

# Operating Raw Data and statistics exchange (OpRA - CEN TC278 WG3 SG10)

### Why OpRa: Public Transport optimization

- Accurate Planning**
  - improved timetables, better utilization
  - more resources, better service
  - reduced costs, better service
- Efficient Planning**
  - reduced energy consumption
  - reduced emissions
  - reduced noise
- Cost Reduction**
  - reduced energy consumption
  - reduced emissions
  - reduced noise
- Service Quality**
  - reduced energy consumption
  - reduced emissions
  - reduced noise

### What OpRa does: identify KPI and Raw Data

The image shows two hands holding two interlocking puzzle pieces. The left piece is labeled 'KPI' and the right piece is labeled 'RAW DATA'. This visualizes the process of identifying and connecting key performance indicators with raw data.

### How OpRa operates

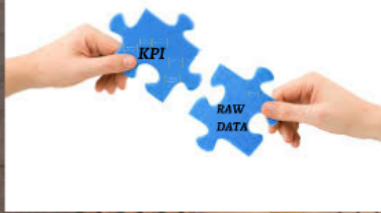
The image shows a map of Europe with yellow stars, representing the European Union. This indicates the geographical scope of the OpRa project.

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## Strategic Planning:

- network elements (lines, stops) definition
- main service parameters (vehicles sizes, operation intervals, service intervals for important time demand types) definition;
- guaranteed interchanges are planned.

## Tactical Planning:

- operators plan their resource usage (vehicles, rolling stock, personnel), with detailed timetables for each resource

## Study and control:

- in this stage, operators and authorities review the history of actual operations, which may lead to improvements through operational changes, or an optimization of strategic and tactical planning

## Before Travel:

- all planned networks and timetables are published;
- passengers and other type of clients may plan their use of the offered transportation services via printed and electronic media;
- passengers may make their reservations as needed.

## In Travel:

- transportation service is conducted and Real-time information exchange is available while this takes place and may be recorded.

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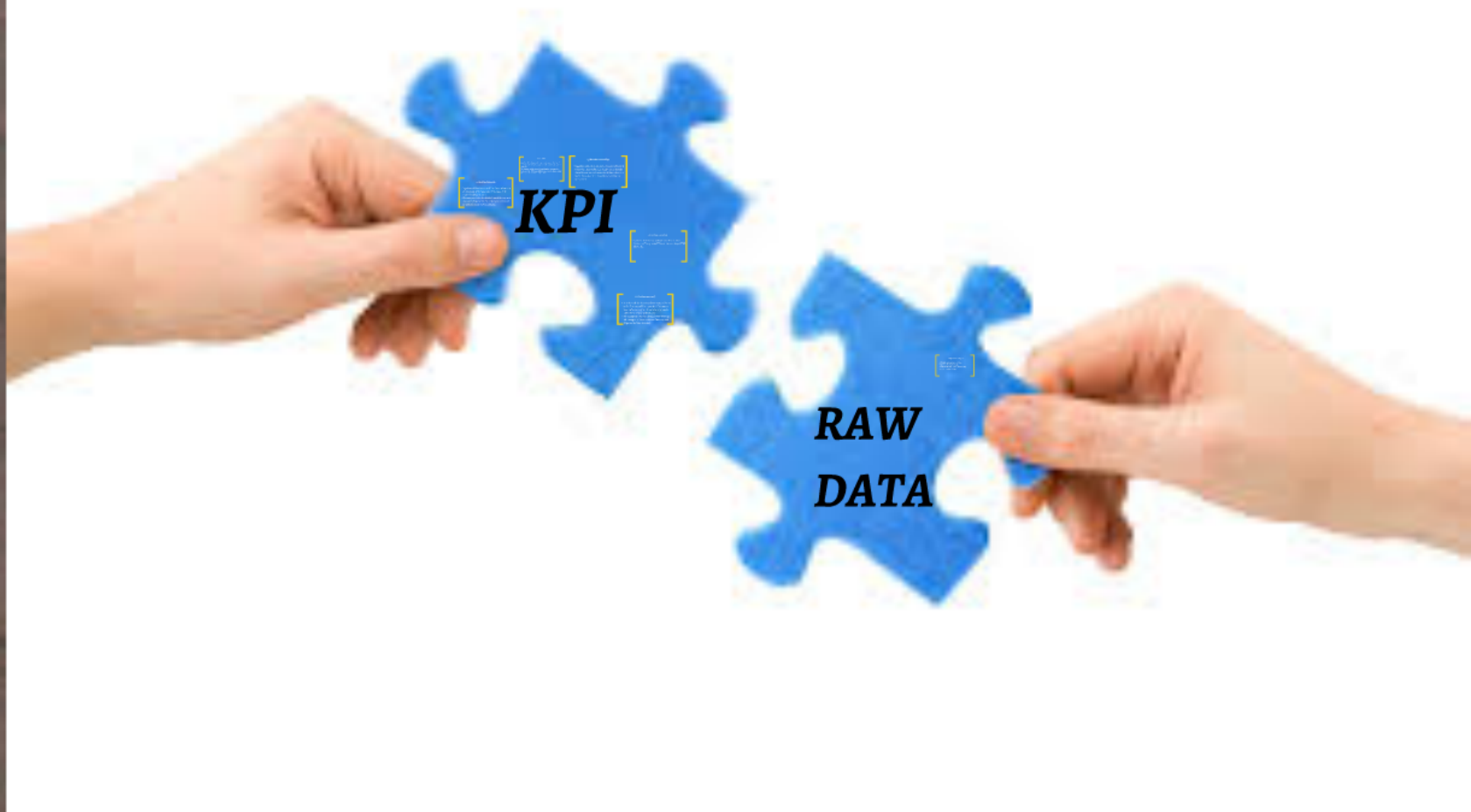
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## What OpRa does: identify KPI and Raw Data



## (1) Service Offer:

- It gathers all the themes and Use Cases relevant to the Offer of Transport for PT Service (e.g. Spatial and time coverage, offered seats, etc.).
- This category is further divided into following sub-categories: Planned Service Offer (as result of Strategic and Tactical planning phases); Actual (measured) service Offer.

## **(2) Service Demand:**

- It gathers all the themes and Use Cases relevant of the Demand of Transport for PT Service (O/D matrix, load factor, etc.).
- This category is further divided into following sub-categories: Expected Service Demand and Actual (measured usage) service Demand.

### **(3) Service externality:**

- It gathers all the themes and Use Cases relevant to PT Service Externality, that imply cost or benefit that affects a external party who did not choose to incur that cost or benefit (pollution emissions, safety, etc.).

#### **(4) Service economy:**

- It gathers all the themes and Use Cases relevant of the Economy of Transport for PT Service in terms of incoming funds and expenses (costs, sold tickets incoming funds, etc.).
- This category is further divided into following sub-categories: Income Service Economy and Expenses Service Economy.

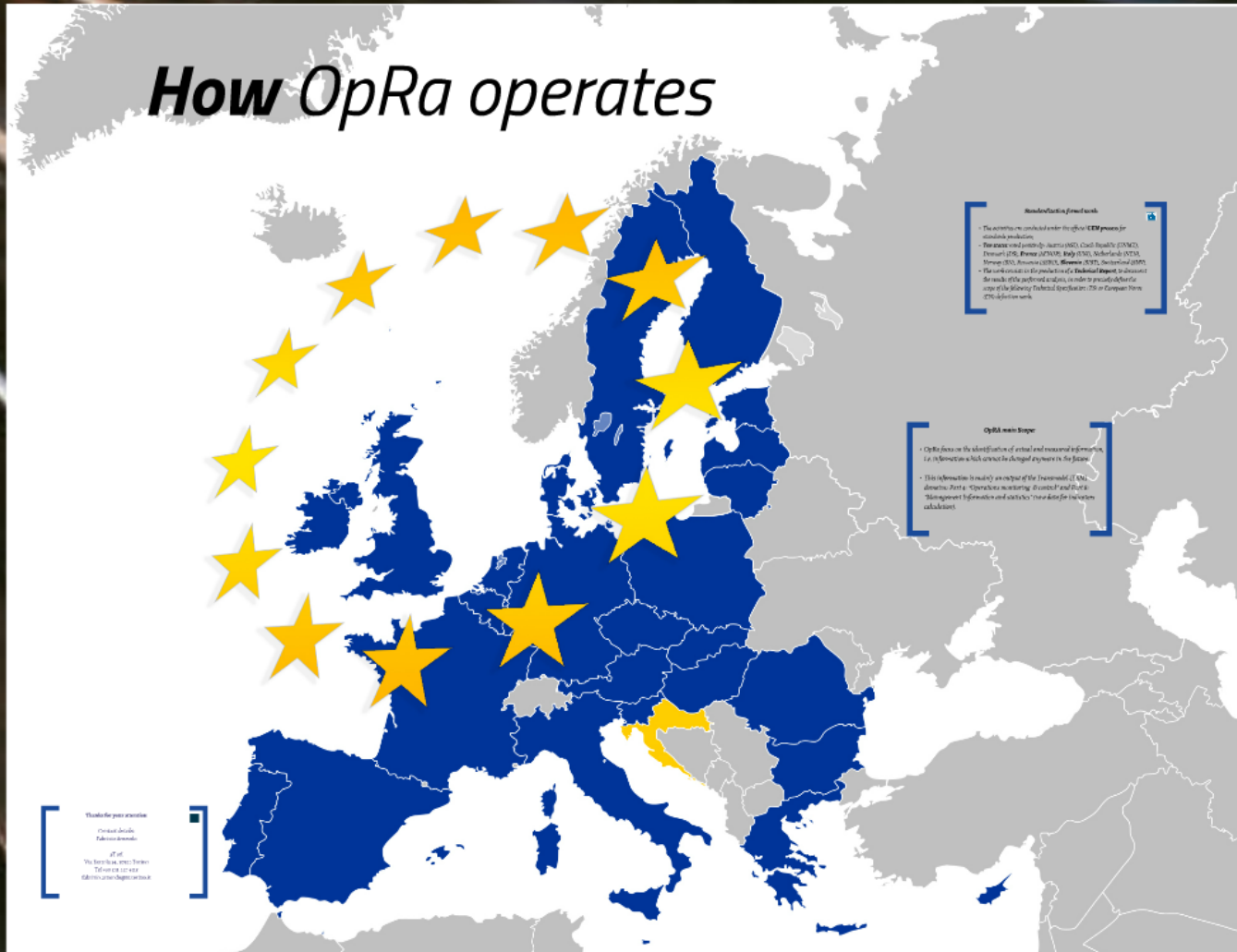
## **(5) Service efficiency:**

- It gathers all the themes and Use Cases relevant of the Efficiency of Transport for PT Service (lines overlaps, MTBF, delays, etc.).

## *ITS for Public Transport:*

- *AVM systems (operational raw data);*
- *Black-box AVL tracking Systems;*
- *Electronic Ticketing Systems (Fare raw Data);*
- *CAN-BUS on-board systems;*

# How OpRa operates





## **Standardization formal work:**



- *The activities are conducted under the official **CEN process** for standards production;*
- ***Ten states** voted positively: Austria (ASI), Czech Republic (UNMZ), Denmark (DS), **France** (AFNOR), **Italy** (UNI), Netherlands (NEN), Norway (SN), Romania (ASRO), **Slovenia** (SIST), Switzerland (SNV).*
- *The work consists in the production of a **Technical Report**, to document the results of the performed analysis, in order to precisely define the scope of the following Technical Specification (TS) or European Norm (EN) definition work.*

## ***OpRA main Scope:***

- *OpRa focus on the identification of actual and measured information, i.e. information which cannot be changed anymore in the future.*
- *This information is mainly an output of the Transmodel (TRM) domains: Part 4: “Operations monitoring & control” and Part 8: “Management Information and statistics“ (raw data for indicators calculation).*

**Thanks for your attention**

Contact details:  
Fabrizio Arneodo

5T srl

Via Bertola 34, 10122 Torino

Tel +39 011 227 4115

[fabrizio.arneodo@5t.torino.it](mailto:fabrizio.arneodo@5t.torino.it)

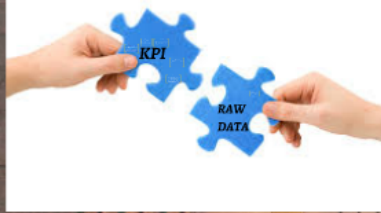


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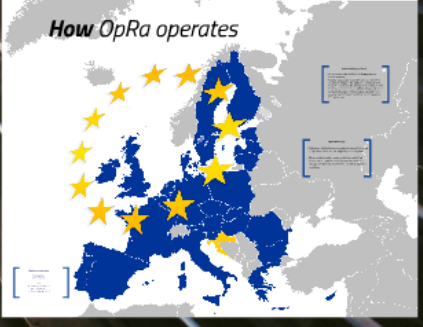
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