Agenda

- About CEPT/ECC/ECO/WG NaN
- Legislation
- Conformity Assessment of PSAPs
- Numbering for eCall
- Co-existence of 112 eCall and TPS eCall
- Remote provisioning of SIM profiles for eCall
- eCall Life Cycle Management
- Other issues (raised at EENA workshop)
About CEPT, ECC and ECO

- **PT TRIS**
  - Technical Regulatory Issues
  - Chairman: V. Stundzia (LTU)
  - Vice-Chair: D. Voisard (SUI)

- **PT ES**
  - Emergency Services
  - Chairman: F. Dragomir (ROU)
  - Vice-Chair: D. Voisard (SUI)

- **PT NPS**
  - Number Portability & Switching
  - Chairman: J.F. Silva (POR)
  - Vice-Chair: B. Overvad (DNK)

- **PT FNI**
  - Future Numbering Issues
  - Chairman: F. Bernabei (I)
  - Vice-Chair: B. O’Brien (IRL)

- **WG NaN**
  - Numbering & Networks
  - Chairman: J. Vallesverd (NOR)
  - Vice-Chairman: E. Greenberg (G)
  - F. Dragomir (ROU)

- **WG NaN Strategy Forum Group**

Network-related

Numbering-related
## eCall Legislative Requirements

<table>
<thead>
<tr>
<th>Who*</th>
<th>Objective</th>
<th>Legislation title</th>
<th>Implementation deadline</th>
<th>Key requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member States</td>
<td>Enable the reception of eCalls by the Public Safety Answering Points (PSAPs)</td>
<td>DECISION No 585/2014/EU of the European Parliament and of the Council on the deployment of the Interoperable EU-wide eCall service (OJ L 164, 3.6.2014 p.6-9) – <a href="#">LINK</a></td>
<td>1st October 2017</td>
<td>• Free of charge to end users&lt;br&gt;• Emphasis on personal data protection&lt;br&gt;• Fully deployed across each nation (subject to network coverage)&lt;br&gt;• Emphasis on public awareness</td>
</tr>
<tr>
<td>OEMs</td>
<td>Equip new type-approved models with an embedded eCall device</td>
<td>REGULATION (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall In-vehicle system based on the 112 service and amending Directive 2007/46/EC (OJ L 123, 19.5.2015, p. 77-89) – <a href="#">LINK</a></td>
<td>31st March 2018</td>
<td>• Device to be permanently installed&lt;br&gt;• Automatic and manual triggering&lt;br&gt;• Compatible with Galileo and EGNOS positioning systems&lt;br&gt;• Optional support for private (TPS) eCall</td>
</tr>
<tr>
<td>MNOs</td>
<td>Enable the transmission of eCalls from the car to the PSAP</td>
<td>COMMISSION RECOMMENDATION of 8 September 2011 on support for an EU-wide eCall service in electronic communication networks for the transmission of in-vehicle emergency calls based on 112 ('eCalls') (OJ L 303, 22.11.2011, p. 46–48) – <a href="#">LINK</a> (The Recommendation states a deadline of 31st December 2014, but this was extended to 31st March 2016 in the Regulation referenced above.)</td>
<td>31st March 2016</td>
<td>• Recognise eCalls through the presence of the eCall discriminator (flag)&lt;br&gt;• Route eCalls to the appropriate PSAP through routing tables supplied by the Member State</td>
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Source: SBD/Vodafone
Conformity Assessment

Article 4 of the Commission Delegated Regulation (EU) No 305/2013 states that: “Member States shall designate the authorities that are competent for assessing the conformity of the operations of the eCall PSAPs”

- PT ES Questionnaire in 2016/2017 (12 Responses)
  - Authorities designated in 6 countries
    - **Finland** (Transport Safety Agency), **Portugal** (Portuguese Electrotechnical Institute), **Poland** (Ministry of the Interior and Administration), **Norway** (Norwegian Directorate for Civil Protection), **Czech Republic** (Technical Institute of Fire Protection in Prague), **Spain** (Self Assessment by PSAPs)

but...........

- Assessment has only been completed in Finland.
  - During EENA workshop (16-17 Oct 2017) it was mentioned that most countries are "technically ready"
- Is expertise and equipment to certify conformance a limiting factor?
Numbers for eCall

• WG NaN initially looked at eCall to assess scarcity risk. 270 million vehicles – approx 5% stock renewal each year (13.5 million)

• New passenger car registrations in Europe (source: ACEA)

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>5 yr average</th>
</tr>
</thead>
<tbody>
<tr>
<td>New registrations (000,000)</td>
<td>12</td>
<td>11,9</td>
<td>12,5</td>
<td>13,7</td>
<td>14.6</td>
<td>12,9</td>
</tr>
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</table>

• Demand for approximately 13,000,000 new mobile telephone numbers per annum when critical mass of new type vehicles reached (so not anytime soon!)

• Numbering Options
  • National numbers (assigned by National authorities)
    • Dedicated M2M numbers
    • Mobile numbers
  • International numbering resources (Assigned by ITU-T)
    • +882, +883, +878 number ranges

Note: Also short codes for routing automatic and manual eCalls
- eCall regulation applies to ‘new type’ vehicles
- Model cycle typically 4-6 years

How many new-type models on market on 01 April 2018?

Increase in availability of TPS eCall services
• Callback necessary
  – to return a call if it drops
  – to refresh the MSD
• Callback a cost for PSAPs that needs to be considered
  – Cost dependent on numbers used
  – Numbers need to be provisioned on networks (including fixed networks)
PSAP Operator View (Lithuania 112) – Refresh MSD
Draft ECC Recommendation (17)04

- Public Workshop on 31 January 2017
  - 63 participants from broad range of stakeholders
- **Purpose**: Raise awareness of numbering requirements and options and discuss with all stakeholders to inform an appropriate deliverable
- PT FNI drafted ECC Recommendation on Numbering for eCall
- Not promoting or excluding any numbering option
- Encourage use of remote provisioning
- Promote transparency regarding extra-territorial use of numbers
- Public consultation: 07 June – 23 August 2017
- 5 responses – AT&T, GSMA, Telenor Group, ETNO and Malta
- Planned for Adoption on 23 November 2017 by WG NaN
co-existence of public 112 eCall and TPS eCall

Single SIM Solution and Connectivity Partner for:-

- Infotainment
- In-car WiFi
- Telemetry
- eCall

Source: Cubic Telecom
Mandatory pan-European eCall a citizen protection policy initiative. There is no business opportunity in eCall alone.

“In order to ensure continuity of the public 112-based eCall service in all Member States throughout the lifetime of the vehicle and to guarantee that the public 112-based eCall service is always automatically available, all vehicles should be equipped with the public 112-based eCall service, regardless of whether or not a vehicle owner opts for a TPS eCall service. REGULATION (EU) 2015/758

Source: EENA
eCall Profile Characteristics

- eCall-only profile
  - Dormant – no mobility management
  - Privacy by design
  - No subscription

- eCall+VAS profile
  - Always connected
  - Subscription-based service
  - Privacy right waived in subscription agreement

Only one profile can be active at any given time!!
The embedded SIM/eUICC

GSMA Specification released 2013

ETSI TC SCP
Currently working on a TS

Benefits:
- Board space
- Deployment in extreme environments
- Economies of Scale
- Avoiding operator “lock-in”

Source: ETSI
Identifiers involved

**International Mobile Subscriber Identity (IMSI)** (ITU-T Recommendation E.212 – 15 digits)

<table>
<thead>
<tr>
<th>MCC</th>
<th>MNC</th>
<th>MSIN</th>
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<tbody>
<tr>
<td>3 digits</td>
<td>2 or 3 digits</td>
<td>Maximum of 10 digits</td>
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**Integrated Circuit Card Identifier (ICCID)** (ITU-T Recommendation E.118 – 19 Digits)

**Embedded Universal Integrated Circuit card Identifier (EID)**

New identifier introduced in GSMA Specification – 32 Digits

ISO/IEC 7812-1

Think physical SIM v. logical SIM
Remote provisioning of SIM profiles

- Car Assembly Plant
- In-vehicle system
- embedded SIM (eUICC-ID)
- Generic Provisioning Profile With IMEI number
Remote provisioning of SIM profiles

Option A – eCall Only
Option B – eCall+VAS

In-vehicle system
embedded SIM with generic provisioning profile

Local profile with new IMSI and telephone number download from the network.
Work started in 2015
Initial scope – "End of Life", WG NaN argued for broadening the scope to "Whole of Life"

**Beginning:** Deals between OEMS and MNOs
  Deployment at car assembly plant
**Middle:** Accidents & Testing (mandatory periodical inspections)
**End:** Car written/off or reaches end of life naturally
  Decommissioning of SIM
  Recover of numbering resources

Partial report presented at EeIP Plenary in June 2016
End of life options provided in draft.
End of Life Options

- **Define a set duration:** The eCall SIM subscription is made active for a set number of years after which it automatically expires, unless it is re-activated before the end of its life, for another set period of time (e.g. during periodic technical inspection).
  - What if car scrapped or sold outside of EU?
- **Renew duration at regular vehicle testing:** eCall test call using a live network. If an eCall or test call is not made for a pre-defined period of time, the car can be considered to be no longer in use.
  - Typically testing only occurs after 4 years. How could this be accounted for?
  - Still waiting on Report from EeIP PTI task force.
- **Synchronise with the actual vehicle life time:** Communication between and networks. Requires a mechanism for linking the vehicle to the subscription
  - Requires 1:2:1 relationship between VIN and the SIM. Which identifier – E.164, E.212, E.118, EID?
## Summary of remaining issues (EENA workshop)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Ghost mobile eCalls</strong></td>
<td>Solutions have been shared. Tests and sharing of experience are needed.</td>
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<tr>
<td><strong>eCall malfunction</strong></td>
<td>Procedures have to be created to know what PSAPs have to do in case of having an IVS malfunctioning.</td>
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<tr>
<td><strong>Future of 2G and 3G networks</strong></td>
<td>- More information about what will happen when 2G and 3G will not be available is needed.</td>
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<tr>
<td></td>
<td>- Work on NG112 has to speed up.</td>
</tr>
<tr>
<td><strong>eCall integration</strong></td>
<td>Integration between PSAPs has to be considered. Depending on the eCall model, the MSD would have to be sent to a stage 2 PSAP.</td>
</tr>
<tr>
<td><strong>SIM</strong></td>
<td>Public authorities don't have a clear view on how the SIM card will be configured in the IVS.</td>
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<tr>
<td><strong>Numbering</strong></td>
<td>Hidden cost for the PSAPs has to be considered in case not local numbers are used.</td>
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<tr>
<td><strong>Cross border between EU and Russia</strong></td>
<td>Russian cars have already activated eCall. How Russian eCall works inside the EU has to be clarified.</td>
</tr>
<tr>
<td><strong>TPSP switching to 112 based eCall</strong></td>
<td>Some TPSP are considering to switch all their customers from their private eCall services to 112-based eCall. This will anticipate the date of receiving real eCalls.</td>
</tr>
<tr>
<td><strong>End of life of the vehicle</strong></td>
<td>It is still not clear what will happen with the numbers at the end of the life of the vehicle.</td>
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</table>
Thank you for your attention!