
**COMMENTS ON DELINKING OF LICENSE FOR NETWORKS FROM DELIVERY OF SERVICES
BY WAY OF VIRTUAL NETWORK OPERATORS**

Bombay



Delhi

Table of Contents

Summary of Recommendations	3
Introduction and Scope	4
PART A – Issues to Consider	5
The Indian Telecommunications Sector	5
MVNOs in Jurisdictions Outside India	6
PART B - Recommendations	7
ANNEXURE 1	10
ANNEXURE 2	11
Singapore	11
ANNEXURE 3	14
Netherlands	14
ANNEXURE 4	16
Australia	16
ANNEXURE 5	18
United Kingdom	18
ANNEXURE 6	20
Malaysia	20

Summary of Recommendations

The Department of Telecommunications (**DoT**) has sought the recommendations of the Telecom Regulatory Authority of India (**TRAI**) on the delinking of licencing of networks on delivery of services by way of virtual network operators. TRAI has, in turn, approached stakeholders for their recommendations on such delinking of services. A summary of our recommendations is given below.

- i. Eligibility criteria should be prescribed for mobile virtual network operators (**MVNOs**) to restrict entry in the telecommunications sector to serious players. We agree with TRAI's recommendations of 2008 in this regard with respect to the minimum networth and paid up capital of MVNOs.
- ii. Licencing of MVNOs is essential. MVNOs should be subject to the unified access service licence regime which should be applied holistically.
- iii. Once licensed, a MVNO should be entitled to carry on all activities authorized by its licence.
- iv. MVNOs should be subjected to the same rollout obligations as mobile network operators (**MNOs**). However, a MVNO should not be liable to cancellation of its licence for failure to meet its rollout obligations for reasons beyond its control.
- v. The entry fee payable by MVNOs should be higher than that paid by MNOs to compensate for the fact that MNOs are required to purchase spectrum at extremely high prices. Alternatively, the percentage of MVNOs' revenue payable as annual licence fee should be higher than that prescribed for MNOs.
- vi. MVNOs and MNOs should be free to negotiate the terms of their interconnection themselves. MNOs should not be obliged to provide access to spectrum to MVNOs.
- vii. MNOs may be required to pay spectrum usage charges based on the payments received by them from MVNOs or on the aggregate revenue of the MVNOs.
- viii. There should be no restrictions on the number of MNOs in an area with whom a MVNO may affiliate itself.
- ix. While it is necessary to regulate competition in the telecommunications sector, scrutiny of interconnection agreements between MVNOs and MNOs should be left to the Competition Commission of India.

Our detailed recommendations on the delinking of licencing of networks on delivery of services by way of virtual network operators are at page 8 of this Note.

Introduction and Scope

We refer to the pre-consultation paper released by the TRAI on 2 September 2014 on 'delinking of license for networks from delivery of services by way of virtual network operators' inviting views from the stakeholders by 7 October 2014 on this topic (**2014 MVNO Consultation Paper**). While we are not direct stakeholders, several of our clients are engaged in the telecommunications sector in India and have encouraged us to participate in this consultation process.

This Note is divided into 2 (two) parts:

- Part A: This part summarises relevant experience in India and references Annexures 2 to 6 which relate to some of the jurisdictions mentioned in the 2014 MVNO Consultation Paper. We have focussed on the regulatory regime in each instance and have not, save where necessary, reproduced data or comments from the 2014 MVNO Consultation Paper. We caveat that our review of jurisdictions other than India is based on information available in the public domain and we have not retained or worked with counsel or experts in those jurisdictions for the purpose of this Note. That being said, our comments in response to the 2014 MVNO Consultation Paper are based on the data set out at Part A and Annexures 2 to 6 of this Note; and
- Part B: This part sets out our recommendations and comments. Where necessary, we have referenced the paragraphs of Part A and Annexures 2 to 6 which set out the basis of our comments. Part B may be extrapolated and read as a stand-alone document if required.

We caveat, and reiterate, that we are qualified to practice only in India and we have not, and must not be construed to have, commented or expressed an opinion or view on the laws of any other jurisdiction.

Additionally, this Note only sets out our view in response to the 2014 MVNO Consultation Paper and does not, and should be construed to, constitute advice to be relied on for any other purpose.

Finally, capitalised terms used in this Note have been defined at the place that they are first used and all definitions have been collated at **Annexure 1 (Defined Terms)**. Capitalised terms used but not defined in this Note bear the meaning assigned to them at Indian law or in India generally, as the case may be.

PART A – Issues to Consider

The Indian Telecommunications Sector

1. Any comments on the delinking of license for networks from delivery of services by way of virtual network operators must be based on the extant position in the Indian telecommunications sector. Briefly, and to provide a single point of reference, the features of the Indian telecommunications sector germane to present purposes are:
 - a. India is one of the fastest growing telecommunications markets in the world and the Indian telecommunications network is the 2nd largest in the world after China, with a subscriber base of 933,020,000 (nine hundred and thirty three million twenty thousand) as of 31 March 2014.¹
 - b. Since the sector was opened to private participation, it has seen exponential growth and has emerged as a key sector in driving India's GDP.²
 - c. Another major improvement has been in tele-density. Tele-density in the country, stood at 75.23% (seventy five point two three percent) at the end of March 2014.³
 - d. Besides being one of the largest markets in the world, India is also one of the most competitive with 16 (sixteen) MNOs currently holding licenses⁴. This has resulted in fierce competition with all the MNOs competing for the same customer base which is now nearing saturation and is no longer growing at the pace it once was.
 - e. While the call rates in India are amongst the lowest in the world, the quality of services offered by the MNOs are not up to international standards. Increasing competition in India and the low prices being charged by MNOs as a consequence have resulted in lower revenues for MNOs thus impinging on their ability to provide a higher quality of services.
 - f. While the growing subscriber base has somewhat helped the revenue stream for the MNOs, trends show that the average revenue per user (**ARPU**) has been decreasing year on year⁵.
 - g. As a result of consistently depleting margins and decreasing ARPUs, MNOs have not upgraded their infrastructure to account for their increasing subscriber base. This has adversely affected the quality of service and has led to congestion.⁶
 - h. The decreasing return to MNOs is contrasted with the high cost of acquisition of spectrum. After 2008, all spectrum has been auctioned to the highest bidder and the resulting high cost of acquisition together with the low return on investment has resulted in delayed roll out obligations⁷ and poor connectivity where services have in fact been rolled out.
2. The principal issues to be addressed are whether India has the appetite for MVNOs and if the answer is in the affirmative; whether now is the right time to do so. Globally, there are

1 See http://www.dot.gov.in/sites/default/files/AR%202013-14%20English%20%282%29_1.pdf

2 See <http://www.thehindubusinessline.com/features/eworld/indian-telecom-the-perfect-storm/article4313100.ece>

3 See http://www.dot.gov.in/sites/default/files/AR%202013-14%20English%20%282%29_1.pdf

4 See http://www.trai.gov.in/Content/ProviderListDisp/7_ProviderListDisp.aspx

5 See <http://www.coai.com/Statistics/Telecom-Statistics/National/National>

6 See <https://www.dnb.co.in/IndianTelecomIndustry/issues.asp>

7 e.g. for 3G services

approximately 700 (seven hundred) MVNOs providing services of various kinds. That being so, there seems little reason to prohibit MVNOs in India.

3. We note also that the TRAI Consultation Paper on Mobile Virtual Network Operators (MVNO) of 5 May 2008 discusses in detail the reasons why MVNOs could be successful in India and the business models which MNOs follow across the world (discussed in more detail later). The stakeholders in the TRAI Recommendations on Mobile Virtual Network Operator of 6 August 2008 (**2008 TRAI Recommendations**) have supported the introduction of MVNOs citing healthy competition, enhancement of tele-density, increasing affordability and greater options for customers as primary reasons for permitting the establishment of MVNOs in India.
4. The stakeholders are also of the opinion that value added services need to be given greater importance if the ARPUs have to improve and that this is only possible if specialized entities like MVNOs are introduced in the market to address customer specific services. MVNOs may also be able to bring better services to customers in rural or remote areas, whom MNOs have had difficulty reaching in the past and to niche customers who have a specific set of requirements.⁸

MVNOs in Jurisdictions outside India

5. MVNOs are common in jurisdictions outside India⁹ and, with the intent of learning from their experience, we have summarised the regulatory regime in those jurisdictions which have some nexus with or similarity to India. We have, of course, considered the jurisdictions mentioned in the 2014 MVNO Consultation Paper.
6. The jurisdictions we have considered are:
 - a. Singapore, summary at Annexure 2 to this Note;
 - b. Netherlands, summary at Annexure 3 to this Note;
 - c. Australia, summary at Annexure 4 to this Note;
 - d. United Kingdom, summary at Annexure 5 to this Note; and
 - e. Malaysia, summary at Annexure 6 to this Note.
7. Generally, MVNOs appear to be ideal for servicing niche markets¹⁰ and rural areas. Some MVNOs providing niche services are in good financial health in spite of having relatively small customer bases. For example, Ting, a MVNO in the United States of America, was on track to break even in 2013 in spite of the fact that it had only 25,000 (twenty five thousand) customers.¹¹
8. The MVNO business model appears to be margin based, with MVNOs charging end users the cost of purchasing spectrum from MNOs plus a mark-up (either cost plus or retail minus).

8 Paragraph 2.2.5 of the 2008 TRAI Recommendations

9 Which has also be recognised in the 2014 MVNO Consultation Paper.

10 Philippine Long Distance Telephone Company has achieved some success offering pre-paid mobile services to Filipinos in Singapore.

11 Sprint, T-Mobile execs explain the MVNO explosion - <http://www.fiercewireless.com/special-reports/mvno-explosion-will-latest-wave-virtual-operators-survive-0>

PART B - Recommendations

9. While there is no reason to prohibit or delay MVNOs operating in India, there are a number of systemic issues which need to be addressed in order for MVNOs to be successful without compromising on service quality and without undue prejudice to MNOs. We recommend that this opportunity be used to streamline the regulatory regime so that service quality and considerations of security are not compromised and, equally, the regulatory regime is supportive of business and does not permit for regulatory arbitrage.
10. Some of the issues which need to be addressed are:
- a. Eligibility Criteria: We agree with the 2008 TRAI Recommendations on the eligibility criteria for MVNOs.¹² However, this is a matter of financial consideration and we defer to alternate proposals.
 - b. Entry Fee and Annual License Fee: As MVNOs will be acquiring the right to use spectrum without paying the exorbitant fees paid by MNOs, the entry fee for MVNOs should be higher than that prescribed for MNOs. Alternatively, if a higher entry fee than that prescribed for MNOs is construed as a barrier to entry for MVNOs entering the Indian telecommunications sector, the annual licence fee payable by the MVNOs which is directly linked to the adjusted gross revenue (**AGR**) of the MVNOs should be higher than that payable by MNOs. That said, as mentioned in the 2008 TRAI Recommendations, the charges paid by MVNOs to MNOs for usage of minutes, roaming, taxation, etc. should be disregarded for the purpose of calculation of MVNOs' revenue so as to avoid double taxation.
 - c. Issue of License: MVNOs and MNOs must be duly licenced and comply with relevant conditions to ensure that security is not compromised. Licencing should follow the principle of a unified licence, based on the unified access service licence regime, where a service provider may opt for a MNO model or a MVNO model in a circle but, once licenced, may provide such services as the service provider deems fit. The extant universal licensing model must be implemented holistically to include MVNOs.¹³
 - d. Scope of Services of MVNOs: We do not believe there should be any restrictions on the services which may be offered by MVNOs. Typically, MVNOs should be permitted to provide all or any services which the MNO with which it is associated is authorized to provide. The MNO and the MVNO should have the flexibility of mutually deciding the scope of the services of the MVNO.
 - e. For the purposes of tele-connectivity in remote areas or other circumstances of national interest, the regulator may provide incentives¹⁴ and, or, mandate the provision of a specific service in the relevant circle and licences may be issued accordingly in such exceptional circumstances.

12 MVNOs should have a minimum net worth of 10% (ten percent) of that prescribed for MNOs in that service area; and the paid-up capital of each MVNO should be at least 10% (ten percent) of its net worth.

13 The issue of voice chat services such as skype, BBM, whatsapp, etc. and related value added service providers must also be addressed.

14 We note that this system has already been successfully implemented by charging licence fees for circles based on the expected revenue to be generated from that circle.

- f. The only distinction between the MNO and the MVNO licence models should be network requirements and related financial conditions as well as matters specific to facts.
- g. Roll-out Obligations: MVNOs should be subjected to the same roll-out obligations as MNOs and depending on the delay in rolling out services, the MVNO should be penalised for such failure, initially with a heavy fine and, if the failure continues, with the cancellation of the licence. That said, the MVNO's licence should not be cancelled if the failure to roll out services is for reasons beyond the MVNO's control, illustratively, absence of spectrum or wilful breach by the MNO in providing access to spectrum.
- h. Commercial Agreement between the MNOs and MVNOs and Spectrum Usage Charges: We believe that the commercial agreement between the MVNOs and MNOs should be left to negotiations between them. As MNOs are responsible for payment of spectrum charges, one would assume that the payment / fee structure agreed commercially would take into consideration the spectrum usage charges payable by MNOs to the Government. Accordingly, MNOs may be asked to pay spectrum usage charges on the payments which may be received by them under the commercial agreement with the MVNOs or on the total revenue of the MVNOs, whichever is higher. This will ensure that the Government does not suffer a loss in revenue. Further, the MNOs should have complete freedom in determining whether they want to allow MVNOs to use their network. Mandatory access to MVNOs may not work in India as all the MNOs have spent huge amounts to secure the spectrum and any forced spectrum sharing model may come across as a sudden change in Government policy, affecting industry sentiment as a whole.
- i. Sharing of Infrastructure: There is no reason for imposing any restrictions on multiple MVNOs tying up with 1 (one) MNO or 1 (one) MVNO relying on multiple MNOs to provide services in a particular area. If promoting competition is the objective of permitting MVNOs, there should absolutely be no reason to impose any kind of restrictions on sharing of infrastructure.
- j. Spectrum Sharing *inter se* MNOs: If it is decided that MVNOs should be allowed to enter the Indian telecommunications sector, it would effectively mean that MNOs will be permitted to share their spectrum with other entities. Continuing to prevent spectrum sharing *inter se* MNOs, including the ban on 3G roaming pacts, following the entrance of MVNOs may be considered to be unduly prejudicial to MNOs. Where a MNO has been allocated spectrum and is not fully utilising the same, it should be permitted to share that spectrum with any operator irrespective of whether or not such operator is a MNO or a MVNO.
- k. Competition: It is, of course, necessary to ensure competition in the telecommunications sector and, while MNOs and MVNOs should be in a position to freely negotiate their interconnection agreements, it should be ensured that MNOs do not create high barriers of entry for MVNOs by charging very high usage charges, imposing unreasonable conditions for access to spectrum, etc. However, regulating competition in India, including in the telecommunications sector should be within the exclusive purview of the Competition Commission of India and the DoT and TRAI should not assess the impact of a MNO, MVNO or interconnection agreement on the

telecommunications sector. In the event that the Competition (Amendment) Bill, 2012 is passed, the DoT and TRAI will be in a position to recommend different thresholds than those prescribed in the Competition Act, 2002 for determining whether an acquisition or merger is anti-competitive in terms of the Indian telecommunications sector.

- I. Miscellaneous: All miscellaneous services such as number allocation, number portability, interconnection with other service providers, roaming etc. should be provided by the MNOs to MVNOs. Essentially, a MVNO should be able to provide only those services to its customers which the MNO is entitled to provide.

Do let us know how we may further assist.

Bharucha & Partners

Partner

Encl: a/a

ANNEXURE 1

(Defined Terms)

2008 TRAI Recommendations means TRAI Recommendations on Mobile Virtual Network Operator (MVNO) of 6 August 2008;

2014 MVNO Consultation Paper means the Pre-consultation paper on 'Delinking of license for networks from delivery of services by way of virtual network operators' issued by TRAI on 3 September 2014;

ACM means the Authority of Consumers and Markets present in the Netherlands;

ACMA means the Australian Communications and Media Authority;

AGR means adjusted gross revenue;

ARPU means average revenue per user;

ASP means the Application Service Provider Licence issued in Malaysia;

Communications Act means the Communications Act, 2003;

DoT means the Department of Telecommunications in India;

FBO means facilities based operator in Singapore;

IDA means the Infocomm Development Authority in Singapore;

MCMC means the Malaysian Communication and Multimedia Commission;

MNO means a mobile network operator;

MVNO means a mobile virtual network operator;

NFP means the Network Facilities Provider (Individual) Licence issued in Malaysia;

NSP means the Network Service Provider (Individual) Licence issued in Malaysia;

Ofcom means the Office of Communications, the telecommunications regulator of the United Kingdom;

SBO means a services based operator in Singapore;

SingTel means Singapore Telecommunications Limited;

STM means Syarat Telecom Malaysia Berhad;

TCC means the Telecom Competition Code enacted in Singapore;

Telecommunications Act means the Telecommunications Act (Act of 19 October 1998) that is the principal source of legislation for the telecommunications sector in the Netherlands.

TRAI means the Telecom Regulatory Authority of India; and

Wireless Telegraphy Act means the Wireless Telegraphy Act, 2006.

ANNEXURE 2

Singapore

Introduction

1. The telecommunications sector in the Republic of Singapore is regulated by the Infocomm Development Authority (**IDA**).
2. Liberalisation of the Singapore telecommunications industry started in 1992, with Singapore Telecommunications Limited (**SingTel**), previously a public sector undertaking, being listed on the Singapore Exchange. The Government announced full liberalisation of the telecommunications industry in January 2000.
3. Unless there are physical or resource constraints, service providers can obtain any number of telecommunications licences of varying types. Licensees are now free to decide on the types of networks, systems, facilities and preferred technology platforms to offer their services.

Overview of Licensing Approach

4. Any person who wishes to operate telecommunication systems and provide telecommunication services must be licensed by the IDA.
5. The IDA adopts a licensing approach which differentiates between facilities-based and services-based operations. Competition in the telecommunications sector is governed by the Telecom Competition Code (**TCC**), a comprehensive competition management framework prescribes *ex-ante* obligations and *ex-post* obligations which licensees must comply with. When the IDA grants a licence, it will also, in terms of the TCC, classify such licensee as a dominant licensee or non-dominant licensee¹⁵.

Facilities-Based Operations

6. The term '*facilities-based operations*' refers to the deployment and, or, operation of any form of telecommunications networks, systems and, or, facilities by any person for the purpose of providing telecommunications and, or, broadcasting services outside of its own property boundaries to third parties. Parties intending to deploy such operations (known as facilities-based operators (**FBOs**)) will require an FBO licence from the IDA.
7. Spectrum in Singapore for public mobile services is only allocated to operators with an FBO licence but is not allocated as part of the FBO licence.
8. The annual licence fee and duration of the licence payable to the IDA differs based on the scope of the licensee's operations.
9. FBOs are required to roll out their networks and services in accordance with the plans set out in their respective licence applications. Further, each FBO is required to provide a performance bond in favour of the IDA covering its material rollout obligations as well as compliance with IDA's directions for a sum equivalent to 5% (five percent) of its total budgeted capital investment (as specified in its application).

Services-Based Operations

¹⁵ A licensee will be classified as a dominant licensee if: (i) it is licensed to operate facilities that are sufficiently costly or difficult to replicate such that it creates a significant barrier to entry into the telecommunication market in Singapore by an efficient competitor; or (ii) it has the ability to exercise significant market power in any market in which it provides services pursuant to its licence.

10. Operators intending to lease the telecommunications network elements (such as transmission capacity, switching services and spectrum) from FBOs so as to provide their own telecommunications services, or to resell the telecommunications service of FBOs, to third parties, may apply to IDA for a services-based operator (**SBO**) licence. An SBO licence is valid for a period of 5 (five) years and may be renewed every 5 (five) years. SBO licences are not co-terminus with the licences of the FBOs from whom the SBOs are leasing telecommunications network elements.
11. SBO licences issued by the IDA fall under 2 (two) categories viz. individual or class licences. Individual licences are required for certain stipulated types of operations and services whereas certain operations may be conducted under a single (class) licence.
12. The annual licence fee payable to the IDA for an individual SBO licence shall be a minimum of SGD 4,000 (Singapore Dollars four thousand). The licensee shall be charged an additional fee based on the audited annual gross turnover of the licensee for that financial year (similar to AGR for MNOs in India).

MVNOs

13. An individual SBO licence enables the licensee to operate as a MVNO.
14. A MVNO is an operator who provides mobile subscription and call services to its customers using spectrum allocated to, and leased from, FBOs. MVNOs do not have their own spectrum and must lease this from FBOs who have spectrum in order originate and deliver its customers' calls. The MVNO must pay the FBO for the use of the network and, or, the essential radio segment of the network(s). The quantum of fees payable by the MVNO to the FBO must be commercially negotiated and agreed upon. The IDA will only intervene in such negotiations in cases of unduly restrictive or anti-competitive practices in accordance with the provisions of the TCC.

Cooperation amongst Licensees

15. The TCC requires licensees (FBOs or SBOs, as the case may be) to directly or indirectly enter into interconnection agreements with other licensees. Such agreements must satisfy the minimum interconnection duties specified in the TCC.¹⁶ These interconnection agreements will not be effective until they have been approved by the IDA.
16. Dominant FBOs are, at the request of another licensee, required to enter into interconnection agreements and provide interconnection related services and mandated wholesale services¹⁷ to the requesting licensee. The scope of services and prices for the interconnection related services and mandated wholesale services shall be in accordance with the terms and conditions set out in the TCC.

¹⁶ Illustratively, the quality of services offered to the SBO by the FBO should not be lower than that provided by the FBO to itself, its associates or any other licensee, the licensees should provide all necessary information pertaining to customers to facilitate billing and the interconnection agreement should not be capable of termination (except by virtue of operation of law) without the approval of the IDA.

¹⁷ The scope of such interconnection related services and mandated services are specified at Appendix 2 of the TCC

Dispute Resolution

17. Except for certain situations stipulated in the TCC, the IDA does not intervene in disputes between licensees. The IDA may only intervene upon a request from a licensee in the prescribed form.
18. The licensees are required to resolve their disputes in accordance with the dispute resolution mechanism provided for in their respective interconnection agreements, or, in the absence of any agreement, through good-faith negotiations.
19. Singapore has only 3 (three) MNOs for a total population of approximately 5,399,000 (five million three hundred and ninety nine thousand). Each MNO has a sizeable share of the market, with SingTel the market leader having a market share of approximately 45% (forty five percent).
20. There are presently about 13 (thirteen) MVNOs, each of which serves niche markets¹⁸, constituting a very small proportion of the mobile market (about 1% (one percent))¹⁹. The first MVNO in Singapore was Virgin Mobile which was set up in 2001. However, Virgin Mobile had to close down operations within a year²⁰.

18 For example, Philippine Long Distance Telephone Company offers pre-paid mobile services targeted at Filipinos.

19 See <http://www.twobirds.com/en/news/articles/2014/singapore/singapore-government-seeks-views-on-enhancing-mobile-competition>

20 Due to high charges for short message services, poor positioning, lacking of a strong brand name, and conflicting interests with its partner, SingTel

ANNEXURE 3

Netherlands

Introduction

1. The Dutch telecommunications market has been privatised since 1997. There are presently 3 (three) MNOs in the Dutch mobile market, namely KPN Mobile, T-Mobile, and Vodafone. In addition to MNOs, there are approximately 55 (fifty five) MVNOs²¹ in the Netherlands. Among the MNOs, KPN Mobile supplies wholesale access to 46 (forty six) MVNOs; Vodafone to 19 (nineteen) MVNOs; and T-Mobile to 14 (fourteen) MVNOs.

Overview of Licensing Approach

2. The telecommunications sector in the Netherlands is regulated by the Authority of Consumer and Markets (**ACM**) which derives its powers *inter alia* from the Telecommunications Act (Act of 19 October 1998) (**Telecommunications Act**). The ACM, in addition to presiding over telecommunication licences, telecommunication policy, complaints, etc., is also entrusted with regulating competition in the telecommunications sector. Additionally, the Minister of Economic Affairs has the power, in terms of the Telecommunications Act, to withdraw a licence granted to an operator if he is of the opinion that the grant of licence to the operator is restricting effective competition in the market.

Registration Requirements

3. Registration with the ACM is mandatory for the provision of a public electronic communication network, or of a public electronic communication service. *Per* the Telecommunications Act, '*electronic communication network*' refers to transmission systems, and includes switching and routing equipment and other network elements that permit conveyance of signals (i.e. the functions of MNOs); whereas an electronic communication service is a service that consists mainly of conveyance of signals, including telecommunications services (i.e. the functions of MVNOs). Therefore, both MNOs and MVNOs must be registered with the ACM.
4. The ACM does not grant registration for a pre-determined period of time. The ACM is also empowered to alter or terminate such registration granted under the Telecommunications Act in the event that the registered party contravenes the provisions of the Telecommunications Act, fails to comply with the requirements attached to its registration; or provide information that it has been asked to submit at the time of registration.

Licences for Use of Spectrum

5. In order to use spectrum, an operator must first obtain a licence from the Minister of Economic Affairs who shall, at his discretion, determine a frequency plan allocating specific sets of frequencies to the operator and may impose such restrictions as he deems necessary to encourage shared use of radio frequencies. MVNOs are not required to obtain licences from the Minister of Economic Affairs unless they intend to function as MNOs in particular circles.²²
6. Spectrum is generally auctioned and a licence for the use of spectrum is transferable with the prior permission of the Minister of Economic Affairs.

²¹ Telecompaper's EU Benchmark 2013 - Netherlands

²² Tele2, the 1st Dutch MVNO, has recently acquired frequencies in the 4G spectrum, thus enabling it to function as an MNO within the 4G spectrum with effect from 2014, while it continues to operate as a MVNO dependent on the MNO T-Mobile within the 2G and 3G spectrum

Fees

Registration Fee

7. Registered parties are required to pay an annual fee to the ACM, which is to be calculated on the basis of the turnover of that registered party (similar to the concept of AGR in India).

Licence Fee

8. Fees for the use of spectrum may be charged as a percentage of the monetary advantage acquired from the spectrum, and such fee may be payable either periodically or as a one-time payment immediately upon granting the licence. Matters pertaining to licence fees are dealt with by the Minister of Economic Affairs on a case by case basis.

MVNOs

9. The Telecommunications Act provides for interconnection between MNOs and MVNOs. Generally, MNOs and MVNOs may enter into interconnection agreements on mutually agreeable terms and a MNO is under no obligation to provide spectrum to a MVNO. However, where a MNO has significant market power²³, the ACM may require the MNO to provide spectrum to MVNOs.
10. Disputes arising out of, or in relation to, interconnection agreements are settled by the ACM.
11. As regards pricing, the Telecommunications Act provides that a MNO shall determine a cost oriented rate for the purposes of interconnection.²⁴
12. MVNOs appear to have experienced reasonable success in the Netherlands, with the 55 (fifty five) MVNOs in the Dutch telecommunications market accounting for 16.5% (sixteen point five percent)²⁵ of the total subscriber base. As of 2013, the Netherlands had a population of 16,804,224 (sixteen million eight hundred and four thousand two hundred and twenty four).

23 It enjoys a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers

24 See Article 4.10, paragraph (7) of the Telecommunications Act: "...A provider of a public electronic communications network via which a category of publicly available electronic communications services designated pursuant to paragraph 1 is provided:

a. shall ensure that its network is constructed in such a way that the provider of said service is able to comply with an obligation imposed pursuant to paragraph 1; and

b. shall determine a costs-oriented rate for interconnection related to the obligation imposed pursuant to paragraph 1..." (emphasis supplied)

25 See <http://www.mvnodynamics.com/2013/07/15/acm-publishes-stats-16-5-of-total-dutch-market-is-attributed-to-mvnos/>

ANNEXURE 4

Australia

Introduction

1. Private sector entities were not allowed to participate in the Australian telecommunications sector until 1989, when the Telecommunications Act, 1989 came into force.
2. In the early 1990s, the Government issued tenders for issue of general carrier licences and public mobile licences to private sector entities.

Overview of Licensing Approach

3. Carriers who own spectrum and network units and hold general carrier licences for the provision of telecommunication services to end users are similar to MNOs in India. Carriage service providers which provide telecommunication services to end users by using the spectrum and network units owned by the carriers are similar to MVNOs. For the sake of convenience carriers and carriage service providers are referred to as MNOs and MVNOs, respectively.
4. Spectrum is not allocated as part of the carrier licence and carriers are required to obtain separate spectrum licences which are allocated through an auction process in terms of the Radiocommunications Act, 1992. Spectrum licences may be granted for up to 15 (fifteen) years.
5. Network units are much like the infrastructure owned by MNOs for provision of telecommunication services which include line links, satellite facilities and base stations, etc.
6. The Australian telecommunications sector is regulated by the Australian Communications and Media Authority (**ACMA**).

MVNOs

7. A MVNO and MNO may enter into an interconnection agreement on mutually agreeable terms whereby the MVNO leases the spectrum and, or, network units of the MNO.²⁶ There is no restriction on the number of MNOs in an area with whom a MVNO may affiliate itself.
8. MVNOs are required to comply with the provisions of the Telecommunications Act, 1997 although they do not need to acquire individual carrier licences to provide their services.
9. An annual spectrum licence tax is levied on all MNOs by ACMA. Additionally, MNOs which earn revenues in excess of AUD 25,000,000 (Australian Dollars twenty five million) are required to pay 2 (two) kinds of charges to ACMA in respect of the carrier licence held by them²⁷. These are determined on the basis of revenue earned by the MNOs, similar to AGR in India.
10. The Telecommunications (Interception and Access) Act, 1979 subjects both MNOs and MVNOs to lawful interception of communications by the regulatory authorities.

²⁶ MNOs are not by law obliged to provide spectrum to MVNOs

²⁷ Telecommunications industry levy and annual carrier licence charge.

11. Presently, there are 4 (four) MNOs and 43 (forty three) MVNOs operating in Australia²⁸ for a population of 23,629,821 (twenty three million six hundred twenty nine eight hundred twenty one).²⁹
12. In recent years, there has been a decline in MVNO activity in Australia. MVNOs have been struggling to make a profit because of excess competition in the sector. Given that MVNOs have to make payments to the MNOs and also provide low prices to customers due to excess competition, it is getting difficult for the MVNOs to make a profit.

28 See <http://www.mvndynamics.com/mvno-companies/asia-pacific-mvno-companies/australian-mvno-companies/>

29 See <http://www.abs.gov.au/ausstats/abs%40.nsf/94713ad445ff1425ca25682000192af2/1647509ef7e25faaca2568a900154b63?OpenDocument>

ANNEXURE 5

United Kingdom

Introduction

1. The British telecommunications sector was privatized following the enactment of the Telecommunications Act, 1984 which regulated the telecommunications sector.
2. Subsequently, with the enactment of the Communications Act, 2003 (**Communications Act**), a more liberalized framework was set up for the operation of telecommunication service providers. While the Communications Act has done away with any licensing requirements for telecommunication service providers, it sets out certain general conditions which need to be complied with by any person providing electronic communications network (similar to MNOs in India) or electronic communications service (similar to MVNOs). For convenience, persons providing electronic communications networks are referred to as MNOs and persons providing electronic communications services are referred to as MVNOs.
3. The Office of Communications (**Ofcom**) oversees telecommunication licences, telecommunication policy, complaints, etc. and is also entrusted with regulating competition in the telecommunications sector. Ofcom has the authority to issue orders and enforce remedies where it is of the opinion that dominant operators may have an adverse effect on competition in the telecommunications sector.³⁰
4. In addition to complying with the general conditions laid down under the Communications Act, MNOs are required to obtain a wireless telegraphy licence under the Wireless Telegraphy Act, 2006 (**Wireless Telegraphy Act**) which enables them to set up infrastructure (wireless telegraphy stations, apparatus etc.) and access wireless frequency (similar to spectrum in India) for providing telecommunication services. Further, in terms of the Wireless Telegraphy Act, MVNOs may obtain a separate licence for accessing spectrum in order to provide telecommunication services. Ofcom has the authority to prescribe the amounts of license fees payable in respect of wireless telegraphy licence or spectrum access licence.

MVNOs

5. Spectrum is capable of being traded by means of a lease, an outright transfer or a partial transfer.³¹ MVNOs are permitted to affiliate themselves with one or more MNOs without any limitation.³² Any disputes arising out of interconnection agreements between MNOs and MVNOs may be resolved by Ofcom.
6. While several business models have been used by MNOs and MVNOs in relation to interconnection agreements, the most common is “retail minus charge”³³ which involves

30 Section 7 of the Enforcement Guidelines, 2012 issued by Ofcom - http://stakeholders.ofcom.org.uk/binaries/consultations/draft-enforcement-guidelines/annexes/Enforcement_guidelines.pdf

31 As per section 30 of the Wireless Telegraphy Act, 2006 and Regulations 4 and 6 of the Wireless Telegraphy (Spectrum Trading) Regulations, 2012 - [http://www.legislation.gov.uk/uksi/2012/2187/contents/made](http://www.legislation.gov.uk/ukpga/2006/36/contents;http://www.legislation.gov.uk/uksi/2012/2187/contents/made)

32 MNOs are not by law obliged to provide spectrum to MVNOs.

33 Retail minus charge = (fixed cost + tax + variable cost + margin) – rebate

payment of a margin of revenue by MVNOs to MNOs for the right to use spectrum and, or, infrastructure.³⁴

7. The population of the United Kingdom is approximately 64,100,000 (sixty four million one hundred thousand) people³⁵ and, presently, there are 120 (one hundred and twenty) MVNOs³⁶ and 8 (eight) MNOs³⁷ in the United Kingdom. *Per* recent reports, the MVNO market is considered to be overcrowded.³⁸ Although the British Government is proposing to encourage spectrum sharing, and encourage growth in the MVNO market³⁹, certain MVNOs have started showing signs of incapability to sustain in such a saturated market⁴⁰.

34 See

http://www.coleago.co.uk/fileadmin/user_upload/Downloads/MVNO%20Critical%20Success%20Factors%20Coleago.pdf

35 See <http://data.worldbank.org/country/united-kingdom>

36 See <http://www.mvnodynamics.com/mvno-companies/eu-mvno-companies/uk-mvno-companies/#0149>

37 See <http://www.mvnodynamics.com/mno-networks/#u>

38 See <http://www.mobiletoday.co.uk/blog/mob-blog/30134/uk-mvnos-under-fire-from-all-sides.aspx>

39 See <http://mvnoblog.com/uk-government-to-encourage-spectrum-sharing/>

40 See <http://www.mvnodynamics.com/2014/06/05/uk-mvna-viacloud-update-liquidation/>;
<http://www.mvnodynamics.com/2014/03/01/uk-mvna-cognatel-thins-management/>

ANNEXURE 6

Malaysia

Introduction

1. Privatisation of the Malaysian telecommunication sector began in 1980s and in 1990 Syarat Telecom Malaysia Berhad (**STM**), a public sector undertaking, was listed on the Kuala Lumpur Stock Exchange.

Overview of Licensing Approach

2. Any person who wishes to operate telecommunication systems and provide telecommunication services is required to be licensed under the Malaysian Communication and Multimedia Commission (**MCMC**). MNOs in Malaysia usually obtain individual spectrum assignments i.e. those where the MNO is allocated spectrum to carry on any activities it chooses (as opposed to a stipulated class of activities), subject to the conditions of the licence. When applying for a licence, each MNO is required to pay a non-refundable application fee of RM 10,000 (Malaysian Ringgits ten thousand). The licence granted by the MCMC to a MNO may be valid for a period of up to 20 (twenty) years. Following grant of a licence to a MNO, the MNO must pay an approval fee of RM 50,000 (Malaysian Ringgits fifty thousand) as well as an annual fee of 0.5% (zero point five percent) of its gross annual turnover or RM 50,000 (Malaysian Ringgits fifty thousand), whichever is higher.⁴¹

MVNOs

3. The MCMC has defined a MVNO as an organization that does not have assignment of spectrum but is capable of providing public cellular service to the end users by utilizing the spectrum of MNOs.⁴² As the definition suggests, a MVNO may affiliate itself with any number of MNOs. Similarly, a MNO may tie up with multiple MVNOs⁴³. That said, it is not mandatory for a MNO to provide spectrum to MVNOs.
4. The MCMC has provided indicative licensing requirements for various types of MVNOs⁴⁴. The licence requirements for different types of MVNOs and the fees payable for the same are as follows:

	Full MVNO	Enhanced Service Provider	Reseller
Licences Required	1. Network Facilities Provider (Individual) Licence (NFP) 2. Network Service Provider (Individual) Licence (NSP) 3. Application Service Provider (Individual) Licence (ASP)	1. NSP 2. ASP	ASP
Licence Fees Payable	<u>NFP</u> a. Application fee of RM 10,000	<u>NSP</u> a. Application fee of RM 10,000	<u>ASP</u> Annual registration fee of RM 2,500

⁴¹ This is similar to the concept of AGRs in India

⁴² Paragraph 4.2 of Guideline on Regulatory Framework for 3G Mobile Virtual Network Operators dated 16 February 2005

⁴³ Celcom, a Malaysian MVNO, has entered into interconnection agreements with 8 MVNOs.

⁴⁴ Full MVNOs, enhanced service providers and resellers

	Full MVNO	Enhanced Service Provider	Reseller
	b. Approval fee of RM 50,000 c. Annual fee of 0.5% of the gross annual turnover to the licensed activity <u>NSP</u> a. Application fee of RM 10,000 b. Approval fee of RM 50,000 c. Annual fee of 0.5% of the gross annual turnover to the licensed activity <u>ASP</u> Annual registration fee of RM 2,500	b. Approval fee of RM 50,000 c. Annual fee of 0.5% of the gross annual turnover to the licensed activity <u>ASP</u> Annual registration fee of RM 2,500	

5. MNOs and MVNOs are free to negotiate the commercial terms of their interconnection agreements. However there are certain quality of service requirements prescribed by the Communications and Media Act, 1998 which are to be adhered to by all MNOs and MVNOs⁴⁵.
6. MNOs and MVNOs are entitled to price their services at their discretion subject to certain conditions⁴⁶, however, the MCMC and, or, the Minister of Telecom may intervene where they are of the opinion that the prices being charged by the MNO or MVNO, as the case may be, are anti-competitive.
7. Malaysia is one of the Asia Pacific's most successful MVNO markets. One of the key reasons for this is that MNOs in Malaysia, particularly Celcom, are open to entering into interconnection agreements with MVNOs in an attempt to boost revenues. Additionally, studies conducted by the MCMC show that 80% (eighty percent) of mobile subscribers prefer prepaid plans. As most MVNOs offer prepaid services, they are fast becoming the preferred option for customers in Malaysia.

45 Adequate provision should be made for repair of fault, resolution of consumer complaints and disputes, etc.

46 Prices should be fair and reasonable, based on costs, should not be predatory, etc.