CATS-PST
Connected and Automated Transport Systems Policy Support Tool

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Event: Stakeholders Workshop
Location: Gothenburg
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LEVITATE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824361.

Policy Support Tool - Concept

- Open access
- Web-based
- LEVITATE methodologies and results
- Decision Support System
- Forecasting and Backcasting Sub-Systems

PST Objectives

- **Forecasting and backcasting system** providing insight on measures to reach cities objectives
- Provide **multidisciplinary** impact assessment methodology
- **Bridge the gap** between technology and policy objectives
- Support cities with **CATS implementation** without the unwanted and unforeseen consequences and rebound effects

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PST Structure

Policy Support Tool

Knowledge Module

Bibliography

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- use case results
- predefined impact assessment scenarios

Tools Documentation

Guidelines

Estimator Module

Forecasting sub-system

Policy Interventions

- introduction of a city toll for non-automated vehicles
- economic incentives for AV purchase
- provision of dedicated lanes for AVs
- introduction of tax on vehicle ownership, traffic restrictions for non-automated vehicles
- …. etc.

Links

Factors

- Vehicle type
- Area type
- GDP
- AV penetration rate (per SAE Level)
- Automation type
- Level of shared mobility
- Vehicle ownership rate
- Share of electric vehicles
- Share of pedestrians
- Share of cyclists
- Share of PTWs
- …. etc.

Inter-relations

Inter-relations

Impacts

- Crashes
- Fatalities
- Air Pollution
- Noise Pollution
- Energy efficiency
- Vehicle purchase cost
- Vehicle operating cost
- Vehicle maintenance cost
- Vehicle insurance cost
- Direct cost of travel
- Change in travel time
- Travel comfort
- Valuation of travel time
- Congestion
- Pavement wear
- …. etc.

Interrelations

Backcasting sub-system

Utilization of forecasting in an iterative process ("goal seek"), testing alternative policy interventions until the desired impact(s) is obtained

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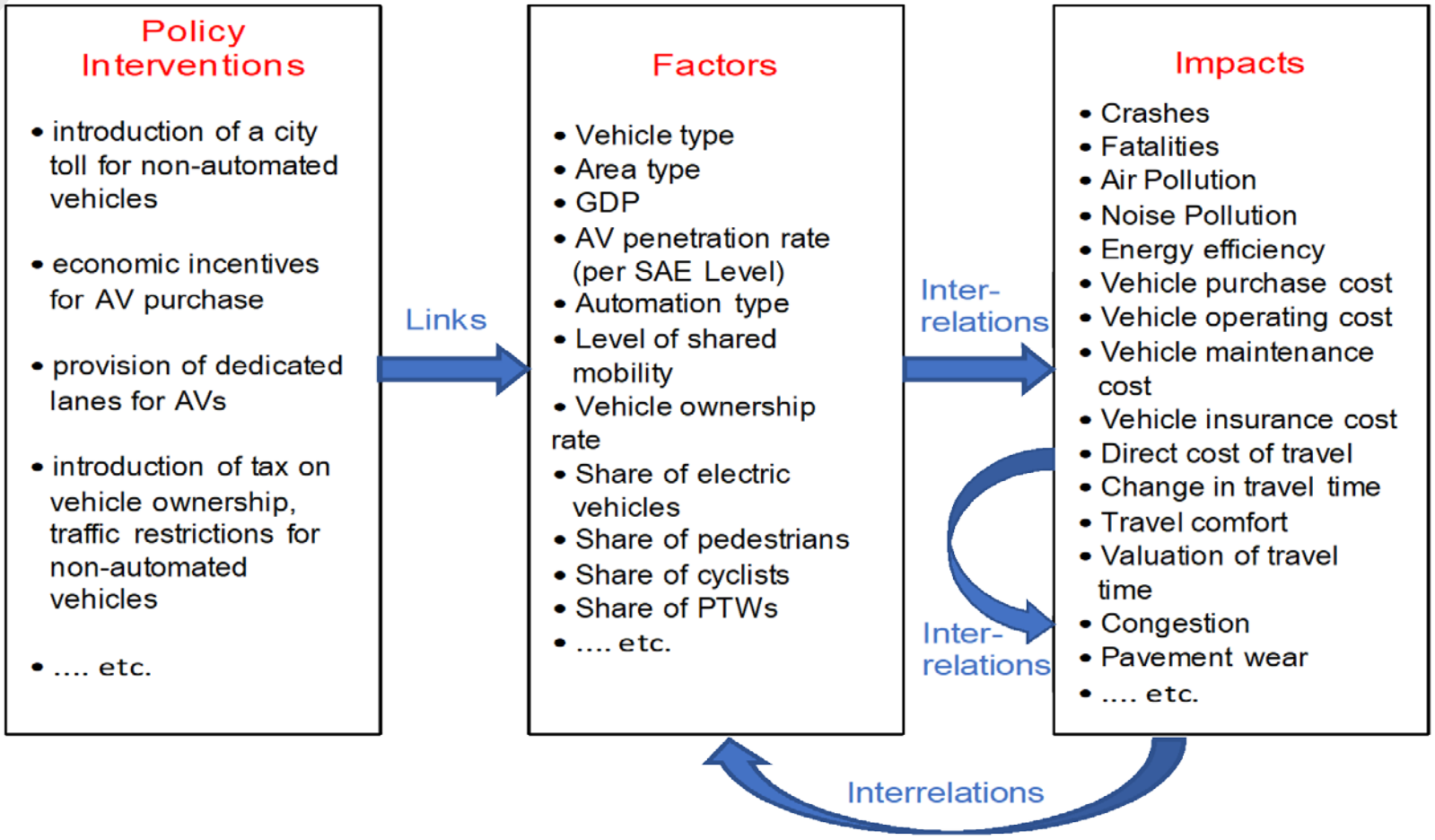
Knowledge Module

- **Bibliography**
  - Standardized Excel coding template
  - Synopses
- **Results**
  - Predefined scenaria
  - Use cases
- **Tools Documentation**
  - Multidisciplinary methodology
  - Models
- **Guidelines** and Policy Recommendations

Estimator Module

Forecasting sub-system



Example questions addressed

- What will be the **impact of a policy intervention** in the short, medium and long term?
- How **efficient** are the desirable interventions in terms of safety, environment, economy and society?
- What is the best intervention in order to achieve a short, medium or long term **vision**?

... then use CATS PST to have the answers

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Forecasting example

Description of **desirable policy interventions** (e.g. Point to point shuttle, centralized traffic management, green light optimised speed advisory)

Public transport:
Point to point shuttle

Traffic intervention:
centralized traffic management

C-ITS application:
green light optimised speed advisory

Factors-Descriptive parameters

- Vehicle type
- Area type
- GDP
- AV penetration rate (per SAE Level)
- Automation type
- Level of shared mobility
- Vehicle ownership rate
- Share of electric vehicles
- Share of pedestrians
- Share of cyclists
- Share of PTWs
- .... etc.

Impacts of desirable policy interventions using the multidisciplinary impact assessment methodology

Impact A:
CO2: -50% to -70%
Casualties: -10% to -15%
Space: -20% to -25%

Impact B:
CO2: -35% to -40%
Casualties: -20% to -35%
Space: -10% to -15%

Impact C:
CO2: -40% to -60%
Casualties: -5% to -10%
Space: -30% to -40%

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Backcasting example

Description of **desirable impacts** (enviromental vision, safety vision, land use vision)

Vision A:

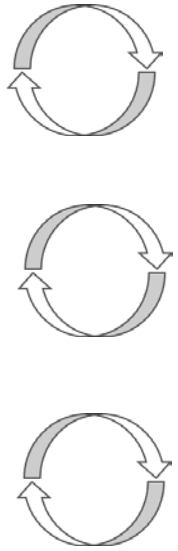
CO2: -50% to -70%
Casualties: -10% to -15%
Space: -20% to -25%

Vision B:

CO2: -35% to -40%
Casualties: -20% to -35%
Space: -10% to -15%

Vision C:

CO2: -40% to -60%
Casualties: -5% to -10%
Space: -30% to -40%



Factors-Descriptive parameters

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- .... etc.

Policy interventions that will lead to the desirable goal resulting through the multidisciplinary impact assessment methodology

Public transport:

Point to point shuttle

Traffic intervention:

centralized traffic management

C-ITS application:

green light optimised speed advisory

Other policy interventions:

...

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Feedback on the PST

Introduction

The aim of this discussion is to give us your opinion on the proposed PST structure. Identify the potential challenges and suggest additional features based on your expectations.

Suggestions and challenges

Why would you use the PST?

Enter Text and Press Send

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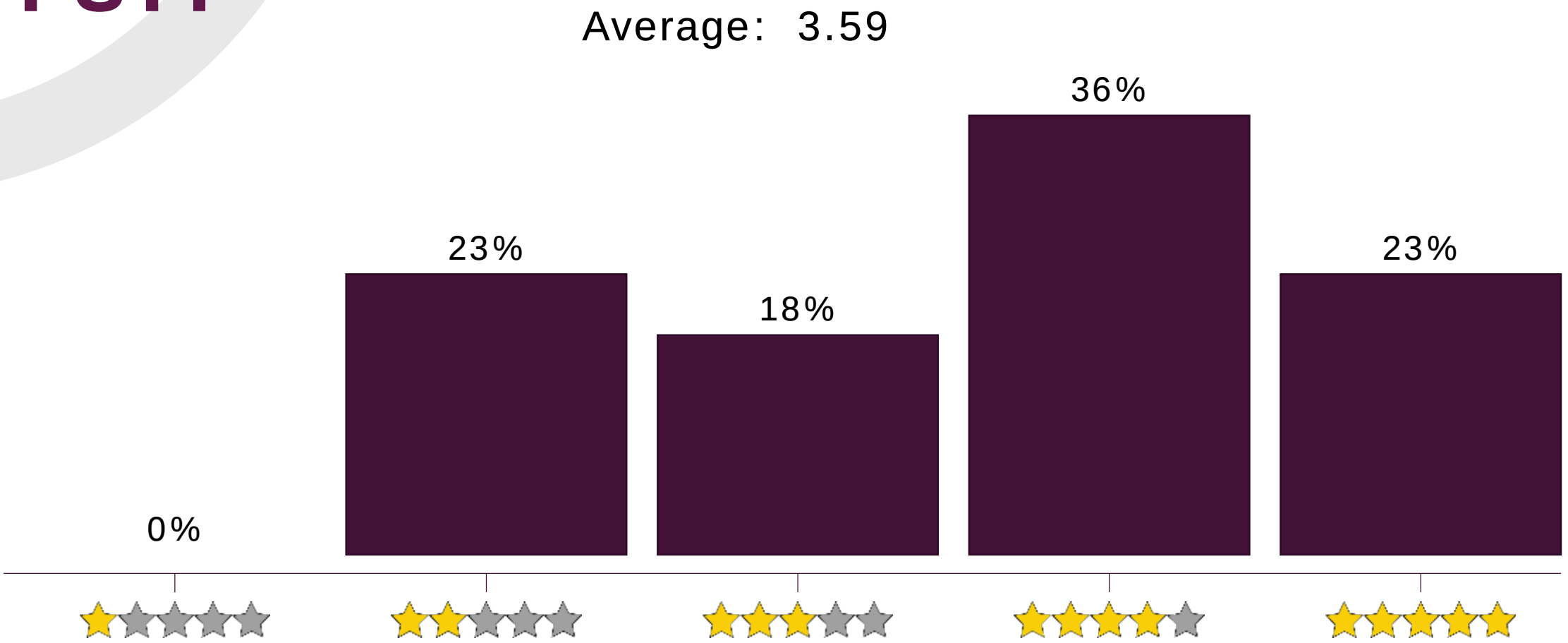
POLL OPEN

How important do you consider the Knowledge Module for the PST?



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Which feature of the Knowledge module would you mostly use?

1. Bibliography

4%

2. Results

20%

3. Tools Documentation

20%

4. Guidelines and Recommendations

56%

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POLL OPEN

Which feature of the Estimator module would you mostly use?

1. Forecasting

26.09%

2. Backcasting

73.91%

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What other features would you add to the PST?

Enter Text and Press Send

- Examples of **EU** or national **projects**
- Examples of **scenarii**
- **Simulation** results
- **FAQ** and Suggestions functionality
- Community **network**/forum
- Spatially **differentiated** results
- Provide **international** benchmark
- **Life-cycle** information

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Given your experience, what are the challenges that might be faced for the development of the PST?

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Next steps

- **Workshop results** will contribute to further refinement of the PST design
- **Frequent consultation** at various stages of PST development
- Your feedback is really **valuable**

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