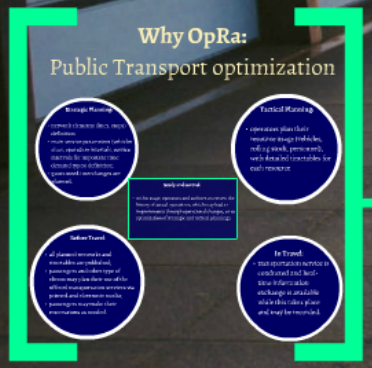
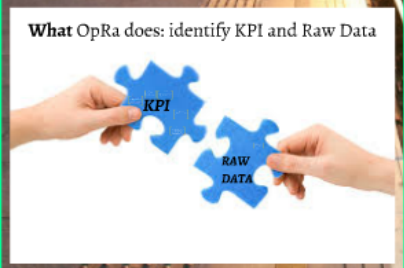
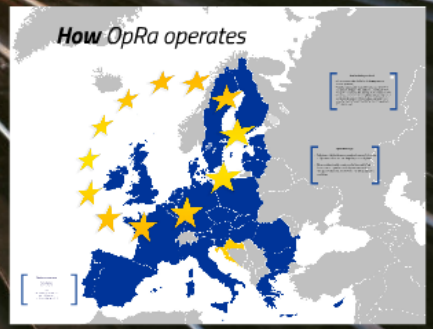
Operating **Ra**w Data and statistics exchange (**OpRA** - CEN TC278 WG3 SG10)







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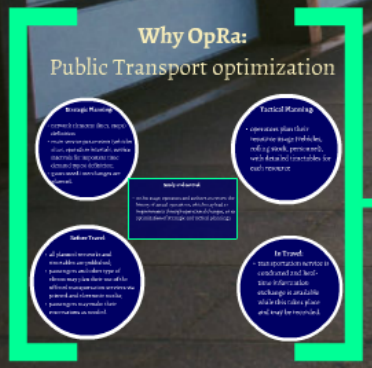

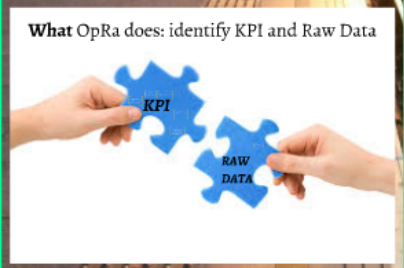

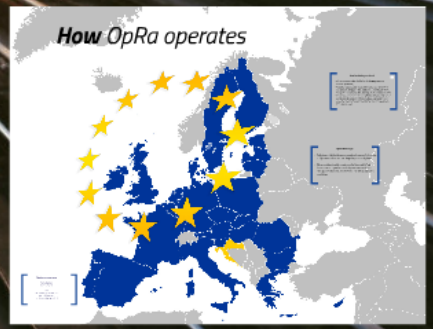

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Why OpRa:

Public Transport optimization

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 planninga

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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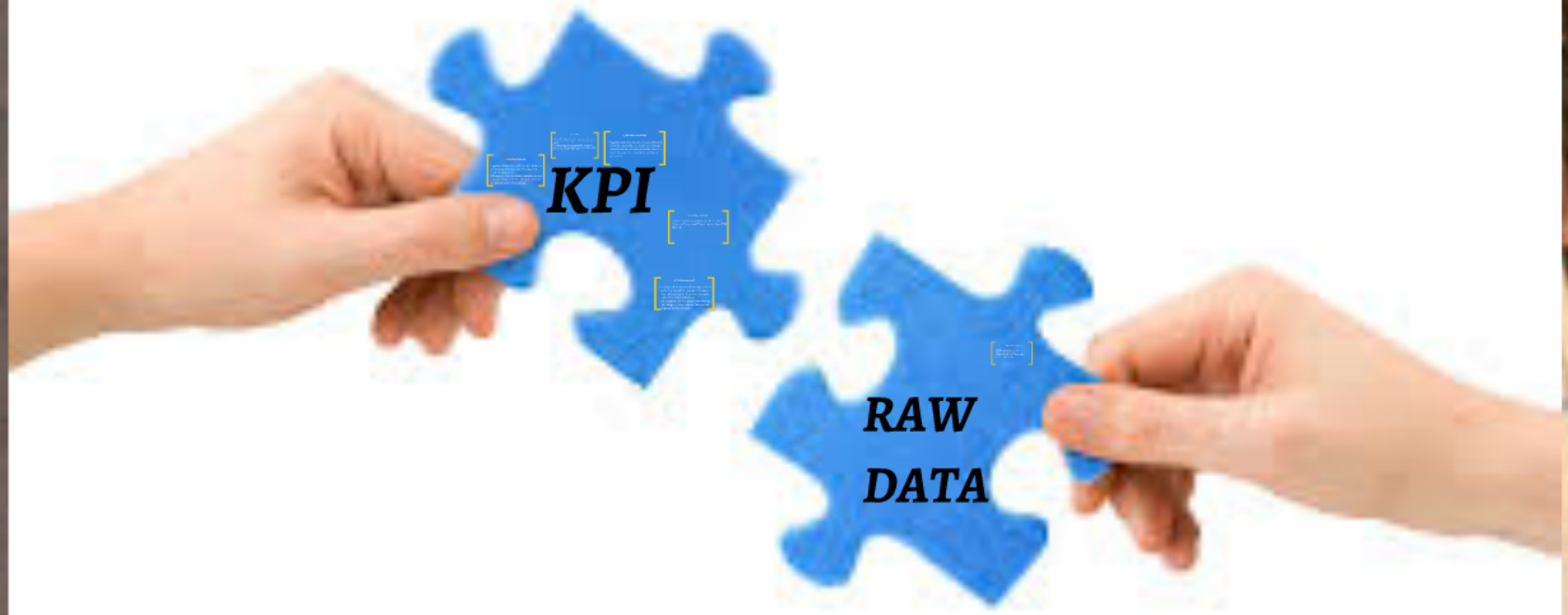
What OpRa does: identify KPI and Raw Data



(1) Service Offer:

- It gathers all the themes and Use Cases relevant ot 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 ot 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 ot 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 Expences Service Economy.

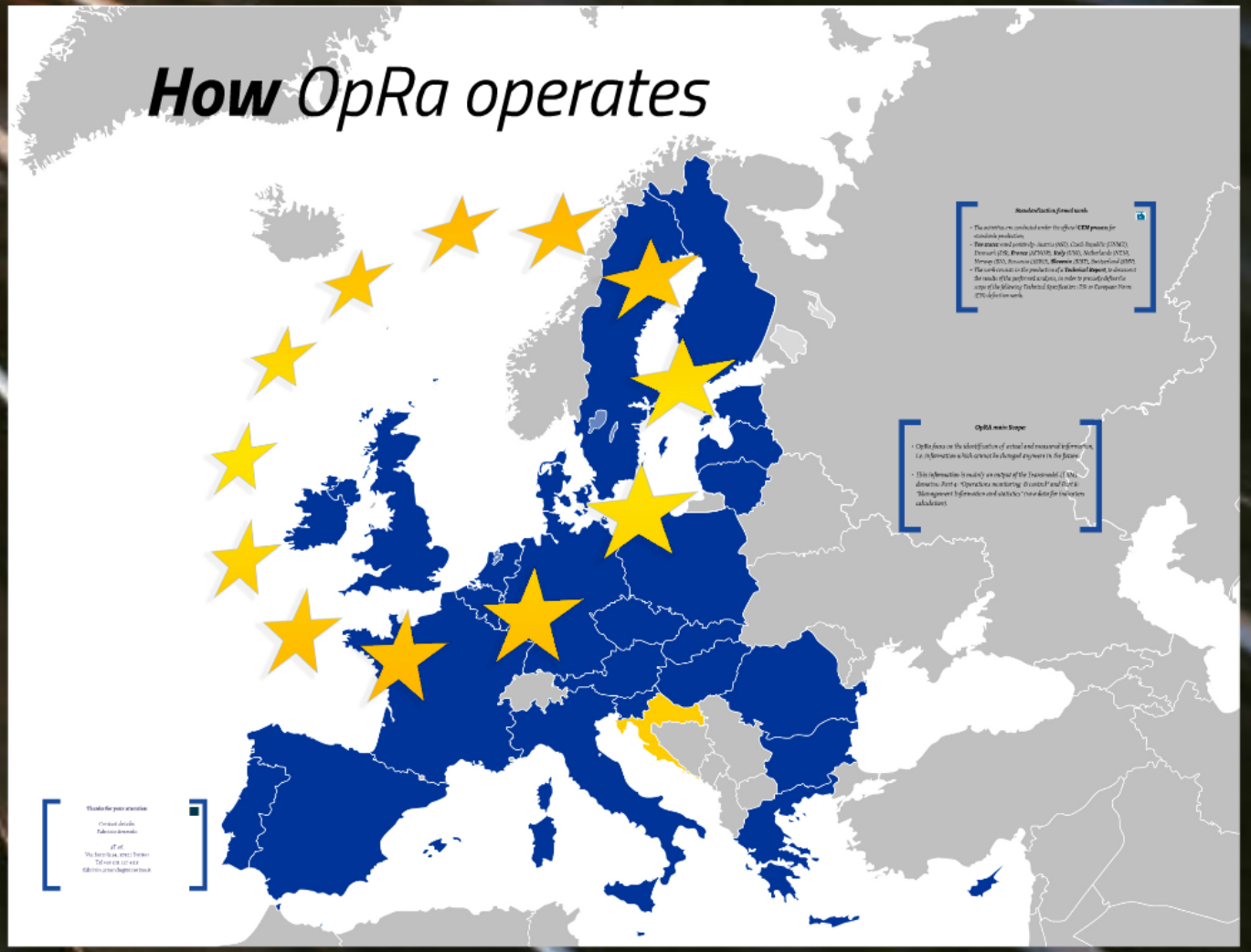
(5) Service ecciciency:

- It gathers all the themes and Use Cases relevant ot 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



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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

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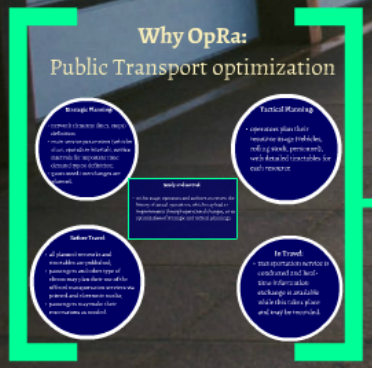

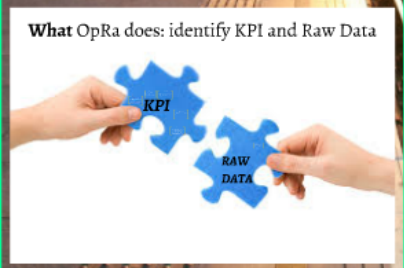

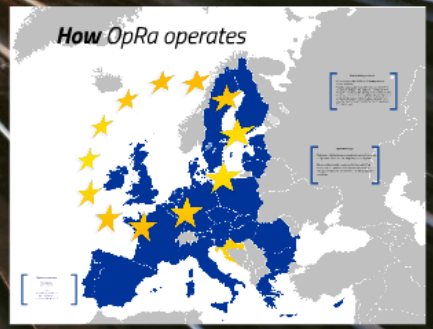

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