hubs in Ancona: the port, the airport and the train station. This attracts a lot of passengers (citizens, tourists, commuters) to the city who make abundant use of its public transport.

**Key objective in DIGNITY** → Increase access for vulnerable users, particularly the visually impaired, through improvements to the city's multimodal app.

## DIGNITY's keywords

**Inclusive design** – refers to a product, service, or environment being designed to be **usable for as many people as possible**, particularly groups who are traditionally excluded from being able to use an interface or navigate an environment. It is based on the simple principle that designing for the widest range of people creates **better designs that benefit everyone**.

**Co-creation** – is a **collaborative initiative** between companies and their final customers aimed at enabling the **joint design of products and services**, enriched by the client's/end-user's intellectual capital. In this process, **input from consumers** plays a central role from beginning to end of a product development. It is based on the concept that ideas are shared and improved together, **creating innovation**.

**Scenario building** – is a form of storytelling, involving **crafting narratives** about what different futures may hold, to identify, interpret and **anticipate upcoming issues**. The formulation of these projections is based on the analysis and understanding of current and historic trends and events and can be applied to any sector, including mobility and transport.

**Foresight methodology** – when applied to strategic thinking, it refers to a structured and systematic way of using ideas about the future to **anticipate challenges and opportunities** and better prepare for change. Scenario building is one of its most powerful tools.

**Vulnerable-to-exclusion groups** – are identified, within DIGNITY's scope, as 'subgroups' of the population who are likely to be more vulnerable to digital mobility exclusion.

## From 'framing' the digital gap in mobility to 'bridging' it

DIGNITY has approached the digital mobility transition theme from three distinct but intertwined points of view:

1. **the people (micro level)** - focusing on citizens in general and, specifically, on vulnerable-to-exclusion **user groups**; probing their digital skills, potential mobility poverty and the role played by digitalization of mobility products and services;
2. **the market players (meso level)** - focusing on the **provision of transport products and services**; involving transport providers in understanding the current transport landscape and how well it meets users' needs, including those of vulnerable-to-exclusion groups;
3. **the institutional system (macro level)** - focusing on **polymaking** at national/regional/local levels; looking at the provision of accessible and inclusive mobility for all citizens and mapping the governance framework behind it.

While DIGNITY's first publication (*Framing the Gap*) concentrated mostly on exploring possible methods and tools to map local contexts on the three levels above and spot potential 'gaps' in digital mobility provision and use, this second publication, which covers the second phase of DIGNITY's approach (*Bridging the Gap*), will propose innovative ways to foster a dialogue between **market players** and the **institutional system**. The purpose of sharing DIGNITY's experience is to inspire the two latter actors to jointly progress towards the definition of a more inclusive digital transport system and consider how to best involve **final users** in the co-creation of more inclusive and accessible digital products, services and policies.

Two main **complementary methodologies** (and their respective ‘tools’) have run parallel during DIGNITY’s bridging phase:

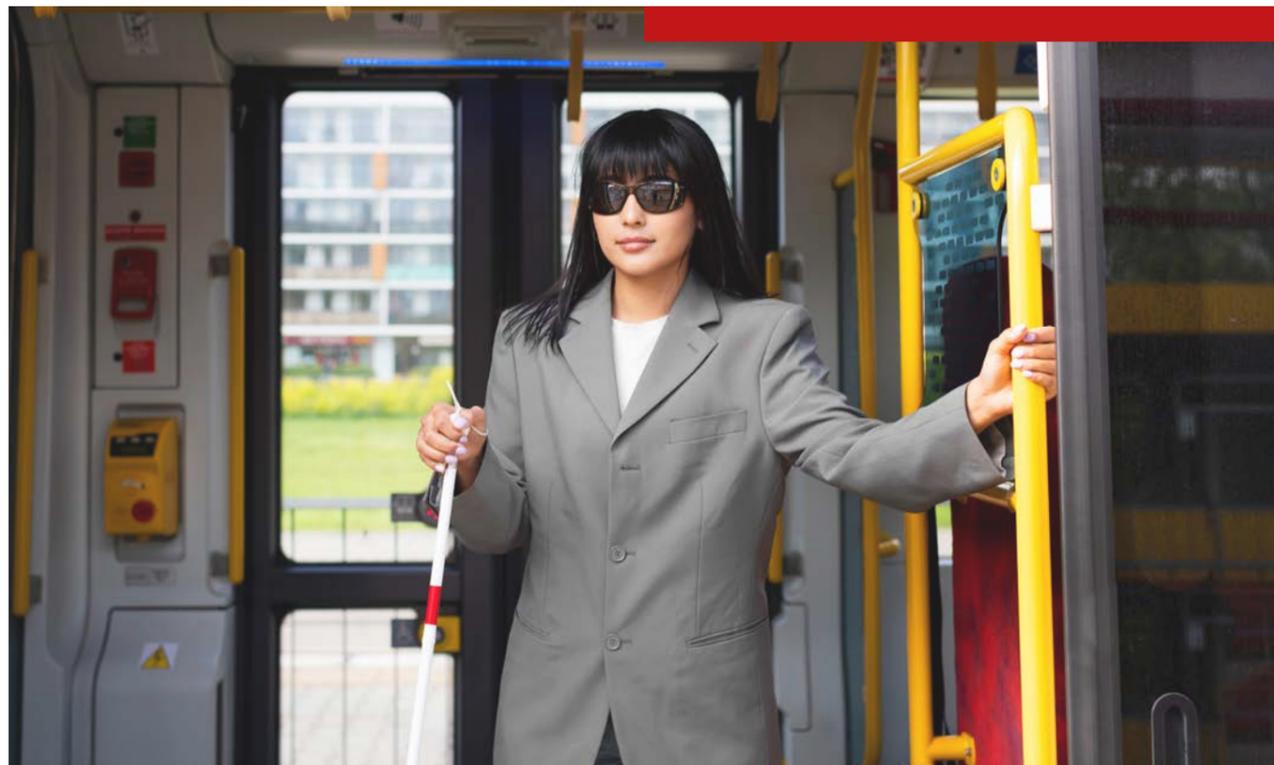
- **Inclusive Design Wheel (IDW)** – a **process model** guiding the development and evaluation of inclusive digital mobility products and services;
- **Scenario Building (SB)** – a **foresight-driven strategy** producing potential future local transport scenarios to define problem areas and initial ideas at the macro level and identify the wider context in which solutions developed in the IDW process may function.

Both these **co-creation methodologies**, which have a highly **participation-oriented component**, are well-known research methods that have been adapted to the DIGNITY approach. Their relevance and usefulness in promoting the **structured sharing of insights and visions among stakeholders** for the joint design of more inclusive products, services and policies have successfully powered some of the project’s main outputs.

## Engaging digital mobility market players: the Inclusive Design Wheel in DIGNITY.

### Background: why inclusive design matters

Digital technology is rapidly transforming the transport sector, in an effort to make travel more efficient, comfortable, sustainable and affordable. However, as with every innovation, there may be trade-offs and potential social costs involved. The digitalization of transport solutions is no exception. This ‘dark’ side is tied to the **accessibility of digital mobility solutions** being (or not being) offered, which may generate inequality or exclusion for certain sub-groups of the population.



The ‘success’ of digital mobility solutions depends on their penetration and on the reported use of these by the population. When this use is undermined by difficult-to-use interfaces, lack of access or by apps that don’t match the general levels of digital competences of end users, ‘gaps’ may occur. **Technological aspects**, including lack of technology access, low digital interface capability, low prior experience with technology and negative attitudes towards new technology in general, are not solely to blame.

People might also feel excluded from a product or service due to **cultural issues, language barriers, age-related aspects, impaired capabilities or reluctance to engage with new solutions**.

These gaps in access and use must be filled by turning one’s attention to **providing inclusive services** which the majority of the population is able to engage with and use. Inclusive design is one of the answers. It offers a response to the increasing challenge of **accounting for diversity** and meeting the needs of groups who are often under-represented in design teams, such as women, migrants, people of low income and education as well as older people and people with capability impairments [ref. *Clarkson, J. and Coleman, R. (2015). History of Inclusive Design in the UK. Applied Ergonomics, Special Issue: Inclusive Design, 46, Part B (January): 235–47.*].

According to the British Standards Institution, the goal of designing inclusively is to **produce «mainstream products and/or services that are accessible to, and usable by, as many people as reasonably possible, on a global basis, in a wide variety of situations and to the greatest extent possible without the need for special adaptation or specialised design»** [ref. *British Standards Institution (2005). BS 7000-6: 2005 - Design Management Systems - Part 6: Managing inclusive design - Guide. British Standards Institution. 2005.*].

Designing inclusively enables organisations to develop products and services which exclude fewer people and delight more people. Sometimes, benefits may reach beyond particular target groups to **positively impact society** on the whole.

Inclusive design surely mattered to DIGNITY! This aspect was at the heart of DIGNITY’s ‘bridging the gap’ phase, as the project devoted the best part of its energy to help improve the inclusivity of mobility solutions at the **design level stage** whilst engaging mobility developers/providers themselves in the process. The **main operational tool**, which was employed within the pilots, was **DIGNITY’s version of the Inclusive Design Wheel (IDW)**.



### The Inclusive Design Wheel (IDW)

The Inclusive Design Wheel IDW was originally developed by the University of Cambridge (scientific partner of the DIGNITY project) to **help designers structure the inclusive concept design process**. More information about the core version of the Inclusive Design Wheel is available [here](#).

DIGNITY’s IDW was developed from this core version and **adapted to be more specific to the needs and context of digital mobility products and services**, and to interface with the other components of the DIGNITY approach. DIGNITY’s version of the IDW was used by the pilot teams to develop concepts, prototypes and recommendations for more inclusive mobility services in their regions. This generative process **involved different stakeholders**, such as developers/providers of mobility solutions and current (or future) users of mobility solutions, with special attention to previously identified vulnerable-to-exclusion groups.

This publication reports on the version of the IDW that was used in the pilots. However, please note that the IDW was then revised based on the experiences and feedback coming from the pilots. The revised version is available [here](#).

## The phases of the IDW

Broadly speaking, the IDW is made up of **4 main phases** (*Manage – Explore – Create – Evaluate*). The Manage phase guides the whole process, helping the team determine which activity to do next, while the other three phases generate a clearer understanding of the needs at stake, of which may be the best solutions to meet these needs and what evidence proves that these needs are met.

Each phase includes **five activities**, many of which involve direct engagement with digital mobility stakeholders, including end-users.

A key principle behind the wheel is that **a design process is necessarily iterative**. As such, certain activities are expected to be carried out multiple times and central importance should be given to the Evaluate phase, starting it early in the process and keeping it ongoing to test concepts and ideas while reserving enough time to adapt and adjust.

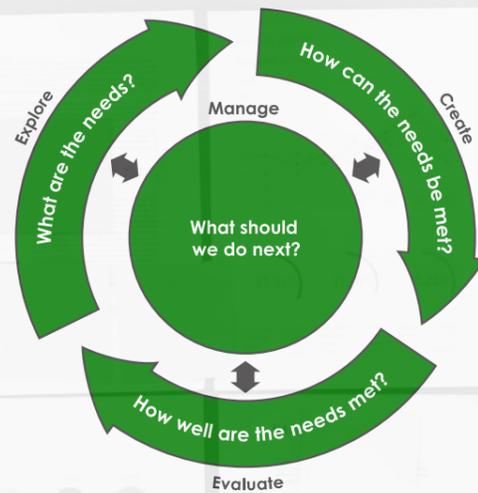


Figure 1 - Overview of the inclusive design wheel (Source: UNICAM)

### 1 Manage

#### ? Review the evidence to decide: what should we do next?

The *Manage* phase guides the process, **keeping it on track**. As such, it takes place **throughout all the other phases** rather than being done separately.

*Manage* activities include:

- monitor the progress and plan next steps,
- record the goals and refine these if needed,
- plan the engagement of stakeholders whose support and input are required for the project to be successful,
- consider any words or terms that are likely to cause difficulty (e.g., because they are interpreted differently by different stakeholders),
- develop the case for why the concept should be taken forward.

### 2 Explore

#### ? What are the needs?

During the *Explore* phase a **list or map of stakeholders** impacted by the work is recorded, together with key pieces of information coming from the framing phase (see [Framing the Gap - Publication n.1](#)).

Based on this information, a needs list is drafted, which describes **key demands of different stakeholders** regarding the mobility product or service being developed. The needs list could be used to help produce an initial target of **potential Key Performance Indicators (KPIs)** which could help evaluate the 'quality' of the overall inclusive process each pilot wishes to deliver/explore.

### 3 Create

#### ? How can the needs be met?

A key part of the *Create* phase is the organization of **co-creation workshops with end-users**.

Co-creation workshops aim to stimulate ideas, but also add information to and complete the *Explore* phase (examining and understanding user needs).

These participatory activities help develop concepts and combine multiple ideas into more complete solutions that can satisfy the variety of needs identified in the *Explore* phase.

### 4 Evaluate

#### ? How well are the needs met?

The *Evaluate* phase is **on-going** and allows for a **quick monitoring of concepts**. During this phase, concepts and prototypes should be tested with experts and users to determine how well they meet the needs identified in the *Explore* phase.



Figure 2: DIGNITY's Inclusive Design Wheel with detailed activities in each phase (adapted from Clarkson et al., 2007; Waller et al., 2015)



See the [Guidelines for Inclusive design processes for mobility products](#).

SCAN TO ACCESS:



## Local implementation of the IDW in...

DIGNITY's IDW was used locally in the four pilot cities/regions: Ancona (IT), Barcelona (ES), Flanders (BE) and Tilburg (NL); the latter hosted two pilots. The objectives of the pilot work included testing the IDW process in practice and informing its future improvement and development.

The exact activities performed, what they looked like in practice and the order in which they were conducted varied between pilots, depending on various factors. These factors included: the **scale and type of the problem** being addressed, the **target population**, how much prior thinking had already been done on the topic, whether the team was **adapting an existing solution or building a new one**, and the scale and type of initial ideas for possible solution(s).

Find below some highlights of the IDW application within DIGNITY's local pilots. Due to the iterative nature of the approach, pilots will continue to further develop, test and refine their propositions.



Ancona used the IDW to:

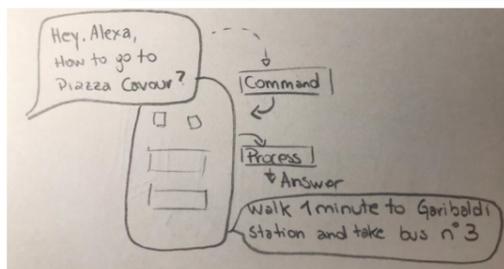
- improve the **accessibility of the current local public transport (ATMA) app and website**, which provide integrated transport information and ticketing, to reach as many users as possible, including (mainly) the following vulnerable-to-exclusion groups: people with **vision impairments** and those with **motor disabilities**.



They developed a **prototype of a new version of the ATMA app**, introducing several usability and accessibility improvements. They worked on the app's **visual clarity** and on new features to **improve the usability**, such as the implementation of a **quick travel solutions page** and **tutorials** on the use of the app. They also included the possibility to navigate in **multiple languages**. These adjustments will help reduce exclusion for people with vision impairments, those with low digital skills, migrants and even tourists.

### Workshop material slide: Stimulate ideas

An idea... APP with Alexa built-in (or other AI)



### Workshop material slide: Stimulate ideas

An idea...

Real-time information on bus stop, especially outside the city center and next to touristic areas to reduce the anxiety and keep inform

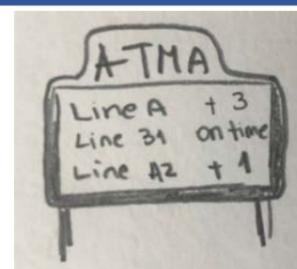


Figure 3 - Examples of ideas from the Ancona co-creation workshop. Digital ideas are colour coded in green and non-digital ones in blue

Although the need for an improvement of the app was on the team's mind, the IDW process helped the pilot team look beyond the app itself. To meet the needs of the more digitally excluded people (with no or limited access to internet or to a smartphone) they also considered **non-digital solutions** and conceived a **set of recommendations** for the local transport system to reduce exclusion for various groups of people, including migrants and tourists, people on a low income, people with lower digital competence and women.



Barcelona's objective was to promote the use of **DRT (Demand Responsive Transport)** in low density areas among groups with low digital competence.

They used the IDW to:

- develop a mock-up of a **simplified version of the Ne-Mi app** to offer a more inclusive and user-friendly **reservation process**.



On top of improvements in the use of icons and in the ways bus stops are displayed on the digital map of the app, the IDW process made them think about other **digital and non-digital improvements which could upgrade** the DRT service itself, such as the:

- provision of a **telephone service** for booking because many users do not have access to a smartphone;
- conception of **virtual stops**, which can change according to users' needs and would further reduce the amount of walking, a relevant problem for the elderly and people with disabilities;
- inclusion of **smart bus posts or screens at bus stops**, providing real-time information and facilities for communicating with the bus operator, which have a strong potential to reduce the exclusion of people with lower levels of digital capabilities and those who do not have access to a smartphone;
- implementation of a **double shuttle service** composed of a local line running within rural neighborhoods and an express line connecting them to the city centre.

### Brainstorming ideas to improve the local DRT: double shuttle service

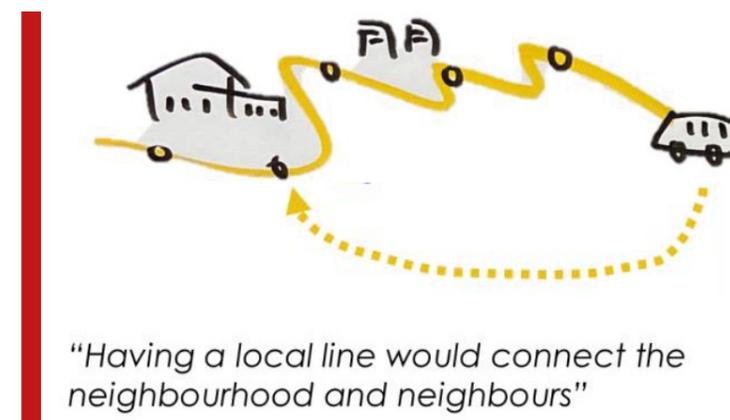


Figure 4 - One of the concepts from the Barcelona DRT case study



The Flanders region is developing the *Hoppincentrale*, a **central point of contact** bringing together multiple transport providers and offering a more cohesive and uniform interface for users of public transport to retrieve travel information and plan their trips. The center will operate via an app, a website and a call center.

They used the IDW to help consider and evaluate the following points:

- develop an **easy-to-use website**, able to improve inclusion for those who do not own a smartphone, do not (or cannot) install apps on their smartphone or have low digital interface skills;
- create **tariff uniformity** in Flanders to help increase inclusivity by reducing confusion and providing a simpler interface for users when travelling through multiple areas;
- improve the app to make it more inclusive, accessible and **user-friendly to navigate**.

Among possible non-digital solutions identified is also the proposed **training of transport personnel** to provide better support for travelers with disabilities who often need additional assistance or specialised information.

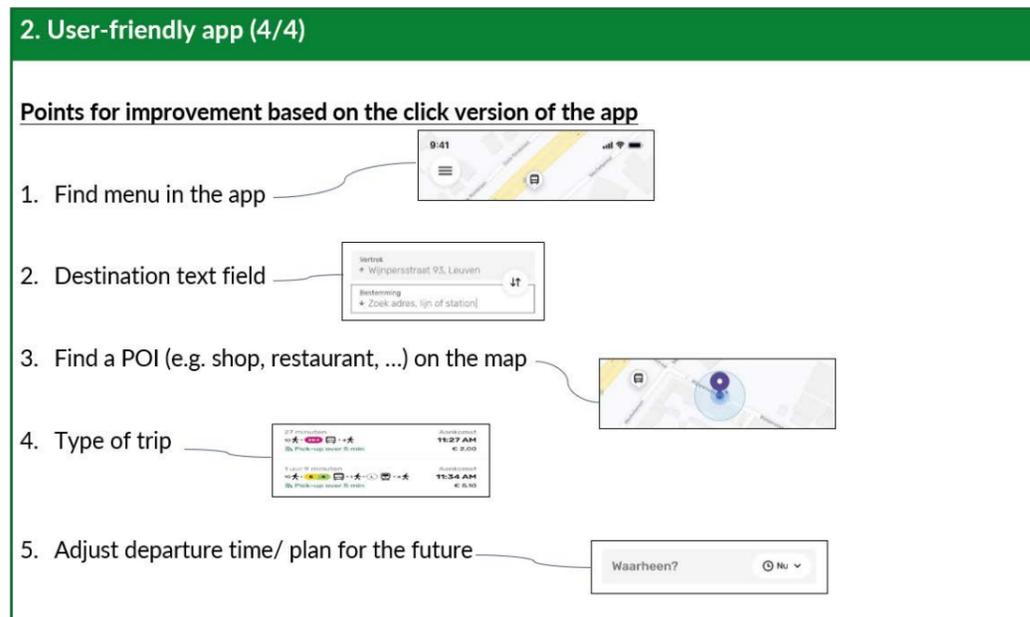


Figure 5 – Detail of user-friendly app concept in Flanders



### Pilot 1

The first pilot in Tilburg developed an intervention to **help digitally excluded people** (especially **older ones**) get from A to B.

As the focus is on the elderly, who largely have low levels of digital literacy and often seek personal contact, the pilot used the IDW mainly to address non-digital solutions. They devised a special **telephone helpline** to retrieve transport information and to contact for help when needed. They also set up a **communication route** to make people aware of the service, whether through caregivers, community centres, local media, Google or via specific campaigns.

In addition, they proposed appointing a **platform steward** to provide personal contact, information and assistance if something goes wrong during a journey.

These ideas were designed specifically for older people but may improve inclusivity for all travelers with low digital capabilities and for people with physical impairments. Developing a variety of options, **including non-digital alternatives**, makes the service more inclusive and more likely to be used by a wider range of people.



Figure 6 – Detail of the storyboard produced by the Tilburg older people pilot

### Pilot 2

Tilburg's second pilot aimed to develop a concept for a **socially and digitally inclusive bike-share scheme** (with special attention to **migrant women**) for the whole region. This idea was powered by the will to cater for certain aspects that traditional bike sharing services fail to consider, such as the potential barriers and specific needs that vulnerable-to-exclusion groups may experience. In the case of migrant women, various factors can potentially hamper their access to and use of a bike sharing service, including low digital literacy, not owning a smartphone, social and financial issues (e.g., not having a credit card, a Dutch-issued debit card or a home address), the unavailability of particular types of bikes, maintenance issues, etc.



The pilot used the IDW to better identify needs and requirements and devise a set of recommendations for the implementation of a more accessible and inclusive bike sharing scheme for migrant women. In particular, the pilot recommends:

- **using a smartcard to unlock and lock bicycles**, rather than a smartphone app; this could help increase inclusion among those who do not own a smartphone or have low digital interface competence,
- **providing cycling lessons**; this activity may help women who lack cycling competency for cultural reasons,
- **a review of existing bikeshare services** in the Tilburg area; this mapping could help identify gaps in the provision, especially for this target user group.

## Insights from the IDW process for mobility service providers and developers

Overall, all pilots analysed and developed useful and appropriate ideas and concepts to **reduce the exclusion of various vulnerable-to-exclusion groups** from specific service provisions.

The real eye-opener conveyed by the IDW was pushing mobility providers to **look beyond mere accessibility to consider also usability and inclusivity** in relation to apps, websites or other digital interfaces. They were encouraged to think about the needs of digitally excluded people by asking themselves: how easy is the information to find and understand, both for people with impairments and for a wider range of users?

### ! Lessons learnt from the IDW implementation

**Knowledge transfer** – Given the vast number of activities involved in the different phases of the IDW, there was a significant amount of explanation and knowledge transfer required for the pilots to be able to use the tool adequately. The tailored assistance, provided by the University of Cambridge throughout the process, via bilateral meetings and e-mail correspondence, was vital for the pilot teams to feel guided and supported along the process. The University of Cambridge has since improved and expanded its written guidance on the IDW to help with this.

✓ **TIP - The power of co-creation** – The participation of **vulnerable-to-exclusion groups**, typically under-represented in design teams, in all processes of design and development of mobility services should be actively **promoted and institutionalised**. This is a fruitful way to **integrate diversity in transport policy** and produce services that are accessible to and usable by as many people as possible without the need for special adaptations.



## Empowering the Institutional System: Scenario Building in DIGNITY

The scenario building process is the second methodology implemented during the Bridging the Gap phase. If the IDW realm belonged to the meso level, reaching out to mobility service providers, scenario building operates on the macro level sphere, focusing on the institutional framework and looking at **empowering local policies to make the digital mobility system more inclusive**.

The scenario building technique is part of a larger, well-established, **participatory methodology** which is increasingly encouraged to approach a wide range of social (and sustainable) goals: foresight. In a nutshell, **foresight** analysis deals with anticipating potential future challenges and identifying relevant opportunities. This does not mean that foresight predicts the future. On the contrary, by assuming that the future is not predetermined, future thinking encourages an investigation of **emerging transformations** to identify different **plausible futures**, depict **risks and opportunities**, and develop effective **strategies to move towards a preferred horizon**.

## The mobility Scenario Building (SB) technique

Foresight application within DIGNITY's pilots was **limited to the scenario building phase**, during which well-informed projections of **possible mobility futures** were formulated to help **foresee upcoming local transport scenarios**. The focus was on the 'human' dimension of transportation and how to make sure it will be fair and inclusive for all travelers.

This macro-level analysis within the DIGNITY approach includes three process stages: *Situation analysis*, *Alternative Projections* and *Action plans*. The key concept powering all three phases of scenario building is its **participatory nature**, which allows the involvement of **all digital mobility actors** (decision makers together with mobility providers and final users) to **identify key factors/drivers/challenges** affecting the local digital mobility scene.

### 1 Situation analysis

At this stage, a scan of the present scenario regarding digital mobility (and inclusivity) in the administrative networks is performed to obtain a **comprehensive situation analysis of the local mobility context**.

For DIGNITY's sake, a **questionnaire**, based on specific indicators and criteria, was designed to examine the **current institutional set-up of the DIGNITY pilots**, including existing laws, procedures and actors dealing with these issues.

**Background data to set the stage largely comes from the Framing the Gap phase** which provided, via the self-assessment tool, a structured set of indicators to collect information on existing policies, governmental structure, type of vulnerable travelers in the area, etc.. Mapping the current mobility system in place makes it possible to understand to what extent the administration is prepared to face the challenges of inclusive mobility.

### 2 Alternative projections

Based on the initial picture of the local transport scene (and its users), obtained through the situation analysis, and on the leading impact factors identified through data coming from DIGNITY's *Framing the Gap*, the core activities of the scenario building process can begin.

Within the scenario building process, **alternative projections for digitally-based and inclusive mobility ecosystems are developed**. Producing possible/plausible visions of how local transport could develop is a useful **forward-looking exercise to prepare administrations** to face certain situations and, most of all, to help shape preferable scenarios, based on local needs.

Well-informed insights, inspired through the hosting of **specific workshops**, generated a thematic **backdrop on which to develop projections of the key factors/drivers/challenges involved in mobility**. These projections are the **building blocks to formulate and shape the basic narrative of scenarios**.

The **DIGNITY pilots have developed three/four scenarios each**, with different storylines, to help structure the next step of the process (actions plans) and, in the long run, to inform policy recommendations regarding digital mobility in their local areas.

### 3 Action plans

The input coming from the in-depth discussion of each scenario will feed into the elaboration of **concrete local action plans and roadmaps**. At the same time, this wealth of visions will help formulate several **transport policy recommendations** and aid in **designing long-term strategies to future-proof a friendly transition towards the digitalization of transport**, making sure no one is left behind.



See the [Guidelines for the Scenario Building Process](#)

SCAN TO ACCESS:



## Local implementation of the SB process in...

As with the Inclusive Design Wheel, the four DIGNITY pilots were the **testing stage** of the scenario building approach tied to inclusive digital mobility provision, use and engagement.

Each pilot conducted the participative process within **two or three sequential workshops** involving participants from the public administration sector, public transport operators and companies, as well as members of different end-user groups represented by associations and organizations.

Find out below which possible future local mobility scenarios the DIGNITY pilots have imagined. Each pilot's scenario processes differ, to a certain extent, due to their individual situation, available sources of information and specific regional perspectives.



### ...Ancona

- **Scenario 1 - Green and Smart:** imagined a better 'integrated' transport scene, in which mobility projects working at different levels (local, regional, national) operate together and empower each other. In this world, there is a strong **multi-sector awareness** on current issues regarding sustainable and clean mobility and a disposition for '**monetary incentives**' to support sustainable transport (discounts for e-vehicles, low-emission initiatives, etc.).
- **Scenario 2 - Oriented to e-car:** focused on the benefits achievable through the implementation of a **mobility management department** devoted to liaising the municipal structure with local transport operators, assisting companies in the grounding of home-work travel plans and collaborating in their implementation, whilst providing a technical help-desk.
- **Scenario 3 - Partnership between public and private entities:** envisions the creation of a central Control Room, managed at a regional level, to allow the coexistence of **several transport modes under the coordination of one operative hub**. The desired **unification of payment methods** for different transport options would allow for a **one-stop-shop model**, facilitating travelers. Activities of such unit could then expand to include traffic integration management, such as traffic light networks and ZTL (limited traffic zone) access.

### ...Barcelona

- **Scenario 1 - Continuity:** imagines an unaltered scenario based on a **business-as-usual future development** within a stable economic context and a regulation of the digital transformation in place. Participation policies have improved, but the impact of the economy and the market is still dominant. The mobility sector shows more **digital interconnection** and a higher level of **intermodality**, with the mainstreaming of some new modes of transport such as carpooling. Use of public transport has slightly increased thanks to the fact that the government has continued to invest in this field and has implemented policies to promote its use. **Individual transport modes** still reign, **data privacy** is not fully guaranteed, and certain groups are still digitally excluded.



Figure 7- Scenario Building process in Ancona

- **Scenario 2 - Lost opportunity:** narrates a '**negative**' evolution of the scenario above. Here, economic growth has not led to a higher level of accessibility or sustainability in the mobility sector. **The private transport sector has increased to the detriment of collective transport**. Public-private partnerships have not produced satisfying results. There is still a lack of inclusiveness, data is not managed transparently, and the absence of governance has not helped. **Profit-driven market dynamics** have not been able to increase accessibility for users with specific needs. Mobility service providers have fallen for the **most profitable population** groups and the needs of vulnerable groups have slipped between the cracks.
- **Scenario 3 - World of contradictions:** envisages a global context of **climate change, economic crisis and increasing social inequalities**. Governments have tackled most pressing issues with **restrictive policies on the use of private vehicles**, facilitating the use of public transport and regulating the digitalisation of transport, with a high level of accessibility for all population groups and the introduction of **several new digital services**. Despite these efforts, there is still **room for improving the digital competence** of the population.

### ...Flanders\*

\*Unlike the other three pilots, the scenario process in Flanders was based on four already existing scenarios, which were outcomes of the previous Mobility Vision 2040 initiative. The four scenarios imagine a future space (dated 2040) along the perpendicular axes of impact on social value control and mobility needs (of goods and people).

- **Scenario 1 - Digi-Cosmos:** tells the story of an **overly digitalised world**, permeated with digital consumption, and where personal data is exchanged for a high-level service. Here, *people think life is good because everything in this world is within virtual reach*.
- **Scenario 2 - Flexi-Maxi:** imagines a **limitless world**, in which competition is encouraged and logistics are governed by Amazon. Here, *people think life is good because striving for personal freedom and happiness is possible and allowed*.
- **Scenario 3 - Conscious-Local:** envisions a near future in which people are sensible to the impact of consumption and mobility and **conscious of the social costs of individual choices**. This leads citizens to prefer short chains, circular economy and local scenes. Here, *people think life is good because people live more consciously with more local anchoring*.
- **Scenario 4 - Opti Connect** – is the depiction of a scenario in which **open data systems encourage multimodality and smart hubs**, promoting **MaaS** and **LaaS** players. Here, *people think life is good because life is organized, accessible, smooth and safe*.

...Tilburg

- **Scenario 1 – Dare! To travel! (Tilburg in 2030):** fast-forwards ten years to a vital, sustainable and vibrant Tilburg which has prioritized its key concerns, including helping older people travel comfortably from one neighborhood to the other, supported by access to **extended services** and **personal helpdesks**.
- **Scenario 2 – MOPPIE (Tilburg in 2045):** imagines the city twenty-five years from now, in a highly inclusive Tilburg, where mobility is guaranteed to everyone (for free, through mobility taxes) via a **sustainable transport system**. In 2045 Tilburg everyone has access to MOPPIE, a **personal mobility assistant** via mobile, who guides travelers through every step of a trip, with a special feature that helps **integrate mobility options on-the-go** (bus, train, shared car) while they continue their journey.
- **Scenario 3 – MOBI (Tilburg in 2070):** the time machine is set 50 years ahead to imagine Tilburg in 2070 as a city with more parks and public spaces, **dominated by active mobility** (walking, bike) promoted through an **integrated gamification system** (bonus translated into discounts on your favorite social activities) and **shared transportation**. Citizens can count on MOBI, a facial recognition system evolved from the MOPPIE of the previous scenario, which recognizes their preferences, finds their **ideal travel solutions** and guides them when uncertain.

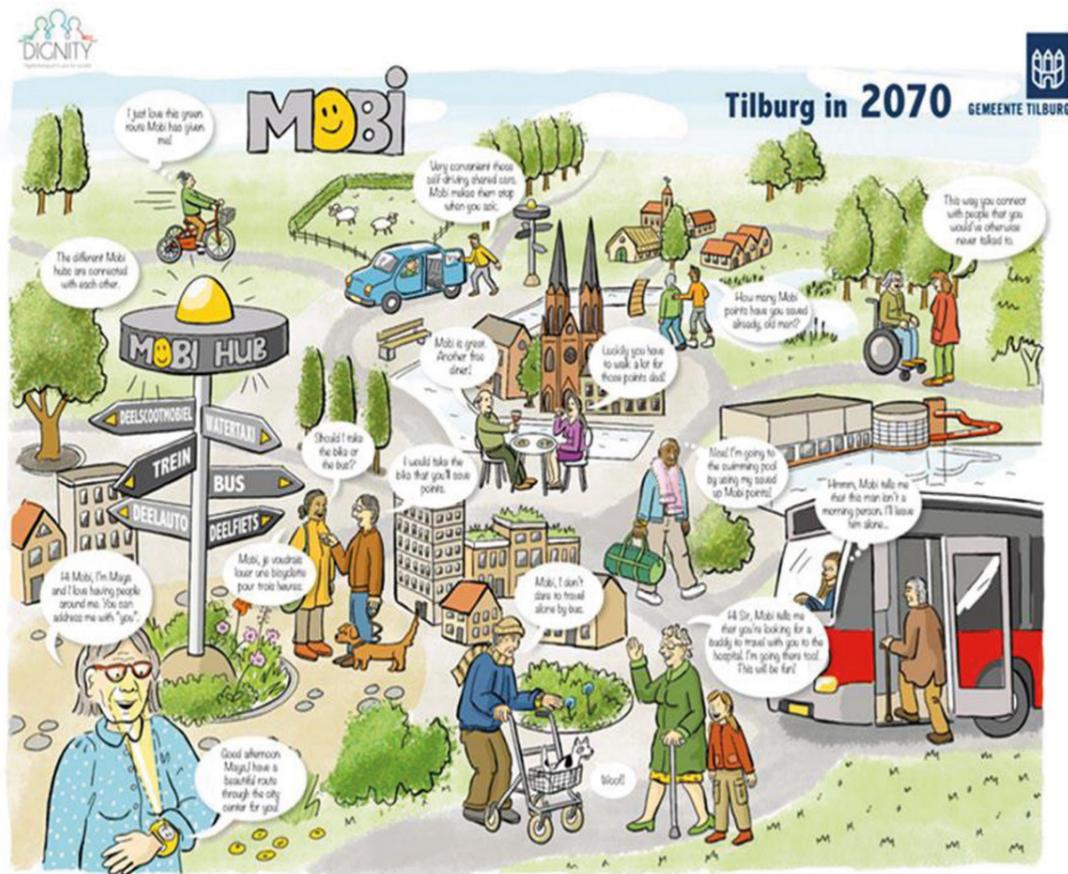


Figure 8 - Visual illustration of the "Mobi" scenario, Tilburg

## SB's contribution to informed decision-making in transport policies

While thinking about future mobility scenarios has allowed pilots to time-travel and stretch their imagination, the **insights coming from the SB exercises may have a concrete application** and provide a **better understanding of the mobility scene, including new perspectives on digital inclusion in mobility**.

The SB promoted the **engagement of a wide diversity of stakeholders** with leading positions in public and private entities of the mobility sector, as well as representatives of vulnerable groups and end-users. **Integrating different knowledge areas and perspectives**, coming from diverse areas of the mobility field, is especially valuable given the lack of spaces available for shared brainstorming and discussion. The **learning process** resulting from SB activities is one of its key assets.

Since each pilot handled the SB process based on the individual focus of their area and the perspective of those participating, a **wide range of scenarios** were observed: from **strongly narrative approaches** to rather **strategic, implementation-oriented, attitudes**. The same is true for the resultant formulation of policy recommendations and strategies: some pilots were extremely concrete and specific, while others kept a higher-level gaze.

Although developed for specific local/regional contexts, the policy recommendations deriving from the SB processes can provide the **basis for drafting more general recommendations** and are important **prerequisites to develop the final phase of the DIGNITY approach**: the formulation of long-term strategies and action plans to generate digitally inclusive mobility ecosystems (see next section, *Turning DIGNITY's lessons into winning long-term digital transport strategies*).



The table below collects some of the **most relevant policy recommendations** -divided by level of application (micro – meso – macro) - discussed and outlined during the SB workshops.

POLICY RECOMMENDATIONS from DIGNITY Pilots' Scenario Building		
Micro level (end user)	Meso level (service)	Macro level (governance)
Strengthen the digital skills of vulnerable groups through a "staged system" of training and support	Design widely accessible and understandable passenger platforms, informed by a well-read profiling of end users.	Need for strong political commitment on public transport and its accessibility.
Disseminate accessibility policies through campaigns and establish awareness-raising mechanisms to facilitate integration of vulnerable travelers.	Co-create public policies with the users throughout the cycle process, so that the design of solutions is user-centred.	Implement Mobility as a Service (MaaS) concepts with digital integration of different public transport services.
Use gamification approaches and reward "good" behaviour to stimulate active mobility.	Provide guidelines on how technology should be designed, developed and enhanced.	Generate legislation for universal accessibility of public transport from a digital point of view, so that this aspect is above market dynamics.
Make space for human contact and the proximity of transport facilities. Safeguard face-to-face assistance on certain aspects of digital transport	Implement electronic "passenger" profiles that enable tailored traveling solutions.	Assure transparency and public control of data linked to transport digitization processes.
		Continuously monitor the effectiveness of solutions via a monitoring and evaluation system with predetermined indicators.
		Regulate the design of public space to encourages active mobility.



**! Lessons learnt from the SB's implementation**

**Keeping the focus** - Overall, the majority of scenarios produced can be defined as plausible and consistent; however, the risk of losing focus on digitalization of mobility per se is looming and may lead to concentrate more on **broad transport problems** in general, failing to meet the goals set.

**Integration with the self-assessment** – It's advisable to use data coming from the self-assessment phase (Framing the Gap) to feed into the situation analysis. The relevance of indicators should be carefully considered.

**Integration with the IDW** - A possible embedding of the Inclusive Design Wheel (IDW) process into the developed scenarios should be explored; at the same time, SB insights can be equally relevant, especially in the *Explore* phase of the IDW.

✓ **TIP** - A key lesson learned from the implementation phase of the scenario building process is the need for professional facilitation to organize and moderate the workshops and accompany the entire process. Almost all pilots have organized this support through external specialised agencies and have thus been able to carry out their processes in an effective and goal-oriented manner.



# Turning DIGNITY's lessons into winning long-term digital transport strategies

Alas, this is where it all comes together! The last phase of the DIGNITY approach (the one the project has been working up to) can take off.

After having **framed the digital gap** in mobility (through the self-assessment framework, surveys, CJM and Focus Groups), **bridged the digital gap** in mobility (through the Inclusive Design Wheel and the Scenario Building process), it is time for DIGNITY to attempt to **'close' the digital gap** in mobility.

In this last step of the DIGNITY approach, all project **quantitative data-driven considerations** and **qualitative user-centred insights** are channeled to develop a **strategy for an inclusive digital travel eco-system**.

**Research outputs** and **lessons learnt** from DIGNITY's journey, collected through the tools and methods of the framing and bridging phases, are ready to be **oriented to inspire long-term policy intelligence**, able to foster a fair and inclusive transport system.

Although the results of the scenario building are the most relevant context for the development of a local strategy, insights from the framing phase and the Inclusive Design Wheel provide more specific and detailed inputs to inform the overall strategy.

Once again, DIGNITY's four pilots were on the field delivering this last crucial step of the DIGNITY approach, sharing their structured insights to shape policies aiming at filling all digital gaps in mobility.



## Background: developing an inclusive transport strategy during massive digital transition

The first move to develop a local strategy for an inclusive digital travel eco-system requires to take a few steps back and **capitalize the lessons learnt from the framing and bridging phases**. During this final stage, the pilots first discussed the above phases during a live workshop and then integrated their thoughts in the framework of the project's three main perspectives: micro, meso and macro.

At this point, the answers to the questions below provide the **baseline (and purpose) for strategy development**:

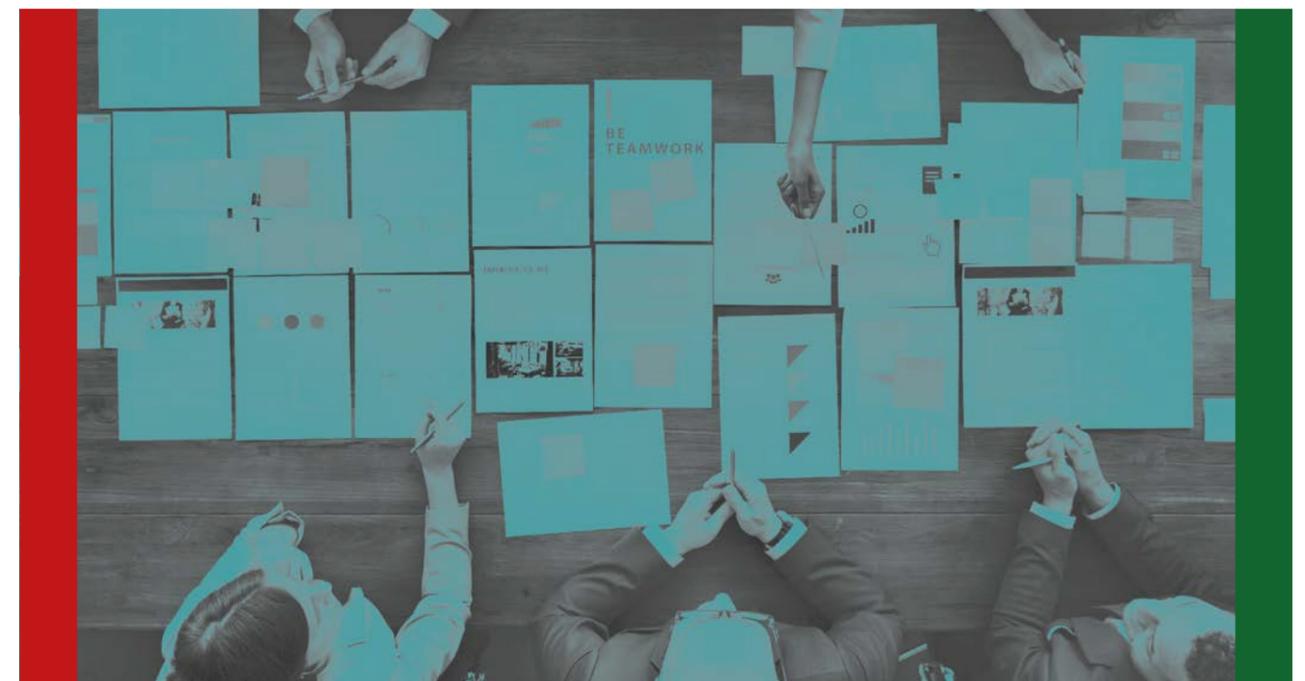
- What do we know about the digital gap (framing phase)?
- What can we do about it (e.g., ensuring a more inclusive design of digital products and services)?
- Within which policy background and towards which horizon (scenario building) are we moving?

To facilitate the drafting of the 'final' long-term strategies, DIGNITY developed **two working templates**:

- **a strategy one pager** - inspired by the work of Jan Jonker (Jonker, 2014), this PowerPoint document provides a strategy overview. It is divided into **eight building blocks**: *context & motivation, mission, vision, stakeholders, plan, core activities, impact and values*. These building blocks are further structured in three stages. Together, they form a comprehensible, useful and future- oriented **content hub for local strategy**.
- **an action plan** - consisting of an integrated listing of **concrete actions, coupled with a corresponding timing** for the strategy's implementation. In other words, it describes the road to achieve the goals set in the strategy. For each phase in the action plan, four aspects are defined beforehand: management/coordination, action, resources and communication.



Figure 9 - DIGNITY's strategy one pager template



## Local strategies and action plans to build an inclusive digital travel eco-system



Pilot teams received a **general introduction on strategy development** applied to the specific scope powering the DIGNITY project. The reasoning behind the templates and their **expected contents** were thoroughly explained and the **proposed timeline** was shared.

Since strategy development fed on outputs coming from previous steps of the DIGNITY approach, all pilot partners involved in the self-assessment, IDW and Scenario Building were asked to contribute to this final phase. As such, strategy development is an inherently **collaborative effort**; this was the only DIGNITY action where all pilot partners were involved collectively.

Along with being a **cooperative endeavor**, strategy development is also an **iterative process**, which should be given plenty of time and effort. Different visions and roadmaps need to be generated, debated and revised before a satisfying end version is achieved.

All pilots followed the same structure and had the same materials available to approach strategy development but, after an initial shared briefing, pilots implemented the activity individually in their respective city or region. This is important because **a strategy should respond to local needs**, which pilot partners know best. It's interesting to notice how identical templates and the same overarching goal led to four different local results, albeit with some common nuances.

Below are a few **landmarks in strategy development** emerging uniformly from DIGNITY's pilots.

### ★ Digital & Inclusive & Sustainable

Most pilots encapsulate the mission of digital inclusion into a **wider vision of sustainable and climate-friendly mobility**.

### ★ Attention to public transport

In general, the public transport domain is at the top of the list when it comes to planning long-term mobility interventions. Some pilots, notably Barcelona and Flanders, focus on **public transport alone**.

### ★ Stakeholder identification

Not surprisingly, the type of stakeholders to involve are highly comparable in all four pilots. **Policy makers, transport operators, digital service providers and users (current/potential)** are included in all four strategies as **key players** to reach inclusive digital mobility.

### ★ Early involvement of 'vulnerable-to-exclusion' end-users

All pilots specifically mention end-users **as stakeholders for the implementation of their strategy**. To assure that actions and policies are shaped through the perspective of the most vulnerable groups, **citizen participation must have a key place in strategy planning**.

When it comes to actual **Action Plans**, the focus and depth vary substantially between the pilots due to differences in local contexts. Below are some of the main threads explored.

### ★ Drive-policy vs. Drive-citizens

At times, the focus was on publicly provided transport options (Barcelona and, to some extent, Flanders) and **stimulating citizens** to make more sustainable choices via public transport modes (Ancona); other times, the approach was to **empower citizens directly** to take control of their mobility (Tilburg). This points to **different hierarchies** regarding which level to prioritise action on: policy or citizens/end users.

### ★ Adding change to the equation

Two pilots (Ancona and Flanders) explicitly considered possible **changing contexts which might influence strategy development**. The implementation of a strategy always depends on several circumstances that are subject to change, like the political administration in place or the available budget. **Variables** such as political elections might change the envisioned course of the strategy and are relevant aspects to take on board.

### ★ Effective communication

The need for efficient and transparent communication between actors involved in the provision (and use) of technology for transport is stressed by all pilots. Some put an accent on **opening channels between policy makers and market players** to facilitate checks on inclusivity features while others **embrace citizen-facing engagement and raising awareness** amongst the end-users as crucial to envision an inclusive strategy.

### ★ Assess and validate through pre-established indicators

All pilots have recognized the importance of **regular strategy assessment** and, to this end, have included **milestones** and **KPIs** (Key Performance Indicators) to expedite monitoring.



The strategy templates speak for themselves! Have a look at each of the [four pilots' local long-term strategies](#).

SCAN TO ACCESS:



### ! Lessons learnt from DIGNITY's strategy development

Inputs to structure a digital mobility strategy are made available from the research outputs of DIGNITY's framing and bridging phases: taking all the **relevant information on board beforehand** (even when the material is a lot to go through) will contribute to be **well-prepared** when devising an informed strategy.

# All on Board! - DIGNITY's final tools and recommendations



DIGNITY's journey through framing, bridging and 'closing' the digital gap in mobility across Europe has reached its final destination. Along the way, we have walked the streets with transport users (and non-users!), stared at screens with digital mobility providers and sat with regional transport operators.

What was clear from the start is even more apparent now: DIGNITY was never just a handy acronym but the very concept powering the project: **ensuring everyone is able to travel with 'dignity'**, regardless of digital skills, access to technology, income level, education, physical impairments, ethnicity or gender!

This above has been the over-arching purpose behind the development and testing, through pilots, of the DIGNITY approach. An effort to create ways to get everyone on board and to help pilot cities/regions/areas **take informed control of their digital mobility scene** through **research frameworks and tools** developed by the project.

DIGNITY's story (and that of its pilots) can become that of other cities/regions/areas willing to **tackle the urgent matter of digital exclusion**, in the midst of an **unrelentless digital transition of the transport sector** and with a **no longer postponable climate-friendly mobility scenario** knocking on the door.

## DIGNITY's Toolkit

One of the concrete legacies of the project is the DIGNITY Toolkit, developed to help policymakers, public and private mobility entities and institutions in the promotion of more inclusive digital mobility solutions.

The DIGNITY Toolkit is freely available [here](#).

The toolkit is designed to support two main activities, which reflect the project's overall scope:

- ★ guiding public and private mobility players and providers in developing **more inclusive mainstream digital products or services**, accessible to and usable by as many people as possible, regardless of their income, disability, social situation or age;
- ★ helping policymakers **formulate long-term strategies** that promote innovation in transport while responding to global social, demographic and economic changes, including the challenges of poverty, migration and climate change.

The toolkit provides a set of instruments aimed at promoting these activities by improving the understanding of issues faced by vulnerable-to-exclusion groups and the integration of inclusive design practices in the design of mobility policies, products and services. Furthermore, it incorporates an **innovative decision support tool**, which guides through the identification of which specific tools are most suited to certain context and needs.

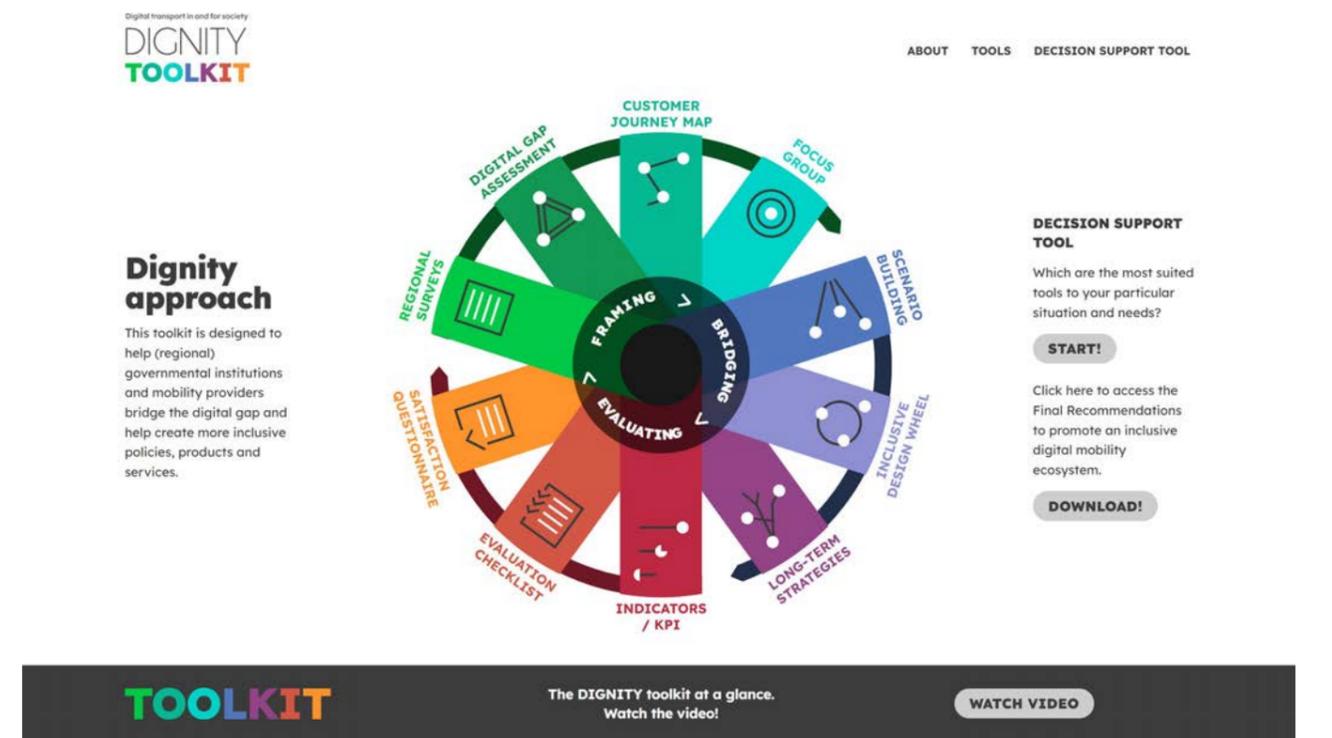


Figure 11 - Homepage of the DIGNITY Toolkit

## Moving towards inclusive digital mobility

Every inspiring and fulfilling journey has some 'souvenirs'; along with concrete tools (such as the Toolkit), **DIGNITY's take-aways** are in the form of **final project recommendations on how to foster a sustainable, integrated and user-friendly digital travel eco-system** that improves accessibility and social inclusion, along with the travel experience and daily life of all citizens.

These **8 policy recommendations** are the product of DIGNITY's eye-opening exploration of digital mobility and **collect insights and lessons learnt** from the project's research and on-the-field application of the DIGNITY approach.

They are intended to **address the risks of exclusion associated with the development of digital mobility solutions** which could lead to greater social inequalities in sustainable urban development.

The recommendations also **account for the intersectionality and the complexity of transportation issues**, as well as for the diversity of agents involved in the digitalisation of mobility, which requires better coordinated policies to meet the needs of potential vulnerable-to-exclusion citizens. Furthermore, the **integration of participatory methodologies, inclusion design principles and co-creation practices** are considered as a possible response to the increasing challenge of accounting for diversity and inclusivity in the transport scene.



### 1. Recognise that the digital gap in mobility is a complex and multifactorial issue that requires sound research inputs

Acknowledging how digital exclusion is not just a question of technology access, personal digital skills or negative attitudes towards progress will allow the complexity of the issue to shine through. Aspects such as poverty, education, social/cultural conditions, inequalities, disability and aging are an essential part of the equation. To cater for these multiple factors, public funding should invest in research and open access datasets to inform evidence-based decision-making processes.



### 2. Ensure a coordinated governance system across multiple sectors and stakeholders

The embedding of participatory methodologies and practices into decision-making processes, the promotion of coordinated policies involving all relevant administrative units (e.g., transport, ICT and social services) and the systematic integration of private actors and end-users in mobility planning and product design are vital to feed a multi stakeholder engagement and knowledge sharing that can help formulate successful mobility policies.



### 3. Ensure that digital products and services are co-designed to be inclusive and usable by as many people as possible

The majority of the population (including those with minor impairments and with low levels of digital skills) should be able to use these interfaces without difficulty and without the need for special adaptations. The promotion of iterative inclusive design processes may encourage the improvement of the usability of digital interfaces (e.g., apps, webpages and public ticketing/information machines). The provision of analogue (non-digital) means to access digital solutions (e.g., face-to-face or telephone assistance, in person ticketing and payment options) can also favour the inclusion of the most vulnerable-to-exclusion segments of the population.



### 4. Ensure that accessibility is prioritised above market dynamics

The development of common digital accessibility standards and certifications, to be employed in public procurement of digital services and products, along with appropriate legislation, may help institutionalise and safeguard the needs of vulnerable-to-exclusion people.



### 5. Advocate for the use of intersectional approaches when analysing characteristics, needs and requirements of vulnerable-to-exclusion groups

Acknowledging how individual characteristics – including gender, age, ethnicity, class, disabilities, etc. - intersect with one another and overlap will help produce disaggregated data to allow an in-depth analysis of the population's diverse needs and requirements.



### 6. Promote policies aimed at improving gender inclusion in mobility systems

Encouraging the representation of women in both the transport domain and in the digital sector of mobility - as transport administrators, planners, designers, etc. - will help develop gender balanced (digital) mobility policies, services, and products.



### 7. Raise awareness of and build capacity on the issue of digital exclusion in mobility

Educating key stakeholders (e.g., transport and technology company officials and personnel) on the issue of digital exclusion in mobility through programs and campaigns will create better conditions for a proper understanding of diversity, vulnerability, exclusion and promote inclusivity in the mobility environment.

At the same time, providing opportunities for potentially excluded people to develop their digital literacy skills, e.g., through short training courses in convenient spaces will fast-track their empowerment.



### 8. Enhance dissemination strategies and diversify communication channels to effectively reach people who are at risk of digital exclusion

Target audiences using appropriate language and channels (including non-digital communication options such as mail, in-person services, telephone and peer-to-peer modes) to provide clear, accurate and consistent information for them to make informed decisions about their mobility.

SCAN TO ACCESS:



Download the unabridged [Final recommendations of the DIGNITY Project](#).



Visit the DIGNITY website ([www.dignity-project.eu](http://www.dignity-project.eu))  
for more information and follow DIGNITY on social media.



DIGNITY's journey towards inclusive digital mobility continues by connecting with digital mobility service providers and transport policymakers.

*Bridging the Gap* narrates DIGNITY's approach in engaging digital mobility market players to adopt **inclusive design** and in empowering institutional systems with insights about **future transport scenarios** to foster successful mobility policies.

This **hands-on-account** will inform the development of user-friendly and inclusive digital mobility solutions and provide **visions** for the elaboration of **long-term transport strategies**, along with **recommendations** to cater for a fair and fulfilling **digital transition in mobility**.

3

2

1

## Bridging the Gap



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°875542

The sole responsibility for the content of this document lies with the authors. It does not necessarily reflect the opinion of the European Union. The European Commission is not responsible for any use that may be made of the information contained therein.