Future Interoperability – Common Platform Approach

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EETS – European Electronic Toll Service

- Australian ETC interoperability is partly built on, or using the European CEN DSRC
- But Australia has achieved full interoperability
- Europe has achieved regional interoperability

- EU has declared an European Electronic Toll Service - EETS
- What is the approach in EETS?

- Is there anything in it for Australia?
EETS – European Electronic Toll Service

- Europe road tolling is fragmented
  - National truck tolling
  - All vehicle tolling
- Regional interoperability
- EETS directive
  - EETS Providers
  - Toll Chargers
  - One contract, one OBE
  - GNSS or 5.8GHz DSRC for charging
  - Standards for interfaces

<table>
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<tr>
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EETS – European Electronic Toll Service

1. DSRC - charging, compliance, location
2. GSM/GPRS – GNSS locations
3. GNSS toll declarations
4. Toll declarations, payment claims
5. Charging data, compliance data
France

- All vehicle tolling on a large number of highways – Autoroutes
- Cash/card payment – or DSRC - ’Liber-T’
- Multiple concessions/issuers
- Interoperability
- Decision to introduce Ecotaxe for heavy vehicles
- 15,000 km road network - Mandatory use of GNSS OBU
- Will be operated by écomouv’
- Allows for additional issuers – ’service providers’
Ecotaxe France

- **Axxès – SHT (service provider)**
  - Existing service provider – has distributed 200,000 DSRC tags
  - Will be a service provider for the Ecotaxe
  - Continue to distribute DSRC tags for highway all vehicle tolling
  - Will distribute Ecotaxe Kapsch GNSS OBU interoperable with highways (DSRC charging)
  - Interoperability technically possible with several other countries

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Spain

- All-vehicle tolling on a number of interurban highways – Autovias
- Cash/card payment - or DSRC – ”Via-T”
- Multiple concessions
- Multiple tag issuers
- > 2 million tags distributed
- Interoperability
- Early discussions on extending Pay-Per-Use for funding roads

Spain 2010
Interoperability in Spain

Financial acquirer → Clearing House → Financial Issuer (Banks) → Non-financial Issuer → Toll Charger → User

Toll Charger

Financial acquirer

Clearing House

Financial Issuer (Banks)

Non-financial Issuer

User
Extending pay-per-use in Spain

- There are multiple options for Spain (and other countries)
  - Truck Tolling on extended network or extended network for all vehicle tolling
  - Technology – MLFF, Keep DSRC, Allow DSRC with video for occasional users, GNSS
Possible path for truck tolling in Spain

- Truck tolling – smaller vehicle fleet, higher fees, compared to all vehicle tolling

- Key factor is the road network
  - For a large road network, mandatory GNSS would most likely be best option
  - For a limited road network, mandatory DSRC would most likely be best option
  - Both would allow to accept future EETS OBUs
  - Current issuers can become local Truck Tolling OBU issuers or ”EETS” OBU issuers
  - DSRC with ANPR for infrequent users likely to have revenue leakage
  - ANPR likely to have revenue leakage and unnecessary operational costs
Technologies

- **DSRC/ANPR** – example Australia
  - ANPR used as identification for infrequent users

- **DSRC** – example Czech Republic truck tolling
  - Low revenue leakage

- **ANPR** – example New Zealand
  - Lower investment but higher leakage, which is an even stronger deciding factor in truck tolling

- **GNSS / DSRC** – example France
  - GNSS - charge, DSRC - compliance check, and for charging on existing toll roads

- **GNSS**
  - Can still require DSRC or similar technology for compliance checking
Applicable to Australia?

- Current situation: DSRC resulting in low leakage and ANPR with Image Processing Solutions for addressing operational costs

- Australia interoperability allows for new toll roads / networks

- Would allow for introduction of truck tolling – either DSRC or – like in France – GNSS
  
  - If the road network requires GNSS, the approach could be that the OBUs should have integrated interoperable DSRC

- Would allow for introduction of other new pay per use schemes such as city congestion charging using DSRC/ANPR identification – allowing for moderate leakage

- New issuers or existing issuers could issue interoperable OBUs

- Or, for DSRC schemes, existing OBUs could be used also in truck toll or city congestion charge schemes
Possibilities in Australia

- Is Heavy Goods Vehicle tolling going to be introduced?
- Is City congestion charging going to be introduced?
- If so, it must be interesting to achieve interoperability to existing tolling
- Other questions
  - Is peer-to-peer interoperability becoming complex with many operators and issuers? – Central clearing?
  - Are there any synergies to be gained by Banks, Fuel cards issuers or Public Transport card issuers becoming tag/pass issuers?
  - Can state vehicle registers be used as ”accounts” for vehicle owners – thus eliminating the need to actively open an account?
  - How will V2X 5.9GHz technology affect, what role will it play – and when?
Solutions available on the market
Australia

Harry Kewell
Thank you for your attention

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