#### Nokia comments to Telecom Regulatory Authority of India Consultation Paper on "National Broadband Plan"

Nokia thank TRAI for this opportunity to provide our views on policy making and regulations with regard to "National Broadband Plan" dated 2<sup>nd</sup> July, 2010.

#### **CHAPTER 3: National Broadband Network**

### 5.7 What network topology do you perceive to support high speed broadband using evolving wireless technologies? (Reference Para 3.22)

Our general preference is that spectrum that is allocated to Mobile Service is not limited to any specific technology. For example, IMT includes mobile broadband technologies and there is no need to separate between mobile broadband and IMT. Also, the evolution from the existing mobile networks like GSM to IMT should be allowed in the operators current frequency bands, if that is their preference. It is important to ensure that there would be no regional splintering and fragmentation in spectrum allocations and use. The bands identified for IMT in ITU-R should be taken into mobile broadband and IMT use based on globally harmonized decisions to the extent possible.

#### **CHAPTER 4: Regulatory Challenges and Future Approach**

### 5.16 Is there a need to define fixed and mobile broadband separately? If yes, what should be important considerations for finalizing new definitions? (Reference Para 4.18)

Our recommendation is that the term broadband should be defined from the perspective of the end user. A broadband consumers expect to have similar user experience including the access to similar services and applications in the mobile environment as he has in wired office or home environments. Therefore it is necessary to provide equally high data rate services and quality to the broadband consumer in fixed and mobile environment.

## 5.17 Is present broadband definition too conservative to support bandwidth intensive applications? If so, what should be the minimum speed of broadband connection? (Reference Para 4.18)

As the consultation document reviews, the currently used definition of bit rate in India is quite low by world standards. The adoption and utility of broadband is impacted by many factors other than bit rate. User experience is the important thing. Different internet services have widely varying needs of bandwidth, reliability and latency. Therefore, the definition of broadband should encompass other factors besides data rates such as user latency, reliability, etc. which impact user experience across a range of services. In addition, where appropriate, the types of applications which are required to be supported should be defined, for instance VOIP, video, file sharing, video gaming, video conferencing, etc.

### 5.21 Do you think simple and flat monthly broadband tariff plans will enhance broadband acceptability and usage? (Reference Para 4.42)

Yes. There are several examples in Europe how flat monthly broadband tariff, both in fixed and mobile systems, has accelerated the usage of the broadband. The price of the service is #1 factor for the consumer, and predictable simple flat charging model is very easy way for doing it. Affordability is the key; the service must be affordable for the consumer, it must be affordable to the network/access operator to offer the broadband connection and it must be affordable to the ISPs to offer rich variety of services for various consumer needs. Without flat rate there is no win-win-win situation and ultimately without it then every player in the formula will loose.

# 5.30 Is there a need to define new/redefine existing quality of service parameters considering future bandwidth hungry applications, time sensitivity of applications and user expectation? What should be such parameters including their suggestive value and should such parameters be mandated? (Reference Para 4.59)

One can consider multiple levels of service definitions which would clarify the service offerings in the market place. For instance, service level one might be a certain peak data rate, a certain sustained data rate, a certain latency, a certain reliability level, a certain flat rate and will support a specific list of applications. This brings the predictability to the consumer.

## 5.33 Do you perceive need for any regulatory or licensing change to boost broadband penetration? (Reference Para 4.71)

In order to allow Mobile Network Operators to gain full benefits from evolved IMT-2000 systems (e.g. LTE), wide enough operator spectrum is needed to faciliatate up to 20 MHz channel bandwidths. We support the 2x15 MHz minimum spectrum per MNO for FDD on core band (2100 MHz) in line with the UMTS Forum recommendation. Wider allocations than this are naturally better whenever they are possible. Similarly for TDD, wide enough spectrum (30 MHz) per MNO is needed to gain full benefit from IMT systems such as TD-LTE (IMT-2000 CDMA TDD) and mobile WiMAX (IMT-2000 OFDMA TDD WMAN). Licenses which narrower bandwidths may severely restrict the possibilities for MNOs to make an orderly transition from 3G to mobile broadband systems. Taking into account the current MNO licenses in India, discussion is needed of how to arrange these wider MNO spectrum blocks per MNO to facilitate the full benefits of mobile broadband networks. It is also utmost important that the needed additional spectrum for mobile broadband is globally harmonized to the greatest extent possible in order to drive down equipment costs and maximize device choices for consumers

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