



levitate

# D2.3 Initial Exploitation Plan

Deliverable D2.3 – WP2 –PU




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## D2.3 Initial Exploitation Plan

Work package 2, Deliverable D2.3

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# Executive summary

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It is intended that the LEVITATE Policy Support Tool (PST) will remain in operation for long term after the end of the project and it will be gradually become a reference Information System. D2.3 Initial Exploitation Plan provides **an initial project exploitation strategy**, in order to merge project results and knowledge with partner interests, market and regulatory needs to develop business models and manage IP to produce plans and agreements for post-project exploitation. The exploitation strategy description is developed in the following sections:

- Definition of exploitation objectives, target audience and project results to be exploited.
- Presentation of the overall exploitation strategy based on the project's principles.
- Identification of the accelerating exploitation measures to be adopted by the partners in LEVITATE consortium.
- Definition of the exploitation roadmap, following the project's timeplan.

The exploitation strategy will be further developed and enhanced along with the project's progress.

# 1 Introduction

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## 1.1 LEVITATE

Societal **Level Impacts** of Connected and **Automated Vehicles** (Levitate) is a European Commission supported Horizon 2020 project with the objective to prepare a new impact assessment framework to enable policymakers to manage the introduction of connected and automated transport systems, maximise the benefits and utilise the technologies to achieve societal objectives.

Specifically LEVIATE has four key objectives:

1. To incorporate the methods within a **new web-based policy support tool** to enable city and other authorities to forecast impacts of CATS on urban areas. The methods developed within Levitate will be available within a tool box allowing the impact of measures to be assessed individually. A Decision Support System will enable users to apply backcasting methods to identify the sequences of CATS measures that will result in their desired policy objectives.
2. To develop a range of **forecasting and backcasting** scenarios and baseline conditions relating to the deployment of one or more mobility technologies that will be used as the basis of impact assessments and forecasts. These will cover three primary use cases – automated urban shuttle, passenger cars and freight services.
3. To establish a **multi-disciplinary methodology** to assess the short, medium and long-term impacts of CATS on mobility, safety, environment, society and other impact areas. Several quantitative indicators will be identified for each impact type
4. To apply the methods and **forecast the impact of CATS** over the short, medium and long term for a range of use cases, operational design domains and environments and an **extensive range of mobility, environmental, safety, economic and societal indicators**. A series of case studies will be conducted to validate the methodologies and to demonstrate the system.

## 1.2 Work package 2 and Deliverable 2.3 within LEVITATE

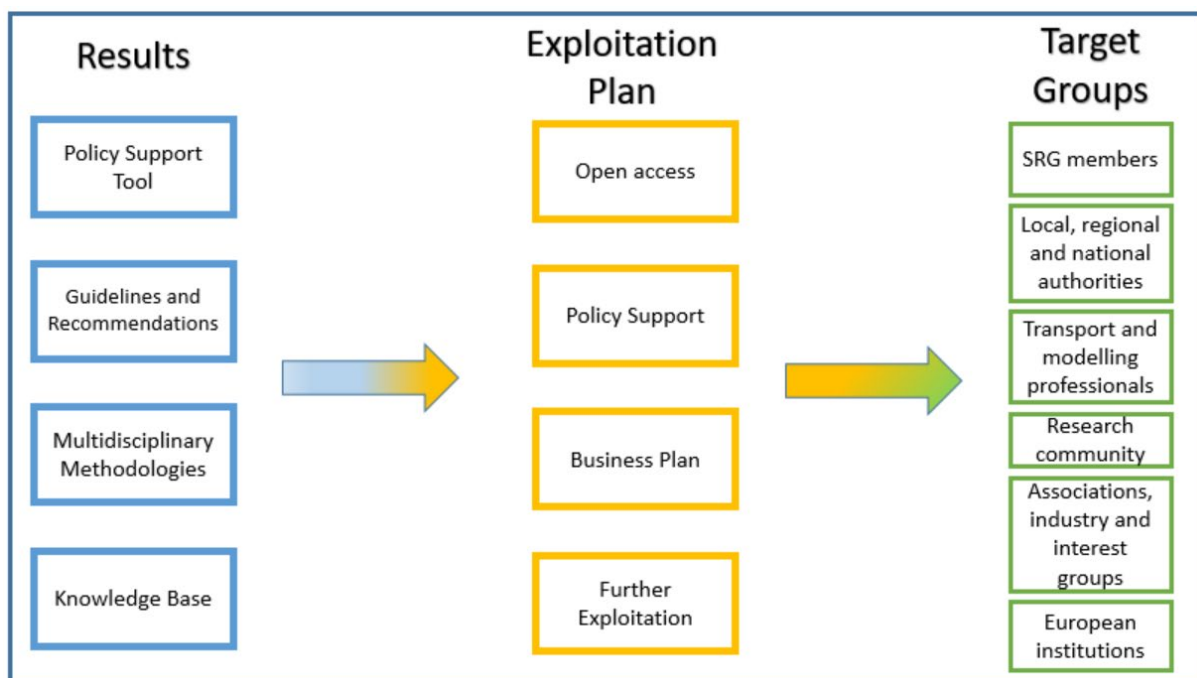
The purpose of this WP is to create awareness about the possibility to estimate the impact of connected and automated transport with the tools developed within LEVITATE. Specific objectives are:

- To inform and involve local, regional and national transport authorities.
- To provide a framework and process for an effective peer-to-peer transfer of know-how and experience to selected stakeholder.
- To make the tools accessible through events, training and workshops for knowledge consolidation.
- To promote exploitation of the tools by authorities and private stakeholders.

The objective of the deliverable D2.3 Initial Exploitation Plan, is to define the work that will be done in terms of exploitation of the project results. It describes the exploitation strategy, based on measures to maximise impact of project results for the target audience. D2.3 specifies how to achieve LEVITATE's exploitation objectives.

## 2 Objectives, audience and results

The success of an innovation project, like LEVITATE, depends on the **post project exploitation strategy**, that will assure that the LEVITATE Policy Support Tool (PST) will remain in operation after the end of the project. Our intention is to start planning and executing exploitation activities at an early stage, although it is clear that all plans must be in a provisional state as the project continues to evolve. The overall and individual exploitation plans will be refined and updated periodically in order to be in line with project results. The overall exploitation strategy is presented in the following figure.



At the end of the project, LEVITATE will provide an overview to the use of results in terms of Technology Readiness Level (TRL) classification and progress to either commercial exploitation or further development, at the deliverable 2.8 - Post-Project Exploitation Plan.

### 2.1 Objectives

Exploitation of project results aims to merge project results and knowledge with partner interests, market and regulatory needs to develop business models and manage Intellectual Property (IP) issues to produce plans and agreements for post-project exploitation. Specific objectives are:

- contribution to **policy**
- generation of **further research** on the basis of the developed methodologies,
- **open access** of the toolkit

- decision support system as an **interactive webtool** and
- further exploitation to efficiently **spread and implement** the results: in-depth assessment based on forecasting and backcasting, complemented with simulations and consultancy for an efficient roll-out of the results.

## 2.2 Audience

LEVITATE's work is relevant for the following target audience:

- Stakeholder Reference Group (SRG) members (The group consists of people representing local/regional authorities, national authorities, European decision makers, global initiatives, operators, think tanks, groups representing pedestrians, cyclists, public transport, motor vehicles, researchers, consultants)
- Local and Regional Authorities
- National Authorities
- Transport and modelling professionals
- Research community
- Associations, industry and interest groups
- European and International Institutions

## 2.3 Project results

Developing a strategy to exploit the results of the project requires knowledge of the results that the project will offer as a whole, but also to each target group. For this reason, a detailed description of the methods of exploitation of the project will be preceded by a description of the **expected results** for the target audience.

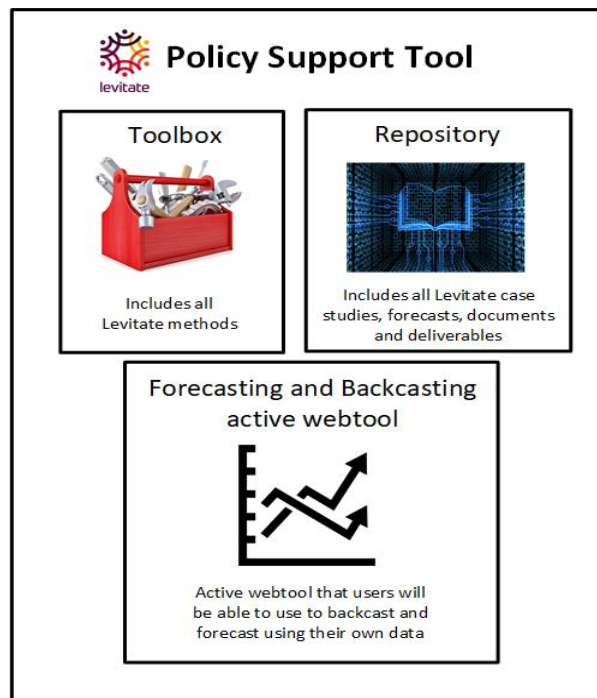
The LEVITATE project purpose is to provide policy support to cities, regions and infrastructure providers regarding the implementation of CATS. To this end, LEVITATE will deliver a **Policy Support Tool**, concerning the impact assessment for CATS. This tool will enable policymakers to manage the introduction of connected and automated transport systems, maximize the benefits and utilize the technologies to achieve societal objectives. LEVITATE provides a **forum for stakeholders** and authorities on the impact of connected and automated road transport (via the SRG). Finally, the project will make available a **knowledge base** of all relevant literature.

### 2.3.1 The LEVITATE PST

The Policy Support Tool will be an **open access, web-based system** that will provide future users with access to LEVITATE methodologies and results. The detailed design will be informed by the specific needs of the key stakeholders and it will provide access to related bibliography, project results, documentation of tools and methods, excerpts from CATS policy recommendations, as well as a Decision Support System with forecasting and backcasting capabilities.

The toolkit can be advocated as a **global reference system** for Connected and Automated Transport Systems (CATS) impact assessment, to be used by decision makers, stakeholders and experts at all levels (city, regional, national, European, global). Based on the above concept, the LEVITATE Policy Support Tool is suggested to comprise two main modules: the Knowledge module (static component) and the Estimator module (dynamic component).





The **Knowledge module** will provide access to the knowledge base, repository and guidelines of LEVITATE project, namely:

- the **bibliography**,
- the project **results**, including the case studies on the participating cities (scenarios and baseline conditions, results) and the predefined impact assessments,
- the documentation of **LEVITATE Tools and methods**, to enable cities to explore the expected impacts of CATS in the users' circumstances.
- excerpts from **CATS policy recommendations**.

The **Estimator module** will provide estimates for different types of impacts (including cost-benefit ratios) and allow comparative analyses. It will include two sub-systems:

- the **forecasting** sub-system, combined with the Cost-Benefit Analysis (CBA) estimator, will provide quantified and/or monetized output (depending on the impact) on the expected impacts of CATS related policies, using both pre-defined key scenarios and customised scenarios;
- the **backcasting** sub-system will enable users to identify the sequences of CATS-related policy measures that are expected to result in their desired long-term policy objectives.

More details on the contents, the interface and the foreseen operation of the aforementioned modules are presented in WP8 deliverables.

## 3 Overall exploitation strategy

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It is intended that the LEVITATE PST will remain in operation for long term after the end of the project and it will be gradually become a reference Information System, in which more and more experts and organizations contribute their studies with quantitative results. The project results exploitation strategy is based on the following principles:

- Provision of **open access** toolkit and decision support system
- Contribution to **policy support**
- Development of a **business plan** to define future aspirations for the decision support system, in order that the PST becomes a service for impact assessment for CATS.
- **Further exploitation**

### 3.1 Open access

Due to an open access, but sustainable business model, LEVITATE PST will remain a reliable, meaningful, scientifically proved and **up-to-date source** of data and assessment, to the potential users. This will enable them to actively plan and steer the implementation of CATS following pre-defined transformation paths in order to reach prioritised policy goals. An exception concern Aimsun's protected software brought in as background. In addition, for technical reasons the simulation modelling which enables backcasting for very accurate assessment cannot be implemented into a public online tool. **Training sessions** for the assessment of individual and detailed use cases will be provided at the end of and after project life-time.

### 3.2 Policy support

The LEVITATE policy support tool will be further maintained in terms of data, policies and methodology. To raise awareness, the online toolkit – being part of the full policy support tool – provides easy-to-use quick assessment for the public. Once the decision support system is online, an **online forum** and **network** will be established (as part of the website) to guarantee knowledge and contact exchange of early adopters and follower cities. Members of this sustainable network will meet once a year.

### 3.3 Business plan

Although the LEVITATE PST will be developed within the Horizons 2020 Levitate project, funded by the European Commission, the intellectual property is owned by the Levitate Consortium. It is necessary to develop a business plan to define future aspirations for the decision support system, in order that the PST becomes a **service for impact assessment** for CATS. This business model will be further discussed and develop as the project evolves.

To keep the tools and services running after project life-time, IT maintenance and ongoing data management will be necessary on the supplier side. The LEVITATE PST will serve as a **promotion tool** to attract potential customers to make use of the full LEVITATE offer. The combined stakeholder networks in LEVITATE will provide the basis for further

**collaboration opportunities** to coordinate research activities and strategically aligning funding programs. Furthermore, **training fee** will be required for in-depth training on professional simulation modelling including backcasting for urban/transport/traffic planners. Another business plan is to promote licensing on methods for consultants.

The main objective of the **marketing package** is to explore the possibilities for the continuation of the operation of the LEVITATE PST after the end of the project and the period covered by the European Commission financing (up until 31 December 2021). Finally, the **innovation management** is an inherent component of the project and will be an agenda topic at Steering Committee, Consortium and Stakeholder Reference Group meetings and as direct input to the developing the project business model(s) as results evolve.

### 3.4 Further exploitation

It is necessary to develop an operational framework to ensure the project facilities can be accessed and updated beyond the completion of LEVITATE. **Future research** activities will enrich the knowledge base developed in LEVITATE. It will especially address the identified knowledge gaps in order to systematically increase the understanding of influence factors and impacts. Early adopters build trust for **follower cities**, both in the implementation of policies and CATS. OEMs and cities / regions can follow an iterative process to learn from each other in the development of technologies, policy goals, user needs etc. with regards to CATS.

In order to achieve a more **global perspective**, the PST will include studies from outside Europe, provided by LEVITATE partners from Australia, China and the United-States of America. It is also proposed to include studies from other cities and countries and studies in **other languages**. Furthermore, the knowledge base and innovative methodologies in the LEVITATE PST provide a basis for continuous expansion. To this end, LEVITATE intends to build up a **sustainable network** to exchange growing knowledge on newest methodologies. Evidence collected in similar research activities in and beyond Europe will contribute to it as well. Post-project, the respective SRG members – as priority users – will further provide input for further detailed scenarios.

## 4 Accelerating exploitation measures

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The partners in the consortium dispose all the background **expertise and capacity** to achieve the **targeted exploitation plans** as mentioned above and accelerate the path to the targeted stakeholders. The proposed measures to accelerate exploitation are:

- **Communication activities** launched and followed-up on a regular basis to keep target groups informed
- **Active participation** in EU stakeholder and advisory groups
- **Promotion of project findings** through open access scientific journal publications and presentations in conferences
- **Contribution** to standards, good practice and related policies
- **Workshops** and industry exhibitions
- Involve **existing clients** network
- Negotiation with the consortium partners the right to **directly exploit** the results
- **Commercial exploitation** by consulting municipalities
- **Expert training**
- Generation of **further research**

## 5 Exploitation RoadMap

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From the above exploitation plan description, it is evident that input from WP8 as well as from the final consultation workshop is necessary in order to further develop and realize these plans. This initial exploitation plan is created early in the time plan in order to evolve along with the project and the development of the PST, as well as to provide useful information about the foreseen exploitation.

The following time plan is suggested for the PST exploitation plan, which reflects to the timeplan of the LEVITATE as a whole.

- Establish and follow a **tight time schedule**, starting with the operation of the PST (anticipated for M18 – June 2020)
- **Demonstration workshops** (from M18 – June 2020 to M34 – October 2021)
- **Intermediate** Exploitation Plan (M20 – August 2020)
- Intermediate report on innovation and **business model** development (M20 – August 2020)
- Development of a comprehensive **marketing strategy** and a professional marketing package (M22- October 2020) that includes:
  - Explanation of the system
  - Explanation of the system's value
  - Address governance issues
  - Highlight the added value for funding organizations
- **Dedicated visits** to potential funding organizations (from M24 – June 2020 to M34 – December 2021)
- **Post-Project** Exploitation Plan (M36 – December 2021)

This exploitation roadmap will be further developed and enhanced along with the project's progress.