

RESPONSE FROM TELECOM EQUIPMENT AND SERVICES EXPORT PROMOTION COUNCIL (TEPC) on TRAI's Consultation Paper 01/2018 on 'Inputs for Formulation of National Telecom Policy 2018'

Q.1 Stakeholders are requested to give their comments on structure and contents of the proposed inputs for National Telecom Policy, 2018, clearly outlining the specifics along with justification.

Below are the Comments on structure & contents of proposed inputs for National Telecom Policy:

1. Chapter II, Part D, Point B:

'Making available finance for communication infra projects at par with other infra sectors'.

Comment:

Telecom Projects must be recognized as a sector with critical 'Infrastructure' status.

A 'telecom Infrastructure fund' should be set up to ensure capex intensive wireline Networks are deployed with speed. Given that 'Optical fibre' is a lifeline for high speed broadband and new technologies like M2M, IoT and 5G will be the new segments attracting communication infrastructure investments, and all relevant stakeholders involved including manufacturers and Telecom Service Providers should be incentivised for roll out of Telecom infrastructure elements involved in High Speed communication and new technology implementations including Smart Cities and rural communication.

2. Chapter II, Part D. Point N:

'For ensuring non-discriminatory time bound RoW permissions - a nation-wide common portal for application and approval'

Comment:

Other than ROW nodal agency, mandate utility corridors in all new city and highway road projects and related infrastructure elements, to reduce time and cost involved in ROW. Classification into types of Cities with associated levies/fees for online ROW approvals for each type of city.

3. Chapter II, Part I-Point K:

'Making TEC and TSDSI responsible for development and enforcement of standards for telecom products and services'.

Comment:

TSDSI cannot be the authority responsible for the enforcement of standards. However, TSDSI can continue to work on 'International Standards' and TEC should be the Government Body responsible for notification of 'National Standards' and its enforcement. At present BIS has limited authority on these issues but they lack 'telecom' expertise.

Notification establishing 'Enforcement' functionality in addition to 'National Standards' is the requirement of the day for TEC. Establishment of TEC as a single window 'Standardisation' body responsible for establishment of 'National Standards' which will be mandatory compliance requirement before being inducted or introduced in the telecom networks by all licensed players. They should have enforcement powers covering procurement, deployment and maintenance. The enforceable regulations will support future proofed resilient network roll outs. The standards must be enforceable to cover devices also connected to public and private networks so that not only interests of the citizen are taken care but issues relating to security also get addressed. TEC as the National Telecom Standards Authority will also be required to be strengthened.

Q.2 Stakeholders may also suggest any other issue related to Policy Framework which stakeholders feel is important for growth of telecom sector, along with justification.

Below are the Issues and Recommendations related to policy framework for the growth of telecom sector:

1. Implementation is key:

The NTP must focus on time bound implementation of the Policy given the risks if the telecom ecosystem does not function well.

2. Union Budget:

Creation of a National Broadband infrastructure fund be included in the Union budget similar to that of roads, power, railways etc.

3. Ease of doing business for Govt deployments:

There is a need to simplify approvals and permissions in govt. deployments by reducing number of approvals and permissions in relation ROW, execution, documentation and cash flow.

- a. A single window clearance for permissions
- b. Deemed approval on all relevant Govt. land
- c. ROW nodal agency that manages all permissions will reduce time, effort and cost.
- d. Govt. focus on transforming accounting practices and bringing cross ministerial synergies who are like department to the same Govt.
- e. Stringent vendor selection criteria with Focus on operating standards and strong SLAs
- f. Efficient utilisation of technology and surveillance for approvals
- g. Strong audit and penalties to ensure quality is adhered to
- h. A framework to synergise execution, documentation and payments to ensure optimisation of time, effectiveness and resource.

Justification: Increasing operational ease in execution, documentation and payment process will create faster roll outs and reduce the entry barriers in Govt. deployment leading to a sustainable ecosystem. The added advantage of leveraging digitization, expanding penetration of valued employment and skilling will bring impetus to the Country's other strategic programs. India's experience and talent base, program managing skills and project efficiency can become a benchmark to new world projects.

4. Security:

Given that the telecommunication infrastructure is a national asset.

- a. Tampering with the Broadband network elements must be considered as an offense and adequate legal action must be available to ensure fibre cuts or damage to other infrastructure elements including towers, is avoided.
- b. A 'call before you dig' number should be mandated and all utilities must have GIS maps so that damage due to ROW digging can be avoided.

5. Strengthen the wireline Network:

Periodic update of National Telecom Standards covering Telecom products is needed at least at quarterly intervals so that National Standards keep pace with technology updates. Approval processes can also be simplified and qualitative timely infrastructure deployment can be ensured.

6. Incentivise Domestic Manufacturing:

India has the opportunity and the capability of becoming a Fiber and Telecom Equipment manufacturing Capital to the world. Brand India can reach every country with the quality manufacturing of Optical Fiber and other wireless systems - critical element of future networks. Currently India caters to requirements of 100 Plus countries for optical fiber,

SDH, other transmission and wireless systems. Government could create a **Telecom Market Development Fund** to include

- a) Product development
- b) Market development (The market development fund could be used towards setting up a supply chain ecosystem including warehousing and logistics networks to counter local incumbents in overseas markets.
- c) Patents

Justification: Indian telecom industry faces challenges from local incumbents in other countries (due to lower lead times and logistics costs) and from China (due to very favourable export incentives policies).

7. Creation of **Fibre Task Force (FTF)**

Given the importance of Fiber demand, high speed broadband networks and roll out of 4G and 5G network roll out, Fibre Action Task Force (FATF), with cross ministry and industry involvement (HFCL, Sterlite tech, Birla Cable, Paramount Cable etc), must be supported. It will ensure national industry initiatives on quality, R&D and innovation of Indian industry lead to a Fiber Global hub getting established in India. Indian industry can ensure efficient, cost effective solution through combined management strength of fibre industry and thereby meeting requirements of domestic and export markets. This will speed up fibre roll out and also ensure India is propelled to become the fibre hub of the world.

8. Creation of **Telecom Manufacturing Task Force (TMTF)**

Initiative on lines similar to Fiber Task Force can be repeated through setting up a Telecom Manufacturing Task Force. India missed the bus on 2G, 3G and 4G. At least for 5G, M2M and IOT initiatives, industry can take the lead with TSDSI being a Indian standardization body and TEC likely to function as National Standards and Enforcement Authority and combined strength of Indian Telecom manufacturers along with C-DoT's R&D initiatives.

9. TEPC's White Paper on National Telecom Policy

TEPC's White Paper on National Telecom Policy is attached at Annex A below. It will be seen that many Policy implementation expectations that were part of NTP1994, NTP1999, NTP2012 are yet to be implemented.

ANNEX A

TEPC WHITE PAPER ON NATIONAL TELECOM POLICY

Preamble:

TEPC would like to start with **EXTRACTs from Telecom Policy, 1994 and then NTP 1999 & NTP 2012 that are still relevant even in 2017 for ‘DOMESTIC MANUFACTURING’ with very limited progress and desired targets failing miserably.**

NTP 1994

The National Telecom Policy which defined certain important objectives, including ensuring India's emergence as major manufacturing / export base of telecom equipment.

NTP 1999

“Strengthen research and development efforts in the country and provide an impetus to build world-class manufacturing capabilities.

Standardisation

To enable the establishment of an integrated telecommunication network, common standards with regard to equipment and services would be specified by the Telecom Engineering Centre (TEC).

Telecom equipment manufacture

With a view to promoting indigenous telecom equipment manufacture for both domestic use and export, the Government would provide the necessary support and encouragement to the sector, including suitable incentives to the service providers utilising indigenous equipment.

Telecom research and development

Recognising that telecommunications is a prime pre-requisite for the development of other technologies, telecommunications research and development (R&D) activities would be encouraged. Government would take steps to ensure that the industry invests adequately in R&D for service provision as well as manufacturing. Indigenous R&D would be actively encouraged with a view to accelerate local industrial growth and hasten transfer of technology. Premier technical institutions would be encouraged to undertake R&D activities on a contribution basis by the telecom service providers and manufacturers so as to develop multi-dimensional R&D activities in telecommunications and information technology.

Export of Telecom equipment and services

Export of telecom equipment and services would be actively incentivised. Synergies among the various telecom players (manufacturers and service providers) would be exploited and used to provide integrated solutions for exports.

Changes in Legislation: The Indian telecom system continues to be governed by the provisions of Indian Telegraph Act 1885 (ITA1885) and Indian Wireless Act, 1933. Substantial changes have taken place in the Telecom Sector since 1992. ITA (1885) needs to be replaced with a more forward looking legislation.

Through an addendum in 2003 the concepts of Unified Licenses and Unified Access (Basic and Cellular) licenses were introduced."

NTP 2012

II MISSION

Mission:

(4) To make India a global hub for telecom equipment manufacturing and a centre for CONVERGED COMMUNICATION SERVICES.

(5) To promote Research and Development, Design in cutting edge ICTE technologies, products and services for meeting the infrastructure needs of domestic and global markets with focus on security and green technologies.

(6) To promote developments of new standards to meet national requirements, generation of IPRs and participation in international standardization bodies to contribute in formation of global standards, thereby making India a leading nation in the area of telecom standardization.

III OBJECTIVES

- 6. Promote innovation, indigenous R&D and manufacturing to serve domestic and global markets, by increasing skills and competencies.**
- 7. Create a corpus to promote indigenous R&D, IPR creation, entrepreneurship, manufacturing, commercialisation and deployment of state-of-the-art telecom products and services during the 12th five year plan period.**
- 8. Promote the ecosystem for design, Research and Development, IPR creation, testing, standardization and manufacturing i.e. complete value chain for domestic production of telecommunication equipment to meet Indian telecom sector demand to the extent of 60% and 80% with a minimum value addition of 45% and 65% by the year 2017 and 2020 respectively.**

9. *Provide preference to domestically manufactured telecommunication products, in procurement of those telecommunication products which have security implications for the country and in Government procurement for its own use, consistent with our World Trade Organization (WTO) commitments.*
10. *Develop and establish standards to meet national requirements, generate IPRs, and participate in international standardization bodies to contribute in formulation of global standards, thereby making India a leading nation in the area of international telecom standardization. This will be supported by establishing appropriate linkages with industry, R&D institutions, academia, telecom service providers and users.*
11. *Simplify the licensing framework to further extend converged high quality services across the nation including rural and remote areas. This will not cover content regulation.*
12. *Strive to create One Nation - One License across services and service areas.*

- 15 *Encourage development of mobile phones based on open platform standards.*
- 32 *Evolve a policy framework for financing the sector consistent with long term sustainability.*
- 33 *Put in place appropriate fiscal and financial incentives required for indigenous manufacturers of telecom products and R&D institutions.*
- 35 *Strengthen the institutional, legal, and regulatory framework and re-engineer processes to bring in more efficiency, timely decision making and transparency.*

IV STRATEGIES

2 R&D, MANUFACTURING AND STANDARDIZATION OF TELECOMMUNICATION EQUIPMENT

- 2.1 *To promote R&D, design, development and manufacturing in the domestic telecom equipment manufacturing.*
- 2.2 *To create a road-map to align technology, demand, standards and regulations for enhancing competitiveness of domestic manufacturing.*
- 2.3 *To set up a Council consisting of experts from Telecom Service Providers, Telecom Manufacturing Industry, Government, Academia and R&D institutions. The Council would:*
 - 2.3.1 *Carry out technology and product development forecast.*
 - 2.3.2 *Evolve, and periodically update the national program for technology/product development.*
 - 2.3.3 *Be a nodal group to monitor and ensure the implementation of various recommendations made for promoting indigenous R&D, IPR creation, and manufacturing and deployment of products and services.*
- 2.4 *To promote synergy amongst manufacturers, R&D centres, academia, service providers and other stakeholders for achieving collaboration and reorientation of their efforts for development and deployment of new products and services suited to Indian environment and meeting security needs of the country.*
- 2.5 *To assist entrepreneurs to develop and commercialize Indian products by making available requisite funding (pre-venture and venture capital), management and mentoring support.*

2.6 To **create fund** to promote indigenous R&D, Intellectual Property creation, entrepreneurship, manufacturing, commercialising and deployment of state-of-the-art telecom products and services.

2.7 To promote **setting up of Telecommunications Standard Development Organisation (TSDO)** as an autonomous body with effective participation of the government, industry, R&D centres, service providers, and academia to drive consensus regarding standards to meet national requirements including security needs. It will facilitate access for all the stakeholders in the International Standards Development Organisations and act as an advisory body for preparation of national contributions for incorporation of Indian requirement/IPRs/standards in the international standards.

2.8 To **notify specific guidelines for according preference to domestically manufactured telecommunication equipment and products** either for reasons of security or for Government procurement in accordance with relevant government decisions and policies in this regard.

2.9 To incentivise telecom service providers to use indigenous products by encouraging:

2.9.1 Commitment to purchase Indigenous products that are comparable in price and performance to imported products.

2.9.2 Commitment to participate in trials of newly created Indigenous products, nurture them and place pilot orders.

2.9.3 Funding R&D and support Indian IPR creation and participate in creation of standards.

2.10 To **support Electronic Design and Manufacturing Clusters** for design, development and manufacture of telecommunication equipment.

2.11 To facilitate provision of appropriate fiscal incentives through a **Modified Special Incentive Package Scheme (M-SIPS)** in manufacturing of telecom equipment.

2.12 To **mandate testing and certification** of all telecom products for conformance, performance, interoperability, health, safety, security, EMF/EMI/EMC, etc. to ensure safe-to-connect and seamless functioning in the existing and future networks.

2.13 To **create suitable testing infrastructure** for carrying out conformance testing, certification and to aid in development of new products and services. These state-of-the-art labs/infrastructure would be suitably positioned to make them available to engineering/academic institutions to assist the scholars in telecom product development.

2.14 To appropriately **incentivize export of telecom equipment and services**. Synergies among the various telecom players (manufacturers and service providers) would be leveraged to provide integrated communication solutions for exports.

2.15 To facilitate **putting in place a stable tax regime** for telecom equipment manufacturing.

2.16 To provide appropriate incentives to the Indian product manufacturers for domestic deployment and exports.

3 LICENSING, CONVERGENCE AND VALUE ADDED SERVICES

3.1 To orient, review and harmonise the legal, regulatory and licensing framework in a time bound manner to **enable seamless delivery of converged services** in a technology and service neutral environment. Convergence would cover:

3.1.1 Convergence of services i.e. convergence of voice, data, video, Internet telephony

- (VoIP), value added services and broadcasting services.
- 3.1.2 Convergence of networks i.e. convergence of access network, carriage network (NLD/ ILD) and broadcast network.
 - 3.1.3 Convergence of devices i.e. telephone, Personal Computer, Television, Radio, set top boxes and other connected devices.

- 3.2 To facilitate convergence of local cable TV networks post digitalisation.
- 3.3 To move towards Unified Licence regime in order to exploit the attendant benefits of convergence, spectrum liberalisation and facilitate delinking of the licensing of Networks from the delivery of Services to the end users in order to enable operators to optimally and efficiently utilise their networks and spectrum by sharing active and passive infrastructure. This will enhance the quality of service, optimize investments and help address the issue of the digital divide. This new licensing regime will address the requirements of level playing field, rollout obligations, policy on merger & acquisition, non-discriminatory interconnection including interconnection at IP level etc. while ensuring adequate competition.
- 3.4 To delink spectrum in respect of all future licences. Spectrum shall be made available at a price determined through market related processes.
- 3.5 New Unified licensing regime will provide flexibility to operators to operate any or all segment of services of the total basket of services provided in the scope of licence.**
- The entry fee regime will also be made flexible accordingly.
- 3.9 To frame appropriate Policies for new licensing framework, migration of existing licensees to new framework, exit policy, measures for ensuring adequate competition etc. in consultation with TRAI.

5. TELECOM INFRASTRUCTURE

- 5.2 To work towards recognition of telecom as Infrastructure Sector for both wireline and wireless and extension of the benefits available to infrastructure sectors to telecom sector also, to realize true potential of ICT for development.

12. FINANCING OF TELECOM SECTOR

- 12.1 To create a Telecom Finance Corporation as a vehicle to mobilize and channelize financing for telecom projects in order to facilitate investment in the telecom sector.
- 12.2 To endeavor to include telecom sector projects within the ambit of financing from existing entities.
- 12.3 To rationalise taxes, duties and levies affecting the sector and work towards providing a stable fiscal regime to stimulate investments and making services more affordable.

13. ROLE OF REGULATOR, CHANGES IN LEGISLATION

13.1 To review the TRAI Act with a view to addressing regulatory inadequacies/ impediments in effective discharge of its functions.

13.2 To undertake a comprehensive review of Indian Telegraph Act and its rules and other allied legislations with a view to making them consistent with and in furtherance of the above policy objectives.

Further Details

Introduction

It is quite clear that all the policy initiatives enumerated above were exhaustive and comprehensive and also reflected the commitment of Govt. to support domestic manufacturing. If those relating to encouraging domestic manufacturing and R&D had been effectively implemented there would be significant indigenous manufacturers, like those in China, who could compete with the best in the world. The Indian Telecom service sector has grown exponentially and is one of the largest in the world but the telecom equipment manufacturing sector is lagging far behind which has led to huge dependence on imports. This import dependency for telecom equipment should be a cause for concern for the country. There should be detailed analysis as to why this did not happen and how we can make it happen .It may be recalled that before the mobile telephony revolution, India was largely self-sufficient in indigenously manufactured telecom equipment.

Perhaps one of the main reason for the policy initiatives not being effectively implemented was the tendency of the sector to work in silos .The domestic telecom manufacturing sector feel that the zero duty regime brought in by ITA-1 opened the floodgates for imports. Convergence of Telecom, IT and Broadcasting is a reality which is rapidly happening and the earlier we recognize this and move to a converged regulatory and legislative framework, more effective will policy implementation be. It will be all the more necessary the "smarter" the sector becomes. This will be the age of smart devices capable of being linked to the internet, whether it be smart phones, smart TVs other consumer electronic devices including white goods capable of "talking to each other". The legislative and regulatory framework will have to facilitate such convergence of technologies. Since more and more telecom equipment will have more and more embedded software, equipment manufacturers should not face hurdles with different agencies not working together holistically .Already there are issues relating to overlapping tariff lines .Keeping these rapidly emerging technological developments, NTP 1999 as well as NTP 2012 had recognized the need for a converged legislative and regulatory framework which facilitates the holistic growth of the Sector where Telecom Equipment manufacturers could also find their rightful place and dependence on imports would be minimized.

It may be recalled that a High-level Committee had been formed under the famous jurist, Fali Nariman, to draft a Bill on Communication Convergence in 2000 which was introduced in Parliament in 2001 and then referred to the Standing Committee of DOT. Before a view could be taken on the changes suggested by the Committee, Lok Sabha got dissolved and the Bill lapsed, though the concepts of Universal Licenses and Universal Access Licenses were included as an addendum in 2003 to NTP 1999.

While government shares the concerns of the domestic manufacturing industry and from time to time policy initiatives also have been taken by the Government, but the fact is that the targets of propelling domestic design based telecom manufacturing Industry have not been achieved. We are also nowhere near achieving the target of achieving Net Zero Imports by 2020.

It is an established fact that signing of ITA has compromised the competitiveness of domestic telecom manufacturing severely. The domestic manufacturing base has been eroded because of zero custom duty on It and telecom products under ITA.

One of the possible ways to address these anomalies faced by the domestic industry, could be to define critical infrastructure segments under telecom sector as a strategic / core segment because of security consideration and to take some drastic policy steps to support it which can be defended under WTO.

It is suggested to categorize domestic manufacturing under these segments differently based on real value addition with IPR creation performed locally. Suitable incentives should be granted so as to build the domestic eco system and restrict the import of the products.

Possible categories could be: Import of product / Trading, Assembly, and Manufacturing.

Once defines as requirement under Strategic segment to impose different Basic Customs Duty (BCD) on import of inputs for each of these segments say 35% for import of products / Trading (including that of foreign technology/ system software through Indian entity in garb of domestic IPR), 25% for Assembling and no duty in case the product is manufactured locally with value addition above a threshold.

• Import / Trading		35 %
• Assembling	SKD	25 %
• Manufacturing	Value add as per PMA	0 %

Incentivize design based manufacturing in India to increase value creation in manufacturing. Incentivize development of manufacturing technology by domestic companies that is specific to Indian conditions

Remove infrastructure bottlenecks to attract large investment into setting up of global manufacturing hubs

Incentivize contribution to standards by strengthening standards from India. Employ India-specific standards to address India specific-problems by encouraging domestic industry to contribute patented solutions to the standards.

Heavily incentivize export-oriented domestic manufacturing for filing foreign patents with their India patents in large quantities to mitigate IP risks in the foreign markets to promote export of technology products from India.

SECTION 1

Poor performance of local telecom manufacturing industry in spite of initiatives by the government.

As per Preferential Market Access (PMA) notification, implementation of the PMA policy is a must in all government procurements. However, in spite of a clear mandate from the Government, most state, central government and public sector units fail to enforce the PMA policy in large procurement tenders due to one reason or another. Moreover, most of the telecom equipment procurement in the country is done by private companies (operators) which are currently excluded from PMA.

PMA was a non starter primarily because of the extremely restricted area of its applicability. Ultimately it got restricted to some of the PSUs such as GAIL and PGCIL where the procurement was limited and the product portfolio needed too was extremely limited.

In the some cases, it became applicable only at the intervention of the Courts. However, most Indian companies were kept out of the opportunity because of stringent eligibility clauses including installed base to the extent that companies that had been shortlisted by MoD for similar solutions could not bid for the same.

PMA policy was ineffective and buyers circumvented the policy by either stipulating technical conditions or eligibility conditions that will eliminate the domestic players.

Buyer organizations circumvent PMA by making such products part of a large tender where ultimate purchase decision rests with the “System Integrator”.

Most tenders have conditions that would eliminate the domestic players at the preliminary stages itself. Some of the typical examples are

- RFP / RFQ for projects will have clauses like Original Equipment Manufacturers (OEM) should be in Gartner's Golden Magic Quadrant. Gartner is a private US consulting firm.
- Functional requirements specific for an MNC product. Frivolous conditions like number of LEDs or colour of certain keys on the fascia are the tender conditions. Or size of the video screen of a video phone or pixels that only one MNC player complies.

- Pre-qualification restrictive conditions in government tenders restrict domestic manufacturers' participation. This has served as a huge deterrent since the local telecom manufacturing industry is still in its infancy.
- Bidder to have Pan India presence & presence in at least 4 overseas locations.
- Qualification criterion of supplying new technology products in large quantities while same is being introduced in India.
- Membership of organizations like ECMA (European Computer Manufacturing Association) instead of membership of TEMA (Telecom Equipment Manufacturing Association of India).
- Technical specifications or conformity of European or American certifications.
- Make the PMA products part of a very large turnkey project that can be taken up by a large system integrator. Annual turnover & eligibility criterion of such SIs would eliminate domestic ICT manufacturers.

PMA policy was flawed to the extent that preference was for technically compliant L1 product. This made elimination of domestic designs easy by adding frivolous features in the tender as domestic designs companies cannot keep pace with global players in advancement of features. This was another reason that Indian manufacturers resorted to SKD assembly as change of technology & up gradation of features was left to the principal Original Design Manufacturers.

In the tenders, if the "L1" price in a government tender is quoted by a foreign bidder, PMA gives an option to domestic tenderers to match the L1 bid. However, as per clause 5.3, the invitation to match the L1 bid is only be extended to a domestic manufacturer(s) if their original bid is within 20% of the L1 bid. This is inadequate considering that Indian telecom manufacturers face up to 29% fiscal disability in high-value addition product categories. This is a needless restriction which prevents the PMA policy from achieving its true intent of promoting the domestic industry mainly because India still lacks a well developed electronics components ecosystem hence our local companies are not in a position to avail large volume-based discounts from their foreign suppliers at the bidding stage unlike their global peers. Generally prices of components which are almost 50% of the Bill of Quantities (BOQ) are controlled by foreign companies who readily gives aggressive price once they get assurance of an order. Unless domestic companies reach high levels of scale, coming within 20% of foreign companies is very difficult on bid opening.

Hence the PMA policy needs to be revisited and a few suggestions that need to be incorporated are:

- All telecom projects funded fully or partially by the government, whether at the central, state or municipal levels, should only use Indian products subject to availability. PMA should cover the following:
 - Government companies as defined in companies act i.e., any company in which not less than fifty one percent of the paid-up share capital is held by the Central Government, or by any State Government or Governments, or by the Central Government and partly by one or more State Governments, and includes a company which is a subsidiary company of such a Government company,
 - PSUs such as BSNL, NICSI, Railtel, PGCIL, TCIL
 - Trusts, Societies and Autonomous bodies
 - Educational institutes & Universities under administrative control of the Central Government.
 - Defence, Paramilitary and Police Forces, PSU Banks, Critical Infrastructure such as electricity/railways/transport, gas, water that have security-sensitive installations and requirements
- PMA should be applicable for all government funded projects such as NFS, Smart Cities, Surveillance projects, projects funded by USOF like NOFN, BharatNet, unconnected villages including LWE areas, North East, J&K, Border states, State Networks such as SWAN etc. Projects of national importance such as NFS (network for spectrum) that are using foreign products but are not showing satisfactory progress should be immediately retendered and restricted to domestic suppliers.
- If any Indian product is available that meets the technical & quality standards it should be promoted for PMA based procurement even if there only one Indian supplier.
- PMA should be extended to any private telecom operator that is licensed by Government of India through a change in license conditions. In addition, in order to encourage greater participation from the private sector:
 - Private operators who spend 50% or more of their telecom equipment capex on domestic products can be incentivized by providing up to 20% rebate on their annual license fee.
 - Private operators who procure less than 50% of their telecom equipment capex from domestic product companies (where such a product is available) may compensate by paying an additional 10% as telecom R&D cess to Government of India, which can then be used to stimulate the domestic telecom product ecosystem in the country.
- The L1 bid matching clause in the current PMA policy should be increased to 50% since it has been established that Indian companies face a fiscal disability of up to 29% in high-value telecom networking equipment and Buy America Policy provides a price preference of upto 50% of the L1 price in all the Government procurements in US.
- There should be no proven-ness condition in GoI tenders for new products designed and manufactured by Indian product companies as long as they meet technical and quality criteria. Up to 50% of all tender supplies should be reserved for such “innovative” products developed by Indian product companies through domestic value addition.

- Indian Designed and manufactured products (where the IP is with an Indian Company) with 50% Indigenous content needs to be given preference by all Service Providers and not just Government Departments. A suitable financial incentive should be given to these companies that kicks in with different percentages for different level of buying. Incidentally, if one looks at any of the major companies, one of the major reasons for their success is that they have a guaranteed home market that gives them the luxury and bandwidth even in exports.
- The government needs to provide grant in aid to Indian telecom product companies to help them fund their R&D activities along with Post- Performance incentives that are based on the actual sales realized by them. This would really help smaller as well as larger players spend on Design and Development. Companies that deliver on their commitments need to be rewarded but the government must be ready to write off 10-15% of the aid as all projects cannot be successful.
- The IP generated can be co-owned by the government with a provision for the producing company (since the Design company and the Production entity could be two separate entities) to buy out the IP / technology at a mutually agreed price.
- To assess the projects a team of experts from Industry, Academia and Users needs to be constituted
- Ideally all Service Providers should be part of the co-development strategy to ensure a market for the solutions- once developed.

SECTION 2

Policy measures required to boost Innovation and productivity of local Telecom manufacturing in our country in Short, Medium and Long Term

Focus should be on “Industry led” research programs funded by Government as grants or soft loans. Academia should be actively involved but the R&D efforts should be driven by industry with focus on commercialization within defined timeline.

Clearly Innovation has to be encouraged at all possible places. To do this the following suggestions could be looked at:

- All kinds of Academic institutions – and not just the elite institutions such as IIT should be eligible for development grants
- All Private and Government companies that have an established Development Center need be eligible for funding.
- Testing is a key impediment as Test facilities are limited and costly. Government needs to incentivise the Industry to open up their facilities so that access to developers is at a minimal cost. However, the Industry will only do this if it's commercially viable to do so hence the incentives need to be commensurate.
- A new structure and fund needs to be created where local challenges are looked at and companies as well as Individuals and academia are encouraged to participate and the government does more of a Project Management job and ensures that the projects are successfully taken to a conclusion. It should not become another place where Innovations are stifled since they have to go through a government R&D set up.

Short Term

Focus on development of products that can be commercialized easily (low hanging fruits) with existing skillset in the country and meets our short term network deployment needs. Fund them and support them liberally to ensure success.

Presently Government's approach in funding R&D projects is to give large number of grants to various academic institutions with the objective of capacity building. Each of these are sub-optimally funded hence final sellable product is not created. Shift the strategy to fund small number of projects that lead to development of a commercially sellable products.

Fund them adequately with Industry as the prime driver of the project. Sub-optimal funding should not be done as that only leads to wastage of our limited resources unless the end deliverable is capacity building only.

Fundamental research, Product development & Innovation are extremely risky businesses that needs support and grooming till they reach a minimum threshold. If we have to motivate industry to "design and manufacture" products in India, then identify a few genuine Indian companies who should then be supported with a strong consistent policy that will create a market pull for their product. Creation of some success stories will motivate others to follow. Pursue the low hanging fruits and easily do-able products rather than pursue blue sky competitive design efforts under this category.

Government has to take cognizance of the ground reality that in this fast changing technology era young products cannot keep pace with global players unless they reach a critical mass and they will not be able to offer technically best products at L1 prices. Shift in mindset to purchase technically compliant products at L1 prices because this is a mirage and unrealistic expectation set under the influence of larger lobbies who don't want the roadmap to succeed.

Domestic designs will need domestic grooming and Government cannot expect new domestic designs to get market experience by exporting to other countries. Expecting Indian manufacturers to set up shop for export is a myth - an objective that sounds good in a debate but difficult in reality.

Large part of the Government R&D grants should go to Industry driven projects where academia should provide academic inputs rather than present scheme of giving grants to academia whose priority is writing patents & papers rather than commercially successful product creation.

The existing R&D and IPR related policies such as MSIPS, SIP-EIT, MEIS should be made more effective and modified as follows:

R&D Incentive: Since R&D is a critical input for the telecom industry and to promote design-led manufacturing, Government of India should introduce a new policy that incentivizes telecom product companies with matching grants for their R&D activities. All DSIR-certified domestic telecom product companies should be reimbursed 25% of their total R&D expenditure in a year which includes manpower costs. The policy can set a reimbursement

limit of Rs 100 crores per company per year so that more Indian telecom product companies are benefited and a whole ecosystem can be created.

MSIPS:

- a) M-SIPS scheme has attracted large number of proposals, which includes big ticket projects from large global organizations. It is understood that government has limited funds under the scheme.

For its wider benefits , it is proposed that the scheme shall be extended further at least five more years and to ensure that the limited funds extends its benefits to maximum number of small and medium domestic industries, cap of funding may be restricted to say Rs 200 Crores to one company / one brand.

- b) Since R&D is a critical input for the ESDM industry, no limits should be set on the total allowable R&D expenditure under M-SIPS scheme. Currently the limit is 50%. Similarly, the staffing costs (salaries and benefits paid to employees) for an M-SIPS applicant should not be capped at 15%. This limit should be raised to at least 75% as most of the cost in developing a new technology and product goes is salaries of technical team.

SIP-EIT:

SIP-EIT scheme extends financial support to MSMEs and Technology Startup units for international patent filing and encourages domestic innovation in this sector. The current scheme limits incentives to 5 patent applications per year per applicant. SIP-EIT scheme should be re-designed such that incentives are given on a progressive scale with companies that are filing more number of international patents given higher incentives.

MEIS:

India can become the Fiber capital of the world: Currently the capability and capacity of the optical fiber manufacturing industry caters to 30% of global market including India. Indian fiber industry has the real opportunity to place India on the map of high quality successful manufacturing. Export Market specific incentive will ensure Indian fiber reaches critical mass in the world and establishes Indian brand on manufacturing capability. On that count 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 thereby 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.

Export incentives for high value-added telecom equipment products under HS codes 8517 (85176100, 85176260, 85176270, 85176290, 85176930, 85176950, 85176990, 85177010 and 85177090) also should be enhanced to 10 % from the current reward rate of 2%.

Production Incentive: All telecom product companies should be extended a post-performance incentive of up to 10% of their domestic sales as GST credits. A similar policy has been employed successfully by China which has provided a subsidy of 17% to their domestic companies and enabled them to achieve large economies of scale.

Medium term

Focus should be on Technology development projects which are Industry lead along with collaboration of academia. Industry should have financial stake and would be in a position to control & steer the project. They should be held accountable for commercial success with adequate rewards.

Growth, recognition and promotion of academia should be either on filing “essential patents” or on “successful product creation” rather than on publishing papers and filing IRP / patents.

Government should consult genuine Indian design and manufacturing companies rather than consult foreign consultants and trade associations.

Justification:

TCOE was clear case of hijacking India's R&D efforts in Telecom, where large lobbies influenced the Government in eloquent debates that collaborative approach with Telecom companies was ideal method of carrying out R&D. It was systemic hijacking of Government agenda, for 10 long years, is evident from the fact that not one product developed in TCOEs was tested or commercialized by any Telecom operator. Telecom operators and large Industry associations are controlled by global giants and as long as Government takes inputs

from them or the foreign MNC consultants, our main agenda is bound to get hijacked. Our present state of dependence on imports to the extent of 90% of our needs cries it out loudly.

It is a fact that leading multi-sector industry associations never supported PMA in telecom sector and never gave their recommendations to the Government favoring the PMA policy. Associations of licensed Service Providers always opposed PMA policies in the open house sessions and collectively ensured that the policy is rendered toothless as all of them were taking advantage of 0% BCD Imports. In the present consultative process of the Government, minority voices gets lost and unfortunately in India, domestic design & manufacturing companies are in minority with very limited lobbying power while competing with MNC controlled trade associations. Government should identify genuine Indian domestic design companies with proven commitment to design efforts and actively seek inputs from them to frame policies.

Telecom R&D Fund:

Government of India should set aggressive IPR goals in new areas like 5G, IoT and next-generation Optical. In order to have more Standard Essential Patents (SEPs) from India, a portion of the Rs 10,000 crores Electronic Development Fund (EDF) should be carved out as the Telecom Innovation Fund (TIF) and deployed to fund IPR creation and standardization activities in emerging areas.

Country Champions:

Government of India should create “COUNTRY CHAMPIONS” in the telecom sector by identifying companies that have the potential to reach global size/ scale and help nurture the domestic telecom product eco-system. Due to the capex intensive nature of the ESDM sector and the need for economies of scale, there are typically only one or two global sized companies in every country such as Huawei/ ZTE in China, Cisco/ Ciena in USA, Nokia/ Ericsson in Europe, Samsung/ LG in Korea. Hence India too should aspire to create such country champions in the telecom sector. Country champions can be in private sector or in government and should be selected through a transparent process.

Country champions should be supported in multiple ways-

- a. Matching grants/soft loans for R&D and new product development
- b. Commercialization support in the form of assured business in all government telecom projects

- c. In government tenders, even if there is only one “Indian Product”, the same should be procured, rather than being imported.
- d. Country Champions should be given an opportunity to supply at “fair” prices, based on already discovered global prices (or imports) and/or based on their cost structure.
- e. Active export promotion through G2G lines of credit in bilateral trade so that global volumes can be generated

Long term

We need to decide on certain futuristic technologies where India can gain strategic advantage and set them up as a mission mode project with active industry participation. In such a project sufficient funding would have to be budgeted at global scale. Industry partner should have sizable stake and must be held responsible for commercial success. There should be an organization called “Country CTO office” or TEC should step up to document the new technologies and specifications of these new technologies looking into Indian needs based on which domestic companies could develop products in a given time line to capture domestic market requirements. An excellent example is decision to implement GPON in Bharatnet and today we have decent number of Domestic companies who are manufacturing in India, IPR is Indian, they are supplying to this project and are exporting GPON products.

The Specifications and Technology architecture for any large requirements of Government should come from this organization instead of leaving it to individual buyers (who come out with specifications which are vendor led or consultants driven which is detrimental to domestic industry) and any investment either by state or by center or by any PSU should conform to such country specification or architecture. This investment should ultimately become a National Asset.

SECTION 3

Patent laws and local manufacturers

The existing patent laws in India are not sufficient. There is a need to amend the existing Patent Act to include Standard Essential Patents (SEPs) and bind all SEP holders and implementers to the office of Controller General of Patents. Considering their essentiality, SEPs cannot be treated at par with traditional patents and Govt should facilitate licensing of SEPs on FRAND (Fair Reasonable and Non Discriminatory) terms to all technology implementers in India. It is also critical to include SEPs within the Competition Act to enforce non-discriminatory behavior by all interested parties in the larger public interest.

It is suggested that there should be an independent entity under Department of Telecom, Govt. of India to look into all the issues including essentiality, royalty etc related with SEPs of existing and all evolving technologies.

Considering their essentiality in the standards making process, SEPs should not be treated at par with regular patents. Detailed information on the working of an SEP within the territory of India such as its cost, production, licensing, and implementation and royalty aspects should be transparently shared with the Controller General of Patents right at the filing stage. Currently, the Indian Patent Act mandates all patent holders to submit relevant information on the working of their patents in the territory of India by submitting a special Form 27 every year once the said patents are granted. A modified and longer version of Form 27 (Form 27S) may be designed for SEP holders that should apply right at the filing stage.

Today patenting is an extremely cumbersome and costly affair that deters even major companies from investing their time and money for going through the process. So ideally the entire cost of Patenting needs to be subsidized so that it becomes affordable for everyone to file patents. This needs to include the costs of Patent lawyers (ideally there should be a government funded pool of lawyers who scrutinize all the applications). In addition having patents in a particular area should be recognized as a major differentiator.

SECTION 4

Standardisation, Certification and Testing of Telecom Equipments

Department of Telecom, vide its notification under PART XI TESTING AND CERTIFICATION OF TELEGRAPH vide definitions (No. 528) – it notifies that “Any telegraph which is used or capable of being used with any telegraph established, maintained or worked under the licence granted by the Central Government in accordance with the provisions of section 4 of the Indian Telegraph Act, 1885 (hereinafter referred to as the said Act), shall have to undergo prior mandatory testing and certification in respect of parameters as determined by the telegraph authority from time to time”

TEC or any other Government accredited lab shall be allowed for the above certifications. Strict enforcement of the in timely manner is most critical.

Government must invest in creating such National Testing infrastructure in PPP model.

On Telecom testing the largest challenge today is malware and the telecom network is the only way to gain access to devices. However, testing for malware is not only a very costly affair but also it will never be guaranteed as creators of malware evolve their solutions on a daily basis. The only solution for this is to promote Indian Designed, Developed and manufactured telecommunication infrastructure at a very large scale and to make India developed encryption technology mandatory across all networks.

SECTION 5

Dispute resolution mechanism for Royalty distribution

Government of India should take suitable steps to curtail anti-competitive behavior and potential abuse of SEP ownership by patent holders. However, any specific royalty limits are to be set after balancing the needs of both SEP owners and implementers. This is especially true for countries like India, which is solely dependent outside SEPs for development and manufacturing of products large number of telecom products and are likely to have fewer SEP claimants in the evolving new standards in the initial years Government should explore new approaches to minimize the impact of royalty payments on Indian SEP licensees.

Telecom manufacturing is based on global standards. There is a serious need to curtail the anti-competitive behaviour and potential abuse of SEP ownership by patent holders which is serious to impact the domestic industry adversely.

- a. There is no provision in the existing laws for determining the essentiality of the patents that are being forced on the Indian domestic manufacturers.
- b. There is no transparent mechanism in the law/ guidelines to conclude that licensor is offering FRAND terms.
- c. It is suggested that there should be an independent entity under Department of Telecom, Govt. of India to look into all the issues including essentiality, royalty etc. related with SEPS of existing and all evolving technologies.
- d. The said Govt entity shall do the negotiations of SEPS on FRAND terms with all major patent holders which can be accepted by all domestic licensees.
- e. The Royalty must be payable on the smallest saleable patent practicing unit rather than the selling price of the products.

The possibility of applying the concept of compulsory licensing to Standard Essential Patents could also be explored where the Controller General of Patents has powers to direct certain patents to be brought under compulsory licensing if it is deemed to be in public interest to do so. The royalty payment in such cases is also determined by him.

SECTION 6

Fiscal incentives for promoting local telecom manufacturing

Various studies show that cost of doing business in India is about 15% more than international standards because of factors like High Interest on borrowed finance, High electricity cost, Poor connectivity & low manpower productivity. This needs to be compensated to create a level playing field.

Cost of components & raw material in India is higher than the neighboring country by a factor of at least 20% because of either economies of scale or because of government support. Ground reality is that cost of manufacturing an Electronic gadget in China is far lower than what it costs to assemble it in India. 90% dependence on imported telecom gear stand testimony to this reality & bulk of our imported electronic equipment's are manufactured in China. Government need to realize this by studying cost of bill of material for manufacturing a simple IT / Telecom product like an IP phone & one would be surprised to know that most of the well-known global brands are actually manufactured in China. Someone should try sourcing from countries like Taiwan & Israel and will find that they are far more expensive than suppliers from China.

This will need substantial fiscal support to domestic manufacturers if trend has to be reversed. Marginal changes or support will not yield results. Surgical correction may be required and any efforts to provide sub optimal support will go waste. This can be achieved by providing a 25% production incentive to domestic design and manufactured products.

Further, the current fiscal incentives for domestic R&D and manufacturing under existing policies could be enhanced as follows:

- a. Prior to 2015, all DSIR certified R&D organizations were given a 200% weighted R&D deduction for tax purposes. This incentive has been reduced to 150%. Considering the strategic importance of domestic R&D in the telecom sector, the incentive should be restored to 200% R&D for the next 5 years. Just for information per capita R&D investment in USA is 1442 \$ whereas it is just 39\$ in India. If India wants to compete with Global companies, serious incentives have to be considered to be given to companies who are investing in R&D.

- b. The current MSIPS policy of MEITY should allow R&D expenses (including manpower) to be up to 75% of the project cost. Currently this is limited to 7.5% of the project cost.

c. Indian telecom product companies doing high domestic value-addition should get special incentives to overcome their fiscal disabilities such as 6% interest subvention on prior commercial debt, long-term credit at low interest rates (LIBOR+1%), income tax or GST holiday for 10 years and exemption from MAT.

d) 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 deferment of investment or Capex plans and also defeat the very purpose of Make in India and Digital India.

Further, we must really focus on Design, developed and manufacturing and not just manufacturing as this would lead to Contract manufacturing kind of set up, at a large scale which neither provides major employment opportunity (as all plants are fully automated) nor is intellectual property created in country – this in a country which boasts of having the best engineering and IT skills but this talent is actually going out of the country or creating IP for companies abroad.

SECTION 7

ITA ISSUES and Local Telecom Manufacturing

One of the objectives of the ITA was to promote greater diffusion of Information, Communication and Technology (ICT) goods amongst countries, especially developing ones. Diffusion of ICT goods for India were at a cost of killing the domestic manufacturing capabilities. We were influenced by MNC consultants who made sure that Production of IT goods took a backseat while IT goods diffused within the economy at a staggering pace. Our R&D base & technology absorption status has been rendered abysmal calling for serious course correction.

India joined ITA early from a position of weakness in electronics manufacturing while China joined ITA six years after India from a position of strength as the global export factory in electronics manufacturing. This gap in status of technological development explains why tariff reductions increased IT imports in India but failed to stimulate domestic electronic manufacturing and innovation. By contrast, through a continuous upgrading and active Government support & vision, China was able to reap the gains from trade and its low cost robust production base took advantage of the demand in India.

Local manufacturing base is eroded because tariff barriers were brought down to zero level. Most items imported today are based on technologies that were not even born in 1991 when the agreement was signed.

So all IT & Telecom products based on technologies that were not even present at that time should be brought under highest duty slab to provide protection to domestic manufacturers. Populated PCB and modules of all such equipment should also be covered under similar duty to prevent manipulation by importing finished products as SKD.

The Information Technology Agreement (ITA-1) reached in 1996 specified several broad categories of ICT products for which import duties were to be gradually phased out and reduced to zero by 2004. As a signatory to ITA-1, since 2004, India had been permitting blanket zero-duty imports of several categories of high-value telecom equipment under the HS code 8517 irrespective of whether they were explicitly covered under ITA-1 or not. Due to subsequent technology advancements, product evolution and convergence of multiple technologies, the list of products covered under ITA-1 products are now obsolete. It is therefore possible to treat all current imports of optical networking equipment and wireless equipment (4G/5G) and packet switches/routers new products should be declared as non-ITA1 and subjected to import duties without infringing on our WTO obligations.

On 11 July 2014, India adopted the Customs Notification No 11/2014 that raised a basic customs duty of 10% ad valorem for a few product categories which did not exist when ITA-1 was signed. Since the fiscal disability faced by the domestic industry in high value-addition telecom products is of the order of 29%, the existing duty should be further increased to 30%. Moreover the list should be further expanded to include new product categories including evolving mobile technology products including 4G, 5G, Broadband systems, Software Defined Radios, 100G/Greater-than 100G DWDM, GPON, IoT, switches, routers etc. to make it more inclusive and broad based.

Government of India has historically followed a liberal trade policy in the telecom sector that has been exploited by many countries. For example, foreign vendors, especially those from China, have actively leveraged their government support and larger financial muscle to indiscriminately dump their telecom equipment in the country. There should be stricter enforcement of anti-dumping and anti-circumvention rules with regard to telecom product imports. Both the foreign exporter and domestic importer of such goods should be penalized once such duty evasion is established. E.g., FTA act provides for license/suspension of such players which is never used. We should actively use security carve-outs (allowed under WTO and used by USA) for restricting import of equipment in telecom and other sensitive sectors. Currently, majority of our telecom equipment comes from China, while US has banned Chinese equipment for past many years.

India has to look at nurturing its local industry if it is to have a thriving and safe economy. To this extent whatever is to be negotiated that gives the Indian industry a guaranteed home base that will help them look at exports too will have to be done.

Another segment needs a mention here. Optical Fibre ("OF") and Optical Fibre Cable ("OFC") under HS Code 9001 1000, manufacturing is a high technology intensive industry and Indian manufacturers have already invested heavily to have this technology domestically available and are competing with global players from United States, Japan, Korea, China and Europe. India can be world leader in this segment with some corrective steps required as 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

The Digital India initiative which aims at inclusive growth in areas of electronic services, products, manufacturing and job opportunities etc. intends to provide broadband highways, universal access to mobile connectivity, public internet access program, e-governance etc.

In view of this initiative, 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. This is in support of the Government initiatives 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. Further, Ministry of Defence 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 reduce the GST rate of 28% currently applicable on Insulated Wire, Cable (Data cables) falling under HS Code 8544.

Moreover, domestic companies who are engaged in manufacture of products and rendition of services in relation to the telecom industry. Activities of some of such companies inter alia includes:

- a. Manufacture of telecom products i.e. optic fibre (“OF”), optic fibre cable (“OFC”) and data cables;
- b. Rendition of services for creation of telecom infrastructure and applications, and
- c. Developing software which helps telephone operators plan, build and optimise their network - Operating Support Systems (OSS) software assemble services and assure network performance. The OSS makes sure the network can handle the call request, no matter where you are. Business Support Systems (BSS) software enable operators to manage accounts and payments, customer support, and service modification.

Considering the importance of the communication during the battle, Ministry of Defence (“MoD”) intends to create an enhanced communication network for the security of the country. In this regard, MoD has appointed Bharat Sanchar Nigam Limited (“BSNL”) for creation of such network. BSNL has floated Network for Spectrum (“NFS”) tender which has bifurcated into various parts based on the activity involved.

Defence critical projects are getting executed to create efficient fibre optic communications network. The network would be agile for high volume of data carriage, intrusion proof and more durable as compared to wireless communication infrastructure.

These projects are also in support of the ‘Digital India’ initiative of Government of India which aims at providing Government services to all the citizens electronically. The ‘Digital India’ programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy.

Such project requires various parts, equipment’s, accessories which shall be imported from outside India. Basic Customs Duty (“BCD”) on such goods is exempt either by way of Tariff or by way of a Notification. However, IGST is payable.

For such projects it is suggested that government exempts payment of IGST on the goods imported for execution / creation of telecommunication networks in India.

Ministry of Finance has already granted exemption from payment of BCD on import of goods which are required for creating infrastructure. Exemption from BCD is granted as the same is not available as credit and becomes cost.

Exemptions to the goods / services required for MoD in relation to the security of the Country has been one of the most significant agenda of the Government of India. The Government has provided exemption from payment of Excise duty on various goods supplied to MoD by way of an Exemption Notification No. 64/1995 dated March 16, 1995 ("Notification"). Some of the Projects / activities which are entitled for exemption under the Notification are listed below:

- ❖ All goods donated for the welfare of the defence personnel;
- ❖ All goods donated to the National Defence Fund or the Ministry of Defence;
- ❖ All goods other than cigarettes if supplied as stores for consumption on board a vessel of the Indian Navy;
- ❖ All goods supplied to the Project SKYLARK under the Ministry of Defence;
- ❖ Systems and sub-systems of launch vehicle and systems and sub-systems of satellite Projects meant for use in a launch vehicle project or a satellite project of the Indian Space Research Organisation or the Government of India, Department of Space;
- ❖ Equipment and stores, if used for the systems and sub-systems of the Integrated Guided Missiles to be developed under the Integrated Guided Missiles Development Programme of the Government of India in the Ministry of Defence;
- ❖ All goods if supplied to the Programme SAMYUKTA under the Ministry of Defence.

The above exemptions substantiates that the Government always provides concessions / exemptions to the goods required by MoD for achieving the primary objective of the national security. In the instant case also, MPLS Army and MPLS Navy are the important projects for MoD in terms of its stronger, reliable and secured communication network. Thus, granting exemption from payment of IGST would be in line with the aforesaid benefits granted by the Government for MoD.

Tables as below provide list of Imports and Exports covering Telecom products with 0% custom duties and 10% Basic Custom Duty over last 4 years. Data shows that there is a big scope for Basic Custom Duties being extended to levels ranging from 20% to 35% on finished products and 10% to 25%+ on PCBs. Any technology that was commercially deployed after 1995 should not be covered under ITA1 commitments and BCD needs to be imposed.

BASIC CUSTOM DUTY OF 0% ON ITEMS being treated under ITA1 ITEMS

{EXPORT AND IMPORT DATA IN INR}

HS Code	Commodity	ITEMS UNDER ITA1 : EXPORTS				(VALUES IN INR)
		2013-14	2014-15	2015-16	2016-17	
85171110	PUSH BUTTON TYPE	8730,27,344	1923,78,506	1854,18,073	874,40,567	
85171190	OTHERS	84096,30,954	6568,40,848	6862,05,726	8170,03,634	
85171810	PUSH BUTTON TYPE	5122,39,337	6985,51,329	2378,60,500	484,93,172	
85171890	OTHER	20085,84,006	6801,74,547	12322,63,650	7258,84,937	
85176210	PLCC EQUIPMENT	3829,08,054	4955,98,568	3246,35,387	1496,30,342	
85176220	VOICE FREQUENCY TELEGRAPHY	78,76,101	175,56,916	713,69,525	1444,40,697	
85176230	MODEMS (MODULATORS-DEMODULATORS)	1590,99,450	1411,74,265	1649,69,378	3186,64,172	
85176240	HGH BT RTE DIGTL SUBSCRIBR LN SYSTM(HDSL)	26,25,905	11358,22,310	571,83,599	80,35,455	
85176250	DIGITAL LOOP CARRIER SYSTEM (DLC)	61,30,209	849,56,614	322,13,641	1201,68,875	
85176260	SYNCHRONOUS DIGITAL HIERARCHY SYSTEM (SDH)	286,80,783	19,22,738	15,25,730	58,81,110	
85176270	MULTIPLEXER, STATISTICAL MULTIPLEXER	5586,89,651	6593,54,144	10911,19,959	15005,02,226	
85176910	ISDN TERMINALS	109,60,337	26,02,535	78,35,505	64,81,792	
85176920	ISDN TERMINAL ADAPTERS	257,22,674	87,85,166	46,72,257	17,62,002	
85176930	ROUTERS	2303,53,221	1616,94,450	3519,13,818	3208,01,310	
85176940	X25 PADS	0	1,31,776	35,563	0	
85176950	SUBSCRIBER END EQUIPMENT	27,51,863	15,90,326	40,226	0	
85176960	SET TOP BOXES FOR ACCESSING INTERNET	24451,47,523	2678,20,508	491,76,617	1818,15,260	
85176970	ATTACHMENTS FOR TELEPHONES	1467,23,962	333,87,266	278,41,502	63,86,759	
85256011	WALKIE TALKIE SET	526,20,442	353,35,131	392,13,006	207,82,765	
85256012	MARINE RADIO COMMUNICATION EQPMNT	1,73,968	27,93,490	12,80,067	48,188	
85256013	AMATEUR RADIO EQUIPMENT	57,12,654	22,63,583	9,64,187	50,13,716	
85256019	CORDLESS HANDSET	913,36,517	378,97,855	253,28,852	1028,20,175	
85256091	VSAT TERMINALS	179,27,766	47,00,505	22,983	34,53,340	
85256092	OTHER SATELLITE COMMUNICATION EQUIPMENT	427,57,806	278,86,508	14,25,390	22,13,135	
85256099	OTHERS	5209,95,176	6895,14,622	4751,61,811	3760,97,010	
85442010	CO-AXIAL CABLE	2858,57,324	3914,36,928	22616,28,301	6759,12,668	
85442090	OTHR CO-AXL ELCTRCL CNDCTORS EXCL CO-AXL CABLE	9425,81,127	14535,16,176	10681,43,958	6481,13,204	
85444210	PAPR INSLTD CNDCTRS FR <=1000 V FITTED WITH CONNECTORS	3305,56,559	270,54,826	62,41,140	66,68,699	
85444220	PLSTIC INSLTD CNDCTRS FR <= 1000V FITTED WITH CONNECTORS	5124,34,434	6228,21,446	5612,20,374	6119,85,813	
85444230	RUBBER INSLTD CNDCTRS FR <= 1000V USED FOR FITTED WITH CONN	2788,86,570	5646,05,061	992,23,906	538,64,988	
85444290	OTHR ELCTR CNDCTRS FITTED WTH CONNCTRS FR <=1000V EXCL PAPR	46,02,695	268,06,338	207,12,657	23,01,147	
85444291	PAPER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=10	369,20,391	6,84,788	12,03,160	34,11,115	
85444292	PLASTIC INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=	729,55,434	843,48,112	1826,82,539	735,23,794	
85444293	RUBBER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=1	14,60,226	9,67,318	16,70,528	36,05,615	
85444299	OTHR ELCTR CNDCTRS FITTED WTH CONNCTRS USED IN TELECOM FR <	10139,65,910	12085,60,802	20792,96,371	26065,71,974	
85444910	PAPR INSLTD CNDCTRS FR <=1000 V NOT FITTED WITH CONNECTORS	153,32,948	159,96,908	442,12,156	218,13,864	
85444920	PLSTIC INSLTD CNDCTRS FR <= 1000V NOT FITTED WITH CONNECTORS	790,41,500	2536,08,780	10944,40,518	19903,24,243	
85444930	RUBBER INSLTD CNDCTRS FR <= 1000V USED FOR NOT FITTED WITH	3862,21,223	3831,19,788	4343,57,687	28433,27,601	
85444991	PAPER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=10	33,52,684	72,96,005	9,85,326	637,37,769	
85444992	PLASTIC INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=	6064,21,021	3459,76,041	2666,22,129	2028,81,594	
85444993	RUBBER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=1	9,37,147	13,55,409	29,12,744	42,82,151	
85444999	OTHR ELCTR CNDCTRS NOT FITTED WTH CONNCTRS USED IN TELECOM	14126,93,106	17698,80,798	17359,53,276	21234,04,479	
85446090	OTHR ELCTR CNDCTRS FR A VLTG EXCDG 1000 V EXCL PAPR PLSCTIC	80784,93,557	78296,82,403	94202,09,510	84063,48,951	
85447090	OPTICAL FIBRE CABLES OTHER THN LEAD ALLOY SHEATHD CABLES	21316,94,354	18134,06,627	17489,72,971	14220,37,382	
90011000	OPTCL FIBRS,OPTICAL FIBRE BUNDLES & CABLES	96332,94,746	103015,31,395	127219,79,725	155898,23,396	
		423703,78,659	331433,90,455	388223,45,928	423077,61,086	

HS Code	Commodity	IMPORTS (0% Custom Duty Items due to ITA -1)			
		2013-14	2014-15	2015-16	2016-17
85171110	PUSH BUTTON TYPE	4480,82,317	6154,26,294	4195,91,456	2434,96,423
85171190	OTHERS	20026,60,064	19256,24,832	18821,24,474	15302,22,114
85171810	PUSH BUTTON TYPE	1624,95,170	1735,18,136	1123,52,846	1779,39,538
85171890	OTHER	22416,02,004	20525,63,618	20962,79,539	14482,86,178
85176210	PLCC EQUIPMENT	6369,58,298	4316,08,809	4050,59,572	7555,60,426
85176220	VOICE FREQUENCY TELEGRAPHY	1029,71,692	531,71,519	731,65,282	618,20,831
85176230	MODEMS (MODULATORS-DEMODULATORS)	86949,11,814	93707,34,238	71408,90,109	73183,32,480
85176240	HGH BT RTE DIGTL SUBSCRIBR LN SYSTM(HDSL)	49,13,957	227,40,306	187,39,778	211,43,985
85176250	DIGITAL LOOP CARRIER SYSTEM (DLC)	1059,07,602	3095,96,235	5024,18,002	3926,83,250
85176260	SYNCHRONOUS DIGITAL HIERARCHY SYSTEM (SDH)	4566,91,048	3009,65,572	4369,37,735	5997,01,496
85176270	MULTIPLEXER, STATISTICAL MULTIPLEXER	7095,39,272	4267,47,088	9317,72,399	8873,57,929
85176910	ISDN TERMINALS	997,27,841	3711,82,492	9629,99,023	11376,34,055
85176920	ISDN TERMINAL ADAPTERS	115,68,546	132,56,602	158,67,043	68,36,243
85176930	ROUTERS	98785,42,646	166394,83,977	175315,50,091	319744,71,490
85176940	X25 PADS	20,17,703	2,44,623	61,907	0
85176950	SUBSCRIBER END EQUIPMENT	2106,24,937	1865,82,618	5285,52,834	13251,41,485
85176960	SET TOP BOXES FOR ACCESSING INTERNET	29616,66,167	22166,26,605	1866,24,755	2051,79,874
85176970	ATTACHMENTS FOR TELEPHONES	249,81,999	1613,77,968	3260,54,606	3940,01,281
85256011	WALKIE TALKIE SET	5436,26,864	8500,12,164	11714,03,054	14988,76,928
85256012	MARINE RADIO COMMUNICATION EQPMNT	660,14,500	752,38,195	592,78,077	455,02,491
85256013	AMATEUR RADIO EQUIPMENT	63,10,482	0	199,32,422	3,21,498
85256019	CORDLESS HANDSET	2074,57,310	17285,29,668	4113,32,165	1224,74,826
85256091	VSAT TERMINALS	887,72,056	583,02,601	769,05,727	615,60,634
85256092	OTHER SATELLITE COMMUNICATION EQUIPMENT	439,18,504	1396,00,811	1341,24,134	275,75,370
85256099	OTHERS	4695,22,226	3543,08,269	2710,37,702	8443,88,296
85442010	CO-AXIAL CABLE	29430,86,727	39669,95,838	39814,31,596	32195,89,147
85442090	OTHR CO-AXL ELCTRCL CNDUCTORS EXCL CO-AXL CABLE	25338,26,707	30840,22,985	29851,59,538	23804,13,299
85444210	PAPR INSLTD CNDCTRS FR <=1000 V FITTED WITH CONNECTORS	694,33,178	1228,88,929	1883,74,752	3231,85,317
85444220	PLSTIC INSLTD CNDCTRS FR <= 1000V FITTED WITH CONNECTORS	8319,22,007	10916,34,110	13882,85,575	15163,40,200
85444230	RUBBER INSLTD CNDCTRS FR <= 1000V USED FOR FITTED WITH CONN	3105,65,151	3978,07,312	3883,75,200	3176,71,410
85444290	OTHR ELCTR CNDCTRS FITTED WTH CONNTRS FR <=1000V EXCL PAPR	401,89,299	258,78,029	279,59,634	233,73,029
85444291	PAPER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=10	421,80,014	105,75,279	111,60,463	100,14,065
85444292	PLASTIC INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=	2419,36,207	2417,16,328	1498,40,358	3125,80,609
85444293	RUBBER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=1	2456,98,382	1248,25,203	8441,70,677	1339,34,699
85444299	OTHR ELCTR CNDCTRS FITTED WTH CONNTRS USED IN TELECOM FR <	25551,29,423	36789,21,008	46240,96,246	64225,08,741
85444910	PAPR INSLTD CNDCTRS FR <=1000 V NOT FITTED WITH CONNECTORS	236,50,350	231,65,929	1538,46,059	359,04,718
85444920	PLSTIC INSLTD CNDCTRS FR <= 1000V NOT FITTED WITH CONNECTORS	15159,95,414	11607,16,548	5647,87,144	5604,33,777
85444930	RUBBER INSLTD CNDCTRS FR <= 1000V USED FOR NOT FITTED WITH	5691,85,738	6106,06,768	5898,49,751	4363,40,661
85444991	PAPER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=10	450,76,484	438,39,121	1037,08,959	564,77,162
85444992	PLASTIC INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=	11489,10,057	11105,25,137	13337,58,161	17216,64,810
85444993	RUBBER INSULATED CONDUCTORS USED IN TELECOM FOR VOLTAGE <=1	136,37,905	310,99,138	411,36,134	160,72,386
85444999	OTHR ELCTR CNDCTRS NOT FITTED WTH CONNTRS USED IN TELECOM	91527,76,304	120518,82,808	135911,71,038	133835,17,686
85446090	OTHR ELCTR CNDCTRS FR A VLTG EXCDG 1000 V EXCL PAPR PLSCTIC	50060,47,544	106890,71,937	32034,86,483	25339,14,539
85447090	OPTICAL FIBRE CABLES OTHER THN LEAD ALLOY SHEATHD CABLES	11611,18,255	24812,06,828	31814,71,790	29144,94,244
90011000	OPTCL FIBRS,OPTICAL FIBRE BUNDLES & CABLES	38393,24,560	27615,41,580	26397,16,499	25586,77,492
		624711,74,725	821863,64,055	757068,40,789	899576,17,112

EXPORTS of Non-ITA Items with 10% BCD					
HS CODES	DESCRIPTION	(VALUES IN INR)			
		2013-14	2014-15	2015-16	2016-17
851712	Mobile Phones	27035,89,320	12193,11,620	9222,80,987	6077,97,028
		1157788,90,669	144411,67,266	138515,93,797	108782,47,714
851761	Base Stations	3293,52,514	900,77,546	2029,99,140	588,65,552
851762	"Other" of Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus	49216,82,003	72176,18,129	85167,60,660	111027,54,167
851769	"Other" of "Others"	48309,04,062	49840,70,886	48170,56,168	40306,14,134
851770	POPLTD, LOADED OR STUFFD PRNTD CRCUIT BRDS	18441,20,624	13990,58,436	10820,85,157	24776,11,387
851770	OTHR PARTS OF TELEPHONC/TELEGRPHC APPARTS	355690,26,563	283786,08,425	212020,27,902	329974,62,170
		1659775,65,755	577299,12,308	505948,03,811	621533,52,152
IMPORTS of Non-ITA Items with 10% BCD		(VALUES IN INR)			
HS CODES	DESCRIPTION	2013-14	2014-15	2015-16	2016-17
		247067,32,148	204028,95,642	87772,20,286	32224,70,345
		3324557,02,979	4656909,41,704	3852542,37,966	2508701,66,423
851761	Base Stations	31997,06,131	45289,80,992	201664,96,029	664386,59,807
851762	"Other" of Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus	767079,63,314	1390138,83,677	1509471,02,106	1601354,93,678
851769	"Other" of "Others"	332410,66,788	364304,02,950	508731,60,902	561476,44,309
851770	POPLTD, LOADED OR STUFFD PRNTD CRCUIT BRDS	64046,72,715	119958,48,254	357292,46,224	792284,58,323
851770	OTHR PARTS OF TELEPHONC/TELEGRPHC APPARTS	1561621,16,946	1617320,11,621	2955371,65,121	4196577,11,708
		6328779,61,021	8397949,64,840	9472846,28,634	10357006,04,593

SECTION 8

Export oriented/promotion approach for telecom equipment manufacturing sector

First we will need to create success stories on Indian soil before we expect industry to sell Indian products in foreign markets. International markets have far greater competition and any argument on manufacturing with export orientation is also a ploy to hijack the main agenda.

In order to encourage domestic manufacturing in the telecom sector, Government of India should adopt a two-pronged strategy that combines expansion of domestic market access for Indian companies with effective export promotion. For the latter, the following two challenges should be immediately addressed:

- a) The new MEIS policy announced by the Government of India under the new Foreign Trade Policy in April, 2015 curtailed the total export incentive on telecom products (wireless, optical and data networking equipment) under HS codes 8517 from 5% to 2%. Enhancing the reward to 10% will give a significant boost to exports in these categories and reduce the overall trade deficit.
- b) The current Government procedure for issue of duty scrips under the MEIS scheme requires the exporter to submit a Bank Realization Certificate (BRC) certifying revenue realization against the shipping bills submitted by the exporter. However, the BRC is issued by the bank only after the project has been completely executed and the full foreign exchange remittance has been received in the exporter's account. The procedure can be simplified so that every time an export payment instalment is received, the company can apply for corresponding incentives on a proportional basis.

In addition, TEPC recommends the following steps to encourage telecom equipment exports from India:

- a. Actively use Govt-to-Govt (G2G) line of credit for promoting exports of high-tech equipment and projects from India to Africa, ASEAN, SAARC and Latin America. Private sector companies should be supported, if they are capable to lead such efforts in their respective fields. Such project approvals should happen in a timely manner by EXIM bank.
- b. Promote branding of India as a "Product Nation" in the technology sector- we are currently well known for IT services exports. (MOC, DOT, MEITY). Establish a Rs. 100 Crore telecom export promotion fund which will be used for hosting events, conferences and international "buyer-seller" meets that will showcase domestic companies to national and international customers.

- c. Incentivizing large private and government System Integrators and PSUs such as TCIL, L&T, ECIL etc. through tax breaks or other benefits to purchase and offer Indian products in their international telecom projects.

Telecommunication Infrastructure companies are huge and to compete with them effectively the following have to be kept in mind:

- Most of the companies have a profitable and significant home base that allows them to create the market pull by having large marketing budgets.
- Most of these companies provide extremely attractive Project finance backed by their banks
- When government aid is given to another country then they would make it mandatory to source Telecommunication Infrastructure from home countries- India needs to leverage this route for countries i Africa and East Asia where the government has significant economic ties

Attracting Foreign Investments

We must use foreign investments selectively to create a common back-end manufacturing infrastructure, where technology doesn't change often and which can be used across multiple electronic products. We should incentivize and attract global players in Electronic Manufacturing Services (EMS) and electronic component manufacturing (e.g., PCBs, passives, relays, transformers, oscillators, crystals, power supply, photonics etc.) to invest in India. This is a win-win strategy, since they can make India as an alternate global hub- both for catering to Indian market as well as for exports through aggregation of demand for common components such as bare PCB, electro-mechanicals etc. that are employed in multiple ESDM verticals beyond telecom (e.g., medical, automotive, consumer electronics, aerospace etc). The earlier efforts of motivating foreign product companies to start local manufacturing using traditional approach of transfer-of-technology and SKD/ CKD manufacturing have largely failed. Such manufacturing has very low amount of domestic value-addition, since the IPR and profits stay with the foreign company. In this approach, neither the value of imported content reduces significantly, nor do we become self-reliant in any critical/ strategic technology.

SECTION 9

PMA {POLICY CHANGES REQUIRED}

PMA policy should have more teeth so that it is enforceable across ministries. Against a representation made by me to the PMO, DOT is on record saying that they have limited control on buyer organization and their role is in advisor capacity.

All purchases should be through Government E portal (GEMs) and explanation should be taken for purchase on PMA non-compliant product.

Self-certification of PMA compliance by industry is a farce. Proof for the same is that several companies claimed to have achieved the target VA percentage till last year. If industry is now clamoring to reduce the VA percentage in products where it had shown compliance till last year, then it is a clear indication that they were either making false claim till last year and are trying to hoodwink the government objective again with a new schema.

In all product groups where C-DOT has developed technology our Value Addition norms should not be below 60% of the BOM or 70% of the selling price because in most electronic products, semiconductor components (assumed as not manufactured in India) cost no more than 40% of the BOM or 30% of the selling price. Higher VA target will motivate industry to adopt C-Dot designs while lowered VA targets will demotivate C-Dot as Industry will prefer to import kits and assemble them into products and claim them as Indian products.

Value addition norms under PMA need to be made stricter. It has been observed that large scale shift has taken place in imports from importing finished goods to importing them as SKD or CKD kits. Verification of total outgo of foreign exchange with balance sheet of the company could be basis of seeking PMA advantage.

For Indian manufacturers, semiconductor components form significant percentage of selling price, particularly because their volumes are not comparable with those companies having global presence. It is suggested that semiconductors should be kept out of the ambit of the whole exercise as they are not getting manufactured in India at the moment and anybody trying to do domestic manufacturing would anyway need to source them from outside India. Value addition percentage should be calculated after removing such components so as to ensure that whatever can be done in India is indeed carried out in India. As & when the semiconductor industry comes up in India, this can be revisited.

Higher VA target will motivate industry to adopt indigenous designs while lowered VA targets will demotivate domestic industry as industry will then prefer to import kits and assemble them into products and claim them as Indian products.

Simultaneously import of bare PCBs as well as assembled PCBs should be heavily taxed to ensure domestic manufacturing of the bare PCBs in India. While manufacturing capability for PCBs exist in India, it turns out to be cheaper if PCBs are fabricated outside for higher volumes. Higher taxation for import on bare PCBs will encourage domestic manufacturing of these in India which will lead to subsequent activities (like assembly, testing, packaging etc.) also taking place in India. This will throttle import of SKDs and PCBAAs which are seeing significant growth in Import as mentioned earlier in this report.

Some recommendations are already covered under response to Q1. Some more Key recommendations to make PMA more effective are as below:

- a) A nodal officer in one of nodal Ministries addressing key government policies, may be designated with full mandate to ensure Make in India is happening. Industry can look forward to the official whenever any non-compliance is to be escalated i.e. in all cases where the tendering agency or concerned department doesn't follow PMA policy despite formally highlighting the same. Non-compliant clauses (if any) should be tracked and modified before the tendering date.
- b) One of the major impediment in the successful implementation of the existing PMA policy is inclusion of restricted clauses especially in the specification / functionalities of the products by the buyers in the tender, which makes the domestic players ineligible to even participate.

It is critical to ensure that in order to have a fair, open and competitive environment for all participants including domestic players, there should be standardization of product specification as per national standards in all procurements.

It should be made mandatory to comply with the respective product GR as per TEC/ DOT guidelines

- c) For critical sectors like Telecom and Defense having long-term strategic and security implications, if any Indian product is available that meets the technical & quality standards (even if there is a single Indian vendor), it should be promoted for procurement. The price can be based on the publicly known L-1 price or based on cost-plus-profit model applicable to that industry.

- d) The new Public Procurement Order of DIPP envisages its applicability across all procurements including government PSUs for its requirements. It implies that BSNL & MTNL are required to comply and give preference in their procurements to domestically manufactured products.

In view of the above and to have broader coverage of its applicability, all Government Licensees (private operators) should also be brought under the purview of PMA policy.

It is also proposed to introduce an additional R&D Cess of 2% on the mobile service providers and they may be suitably incentivized on procurement of domestic products complying to PMA policy.

- e) There should be no proven-ness condition in GoI tenders for new products and technologies designed and manufactured by Indian product companies as long as they meet technical and quality criteria. Up to 50% of all tender supplies should be reserved for such “innovative” products.
- f) All telecom projects funded fully or partially by the government, whether at the central, state or municipal levels, should only use Indian products subject to availability. Projects of national importance that are using foreign products but are not showing satisfactory progress should be immediately retendered and restricted to domestic suppliers.

SECTION 10

OTHER issues for encouraging local telecom manufacturing in our country

There are three major aspects that have to be kept in mind and need special emphasis:

- The emphasis of policy should be to encourage Design and Development led manufacturing and not only assembling of PCB cards to ensure a vibrant Telecommunications Industrial base.
- Cyber security is a main issue and that needs to be addressed urgently. It is critical that all Strategic networks and critical enterprise be incentivised to employ trusted locally designed and developed products.
- The other issue is Security - users must be incentivised to adopt Locally developed and patented encryption technology across all networks.

Government should actively involve established IT & Telecom design companies with commitment to technology creation in India, in policy formation while consultation with larger lobbies and MNC companies should be with caution.

There is a need to define national standards & specifications to support domestic design & manufacturing roadmap. Project reports and feasibility studies are often prepared by foreign consulting firms whom buyers offload the task. Consultants may propose "tried & tested" solutions because of familiarity or because they would prefer to avoid risk of trying new products. Lack of adoption of domestic designed & manufactured products in large projects stand testimony to the fact that these consultants put conditions that end up favoring adoption of foreign products. It is for this reason that majority of items adopted in Smart Cities, NFS, CCTV monitoring systems are foreign.

RFQ & RFP for new projects should be based on products & technologies for which local standards and competence is available. Often one finds frivolous features added to the specifications just to favor certain specific brands. To ensure that such anomalies are controlled, all tender requirements should be based on domestic standards i.e. TEC GR / IT based compliance only.

Recent studies have shown that Government of India's policies to promote domestic manufacturing of mobile phones has generated only 6% value addition. Majority of components for these phones are being imported and only final assembly and packaging activities are being carried out within the country under the guise of "Make in India" to avail attractive GoI incentives. Low value-addition will neither result in a positive impact on the economy nor lead to significant job creation. The alternate approach that is gaining currency worldwide is "Design-led Manufacturing" where the country leads through home-grown

R&D with domestic ownership of critical design know-how and IPR, which is also essential for security and self-reliance in a digital world. It is therefore critical to modify “Make in India” mission to “Design and Make-in-India” and focus more on core technology areas that are also security sensitive such as Mobile Technology products including 4G, 5G, Broadband, Software Defined Radios, Next-generation Optical Networking, IoT, Switching/Routing in the next five years.

Telecommunications is a complex technology and skill building is essential for greater employability and long-term growth in this sector. In this regard, Government of India may take the following steps:

- Set up Centers of Excellence (CoE) in 10 cities across the country to provide training in advanced networking and telecom technologies at all major engineering colleges, polytechnics and other technical institutes. Besides classroom instruction, the CoE should also include a laboratory component for hands-on skilling of students in these technology areas.
- Run pilot projects in emerging areas such as IoT, 5G, next-generation optical, data networking and cybersecurity; reserve 100% of these procurements for innovative startups and Indian companies so that they gain an opportunity to test their new products/offerings in a real-world setting
- Reimburse up to 50% of PF (Provident Fund) and ESI (Employee State Insurance) costs of Indian telecom companies hiring fresh engineering graduates from Indian colleges in the first two years of employment.
- Establish a common shared test infrastructure with advanced prototyping and software development tools, testing and certification facilities that can be used on a pay-per-use basis either on-site or via cloud-based services by domestic telecom companies.

It is also important that all existing incentive policies for the sector are implemented effectively from an operational standpoint in order to encourage greater participation from the industry. The implementation should avoid procedural complexity with time-bound approvals and disbursements of fiscal incentives. Any delays should be automatically detected and escalated to higher levels for prompt redressal. A special monitoring committee may be set up with representatives from DoT and the domestic telecom product companies. The committee should meet at least once in a quarter to oversee the implementation, address complaints, and refine processes and policies on a continuous basis.

Additional Spectrum: Opening up the more unlicensed band spectrum and reservation of small chunk of frequency band for development and commercialization of new generation telecom application including IOT for captive uses is essential.

Lot of disruptions are taking place in the market place with the advent of new technologies. New applications like IOT will be requiring mix of wireless connectivity of millions of devices for the varied industrial application for the captive applications.

More of unlicensed band shall be made available for such application.

Also the traditional mobile infrastructure being deployed by the mobile operators has its limitations for providing a quality coverage and capacity inside the buildings, which impacts the quality of service adversely As per the provisions NFAP 2011, 2-3 Mhz Frequency band in GSM and suitable for 4G may be allocated for in-building, in-campus applications.

TEPC envisage huge demand of mass market products in the domestic market for IOT and above applications.

Development & manufacturing of such products will provide major impetus to the growth of domestic products under Make in India.