



Road user charging: our experience

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Thinking of mobility
Thinking on the road
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Organiza



Auspician





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- From eurovignette to Tolling as a Service: Adoption evolution
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Our Experience in Road User Charging



Toll collect germany

- First satellite based road charging solution
- Road Charging for Trucks +7,5t
- Tolled Road Network > 25.700km highways and 4.700 km first class roads (+ 40 tkm in 2018)
- Start of Operation > 01.01.2005
- Registered vehicles > 1,1 mio
- 870.000 installed OBU's (automatic booking)
- 3.700 terminal (manual booking)
- Interoperability with Austria (Toll2GO) since 2011
- Enforcement > 300 Gantries and 300 mobile vehicles (BAG)

Satellic NV Belgium

- Road Network > 154.403 km
- Tolled Network > 6.866 km (1st)
- Easy to Install On Board Unit OBU
- Enforcement > 40 Gantries; 22 Flexible Road Site Enforcement; 40 Mobile Road Site Enforcement
- Registration > Road User Portal & Service Points (136 Locations)
- Implementation Time > 18 month
- Contract term > 12 years (min.)
- Start of Operation > 01.04.2016
- EETS ready

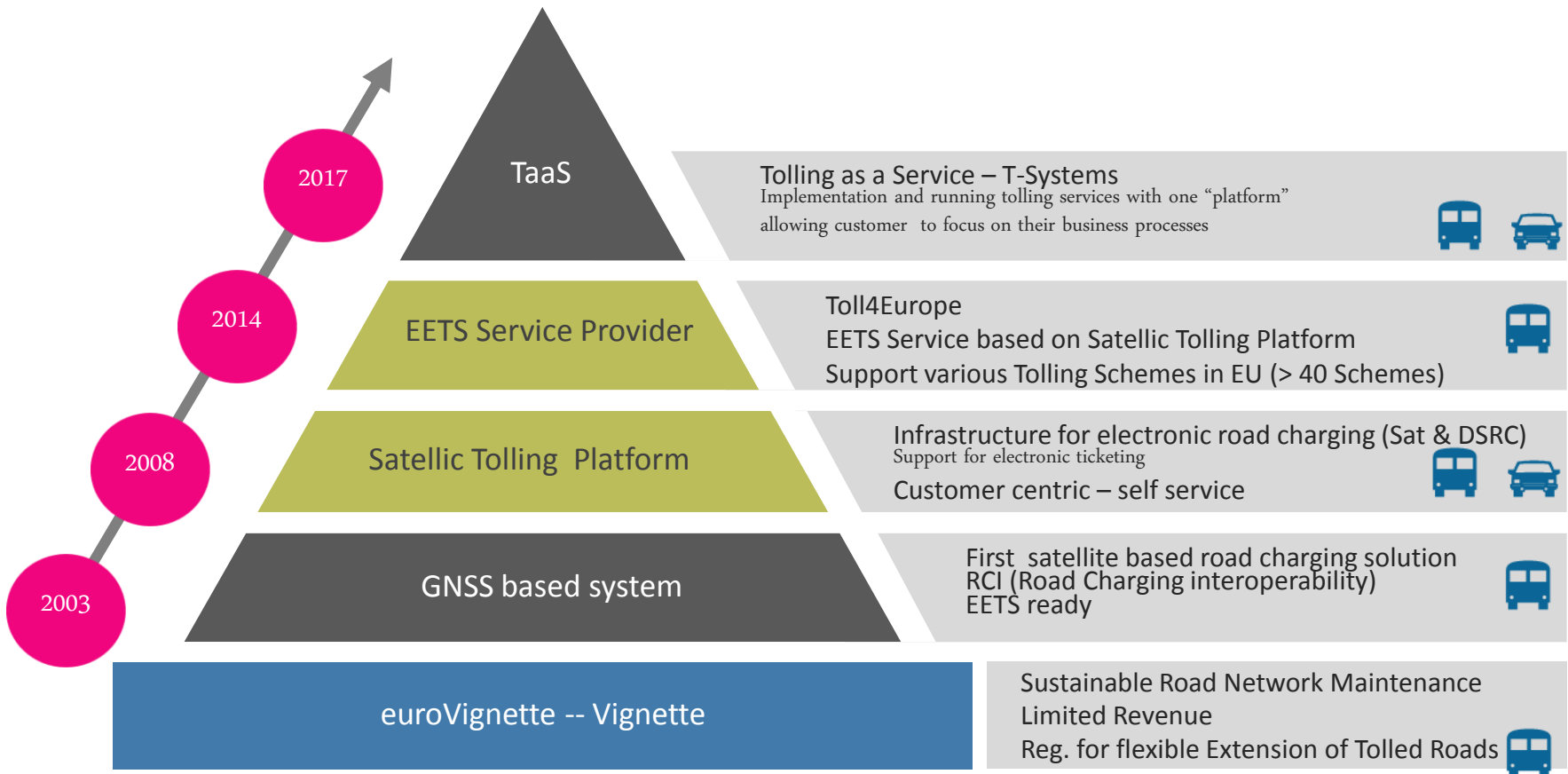
GO Maut 2.0

- Road Charging for Trucks +3,5t
- 220 Points of sale
- 44 mobile control units
- 650 million Tolling Transactions per Year
- Toll Revenue 2015: 1,25 billion Euro
- Start of Operation > 01.01.2018
- Backoffice operation
- Interoperability with Germany OBU's
- Planned integration with Toll4Europe

TOLL4EUROPE

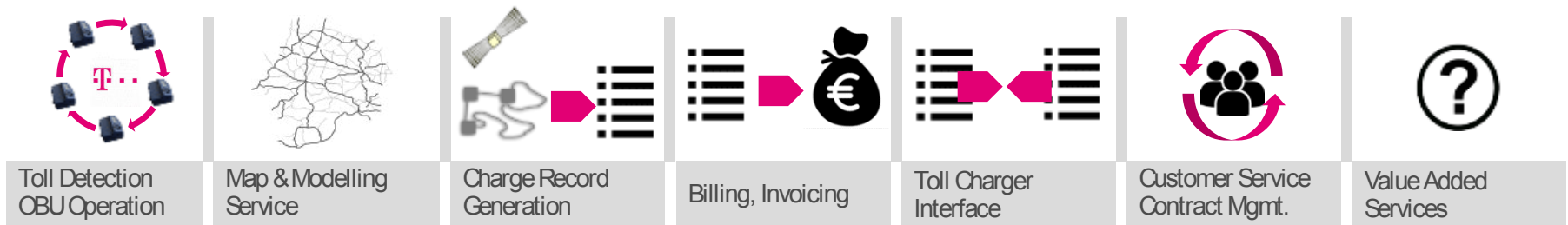
- T-Systems, Daimler and DKV set up a joint venture for EETS Services
- The aim is to sign up sales partners to market the EETS services and to process the tolls vis-a-vis the end customers..
- Start of Operation 2018
- Initial Countries : DE; BE;AU;FR
- Optional : PL; IT; DK;CZ

From eurovignette to Tolling as a Service: Adoption evolution



Tolling-as-a-service Service components

Tolling Platform



Support processes



Our Vision

Tolling as a Service

Tolling-as-a-service Platform

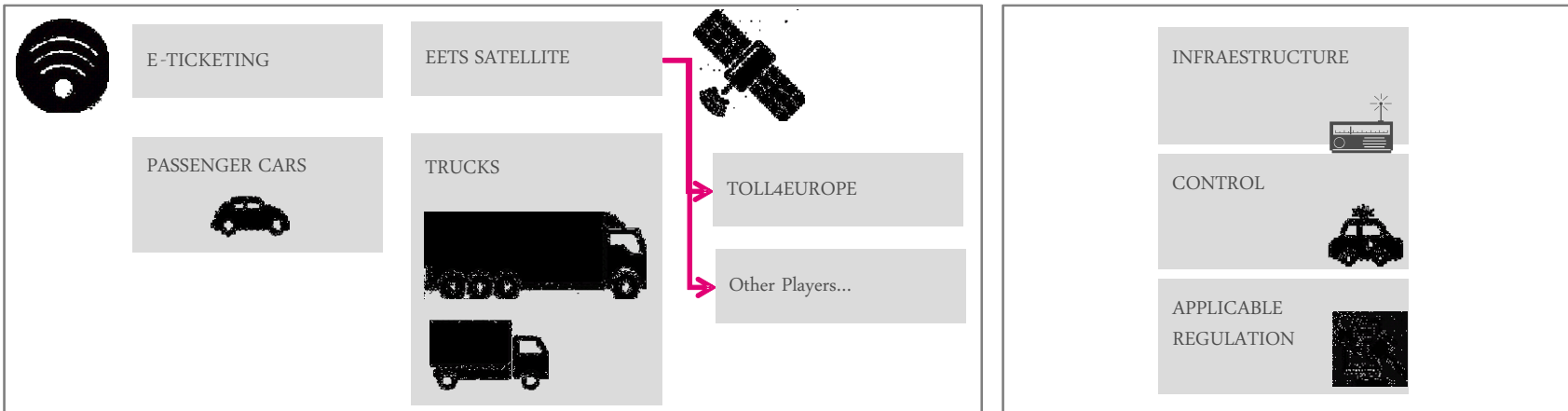
Public Authority

Satellite
Tolling
Platform

T·Systems

Law
Enforcement

T·Systems
Partners, etc..





- 1 – Prioritization or parallelization of Passengers Cars VS Trucks
- 2 – Design of service architecture based on standards and scalable services
- 3 – Keep in mind European interoperable scenario.





Understanding on Global Trends

SCOPE & SOLUTION

Trucks vs . Passenger cars

Time vs . distance





Highways

>> Secondary roads


>> Metropol./region

>> Smart cities



PROGRESSIVE IMPLEMENTATION >> Road CAPACITY PLAN

ENVIRONMENT PoLICIES >> EMISSIONS IMPACT



TECHNOLOGY

dsrc vs . SATELLITE



Escalability

Road Net complexity


OWNED VEHICLE

>> SHARED VEHICLE

>> AUTHONOMOUS CAR

SMART CAR EVOLUTION



OBU'S 5G IoT SMART PHONES

TOLL BARRIERS

VALUE ADDED

Regulation and standards interoperability



Boost new digitalization services for citizen

Law enforcement and Agencies interaction



Increase platform new uses



