INTRODUCTION

- Network Testing or Pre-Commercial Trial is an essential method to test the capacity, throughput, latency and reliability of the network with which the telecommunications services are to be operated. Full roll out of high speed network launches i.e. technologies post 2.75G have been rolled out after several phases of Pre-Commercial Trials so as to ensure that a robust network system is created.

- **The basic idea behind Pre-Commercial trials is not to gain any commercial benefits out of these tests**, which is why world over trial SIM cards, are provided to the employees of the company and roaming partners, which ensure a constant feedback of the network performance.

- Earlier notifications of 2003 and 2005 released as guidelines by TRAI have discussed such test users of the trial SIM cards. **2005 subscriber base methodology subtracts the test SIM card users from the count of total subscribers of the company, which indicates the non-commercial nature of Pre-Commercial trials**. Thus one basic principle that is essential to Pre-commercial trials is that **such trials should not, by any means, accrue any type of long term or short term benefits to the Telecom Service Providers (TSPs).**

- Keeping in mind this basic principle, Singapore's Telecom regulator implemented regulations for technical and pre-commercial trials which includes limiting the trials to 90 days, constant monitoring by the regulator of the trial phase, requirement of approvals for every type of publicity material by the regulator and other such regulations, which ensure that Pre-Commercial trials are not utilized for any commercial benefits. Despite Singapore being one of the countries which has high ratings in Ease of Doing Business, it has an extremely strict regulatory structure which make sure that Pre-commercial trials are not misused in the garb of checking network performance.

- **India, while on the other hand, despite having second largest market of telecom subscribers in the world, has made sure that due to its lackadaisical approach, such Pre-Commercial Trials are severely abused for business gains while at the same destroying the competition in the market**. India already had drafted guidelines to minimize the abuse of such Pre-Commercial Trials way back in 2003, but they were never strictly implemented and certain companies continued taking the benefit out of this lack of strictness and ambiguity. The loose language, offering multiple interpretations has been the bane of telecomm industry since 1999, a la NTP 1999. That has resulted in large scale litigations since 2003.

- TRAI refers to one such example in the Consultation Paper about how a particular TSP extended the duration of trials, while enrolling lakhs of subscribers in the garb of Pre-commercial trials, just because it was bringing a supposedly new technology in the country. For this, we would like TRAI to refer to the evolution of LTE across the world. Even Teliasonera, a leading wholesale provider of telecommunication services in Europe and who is credited as the first telecommunication company to provide LTE (Long Term Evolution) services, way back in 2010, completed their pre-commercial trials in around 6 months of its beginning. Similarly, Telecom Italia, an Italy based telecommunications company completed

its pre-commercial trials in-around 6 months before launching it in the city of Turin. Since then the time period for trial of such technologies has reduced considerably. This shows that there were multiple instances in the world to refer to, for the launch of LTE. Studies of such launches were already available which could have easily been used as a base for minimizing the time period of trial, while not launching these services at such a large scale. **We believe that extensions given could have been rationalized based on the experiences of other countries and there was no need to give leeway to the particular TSP for these trials that were conducted in 2016.**

- On a slightly tangential point, TRAI had released a notification on promotional packages way back in 2002 when telecom sector was in its nascent stage. In its letter dated June 19, 2002, TRAI had mentioned that service providers offers promotional packages to the customers, as a marketing strategy and the validity of such offers have ranged from 15days to 11months, resulting in market distortion and it clearly mentioned that '*too long a promotional period* ***dilutes the promotional character of a tariff plan*** *and thus, the promotional offer* ***should not extend beyond 90 days'*** What the particular TSP, also referred to in the CP, did in fact, was to blatantly violate such established norms in the garb of pre-commercial trials. First, TRAI allowed the TSP to extend a promotional offer as a part of pre-commercial trial and then it did not even follow its own principle of limiting such offers to only 90 days, thus apparently giving leeway to the TSP, to flout the established norms.

- Further, there is enough evidence available that simulated studies like Drive Test, Load and Stress Testing can easily and accurately achieve the results of Pre-commercial trials, but seeing that every technology has some limitations, we have recommended a structure where a combination of simulation and real time techniques are used by TSPs where they intend to conduct a Pre-Commercial Trial at a large scale.

- It is for such reasons that we are recommending two sets of approvals for trials. **For the launch of technologies which are fairly new, a different procedure of approval can be drafted where extensions can be given based on the evidence produced and such trials should be strictly monitored for any abuse, while other type of approval for Pre-Commercial Trials, should not extend beyond 90 days and TRAI should have full control for the deactivation of such SIM cards after 90 days. In addition, there must not be any MNP during these trial periods.** We have also recommended a set of guidelines which will include coverage of 50% of the space on the test SIM cards and the outer packet with 'TEST SIM' heading in bold, followed by the guidelines as recommended by TRAI in Para 1.13, so that customers are not deceived by the companies.

- It is important that these mechanisms are strictly put in place and TRAI has the complete authority to closely monitor the trials so that there is not abuse of privilege given to the TSP.

RESPONSES

Question 1: Should a TSP be allowed to enroll subscribers as test users and in such case, should there be any restrictions on the number of test SIM cards and the period of such use? Please justify your response

Answer: The idea of 'pre-commercial trials' is to test the capacity, throughput, capacity, latency and reliability of the network in which the services are to be operated. Noting that infrastructure

development and acquiring of spectrum requires huge capital investments, it is important that every telecommunications company is allowed to test the strength, resilience and quality of its network, so as to ensure that the customers experience best possible telecom services. Though, presently techniques like virtual drive testing, simulated load and stress testing etc. are available which can accurately measure the network performance, but as it has been highlighted with the recent 4.5G LTE trials across the world, a certain real-time testing is still required when working with a new technology.

In lieu of the above fact, it is important that TSPs are allowed to enroll certain subscribers as test users. **But, as the idea behind pre-commercial testing is to measure the network performance, it is important that government and the regulator draw a clear distinction between pre-commercial and commercial phase.**

DoT's letter dated 20th August 2005 on 'subscriber base methodology', also quoted in the Consultation Paper clearly mentions that **pre-commercial SIM cards are the '*SIM cards which are given free of cost to Business Partners including roaming operators*'**. But, this guideline was never strictly implemented. This guideline clearly lays down the basic idea behind the use of test SIM cards, **which is to test the network performance and not to figure out the prospective consumers of the product**.

Thus, it is important that test phase should not, in any way, serve the commercial interests of TSPs.

Thus, based on the above principle, **test SIM cards should not be allowed to function for more than 90 days**. Further, Singapore model of trial testing can be utilized here. Info-communications Media Development Authority (IMDA), the regulator in Singapore lays down strict guidelines regarding the technical and pre-commercial trials for services. It mentions that the trials which require the use of spectrum should not exceed 90 days; should be strictly non-commercial in nature and all the publicity material for such trials should be approved through IMDA 3 days prior to the release. Such stringent measures are necessary so that TSPs do not start grabbing market in the garb of technical trials. Any relaxation cases create distortion in the market place.

Question 2: To clearly differentiate test phase from commercial launch, which of the options discussed in Para 1.12 would be appropriate? Please provide justification. Please explain any other method that, you feel, would be more appropriate

Answer: We concur with the point put forward by TRAI in Point 1.12 of the Consultation Paper. It is essential that the trial should be on a small scale. The numbers can be figured out in concurrence with TSPs keeping in the mind the fact that these numbers are rational and such number of test subscribers should not accrue any commercial gain (long term/short term) to the provider.

Time period for such pre-commercial testing should be limited to 90 days as suggested in the earlier answer and also suggested in an earlier notification by DoT. This 90 days stipulation must be enforced strictly. Any extension must be justified and should have the written approval of the Regulator, for which there should be a due process followed. **There should not be any Tariff plans during the trials**.

It would be beneficial if the SIM cards for trial are temporary in nature. The regulator should keep a close watch on the whole pre-commercial trials process and **as soon as the 90 days period expires, the SIMs should be automatically disabled. In case, the TSPs do not disable those SIMs after the stipulated time period, they should be penalized for the same**.

As suggested earlier as well that there are multiple tools and companies available to provide simulated services for the network performance testing. A combination of simulated test runs and real-time tracking on SIM cards can be done to accurately measure the network strength. In the light of available technological facilities, **we do not see the need to distribute huge number of SIM cards for the pre-commercial phase, as was done during the so called extended phase of trials by a certain TSP mentioned in the CP**.

Question 3: Do you agree that the provisions discussed in Para 1.13 viz. information to the subscribers about test SIM being temporary etc., should be put in place for the TSP testing its network involving test users/subscribers? Please suggest other provisions which should be mandated during test phase?

Answer: Pursuant to our views mentioned above, it is necessary that strict transparency measures are put in place for the 'test subscribers'. We concur with the views of TRAI to inform test users that they are being enrolled as test users, that there are no payments involved, and that the SIM cards would be deactivated after the trial phase is over; and that they cannot use the number of registration for government documents. We would also like to recommend that when these test SIM cards are being distributed, both the cover in which they are distributed and the SIM card, **should have Test SIM written in bold letters and it should cover at least 50% of the available space on these two mediums**. On the back of the cover**, the suggested transparency measures should be written, while on the SIM card, the bold Test SIM should follow, 'To be deactivated after 90 days' in English, Hindi and one regional language**. This will make sure that TSPs can, by no means, deceive customers into believing that these are regular SIM cards.

Question 4: Is there a need to have a defined timeline for testing phase i.e. period beyond which a TSP should start offering commercial services? If yes, what should be the timeline? Please justify your response

Answer: As mentioned earlier as well**, there is a need to clearly define pre-commercial period**. Every TSP should submit a proposal to TRAI before initiating the trial phase and **clearly define the objectives of the trial, which should be tallied by the regulator once the trial phase is completed within 90 days**. 90 days period is a fairly long period to test the network performance as technical tests are already run before TSPs go for trial phase.

Of course there are always some exceptions to the rules to allow for the new technologies to develop. As it is already being seen with 5G technology in the world, that trial periods need to be longer when a new technology is being introduced. Thus, in such situation a case by case approval can be provided by the regulator, still keeping the basic theme in mind that these trials should, by no means, provide any type of long-term or short term commercial benefits to the TSPs.

Further, the newness of the technology should be referred to on an international scale i.e. compared with the durations and procedures with regards to that of other countries which have already rolled out such technologies and the duration of such trials should be decided on that basis. These trials can be called Technical/Development Trials as opposed to Pre-Commercial Trials for network performance, which we have been referring to in this document.

Furthermore, as referred by TRAI in the Consultation Paper, a TSP carried out testing of its Long Term Evolution (LTE) network on a very large scale and enrolled lakhs of subscribers and far exceeded the recommended 90 days period with the pretence to test a 'new technology'. Now it is important to mention here that LTE is not something very new at a world level. Even Teliasonera, a

leading wholesale provider of telecommunication services in Europe and who is credited as the first telecommunication company to provide LTE (Long Term Evolution) services, way back in 2010, completed their pre-commercial trials in around 6 months of its beginning. Similarly, Telecom Italia, an Italy based telecommunications company completed its pre-commercial trials in-around 6 months before launching it in the city of Turin.

In both of the cases the extended duration was granted because no one had earlier rolled out such technologies at a large scale. **In 2016, hundreds of these trials were already run for LTE network performance. In fact, the world has already moved on to 4.5G and 5G technology testing. Thus, it is important that such distinctions be drawn when providing approvals for new technology for trials and a technology which is already available in other countries, and it is only now being introduced in India for the first time**. Available evidence from such world trials is a sure way to reduce the timings of such processes.

Here British model of development and innovation testing offers an interesting insight. Ofcom, the UK regulator, allows a non-operational development license to test technology. Though, the context here is slightly different but the basic principles of testing remain the same i.e. its non-commercial nature. It explicitly mentions that such licenses are only to try/demonstrate a new concept, where people are not to be charged, or even run a limited commercial service. Moreover, there is also a provision to take feedback from other service providers who have operational licenses whether they want to allow such testing or not. This distinction concept of operational and non-operational license is very effective to make sure that testing machinery is not used for commercial purposes.

Thus, two approval levels can be devised here. TSPs should be allowed either to send application for Technical Trials with long duration or Pre-Commercial Trials for 90 days fixed period. This will allow TSPs the flexibility to test technologies which are completely new, while also making sure that these trials are not used for commercial purposes. **Question 5: In case enrolling of subscribers as test users before commercial launch is allowed, whether subscriber related conditions and regulatory reporting requirements laid down in the license, be imposed for the test subscribers enrolled before commercial launch? Please provide justification to your response.**

Question 6: Should test users/subscribers of such licensees be given the facility of MNP? Please justify your answer

Combined Answer: **It all depends on the definition of Test users, short term eventually migrating to commercial users, or long term itself with tacit understanding. Nonetheless, the SIM card must be distinguishable.** We do not believe that the strict regulatory requirements should be put on the enrollment of test subscribers. However, due process of KYC etc must be followed. Barring the basic issues like consent of subscriber, protection of the identity of subscriber and availability of test infrastructure, other regulatory measures can be loosely applied. The simple logic behind such recommendation is that if they do not provide required Quality of Services, the test users will simply not use the services when it is launched commercially due to their earlier customer experience and also, there are strict provisions in place, with regards to accomplishment of minimum QoS**. Thus, TSPs can be provided certain level of operational laxity while making sure that the phase is not being used for commercial purposes.**

Further, we recommend that the basic principles like non-commercial nature of trial phase, the duration of trial phase, the approval process etc. should be incorporated in the license agreement, so

that TSPs flouting such norms can be prosecuted. Details with regards to the procedural requirements for such processes and the parameters on which these approvals would be decided and post-trial tally process can be a part of guidelines, so that it can be amended based on the Best Practices available.

Pursuant to the above point, we do not believe that MNP testing facility should be allowed during test subscription. The simple reason for the same is the unnecessary nature of allowing this facility. **In the network performance management, change of network and interconnection related results are already measured which is primarily the technical specification for testing performance for MNP i.e. the change of network.** Rest, are primarily the procedural details which requires intra and inter-company coordination. Moreover, the duration of trial phase of 90 days is so limited that it would not make any sense to allow MNP services, because the whole idea of Pre-Commercial phase is to simply test network performance and not to figure out the procedural aspects of the portability process. **NO MNP should be allowed during trials.**

Question 7: If there are any other issues/suggestions relevant to the subject, stakeholders may submit the same, with proper explanation and justification?

Answer: Additionally, we would recommend that the data with regards to Pre-Commercial Trials should be made available in the public domain, which is a recommended practice in the UK. Once the trials have been conducted, this data should be put up as a part of institutional memory so that this data can be studied for technical fallacies and it becomes a part of database for knowledge sharing resources with other TSPs and tech-enthusiasts.

We would also strongly suggest allowing an option like the one which is available in the United Kingdom, where in the likelihood a TSP wants to test a concept or develop a concept; a non operational license is issued. Availability of such mechanism has the potential to create a separate testing and development system where neither the market competition is distorted nor the regulatory structure is flouted to serve the commercial interest of a particular entity.

The regulations must not be allowed to have multiple interpretations, as has been the case so far. Such situations harm the exchequer by way of loss of revenue in license fees and taxes, distorts competition. Any vagueness must be avoided. The regulator needs to be proactive to curb any malpractices such as these.