Shri Sanjeev Banzal
Advisor (Network, Spectrum & Licensing)
Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan,
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New Delhi-110002

Subject: ACTO's Counter Comments to TRAI Consultation Paper (No. 21/2016) dated 18th October 2016 on Spectrum, Roaming &QoS requirements in Machine-to-Machine (M2M) Communications

Dear Sir,

This is with reference to the detailed comments filed vide by Association of Competitive Telecom Operators (ACTO) vide it's letter No. 115/TRAI/2016-17/ACTO dated 12th January, 2017 on TRAI Consultation Paper (No. 21/2016) dated 18thOctober 2016 on Spectrum, Roaming & QoS requirements in Machine-to-Machine (M2M) Communications.

We have reviewed comments received from stakeholders. The comments of some companies (telecom service providers) and their associations have a view which is not in agreement with the comments submitted by ACTO.

In addition to our comments provided vide letter dated 12th January, 2017, we would like to file our counter reply to such comments for the kind consideration of Hon'ble Authority.

We hope that our counter comments (enclosed as Annexure – I) will merit consideration of the Hon'ble Authority.

Thanking you,

Respectfully submitted,

Yours sincerely,
for **Association of Competitive Telecom Operators**

Tapan K. Patra
Director

Encl.: As above

Annexure – I

ACTO's Counter Comments to TRAI Consultation Paper on
Spectrum, Roaming &QoS requirements in Machine-to-Machine (M2M) Communications.

The responses from some companies (Telecom Service Providers) and associations like Airtel, Idea, RJio, COAI etc have different view of the submissions made by ACTO. The responses having different views are on Framework for introduction of M2M service, Permanent Roaming, Use of global SIM, Data localisation & cross border data flow. Our responses to these points are as follows:

1. Framework for introduction of M2M service:

After a detailed and prolong discussion with various stakeholders, Department of Telecommunications (DoT) has already come up with a draft framework which is a light touch regulatory approach requiring registration of M2M service provider. All stakeholders not only TSPs but also other important stakeholders like automobiles, energy, health sectors were part of the discussion with DoT. Only some TSPs have different view as compare to majority of stakeholders of M2M services. Moreover communication is a very negligible part of end to end M2M services. At this stage, diverting from registration based framework will lead to contradiction and will cause further delay for rolling out of M2M services in India. We believe that registration based approach as against having a licensing framework is far better for the growth of M2M services.

Currently many sectors, like banking, e-commerce, BPO etc uses telecom network as connectivity for providing specific services to it's customers, those services are not under license under section 4 of telegraph act. By forcing license based approach will create huge problem for other existing service providers. It is estimated that there will be 50 billion connected devices by 2021 globally. Revised draft IOT policy released by MeitY also indicates 2.5 Billion devices with IOT market of 15 Billion US$ in INDIA. Apart from the uniform underlying connectivity piece there will be multiple M2M platform based applications. The telecom license can only regulate the underlying connectivity which is already part of the license provided to mobile operators. Consequently, no license should be prescribed for the application part.

On MSP registration, the National Telecom M2M roadmap dated May 12, 2015 has stated: "*To have lightweight regulation towards M2M services and addressing concerns like interface*

issues with Telecom service provider, KYC, security and encryption (for the purpose of lawful interception at TSP level), all M2M service providers utilizing telecom facilities from authorized TSPs should have MSP (M2M service Provider) registration as in case of OSP registration. The terms, conditions and related guidelines of MSP registration will be released in due course."

Given M2M/IoT are still in a nascent stage, ACTO recommends that India should have a light touch regulatory environment like notification / registration based and not a license for M2M services. The framework should foster innovation and encourage growth of M2M services There are several precedents for permitting providers of M2M services in a national context (such as in USA or UK) without a notification/registration. 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."*[1] (Better Policy Making: Ofcom's approach to Impact Assessments (https://www.ofcom.org.uk/consultations-and-statements/category-1/ia_guidelines). Except for Singapore, there is no other country in the world which has created or specified a license to provide M2M services. The assertion made by a operator that Great Britain, Malaysia, Brazil have a license to provide M2M services. This is incorrect.

The registration / notification requirement for M2MSPs, should be in the form of a simple intimation or a notification. .There should not be any requirement to register SIM to facilitate deployment and ease of registration requirements. This would also mean less administrative burden on the DoT/TRAI and facilitate the current moto of Government on "ease of doing business". It is important to note that the majority of M2M devices will be sending data to specific destinations and that voice capabilities will be limited to the capability to call specifically designated call centers associated with the service that too only in emergency situations.

Furthermore, the M2M device makers or the M2M service providers typically contract with an MNO; the MNO does not typically contract with the consumer/end-user. Thus with M2M services, the threshold policy question of actual consumer harm must be evaluated and the

technological advancements and innovations that continue to define the M2M marketplace considered before imposing over prescriptive requirements.

Therefore in view of the above it is imperative that such a nascent and emerging technology service format should not be placed under any licensing or regulatory barrier which impedes its growth.

<u>Licensing of M2M services in the existing Unified License and UL (VNO) license:</u>

ACTO members do not support any a licensing for M2M services under the existing Unified License and UL (VNO) license for the following reasons:

Machina Research 2016 projects that by 2021 there will be merely 8.4% connected devices on cellular connectivity. This implies vast majority of the potential M2M service providers who neither come from the traditional telephony business nor wish to offer voice as a part of their portfolio.

Other connectivity options (sensors, RFID, blue tooth, zig bee protocol etc.) are expected to proliferate the M2M connectivity in a significant manner. Provisions for these connectivity options do not require any telecom license or authorization. Therefore any policy should account for such options.

Since cellular connectivity is projected to be abysmally only 8.4% and being M2M services have very low ARPU, there is no merit in placing M2M services under a license.M2M services have very low ARPU.

- M2M involves many sectors/ verticals and only a miniscule part of the service uses data communications which is already under the existing license regime.

- Licensing arrangements are only applicable in telecom sector unlike in other sectors like agriculture, health etc.

- UL/VNO model will undermine the M2M business model because, as currently formulated, licensing fees are assessed without the ability of a license holder to deduct the cost of inputs that already include licensing fees. This results in an unequal assessment of licensing fees, where some license holders pay licensing fees for their

own license and on the licensing fees assessed on the services they may purchase from another licensed provider in India. Requiring MSPs to obtain a Unified License or VNO license would result in a regulatory imbalance and a disincentive for efficient deployment of M2M services.

- Regulations are different in different sectors. Licensing/regulation will be viewed as an infringement upon the jurisdiction of any authorized telecom licensee / OSPs.

- Licensing requirements will prevent the entry of new service providers in the M2M space due to inherent advantages of incumbent providers, thus leading to less competition for existing operators. This lack of competition will not only impede the rapid proliferation of M2M services but will also impact end users / consumer choice and cost of service.

ACTO members strongly believe that there should be no additional regulation of any kind for M2M services. If any regulation is required it should be light touch, in line with global practices, and horizontal in nature.

ACTO believes that a simple M2MSP registration (the framework promulgated by DoT through industry consultation) is the preferred approach for identifying the M2M players in the industry. This flexible approach would provide the insight into the M2M services market in India without being unduly burdensome. An authorization / registration /notification based regime and not license framework should serve as a means to collect statistical information for identifying the number of M2M players in the industry.

To summarise below are the specific reasons why M2MSP should not be linked to a UL or UL-VNO.

a) VNO is essentially a licensing requirement. It comes with a cost of US$1.1 million and multiple compliances. Making VNO a precondition to M2M SP Registration, is an attempt to reduce competition and erect an entry barrier where non-exist and do not need to.

b) The reason why VNO option was perhaps not considered by DoT during the formulation of the draft M2M SP Guidelines was they do not wanted to restrict innovation, growth and competition by burdening M2M ecosystem with legacy traditional voice linked license regime.

c) M2M is at very early stages of development. It requires very light touch regulation akin to notification or a registration at most. Any regulation beyond that would be considered heavy handed, and dampen the ecosystem for investments due to costs, compliance and other related issues, included in the UL VNO licensing specifications.

d) M2M business is very different from traditional voice. M2M is a high volume and low ARPU business. UL-VNO license has huge financial entry cost (Entry Fee of INR 7.5 crores (USD 1.2 Million), Recurring license fee and spectrum charges totaling to 13% approximately, coupled with bank guarantee cost will make the M2M business financially unviable.

e) A UL-VNO in India for M2M services may also entail that the M2M devices will work solely on the underlying cellular connectivity. Machina Research 2016 projects that by 2021 there will be merely **8.4**% connected devices on cellular connectivity. This implies that vast majority of the potential M2M service providers neither come from the traditional telephony business nor wish to offer voice services as a part of their portfolio.

f) Other connectivity options (sensors, RFID, blue tooth, zig bee protocol etc.) are expected to proliferate the M2M connectivity in a significant manner. Provisions for these connectivity options do not require any telecom license or authorization.

Any telecom license carries a host of associated compliance requirements spreading from technical, financial, commercial, etc. The current licensing framework is not aligned to the requirements of M2M business which requires a light touch regulatory approach for which licensing is not the right option.

Bharti Airtel in its response has stated that In Singapore, an entity has to obtain a Service-Based Operations (SBO) License for providing M2M services. In United Kingdom, M2M services are provided under a Business Radio (BR) License. It appears that in Malaysia also, M2Mservices are provided under a separate MVNO License.

We would like to respectfully state that Airtel has wrongfully 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 certain specified bands. The license is not expressly for the provision of M2Mcommunications, which are not subject to any licensing

requirements in the United Kingdom. In Malaysia also there is no M2M specific licensing requirement.

There should be least regulatory intervention as M2M is in a nascent stage and would require flexibility to grow. Connectivity is just a part in the entire value chain of IoT/M2M. There is module, device, application, sales channel and billing support. There is no need for subjecting the entire value chain to licensing. Unless there is an evidence of market failure requiring regulatory intervention, the regulators should refrain from suggesting a prescriptive regulation.

On the matter of regulatory intervention, OFCOM has rightly stated "*"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."*[1]

Even in the voice telephony market the sector has taken almost 25 years to develop and rules around issues have been built as things moved along. It will be unfair to identify all issues upfront in case of IoT/M2M and explore solutions when the west had a totally different approach. The west has explored solutions for M2M based on the issues they encountered and not the other way around.

2. Permanent Roaming and use of global SIM:

Out of 192 ITU member states, Brazil is the only country in the world which requires a local SIM to be fitted in the M2M device. No other country has such a mandate and has no restriction on permanent roaming either. World over there is no telecom license prescribed for roaming. This is undertaken based on mutually acceptable commercially negotiated agreements between operators.

M2M is inherently a global business which requires regulatory policies to reflect the global essence and recognize as well as facilitate cross border data flow amongst many other requirements. There are inherent restrictions in the traditional voice related licensing framework, which does not always facilitate free flow of cross border data.

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[1]Better Policy Making: Ofcom's approach to Impact Assessments (https://www.ofcom.org.uk/consultations-and-statements/category-1/ia_guidelines)

Requirement of data localization is a reverse concept with respect to current development in technology as it's benefit lies on seamless cross border data flow. By mandating to have data centre for M2M services in India will have it's reciprocal effect from other countries as well that will lead to completely destroy the cloud services and it's related business. The growth of the Internet has also entailed the growing ability of people, businesses, and governments to collect, share, and use data across borders. The development of new technologies, products, and services in recent decades would never have been possible without the ability to freely move data across borders. Combining globalization with new technology and with new business models has dramatically accelerated the pace of change and innovation.

M2M solutions are based on global platforms. Mandating the location of placing the server in India should be avoided and is best left to the market forces. The development of all-encompassing cloud market is yet to take place in our country. Such a mandate may negate the opportunities and will deprive consumers of innovative products and services – just because the prime pre-condition to sell a product is to first set up infrastructure. Such a mandate may have bilateral, economic, and commercial consequences and hence, TRAI should not recommend localization of the server in India. Any such mandate has the possibility of impacting the export market which is the key for success of Make in India program.

Permanent roaming is one of the key areas and needs a cautious regulatory approach for roaming of the M2M devices. The need to offer service internationally is critical as they influence connectivity. Regulatory aspects on this front are still unclear internationally. We are thus of the view that devices fitted with foreign SIMs should be allowed to freely roam in India permanently. We do not see any regulatory concerns in this context, rather, it is our submission that trying to micro-regulate the 'nationality' of a M2M SIM would create a web of complexities in logistics and implementation that is neither necessary nor warranted. Some simple safeguards, as suggested above would be sufficient to take care of any regulatory concerns that may exist in this regard.

TRAI has also in the current consultation under clause 1.2 stated that "M2M communication has potential to bring substantial social and economic benefits to governments, citizens, end-users and businesses". TRAI has further stated under clause 1.3 that "Although forecasts indicate a significant opportunity in this field, this industry us still in a nascent stage. The M2M ecosystem is composed of a large number of diverse players, deploying innovative services across different networks, technologies and devices. Providing clarity and consistency of regulation for equivalent services, as well as policies that enable growth will play a significant role in fully

capturing its opportunity to stimulate this market". Therefore it is imperative that such a nascent and emerging technology service format should not be placed under licensing or regulatory barrier which impedes its growth.

Roaming on a permanent basis is simply roaming which is permitted under existing license terms and conditions. Prohibiting the use of foreign SIMs / numbers for roaming will impede the growth of M2M applications / services. Requiring the use of a local number will not enhance the availability of data significantly. We understand that the language in the draft policy does mention providing a reasonable time-frame for transition to local SIMs in consultation with stakeholders, but we strongly believe that there should not be any requirement to replace foreign SIMs in cases where a device is already fitted with hard or soft / embedded SIMs.

Vehicles and Devices with embedded SIMs from other countries would come into India and roam on the network of India telecom operators in exactly the same way as any individual with a mobile phone would roam with an international SIM with the number from the country of origin. There are also technical challenges with respect to the technical feasibility of SIM replacement/ integration /refitting etc. and there is possibility that the M2M device could be compromised and potentially render the service inoperable.

ACTO believes that the use of so-called permanent roaming as a technical and commercial platform brings unparalleled efficiency for the deployment of M2M communications across the globe. Without roaming M2M applications simply may not be viable. Therefore, in order to facilitate the growth and development of M2M services, as well as to mitigate unnecessary demand for numbering resources, the TRAI should explicitly allow the extra-territorial use of national numbering resources (i.e., E.212 and E.164 number resources). This will foster M2M objectives that are broadly important to the Indian government, such as advances in agriculture.

3. Data localization & cross border data flow:

ACTO members believe that the issues of consumer interest and data privacy are adequately covered by the framework of existing laws and the IT Act of 2000. Security & privacy risks, however are not static, so as time goes by, there may be a need to update them.

We believe there is no reason for prescriptive privacy regulations. Industry stakeholders, device makers, connectivity providers, application developers, and platform operators are proactively engaged in voluntary and collaborative processes to provide appropriate privacy protections for

M2M applications. Establishing this trusted environment for consumers will be crucial to commercial success, separate and apart from any policy frameworks for these issues. Indeed, with this broad variety of industry players, it will be impossible to regulate a path for effective privacy protection. Rather, those protections will depend on a robust multi-stakeholder process to define the practices that will engender consumer trust and therefore adoption across the system. Thus, for privacy concerns, as with security, government should opt for a common, M2M-wide framework that relies not on regulation, but rather on multi-stakeholder efforts that will facilitate development of effective privacy approaches.

Overemphasizing concerns over security & privacy at the initial stages of implementation of new services like M2M will deter investor sentiment and the future development of new technologies.

For example, in the IT/ITES/BPO sector, India is a net importer of data whereby India hosts a wide range of information belonging to customers located globally. Such geographical mandates may be construed as significant trade barriers and will have negative consequences as there will be possibilities of other countries also start imposing such restrictions. This will severely impact the export market (including the BPO/ITES sector). One of the key thrust under the prestigious "Make in India" programme is to make India an export hub for the world. This has the potential of being impacted if such mandates continue and other countries reciprocate in the same manner. Rather, there should be a policy of attracting and incentivizing, investment.

Be it a government , enterprise, or individual user, it should be the user's prerogative/ choice where to keep their data, it is not the regulator's role to mandate how a user selects cloud services providers.

Government policy should offer complete flexibility to move the data as the ability for information to flow across borders will be increasingly important to economic growth as all businesses are dependent on the flow of digital, cloud-based information.

As recognized worldwide, the ICT services have important multiplier effects across other economic sectors and thus play an important role in stimulating broader economic activity. As digital services and global access to the Internet expand, there are enormous opportunities for economic growth. Thus regulatory provisions should not require ICT service suppliers to use local infrastructure, or establish a local presence, as a condition of supplying services. In addition, governments should not give priority or preferential treatment to national suppliers of ICT services in the use of local infrastructure, national spectrum, or orbital resources. The same

should be based on user preference and choice depending the individual parameters and technical competence.

Given the rapid pace of innovation in digital technology and services, governments are urged to maintain a light touch regulatory approach to avoid stifling growth in the digital economy. It is important that governments find a balance that enables adequate protection for data without burdening industry with unworkable data privacy and protection obligations.

A Total of 32 responses have been received from stakeholders. We feel that apart from stakeholders who have responded, there are still other sections of the M2M eco system who should have participated in the consultation process. For example the Automobile, Power and Health Care sectors and are supposed to play a major (first mover) role in the India's evolving M2M/IoT sector have perhaps not filed their response. We request TRAI to formulate recommendations keeping the requirements of larger ecosystem players who have an equal role to play and are currently unrelated to telecom.

Summary:

- **M2M/IoT is a key enabler for the economy as a whole**, **it is essential to focus on promoting investment and innovation.**

- **It is about emerging business models and technology evolution not revolution,therefore needsflexible, technology neutral and light touch approach.**

- **No need for M2M/IoT specific regulation.**

- **M2M/IoT needs to be considered globally not at national and regional level.**

- **International roaming, and extra-territorial use of IMSIs and numbering resources are essential to M2M.**

- **The regulatory framework should work to remove barriers to cross border data flows and prohibit data localization requirements.**

- **Security and technical standards: Voluntary, industry-driven, and consensus-based standard-setting models engaging all relevant stakeholders.**

- **Registration of M2M/IoT services provider and classification of M2M/IoT services: careful consideration to foster and not have any prescriptive regulations.**

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