

# Procurement of Innovation

*How can cities obtain innovative mobility solutions by applying a new approach to procurement?*



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**austriatech**



**NORTH DENMARK REGION  
CITY OF TAMPERE**



**FORUM  
VIRIUM  
HELSINKI**



Rijkswaterstaat  
Ministry of Infrastructure  
and Water Management



CITY OF COPENHAGEN



**Northamptonshire  
County Council**



**Hamburg**

## 1. Introduction

- 1.1. [The SPICE white paper: what for?](#)
- 1.2. [Why is there a need for a new approach to procurement?](#)

## 2. Legal considerations

- 2.1. [How to choose the best procurement procedure](#)
- 2.2. [Which approaches to choose?](#)
- 2.3. [How to choose the best contractual approaches](#)

## 3. Common Buyers Groups and common procurements

- 3.1. [Common Buyers Groups](#)
- 3.2. [Common procurements](#)

## 4. Technical considerations

- 4.1. [Electric vehicles](#)
- 4.2. [Intelligent Transport Systems](#)
- 4.3. [Mobility services](#)

## 5. Policy considerations

## 6. Recommendations and Conclusions

## Specific framework

### Main POLICY GOAL:

Shift to a low-emission mobility

### Main TREND:

Continuous technological advancement

### Electric vehicles (EVs) potential advantages:

- environmental
- financial

## Specific challenges

- Lack of practical examples
- Lack of overview of the market
- Buyers have little experience with, and knowledge about procurement of EVs
- Lack of clarity in technical specifications in EV procurements
- Continuous technological advancement:
  - set the knowledge on the current state-of-the-art
  - anticipate further improvements and additional costs (e.g. renewal or maintenance)

## Specific framework

### Main POLICY GOALS:

Contribute to

- reducing congestion
- social inclusion
- safety
- reducing environmental impact

### Main TREND:

Paradigm shift

- from a supply-side oriented public transport system
  - with few operators with fixed lines and schedules
- to a demand-side oriented transport system
  - with different types of operators and business models and different kind of services

## Specific challenges

- Not enough time for the technical development of new approaches
- Lack of interoperability of services and insufficient open transport data
- Lack of synergies of different approaches
  - e.g. procurement (of innovation) not linked to R&D funding

# TECHNICAL CONSIDERATIONS

INTELLIGENT TRANSPORT SYSTEMS

**SPICE**  
smart procurement for better transport

## Specific framework

### Intelligent Transport Systems (ITS) are

- a wide range of solutions for traffic and transport related challenges
- often a digital layer on top of existing physical & electronics infrastructure
- very sensitive towards existing legacy and vendor locked-in systems
  - barriers for procurement and implementation

### Main TREND:

Central Traffic Management System (CTMS) of cities is becoming the platform that

- connects many different ITS solutions
- integrates emerging smart city technologies



## Specific challenges

- Interconnectedness of systems
- Standardisation
- Vendor lock-in
- Flexibility for long-term evolution
- User's benefit, on top of community's and the authority's benefit
- Is there a need for a complex technical solution?

## Recommendations

### Issues

Vendor lock-in:  
independence from  
specific suppliers and  
vendors means more  
bidders and lower  
prices



### Recommendations

- ✓ Learn about systems from small pilot projects and living labs
- ✓ Create a detailed system architecture and a plan for integrating different systems
- ✓ Exchange proprietary and closed protocols with open protocols and standards

## Recommendations

### Issues

Data policies



### Recommendations

- ✓ Have clear policies for gathering and use of data (including privacy, anonymity and aggregation)
  
- ✓ Have a strategy for data sharing with
  - Users and citizens
  - Other authorities / departments
  - Private companies

## Recommendations

### Issues

Procuring Central  
Traffic Management  
Systems (CTMS) /  
Smart City platform  
/ modelling system



### Recommendations

- ✓ Ensure user-friendliness of the interface with a variety of users with different backgrounds (not only traffic engineers)
- ✓ Integrate all transport users and modes
- ✓ Anticipate the merge with traffic modelling and the introduction of machine learning for ultimately automated operations with political choices:
  - How much automation is wanted/needed?
  - Which goals (and in which order) the system should strive to achieve?

**Thank You**  
*for your interest*  
**&**  
**Good Luck**  
*in your future procurements*

**Find out more about the SPICE project: [spice-project.eu](http://spice-project.eu)**

**This White Paper has been created as D5.6 White Paper on the SPICE Recommendations**

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