



BIF RESPONSE TO TRAI CP ON PROMOTING LOCAL TELECOM EQUIPMENT MANUFACTURING

TRAI, by way of this Consultation Paper on Promoting Local Telecom Equipment Manufacturing (the *Consultation Paper*) has raised some very important issues for consideration. The Government has set an ambitious target for itself of achieving ‘Net Zero Imports’ by 2020 in a bid to kick start manufacturing for electronic equipment in India, and so working through barriers to this objective could not have come at a more critical time.

However, before we provide our responses to the questions raised in the Consultation Paper, we believe it is important to raise and clarify a few issues:

1. In the Consultation Paper, there is a substantial discussion on the cost of technology and its linkages to the low levels of telecom equipment manufacturing in India. It is our assertion that lower intensity of manufacturing in the country is not connected to the affordability of technology by the local manufacturers. As will be demonstrated in the responses below, the lack of manufacturing in this sector has more to do with the lack of sufficient fiscal incentives, like those successfully created in countries like Brazil, China, Vietnam and Indonesia (please see annexures for case studies). Technology on the other hand has been available as low costs in India. This has been the single largest driver of the exponential growth of mobile telephony and data connectivity.
2. One of the key reasons this technology has been affordable and accessible can be traced back to the role played by self-regulating organizations involved in technological standard setting (*SSOs*). These SSOs have been critical in advancing and disseminating technological standards throughout the world including in India. The SSOs have created an ecosystem within which small innovators are able to compete with the larger more established players, all accompanied with the rigor of rule of law and democratic decision making. This process has in turn prevented monopolies and has allowed for the sector to grow to the benefit of customers. In trying to impose ad hoc regulatory controls over aspects of how SSOs operate (by regulating SEP licensing or pushing for licensing at the smallest saleable component level, for example), irreparable damage will be done to the ecosystem. If SEP licensing is treated as a means of price control under the guise of FRAND principles, there will be a disincentive for R&D and the innovators will no longer be interested in licensing at unviable returns. Startups will no longer have a platform for their technological contributions, removing incentive for them to invest in R&D which will ultimately lead to them losing any leverage they may have had against their global counterparts. With low quality investment and poor leverage, India will not be able to enhance the much-needed local value addition, or create high-quality employment. Needless

to say, with diminished economic activity the “Make in India” initiative will stall and ultimately it is the consumer interest that will be harmed.

The other issue to consider is the distinction between telecom handset manufacturing and electronic manufacturing. While telecom handset manufacturing is a subset of wider electronic manufacturing, it is anomalous to it. The growth story of handset manufacturing has taken on a completely different trajectory in India as compared to the growth of electronic manufacturing primarily because the markets for the two types of products are entirely different. This has been detailed in our responses below. So, it is very important to keep the distinction in mind when developing policy reactions and mechanisms to stimulate manufacturing

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 in spite of numerous initiatives by the government/industry.

BIF Response:

The reason the PMA has worked effectively in India in the case of LEDs is because there was large government procurement of LEDs and so demand was maintained. Telecom equipment on the other hand is quite different. Government procurement of handsets is negligible, and of network equipment is low and insufficient for the manufacturers to depend on it. Hence, handset manufactures have to rely on fiscal incentive (just like Brazil, China, Vietnam, Indonesia etc) and the electronic manufactures have to depend on exports.

It is perhaps pertinent to state that the Govt. initiatives to promote electronics manufacturing in other sectors like LED, consumer electronics, mobile handsets, automotive electronics etc, which are mentioned as successful cases of local manufacturing are primarily in the ‘ low technology, mass market ‘ dominated B2C sectors, whereas the Telecom Equipment manufacturing is essentially in a ‘ high & complex technology associated with low volumes ‘ B2B market with a limited set of consumers .

For the handset manufacturer, India has represented a captive local market. With strong domestic demand of 300 million smartphone subscribers, there is ample reason to enhance local manufacturing. This has explained the significant increase in the number of local handset manufacturers in India, with 38 manufacturing units being set up just last year. The challenge to this sector has not been that of stimulating local manufacturing, but rather it has been one of not having sufficient incentive to move up the manufacturing value chain.

The reality of handset manufacturing in India is that there is not enough domestic investment occurring and the manufacturing consists mostly of producing knocked down sets; there is little value addition

occurring (6%) locally. Total investment till early 2017 was just under \$ 500 million USD (less than 4 % of the total turnover). In recognition of this challenge, the Government has already (in April 2017) notified a *Phased Manufacturing Plan to promote indigenous manufacturing of cellular mobile handsets, its subassemblies and parts/subparts/inputs of the subassemblies thereof (PMP)*. The primary objectives of the PMP are that of promoting depth in the domestic manufacturing of cellphones and their components over a period of time, and that of substantially increasing local value addition in such manufacturing activities. If this roadmap is successfully rolled out, there will be a distinct upwards movement of India's domestic handset manufacturing. It is expected that the PMP will result in the value addition or share of indigenously procured components in feature phones to go up from around 15% to 37%; and in smart phones, this share is likely to increase from around 10% to 26%. The Financial Action Task Force, set up by the Ministry of Electronics and Information Technology is also currently in the process of formulating a second phase of the PMP, which is expected to enhance local value in feature phones and smart phones to 58.3% and 39.6%, respectively. However, there is a risk here too. The foundation of PMP rests on increasing customs duties for imported components. However, India's ability to raise customs duty is limited. Therefore, a cleaner approach would be to give direct fiscal incentives to the manufacturers. BIF & EY in a recent study has proposed to refund the GST paid to the manufactures as a fiscal incentive (attached as annexure). This will motivate the Indian manufacturers to add more value (GST directly measures the value added by the manufacturers).

However, the situation with network equipment manufacturing is very different.

The manufacturing location strategy for Enterprise Network Telecom products is hinged upon:

- Operating cost in balance with operating capabilities – industry maturity; technical talent; new product introduction capabilities; etc.
- Proximity to key suppliers & key customers – esp. for smooth product launches and transitions

Due to high complexity in enterprise telecom manufacturing, it is imperative for companies to establish manufacturing at global locations that can cater to as large a market as possible to achieve economies of scale by maximising volumes as the local market in India is a small market marred by low volumes. So, the growth of the sector has been sluggish and local manufacturers will have to rely on exports.

The need for large market and scale directly translates into the necessity for increased focus on an **India for the World strategy** for telecom manufacturing instead of relying only on an India for India strategy. However, to be able to compete in the export market, there must be an ecosystem in India that reduces transaction cost (for example, the GST is likely to reduce transaction costs) including export transaction cost, allows the manufacturer better margins, and thus make their equipment more attractive. The incentive programs for electronic equipment, such as the M-SIPS and support to set up chip manufacturing facilities, have been plagued with implementation issues. After inter-ministerial delays, a cap to the subsidy for capital expenditure has been placed which may not support the aim of Net Zero Imports. These schemes also do not address the challenges to raising capital in India.

To provide all round impetus to manufacturing for both handsets and network equipment, the importance of the ' Make in India ' program launched by the Hon'ble PM must be borne in mind and all existing and new initiatives made by global majors/OEMs to start/shift their manufacturing hubs to India should be welcomed in the same spirit. Also existing units manufacturing equipments out of India must also be subsumed under the ' Make in India' and be deemed to have contributed towards the overall effort to boost local manufacturing

Recognition of such initiatives undertaken by a few Global OEMs, much before India had a policy around local manufacturing , will provide a great boost and impetus to other global OEMs waiting to invest in India to set up manufacturing hubs to meet the needs of not just the domestic/local telecom market but also for overseas markets with a focus on exports out of India. Such a move is likely to provide great impetus to make manufacturing viable and ' Make in India ' doable. The manufacturing policy should therefore be inclusive in nature and should facilitate and incentivize the efforts of these Global OEMs already in India while encouraging pure local players concurrently

For Local Telecom Equipment Manufacturing to prosper, the Govt needs to overcome some of the key infrastructural challenges being faced by a majority of the manufacturers viz.

- Cost disparity in exports from India
- Inadequate Power availability
- Infrastructural support
- Lack of ready availability of components and sub-assemblies at globally competitive prices
- Disincentive to do genuine local value addition as compared to SKD assembly due to duty arbitrage
- Removal of barriers to set up R & D hubs in India
- Creation of Intellectual Property (IPR) and protection of Patents/IPRs etc

Besides encouraging investments in R & D for 5G, what is also required is reliability and predictability when it comes to the IPR Regime. This will enable us to keep pace with the advent of new technologies viz. 5G,AI, M2M, Cloud etc . With the declaration of intent by India to become an early adopter of 5G technology and with the data explosion already happening, it is absolutely essential to build investor confidence by strengthening our IPR regime to make it more reliable and predictable

The Policy must have special place for incentivizing local R & D. As the telecom industry is a fast paced and fast changing industry , we need to ensure that we provide all support to step up the R & D capability to keep pace with the rapid change of technology Procedures & processes for import of Capital equipment to set up R & D labs out of India need to be simplified and facilitated as lack of which is likely to be detrimental to the growth of telecom infrastructure and deny India the opportunity to possibly become the global R & D hub and in particular may lead to loss of a big opportunity in wake of development work on 5G. **(A short note to this effect is also attached herewith)**

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.

BIF Response:

Policy measures to increase investment in R&D, especially risky R&D are required in India today. These will need to include a wide range of initiatives – availability of capital for investment in state of the art machinery for production, a robust IPR framework to protect technology and innovations and development of skilled manpower.

An investment in high value production, skilled labour, access to cutting edge technology, will all contribute to increasing innovations in the telecom manufacturing sector. None of these objectives can be truly achieved in the short term and so the focus of the Government should be to work towards these broader goals in the medium to long term.

India is required to initiate a slew of measures to boost Innovation & Productivity of Local Telecom Manufacturing.

In the short and medium term, India has to take the following measures :

- remove the infrastructure roadblocks
- provide thrust to Make in India
- remove cost disparity in exports from India
- assured IPR regime
- respect for protection of patents (SEPs)
- removal of barriers for setting up Global R & D hub (**Please refer Note attached**)
- facilitation and simplification of processes for setting up Pilots/Trials for New Technologies

The Long term approach should perhaps be :

- to encourage and incentivise creation of Global R & D hubs in areas of New Technologies,
- creation of world class Global Manufacturing hubs
- setting up of world class semiconductor fabrication units
- Incentivise faster transition from development of new technologies/products to go-to-market
- Streamline the IPR creation and filing regime to make India a global leader in this area.

Another important aspect of local manufacturing is to review the current state of Passive Infrastructure and what needs to be done to create a Global Manufacturing hub.

This is about how to place Indian Manufacturing on the World Map by encouraging specific industry that has reached scale in capacity & capability viz. India to become global hub for Optical Fiber.

Data intensive fiber is fundamental to all new technologies and wireless infrastructure especially with the coming of 5G, IoT, M2M and increased need for low latency and high bandwidth of data. Also India needs to connect 100% of cell sites with Optical fiber from its present level of mere 20%; Hence given the huge local market and the global need for optical fiber , the industry must be given the right platform to scale up . India can feature in the manufacturing map of the world by promoting quality manufacturing of Optical fiber. Manufacturing of fiber is a successful case study of Make in India. The optical fiber manufacturers have contributed significantly to design based manufacturing with co located R&D, 160 plus patents, significant capacity and exports to 100 plus countries. The manufacturers operate using global standards and contribute to the growth of global standards. Also efforts are made to create skilling through home grown academies. Hence, enabling policies supporting and incentivizing fiber manufacturing could bring economies of scale and huge efficiencies to kick in, thereby benefiting the nation as a whole. Given the confidence of the industry and a vibrant expansive market, It is at this juncture that a special incentive package should be given to this industry to make India as the fibre manufacturing capital of the world.

Increasing the value addition in fibre manufacturing will carve out India's ability to cater to domestic and the world market. At this critical juncture the significant investments in manufacturing capacity and capability bear fruit in building consensus of India's strength in manufacturing.

On MEIS:

Export Market specific incentive will ensure Indian fiber reaches critical mass in the world and establishes India as a manufacturing success. Export market incentives must be raised to 5% from current 2% - recognized for Optical Fibre and Optical Fibre Cables (HSN Code 90011000) to ensure Indian Optical Fibre (OF) & Optical Fibre Cable (OFC) industry competes successfully in Global Market and there by achieving the core objectives of the scheme and the India brand. This will enable the Indian manufacturers to increase the significant market share and give serious impetus to exports and earn more foreign exchange for the country.

Q.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.

BIF Response:

It is felt that the existing patent laws including the IPR framework in India needs to be certainly strengthened.

Some of the measures that could be suggested are :

- The Reliability and Predictability of the IPR Regime should be improved.
- There should be an assured IPR Regime with protection of patents /SEPs.
- This includes compliance and respect for international framework to deal with Standard Essential Patents (SEPs) based on FRAND principles

Kindly refer to detailed response to Q5 below

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

BIF Response:

It is felt that the existing mechanism of Certification & Testing of Telecom Equipments needs to be reviewed. As a part of the existing guidelines, DOT has insisted on mandatory in-country security testing since 2012. The same is now required to be implemented by September 2018.

It is indeed a fact that we live in a world which is profoundly reliant on standard products which embed good regulatory principles into their functioning. It is indeed a fact that reliable and responsible OEMs /Vendors which comprise the majority of equipment providers to the Telecom networks have products that are in conformance to globally accepted standards of manufacturing, testing and usage and are used in over 150 countries all across the world after meeting all the relevant legal & regulatory requirements. These products undergo various testing and certification process at globally reputed international labs for environment, safety, security & conformity assessments.

Also the Licensed Service Providers who use these equipments in their networks require mandatory compliances and standards which are contractually binding as well as based on the prevailing statutory /regulatory requirements of the country

Given so many checks and balances that already exist, this proposed directive to have an additional requirement of conformity assessment (testing, inspection & certification) for products intended for use in the Indian market will create potential supply-chain disruptions , restrict market access, lead to increase of technical and regulatory barriers and increase in cost of telecom services thereby hurting the consumers .

In view of the hugely adverse impact this will have on the Ease of Doing overall Business and on the cost and time to provide services, this proposed TEC Mandatory Testing & Certification should be withdrawn and status quo restored.

However, as a regulatory mechanism, we urge adoption of a system of self-certification. This will reduce administrative costs for the Government and will move the onus of certification to those who may be better trained to verify safety and efficacy.

As regards standards, some of the leading Global OEMs who are manufacturing telecom equipment in India, are compliant to global standards of ETSI, 3GPP, etc and are using state-of-the-art-technology, the best quality standards and are producing equipment which are tested against the relevant international standards with appropriate certification. To re-invent the standards , certification & testing mechanisms for such equipments and products would perhaps not be desirable .

With specific reference to the TSDSI, we believe it can be the ideal mechanism by which India can contribute to the global standard setting process and also ensure that Indian specificities become part of global standards and to continue its momentum and work through tabling of local requirements at global platforms and for contribution to the global harmonization of standards is welcome. We also note that the composition of the TSDSI will lend to stability with membership cutting across the Government and the private sector. This will ensure that all members have a vested stake in the collaborative standard setting process.

Q5: Please suggest a dispute resolution mechanism for determination of royalty distribution on FRAND basis

BIF Response

It is our submission that for the purposes of the local telecom manufacturers, the existing patents framework is sufficient. If there has been deficiencies in the patents framework, there would have been significant systemic indicators by this point - the price of handsets have increased (as a result of high royalty rates which could have been resisted with a weak IP framework), there would have been barriers to entry and only a few players would have been in the market and ultimately, the consumers would have not enjoyed any of the fruits of innovation. India witnesses some of the most competitive handset prices anywhere; in 2017, 80% of the phones sold locally were also assembled locally, an increase of 10% from the previous year.

It is also our submission that the focus should rather be on having in place a framework that supports, encourages and promotes the collaborative standard setting system offered by SSOs.

Collaborative standard setting frameworks enable Indian entities to leverage with their bigger international counterparts by allowing them to participate in and contribute to the standard development process, which in turn incentivises production and increased investments in R&D. All of this will ultimately help Indian entities add value to the growing manufacturing base and make them more competitive internationally.

At the heart of this collaborative system is the balance that is struck between rewarding the innovators while still disseminating technology by licensing. SSOs promote licensing at the chip level and on the basis of FRAND providing for wide dissemination of technology that has enabled the exponential growth of the telecom sector in India. But using the rubric of FRAND to impose price control on the royalties or requiring that royalties be charged on the smallest saleable component, will devalue the SEPs, leaving no incentive to invest in R&D and to innovate. This will bring to a grinding halt any movement towards value addition by Indian manufacturers.

These precise consequences are being witnessed at the Institute of Electronics and Electrical Engineers (**IEEE**) - In March, 2015, the IEEE made significant modifications to its patent policies, which, among other things, disallowed patent holders from receiving any value attributable to their standards, and required licensing to take place at the smallest saleable patent practicing unit levels. Other changes included the prohibition of reference to existing licenses in determining reasonable royalty rates, and the prevention of patent holders from seeking injunctions until after an affirmative appellate decision had been taken by courts. As a result of these regressive measures, several contributors to IEEE's standards are now dissuaded from providing positive letters of assurance, *i.e.*, undertakings through which they agree to make licenses for SEPs available at reasonable rates, and are instead submitting negative letters of assurance indicating that the contributor is unwilling to license SEPs at reasonable rates. Almost 73% of the letters of assurance submitted with regard to IEEE's 802.11 WiFi standard are negative in nature; and around 42% of the companies that considered to be leaders with letters of assurance, are unwilling to pledge their SEPs under the new patent policy. Most contributors now

submit negative letters or assurance, or have abstained from submitting any letter of assurance at all.¹ This has been attributed to the lack of clarity and consistency in IEEEs policies. In addition, there has also been a notable decline in the number of project authorisation requests submitted between 2015 and 2017.

We would also like to take this opportunity to highlight the fallacies of pushing royalty calculation based on the smallest saleable component. Today, the user experience of the different categories of mobile handsets available in India differs based on additions made by the manufacturer to the chip and so the consumer in India pays only for the technology consumed. However, charging royalties at the smallest saleable component level can lead to an increase in the cost of technology which will ultimately harm consumers, especially the poorer consumers of mobile handsets in India as the cost of innovation will get amortized over all types of handsets.

Apart from this, the licensing ecosystem would also become overly complex, as there would be a need for multi-tier licensing regime, as most innovation is not limited to the chip level but continues at the handset level as well. This will require SEP holders to negotiate licenses with multiple companies and in the process some innovation would not become commercially accessible to consumers.

Therefore, it is our submission that an overemphasis on controlling and regulating SEP licensing in the manner eluded to in the Consultation Paper, will bring down the collaborative standard setting ecosystem as it exists today and push the sector towards established entities propelling their proprietary standards in a market with no competition. The events at the IEEE demonstrate that a decline in the market supply of an input here, of patented technology inputs can be indicative of an uncompetitive market or at least evidence of significant restraint of trade². Measures like this can skew the wider telecom sector.

Q.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?

BIF Response:

It is felt that a well rounded approach is perhaps required to promote local telecom manufacturing which includes fiscal and financial incentives .

¹http://www.4ipcouncil.com/application/files/6015/0479/2147/Mallinson_IEEE_LOA_report.pdf

² The IEEE controversial policy on Standard Essential Patents – the empirical record since adoption by Ron D. Katznelson

Some of the areas where local manufacturing is lagging is in the area of local value addition and also the value of the equipment sold overseas which may be termed as ‘deemed export’. These need to be incentivized.

There is an urgent need to correct the Cost disparity of about 5% for exports for an India for the World manufacturing strategy to succeed through relevant interventions.

Outlining the reasons for the disparity below –

	Landed cost element	India vs. China / Malaysia / Thailand
a)	Bill of Material (BoM)	 India comparable <ul style="list-style-type: none"> Global pricing list Global pricing for components
b)	Inbound freight for shipping components into India factory	 3% unfavorable (Sized as 2% of Bill of Material cost) Compared to global/regional benchmarks, India is farther away from component factories and the shipping rates are more expensive due to lower volume flowing into India specific transportation lanes vs. the ones going to “mega factories” in Malaysia, Thailand, Mexico,
c)	Transformation cost / Conversion (raw material into finished goods)	 India comparable India factory lack scale compared to China factories; Advantageous labor rates in India are offset by fully burdened cost of facilities & electricity
d)	Outbound freight for shipping out finished goods	 2% unfavorable (Sized as 2% of Bill of Material cost) Due to low export volumes compared to global benchmarks, the logistics rates are slightly higher. Higher exports volume is needed to offset.

Export Incentives of 5% would help exports from India become competitive. Such as through the MEIS scheme of the government.

While Local Value Addition in handsets/Smartphones is of the order of 6%, the same in the area of Telecom Infra is of the order of a few percentage points. In a study/Report jointly conducted by BIF along with E&Y, 2016, it was established as to how to increase local VA for handsets manufactured in India under the GST Regime. (**Copy of Note attached**)

BIF & EY Joint Study Report on Refund of GST to promote handset manufacturing is a prudent way to incentivise local manufacturing than the present regime for mobile handset manufacturing which lacks fiscal incentives, but only duty of components is being increased which run the potential risk of being reversed due to international retaliation due to WTO violation and hence may not be sustainable in the long run

The objective of the Export Promotion Capital Goods (EPCG) scheme is to facilitate exports by allowing the import of capital goods for producing quality goods and services to enhance India’s export competitiveness.

Export Promotion Capital Goods (EPCG) scheme allows import of capital goods including spares for pre production, production and post production at zero duty subject to an export obligation of 6 times of duty saved on capital goods imported under EPCG scheme, to be fulfilled in 6 years reckoned from Authorization issue date.

It is a fact that the introduction of GST "Goods and Services Tax" in India created great impact on EPCG scheme. Exporters are worried, after implementation of GST, since an importer under EPCG has to pay GST and gets only import exemption on basic customs duty at the time of import where such GST is adjusted or refunded at later stage by blocking the money for good time duration.

Under post GST implementation in India, if an importer under EPCG scheme has to pay GST initially and gets refunded or adjusted later stage, and only gets exemption of basic custom duty, that would be a blockage of money for the importer. In other words, expenses for import against EPCG scheme will be expensive after introduction of GST in India.

To support make in India initiatives and increase India's exports - allow to import machinery which has high export intensity, employment potential and thereby enhancing India's export competitiveness

Investments in Capital Goods will increase production capacities which in turn will support telecom products to be used in Government of India initiative for Digital Infrastructure & rural broadband.

It is very important to restore the present form of EPCG. As it is stated that the payment of IGST will lead to accumulation of credit and working capital blockage in the form of "Loans and Advances "in the balance sheet. The liquidation will take a longer time, since the projects will take normally longer time for exports (additional outputs as per enhanced capacities) in the range of 4 to 6 years at least. This will lead to deferral of investment or Capex plans and also defeat the very purpose of Make in India and Digital India.

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

BIF Response:

Please see our response to Question 1 above. India became party to the ITA 1 (later modified in 2005), to help its nascent electronics industry grow, at a time when its economy was still liberalising. The ITA 1 required states to eliminate customs duties and other charges on the import of certain telecom equipment. In compliance with these obligations, India has been imposing 0% import duty to IT products across 217 tariff lines. The products covered by the ITA 1 include telephone sets (including cellphone headsets), apparatus for the transmission or reception of voice, images or data, wire lines, and wireless equipment. The list of equipment to which such treatment was to be given, was sought to be extended by the ITA 2 in 2015, to include consumer electronic items, base stations, and other telecom equipment that have a security impact. India is not a signatory to ITA 2, and therefore it is not obliged to offer a favourable tariff for the import of such products as are covered by the ITA 2. Therefore the impact of our international obligations will stay limited. India has since imposed a 10% import duty on soft switches, VoIP phones, media gateways, gateway controllers and session border controllers, optical transport equipment and IP radios, carrier ethernet switches, multi-protocol label switching-transport profile products and multiple input/output and long-term evolution (LTE) products.

The Optical Fibre ("OF") and Optical Fibre Cable ("OFC") under HS Code 9001 1000, manufacturing is a high technology intensive industry and domestic manufacturers have already invested heavily to have this technology domestically available and are competing with global players. The Duties are higher on the Raw Material which are required for manufacture of OF/OFC are tabled below:

Sr No	Name of Commodity	HS Code	Rate of Duty (BCD)
1	Polybutylene Terphthalate (PBT)	39079920	10%
2	Thixotropic Jelly Compound (filling/flooding).	38249090	10%
3	High Density Polyethylene (HDPE).	39012000	7.5%
4	Co-Polymer Coated MS Tape/Stainless Steel Tape	72124000	10%

This higher duties resulting in the inverted duty structure where Raw Material to manufacture OF/OFC are at higher rate resulting in increased cost of manufacture of OF/OFC which needs BCD Exemption for Raw Materials for manufacture of Optic Fibre Cable

In view of Digital India , it is evident that the Government of India intends to create extensive digital infrastructure to promote digital India initiative and it is worth-noting that Insulated

Wire, Cable (Data cables) falling under HS Code 8544 will form a core component of digital infrastructure to transmit telecommunication signals as light pulses over large distances. The activity of the Company is in support of the Government of India in relation to the creation of a 'Digital India'.

Further, the Government of India has launched project of 'smart city'. The objective of the mission is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions. One of the core elements of 'smart city' is robust IT connectivity and digitization.

Strong internet connectivity and Wi-Fi facility across the cities/ country is the essential requirement to implement the project of 'digital India' or 'smart cities'. In order to fulfill the said basic requirement, Insulated Wire, Cable (Data cables) falling under HS Code 8544 would play a vital role.

Thus, Insulated Wire, Cable (Data cables) falling under HS Code 8544 are essential for the purpose of development of the country. Further, Ministry of Defense also requires communication network which is created using OF, OFC, Insulated Wire, Cable (Data cables) falling under HS Code 8544.

High tax rate would adversely affect the Telecommunication Industry.

Current GST rate for Insulated Wire, Cable (Data cables) falling under HS Code 8544 is significantly higher than current tax rate

In the earlier excise regime, Telecom Insulated Wire, Cable (Data cables) falling under HS Code 8544 attract 12.5% Central Excise duty as well as 6% VAT and the current GST rate for Insulated Wire, Cable (Data cables) falling under HS Code 8544 is 28% which is a significant increase in the tax burden and may lead to serious repercussions on the telecom communication industry.

The classification of Insulated Wire, Cable (Data cables) falling under HS Code 8544 under highest rate of GST [i.e. 28%] shall lead to significant increase in the cost of communication which would be against the 'Digital India' initiative of the Company.

Reduction in tax rate would support the 'Digital India' 'Smart City' initiative of the Government

In view of the above, it is evident that telecom products which inter alia includes Insulated Wire, Cable (Data cables) falling under HS Code 8544 are the basic necessities and there is a clear case to reduce the GST rate of 28% currently applicable on Insulated Wire, Cable (Data cables) falling under HS Code 8544.

It must be however mentioned that risk of increased Customs Duties under ITA and its dilution due to FTA agreements to which we are a signatory are a major risk. Hence it is important to have fiscal incentives viz. Return of GST as proposed by BIF in the past through the joint study report with EY.

Q.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.?

BIF Response:

Yes, an export oriented approach will need to be adopted for the electronic equipment manufacturing sector, but not necessarily for the handset manufacturing sector. The approach should be incentivized towards meeting not only domestic demand but also to become a regional if not a global export hub . This would enable attaining the twin objectives of becoming globally competitive in both price and quality. Steps should be taken to provide suitable incentives and also provide amiable ecosystem which will attract foreign investors to set up global manufacturing hubs in India.

This would result in technology transfer, creation of local design hubs, local ecosystem of manufacturing of components, job creation, skill developments, etc and will give a huge boost to the overall economy.

As explained above, the lack of domestic demand for electronic equipment manufacturing will have to be made up by placing reliance on the export markets if local manufacturers are to grow.

The handset manufacturing sector has seen inflows of FDI of up to USD 4.2 billion in FY 14-16 as compared to the paltry FDI inflows of USD 208 million for electronic manufacturing.

There is a Unique value-addition of advanced global telecom manufacturing coming into the country. The co-location of R&D and high-tech manufacturing leads to a fly-wheel effect, resulting in faster product development and accelerated time-to-market. This builds the eco-system and achieves self-sustainable continuous growth.

An essential element of attracting foreign investment in India is ensuring predictability in the regulatory and socio-economic frameworks (such as having a predictive tax regime) and also having an enabling legal framework (such as enabling foreign investment, easy debt resolution processes, a strong IPR framework and honoring contractual obligations). The Government has already taken several steps towards ensuring ease of doing business. In tandem, the Government must also attempt to reduce transaction costs and eliminate cost-disparity for exports from India for local manufacturers to enable them to compete in the export market. A significant aspect of this is to create capacity for skilled labour.

Another important aspect of local manufacturing is to review the current state of Passive Infrastructure and what needs to be done to create a Global Manufacturing hub.

This is about how to place Indian Manufacturing on the World Map by encouraging specific industry that has reached scale in capacity & capability viz. India to become global hub for Optical Fiber.

Data intensive fiber is fundamental to all new technologies and wireless infrastructure especially with the coming of 5G, IoT, M2M and increased need for low latency and high bandwidth of data. Also India needs to connect 100% of cell sites with Optical fiber from its present level of mere 20%; Hence given the huge local market and the global need for optical fiber, the industry must be given the right platform to scale up. India can feature in the manufacturing map of the world by promoting quality manufacturing of Optical fiber. Manufacturing of fiber is a successful case study of Make in India. The optical fiber manufacturers have contributed significantly to design based manufacturing with co located R&D, 160 plus patents, significant capacity and exports to 100 plus countries. The manufacturers operate using global standards and contribute to the growth of global standards. Also efforts are made to create skilling through home grown academies. Hence, enabling policies supporting and incentivizing fiber manufacturing could bring economies of scale and huge efficiencies to kick in, thereby benefiting the nation as a whole. Given the confidence of the industry and a vibrant expansive market, It is at this juncture that a special incentive package should be given to this industry to make India as the fibre manufacturing capital of the world.

Maintiang 100% PMA in fibre manufacturing with a Value addition of 65% will carve out India's ability to cater to domestic and the world market. At this critical juncture the significant investments in manufacturing capacity and capability bear fruit in building consensus of India's strength in manufacturing.

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

BIF Response:

It is unwise to leave the telecom equipment manufacturing sector entirely dependent on government protectionism. As discussed earlier, equipment manufacturing is already faced with low demands which Government procurement will not be able to replace without creating artificial demand. This will create massive systemic challenges and the PMA will end up pandering to inefficient players. It also limits the choice of government procurers and buyers while purchasing equipment and promotes a misconception that locally manufactured equipment will be more secure against cyber security threats. Therefore, we recommend modifying the PMA policy, and supplementing it with procurement processes that recognize value addition, innovation and that provide state of the art products.

Please find below a detailed note on **Current Challenges in Growth of Telecom Equipment Manufacturing including suggested changes in the PMA Policy to help boost local manufacturing with special emphasis on exports.**

Current challenges



What's stopping exports from India (India vis-à-vis global nodes)		Characterization
1	Landed cost parity	~5% landed cost disadvantage <ul style="list-style-type: none"> • 3% in-bound freight • Conversion cost: At par, with global nodes • 2% outbound freight disadvantage
2	PMA implementation	i) Unachievable value-add thresholds for Active Telecom Products <ul style="list-style-type: none"> - Need to align value-add norms to realistic targets ii) Applies to all products/ models – no consideration for portfolio approach
3	Component ecosystem	Barring few low-end commodities (sheet metals, plastics, wires, ...) ecosystem is almost non-existent – PEMIC can be the focus
4	Ease of Doing Business	<ul style="list-style-type: none"> • Logistics / infra • Tax certainty •

Elaborating on the Challenges for growth of manufacturing and exports -

1. Landed cost-parity: There is about **5% cost differential** in manufacturing in India for Exports.

There is a cost disparity of exports of India vis-à-vis existing global nodes (e.g. Malaysia, China).

	Landed element cost	India vs. China / Malaysia / Thailand (May 2016 study)
a)	Bill of Material (BoM)	India comparable <ul style="list-style-type: none"> • Global pricing list Global pricing for components
b)	Inbound freight for shipping components into India factory	3% unfavorable (Sized as <u>2%</u> of Bill of Material cost) <p>Compared to global/regional benchmarks, India is farther away from component factories and the shipping rates are more expensive due to lower volume flowing into India specific transportation lanes vs. the ones going to “mega factories” in Malaysia, Thailand, Mexico,</p>

	Landed cost element	India vs. China / Malaysia / Thailand (May 2016 study)
c)	Transformation cost / Conversion (raw material into finished goods)	 India comparable India factory lack scale compared to China factories; Advantageous labor rates in India are offset by fully burdened cost of facilities & electricity
d)	Outbound freight for shipping out finished goods	 2% unfavorable (Sized as <u>2%</u> of Bill of Material cost) Due to low export volumes compared to global benchmarks, the logistics rates are slightly higher. Higher exports volume is needed to offset.

This cost disparity needs to be addressed for India for the World strategy to be successful.

2. PMA Implementation

i) Unachievable Value Addition Norms for active Enterprise Telecom Products:

A. Challenges

- ✓ The PMA policy, in general, prescribes the following conditions for the government departments for procurement of electronic goods:
 - Specified percentage of procurements from domestically manufactured goods
 - 25% to 50%+ of the BOM is made of domestically manufactured goods
 - Automatic increase of 5% on domestic value addition from year 2 onwards
 - Requirement of complete local manufacturing for certain products from year 3 onwards
- However, given the industry infancy, the component supply base is practically non-existent in India. Again illustrating the BOM table for a set-top box for reference -

An ILLUSTRATIVE Set To Box Bill of Material (BoM)

Commodity category	Component	Suppliers (incl. global leaders)	Present in India – Y/N	Indicative Sizing
1 Plastics & mechanicals	•Mechanical fabrication (base cover, sheet metal, ...) •Plastic fabrication •Cables / wires	•Flextronics, Supreme	•Y	15% of costed BoM
		•Rosti, G-Plast, Nypro •Amphenol, Molex, FCI, Volex	•Y •Y	
2 Electro-mechanical (elect.+ specialty)	•Caps & Resistors (thru-hole) •Heat sinks •Batteries & power supplies •Connectors •Printed Circuit Brd. (2-4 yrs) •Caps & resistors (SMT) •Inductors & magnetics	•Vishay	•Y	5% of costed BoM
		•Auto ancillary (e.g. Jindal extruders) •Laird Tech, Murata •Tyco, Molex, FCI, Amphenol •AT&S, Epitome, Ascent •Belfuse, Delta, Lineage, Panasonic •Delta, Jan Mao	•Y •Y •Y •Y •N •N	
3 Semi-conductor (aka Silicon)	•Communications module •Diodes •Linear Voltage Regulator •Logic, Memory •Chipsets; Logic devices •Timing devices •Transistor	•Broadcom, Marvell, Maxim •Diodes Inc, Fairchild, ST Micro, ... •Maxim, TI, National Semi, Linear Tec. •NXP, Hynix, Samsung, Fairchild, TI •Freescale, Fairchild, Broadcom, PMC •Maxim, Pericom, Kyocera, Analog •Fairchild, Central Semiconductor	N	80% of costed BoM

- ✓ Apart from the plastics & mechanicals and electro-mechanical components that contribute only about 15% to Bill of Materials (BoM) for some of the low value products, there is no presence of specialty electronics and semi-conductor products which contribute about 80% to BoM. The current system of computing value addition for PMA or every product may not be feasible as the prescribed levels of value addition may not be achievable given the depth and breadth of manufacturing in India.
- ✓ The current PMA qualification threshold will constrain the major electronics manufacturers from qualifying for the PMA. Existing global supply agreements with significant existing investments in supply-chain and yet to develop local electronics supply & manufacturing ecosystem, make the current PMA value addition norms un-achievable for any manufacturer seeking to make serious investment.

ii) **Lack of portfolio approach in PMA implementation**

Challenges

- ✓ The PMA policy prescribes domestic manufacturing criteria at a 'product' level. Currently manufacturing all the products in India may not be feasible or possible from a technology, infrastructure and commercial parameter for any investor or manufacturer willing to Make in India.
- ✓ Global supply chain implies that no site manufactures the entire portfolio of products and only a set of products are manufactured at each facility based on defined parameters

- ✓ Evolution of the supply-chain & manufacturing eco-system in mature countries allude to the fact that products with very high end technology, complex manufacturing processes and low volume would continue to be imported until the required supply and manufacturing ecosystem is developed and fully evolved to support local manufacture of such hi-end products and demand growth makes manufacturing viable.

Suggestions for growth of active Telecom Equipment Manufacturing

The Way Forward



- 1 Incentives: To achieve parity with global benchmarks**
Export incentives → Offsets higher cost of manufacturing in India
 - Focus Product Schemes (FPS): 5% product cost (FoB/ex-factory) on entire industry portfolio mfg'd in India
- 2 Link PMA to exports: 100% credits from India Mfg for Preferred Market Access bids**
 - For Networking portfolio: Deemed Domestic Manufactured (DDM) = 100% India Mfg Turnover; independent of product
 - Pragmatic value-add thresholds; Verify by stages of manufacturing :
 - Stage 1: FA&T
 - Stage 2: PCBA
 - Stage 3: Local sourcing)
- 3 Tax Certainty:**
 - Fast tracking/support of tax Advanced Pricing Agreements (APA) via Competent Authority
 - Exports contingent upon APA ruling inline with international norms of transfer pricing & royalty withholding

The suggestions are further elaborated below:

1. Export Incentives

There is a need to offset the cost-disparity in exports from India. This could be done through export incentives of about 5% for Electronics/ Telecom Products through government schemes such as the Merchandise Export from India Scheme (MEIS).

2. Link PMA to Exports and rationalize local value-addition norms

- ✓ Revising the PMA policy by a) incorporating the substantial transformation rules for value-addition as per global norms and b) providing deemed domestic manufacturing credits i.e. allowing \$ for \$ to qualify for PMA in lieu of exports.

a) Incorporating substantial transformation rules

Current PMA value-add norms are only based on Bill-of-Material (BOM)%.

We suggest that DoT includes another option of measuring local value-add – norms of substantial transformation.

A manufacturer could Either qualify under BOM% norms OR under norms of Substantial Transformation.

The Substantial transformation norms for the purpose of this policy are following globally accepted stages and can be physically verified on inspection:

- (i) Stage 1: Final Assembly & Test (FA&T);
- (ii) Stage 2: Printed Circuit Board Assembly (PCBA); and
- (iii) Stage 3: Local sourcing of components (based on cost, delivery, quality parity).

Achieving Stage 1 of substantial transformation would allow qualification under PMA. The OEMs would commit to develop the manufacturing process over the following three stages over the course of next few years' dependent on the evolution and maturity of the component ecosystem. Also, presence of such global manufacturers in India will create a large pull-effect towards promotion of Indian component ecosystem.

b) Providing Deemed Domestic Manufacturing Credits

An export-oriented strategy would focus on achieving large volume for certain products. The larger volumes from the factory based on exports, generate jobs & create ecosystem. However, manufacturing the entire portfolio of an OEM's products would never make economic sense based on India volumes alone.

The Government needs to incentivise such Manufacturers exporting from India.

We suggest that DoT adds to the PMA policy a framework for allowing hi-tech companies to sell under PMA based on the total portfolio volume being manufactured out of the India factory – both domestic & exports.

The Original Equipment Manufacturers (“OEMS”) should be granted a deemed domestic manufacturing credit for 100% of their manufacturing volume – independent of product, export / domestic consumption. The credit can be used for supply of imported portfolio products against PMA contracts.

Q.10 Any other relevant issues that needs to be addressed to encourage local telecom manufacturing in our country.

BIF Response:

A) DTA Sales from SEZ manufacturers:

Under the Information Technology Agreement (ITA-1) a wide range of products falling under 8517 were covered. India being a signatory to the ITA-1 also accorded this benefit to import off. However, with recent amendments, most of the goods have been made exigible to Basic Customs duty @10% ('BCD'). This has posed a unique challenge to telecom manufacturing units based in a Special Economic Zone ('SEZ'). While the import of inputs required for manufacturing such products do not attract Customs duties (since imports by an SEZ unit are exempt), the sale of such goods by an SEZ unit to a unit in the Domestic tariff area ('DTA') now attracts BCD @10%. This charge of BCD results in increase in cost to the purchaser.

Earlier, with the goods being exempt from Basic Customs duties, telecom manufacturers had a level playing field whether it was manufacturing by a unit in DTA or SEZ. It is pertinent to bear in mind that production by both, SEZ units and DTA units, should be considered as 'domestic production'. With the introduction of BCD, DTA units have an unfair advantage over SEZ units.

This issue may be addressed by maintaining nil BCD on DTA sales from SEZ units.

The following items are impacted as regards DTA Sales

85176100	Base Stations - BTS
85176290	E-Node B - 4G
85176290	Node Bs - 3G
85176290	Modules for 2G (FXEB, FXED, FXJB etc.)
85176290	MSC / MSS - Mobile Swith Cabinet
85176290	BSC / McBSC - Base Station Controller
85176290	SBCs - Session Border Controller

85176290 Others

The case in point is that there is no BCD on DTA sales of these items if manufactured by a local manufacturer where as those manufacturing out of SEZs (which is also locally manufacturing) and selling to units in DTA are subject to 10% BCD.

B) The critical issues have been laid out in this response paper. With TRAI's access to industry data and its ability to appreciate industry nuances, we are hopeful that the distinction between the handset manufacturing , active telecom equipment manufacturing and passive infrastructure , notably OFC will be recognized.

We are also hopeful that any recommendations on policy measures will be based on this distinction between the verticals and will be aimed at pushing local manufacturers to add value to the production process by enabling investments in R&D.

Today, even in the larger electronic goods manufacturing sector, the emphasis should be to make domestic manufacturing internationally competitive (in price and quality terms), even if they are today catering mainly to the domestic sector. This will mean a significant move up in the production value chain. To bring local manufacturers to a point where they can compete with international entities in export markets, to create skilled employment at home and to set the stage as an investment destination, the focus of policy initiatives will have to be on value addition. This arguably seems to be the only way in which huge import bills for the telecom sector, referred to in the Consultation Paper, can be curbed and managed.