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# Developing a Policy Support Tool for Connected and Automated Transport Systems

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## Introduction

Connected and automated transport systems (CATS) are expected to be introduced in increasing numbers over the next decade based on the rapidly developing capability of modern technologies. The aim of the Levitate H2020 research project is to prepare a new impact assessment framework to enable policymakers to manage the introduction of CATS, maximize the benefits and utilize the technologies to achieve societal objectives.

### Objective

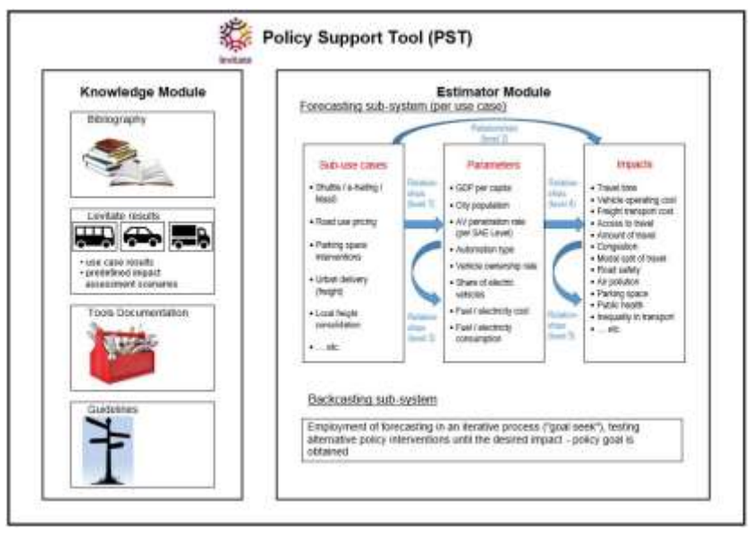
The objective of this study is to provide an insight on the development of the Levitate Policy Support Tool (PST), the use cases, parameters and impacts considered and the methodologies applied for the estimation of relationships and impacts of connected and automated transport systems.

### Multi-disciplinary impact assessment methodology

After the identification of potential impacts. they were classified into three categories: direct impacts, systemic impacts and wider impacts.

In order to forecast impacts of CATS, the Levitate project utilizes several impact estimation methodologies, such as: literature reviews, traffic simulations, delphi-panel surveys and operation research.

Impact assessment focuses on three primary use cases of CATS: urban transport with shuttle buses, passenger vehicles and freight transport.




## Policy Support Tool

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 PST objective is to bridge the gap between technology and policy objectives assisting cities with CATS implementation avoiding the unwanted and unforeseen consequences and rebound effects. The PST comprises two main modules: the Knowledge module (static component) and the Estimator module (dynamic component).

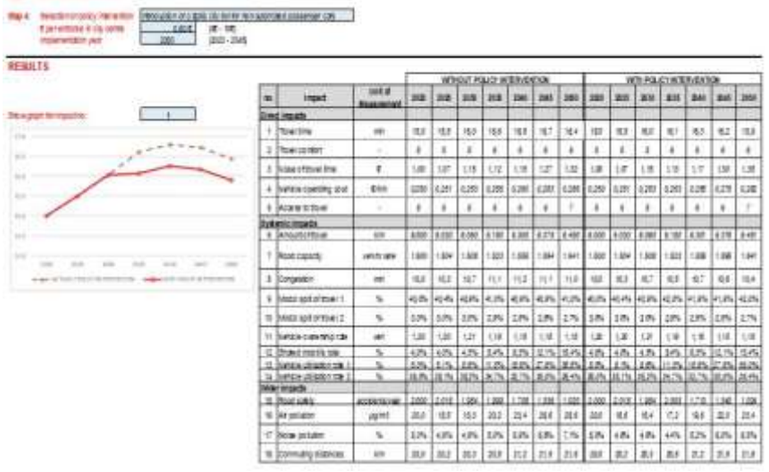
### Knowledge Module

The knowledge module will consist of a static **repository**, searchable through a fully detailed, flexible and documented way. The user will be able to search by any parameter, to adjust and customize the search according to preliminary results and to access all background information about any stage of the project.

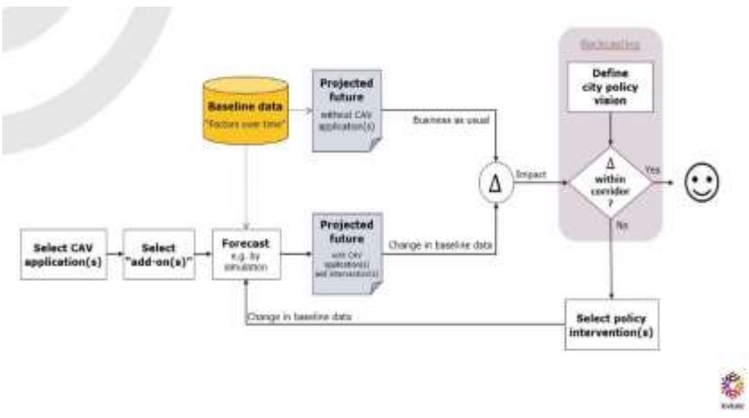
### Estimator Module

The estimator module will provide estimates for different types of impacts and allow comparative analyses. It includes two parts, the forecasting and the backcasting sub-system.

- In the **forecasting** sub-system, the user will be able to select a CATS application or policy intervention (or group of interventions), define the required parameters (or accept pre-defined values) and the module will provide quantified and/or monetized output (depending on the impact) on the expected impacts.




- In the **backcasting** sub-system, the user defines the desired policy vision described in terms of changes in the impacts. The PST then will control which interventions lead to this expected impact by running the forecasting estimator for all interventions. If the impact lies within the targeted corridor towards the desirable policy vision, the solution is retained. Otherwise, a new set of baseline data and interventions is assumed and the analysis runs again.




## Conclusions

Upon its completion, the Levitate PST will provide the first openly available web-tool to effectively support decision making for connected and automated transport systems in a holistic way, with guidance on both forecasting impacts of policy measures as well as identifying those measures that are appropriate for achieving specific policy goals.

## Acknowledgements

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