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**AT&T Comments on the BEREC consultation on M2M****23 August 2024**

AT&T is pleased to provide comments on the draft Report on M2M and Permanent Roaming (the “Consultation Document”) approved by BEREC during its 59th Plenary Session on 6 June 2024.

AT&T and its diversified holdings operate globally to provide mobile, video and data solutions. With operations throughout the U.S. and more than 60 other countries, AT&T has extensive experience in the dynamic areas of converged communications technologies and services and provides a globally consistent portfolio of services to the world’s largest multinational enterprise businesses in support of their operations and device deployments wherever they operate—whether directly or through partnerships with locally-authorized service providers.

Given our leadership in working with customers to develop and provide global Internet of Things (“IoT”) and machine-to-machine (“M2M”) solutions, AT&T welcomes the opportunity to share its experience regarding regulatory policies which promote the deployment of IoT and M2M communications in the EEA. Although BEREC asks a series of specific questions in the Consultation Document to access seekers and access providers, AT&T’s comments focus more generally on the global business models of the IoT and M2M communications and the importance of having the appropriate framework to promote the rapid development and deployment of IoT and M2M communications, including the need for the extra-territorial use of national numbering resources through roaming to make M2M services viable, and addressing security and privacy issues by collaborative self-regulatory efforts. AT&T begins by addressing the best approach to regulating the IoT and M2M communications.

**I. Regulation Specific to IoT and M2M Communications is Unnecessary**

With our multi-faceted experience as a leading global provider of IoT solutions—including wireless connectivity, devices, applications, platforms and security—AT&T believes that the current framework works well and should not be modified as in its present form, it encourages investments and market entry. Indeed, the provision of M2M communications encompasses a complex ecosystem of innovative players—most notably connectivity providers (mobile, fixed and satellite network operators), hardware manufacturers (equipment manufacturers and device manufacturers), software/application service providers (telematics, data analytics, billing solutions), and system integrators—that are developing new services and capabilities for the benefit of consumers, industry and society. These are both small and big, new and old players in the market, running a gamut of sizes, revenue and market presence. As the IoT industry grows, policymakers should expect and encourage further innovations that will foster investment and propel the IoT ecosystem forward.

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Regarding the M2M permanent roaming model, policymakers should promote a “light-touch” regulatory approach that focuses on the growth of IoT devices and services while satisfactorily addressing legitimate public policy issues. Such an approach seeks to (1) establish a policy framework that supports the collaborative, self-regulatory initiatives among industry stakeholders that thus far have fueled the growth of the IoT; (2) in those limited cases where regulatory action may be justified, provide for a light-touch, flexible, well-coordinated regime that protects innovation and facilitates rapid IoT market developments; and (3) advocate for an international, interoperable policy framework for IoT that facilitates the seamless global deployment of IoT products and services. On the final point, it is particularly important that all regulatory policy protects cross-border data flows and avoids localized data retention requirements. As discussed in more details below, one of the salient features of IoT and M2M communications is geographic agnosticism and the new business models that it engenders.

Regarding local in country access agreements, the policymakers should retain the right to push forward regulations that prevent monopolistic approaches to this industry and break down artificial barriers to competition. For example, in some markets, AT&T in the past attempted to negotiate localized M2M resale arrangements with local MNOs, but encountered resistance to moving forward, even when commercially viable proposals were offered by AT&T. Therefore, a regulatory framework mandating/encouraging local access would facilitate competition among service providers and ultimately greater choices for the public.

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## **II. Extra-Territorial Use of Numbering Resources (Global SIM): An Innovative Approach to New IoT and M2M Business Models**

The new business models for IoT and M2M communications necessitate innovative numbering solutions to accommodate the requirements of IoT and M2M customers and their product manufacturers. While a number of possible solutions to address the potential concerns relative to the needs of these stakeholders exist, AT&T believes that the most effective solution for global M2M services is to explicitly allow the extra-territorial use of numbering resources, such as E.212 (*i.e.*, Mobile Country Code [“MCC”] and Mobile Network Code [“MNC”]) as well as E.164 (*i.e.*, mobile telephone number) number ranges.<sup>1</sup> Such extra-territorial use of numbering resources for M2M services should not be confined to traditional roaming scenarios<sup>2</sup> and should work in both directions—that is, national regulators should allow use of their

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<sup>1</sup> Because machines need to be uniquely identified and addressed in order to communicate, it is likely that E.164 numbers will be necessary for some time with IoT and M2M devices. Many devices and applications developed today use E.164 numbers and this will continue throughout the lifecycle of the product. With many consumer and industrial products having a lifespan of 10 to 20 years, an ongoing supply of E.164 numbers will be needed. And for the highly integrated high-volume, low-cost electronic modules, a retrofit or upgrade to an alternate numbering resource would be uneconomical.

<sup>2</sup> In ITU-T E.212 Amendment 3 (06/2011), the ITU established procedures for the extra-territorial use of an MCC+MNC in a “base station” in a foreign jurisdiction (*i.e.*, in a situation where a network located in one country

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MCC+MNC and MSISDN numbers outside their national territories, as well as allowing the use of foreign numbering resources within their national territories.

To elaborate, there are existing, well-defined and well-established commercial models used between mobile operators that provide a practical basis for accommodating and facilitating the extra-territorial use of International Mobile Subscriber Identity (“IMSI”) codes and Mobile Station ISDN (“MSISDN”) numbers on a bilateral commercial basis. Foremost among these is the international M2M roaming framework that addresses and makes transparent international roaming used explicitly for M2M services. The roaming framework, currently the most efficient manner of delivering global M2M services,<sup>3</sup> enables the use of the home carrier’s IMSI and MSISDN to provide services on a global basis through a single SIM architecture. This architecture allows the most innovative devices, from large or small companies, to be deployed to any country in the world, thereby bringing the benefits of leading-edge technology to all countries, businesses, mobile operators and citizens. With the business models used for M2M, where end users often pay no data transport charge (or very reasonable/affordable amounts), the traditional policy considerations relative to the level of roaming charges are not an issue. Under the M2M roaming framework—recognized by the wireless industry’s leading trade association, the GSM Association (“GSMA”), and endorsed through the mobile network operators’ (“MNOs”) adoption of an M2M Annex — procedures are in place to transparently identify, measure and distinguish M2M roaming traffic from traditional handset or tablet roaming traffic.<sup>4</sup> The international roaming framework has been globally adopted by hundreds of mobile network operators who today enjoy the bilateral benefits of offering these services. And this bilateral framework has enabled large and small manufacturers alike to develop and

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broadcasts an MCC+MNC assigned to a network in another country). The ITU clarified, however, that these procedures do not apply to roaming.

<sup>3</sup> Numbering solutions for M2M services also include a unique ITU assigned MNC under a shared 90X MCC for M2M services. (ITU Recommendation E.212 Annex A provides for the ITU to assign MNCs under a shared country code.) However, we believe a Global SIM approach using roaming and the extra-territorial use of a national MCC+MNC offers an easily deployed and efficient solution. While the shared MCC 901 or MCC 90X code may be a potential long-term solution, at present the Global SIM approach based on a national IMSI is preferable, because the shared MCC 901 or MCC 90X code could involve considerable cost and time, up to 2 years, to get the necessary support structures and agreements in place.

<sup>4</sup> Historically, MNOs have supported their customers’ international wireless connectivity through roaming agreements with MNOs in other countries. To facilitate the adoption of these types of international roaming arrangements as a commercial matter, the GSMA has developed a series of roaming contract templates. These roaming templates, which are available for use by GSMA’s 800+ members, contain common industry-accepted terms and conditions that expedite the negotiation of roaming agreements. Commercially negotiated roaming arrangements that enable these customers to receive service outside their home country have been in place for decades and are mutually beneficial to the MNOs: the MNOs’ customers receive service in foreign countries and the MNOs receive compensation from the other party for providing the service. Moreover, building on its success in fostering traditional roaming, in 2012 the GSMA adopted an “M2M Annex” template for international roaming. Among other things, the M2M Annex mandates transparency in the provision of M2M services by requiring the parties to agree to identify their M2M traffic separately from other traffic and to exclude traditional wireless services (e.g., conventional 2-way dialable PSTN voice).

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export devices around the world, and to scale their business without the upfront entry barrier of establishing a distinct platform for each country before selling a single device. Thus, global numbering use promotes robust competition, and ensures competitive telecommunications markets because MNOs will continue to compete with each other to provide an international roaming platform for M2M service providers. This is a mutually beneficial arrangement.

Finally, the administration and regulation of numbers and electronic communications services properly remains within the scope of authority and interest of national regulatory authorities. Allowing the extra-territorial use of national numbering resources does not diminish or restrict that authority. In the first place, all cases of permanent roaming involve a local home MNO that is directly subject to the authority of the national regulator. Furthermore, permanent roaming does not involve the purchase of a separate data transport service by a local consumer in the country where the subscriber (*i.e.*, the device manufacturer) is roaming. In addition, other government authorities are likely to have oversight of the manufacturer selling the M2M device to an end user, depending on the sector. Nor is there any precedent preventing the use of global numbering resources from, for example, the International Telecommunications Union (“ITU”). The truly global nature of the IoT requires the use of one chosen SIM solution; therefore, numbering policies should embrace the Global SIM approach.

### III. Broad and Increasing Support for Extra-Territorial Use of Numbering Resources (Global SIM)

As regulatory bodies and policymakers gain insight into the critical importance of M2M application development for economic growth in manufacturing and services using IoT, and the significance of these services for enterprises and consumers alike, there is broad and increasing acceptance of and precedent for the Global SIM. Indeed, regulators in many countries have come to view the use of extra-territorial national number resources and the associated use of permanent roaming as foundational to the global deployment of the IoT and to economic development within their countries.

Examples of regulators that agreed with the points referenced immediately above include the German regulator, Bundesnetzagentur (“BNetzA”), which in June 2016 issued new rules<sup>5</sup> to explicitly permit the use of foreign IMSI codes that are either permanently installed in a telecommunications network in Germany or are used in Germany by way of permanent roaming to provide M2M services,<sup>6</sup> and the Italian regulator, Autorità per le Garanzie nelle Comunicazioni (“AGCOM”), which published a resolution to

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<sup>5</sup> See English version of *Administrative Order No 33/2016*, Official Gazette No 11/2016 of 15 June 2016 available at: [http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/Areas/Telecommunications/NumberManagement/TechnicalNumbers/IMSI\\_Extra-territorial.pdf?\\_\\_blob=publicationFile&v=1](http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/Areas/Telecommunications/NumberManagement/TechnicalNumbers/IMSI_Extra-territorial.pdf?__blob=publicationFile&v=1)

<sup>6</sup> 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)

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amend the Italian number plan to expressly allow the extra-territorial use of IMSI codes in the provision of M2M services under permanent roaming model. Like Germany's amended regulations, Italy's rules, intended to accommodate market needs, allow for the supranational use of Italian IMSI numbering resources with a non-Italian MCC.<sup>7</sup>

Regional policy fora also support the extra-territorial use of national numbering resources. In Europe, BEREC itself has acknowledged that allowing the extra-territorial use of national numbering resources appears to be central to the economic viability of M2M services.<sup>8</sup> And in the Americas, the Inter-American Telecommunication Commission ("CITEL"), recognizing that M2M communications drive economic and social development and constitutes a transnational market of services,<sup>9</sup> recommended that Member States allow the extra-territorial use of numbering resources—E.164 and E.212 numbers—to support global IoT and M2M business models and the development of innovated products and services.<sup>10</sup> As shown, support for the extra-territorial use of national numbers with the associated use of roaming is widespread throughout the globe.

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#### IV. Enabling commercial competition in the IoT space benefits the EU/EEA markets

The opportunities and potential benefits of IoT extend to all areas of the economy, society and government. For businesses, the IoT will provide the opportunity to generate greater efficiency and intelligence in business operations. The combination of IoT technologies and data analytics also will provide companies with unprecedented insight into their operations, and significantly improve their ability to serve their customers. For those customers, in turn, the IoT will mean increased convenience and control of their lives and environments. This extends to the government as a customer for IoT solutions as well; as with private businesses, IoT technologies will improve government's insight into, and ability to deliver, services to their constituents. IoT solutions also provide the means for governments at

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<sup>7</sup> 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>8</sup> *BEREC Report on Enabling the Internet of Things*, Report BoR 16(39), 12 February 2016 at [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/5755-berec-report-on-enabling-the-internet-of-things](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5755-berec-report-on-enabling-the-internet-of-things), at page 19. BEREC also recognized and supported a finding from its consultation leading to this report that a majority of stakeholders favor the extra-territorial use of national numbers to support M2M services intended for a global market.<sup>8</sup> Report, at page 16.

<sup>9</sup> *Recommendation to Incentivize Greater Adoption of IoT/M2M Services in the CITEL Member States*, 28 Meeting of Permanent Consultative Committee I: Telecommunications/Information and Communication Technologies, Final Report (CCP.I-TIC/doc.4000/16), 14 July 2016. See [https://www.citel.oas.org/en/SiteAssets/PCCI/Final-Reports/CCPI-2016-28-4000\\_i.pdf](https://www.citel.oas.org/en/SiteAssets/PCCI/Final-Reports/CCPI-2016-28-4000_i.pdf), at page 32.

<sup>10</sup> *Ibid.*, at page 33.

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all levels to move toward many policy objectives, such as increased energy and water efficiency, improvements in public health, increased automotive safety, and better infrastructure management.

IoT and M2M applications span a range of industries, including automotive/transportation, utilities/energy, healthcare, safety and surveillance, financial/retail, public safety, smart cities and agriculture. Whether vehicle tracking, smart metering, remotely controlled irrigation systems, wearable health devices or waste management, the number and variety of M2M applications continue to accelerate. By any measure, IoT and M2M communications promise to deliver substantial growth and innovation, leading to profound societal impact.

The impact will be far reaching, with global cross-border opportunities. Indeed, the global nature of M2M communications is not only a defining characteristic, but a strong asset. Moreover, IoT and M2M solutions not only create social welfare benefits within the European Union, but can create economic benefits to the member states' industry overall, by, for example, enabling manufacturers to have success with exports to world markets.

Therefore, in countries with regulatory policies that facilitate market entry by new and varied participants and encourage innovative M2M technologies and business models, IoT and M2M communications are poised to deliver significant economic and social benefits. Critically, supportive M2M policies must be based on the premise that the new business models for IoT differ greatly from the traditional business models that have supported the mobile phone and tablet industry segments in the past.