



The State of Europe (with reference to RUC)

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**Transportation
Finance & RUC**
Portland, OR
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The State of Europe (with reference to RUC)

Coming (briefly)
to this screen:

Technology

Taxonomy

Taxation

Trends

Keith Mortimer is an independent consultant living in Wales. He is chair of the ITS (UK) RUC Interest Group



Bringing Welsh culture to Texas - 2014

The State of Europe (with reference to RUC)



Coming (briefly)
to this screen:

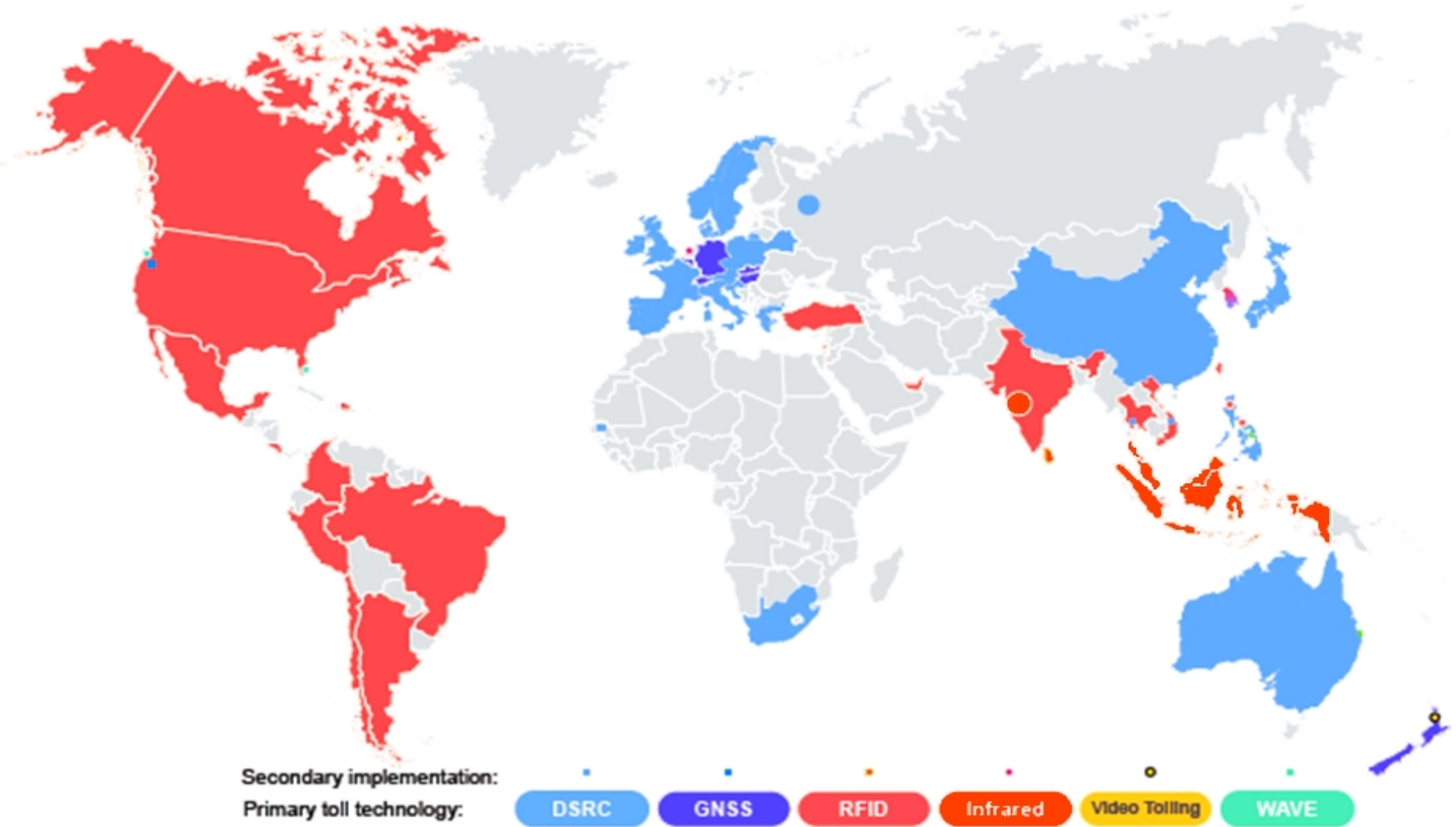
- Technology** what is used and where in the world
- Taxonomy** mapping RUC scenarios in Europe
- Taxation** policies and purposes in Europe
- Trends** what needs to be done
(or what might happen instead)

The World of Tolling Technology

- **ANPR** - *Enforcement and Video Tolling*
- **DSRC** (Europe) - *CEN TC 278 Microwave 5.8 GHz European standard.*
- **DSRC** (USA) - *WAVE Microwave 5.9 GHz – potential to support a wide range of connected vehicle, added value, safety, information services.*
- **GNSS** (GPS, Galileo, GLONASS) - *Satellite based technologies offering evidential/contractual quality data.*
- **RFID** - *ISO 18000-6 – universal tolling standards?*



The World of Tolling Technology



Thanks to PTOLEMUS

How European is Europe?



Council of Europe

47 Member States



www.coe.int

How European is Europe?



Council of Europe

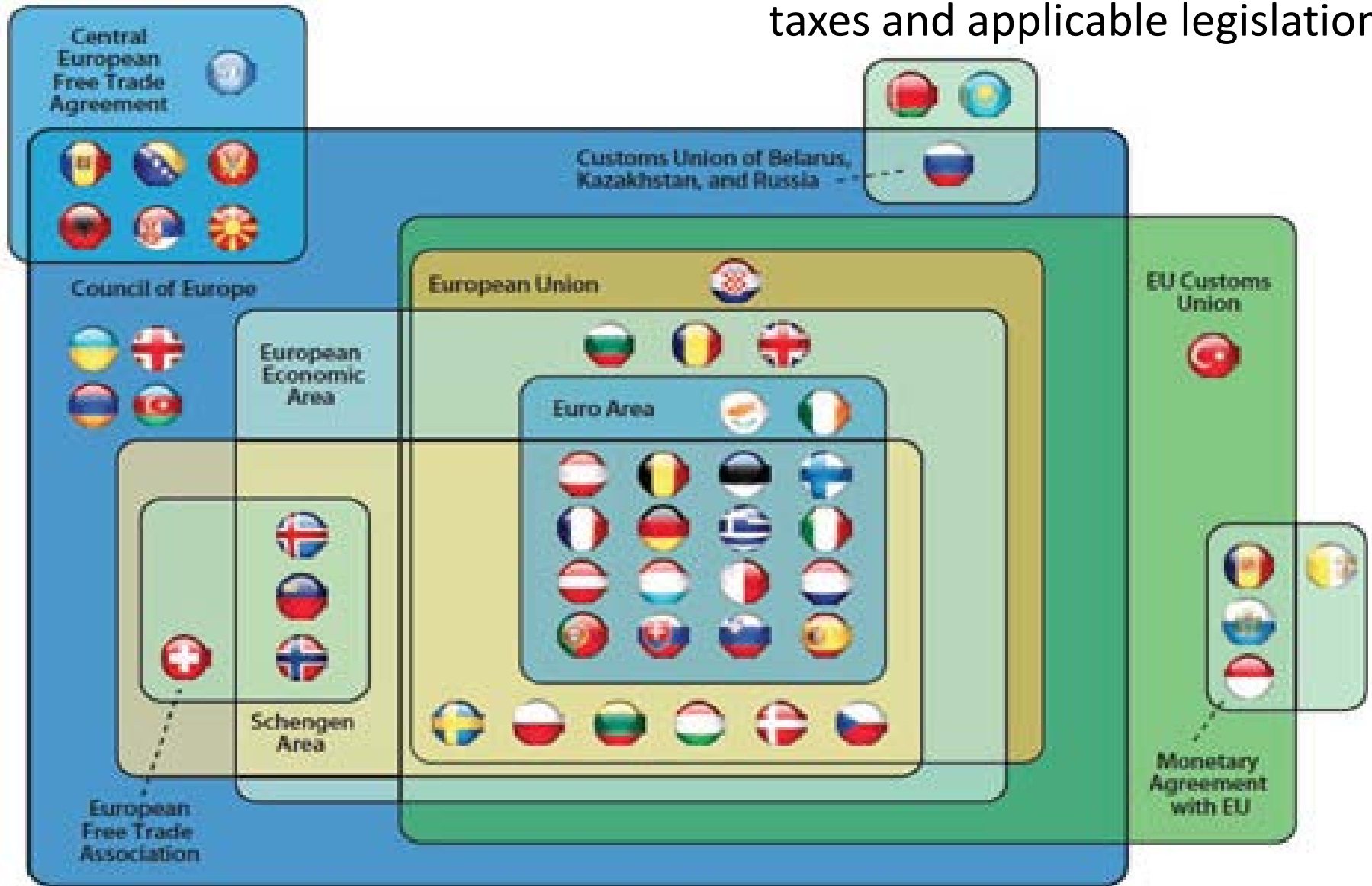
47 Member States

- 90 languages
- Cultural, legal and political baggage
- Internal agendas
- Barriers to change



How European is Europe?

- Various institutions govern trade, movement, currencies, taxes and applicable legislation



Mapping RUC in Europe

Which countries have been most active in RUC?

- EU policies and influence
- Purpose
- Measures
- Effectiveness
- Interoperability issues
- Private sector role
- ETC progress – trucks and light vehicles

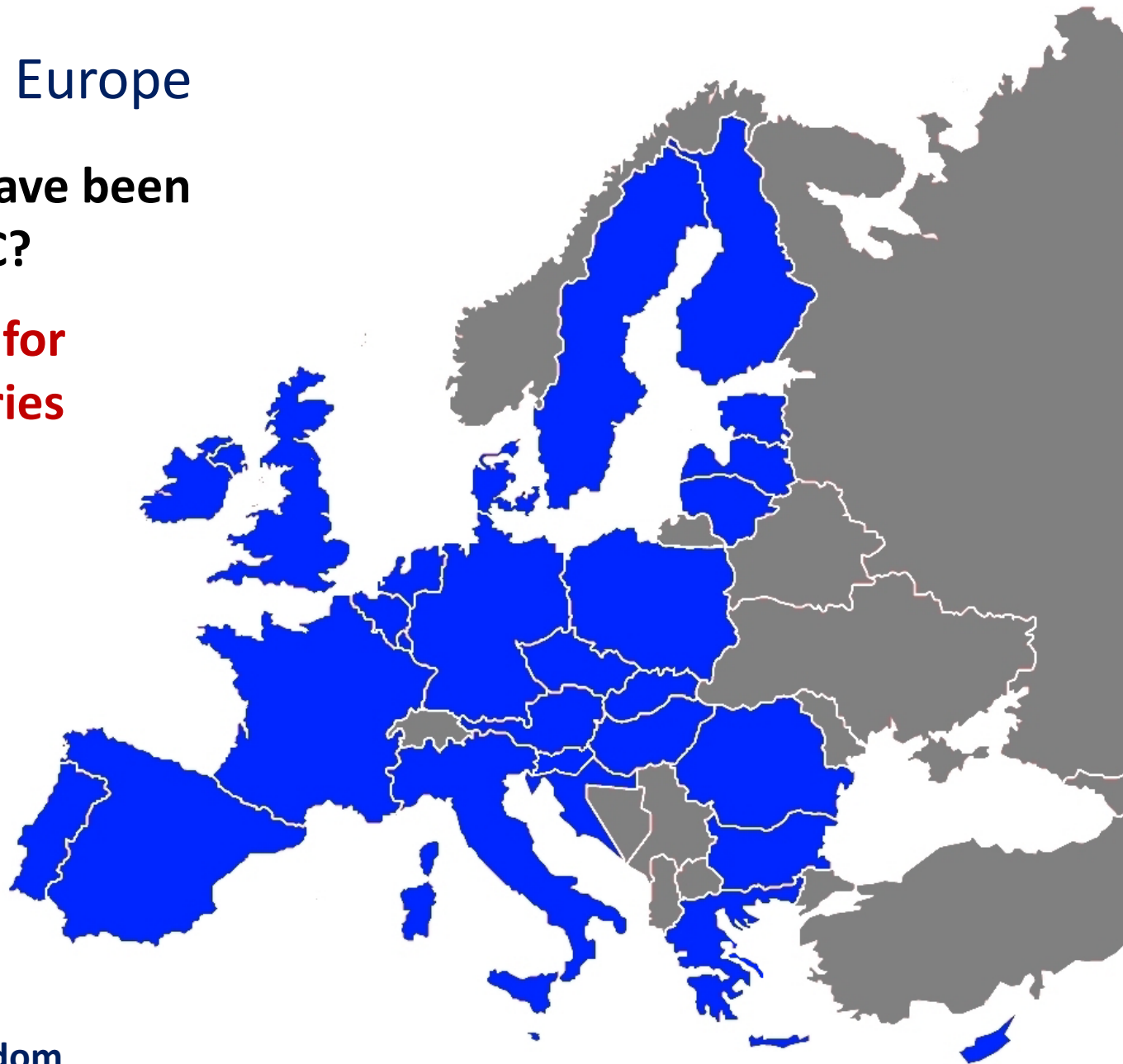


Mapping RUC in Europe

Which countries have been most active in RUC?

The EU sets policy for 28 member countries

Austria	Italy
Belgium	Latvia
Bulgaria	Lithuania
Croatia	Luxembourg
Cyprus	Malta
Czech Rep.	Netherlands
Denmark	Poland
Estonia	Portugal
Finland	Romania
France	Slovakia
Germany	Slovenia
Greece	Spain
Hungary	Sweden
Ireland	United Kingdom

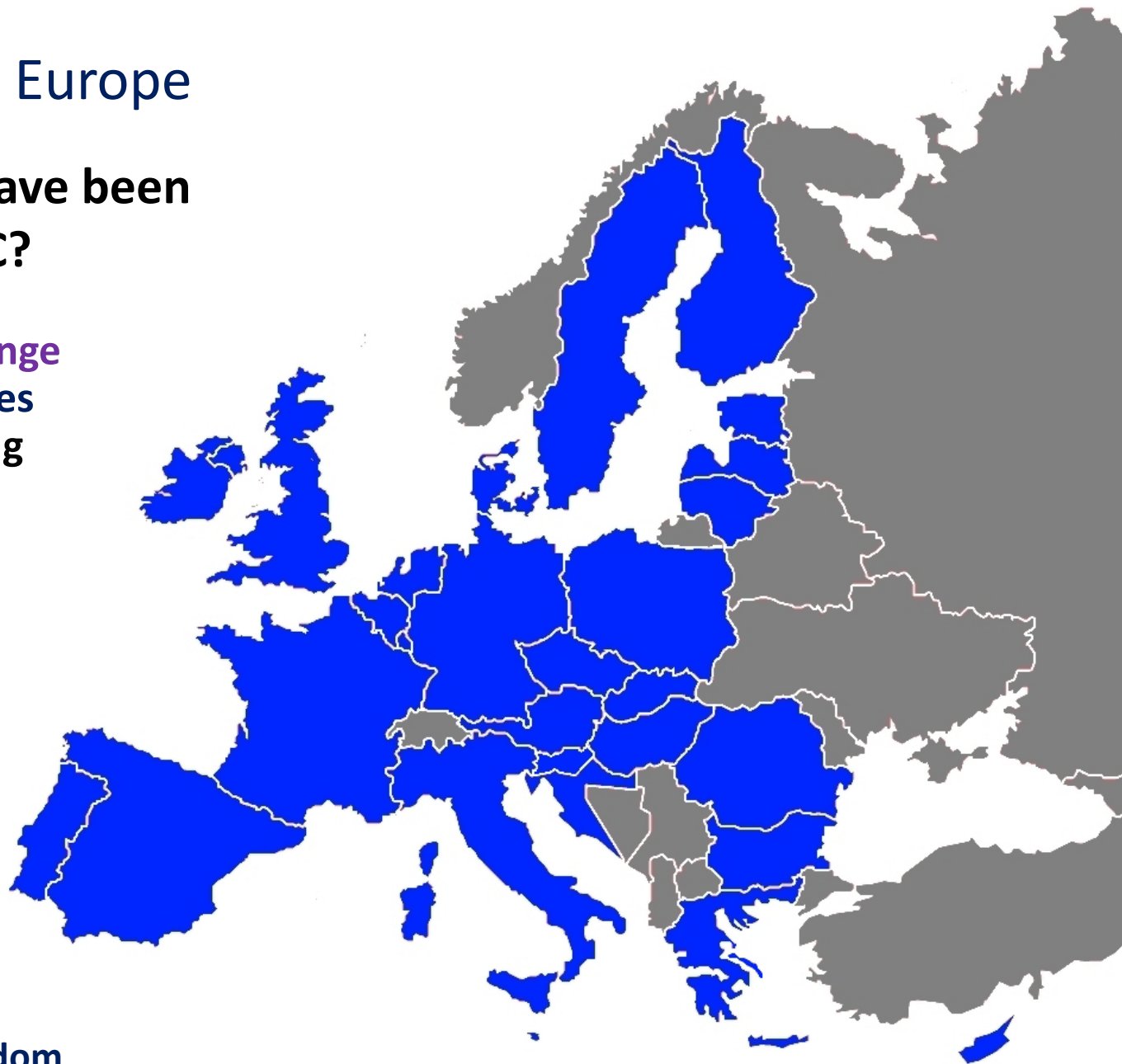


Mapping RUC in Europe

Which countries have been most active in RUC?

- **Most active**
- **Momentum for change**
- **Ongoing programmes**
- **Not much happening**

Austria	Italy
Belgium	Latvia
Bulgaria	Lithuania
Croatia	Luxembourg
Cyprus	Malta
Czech Rep.	Netherlands
Denmark	Poland
Estonia	Portugal
Finland	Romania
France	Slovakia
Germany	Slovenia
Greece	Spain
Hungary	Sweden
Ireland	United Kingdom



Mapping RUC in Europe

Which countries have been most active in RUC?

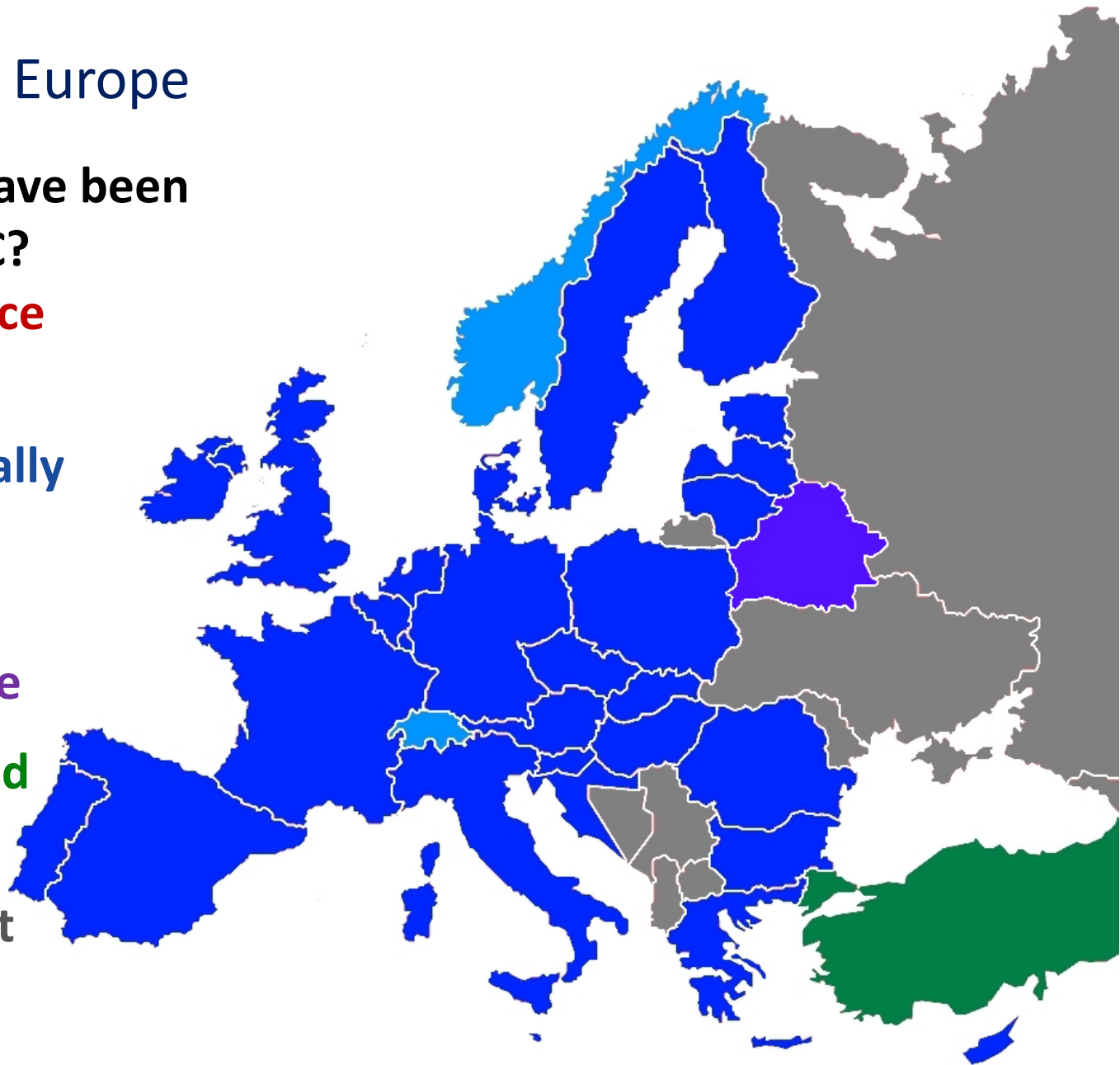
Further EU influence

Norway and Switzerland generally observe EU policy

Belarus installed compatible scheme

Turkey is influenced

Russia could become the largest VMT operator



Mapping RUC in Europe

Brief history of EU policies on RUC

Purpose

“revenues generated from infrastructure and external costs charges should be used to benefit the transport sector, and optimise the entire transport system.

In particular, revenues generated from external cost charges, or the equivalent in financial value of these revenues, should be used to make transport more sustainable”

Mapping RUC in Europe

Brief history of EU policies on RUC

Measures

Directive 1999/96 (Eurovignette Directive)

Directive 1999/62/EC (rules for time based/distance based charges)

Directive 2006/38/EC (emission charges, infrastructure funding)

Directive 2011/76/EC (air & noise pollution charging)

- eliminate discriminatory charges
- 'user pays' and polluter pays' principle
- focus on TEN-T infrastructure and HGV (> 3.5t from 2012)
- uniform rules for use of time-based vignettes; limit scope
- encourage distance-based ETC using GNSS
- enable proportionate recovery of external costs via ETC

Mapping RUC in Europe

Brief history of EU policies on RUC

Interoperability

Directive 2004/52 (European electronic toll service - EETS)

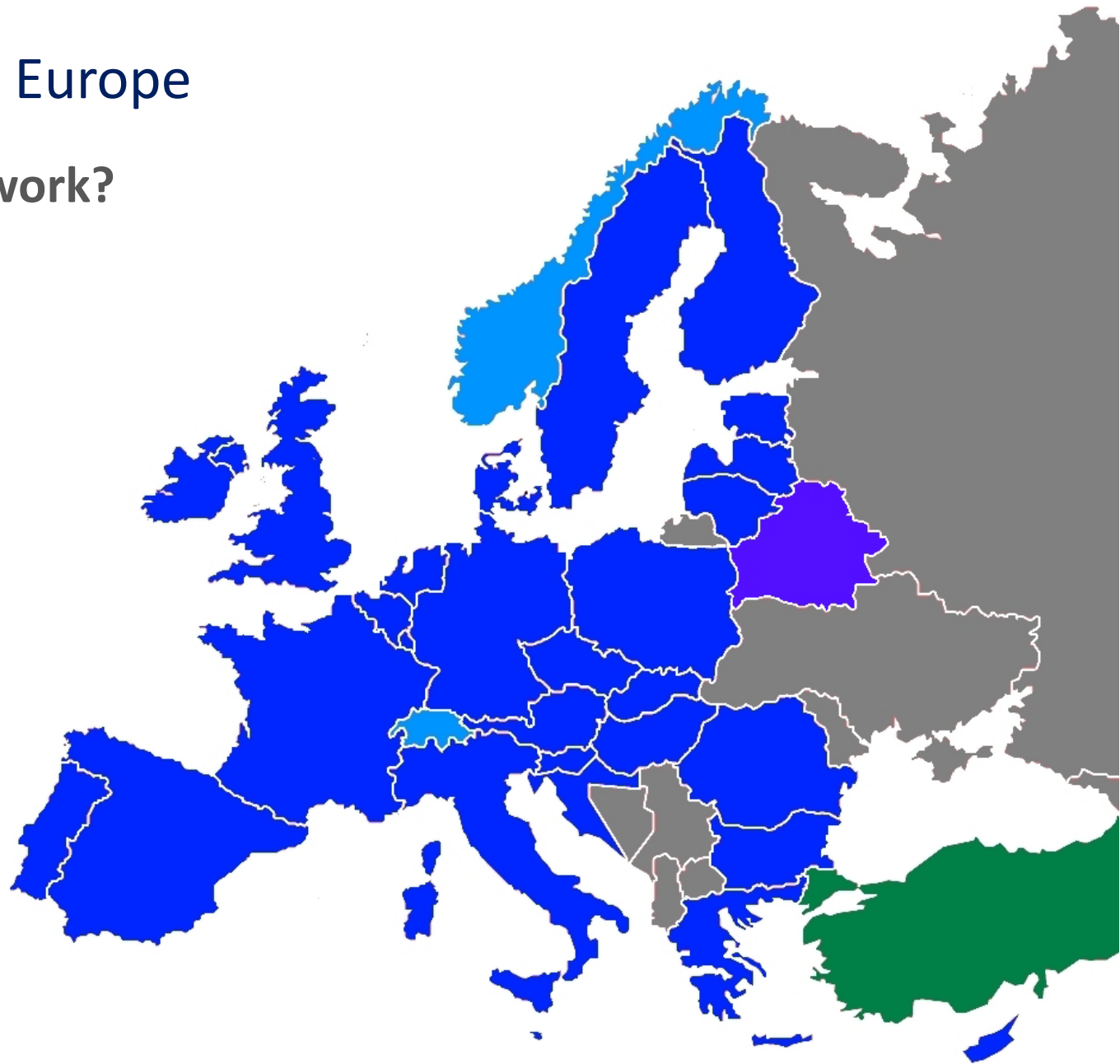
- EU-wide interoperability of electronic road tolling systems
- minimise transaction costs and harmonise tariffs
- limits technology to CEN DSRC, GNSS/cell applications

Status

- after ten years EETS policy has not been implemented
- there are no EETS service providers yet – seen as high risk
- attitudes of governments to RUC and tolling vary greatly
- lack of harmonisation slows the take-up of ETC schemes
- procurement routines tend to maintain status quo

Mapping RUC in Europe







So how does this work?

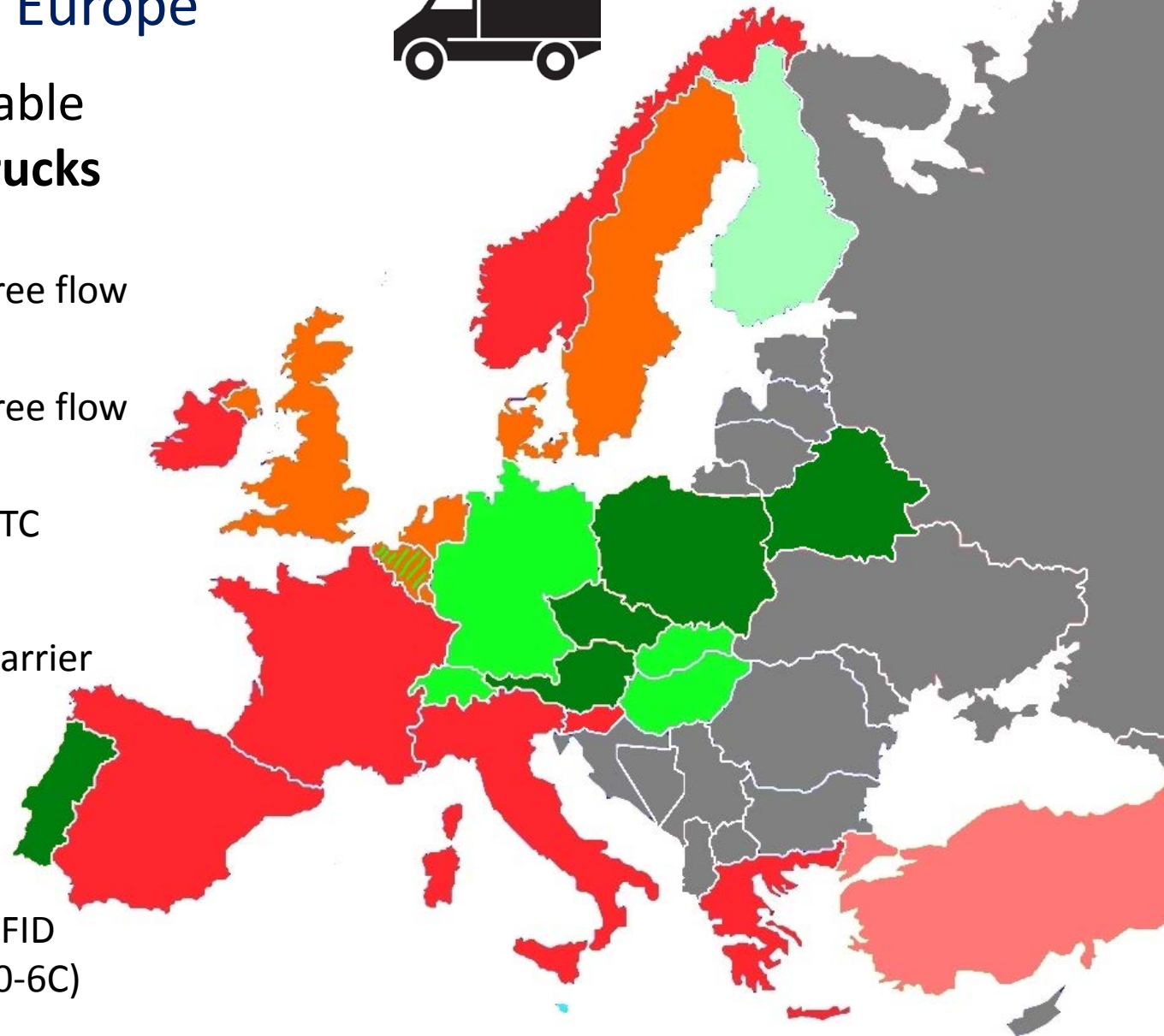


Mapping RUC in Europe



National interoperable ETC schemes for Trucks

-  Distance based free flow GNSS
-  Distance based free flow CEN DSRC
-  Distance based ETC In planning
-  Distance based barrier tolls - CEN DSRC
-  Time based e-vignette
-  Distance based RFID tolling (ISO 18000-6C)



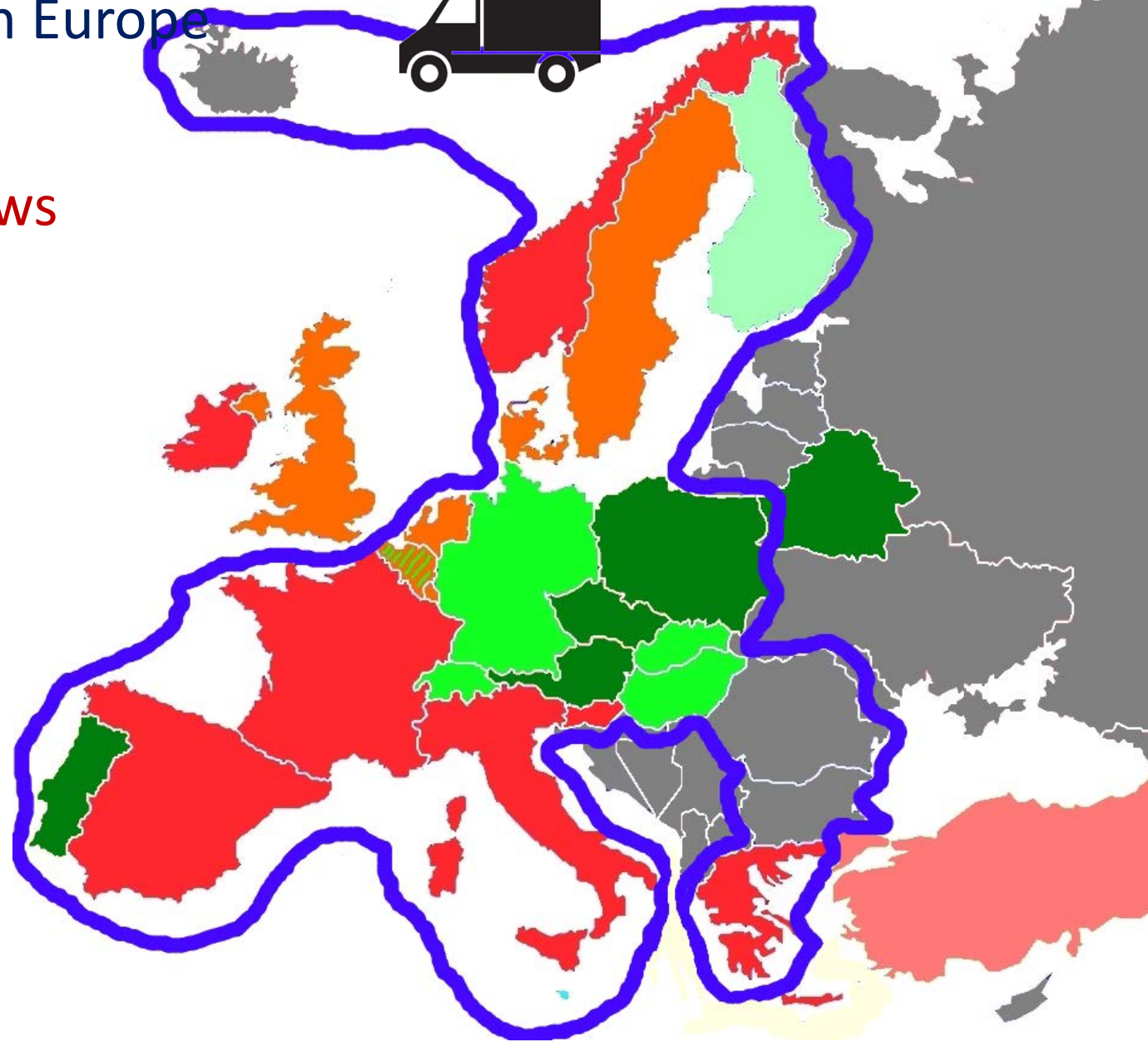
Mapping RUC in Europe



Schengen

agreement allows travel without borders – but a lack of RUC interoperability can impose its own barriers.

After ten years the EU is still struggling to make a business case for EETS.









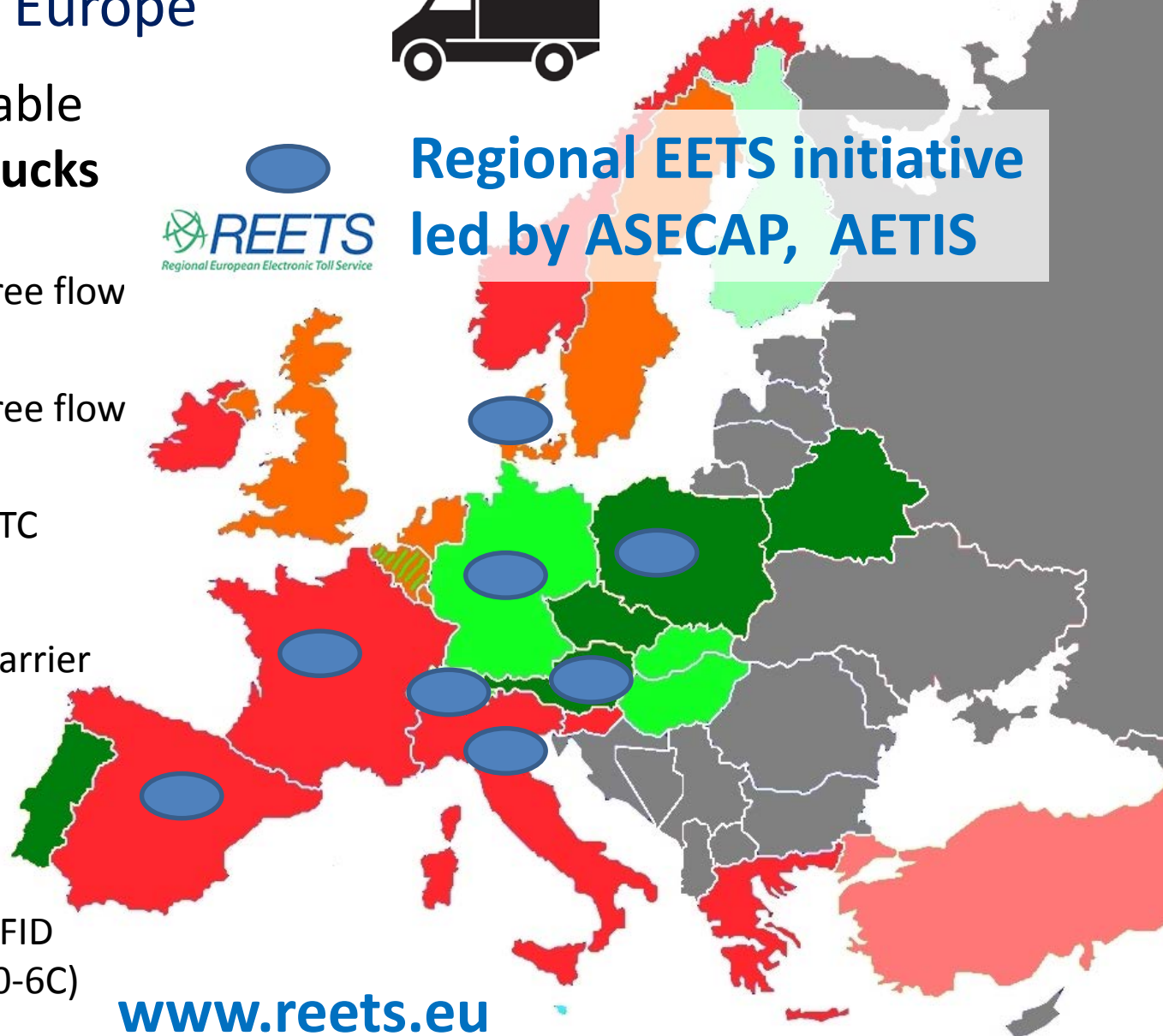
Mapping RUC in Europe

National interoperable
ETC schemes for **Trucks**



**Regional EETS initiative
led by ASECAP, AETIS**

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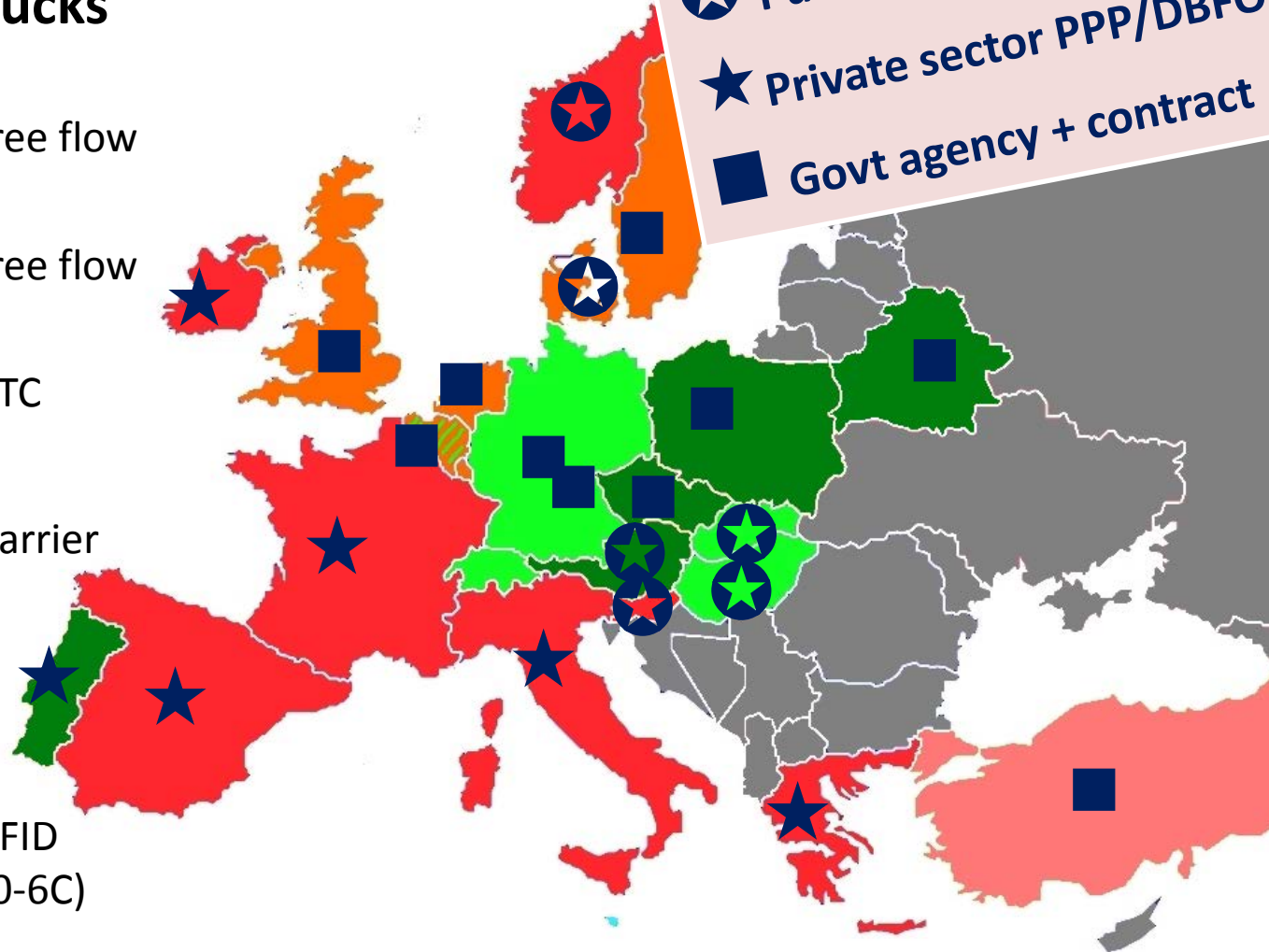
www.reets.eu

Mapping RUC in Europe

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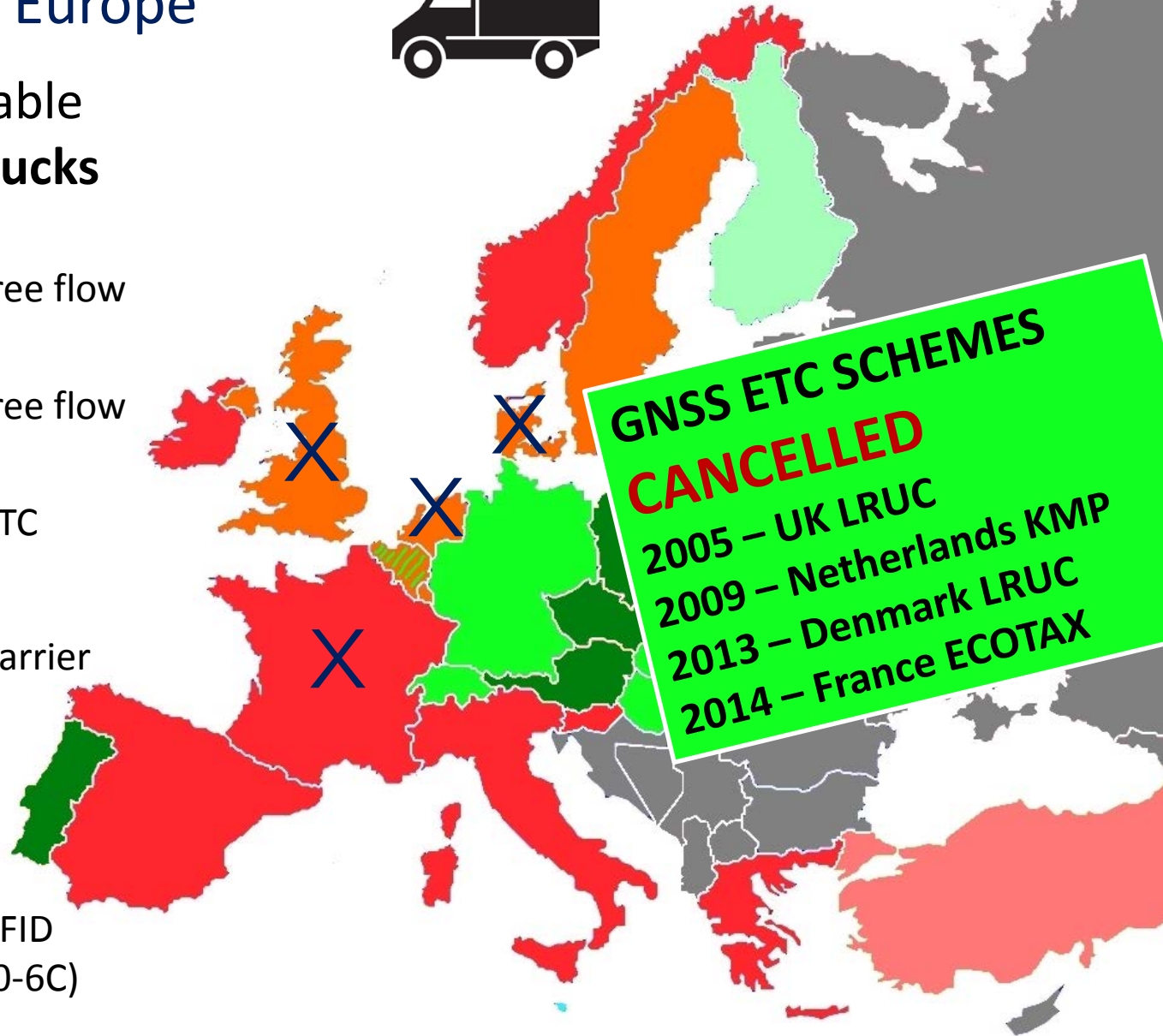
Tolled highway providers:
★ Public-owned company
★ Private sector PPP/DBFO
■ Govt agency + contract

Mapping RUC in Europe



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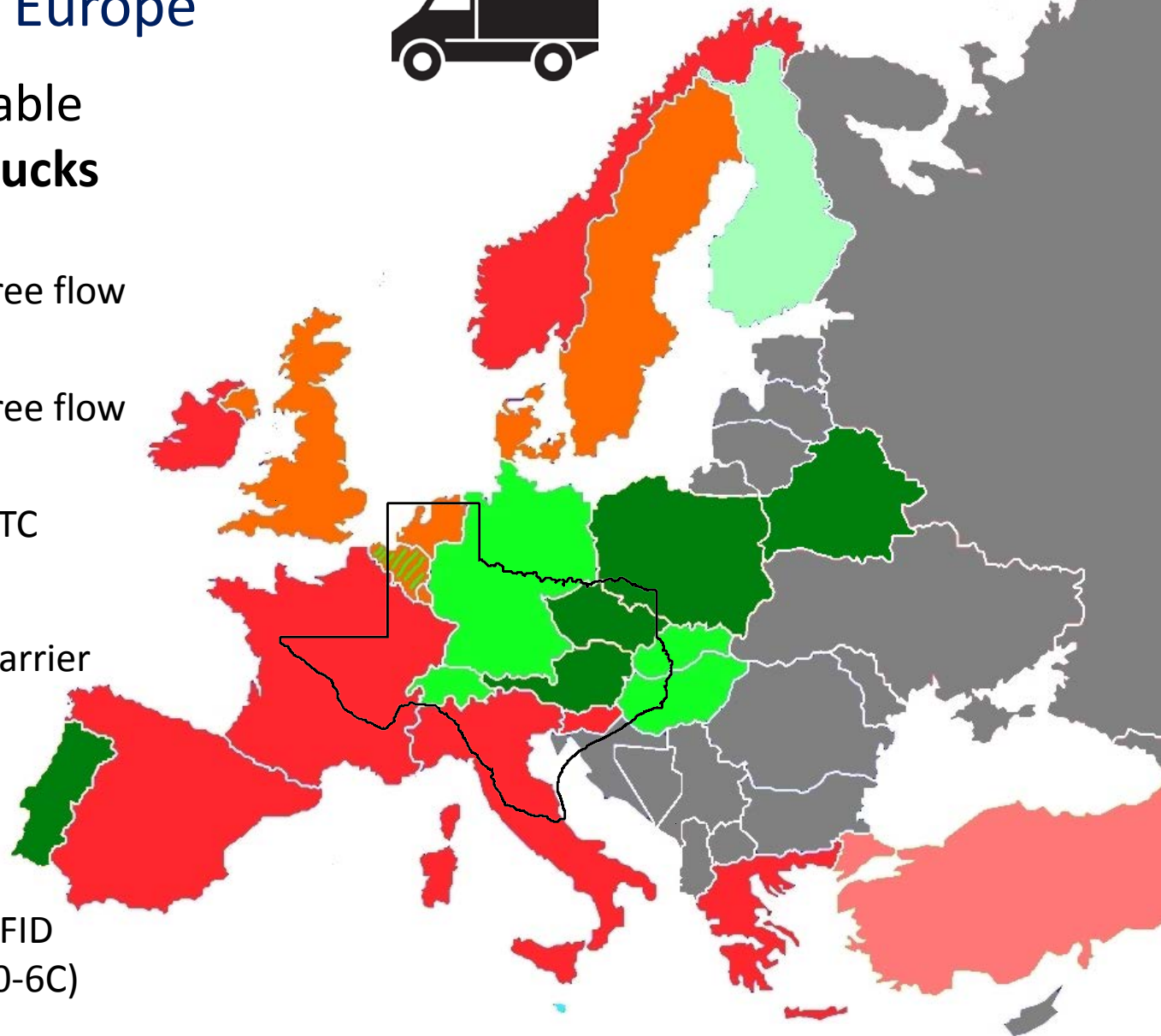


Mapping RUC in Europe



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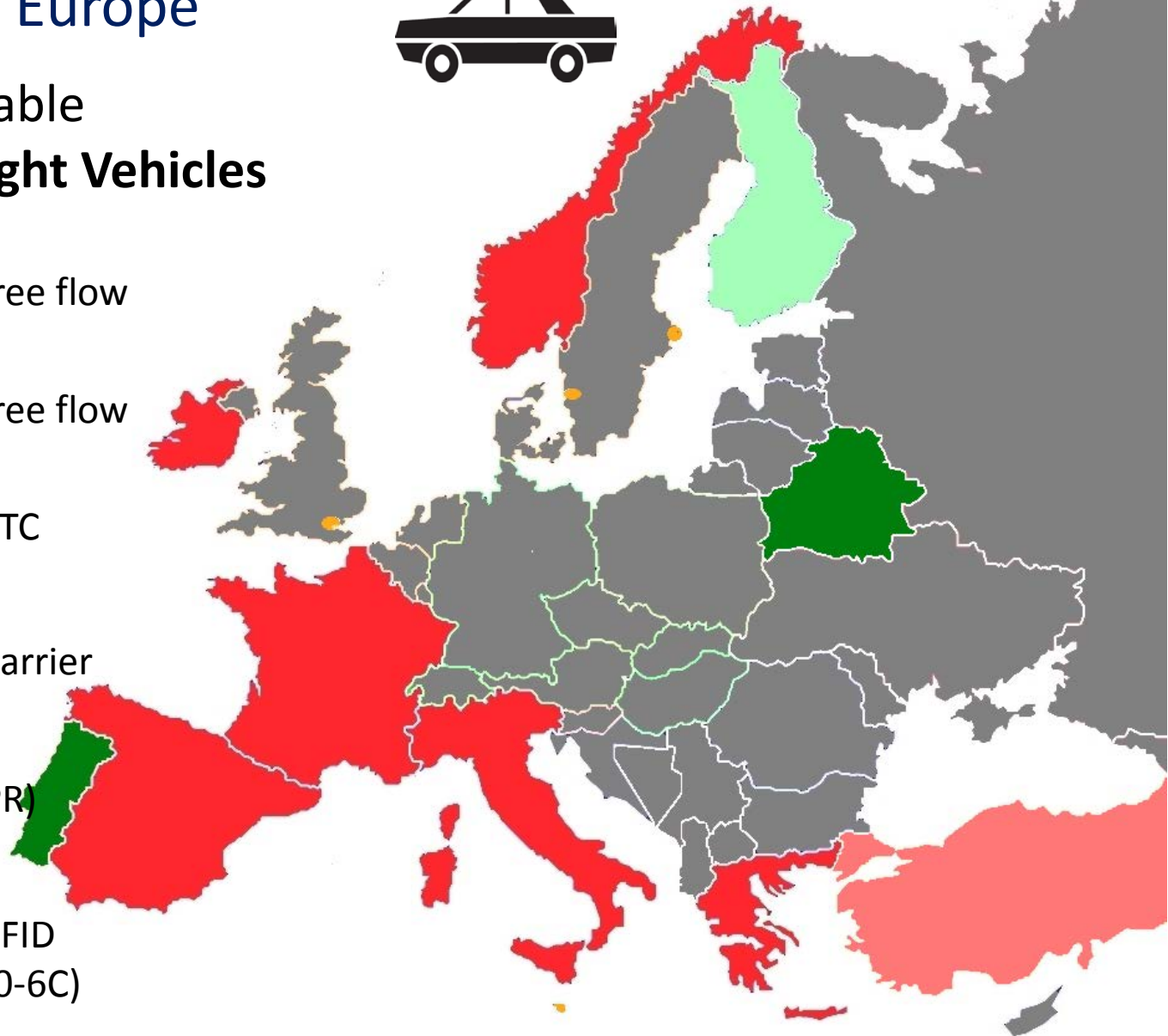


Mapping RUC in Europe

National interoperable ETC schemes for **Light Vehicles**



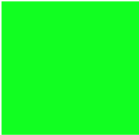


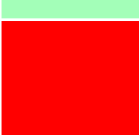

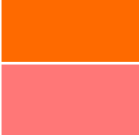
-  Distance based free flow GNSS
-  Distance based free flow CEN DSRC
-  Distance based ETC In planning
-  Distance based barrier tolls - CEN DSRC
-  Time based (ANPR) e-vignette (city)
-  Distance based RFID tolling (ISO 18000-6C)

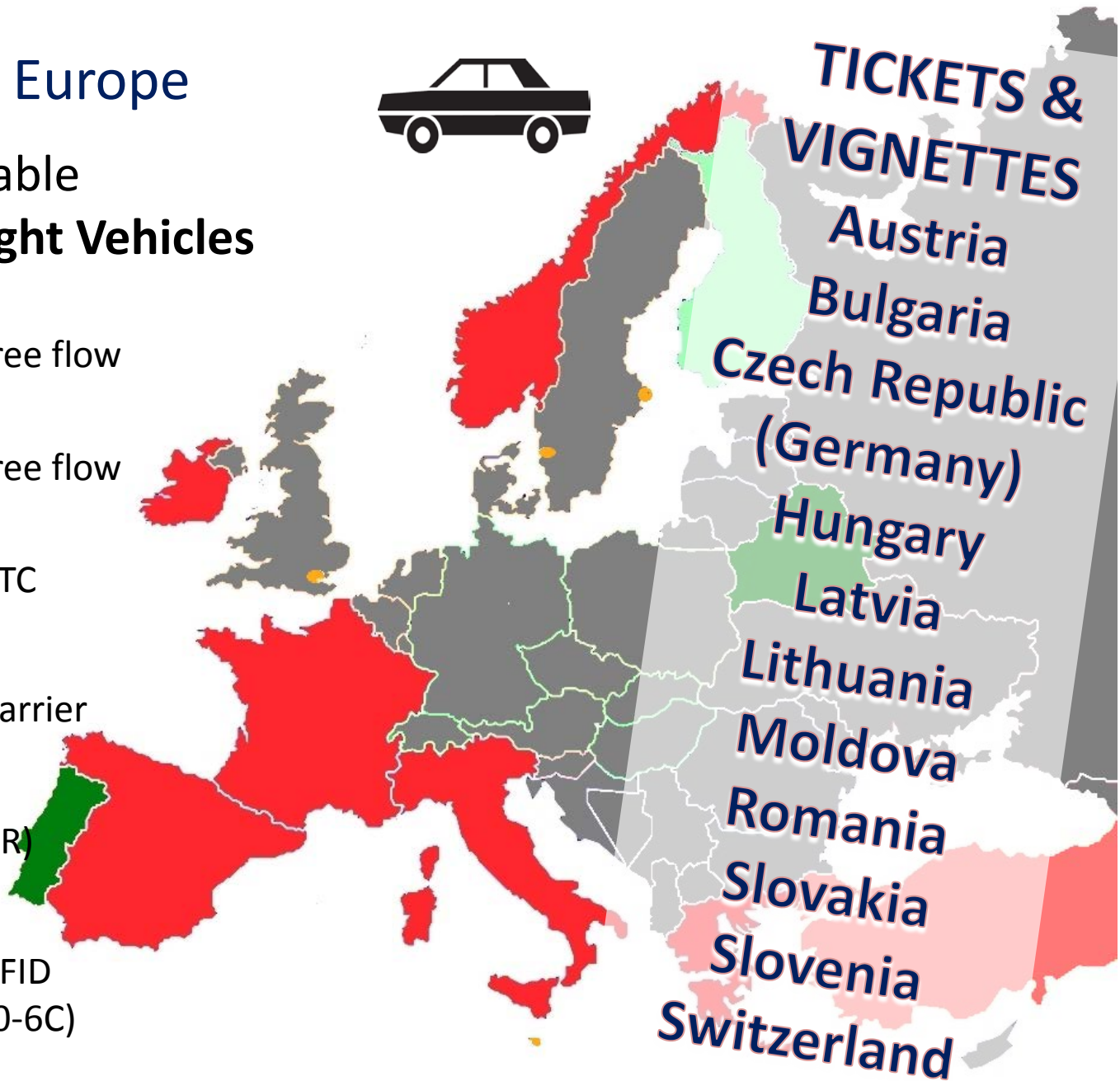


Mapping RUC in Europe

National interoperable
ETC schemes for **Light Vehicles**



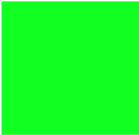





-  Distance based free flow
GNSS
-  Distance based free flow
CEN DSRC
-  Distance based ETC
In planning
-  Distance based barrier
tolls - CEN DSRC
-  Time based (ANPR)
e-vignette (city)
-  Distance based RFID
tolling (ISO 18000-6C)

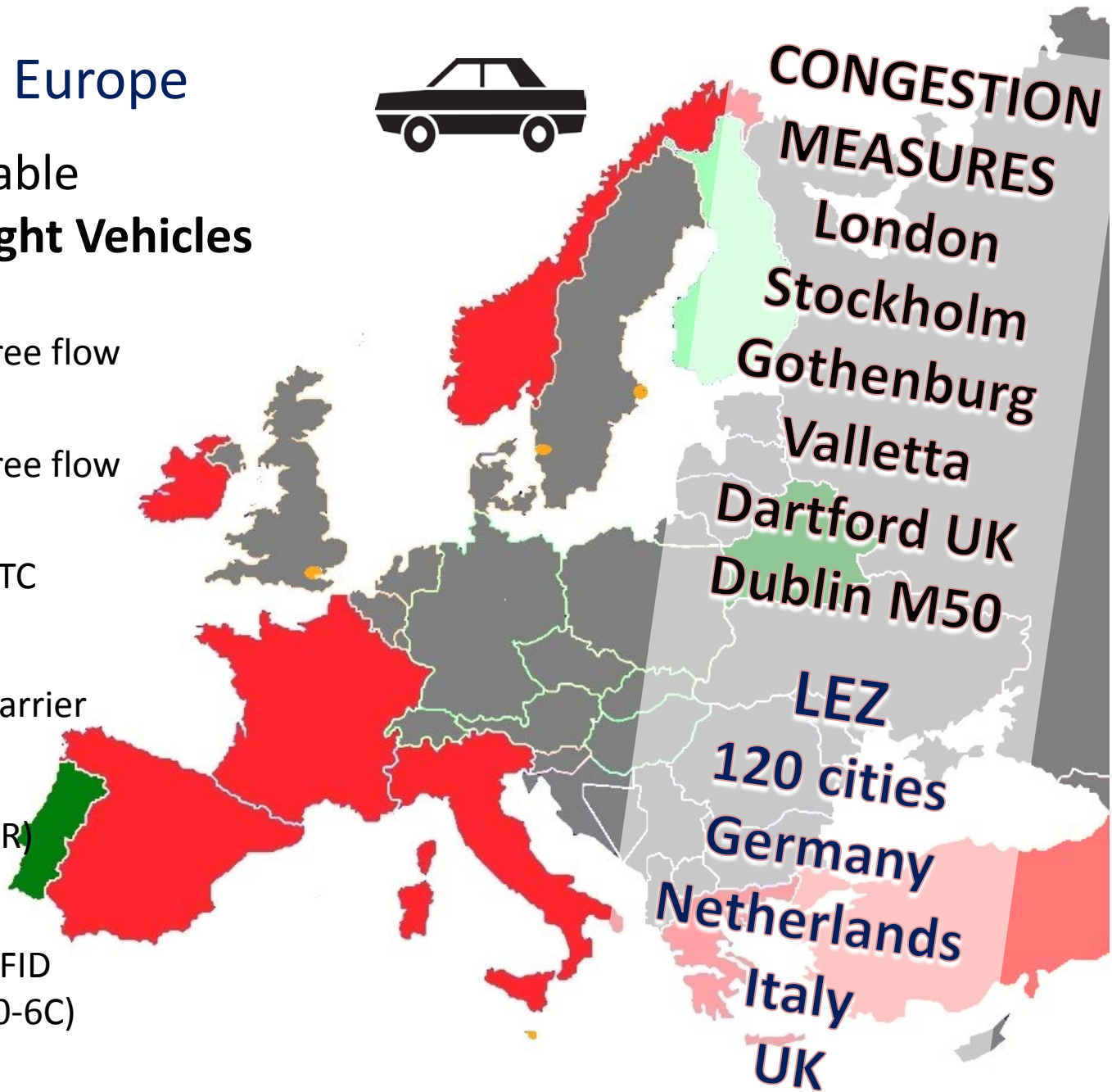


Mapping RUC in Europe

National interoperable
ETC schemes for **Light Vehicles**



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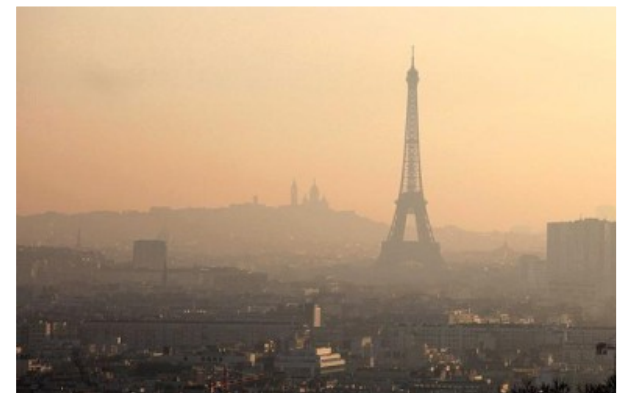
Taxation and policy

- Fuel taxes vary in member states but are relatively high – 150% markup
- Political barriers to acceptance of further charges
- Generally fuel taxes not hypothecated but used for general expenditure
- ETC-derived revenues are allocated to ‘sustainable transport’ measures
- Taxation reform is thus problematic, leading to friction within government
- Where ETC shows tangible benefits, acceptance is generally higher



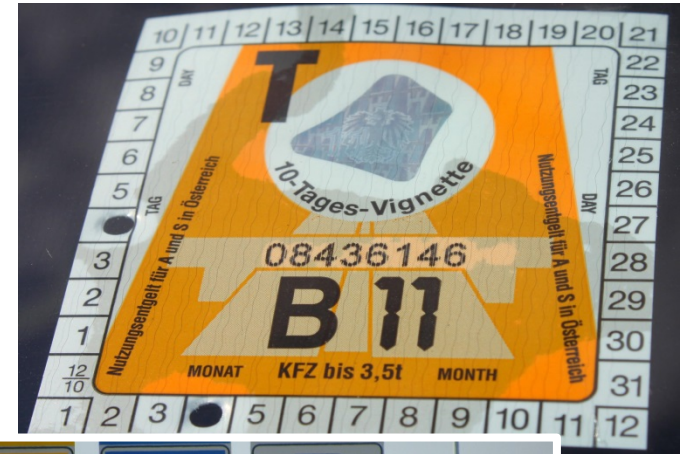
Taxation and policy

- UK fuel duty frozen for 5 years – loss of £1bn/year in revenues
- 2014 - cancellation of French ecotax with cost of €900m plus €1bn/year
- 2015 - extreme pollution in European cities - vehicle bans planned in Paris, Madrid, London, Milan - massive EU fines threatened - unsustainable
- Driver behaviour is a key issue – RUC could be part of innovative solutions – current examples in Italy, Netherlands
- National leadership / federal frameworks are essential to promote needed change



Trends – EU expectations

- Gradual migration from ‘legacy’ systems (vignettes and toll plazas) to nationally interoperable electronic tolling systems
- Extend ‘user pays’ and ‘polluter pays’ principle across TEN-T network.
- Encourage use of ETC to generate higher revenues by capturing external costs
- EU-wide interoperability – one OBU, one contract



Trends – what might happen in the meantime

- So far, OReGO is not replicated or planned anywhere in Europe
- EU focus remains on truck VMT/ETC
- Trend from time-based to distance ETC would be helped by better harmonisation
- Potential disruption - alternative approaches may challenge the ten-year EETS model - lower cost/complexity
- Growth in telematics – more use of ‘untrusted’ systems (Hungary)
- Convergence with ITS agendas for LV
- Local schemes – commercialise driver rewards and value-added services
- New EU commissioner promises to look at ‘fit-for-purpose’ policies

Diversity in bloom



Portland's Rose Gardens



Europe's RUC gardens

Treading into new territory

Call for standardised road pricing system

Violeta Bulc

EU Transport Commissioner, 2014

“the various systems currently used in Member States are a burden to drivers across Europe.”

“decades of short-term thinking have resulted in the neglect of infrastructure”

“it makes sense to work on a European-wide system for cars and lorries to harmonise road charges across EU countries”

“the amount of the fee should be exclusively based on the number of kilometres actually driven and should not be time-dependent”



EU Transport Commissioner
- also walks on hot coals

The State of Europe



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