Written comments on the Consultation Paper
"Promoting Local Telecom Equipment Manufacturing"
by the Europe India Chamber of Commerce (EICC)
Dated: 12th November 2017

Dear Sir,

With reference to the abovementioned Consultation Paper issued by Telecom Regulatory Authority of India (TRAI) dated 18th September 2017. We have been given to understand that the objective behind the Consultation Paper is to realistically assess India's potential in telecom equipment manufacturing that would enable the Indian telecom sector to transition from an import-dependent industry to a global hub for manufacturing.

The EICC acts as a catalyst for positive change in all areas of economic development in the realm of Indo-European policies, and would thus like to submit recommendations. The main objective of our response is to enhance – (a) Market Access, (b) Europe India Collaboration and thereby contribute to a conducive business environment. In lieu of this, we have prepared answers to the following questions:

- Q.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.
- Q.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.
- Q.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.
- Q.5 Please suggest a dispute resolution mechanism for determination of royalty distribution on FRAND (Fair Reasonable and Non-Discriminatory) basis.
- Q.10 Any other relevant issues that needs to be addressed to encourage local telecom manufacturing in our country.

The answers and recommendations have been framed in alignment of the above stated objective of enhancing Indo-European collaborations and promoting the Make in India initiative.

We are hopeful that your efforts and our recommendations will make a positive impact in the Telecom Sector.

With kind regards,

Sunil Prasad, EICC Secretary General

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Disclaimer: *The views and opinions expressed in this submission are taken from Experts and do not necessarily reflect the official policy or position of any agency, organization, employer or company. The primary purpose of the views expressed is to enable the Policy Makers in creating a conducive environment to encourage the growth of local telecom manufacturing in India.*

WRITTEN COMMENTS ON THE CONSULTATION PAPER ON PROMOTING LOCAL TELECOM EQUIPMENT MANUFACTURING, ISSUED BY TELECOM REGULATORY AUTHORITY OF INDIA MAHANAGAR DOORSANCHAR BHAWAN, JAWAHAR LAL NEHRU MARG, NEW DELHI-110002

A. Summary of the Submission

The Telecom Sector in India is one of the most dynamic sectors that has not only rapidly evolved with time, but has also played a crucial role in shaping India's vibrant economy. India is currently the world's second-largest telecommunications market with a subscriber base of 1.05 billion and has registered strong growth in the past decade. The Indian mobile economy is growing rapidly and will contribute substantially to India's Gross Domestic Product (GDP).[1]
However, this great economic potential can only be leveraged if the crucial role of strong fiscal incentives for domestic manufacturing in the Telecom Sector is being acknowledged and the importance of on-site value addition and innovation is highlighted.

Mobile vs. Equipment Manufacturing
Further, one has to distinguish between handset and equipment manufacturing in order to derive suitable policies and incentives for both industries respectively. We would like to highlight that even though the handset market is growing and investments in domestic manufacturing have already augmented due to the Phased Manufacturing Plan (PMP, 2015), the value generated by means of domestic production of handsets only amounted to a sum of USD 653 million in 2016, that is 5.6 % of the total value[2].
It is therefore recommended that mobile manufacturing is to be predominantly financially incentivised, for instance by refunding the Good and Services Tax (GST) to manufacturers.
Besides of fiscal incentives, the telecom (network) equipment industry would also benefit from policy intervention and measures that support increased and more cost-effective export, as the local market size is limited.

Objective
In consequence, increasing domestic manufacturing in both industries is the overarching objective leading to increased domestic value addition and global competitiveness of the telecom sector in India. As a result, foreign exchange can be pre-served and more high-skilled employment opportunities are created.

Safeguarding the Value of Innovation
For a sustainable virtuous circle to be realised, the monetisation of the corporates' research and development (R&D) investments has to be assured by an Intellectual Property Rights (IPR) policy regime that is capable of retrieving investments in innovations. Therefore, the IPR regime must work on the basis of a transparent, collaborative standard model, wherein also start-ups have sufficient incentives to invest in risky R&D that is required to be able to compete with the big and established companies.

[1] IBEF, 2017. The Telecom Sector in India. Available at: https://www.ibef.org/industry/telecommunications.aspx

[2] IIMB & Counterpoint Researchers, 2016. Maximizing Local Value Addition in Indian Mobile Phone Manufacturing: A Practical Phased Approach. Available at: https://ssrn.com/abstract=2871430;

End Consumer Perspective

This increased diversity through an accessible innovation system will also be beneficial for the end consumer in form of lower prices.

Thereby, it is of utmost importance to acknowledge that the current collaborative standard model of defining specifications of products shall be preserved and strengthened to avoid high concentration of market power among few big established global handsets manufactures who will have disproportionate leverage against Indian start-ups with regard to IP rights, especially Standard Essential Patents (SEPs), that are not adequately valued.

International Best Practices for successful Make in India Initiative

It is to be noted that the identified bottleneck within the Telecom manufacturing industry stems from the lack of investments by domestic players. While this observation also applies to the overall attempt by the Indian Government, to make India a design and manufacturing hub (Make in India Initiative), the necessary consequences to be derived thereof are to be formulated industry-wise in order to leverage the tremendous economic potential. Models of fiscal incentives for increased domestic manufacturing of countries like Germany and China can be looked at to create an ecosystem that encourages Indian players to invest in high-risk R&D and thereby create more value locally.

*Through **international cooperation and focused incentives**, India can become more competitive globally as well as a more attractive market for both domestic and international investments within the value chain of the telecom sector. In conclusion of this global outlook, EICC would like to stress on its commitment and dedication towards fruitful bilateral initiatives that help incentivise and co-create sustainable models of enhanced growth in the Indian Telecom Sector.*

SUMMARY OF INDIVIDUAL RESPONSES:

Q1: 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 (preferential market access) has worked very effectively in LED sector but did not work so effectively in telecom sector. Please enumerate the reasons with justifications for the poor performance of local telecom manufacturing industry in spite of numerous initiatives by the government/industry.

Telecom Equipment Industry: Increased Domestic Manufacturing and Innovation (domestic value addition) to be triggered through incentives and export-friendly environment

- Indian companies to be encouraged to gradually shift towards a manufacturing-based model.
- As opposed to sectors sustained by public demand like the LED sector, the Phased Market Access (PMA) approach does not work effectively in this industry.
- Hence, various fiscal, financial and institutional measures are to be assured in order to supplement the telecom policy and provide a viable export model for increased scales.
- Europe as a natural trade and business partner of India can benefit from the targeted shift towards increased domestic manufacturing as Indo-European collaborations can trigger innovation through both academic and technology cooperation – mutual shift towards manufacturing.
- Importance of IP: Strong SEPs rules will enable Indian companies to retrieve their investments in innovation (R&D): state-of-the-art technology.

Detailed Response refer to page 7

Q2: 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.

Telecom Manufacturing Industry: Shift from a low value addition to high value addition approach for more innovation and productivity

- Growth potential of telecom manufacturing industry directly linked to a functioning manufacturing, innovation, and IP system.
- Increased handset manufacturing to be fostered through fiscal and financial incentives (Phased Manufacturing Plan – Phase 2).
- More telecom equipment manufacturing by also incentivising export due to limited market size.
- Innovation and productivity to be triggered through conducive Business Environment:
    - Manufacturing needs to be financially more attractive than trade or assembling to increase technology know-how, local value addition, saving of foreign exchange, investments and thereby generate high skill jobs.
    - International partners to be included in this shift (fostering bilateral cooperation and collaborations)

- Policies and incentives set by the Government shall enable culture of innovation and R&D (long-term) for which a strong IPR regime and market-driven licencing model as well as expansive collaborative standard development model is mandatory in order to respect the price sensitivity of India's growing (rural) consumer base, and to include smaller players into the innovation generating virtuous circle.
- Improvement of global competitiveness through diverse market (by means of collaborative standard development model), international collaborations and development of niche expertise

Detailed Response refer to page 8

Q4: Is the existing mechanism of Standardisation, Certification and Testing of Telecom Equipment 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 Equipment.

Certification and Testing of Telecom equipment system: There is a need to strengthen testing & certification framework, interoperability testing, skills and testing infrastructure.

- Certification and testing of telecom equipment system needs to be strengthen in terms of testing & certification framework, interoperability testing, skills and testing infrastructure.
- However, additional administrative layers shall not negatively impact the 'Ease of Doing Business' as this would have a greater impact on the global supply chain cycle.

Detailed Response refer to page 10

Q5: Please suggest a dispute resolution mechanism for determination of royalty distribution on FRAND (Fair Reasonable and Non-Discriminatory) basis.

Alternative Dispute Resolution Mechanism for SEP and FRAND
Prerequisite: Market-driven SEP-FRAND-framework to help build a conducive ecosystem

- Arbitration as Alternative Dispute Resolution Mechanism
- Panel of specialised Arbitrators; capacity building
- Fast track courts and integration of international best practices

Detailed Response refer to page 11

Q10: Any other relevant issues that needs to be addressed to encourage local telecom manufacturing in our country.

- Active involvement of and exchange with bilateral bodies like EICC to foster effective dialogue on cross-border cooperation and adoption of best practices
- Implementation of SSPPC mechanism is complex and would have adverse effects on the Make in India Initiative
- Charging royalties for SEPs at the smallest saleable component level is not enforceable due to a multi-layered licensing structure
- Example of IEEE (2015) proves that the SSPPC mechanism hinders the functioning of a viable and reliable IP system (decrease in letters of acceptance (LOA) and negative LOAs)

- Thereby, Indian manufactures would be discouraged to invest in R&D as well as risk of major bottleneck that disrupts ROI of innovators.
- Negative impact especially on smaller players'

Detailed Response refer to page 12

C. BACKGROUND:

Ref. Q1:

The success of the PMA approach directly relates to the local consumptions volumes which in the case of telecom equipment (B2B model) are relatively low. Even though there is an expected increase in the demand for telecom equipment from an absolute value of INR 769 billion in 2012-13 to over INR 1700 billion by 2019-20[3], due to the rapidly growing consumer-base of the telecom sector[4], the domestic demand for equipment is still limited. Hence, investments in manufacturing and / or R&D are not justifiable due to low margins. Moreover, it is due to the negligible scale of government procurements for network equipment, as opposed to sectors sustained by public demand like the LED sector, that the PMA approach does not work effectively in this industry. In consequence, unless exports are promoted and transactional export costs are reduced, the volumes in India for electronic manufacturing are not high enough for the PMA approach to work.

Therefore, the need for an export-friendly environment becomes evident as this could counter the dropping export figures[5] which would further strengthen the competitiveness of domestic manufacturers. In this regard, apart from policy-driven measures, also strategic negotiations on Free Trade Agreements with relevant trade partners are required. Further, the set-up of telecom clusters in India could increase the profitability and reduce the investment risk which is in particular relevant for local manufacturers in this domain.[6] Moreover, a strong IP ecosystem is inherently required to safeguard the value of indigenous innovation and to reduce the risk of investment in innovation.

Europe as a natural trade and business partner of India can benefit from the targeted shift towards increased domestic manufacturing as Indo-European collaborations can trigger innovation through both academic and technology cooperation. What is more, the creation of a suitable and conducive environment through various fiscal, financial and institutional measures is to be assured in order to supplement the policy and to elevate the telecom equipment industry to the next level. These endeavours shall be aligned with and supported by concrete measures and incentives stemming from the Make in India initiative.

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[3] TRAI, 2011. Recommendations on Telecom Equipment Manufacturing Policy, April, 2011.

[4] IIMB & Counterpoint Researchers, 2016

[5] TRAI, 2017. Consultation Paper on Promoting Local Telecom Equipment Manufacturing, September 2017.

[6] IIMB & Counterpoint Researchers, 2016. Maximizing Local Value Addition in Indian Mobile Phone Manufacturing: A Practical Phased Approach. Available at: https://ssrn.com/abstract=2871430;

Ref. Q2:

As highlighted in the Summary Section above, the Indian telecom manufacturing comprises of two different segments: a) Mobile Manufacturing and b) Electronic Manufacturing. For their innovation and productivity to be fostered respectively, both shall be looked at separately.

Despite their different dynamics and underlying parameters, the key to more innovation and productivity in both industries is increased manufacturing as thereby local value addition, saving of foreign exchange and more investment in domestic R&D and innovation will eventually lead to increased competitiveness and the creation of high-skilled jobs. This virtuous circle needs to be underpinned by a transparent and collaborative IP system that protects and retrieves the investment made in innovating, and which assures market access to smaller players to avoid high concentration of market power. A set-up which ensures sustained demand given that it respects the price sensitivity of India's next consumer-generation in the telecom sector - the rural population.

As a result, the short-term and most prioritised objective, leading to the aforementioned medium- and long-term result, is to create suitable fiscal and financial incentives for both segments that will assure and accelerate the incremental shift from a trade- and import-based model to local assembling and eventually increased investments in manufacturing.

a) Mobile Manufacturing

In continuation of the first phase of the Phase Manufacturing Plan (PMP) that, according to a report by DIPP, contributed to the augmenting number of domestic mobile phone manufacturing facilities (40 in August 2016 as opposed to only 3 in 2014[7]), a second phase of the PMP needs to be formulated in alignment with global best practices. By considering the success of fiscal incentives and refund mechanism programmes of countries like Brazil, Indonesia and China, the refund of GST for local manufacturers might be a viable way forward for India. Keeping in mind that there is a limitation in further increasing custom duties due to the risk of violation of the Information Technology Agreement by WTO, 1996, the GST refund can work well as a fiscal incentive to foster manufacturing. This would also assure a punitive effect on trading partners. Further, incentivising local sourcing would not only help integrate and strengthen ancillary industries, but also created another financial incentive for mobile manufacturers.

b) Electronic manufacturing

As presented in the introduction, the scale of the telecom network equipment market is – compared to the handset market – rather small. Therefore, fiscal and financial incentives alone would not bring about the desired enhancement in innovation and productivity, as the local demand and thus volumes are not large enough to support and justify investments. Hence, a viable export ecosystem shall be implemented by the promotion of tax incentives and reduction of export transaction costs. Further, specialisation through focused innovation in niche-areas shall provide the Indian telecom equipment industry with the mandatory competitive set-up on a global scale. The German Mittelstand (GM), comprising of small and medium-sized enterprises (SMEs) is an example for success through investments in innovation and through product specialization in niche areas within electrical engineering and industrial products – fuelled by adequate policy support. As a result, the manufacturing sector and hence German's export performance has been improved drastically which is also reflected by the domestic value added of 73% of German

[7] EY, 2016. Incentivizing Domestic Handset Manufacturing Under GST, December 2016. Available at: http://www.ey.com/Publication/vwLUAssets/EY-incentivizing-domestic-handset-manufacturing-under-gst/$FILE/EY-incentivizing-domestic-handset-manufacturing-under-gst.pdf

exports, mostly in manufacturing. In consequence, this has allowed for the expansion into new markets and helped attain a relatively high rate of labour productivity growth[8].

Therefore, it is recommended to particularly foster the start-up ecosystem and support local SMEs in order to create portfolios of strong niche expertise within the telecom manufacturing industry which will assure India's competitiveness on a global scale. A conducive business environment as outlined in Response 1, is the pre-requisite for the same.

Lastly, we propose that the Government must look at increasing the overall scope of Research and Development in India. In fact, for the last twenty years, India's expenditure on R&D has been stagnant at 0.63 % of its GDP, while China was able to increase its R&D spent by almost four times[9]. International cooperation in this context are of significant relevance. In addition, it is important to acknowledge that the grant of a patent has to be done timely to ensure effective commercialization of Intellectual Property and the overall technological growth. This will also aid foreign companies in their business strategy for India and encourage Foreign Direct Investment in high-value sectors.

[8] OCD, 2014. Germany. Keeping The Edge: Competitiveness For Inclusive Growth. Better policies series, February 2014. Available at: http://www.oecd.org/about/publishing/Better-policies-germany.pdf

[9] The World Bank, 2017. Research and Development Expenditure (% of GDP). Available at: https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS

Ref. Q4:
With the establishment of Telecom Standards Development Institute of India (TSDSI) and its collaboration with Global Standards Development Organizations such as 3rd Generation Partnership Project (3GPP), OneM2M etc., the existing mechanism of Standardization in India is gearing up fast. However, the current scenario vis-à-vis Certification and Testing of Telecom equipment system is rather laggard and there is a need to strengthen testing & certification framework, Interoperability Testing, skills and Testing Infrastructure.

The recent Gazette Notification on Testing and Certification of Telegraph dated 5th September, 2017 issued by Department of Telecommunications has made it mandatory that all telecom equipment shall undergo prior mandatory testing and certification in conformity with the parameters as determined by the Telegraph Authority from time to time and must be Certified and Tested by the Telegraph Authority or any other agency designated/authorised by the Telegraph Authority. Although this measure shall ensure India's preparedness against security testing but without having a proper testing framework, skills & Testing Infrastructure, and especially when OEMs are already carrying our rigorous testing in their lab, this step would not only be unfruitful but unnecessary. These equipment are developed based on various international standards and do undergo rigorous testing and certification regime at international labs for necessary Safety and Security features.

Hence, this measure will only add one more layer of regulation to the struggling telecom industry in India, which will further add up more cost, at cross purposes with the spirit of 'Ease of Doing' Business and have a greater impact on the global supply chain cycle.

Ref. Q5:
As disputes are a by-product of a growing economy, a framework which is **market-driven**, cost and time effective can help build a conducive ecosystem for innovation in the country. There is also a need to make adequate provisions to strengthen the existing commercial courts in terms of manpower, as well as to increase the number of skilled and experienced personnel conducting sensitization programmes to enrich their knowledge of the subject matter and build a framework to introduce a fast track mechanism to ensure that all SEP and FRAND related matters are dealt in a swiftly manner.

The law regarding fixation of royalty is in the developing state. There is no standard procedure to determine FRAND. In the current scenario, arbitration can be a good Alternative Dispute Resolution Mechanism vis-à-vis Mediation and Conciliation which is less formal in nature compared to Arbitration considering the gravity of the issues.

The advantages of arbitration include:

- Confidentiality;
- The parties' control over the design of the process;
- Neutrality of the forum;
- Faster and less expensive than court litigation.

In order to make Arbitration more effective in matters related to SEP and FRAND, the following suggestions can be taken into consideration:

- Create capacity building programmes on SEP and FRAND in order to create a pool of highly skilled Arbitrators.
- Set up a panel of skilled Arbitrators who are trained extensively in the subject matter.
- Absorb international best practices.
- Respecting importance of enforceable Non-Disclosure-Agreements to safeguard IP.

Ref. Q10:

Global Perspective for Local Success:

We would like to highlight that close interaction with and active involvement of bodies like EICC shall be encouraged to strengthen the bilateral endeavours on establishing a mutually prosperous relationship that will work towards the success of Make in India.

Determination of Royalties and ensure Patent holders receive an Appropriate Reward for their investments:

The goal of IPR policies is to ensure that the patented technologies incorporated into a standard are available for licensing on fair, reasonable and non-discriminatory terms. By means of the current Telecom Standards Development Institute of India (TSDSI) IPR Policy this approach is being followed and well-aligned with the goal of the Make in India programme to "create a globally competitive electronics design and manufacturing industry". Mandating a different licensing scheme in India (i.e. licensing at component level) than in the rest of the world (i.e. at the end user device level) could discourage technology firms, especially SMEs, from contributing to standards, and thereby negatively impact their innovation strategy which will lead to limited competitiveness, and consequently result in decreased performance of India's economy.

The issue of determining reasonable royalty, is one of the most relevant issues affecting the telecom industry. In India, the courts and the competition authorities have taken divergent views in determining the royalty base, wherein the court has adopted the net price of the downstream product (EMVR) rule to determine damages, while the competition commission of India has leaned towards the smallest saleable patent practicing unit (SSPPC) - holding EMVR licensing practices to be prima-facie abusive. The example of new like technologies like 3G, 4G, etc, clearly portray the significant contribution by patent owners on the overall performance of data intensive applications. Thereby, the overall value of the end device is being enhanced. as it achieves to make communications.

Adverse Effect of IEEE Policy, 2015

It is pertinent to state the example of the Institute of Electrical and Electronics Engineers (IEEE) which updated its policy in March 2015 requiring the use of the "smallest saleable component" as the royalty base and also an Essential Patent Claim for an IEEE standard—exclude any value attributable to the standard and to deny an SEP holder the right to seek an injunction against an unlicensed implementer until appellate review is exhausted. This step resulted in a 83% decline in the average supply rate of non-duplicate LOAs to IEEE standard development activities. The role of Standard Setting Organisations (SSO) shall support and/or shape business practices and thereby promote innovation. In order to effectively achieve this, it is necessary to assure that successful innovators, including the developers of patented technology incorporated in new technological standards, can retrieve the investment made in developing the technology and are encouraged to make it available to be incorporated into standards[18].

In this way, also small players will be incentivised and elevated to a more advanced level of innovation.

In conclusion, there is a need to define a framework which shall help strike a balance between the interests of innovators so that India increases its competitiveness for moves up in the value chain and have leverage India's telecom industry, providing an environment in which creativity and invention can flourish, for the benefit, and hence improved market access of all. Thereby, the price sensitivity of the Indian end consumer can also be taken into account which will impact a holistic set-up of the above described (Ref. Q1/ Q2) virtuous circle.

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[18] The IEEE's New IPR Policy: David J. Teece and Edward F. Sherry. Available at: http://businessinnovation.berkeley.edu/wp-content/uploads/2014/07/14-The-IEEEs-New-Policy_Teece_Sherry_8-3-16_2_Clean.pdf

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