



Fwd: Comments on consultation paper No. 12/2017

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Mon, Nov 13, 2017 at 2:49 PM

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From: **Nahid Alam** <nahid.alam@assochem.com>
Date: 13 November 2017 at 14:46
Subject: Comments on consultation paper No. 12/2017
To: arvind@trai.gov.in, bharatgupta.trai@gmail.com

Respected Sir,

This is in the reference to TRAI Consultation Paper No:12/2017 on Promoting Local Telecom Equipment Manufacturing.
(<http://www.trai.gov.in/consultation-paper-promoting-local-telecom-equipment-manufacturing>)

Thanks for opportunity given to all stakeholders to submit their inputs.

Please find enclosed comments on TRAI Consultation Paper No:12/2017 for your kind consideration.

With Kind Regards,

Yours sincerely,

With Kind Regards,

Nahid Alam

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Telecom Regulatory Authority of India

Consultation Paper on Promoting Local Telecom Equipment Manufacturing

(18 September, 2017)

Consultation Paper No: 12/2017

Issues for Resolution

Question.1. Large number of initiatives have been taken by the government to promote electronics manufacturing, while these initiatives have succeeded in attracting significant investments in other sectors like LED, consumer electronics, mobile handsets, automotive electronics etc., they have failed to attract investments in telecom equipment sector e.g. PMA has worked very effectively in LED sector but did not work so effectively in telecom. Please enumerate the reasons with justifications for the poor performance of local telecom manufacturing industry inspite of numerous initiatives by the government/ industry.

Response:

Despite the numerous initiatives by the government/ industry, as elucidated in the consultation paper, the reasons for the poor domestic telecom equipment industry's poor performance of the local telecom manufacturing industry, can be summarised as follows:

- **Market size and dynamics**

While domestic telecom equipment manufacturers complain about lack of incentives, almost 50% of the buyers of telecom manufacturing products cite non-availability of Indian products as a major reason of not buying within the country.¹The real problem here may be an inadequate domestic market size for telecom manufacturing which is unable to support too many domestic producers selling in domestic market. Indian telecom manufacturing market is projected to be worth \$ 12 billion in 2015-16.²

With a domestic market size of roughly \$ 2.5 billion to \$ 3 billion, it will be difficult for Indian domestic telecom manufacturers to survive solely on the basis of selling in the domestic market – that too competing with global players, even with preferential market access.

In contrast, in 2017, China's communication equipment industry is expected to be \$ 15.6 billion even after a slowdown in the growth rate of the sector. Therefore, future survival of Indian domestic telecom manufacturers will crucially depend upon a future export-oriented strategy of the sector. For example, the Chinese has been actively supporting their domestic manufacturers for the last 10-15 years by providing support in the form of subsidies, loans and lines of credit to the to do R&D and manufacturing, and finally to stimulate their exports. Such strong support to Chinese domestic companies has allowed them to first win domestic business in the large Chinese market, and then enabled them to use their home market as a base to achieve globally competitive scale.³ India may learn from the Chinese experience.

With the presence of fewer telecom service providers, market is highly competitive where each one of them is fighting price war and network quality challenges. Due to this aggression in market, sense of urgency always prevails and hence, products are being picked from available product range of prevailing suppliers without putting energies on indigenisation of these units which may take high lead time to develop.⁴

High technology content of the telecom manufacturing sector also acts as an impediment for the smaller producers. Establishing even a factory of modest size require sizeable investment, and on the other hand indigenously manufactured products have less probability of getting

¹ Arora & Bedi (2015), "Make in India: Current Concerns and Challenges in the Telecom Sector", International Technology and Innovation Research Journal, Vol. 1, Issue 3, July 2015 edition

² Booz & Co., "Telecom Equipment Manufacturing Policy: Developing an Actionable Roadmap"

³ Policy Recommendations to Increase Domestic Telecom Growth and Exports of Telecom Equipment & Services, Telecom Equipment & Services Export Promotion Council (TEPC)

⁴ Ibid

sold. Therefore, only a handful number of Indian domestic companies operate; as a result, availability of Indian products suffers.

- **Low R&D spending by Indian companies**

A relatively low spending on research and development (R&D) by Indian firms has been cited as one of the primary reasons behind country's high dependence on foreign technology.

Story of China in research and development is quite interesting. China started working on its own technology and came up with TDS CDMA as an alternative to 3G and then TDS LTE for 4G. Hence equipment procurement was retained substantially within China. And this legacy continues till the present date – for example, Huawei's global innovation network includes five major overseas R&D centres in the USA, Sweden, Russia and the UK – in addition to six such centres in China.⁵

On the other hand, in India during the earlier days of “telecom revolution” India's own early technologies like C-DoT, MARR, low-power⁶ BTS, etc., did not get the encouragement to scale them up to global level, leave aside within India.

Fundamental technological changes are also happening as telecom network is being continuously replaced by IT networks. The non-traditional companies like Facebook, WhatsApp, OTT (Over-The-Top) players, etc., are also entering the telecom networks for voice and data, causing further stress on operators as well as local manufacturing initiatives.

Additionally, unnecessary regulations also play dampener in India's quest to boost R&D. India is the only country in the world requiring for mobile manufacturing four BIS approvals for fuel cells, batteries, chargers, and mobiles based on testing in India and add to that approvals for local language, panic button, SAR, and environmental clearances. There is need for 28 Indian languages readability and three language inputs. These imply multiple tasks, costs, and delays and becoming unfriendly for manufacturing. In addition, these complexities also make research and development a necessary condition for telecom manufacturing growth.

All these indicate towards the need for a greater spending on R&D. There are around 15 domestic telecom manufacturing companies which are currently operating. However, extracting R&D expenditure of some of these companies from their financial results divulge what most of the industry experts are pointing out as “the principal reason behind non-growth of indigenous domestic telecom manufacturing in India”. Spending on R&D by these domestic companies compared to the global players are low and inadequate.

Analysis of 17 Indian telecom manufacturing companies (FY2015-16) selected on the basis of their market capitalisation, shows an overall average R&D spending of 2% of their total expenditures and 1.9% of their total sales revenue, which is very miniscule⁷.

- **Lack of ancillary industries (like semiconductors & microprocessors)**

India has always tried to solve her own problems in technology front in a unique manner. But in telecom manufacturing, the major hurdle it faces is the lack of ancillary industries, such as semiconductors and microprocessors industry.⁸

⁵ Dieter Ernst (2014), “Upgrading India's Electronics Manufacturing Industry”, Special Study of the East-West Center

⁶ <http://www.cmai.asia/pdf/The%20Make%20in%20India%20Dichotomy.pdf>

⁷ 2015-16 Annual Reports of the respective companies

⁸ Utpal Chattopadhyay (2013), “Making India a Telecom Manufacturing Hub: Emerging Issues and Challenges”, World Academy of Science, Engineering and Technology (WASAT), Vol. 7, No. 3, 2013

India does not have sound technical and commercial know-how in this domain. Therefore, any attempt to promote domestic manufacturing may not take off if adequate attention has not been paid towards supporting industries.

The other aspect that inhibits production of telecom equipment is the lack of Trade ready infrastructure as a part of global value chain, which has quick turnaround at ports and customs, so critical sub-assemblies and parts do not disrupt production due to adverse turnaround time at the part and factory gates.

- **Lack of private market access**

Mere creation of production facilities will not help the industry much unless service providers are encouraged to source most of their requirements from within the country. Through Preferential Market Access (PMA), domestic manufacturers are able to sell their products to government departments and agencies. However, private service providers are not legally bound to buy from the domestic producers. No such market access can be granted at the policy level as India is also a signatory of the Information Technology Agreement (ITA-I) of the WTO.⁹

Products already available in current range of prevailing global suppliers will be having comparatively less cost to start with because those products had already been developed and compatible for global markets, and development cost per unit is less while new Indian products requiring heavy development charges may have a higher cost in beginning phase. This naturally creates a situation where global products are preferred over domestic products.

Better financial deals being offered by the overseas companies or their countries comes out as another reason. Example of former is like offering financing of products being supplied by supplier themselves or in order to gain new market supplier offers swap of old technology products with new technology products on free of cost basis. Example of second case is like finance being offered by source country's banking and financial institutions and in turn securing future business for their country's organisations. These, of course, work in favour of the global products and against Indian domestic products.¹⁰

Telecom service providers enter into end-to-end deployment and operation contracts with equipment provider, and therefore giving confidence to telecom service provider as risk of poor quality is transferred to equipment provider itself. Some of the equipment vendor goes up to replacing 100% equipment in case of any discomfort to customer even if that product is working successful in other countries. Such end-to-end services by Indian companies is still not there, and this also results into lack of market access for the domestic producers.¹¹

So, essentially all these factors lead to a vicious cycle where due to low volume for the domestic products these domestic producers are unable to expand, an inability to expand results in disadvantages like smaller economy of scale, negligible R&D expenditure, and lack of improvement in product quality, as a result of these factors selling volume of domestic products remain at a low level.

- **Post-GST loss of differential advantage under PMP policy**

In the 2015-16 budget, to promote indigenous manufacturing of cellular mobile handsets a differential excise duty dispensation, i.e. countervailing duty (CVD) on imports at 12.5% and excise duty at 1% without input tax credit (or 12.5% with input tax credit) was made available to domestic manufacturers. Manufacturers of parts, component and accessories were

⁹ Utpal Chattopadhyay (2013), "Making India a Telecom Manufacturing Hub: Emerging Issues and Challenges", World Academy of Science, Engineering and Technology (WASAT), Vol. 7, No. 3, 2013

¹⁰ Arora & Bedi (2015), op. cit.

¹¹ Ibid

exempted from basic customs duty (BCD), CVD/excise duty and special additional duty of customs (SAD). A Phased Manufacturing Programme was notified till 2019-20 for different component manufacturing of handsets.¹² Along with handset manufacturers, component manufacturing also got benefitted by this policy. Similar PMP policy framework has been mooted for other products in telecom manufacturing. However, *the gain in differential under the policy will be lost after GST implementation as imported products and domestic products are now equalised as imports will now attract IGST which is same as the GST charged for the domestic products. Telecom manufacturing has experienced a setback and domestic manufacturers wish to get their advantage in differential duty back.*

- **Cost of production**

Though India has cost advantage in the form of lower manufacturing plant establishment cost and relatively competitive labour costs, for an export oriented strategy (like the Chinese strategy as mentioned earlier) more government support is warranted in the form of fiscal support, soft lending, and greater ease in approval and ease of doing business. Studies show that the Indian manufacturer is disadvantaged around 15 % in terms of costs as compared to those in developed countries and that affects its competitiveness. These can be addressed significantly through government interventions,

Setting aside a credit line of \$ 1 billion, which may be enhanced to \$ 10 billion in future, specifically dedicated to telecom exports by Indian companies for providing long term financing to their customers. This should be ideally done to creditworthy countries, so that the financial viability of these loans is not diminished. This will enable the domestic manufacturers to achieve required scale to compete with the global players both in the domestic market and in the international market.

Question 2. What policy measures are required to be instituted to boost innovation and productivity of local telecom manufacturing in our country? Please provide details in terms of short-term, medium-term and long-term objectives.

Response: India's import dependence suggests the overall impact of India's policy initiative to develop and innovate telecom manufacturing has been quite limited. There is a deep fragmentation of India's innovation system with weak links between education, research and industry. India has one of the smallest ratios of "scientists and engineers per million people" – 137 per million – with an estimated 25% shortage of engineers in the country.¹³

- **Short-term**

In October 2012, the Government notified the Electronics Manufacturing Cluster (EMC) Scheme to create and strengthen the infrastructure ecosystem for electronics manufacturing. Till March 2017, MEITY had received 49 applications under EMC scheme, 45 applications for setting up of Greenfield EMCs and 4 applications for setting up Common Facility Centres (CFCs) in Brownfield Clusters, out of these, MEITY has accorded final approval to 13 Greenfield EMCs and 2 CFCs in Brownfield.¹⁴

Expediting the process of creating these clusters is of immense importance for short term innovation strategy of the sector. Time bound implementation of these clusters has the potential to remove infrastructure related disabilities for the units which are located in these clusters.

¹² http://meity.gov.in/writereaddata/files/Notification_PMP_Cellular%20Mobile%20Handsets_28.04.2017.pdf

¹³ Dieter Ernst (2014), op. cit.

¹⁴ TRAI Consultation Paper (2017)

A Telecom Manufacturing Fund was proposed for providing venture capital to indigenous manufacturing in the form of equity and soft loans for supporting prior and post commercialisation product development and product creation.

Later, Electronic Development Fund (EDF) policy created by MEITY intends to support Daughter Funds including early stage Angel Funds and Venture Funds in the area of system design and manufacturing. The supported Daughter Funds are supposed to promote innovation, R&D and product development within the country.¹⁵

However, similar experiment with tech startups by creating a Fund of Funds is yet to yield desired result in innovation and capacity building.

The original TRAI proposal of creation of a TMF seems to be a better option and direct funding of telecom manufacturing in the line of that proposal should be created to foster innovation.

- ***Medium-term***

Persistent restrictive regulations continue to stifle private investment and innovation in India's electronic manufacturing industry. Apart from the licensing bottlenecks, the fact that Indian electronics is one of the last Indian industries to be liberalised also plays a role. Indigenous manufacturers feel that single window clearance can make their lives a lot easier.

Careful negotiation by the government of the terms of future bilateral free trade agreements (FTAs) agreements can induce larger productivity and also foster innovation in telecom manufacturing sector. Telecom exports from India should be included for all aid-in-grant programmes. Proactive support for exporters to the countries/regions through strategic ties, like the countries in SAARC, Africa, South-East Asia, Latin America and Eastern European CIS groups, can be provided.

Research and development collaborations with international agencies and foreign governments are other avenues to be explored. Various international research aids and grants can be tapped for such collaborations. Government negotiation endeavours are crucial and can be oriented in that direction.

Promoting incubators for new age tech startups in telecom equipment manufacturing will also help in fostering and nurturing innovation in the sector. ***These incubators may be built in a public-private partnership mode to enable them to integrate with the global standards of telecom manufacturing products.***

TCIL (Telecommunications Consultants India Limited) was proposed to be strengthened as a system integrator for installing and operating networks in other countries using telecom equipment sourced from India. Further, to enable more autonomy and efficiency, TCIL was also proposed to be disinvested such that the Government holds up to 49% equity.¹⁶ ***This was an earlier proposal but no action has been taken on this. Implementation of this proposal can help in ushering innovation in the sector.***

- ***Long-term***

The wish-list of Indian telecom manufacturers also include more government support in skill development and knowledge transfer. For example, Indian integrated circuit (IC) design companies are still peripheral players and require lots of catching up to reach global best practices. In semiconductor and microprocessor segment, India possess a good amount of talent pool but that is getting wasted due to absence of concrete mechanism for knowledge building and retention. ***Creating more R&D centres to utilise these advantages can go a long way in ensuring future innovation.***

¹⁵ Ibid

¹⁶ Ibid

Creating global awareness of the Indian semiconductors and telecom systems industries (beyond the more popular and generic “IT” umbrella) and fostering active collaboration between industry and universities to expand the world class techno-talent pool can boost innovation in telecom manufacturing in the longer run.

The demand for telecom equipment in India was valued at Rs. 54,765 crores in 2009-10, which was about 5.5 per cent of the global demand. This is projected to grow to Rs. 170,000 crores by 2020 as mobile operators roll out new networks for 4G and 5G services.¹⁷ Unlike China, India missed the earlier bus of technology development process of 2G and 3G. Newer possibilities of 4G and 5G related technology creates a second chance for India to catch up. Through all possible means, policies and agencies Indian long run innovation strategy for telecom manufacturing should be oriented to fulfil this objective.

Question.3. Are the existing patent laws in India sufficient to address the issues of local manufacturers? If no, then suggest the measures to be adopted and amendments that need to be incorporated for supporting the local telecom manufacturing industry?

Response: In the Consultation Paper, TRAI raises a number of concerns regarding Intellectual Property Rights (IPR) and FRAND licensing, *inter-alia*, on the aspect of calculation of royalty, lack of transparency in licensing negotiations owing to non-disclosure agreements resulting in differential royalties and the basis for determination of royalty between parties. The consultation paper, which acknowledges the poor state of innovation to be a fundamental challenge facing domestic telecom equipment manufacturing, makes certain assumptions on the operation of FRAND licensing and its likely impact on domestic manufacturing.

With regard to domestic innovation, the TRAI consultation paper indicates that domestic firms are at a disadvantage due to higher royalty costs, a view consistently held by mobile manufacturers in ongoing legal disputes in respect of licensing of SEPs on mobile technology standards. An analysis of 17 domestic telecom equipment manufacturing companies (selected on the basis of their market capitalization) for FY 2015-16¹⁸ does not reflect royalty expenditure by 16 of those entities. The same group of companies shows an overall average R&D spending of 2 percent of their total expenditures and 1.9 percent of their total sales revenue [**Please also see Response to question no. 1**]. The poor state of innovation resulting from poor R&D spending by these entities is reflective in the limited number of patents held by Indian entities.

In view of limited R&D efforts being taken by the domestic manufacturers, the only plausible answer to make telecom equipment manufacturing prosper is through utilisation of international standards. Having said that, it is stated that terms and conditions of patent license agreements are negotiated bilaterally, between a patent holder and a potential licensee, taking into account the specific facts and circumstances of the parties and the relevant technologies, industries and countries. Private parties are, and should be, free to enter into such licensing agreements as they deem appropriate, subject to applicable principles of contract law, patent law and competition law.

Claims that high royalty costs are coming in way of cost competitiveness of domestic telecom manufacturers is incorrect. The presence of foreign innovation and licensing instead benefits the domestic market. Foreign innovators have made massive investments to develop and acquire technology used by many Indian firms, either through research and development programs, or through the expensive acquisition of IPRs from other companies. Indian manufacturers receive the benefits of these investments without incurring the same substantial fixed costs.

¹⁷ <http://www.thehindubusinessline.com/opinion/editorial/india-telecom-policy-schemes-problems/article9883473.ece>

¹⁸ Annual filings of Companies as publicly available and/ or available with MCA-21 database of the Ministry of Corporate Affairs.

While an increased R&D spending is needed to bring speed to the domestic innovation drive, it is important to understand that the path to more domestic innovation is a stronger system for the protection for IPRs. Existing policies of the Government of India, such as National IPR Policy have highlighted the need to respect IPR protection.

Indian government should not consider that IPR impede local manufacturers. Instead, a strong enforcement framework would strengthen local technology innovation. IPR is not an issue affecting the growth of the domestic telecom equipment industry, rather, it can serve as a push towards local innovation.

The provision in IPR related legislations are adequate and do not require any change. The Patents Act, 1970 along with The Competition Act 2002 provide enough remedies against potential misuse of patents.

We now look at some of the relevant question that the TRAI consultation Paper has raised with respect to FRAND licensing.

On the need to devise formula/ mechanism to determine the basis on which SEPs can be licensed on FRAND: FRAND terms are not “one Size Fit All” and hence should not be defined. While deciding the licensing terms under FRAND, there are several factors that are taken into consideration during a negotiation process. FRAND licensing is a contract issue and is very subjective depending on case-to-case basis decided by private parties in negotiation and not by a Government body. Further, the determination of royalty rates would require evaluation of Standard Essential Patents, the value of standard, the functionality by Standard Essential Patents and whether the Standard Essential Patent has a bearing on the demand of downstream product. Considering the complexity involved in evaluating the factors, it is best left to the parties, commercial courts, arbitrators to decide FRAND terms.

In describing Standard Essential patents, the TRAI consultation Paper notes, “once a patent holder acquires the status of SEP holder, it is bound by the obligation to grant the license on Fair, Reasonable and Non-Discriminatory (FRAND) terms”. This position is incorrect, as FRAND is a *voluntary contractual commitment* that patent owners may elect to make if they conclude that it is in their interest to agree to restrict some of aspect of their normal patent rights in exchange for having their technology included in the standard. For example, under the European Telecommunications Standards Institute (“ETSI”) IPR policy, firms are required to make reasonable efforts, during the development of a standard or technical specification, to inform ETSI of essential IPRs “in a timely fashion.”¹⁹

The voluntary nature of the FRAND commitment balances a complex set of incentives that allow standard development organizations to create state-of-the-art standards by encouraging innovators to contribute valuable technology while providing access and reasonable predictability to firms investing to create products that implement the standard.

The importance of a good faith process and fair balance to FRAND licensing negotiations has been recognized by the Court of Justice of the European Union (CJEU) in its landmark Huawei/ZTE ruling. In its ruling, the CJEU clarified that a FRAND commitment is a two-way street that requires both the licensor and the technology user to act in good faith to conclude a license agreement.

There is no evidence to suggest that the current system is broken or that, as TRAI suggests, there is “a need to devise a formula/mechanism to determine the basis on which standard essential patents s can be licensed.” TRAI suggests, in particular, the need to evaluate whether a FRAND royalty should be based on the value of “the smallest saleable patent practicing component (SSPPC) or the net price of the downstream product, or some other criterion.”

We urge TRAI to recognize that there is no one size fits all criteria for selecting the appropriate licensing level. Consistent with the voluntary consensus-based nature of FRAND licensing, the

¹⁹ Intellectual Property Rights Policy, Version 37 (April 2017) at 41, § 4.1, <http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf>.

choice of the appropriate licensing level should be left to commercial negotiations and must be consistent with the FRAND assurance the patent owner willingly provided.

Developments at the Institute of Electrical and Electronics Engineers (“IEEE”) provide an insightful understanding of the serious risks to standards development and innovation due to changing the established system in ways that disadvantage firms that have invested to develop the technology for next-generation standards.

In 2015, IEEE, which is responsible for the development of the Wi-Fi standard, changed its patent policy in ways that disfavor technology contributors. Among other changes, the new policy makes it practically impossible for standard essential patents owners to seek an injunction against a putative licensee who unduly delays negotiations or otherwise acts in bad. It also limits the ability of a patent owner who provides a licensing assurance to select the level in the value chain at which to negotiate a license.

The impact on IEEE standards is significant. Patent owners are far less likely to submit a positive letter of assurance (LOA) agreeing to provide access to their technology on reasonable and nondiscriminatory terms. From January 2016 through June 2017, 73% of LOAs submitted for the IEEE flagship 802.11 WiFi standard were negative, indicating that the patent owner would not commit to license essential IP on (F)RAND terms; 42% of companies identified as technology leaders for IEEE standards were unwilling to provide a licensing assurance under the new policy.²⁰ Since the new patent policy adoption in March 2015, the average net submission rate of licensing assurances declined by 90%, counting known negative and missing LOAs as negative numbers. That understandable unwillingness of patent owners to provide a licensing assurance under terms they never agreed to accept is delaying the approval of standards.²¹

Transparency in the Licensing Negotiations: The TRAI consultation Paper notes that non-disclosure agreements may result in differential royalties to be paid, resulting in higher costs for local manufacturers. While transparency in negotiations is desirable, it must be balanced against the need for industry to protect sensitive commercial information. Non-disclosure agreements are a necessary tool in licensing negotiations as they are in other commercial transactions, and have been recognized by courts in India. Excessive restrictions on the ability to conduct negotiations privately would introduce complications and in extreme cases stall the execution of FRAND licensing agreements.

Question.4. Is the existing mechanism of Standardisation, Certification and Testing of Telecom Equipments adequate to support the local telecom manufacturing? If not, then please list out the short-comings and suggest a framework for Standardisation, Certification and Testing of Telecom Equipments?

Response: The TRAI consultation Paper highlights the need for domestic specification factoring India-specific requirements in national standards. India’s success in supporting local telecom manufacturing should be based on their successful integration into the global electronica and IT supply chain. The growth of mobile telephony has followed the adoption of international standards. The telecom equipment manufacturing industry domestically should follow the same path.

Imposing unique domestic standards and local testing requirements could produce significant negative impacts on India’s digital ecosystem.

Q.5 Please suggest a dispute resolution mechanism for determination of royalty distribution on FRAND (Fair Reasonable and Non-discriminatory) basis.

²⁰ Keith Mallinson, Development of Innovative New Standards Jeopardised by IEEE Patent Policy, September 2017 at 1, available at

http://www.4ipcouncil.com/application/files/6015/0479/2147/Mallinson_IEEE_LOA_report.pdf.

²¹ Ibid.

Response: To the extent that disputes arise between SEP holders and actual or potential licensees, they can generally be resolved through the court system, or, if the parties agree, by alternative dispute resolution mechanisms such as arbitration or mediation. FRAND commitments are enforceable, contractual obligations. When actual or potential licensees believe that SEP holders have violated a FRAND obligation, such issue can be resolved by traditional adjudication mechanisms. Since FRAND disputes are highly fact specific, case-by-case adjudication is the most appropriate means for settling particular disputes.

FRAND commitments arise in a standards context where a company knowingly and voluntarily undertakes a FRAND commitment, consistent with the policies of the given standards setting organization, in exchange for the standard setting organization agreeing to include the company's intellectual property in the final standard. Following adoption, the licensor and those seeking a license engage in good-faith negotiations to determine royalty rates consistent with the FRAND obligation. Disputes can arise between commercial parties where FRAND obligations are in need of interpretation, most often concerning royalty rates. Each FRAND dispute is bound by a unique set of facts, which can make it difficult to easily discern FRAND violations. For this reason, like a government's limited role in standard setting, a government must be very careful how it intervenes in FRAND disputes.

FRAND disputes are no different than other commercial disputes. Most often, the courts have been well-positioned to adjudicate fact specific nature of a FRAND dispute as a matter of contract law, and in some circumstances anti-competitive concerns are examined as a matter of competition law. There is no policy justification for having a sector-specific approach to addressing FRAND disputes, nor is there a reason for India to create a special mechanism for FRAND disputes.

Question.6. Are the current fiscal incentives sufficient to promote the local telecom manufacturing? Please suggest the fiscal incentives required to be instituted along with the suitable mechanism for implementation of these incentives?

Response:

- Long-standing demand of 10-year tax holiday, on the lines of that given to the software industry, for producers of domestic manufactures telecom products whose total annual turnover is less than Rs. 1000 crore should be granted. Ideally, these entities also should be exempted from payment of MAT.²²
- Low productive situation for the domestic manufacturers is worsened by inverted duty structure, among other factors. The solution to the problem of inverted duty structure can be bringing the customs duty down to the level of the final product. In cases that the duty on the final product is zero, duties on inputs used should also be brought down to zero. The general principle to follow is that no indirect taxes should be exported while full burden of within-border indirect taxes must fall on imports. The former implies that all tariffs and domestic taxes paid on inputs whether sourced domestically or from abroad must be rebated back at the exit point. Likewise, countervailing duty equivalent to all domestic indirect taxes must be applied to all imports.²³
- Weighted (super) deduction are available on both revenue and capital expenditure for in-house R&D centres situated in companies engaged in manufacturing, and telecom manufacturing companies can also avail this. Currently 125% R&D expenditure is allowed to be deducted from taxable income. At least 300% R&D expenditure may be allowed for deduction for the companies where gross contribution on account of local IPR/value addition is greater than 40%.
- A special incentive should be provided to producers of domestic manufactured products with total annual turnover less than Rs.1000 crore, by deferring the payment of GST by them for a

²² TRAI Consultation Paper (2017)

²³ Ibid

period of 5 years at a nominal rate of interest.²⁴ Currently under GST, no such benefit is allowed.

- To boost domestically manufactured telecom components, taxes and duties should be structured in such a way that those are not at a disadvantage vis-à-vis imported component.
- TRAI's 2011 recommendations introduced an additional rider that total indirect taxes should be limited to 12%. GST rate for handsets for cellular networks and parts for their manufacture has been fixed at 12%, but for telephone sets and other apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network – the GST rate is fixed at 18%.
- This has created a disadvantageous position for domestic components imported components as peak rate of basic customs duty is 10% and for the 217 products under the purview of Information Technology Agreement (ITA) of WTO is 0%. And under GST regime, these products will attract IGST, the rate of which will be comparable to GST for similar domestically produced products – thereby erasing the benefit of the domestic producers. Domestic producers who compete with foreign producers' imported product should be given at least 1% margin of benefit here if the broader objective of promoting local telecom manufacturing has to be met.
- Furthermore, earlier under the pre-GST regime imported goods attracted 12.5% duty. However, if credit on taxes paid on inputs were not availed then the benefit of reduced rate i.e. 1% used to be given to the domestic manufacturer. This used to be done to make the tax impact equal for the domestic manufacturers who did not take input credit or who were ineligible for availing input credit in line with the ones who avails input credit or the eligible ones.²⁵ Under the current system this is also not available to those manufacturers who do not avail input credit. This should be amended and these domestic manufacturers should be compensated for that 1% differential loss.
- Currently, there is an Interest Equalisation Scheme which provides interest subsidy of 3% for export of notified telecom equipment, but all domestic telecom equipment manufacturers producing Indian Products or Indian manufactured products and having an annual turnover of less than Rs. 1000 crore, should get access to debt finance for capital and working capital for a period of 5 years on subsidised terms. The extent of subsidy may be 6% for the Indian Product Manufacturers and 3% for producers of Indian Manufactured Products.²⁶

Question 7. Are there any issues under ITA which need to be addressed for making the local Telecom Manufacturing more competitive and robust?

Response: Under Information Technology Agreement (ITA-1), basic customs duty and countervailing duty (CVD) are waived on inputs used in the production of all ITA-1 products (ITA-1 products are final products that enter duty free into the country under ITA-1. Under ITA-1, tariffs on 217 IT products came to be set at zero.

As has been noted, continuing positive custom duties on many inputs used in these products places their producers at a disadvantage vis-à-vis their foreign counterparts able to access the same inputs at lower, often zero, tariffs. As TRAI's 2011 recommendations noted, the ratio of locally manufactured components used in electronic equipment, which include telecom equipment, made in India has gone down from 50% in 1996-97 to about 20% today as the component required in the modern telecom products are not manufactured locally or because of inverted duty structure where there is no duty on finished products but there is duty on components.

²⁴ Ibid

²⁵ <http://www.news18.com/news/business/new-tax-rules-aims-at-value-addition-in-telecom-it-production-1209920.html>

²⁶ Ibid

This downturn is linked to the announcement of the signing of the ITA-1 Agreement under the WTO which brought 217 Tariff Lines covering all ICT products and their inputs, largely components, to zero Customs Duty. This opened up the local industry to unbridled competition, which it was not prepared for and fresh investments stopped flowing in due to uncertainty about profitability of the industry.

Having said that, TRAI's push for mandatory local content violates India WTO obligations, and therefore, TRAI must be judicious that its recommendations respect India's international commitments.

Question 8. Should an export oriented/promotion approach be adopted in the telecom equipment manufacturing sector? If yes, please suggest the steps to be taken to create suitable environment to attract foreign investment players for setting up establishments which in turn can result in technology dissemination, innovation, generation of jobs, skilled labour force, etc.?

Response: As explained in the comments made to Q (1), export oriented strategy for telecom manufacturing becomes an imperative mainly because of the fact that Indian domestic market is inadequate to accommodate the domestic manufacturers due to its lower market size. So, exploring export remains the other option for Indian domestic industry to survive and develop.

Import substitution or protectionist strategy may be easy to implement but in the long run those policies hamper growth. On the other hand, export oriented approach integrates the domestic market with the global one, domestic industry become gradually competitive and growth is achieved in the long run. Therefore, export oriented approach is needed even in telecom manufacturing sector.

Uncertainty in tax regime and loosely defined labour laws discourage global players from locating to India. So, well-defined tax and labour laws are the primary requirements for an export-oriented strategy. This situation is exacerbated by two additional sets of factors: inverted duty structure and high barriers to the movement of goods into and out of the country.

Under the WTO Informational Technology Agreement of 1995 (commonly referred to as ITA-1) that India signed in 1997, tariffs on 217 IT products came to be set at zero. Continuing positive custom duties on many inputs used in these products places their producers at a disadvantage vis-à-vis their foreign counterparts able to access the same inputs at lower, often zero, tariffs. A similar situation arises from FTA agreements that have lowered tariffs on products below those applicable to inputs used in them.²⁷

The second set of factors working against competitiveness of domestic firms globally includes onerous regulations, poor connectivity of production locations to ports and delays at ports—factors that impede the movement of goods into and out of the country. It is not unusual for a firm to have to fill more than a dozen forms to import its inputs. Inspection requirements and other formalities associated with custom clearing add further to the cost and time delays. Turnaround time of ships at ports averages two to three days compared with 8 to 12 hours at Hong Kong and Singapore. Transporting internally from production location to destination port can take a long time—14 days from Delhi to Mumbai, according to one estimate. These factors limit the access of domestic firms to foreign markets and encourage them to remain focused on the domestic market. The same factors also shut out these firms from global value chains and inhibit them from forming production networks at home. The end result is a fragmented industry with relative shortage of large-scale firms.

The general principle we must follow with respect to exports and imports is that no indirect taxes should be exported while full burden of within-border indirect taxes must fall on imports. The former implies that all tariffs and domestic taxes paid on inputs whether sourced domestically or from abroad must be rebated back at the exit point. Likewise, countervailing duty equivalent to all domestic indirect taxes must be applied to all imports.²⁸

²⁷ NITI Aayog (2016), "Make in India Strategy for Electronic Products", Government of India, May 2016

²⁸ Ibid

Following China, what is required is setting aside a large area near the coast, which may be called Coastal Economic Zone (CEZ) to distinguish it from SEZs, in which a sound ecosystem for healthy growth of export-oriented firms is fostered. A CEZ may be up to 200 to 250 km wide from the coastline, approximately equal distance in length and encompassing a modern deep dredge port. It would have minimal red tape and relatively flexible labour and land-acquisition laws. It will also allow easy entry and exit of firms. It will be authorized to take swift decisions on applications for environmental clearances. Goods moving into and out of the zone through the port will face minimum barriers. The turnaround time of ships would meet the best practice standards of 7 to 10 hours. The zone would have liberal laws for the development of urban spaces since a resident labour force is critical to the development of manufacturing and services. It would also have good internal infrastructure, especially as it relates to the availability of water and electricity but also extending to good internal transportation. The links to hinterland will gradually develop.

Within the CEZ, telecom manufacturing specific zones and clusters need to be formed. If incentives are to be given, they should be such that their impact on the key objective of bringing large firms with substantial employment effect can be reasonably ensured. With this in mind, it would be worth considering a ten-year tax holiday for a firm that invests a substantial pre-specified sum and generates a large pre-specified volume of direct employment. For example, the investment threshold may be set at \$1 billion and employment at 20,000. These thresholds will ensure that only firms that promise to create substantial number of good jobs and help build up the industry use the benefits. These firms also promise to support small and medium firms as ancillaries.²⁹

Goods provided to the domestic operators by the manufacturers should be deemed as exports, and subsequently the manufacturers can be provided with stipulated export benefits. This can encourage manufacturing for exports.

Tracking and following emerging trends in technological trends in telecom manufacturing is essential to foster a long-term export oriented strategy. For example, countries like China and Taiwan raced ahead by shifting their focus towards Long Term Evolution (LTE) 3G technology much earlier than many Asian countries including India. As a result, these countries have been able to wrest technological advantage and initiative to export in other countries. India has to follow similar strategies with respect to 4G and 5G technology.

Internet based broadcasting sector is another area where India can take initiative to innovate and develop so that the country can create some advantage to export telecom manufacturing goods in the Asian markets, even if technologically superior markets like American markets remain out of reach. To fulfil that, once again the policy orientation has to shift from traditional broadcasting towards internet and IT based broadcasting.

How India builds its standardisation and testing of indigenous telecom manufacturing products – will decide the success of any export oriented strategy it undertakes in the sector. Thus, speedy creation of a sound standardisation and testing framework in the country will play a crucial role in export promotion.

Similarly, a detailed code for grant-in-aid for promotional efforts in the area of telecommunication equipment can help the process of export promotion in the sector. Government arms like the Ministry of External Affairs, Department of Economic Affairs and EXIM Bank have to be integrated in this effort.

Question 9. Does the existing PMA policy require any change? If yes, then please provide complete details with justifications.

²⁹ Ibid

Response: PMA is a distortive policy that is unlikely to be effective in ensuring growth in telecom manufacturing, rather it will impose costs on the manufacturers, consumers and Indian economy. In the light of its failure to achieve intended objective, the policy of PMA should ideally be discontinued.

Preferential market access (PMA) in telecom manufacturing sector is often justified on the following major reasons.

- PMA is not trade-distortionary.
- Imposition of PMA can address electronic security issues.
- 'National interest' is served while assisting domestic manufacturers.

However, all of these contentions and imposition of PMA can be proven inaccurate.

PMA can lead to trade distortions

- Though PMA implies only a certain percentage of procurements will be acquired from the domestic manufacturers, it also embodies *de facto* or *indirect* price or quality preference for local manufacturers. This may lead to lower quality or higher prices or both, because domestic manufacturer may not be able to cover the cost for a better quality or a competitively priced product due to lack of scale of operation.
- PMA is also capable of introducing distortionary effects across Indian economy as imposing local content requirement in Information and Communication Technology (ICT) can adversely affect productivity across government services and networks due to inadequate quality assurance.
- PMA in an important economy like India also has the potential to raise global ICT costs as global players would be unable to access part of the market, which may adversely affect their fixed costs and subsequently their process of research and innovation can suffer as well.
- So, the market for telecom manufacturing can have distortions due to preferential market access given to the domestic manufacturers, and subsequently this is bound to introduce distortions even in international trade.

PMA cannot ensure ICT cybersecurity

- Malicious codes may be implanted in networks and servers, and standard testing of equipment alone may not be able to solve that problem. There has been allegation of hacking in BSNL network in recent past by a certain Chinese telecom manufacturer,³⁰ and even the United States expressed concerns about few Chinese vendors for the security of networking products.³¹
- However, PMA cannot ensure security in ICT products, and if each country of the world decides to stop importing and develop their own products in ICT to ensure security then there will be no international trade in ICT products. Going by the capability of different countries, this kind of a scenario is impossible. Conversely, if countries like USA start imposing preferential market access in ICT related services then many countries including India will suffer.
- Moreover, if network security and not industrial policy were actually India's primary concern in enacting the PMA, then there is no reason for imposing PMA to an entire range of particular ICT and electronics products like monitors, keyboards, printers, photocopiers, scanners, faxes, etc. that have very little or nothing to do with cyber security.

³⁰ Sandeep Joshi, "Centre to probe alleged hacking of BSNL network by Huawei," *The Hindu*, December 30, 2013, <http://www.thehindu.com/news/national/centre-to-probe-alleged-hacking-of-bsnl-network-by-huawei/article5516261.ece>.

³¹ Sean Michael Kerner, "U.S. Blocks Huawei from Government Networks," *Enterprise Planet*, October 8, 2012, <http://www.enterprisenetworkingplanet.com/netsysm/u.s.-blocks-huawei-from-government-networks.html>.

- Most importantly, if enhancing the security of ICT networks is the true driving reason behind the PMA, then it is difficult to perceive PMA achieving that goal as it is applied only to public sector procurement and not to private sector where bulk of private financial information and transactions happen which are under tremendous risk of hacking.
- However, the PMA is likely to weaken ICT security for India. Firstly, India's PMA will increasingly call for the purchase of ICT products based on consideration of production location rather than value and merit, including the quality of the product's security features. Secondly, world's leading ICT manufacturers and services providers are most capable of developing advanced cyber security technologies, and leaving them out of government procurement will only make government's digital transactions and activities vulnerable.

PMA is not likely to boost domestic telecom manufacturing growth

- As mentioned earlier, PMA will only exacerbate production cost and quality for the domestic manufacturers in the longer run. Moreover, protecting domestic producers may have long-lasting bad effect on the competitiveness of the domestic manufacturers as well.
- In an area like ICT where technology is rapidly changing almost every day, after a certain period of imposition of PMA domestic manufacturers may hopelessly lag behind international standard of technology. With obsolete technology the domestic producers will, in any case, be unable to even enter the international market.
- Inability to enter international market will, in turn, make domestic producers economically unviable in the long run. As mentioned in the **Response to Q (1)**, domestic manufacturers have to tap international markets through their exports, in the long run, to achieve requisite scale of operation which can make them survive and flourish. However, with older technology and poor R&D that kind of growth certainly will not happen.
- Therefore, it can be said that even for the domestic manufacturers this policy will not be beneficial in the long run and will not lead to any kind of growth in domestic telecom manufacturing sector.

The growth of telecom manufacturing and domestic producers crucially hinge upon factors like telecom infrastructure, innovation, research, introduction of transformational enablers of productivity. Developing these aspects in telecom manufacturing only can usher in growth in the sector.

If a country like China follows mercantilist trade policies and dump cheap subsidised products in Indian market, then the best solution is to collaborate with the international community to seek redressal of that problem, not segregate the domestic market.

So, in the final conclusion – PMA is a distortive policy that is unlikely to be effective in ensuring growth in telecom manufacturing, rather it will impose costs on the manufacturers, consumers and Indian economy. In the light of its failure to achieve intended objective, the policy of PMA should ideally be discontinued.