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**AT&T Counter Comments on Telecom Regulatory Authority of India Consultation Paper—*Spectrum, Roaming and QoS Related Requirements in Machine-to-Machine (M2M) Communications* dated 18<sup>th</sup> October 2016**

## **Introduction**

AT&T Global Network Services India Private Limited (“AT&T India”), an affiliate of AT&T, Inc. (“AT&T”), is pleased to provide counter comments on the Consultation Paper—[\*Spectrum, Roaming and QoS Related Requirements in Machine-to-Machine \(M2M\) Communications\*](#)— issued by the Telecom Regulatory Authority of India (“TRAI”) on 18 October 2016 (the “Consultation”) and to contribute to this important body of work in support of India’s digital aspirations. At 32 organizations, the number of stakeholders responding to the Consultation (and the depth and breadth of the responses, as well as diversity of voices), attests to the significance of M2M communications and the Internet of Things (IoT) to India and the progress the Government of India has made to advance that market. However, apart from stakeholders who have already responded there is still a large section of potential participants of the M2M eco system who should have not participated in the consultation process. For example early adaptors such as the Automobile, Logistics, Smart Cities, Manufacturing, Power and Health Care sectors are slated to play a major role in the India’s evolving M2M/IoT sector We are sure that TRAI would make recommendations keeping the requirements of larger ecosystem players who have an equal role to play and are currently unrelated to telecom.

IoT generally, and M2M more specifically, are inherently global business and operations models which require norms, standards and regulatory policies that reflect this unique requirement. In particular, policies must recognize and facilitate cross border data flows and permanent M2M roaming and should not impose norms which are at variance with international best practices which has been specifically recognized in NTP 2012 <sup>1</sup>(i). Any attempt to regulate or place restrictions on these at variance with global best practices, will severely undermine development with regards to proliferation, operational aspects, and investment opportunities where the M2M and IoT sectors are concerned.

It is imperative that Indian authorities appreciates that adopting restrictive policies that do not recognize the evolving and especially the global nature of M2M communications will not help India secure and accelerate the development of M2M communications and the Internet of Things in India. In these counter comments, we address specific points raised by other commenters regarding the M2M Service Provider (“framework (Q1.), permanent roaming (Q8a.), use of foreign SIMs/eUICC (“SIMs”) (Q8b. and c.), and introduce a related matter, cross-border data flows and data localisation (Q16.). We further explain how

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<sup>1</sup> NTP 2012 - 11.3. To adopt best practices to address the issues (like encryption, privacy, network security, law enforcement assistance, interoperability, preservation of cross-border data flows etc.) related to cloud services, M2M and other emerging technologies to promote a global market for India.

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the positions advocated for in these areas by very few commenters would discourage and impede the evolution of the M2M economy in India.

As majority of commenters have noted, for M2M communications to flourish, regulatory forbearance—or a light-touch regulatory approach—is appropriate.<sup>2</sup> Notably, in the United States, the U.S. Department of Commerce (“Department”) after public consultation, just issued a [report](#), *Fostering the Advancement of the Internet of Things*, advising just that:

“The Department has a longstanding approach to encouraging innovation in new technologies, while taking steps to address policy matters in a proactive, multistakeholder manner. We have approached emerging market trends and technologies with restraint and an eye toward allowing new entrants room to experiment and mature before they encounter significant government intervention. These guiding principles worked well as the Internet developed, and – as gleaned from our commenters – are appropriate to apply in the IoT sphere as well.”<sup>3</sup>

AT&T believes that this philosophy should underpin the development of an MSP framework and policies relative to M2M devices.

### **MSP Framework | Simple Registration Preferable to Restrictive Licensing (Q1.)**

The M2M communications ecosystem contains intense diversity of applications, players and experience. To enable innovation, encourage competition and facilitate growth, consistent with regulatory strategies worldwide, there is broad support among majority of commenters for a light touch regulatory framework such as a simple MSP registration (as currently being worked by India DoT in consultation with industry), or nothing at all, rather than support for a prohibitive telecom licensing regime.<sup>45</sup> . Unless there is an

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<sup>2</sup> For example, U.S.-India Business Council (“USIBC”) recommends the TRAI to “adopt light-touch and flexible regulatory frameworks to facilitate faster and efficient deployment of M2M” and “to avoid unnecessary regulations and costs that impede innovation and negatively impact the ease of doing business.” USBIC comments at page 2.

<sup>3</sup> See [https://www.ntia.doc.gov/files/ntia/publications/iot\\_green\\_paper\\_01122017.pdf](https://www.ntia.doc.gov/files/ntia/publications/iot_green_paper_01122017.pdf) at page 14.

<sup>4</sup> Among those supporting MSP registration, in addition to AT&T, Broadband India Forum (“BIF”) comments at page 1, NASSCOM comments at pages 4-5, U.S. India Business Council (“USBIC”) comments at page 3, ATCO comments at page 5, AUSPI comments at page 2, EGB Federation comments at page 2, Telenor comments at pages 3-4, TCL comments at page 1, Verizon at pages 5 and 6, T-Systems ICT India comments at page 1, Philips comments at page 1, Sensorise comments at page 3 (Section 2.13), and Ericsson comments at page 7. [Note: Reliance and IIMA-IDEA also suggested registration, as an OSP, but stipulated onerous requirements so I omitted. Almost 50% (14 of 2 commenting on MSP framework)

<sup>5</sup> OFCOM shares the view of light or no touch regulation: *“The option of not intervening...should always be seriously considered. Sometimes the fact that a market is working imperfectly is used to justify taking action. But no market ever works perfectly, while the effect of...regulation and its unintended consequences, may be worse than the imperfect market.”*<sup>5</sup> (Better Policy Making: Ofcom's approach to Impact Assessments ([https://www.ofcom.org.uk/consultations-and-statements/category-1/ia\\_guidelines](https://www.ofcom.org.uk/consultations-and-statements/category-1/ia_guidelines)))

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evidence of market failure requiring regulatory intervention, the regulators should refrain from suggesting a prescriptive regulation in IoT/M2M which is in a nascent and evolving stage in India.

Some few respondents favored an MSP to be licensed, arguing that the resale of M2M *mobile* services by MSPs requires a Unified License (UL),<sup>6</sup> that M2M communication is actually an access service, also requiring a UL, and that a registration concept contravenes the Indian Telegraph Act 1885 (the “Act”)]<sup>7</sup> However, this argument is misplaced given that the role of the MSP is that of an entity that bundles the various components needed for an M2M application (e.g. buys connectivity from an MNO or MVNO, designs and manufactures or acquires a telematics device, develops software, provides a data center and a help desk, develops sensors, and designs the whole of it) and markets the resulting product or service in India. While the connectivity component (which is not limited to mobile)<sup>8</sup> of M2M communications is an access service or telecommunications service, the resultant product and/or service (cars, tractors, meters, and devices that are attached to or incorporated in things in order to extract data and send it to a data center, e.g. devices attached to anything to measure how much has been used) is more correctly an application.<sup>9</sup> The M2M Service Provider can be a car company, a shipping firm, an eReader manufacturer, an electric company, an insurance company, a home improvement contractor, and other suppliers of finished goods or services. They, themselves are not telecom providers. Rather, they rely upon the telecom providers to provide that specific and limited part of the overall product or service. The MSP, therefore, is not itself providing an access service or telecommunications service (i.e., basic connectivity),<sup>10</sup> but is using that service as a component of a finished product. As such, the licenses required for the underlying network operator in order to provide connectivity, should not also be required for the entity that supplies roaming, or that consolidates the various components.<sup>11</sup> World over there is

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<sup>6</sup> Bharti (“Airtel”) comments at pages 5 and 6.

<sup>7</sup> Vodafone comments at pages 2 and 3. [While M2M communications are not expressly provided for in the Act, just as the understanding of ‘telegraph’ has evolved to encompass IP telephony, so to does the understanding of ‘licensing’ to encompass a lighter form of authorization, such as a registration process.]

<sup>8</sup> Machina Research projects that by 2021 only 8.4% of connected devices will use cellular connectivity (ATCO comments at page 5). With more than 90 percent of M2M connectivity expected to come from non-cellular services for which no telecom license or authorization is required, introducing a licensing requirement for cellular devices would put an unfair burden on one segment of the market and stifle M2M growth in that market.

<sup>9</sup> For example, a vehicle tracking and monitoring technology service comprises (1) a telecommunication service of an MNO or MVNO that supports the connection between the telematics device in the vehicles (2) a telematics device, (3) sensors, (4) a design (IP for how it will work), (5) software to make it all work, (6) a data center to receive data, (7) personnel to review the data and take action. The MSP provides a total solution and should not be regulated as if it is the MNO or MVNO. It merely uses the connectivity to deliver a different product. One could say that the MSP is the end user of the telecom service provided by an MNO/MVNO and provides a distinct product to its customers.

<sup>10</sup> If connectivity to the PSTN were provided as part of an M2M communications solution, this would be done through a licensed operator.

<sup>11</sup> Depending upon the market being served, the application may be regulated in another area (e.g., a car application may also be regulated by a transportation authority).

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no country which mandates a telecom license for a operator to roam in another country. This are governed by mutually negotiated international roaming arrangements as against licensed.

Airtel suggests that “many” countries have supported licensing for M2M service providers, citing Singapore, Brazil, the United Kingdom and Malaysia.<sup>12</sup> However, this is largely inaccurate. As a global provider of services deeply familiar with regulatory requirements in countries around the world, AT&T is aware of only one country, Singapore,<sup>13</sup> with a specific MSP licensing requirement. An MNO or MVNO license required in Brazil to provide wireless services in Brazil but such a license is not specifically for M2M, nor is it required for an entity acting in a MSP capacity. Only the underlying access or telecommunication service provider is required to be licensed. The same is true for Malaysia, which may have an M2M MVNO, but does not require a license of entities acting as MSPs. Finally, Airtel inaccurately asserts that a Business Radio License is required to provide M2M services in the United Kingdom. In fact, the Business Radio License is required to use VHF frequencies (within the 55-68 MHz, 70.5-71.5 MHz and 80.0-81.5 MHz bands). The license is for spectrum use for IoT—and the bands are not exclusively for IoT. While a license is required to obtain spectrum, there is no requirement in the UK to obtain a license in order provide electronic communications services, and certainly no license or registration process or other regulation of MSPs.<sup>14</sup> In fact, most European Union Member States require simply that an entity provide notification (no license, no registration) to the national regulator as a pre-requisite to providing an electronic communications service and have no registration or licensing provision for MSPs.<sup>15</sup> It is clear that while the data on the four countries (2% of global counties) by itself is questionable, there is no evidence that vast majority of the countries have any licensing requirement of the kind that is being suggested.

The diversity of M2M solutions, potential number of MSPs, and the evolving dynamics of the M2M communications industry demand a flexible MSP framework. Requiring a cost-prohibitive license in order to market a product or service that is not itself a telecommunications service will certainly discourage market entry, innovation and investment – key objectives under India’s various telecom policies and "Digital India" program. AT&T, therefore, maintains that a light-touch framework consisting of a simple notification, such as that used for Other Service Providers (OSPs), is preferable to mandating that an MSP obtain a telecommunications license.

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<sup>12</sup> Airtel comments at page 7.

<sup>13</sup> TRAI acknowledged Singapore in this context (Consultation, at 2.10).

<sup>14</sup> See [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0029/78563/vhf-iot-statement.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0029/78563/vhf-iot-statement.pdf)

<sup>15</sup> The UK and Denmark do not even require notification to the national regulator in order to provide electronic communication services.

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**Additional submission against any type of licensing for M2M services: Whether all M2M services qualify as ‘telegraph’**

1. Firstly it will need to be determined whether all types of M2M services and service including those provided by vast majority of IoT/M2M ecosystem players (as mentioned below) strictly falls under the definition of ‘telegraph’ as provided in The Indian Telegraph Act 1885. **Whether and what type of authorization may be needed under The Indian Telegraph Act 1885.**

Further, whether it would be prudent to make license a precondition for providing any type of M2M service, especially given the very wide set of ecosystem players, who could be involved in playing a role in provision of M2M service. In any event, the term ‘license’ as described in the Indian Telegraph Act does not in any way automatically imply to mean a ‘UASL’ or ‘VNO’ license. If however, it is found that all types of M2M services come under the ambit of ‘telegraph’ and therefore need a ‘license’ as per section 4 of the Indian Telegraph Act, then the authorities and the government may need to consider a special ‘license’ which ‘authorizes’ provision of M2M services on terms that do not increase the cost of entry or compliance, for several thousands of potential individuals, startups, and established businesses, who aspire to provide M2M services. It may also be noted that such ‘authorization’ can be granted by way of a ‘registration’, equivalent to a 1 page ‘license’, to be issued to all M2M service providers.

Even if licensing was to be considered, and given the nascent stage of the M2M sector in India and globally, it would not be prudent to bring all M2M service providers including existing telcos, under this new, simplified, low cost, low obligation, investment friendly regime, and ensuring level playing field, rather than creating entry barriers, increasing cost of entry and compliance, by considering the option of a mandatory UASL or VNO license, as has been recommended by some respondents.

2. **Wide range of sectors may be impacted by licensing:**

Finally, the respondents to the TRAI consultation, have been limited to companies, individuals and associations, directly or indirectly linked to the ICT and telecom sector. In reality however, TRAI’s proposed recommendation on M2M will impact a very large number of companies and sectors, whose views and importance to M2M growth must be considered before any type of framework may be recommended. Some of these sectors and the role of M2M / IOT is provided below, based on information published by BI intelligence:

- **Manufacturing**

35% of manufacturers already use smart sensors, 10% plan to implement them within a year, and 8% plan to implement them within three years, according to PwC.

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- **Oil, Gas, and Mining**

BI estimates 5.4 million IOT devices will be used on oil extraction sites by 2020. The devices will primarily be internet-connected sensors used to provide environmental metrics about extraction sites.
  - **Transportation**

Connected cars are a top IOT device. BI estimates there will be over 220 million connected cars on the road by 2020.
  - **Insurance**

74% of insurance executives said believe the IOT will disrupt insurance within the next five years, and 74% plan to invest in developing and implementing IOT strategies by 2016, according to an SMA Research survey.
  - **Defense**

BI estimates spending on drones will reach \$8.7 billion in 2020. In addition, 126,000 military robots will be shipped in 2020, according to Frost & Sullivan.
  - **Connected Home**

By 2020, BI expects the majority of home devices shipped will be connected to the internet due to initiatives from device makers to connect everything they produce.
  - **Agriculture**

BI estimates 75 million IOT devices will be shipped for agricultural uses in 2020, at a 20% CAGR. These devices are primary sensors placed in soil to track acidity levels, temperature, and variables that help farmers increase crop yields.
  - **Food Services**

BI estimates 310 million IOT devices will be used by food services companies by 2020. The majority of these devices will be digital signs connected throughout grocery stores and fast-food companies.
  - **Infrastructure**

BI estimates municipalities worldwide will increase their spending on IOT systems at a 30% CAGR, from \$36 billion in 2014 to \$133 billion in 2019. This investment will generate \$421 billion in economic value for cities worldwide in 2019.
  - **Utilities**

Energy companies throughout the world are trying to meet the rising demand in energy. To do this, they will be installing nearly 1 billion smart meters by 2020.

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- **Retail**  
Beacons, paired with mobile apps, are being used in stores to monitor customer behavior and push advertisements to customers. In the US, BI estimates \$44.4 billion will be generated from beacon-triggered messages.
  - **Hospitality**  
31% of hotels use next-generation door locks, 33% have room control devices, 16% have connected TVs, and 15% use beacons throughout the hotel, according to Hospitality Technology's 2015 Lodging Technology survey.
  - **Logistics**  
Tracking sensors placed on parcels and shipping containers will help reduce costs associated with lost or damaged goods. In addition, robots, such as the Amazon Kiva robot, help reduce labor costs in warehouses.
  - **Healthcare**  
BI estimates 646 million IOT devices will be used for healthcare by 2020. Connected healthcare devices can collect data, automate processes, and more. But these devices can also be hacked, thereby posing a threat to the patients who rely on them.
  - **Banks**  
There are nearly 3 million ATMs installed globally in 2015, according to the World Bank. Some teller-assist ATMs provide a live-stream video of a teller for added customer support.
  - **Smart Buildings**  
43% of building managers in the US believe the IOT will affect how they run their building within the next two to three years, according to a survey from Daintree Networks.

A complex licensing regime, such as VNO license, is not only cost prohibitive for market entrants, it has the potential to overwhelm the licensing authorities as well. The majority of respondents have opposed the suggestion on any type of license for M2M services.

#### **Roaming | Permanent Roaming Integral to Provision of Global M2M Communications (Q8a.)**

As stated in AT&T's comments to the Consultation, the business models for M2M communications have unique challenges that are effectively addressed by M2M device manufacturers and the wireless industry through various solutions, such as the use of so-called permanent roaming. AT&T asserts that roaming as a technical and commercial platform brings unparalleled efficiency for the deployment of M2M communications across the globe.

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Moreover, in most cases, without roaming M2M applications just may not be viable.<sup>16</sup> These applications may have \$1 monthly average revenue per user (“ARPU”). Expectedly, the large Indian telecom service providers, incumbents, and the associations to which they belong, generally opposed the use of permanent roaming for service delivery, while majority of respondents including incumbent telcos (BSNL/MTNL), global service providers, smaller Indian telcos, some associations and global equipment manufacturers generally favored the use of roaming determined mutually amongst players.<sup>17</sup> Most respondents acknowledged the ‘global nature’ of the M2M communications market. Demanding that roaming be prohibited, therefore, ignores market realities—as well as the legally-sanctioned practices already in operation—suggesting a negative view of roaming that results from a protectionist inclination. Indeed, Airtel argues that they invested in infrastructure with the “belief that they would be able to continue providing all types of telecom services within the country.”<sup>18</sup> Roaming occurs on the Indian operator’s network. Any M2M usage by a global manufacturer is paid for by the non-Indian MNO to the Indian MNO that is its roaming partner. The very infrastructure that any Indian operator has invested in, is in fact used to provide the roaming service. And the Indian operator earns a return on its investment by selling roaming to its non-Indian roaming partner who then sells that same service to its global manufacturing customer who produces products for distribution globally. All Indian usage occurs on an Indian operator’s network and the Indian operator is duly compensated for such usage under the terms of its International Roaming Agreement with the non-Indian operator. The Indian operators get reciprocal access to the markets of the non-Indian operator. Moreover, roaming is not a mandate so service providers are free to choose those commercial roaming arrangements they deem viable. There is simply no credible argument to prevent the use of international roaming in the provision of M2M communications when it is permitted and is practiced across globally for voice and data.

Roaming occurs under the roaming policies under existing licensing terms and conditions. Indeed, Vodafone states that there is no concept of ‘permanent’ or ‘temporary’ roaming in international roaming, which is permitted between countries based on a bilateral commercial agreement.<sup>19</sup> Moreover, international roaming always involves a licensed Indian operator providing the connectivity and therefore is subject to Indian regulatory oversight.

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<sup>16</sup> T-Systems ICT India (“T-Systems”) specifically states when the deployment of M2M services is desired within a short timeframe on a global basis, providing M2M connectivity based on permanent roaming “is the only option.” T-Systems comments at page 4.

<sup>17</sup> Reliance JIO Infocomm Limited (“Reliance JIO”) comments at page 11, Broadband India Forum (“BIF”) comments (excluding Vodafone and Airtel) at page 5, USCIB comments at page 5, ATCO comments at page 10, EBG Federation comments at page 5, Idea Cellular Ltd. comments at pages 10-11, BSNL comments at page 2, Vodafone comments at page 6, Telenor comments at page 7, TCL comments at page 5, Verizon comments at page 10, T-Systems comments at page 4, Philips comments at page 2, Ericsson comments at page 10, IIMA-IDEA Telecom Center of Excellence. [note IIMA-IDEA stipulates conditions on permanent roaming—that the Indian telco on whose network the visitor is roaming owns the data]

<sup>18</sup> Airtel comments at page 12.

<sup>19</sup> Vodafone comments at page 5.

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The Indian operator is responsible for KYC and other regulatory oversight. It is standard practice for the Indian MNO to pass through those requirements to the roaming partner and for the roaming partner to pass them through to the MSP. Only in this way can the MNO be assured of its own compliance.

Second, the world over accepts the practice of using international roaming to deliver M2M services, with only 1 exception.<sup>20</sup> Brazil is the only country amongst the 192 ITU member countries which mandate a local SIM for M2M devices. It is an outlier. If India adopts the local SIM requirement, it will have the effect of outright restricting the use of international roaming as a service delivery model.<sup>21</sup> This will be at variance with the recognition in NTP 2012, for the need to adopt international best practices for M2M sector<sup>22</sup>. With Brazil, permanent roaming is not prohibited by law, but the Brazilian telecom regulator, Agência Nacional de Telecomunicações (ANATEL), for reasons associated with the collection of a fee that is specific to Brazil, it has informally declared a ban on permanent roaming (i.e., continuous roaming for more than 90 days in the country). The ban is currently under review in Brazil by Ministry of Science, Technology, Innovation and Communication (MCTI), as Brazil takes a fresh look at adopting the right policies in support of a national IoT development plan. Thus the Brazilian practice, which by itself is a singular outlier, is not set in concrete yet.

Third, prohibiting the use of international roaming could have a chilling effect on the proliferation of M2M communications, and the development of the IoT more broadly in India could harm India's developing manufacturing sector because, aside from Brazil, no country expressly prohibits permanent roaming. Should India decide to do so, other countries, following reciprocal trade practices, will be disinclined to allow Indian manufacturers to benefit from the use of a global SIM capable of permanently roaming in all other countries. This has been noted and recognized in the National Telecom M2M Roadmap released by DoT in May 2015<sup>23</sup>.

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<sup>20</sup> In Europe, the U.S. and other countries with liberalized telecom markets and a tradition of stimulating competition support the use of permanent roaming and the extra-territorial use of national numbering resources to provide M2M communications.

<sup>21</sup> Although we are not aware of an outright regulatory prohibition, the situation is somewhat unclear in the United Arab Emirates and Saudi Arabia. In those countries, the regulators seem to defer to the network operator and there are those operators who allow the use of permanent roaming for M2M services and others who do not.

<sup>22</sup> NTP-2012: 11.3. To adopt best practices to address the issues (like encryption, privacy, network security, law enforcement assistance, inter-operability, preservation of cross-border data flows etc.) related to cloud services, M2M and other emerging technologies to promote a global market for India.

<sup>23</sup> National Telecom M2M Roadmap, May 2015

#### 4.2.7 Location and Connectivity Guidelines:

While building M2M networks, connectivity and physical location of various elements is equally important. Accordingly following approach should be adopted towards M2M deployments:

1. All M2M services should be IP based. On network side of M2M, the communication should be over Internet protocol (IP), so that everyone adopts common standards.
2. From security perspective, there is a strong case for all M2M Gateways and application servers, servicing the customers in India, to be physically located in India. But MSP with small customer base in the country may find it difficult to have complete back-end technical setup due to lack of economy of scale. Also, trade reciprocity, privacy, non-disclosure conditions

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In fact, we have been asked in several countries whether the United States allows permanent roaming, and regulators have indicated there will be a *quid pro quo*. Therefore, preclude India from permanent roaming and Indian manufacturers may not be able to permanently roam for global distribution placing them at a significant disadvantage when compared to manufacturers from all other countries. Keeping India's market closed in this way will stymie the development of the IoT in India, discourage investments, harm its competitiveness, and set back its growth potentially by years. Further, perhaps most critically, unnecessarily constraining the deployment of M2M communications will deny Indian citizens the benefits of the global marketplace. E.g. India may be the only country where globally connected cars or logistical operations may not be allowed to operate seamlessly. Indeed, IIMA-IDEA Telecom Center of Excellence recommends permanent roaming because "[c]onsumer welfare and economic performance through M2M application and services is not possible without the free flow and exchange of data."<sup>24</sup>

### Foreign SIMs | Use of Foreign SIMs Stimulates Global M2M Communications Growth (Q8b. and c.)

Some of India's incumbent operators seek to prohibit permanent roaming and mandate the use of an Indian SIM in order to perpetuate a closed marketplace to their economic benefit.<sup>25</sup> Interestingly, Reliance comments that India has one of the fastest growing telecom markets but is an economy that will lead to an increase in consumption of M2M services. Therefore, from a purely economic view (or perhaps self-interest) it suggests that the use of domestic SIMs should be mandated. As explained in the prior section, such restrictive policies would impede the development of M2M communications and the IoT to the detriment of India, its industries, particularly manufacturing, and its citizens.<sup>26</sup> AT&T believes that permanent roaming with foreign numbering resources (i.e., the extra-territorial use of national numbers) is one of the most effective methods to facilitate the deployment and development of M2M communications. As with many commenters and global regulators, AT&T does not support mandating a migration to Indian SIMs.<sup>27</sup> Such a mandate would be detrimental to Indian manufacturing and to Indian consumers.

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etc. may require us to have view based on practices adopted by other countries in this regard. Decision regarding location of servers in various other services i.e. e-mail, social media etc. is likely to have a bearing on M2M services as well. All such relevant factors need consideration and physical location shall be in consonance with decisions in other services.

<sup>24</sup> IIMA-IDEA Telecom Center of Excellence comments at page 4.

<sup>25</sup> Airtel comments at pages 13 and 14. Not only does Airtel not recommend the use of foreign SIMs for M2M mobile devices, but suggests a *reasonable* time period for the conversion is, an apparently arbitrary, three months. Other commenters suggested anywhere from one year (Reliance comments at page 8) to an astounding 30 days (Sensorise comments at page 10).

<sup>26</sup> Reliance, supports mandating an Indian SIM, suggesting a one-year migration period. Yet it, perhaps inadvertently, confirms the harm to Indian manufacturing of such a mandate, stating that "given the limited technological and manufacturing base of India, and that fact that India is endeavoring to become a global manufacturing hub, mandating the use of only Indian TSP SIMs could have a reciprocal effect on the goods that are manufactured and exported from India." Reliance comments at page 8.

<sup>27</sup> Reliance JIO comments at page 11, BIF comments (excluding Vodafone and Airtel) at page 5, USCIB comments at page 5, ATCO comments at page 10, EBG Federation comments at page 5, BSNL comments at page 2, MTNL

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## Cross-Border Data Flows and Storage | Flexible Policies for Innovation and Economic Growth (Q16.)

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Several commenters<sup>28</sup> addressed the need for flexible government policies relative to cross-border data flows and data storage requirements to enable the proliferation of M2M services and ensure their economic viability. We absolutely agree. M2M communication deployment to our customers requires clear and consistent solutions across borders to reduce complexity and increase speed to market. Navigating the data regulation and policy rules across borders can slow implementation of a valuable solution and delay innovation for our customers. When a customer has to deploy duplicate infrastructure to different countries because of restrictive data flow policy, it can substantially escalate the cost of delivering service and divert resources from companies developing more innovative solutions. As companies increasingly rely on sharing data with their global partners and customers to deliver services, the need for consistent and open data flow policies becomes more pronounced. The inability for a cross-border supplier to easily and securely share information with customers and ecosystem partners would significantly stifle the value of data analytics and insights that are driving tomorrow's innovation. The impact of such a restriction in case of reciprocal prohibition of cross border data flow will be extremely negative, not only on India's manufacturing sectors, e.g. exporters of cars and other engineering goods, which will in the future carry global SIMs provided by Indian telcos, but can also have a cascading impact on other areas, where cross border data flow is critical. E.g. Cloud, where India's IT / ITeS sector, as mentioned in NTP 2012, aspires to be the global leader in the development and provision of cloud services.<sup>29</sup>

Thus, there should be no restriction on cross border data flows nor any mandate on in-country placement of servers, gateways or any type of infrastructure used in data storage. The approach in this regard should be consistent with National Telecom M2M Roadmap released by India DoT in May 2015.

### Conclusion

There is resounding consensus that M2M communications is poised to transform our world to the general good of society and industry. There is also agreement that this evolution is in its early stages, requiring flexible, pro-growth, pro-competition policies. Those that request restrictive, or more protectionist approaches, deny the global nature of this technological evolution and in focusing on their own narrow

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comments at page 6, Vodafone comments at page 6, Telenor comments at page 7, Verizon comments at page 10, T-Systems comments at page 4, Philips comments at page 2, Ericsson comments at page 10.

<sup>28</sup> BIF comments at page 10, Information Technology Industry Council ("ITI") comments at pages 2-3, USCIB comments at 7, Vodafone comments at pages 10-11, T-Systems comments at pages 7-8, Verizon comments at page 14, Telenor comments at page 2.

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NTP 2012: 10.3. To identify areas where existing regulations may impose unnecessary burden and take consequential remedial steps in line with international best practices for propelling nation to emerge as a global leader in the development and provision of cloud services to benefit enterprises, consumers and Central and State Governments

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interests, do India an injustice. Indeed, M2M communication based on the use of international roaming helps promote the Digital India objective. Any unreasonable restriction at this stage may result in India's exclusion from global markets and the corresponding commercial benefits accruing to the Indian economy, including multiplier effects of foreign direct investment in India.

AT&T encourages the TRAI to reject protectionist policies such as requiring the use of local SIMs and data protection policies that limit cross border data flows that contravene the market-opening reforms that India has implemented with successful results. The telecom sector is an important contributor to India's continued economic growth, job creation and digital transformation through domestic and foreign economic activities alike.

AT&T again commends the TRAI for engaging stakeholders to inform regulatory policy to advance M2M communications and the IoT. Light-touch regulatory policies that acknowledge the nascent stage and global nature of M2M communications and provide for the adoption of existing working norms will establish a solid foundation upon which to develop an overarching IoT framework. As the IoT and M2M communications evolve, policies can be revisited and, if necessary, modified. Therefore, we urge the TRAI to adopt practices that (1) establish a light-touch MSP framework, requiring, at most, a simple registration; (2) expressly allowing permanent roaming and the extra-territorial use of national numbering resources; and (3) do not mandate the use of domestic (Indian) SIMs. AT&T would be pleased to answer any questions concerning these counter comments.

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