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## AT&T Comments on BIPT's Consultation Regarding the Numbering Aspects of eCall Services

13 April 2017

### Summary

1. AT&T is pleased to provide the following comments on *Consultation at the request of the BIPT Council of 31 January 2017 regarding the numbering aspects of eCall services* ("the Consultation"),<sup>1</sup> as published on the BIPT website on 2 February 2017. Given its leadership in working with automotive Original Equipment Manufacturers (OEMs),<sup>2</sup> AT&T welcomes the opportunity to inform policies that will assist the deployment of connected vehicle solutions around the globe. AT&T commends BIPT for its comprehensive review of the numbering implications arising from the forthcoming implementation of eCall in Belgium. As described in more detail in our responses to BIPT's questions below, AT&T believes that BIPT may be overestimating the extent to which automotive OEMs and their connectivity providers will seek to use number resources from Belgium's national numbering plan to support eCall. Our expectation is that a significant number of OEMs will adopt connected car solutions, including for eCall, that rely on using either non-Belgian national numbers on an extra-territorial basis in Belgium or supranational numbers assigned by the ITU. It is important that OEMs have flexibility to decide on the most appropriate numbering solution for their business model. For this reason, AT&T urges BIPT to proceed urgently with the plan it announced in 2015<sup>3</sup> to remove the current restriction in Article 8 of the Belgian Numbering Decree<sup>4</sup> on using non-Belgian numbering resources for machine-to-machine (M2M) services provided in Belgium.

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<sup>1</sup> <http://www.bipt.be/en/operators/telecommunication/security/emergency-numbers-and-services/raadpleging-op-vraag-van-de-raad-van-het-bipt-van-31-januari-2017-met-betrekking-tot-de-nummeringsaspecten-van-ecall-diensten>

<sup>2</sup> In 2016, AT&T connected more than 50% of all new connected passenger vehicles in the US and is also connecting a growing number of vehicles in Europe. See, e.g., [http://about.att.com/sites/internet-of-things/connected\\_car](http://about.att.com/sites/internet-of-things/connected_car) and [http://about.att.com/story/att\\_vodafone\\_support\\_onstar\\_connected\\_car\\_technology.html](http://about.att.com/story/att_vodafone_support_onstar_connected_car_technology.html) And most recently, AT&T announced its collaboration with the Bridge Alliance of mobile operators to promote connected cars in Asia, the Middle East and Africa to extend our global coverage. AT&T currently works with 22 car and truck OEMs around the world. See [http://about.att.com/story/att\\_bridge\\_alliance.html](http://about.att.com/story/att_bridge_alliance.html) In addition to its commercial leadership, AT&T is at the forefront of developing connected car solutions. In January 2014, AT&T opened the AT&T Drive Studio™, the world's first end-to-end connected car innovation centre, enabling AT&T to work with automotive companies from around the globe to address such issues as safety, diagnostics, entertainment, and security. See, <https://www.business.att.com/enterprise/Service/internet-of-things/foundry-innovation-centers/drive-studio/>

<sup>3</sup> As proposed by BIPT in *Summary and further analysis answers to the consultation at the request of the BIPT Council of 25 November 2014 on reviewing the policy regarding the numbering plan management of 28 July 2015*, 3 August 2015, available at: <http://www.bipt.be/en/operators/telecommunication/Numbering/regulation/summary-and-further-analysis-answers-to-the-consultation-at-the-request-of-the-bipt-council-of-25-november-2014-on-reviewing-the-policy-regarding-the-numbering-plan-management-of-28-july-2015>

<sup>4</sup> *Arrêté royal relatif à la gestion de l'espace de numérotation national et à l'attribution et au retrait des droits d'utilisation de numéros*, 27.4.2007 (Royal Decree on the administration of the national numbering space and the grant and withdrawal of rights to use numbers - "the Belgian Numbering Decree")

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### **Question 2: eCall Commercial Model**

2. In Question 2 of the Consultation, BIPT invites comments on whether it has accurately described the likely commercial model for eCall services. AT&T agrees with BIPT on the distinction between stand-alone eCall services and eCall services offered in conjunction with value-added services, such as Wi-Fi access and concierge services. As BIPT notes, EC Directive 2007/46/EC<sup>5</sup> envisages the possibility of combining eCall with such third-party services. However, AT&T does not share BIPT's view that "once the vehicle is sent to the country where it will be sold, a local profile with a new IMSI will be provisioned Over-The-Air (OTA) and the E.164 telephone number will be assigned."<sup>6</sup> Based on AT&T's experience with automotive OEMs, BIPT should not assume that a local IMSI profile and a local E.164 number will be provisioned OTA in each national market where vehicles are sold, especially in circumstances where eCall is provided in conjunction with other value-added services. Indeed, OEMs typically require simpler, global (or at least regional) solutions that do not require such re-provisioning for each market.
  
3. In order to achieve the necessary economies of scale, automotive OEMs often look to partner with a single Mobile Network Operator (MNO) that can deliver wireless connectivity in several countries where the OEM seeks to sell its vehicles. By relying on a single MNO for its global wireless connectivity needs, the OEM can negotiate one wireless connectivity contract, use one Mobile Country Code (MCC) and Mobile Network Code (MNC) for the IMSIs in all of its SIMs (*i.e.*, E.212 resources), use Mobile Station International Subscriber Directory Numbers (MSISDN) (*i.e.*, telephone numbers or E.164 resources) sourced from one MNO, and use the ordering, provisioning and billing systems of one MNO. This avoids the need for the OEM to maintain separate SIM card inventories for each country; to know during manufacture the ultimate destination of each vehicle; to make substantial financial investments to integrate its data centres and help desks with a domestic MNO in each of the markets where it intends to sell vehicles; and to maintain a different platform with each MNO in each country.

### **Question 3: Is eCall a Mobile Service or an M2M Service?**

4. In Question 3, BIPT invites comments on whether eCall should be considered an M2M service (as defined in Belgium's Electronic Communications Act), a mobile service or a special service. While such distinctions may be relevant in assigning applicable number ranges in response to requests for Belgian number resources from automotive OEMs and their connectivity suppliers, AT&T's expectation is that the majority of eCall-equipped vehicles sold in Belgium will use non-Belgian numbers (*i.e.*, either numbers from other countries used on a permanent roaming or extra-territorial basis in Belgium or global numbering resources assigned by the ITU).
  
5. To the extent that defining eCall is relevant, AT&T notes that, in the context of its decisions allowing extra-territorial use of IMSIs for M2M, the German regulator, BNetzA, has established a definition of M2M communications that does not preclude limited human interaction; *e.g.*, private emergency

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<sup>5</sup> Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles

<sup>6</sup> Consultation, at Section 5.B on page 6.

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calls in lifts and/or vehicles, and concierge services in vehicles.<sup>7</sup> When BIPT implements, hopefully soon, the changes<sup>8</sup> to the Belgian Numbering Decree that it proposed in August 2015 to authorise extra-territorial use of foreign numbers in Belgium for M2M services, AT&T suggests that such authority should automatically extend to services such as eCall and connected car concierge services, as well as M2M applications without any human involvement.

6. To allow for greater flexibility and to mirror existing practice among many MNOs, AT&T believes that M2M services should be defined slightly more broadly to incorporate limited human involvement. A circumscribed and limited amount of voice communication is needed, for example, where there is a single-point-to-single-point voice communication between a connected car and an automotive OEM's help desk or a Public Safety Answering Point (PSAP) facilitated through a push-button mechanism without disclosure of the MSISDN associated with the device (thereby preventing the user from using the device to communicate more widely). If the voice communication is limited to a closed user group and the user is not privy to the MSISDN and therefore cannot make and receive calls to or from multiple points via the PSTN, such communication should be regarded as part of an M2M service.

#### **Question 4: Implications for Belgian E.164 Numbers**

7. BIPT has estimated that around 600,000 new E.164 numbers per year will be needed for eCall in Belgium, and that, considering other factors such as the average life span of a car in Belgium, a total of roughly 10 million E.164 numbers eventually will be required to support eCall. While AT&T understands the prudence in BIPT taking such an expansive view of the potential requirements for Belgian E.164 numbers from eCall to build in a wide safety margin for planning purposes, we doubt whether automotive OEMs will favour using Belgian numbering resources over those from other countries or the ITU in their connected car offerings, including eCall. As described in our answer to Question 2 above, AT&T's experience suggests that many OEMs selling vehicles in Belgium will want to contract with a single MNO for their global or regional connectivity requirements and will not seek to use numbers from the Belgian numbering plan.

#### **Question 5: Extra-territorial Use of National E.164 Numbers for eCall**

8. As BIPT notes, there is a current restriction on extra-territorial use of non-Belgian numbers for services provided in Belgium. AT&T understands that, following recent developments in Germany<sup>9</sup>

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<sup>7</sup> See,

[https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/Areas/Telecommunications/NumberManagement/TechnicalNumbers/IMSI\\_Extra-territorial.pdf?\\_\\_blob=publicationFile&v=1](https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/Areas/Telecommunications/NumberManagement/TechnicalNumbers/IMSI_Extra-territorial.pdf?__blob=publicationFile&v=1) at 2.3

<sup>8</sup> *Op. cit.*

<sup>9</sup> In October 2016, BNetzA issued a draft decision to allow the extra-territorial use of E.164 numbers for M2M to align with its earlier 15 June 2016 decision allowing extra-territorial use of E.212 numbers. See, Draft Decision *Extra-territorial use of foreign telephone numbers in the territory of the Federal Republic of Germany within the framework of machine-to-machine communication*, available at:

[http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Sachgebiete/Telekommunikation/Unternehmen\\_Institutionen/Nummerierung/Rufnummern/Mobile%20Dienste/Entwurf\\_Vfg\\_ExterritorialeNutzung.pdf;jsessionid=B3A309244E321303C5CDCB48E1F7361B?\\_\\_blob=publicationFile&v=2](http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Nummerierung/Rufnummern/Mobile%20Dienste/Entwurf_Vfg_ExterritorialeNutzung.pdf;jsessionid=B3A309244E321303C5CDCB48E1F7361B?__blob=publicationFile&v=2) at 2.2 (German)

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and Italy,<sup>10</sup> Belgium is now the only EU country to maintain such a limitation for M2M services, notwithstanding BIPT's policy decision in August 2015 to remove the restriction. AT&T, therefore, urges BIPT to move forward expeditiously with the necessary legislative changes to align Belgium fully with her European peers.

9. As BIPT acknowledges, the use of non-Belgian or ITU E.164 numbers for eCall in Belgium has the significant advantage of relieving demand for Belgian numbers. Moreover, where eCall In-Vehicle Systems (IVS) using non-Belgian numbers are able to roam on all Belgian mobile networks, this may provide better geographical coverage than IVS using Belgian numbers. This could be particularly relevant in the context of a service that will only be used in emergencies (while acknowledging that national 112 roaming is available in Belgium). However, BIPT also raises the possible disadvantages of the routing, cost, and "familiarity" implications for call back from Belgian PSAPs to eCall-equipped vehicles using non-Belgian numbers. AT&T does not consider that these will be significant obstacles to eCall implementation. In the first place, AT&T notes that Belgian PSAPs will need to be able to call back vehicles normally "garaged" in other EU countries but temporarily roaming in Belgium (which, almost certainly, will have non-Belgian numbers). Call back to these temporarily roaming vehicles will need to route through international switches in the same way as call back to vehicles "garaged" in Belgium that have non-Belgian numbers. Second, AT&T questions whether cost will be an inhibiting factor given the likely volume of eCalls and the dramatic reductions in IDD calling rates in recent years.
10. To facilitate the deployment of eCall services in Belgium, AT&T believes BIPT should ensure flexibility in the E.164 numbering options available for eCall services and endorse as equally valid and permissible the use of Belgian numbers, the extra-territorial use of numbers from other countries and the use of ITU-assigned supranational numbers.

#### **Question 6: E.212 Numbering Implications**

11. AT&T welcomes and agrees with BIPT's conclusion that there is no reason to intervene in the choice between Belgian, foreign or ITU E.212 numbering resources for eCall, and that no issue of exhaustion or shortage of IMSI resources should materialise. BIPT correctly identifies that an automotive OEM will logically choose either to use national E.212 resources on an extra-territorial basis or to use supranational 901 resources assigned by the ITU.<sup>11</sup>
12. However, AT&T does not agree that "if OTA-provisioning is chosen, national E.212 numbering capacity can easily be used for each country."<sup>12</sup> While the OTA provisioning of a new IMSI profile may be straightforward, as noted in our answer to Question 2, there would be significant operational

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<sup>10</sup> In December 2016, the Italian regulator, AGCOM, published a resolution to amend the Italian number plan to expressly allow the extra-territorial use of both E.164 and E.212 numbering resources in the provision of M2M services. See [https://www.agcom.it/documentazione/documento?p\\_p\\_auth=fLw7zRht&p\\_p\\_id=101\\_INSTANCE\\_kidx9GUnlodu&p\\_p\\_lifecycle=0&p\\_p\\_col\\_id=column-1&p\\_p\\_col\\_count=1&\\_101\\_INSTANCE\\_kidx9GUnlodu\\_struts\\_action=%2Fasset\\_publisher%2Fview\\_content&\\_101\\_INSTANCE\\_kidx9GUnlodu\\_assetEntryId=6609734&\\_101\\_INSTANCE\\_kidx9GUnlodu\\_type=document](https://www.agcom.it/documentazione/documento?p_p_auth=fLw7zRht&p_p_id=101_INSTANCE_kidx9GUnlodu&p_p_lifecycle=0&p_p_col_id=column-1&p_p_col_count=1&_101_INSTANCE_kidx9GUnlodu_struts_action=%2Fasset_publisher%2Fview_content&_101_INSTANCE_kidx9GUnlodu_assetEntryId=6609734&_101_INSTANCE_kidx9GUnlodu_type=document) (Italian).

<sup>11</sup> Consultation, at Section 7, page 10.

<sup>12</sup> Consultation, at Section 7, page 11.

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complexities and costs for an automotive OEM to integrate with a different MNO platform in each country where its vehicles are to be sold.

13. As also noted above in relation to E.164 numbers, AT&T believes that there is an urgent need for BIPT to remove the current restriction on extra-territorial use of foreign IMSIs in Belgium in order to ensure there is both full operating flexibility and market certainty. Within the EU, Belgium is now an outlier in this regard.<sup>13</sup>

**Question 7: “Lock-in” and Portability**

14. AT&T agrees with BIPT’s assessment<sup>14</sup> that the legal right for consumers to keep their E.164 numbers makes little practical sense in a connected car context where the number assigned to the embedded SIM is not known to the vehicle owner and it is a simple matter to re-provision a new number in the event of a change to the MNO providing the vehicle connectivity. AT&T also concurs with BIPT that, as part of the current review of the European regulatory framework, there needs to be a reassessment of the relevance of number portability requirements relative to this particular scenario, as well as more general developments in the Internet of Things.
15. With regard to “lock-in”, AT&T welcomes BIPT’s recognition that developments in OTA re-provisioning capabilities have the potential to address concerns around M2M service providers not being able to change their MNO connectivity provider. The OTA capability has been evolving since the first release of the GSMA embedded M2M SIM specification and the latest version 3.1<sup>15</sup> now enables full, interoperable OTA provisioning between different carriers and different SIM card vendors. OTA provisioning can therefore accommodate changes to profiles of different MNOs over the life span of a vehicle, creating more choice and flexibility for automotive OEMs. A vehicle is a high-value product which has, as BIPT notes, an average life span of 15 years. It is therefore not surprising that an increasing number of OEMs support the GSMA embedded SIM specification and require their MNO suppliers to provide compliant solutions.<sup>16</sup>
16. Given this evidence of successful cooperation between market participants to design and implement working OTA solutions, AT&T believes that regulatory intervention to require a particular OTA switching capability would be premature and unjustified. AT&T also notes that incorporating an OTA capability inevitably adds costs to an M2M solution. While this may be justified for higher value products such as cars that will be in use for many years, it may be uneconomic for a lower value, more disposable M2M device that might only be used for a year or two. AT&T therefore cautions

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<sup>13</sup> As noted, both the Italian and German regulators removed similar restrictions in 2016. See “Bundesnetzagentur Promotes Machine-to-Machine Communications Using Public Networks” [Press Release], 15 June 2016, available at [http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/PressReleases/2016/150615\\_IMSI.pdf;jsessionid=E5F0B1C360DA35FF0DF081B2EEC75059?\\_blob=publicationFile&v=2](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/PressReleases/2016/150615_IMSI.pdf;jsessionid=E5F0B1C360DA35FF0DF081B2EEC75059?_blob=publicationFile&v=2)

<sup>14</sup> Consultation, at Section 8, page 12.

<sup>15</sup> GSMA’s Remote Provisioning Architecture for Embedded UICC Technical Specification , V 3.1 (May 2016), available at [http://www.gsma.com/connectedliving/wp-content/uploads/2016/07/SGP.02\\_v3.1.pdf](http://www.gsma.com/connectedliving/wp-content/uploads/2016/07/SGP.02_v3.1.pdf)

<sup>16</sup> See, <http://www.gsma.com/newsroom/press-release/automotive-industry-adopts-gsma-embedded-sim-specification/>

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against the adoption of a “one-size-fits-all” regulatory policy approach towards OTA switching, which would reduce operating flexibility, inhibit innovation and increase costs in new M2M offerings and business models.

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AT&T would be pleased to answer any questions concerning these comments.

Respectfully submitted,



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