



# Road Charging Interoperability

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# Summary

- The European situation concerning tolling
- The European Directive
- Objectives of RCI
- Content of the project
- Planning of work
- Contacts

# Tolling systems in Europe

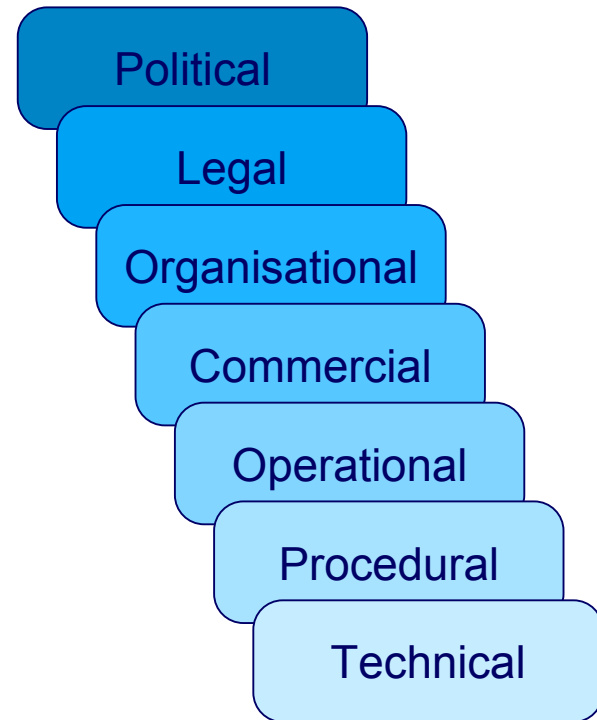
- 5,8 GHz DSRC based systems with:
  - CEN standard: France, Spain, Austria, Portugal
  - Telepass: Italy
- GNSS/CN (Satellite + cellular network) system in Germany (Toll Collect)
- GNSS+tachygraph & DSRC ... : Switzerland (LSVA system).
- Video-based: London
- New projects: Slovakia, Czech Republic, Poland, what solution..???

# Various types of on-board equipment (OBE)



# How to achieve interoperability ?

Interoperability can be achieved only if the full stack of aspects is harmonized in a defined frame of tolerated variety



# The European Directive

- Directive 2004/52/CE
- Adopted in March 2004 by the EU Council and in April by the EU Parliament
- In force since end of May 2004
- Objective: Regulatory framework for the deployment of a unique European Electronic Toll Service (EETS) in three stages

# The EU directive strategy

- Definition of a EETS that provides interoperability at technical, contractual and procedural levels with:
  - A single contract between clients and operators
  - A set of technical standards and requirements allowing industry to provide the necessary equipment

# Main steps

- First stage : definition of the service for 1<sup>st</sup> July 2006...
- Second stage : HGV and Long Distance Coaches, 3 years after – planned for mid 2009
- Third stage : all vehicles, 2 years after trucks – planned for mid 2011

The Directive will not interfere with the pricing policies of the Member States, but the systems implemented should be capable to handle any charging policy decided at national levels



# The technologies involved

- Two basic technologies :
  - GNSS / GPRS as a future objective for all systems
  - Microwave 5.8 GHz (CEN + Telepass)
- Plus
  - A link to the digital tachygraph
  - Other technologies allowed as far as they do not discriminate non-equipped clients

# How to get interoperability:

- Between systems in the vehicle ?
  - A pragmatic approach is needed which could lead to different interoperable versions of OBEs
  - It is the role of the industry and of the operators to define the landscape according to the business case
- On the ground ?
  - Toll operators will continue to choose the EFC frame they wish, in accordance with their policy and the structure of their network ,
  - And in respect of the principles of fair competition
  - The same OBE will address the different transactions

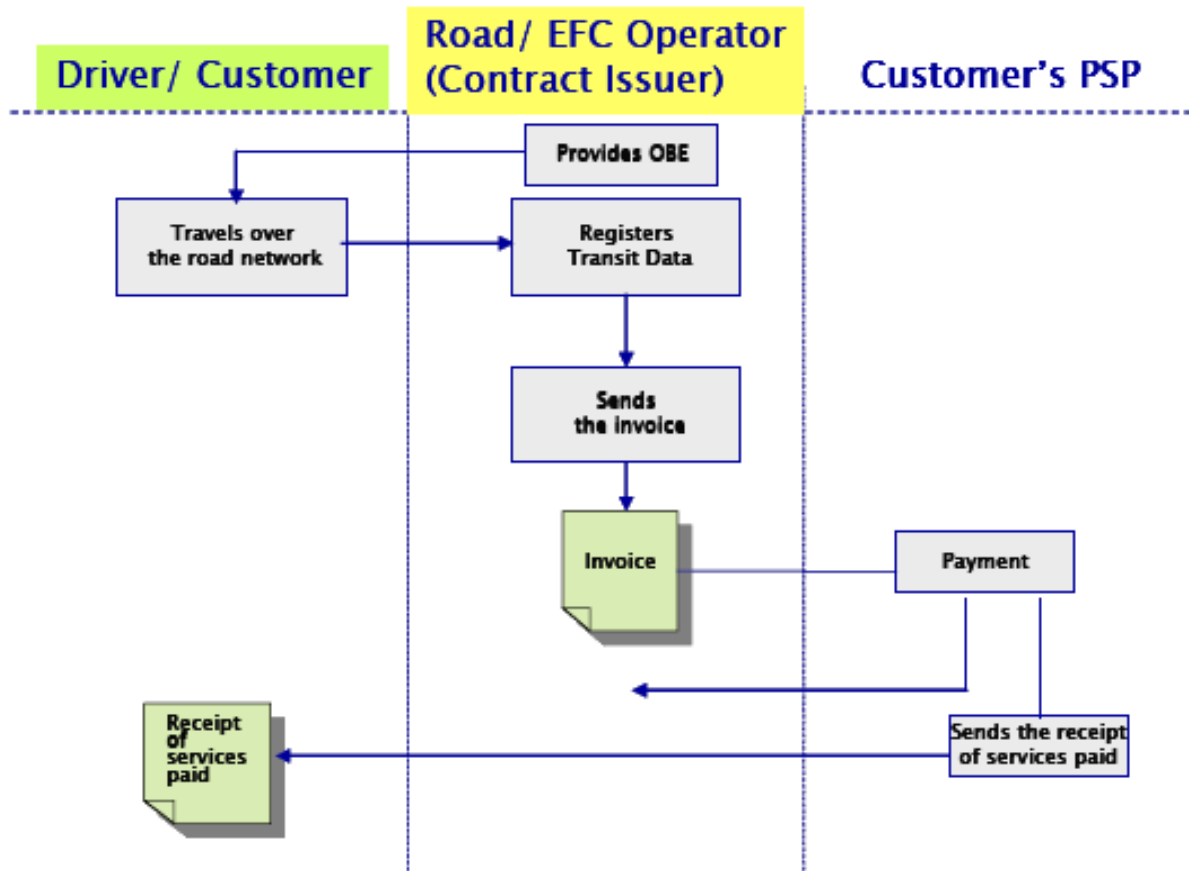
# RCI objectives

- Support the directive: development of an open framework
  - enabling road charging interoperability at the technical level
  - Based on existing and planned road charging systems
- Demonstrate ability of prototyped OBEs to achieve the required transactions
- 6 field trials: Austria, France, Germany, Italy, Spain, Switzerland

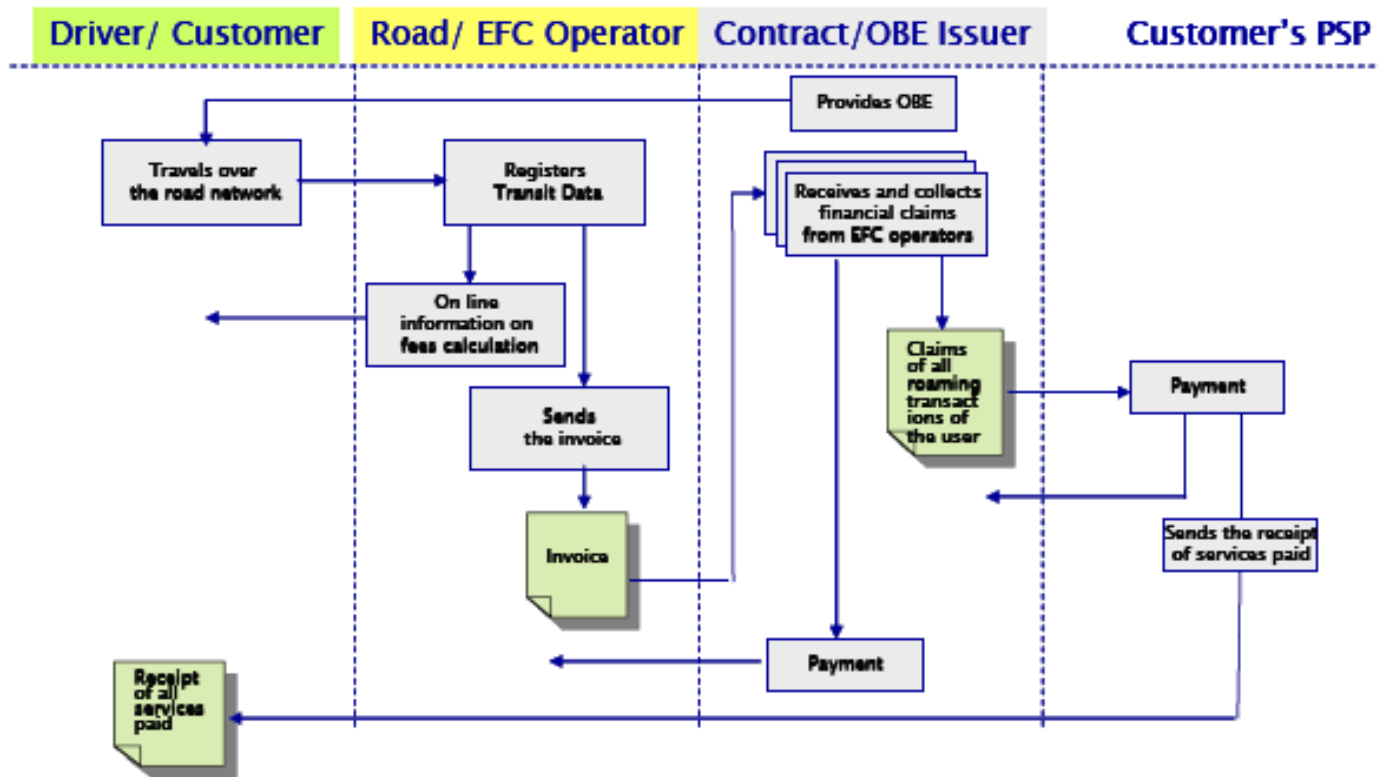
# RCI scope of work

- Describe the general framework (use cases, interoperability requirements, for different veh. Categories..)
- Define:
  - Functionalities and information flow
  - Technical architecture, OBE spec., security, ..
- Demonstrate on the network (2 suppliers selected)
- Propose a type approval and certification process.

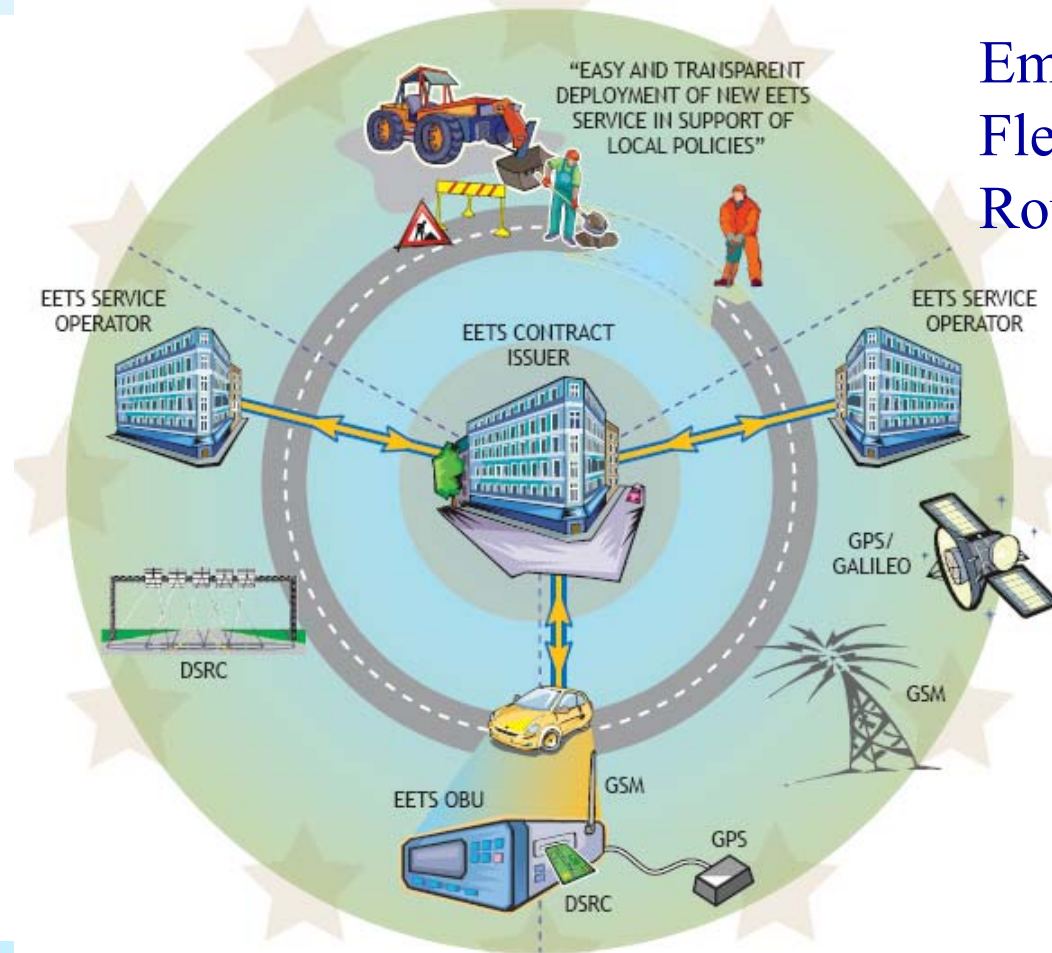
# Today's framework



# Tomorrow's framework



# ...allowing new services



Emergency call,  
Fleet management,  
Routing, ...

# RCI partners



RCI project is supported by EC DGTREN – end of project: July 2008



# Thank you for your attention

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