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Subject: Our submissions on Consultation Paper on Promoting Networking And Telecom Equipment Manufacturing in India

Dear Sir,

We once again thank you very much for above paper and submit herewith our response.

Thanks a lot and Regards

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RESPONSE TO TRAI

Q1. Is the PLI scheme in its current form effective enough to address the needs of promoting NATEM in India? Are any amendments or extensions required to the current PLI scheme to make it more effective? Please provide details.

Q2. Whether going beyond PLI scheme, a range of financial and fiscal incentives needs to be put in place to promote NATEM in India? Please elaborate your response.

Response:

- i) **Preamble-** As regards local telecom manufacturing, India is passing through difficult times, where Govt has given highest priority & various initiatives/incentives for Make in India and every policy since India's independence has committed for domestic manufacturing and TRAI has come out with recommendations in 2011 and 2018, yet India is still dependent largely on imports of telecom equipment. The biggest success story in recent times is going to be 4G for BSNL and or the first time India developed 5Gi standard is being merged with 3GPP having already secured approval of ITU Geneva. TRAI paper of NATEM in these times is wonderful and welcome step to take stock of whatever has happened and for future strategy. There are some disconnected priorities and misplaced conceptions etc. some of which are given hereunder:
 - i) Yet to realise that the biggest incentive needed is not fiscal but access to market/trial and committed orders.
 - ii) World class quality/latest state of art products v/s local needs
 - iii) Hampering domestic manufacturing due to bogey of global supply chain v/s protection, local manufacturers, global manufacturers.
 - iv) Large Marketing & Advertisement budgets of large multinational Companies v/s small funds of new entrepreneurs, start up and local Companies
 - v) The so called highly professional advice given by pseudo experts with vested interest for imports v/s the unknown a smaller entrepreneur with relatively poor voice and image.
 - vi) IPR onslaught involving huge and costly legal battles/contest by foreign experts v/s relatively a new Indian entrepreneur.
- ii) **Historical perspectives**

- For 5,000 years India was Golden bird known globally for its education, steel, spice, cotton-textile, food, culture, medicine, astrology and substantial GDP contribution.
- In developing phase other Countries promoted & established their CHAMPIONS, incentivized, protected, market access. Japan-Sony, Sanyo: Korea-Samsung, LG: USA AT&T, CISCO, Goggle, Qualcomm, Intel etc; China-Huawei, ZTE, Hikvision, Datang etc.
- Combined Defence with private market...USA/China examples
- Made them GLOBAL COMPANIES and forced them to world market.
- India during above phase introduced its market access freely.
- Even shy to protect/promote our technology..CDOT Whatsapp/OLTE/..Other Indian Companies wireless tech, chip, IP network,.....However presently for the first time supported 4G of CDOT for BSNL.

iii) **Critical issues hampering growth of domestic manufacturing:**

The major reason for India not become hub for telecom/mobile manufacturing is not limited to the incentives, concessions etc. BUT infact the real issues are following:

i) **Market access and repeating Market access-MARKET DISTINCTION**

Here the issue is that the telecom equipment is a B2B market limited to telecom licensed operators and not mass consumption crowd of public i.e. **B2C mass market. This market Distinction is to be clearly appreciated for policy nurturing of Telecom equipment success for policy in letter & spirit.**

While is B2C is mass public consumption, B2B market for Telecom equipment is comprised of few operators who have their boundary limits defined by Licensing framework, regulatory frame work of laws of State Govt., local bodies, investment decisions, hyper completeive conditions, business risks, credit agencies granting loan & time to launch services etc. Thus, their investment considerations are entirely different.

- ii) There is good live example of approach taken by defense local manufacturing of IDDP- "Indian Designed, Developed & Manufactured products" and differentiate between Buy Global/Buy Indian and Buy and Make Indian/Buy & Make Global, where upto 90% of research is also funded.

unable to develop the products as per stipulated specification in a short span of time. Therefore, specifications formulated and issued by Telecom Engineering Centre, DOT, should be utilised for all equipment procurement by private/ public sector/ State Governments etc.

- iv) The technical specifications should not be tender specific, as (a) they are generally tailored made for some specific product, (b) the domestic manufacturer does not get time to develop the same as their products are TEC specifications complied. There is need to strictly follow specifications made by Telecom Engineering Center, DOT for all equipments whether procured by private or public sector, State Governments, the absence of which results in purchasers specifying so called odd/latest/high tech/approvals by foreign bodies/associations.
- v) Onslaught of foreign Companies in advertisement and marketing and lobbying expenses for so called latest new technologies. The real question is the sudden “criminal” show of money power by exponential advertisement and publicity, which locals can hardly face, etc.
- vi) Indian Telecom Operators have been traditionally depending upon Imports, due to purported zero duty import under ITA 1, which is wrong and also along with availability of cheap credit from foreign lines of credits. Initially there was a license condition to obtain equipment from local manufacturers, but that was not implemented.
- vii) Onslaught of IPR case by foreign Companies. Need for compulsory licensing.
 - IPRs have become an issue. Several Court cases are going on. There is need for an agency, Department, Company, who can tell the domestic manufacturers as to how many IPR patents licenses and royalties are required and the same should be payable on the relevant component, chip rather than the entire cost of product.
 - Some out of way thinking is needed for protection of Indian manufacturing Companies from legal onslaught of IPR cases from world.
 - The Indian manufactures procures components from across world and then assembles the product. If there is any IPR violation, then it is with the manufacturers of components/chips. There is need for an appropriate policy for asking royalty on IPR on the component manufacturers rather than the product assemblers/manufacturers.

- viii) Virtual interest free or 1-2 or ½ % interest loans without any securities by foreign manufacturers.
- ix) The new local manufacturers and start-ups do not qualify for supply to PSUs/private Companies in the absence of experience and minimum work done criteria. Previously, educational orders were awarded to the domestic manufacturers for development of local manufacturing. Though, the policy of educational orders is still in place in the procurement policies of their public sector enterprises, however, practically the policy is not practised presently. The Expression of Interest is sought by the PSEs for the same from time to time.

We feel there is need for Education orders to be placed on local supplier, to the extent of 20% of the total value of the tender. Placement of such educational orders will develop the local vendors and will help in curtailing the imports.

- x) Onslaught of new technology/so-called high-tech products by foreign Companies. Let us realize that no wireless technology commits any speed and simply says up to so and so speed. There is continuous trend of changing technologies mostly driven by developed Countries; hence any initiatives for local production are likely to be outdated soon.
- xi) This results in huge foreign exchange outflow and create large trade deficits. The Country needs not only reduce the trade deficit to zero but achieve trade surplus in the telecom sector.
- xii) The Country needs low power, low cost equipments suited to rural areas of India, which are quite spread and scarcely populated with lack of electricity, roads etc. Yet the operators always would like to prefer the imported equipment available may be of higher powered or high costs. The import savvy lobbies always are in forefront to lobby for a specific or proprietary technology or product for operators.
- xiii) Let us also realize that Indian Automobile industry is a typical/poster boy domestic manufacturing success story where, by Higher Custom duties & standardization support, Govt. is able to bring global competitiveness in the Automobile ancillary industries and almost all global brands in automobile are in India for manufacturing with ancillary developments.
- xiv) Govt. need to appreciate that

~ assembly or EMS is not make in India, but a tool to camouflage the Govt. plans for local manufacturing.

~ traders, importers, Global Consultants represented by pseudo Indians will always give recommendations to counter local manufacturing

~ the telecom network whether owned privately or by Government is a matter of National security and strategic importance and local equipments needs to be mandated for all.

~ Adoption of policies suggested by importers lobby has resulted in closing of several local manufacturing units in India in the past.

~ The indigenous technology developed by CDOT/ IITs/Local Companies has failed to get market within India.

~ Before entry of private operators, there were several Indian players for landline equipments. All of them are closed now.

iv) Reference is invited to para 1.8:

1.8. A review of the manufacturing scenario of NATEM shows that the Country is not able to fully exploit the upsurge in telecom sector. The sector, on one hand, is able to bring foreign exchange to economy in form of foreign direct investment (FDI), but on other hand, huge amount of foreign exchange is flowing out on account of pay-outs for the imported equipment, inputs, Intellectual Property Rights (IPRs) and profit margins.

v) Yes, it is clear that the imports are more primarily due to:

- Imports from global manufacturers
- Cheaper import financing
- Continuous hype and change of technology by foreigners, which are invented, developed and manufactured abroad, as a result of which local manufacturers base is difficult to be developed.
- Indiscriminate craze within India for so called latest technology without looking into real use cases for our own uses.

vi) The answer we have sought is PLI, which scheme is expected to reduce large import of telecom equipment and substitute it with made-in-India products.

a. **However, the scheme is silent on local content value addition. Technically one can import 100% of contents, assemble and he qualifies for PLI. There are statements by some lobbyists that we should not bother for higher imports and trade deficit and take it normal that the imports shall always be higher. The PLI also lacks design/R&D led manufacturing as also pure software-based products. It is suggested that appropriately provisions be provided in the PLI Scheme.**

b. PLI stipulates incentive to foreign designed products for manufacturing in India may upset the applecart, especially if the incentives are given in sectors where domestic products are available as big companies who already enjoy economies of scale and price advantage may become even more price economic eradicating the domestic players. It will act as

double-edged sword that needs careful handling. It is also to be mentioned that export of the respective products is also not a pre-requisite for disbursal of incentive. Global payers have global supply chains and experience has shown that they have not shifted the supply chains to India at all.

- c. The focus of PLI Scheme is on the manufacturing based on assembly, as it's qualifying threshold parameters are investment and net sales, rather than on design-based manufacturing. For telecom sector manufacturing, for any scheme to contribute to the school of thought of 'Make-in-India', 'Made-in-India' and 'Local-for-Global', it is to be considered that assembly or Electronics Manufacturing Services (EMS) is not make in India rather a tool to camouflage the Govt. plans for local manufacturing. Traders, importers, Global Consultants represented by pseudo-Indians will always give recommendations to counter local manufacturing. The telecom network whether owned privately or by Government is a matter of National security and strategic importance and local equipment needs to be mandated for all. Adoption of policies suggested by importers lobby has resulted in closing of several local manufacturing units in India in the past, the indigenous technology developed by CDOT/ IITs/Local companies failed due to absence of market access within India (it is evident as before entry of private operators, there were several Indian companies manufacturing landline equipment which had to close their plants/ operation later).
 - d. The incentives for R&D/design led manufacturing as stated in TRAI Paper are to be discussed separately, hence not discussed here.
 - e. **However we feel need for 50% of costs of filing IPRs and revising 200% weighted deduction for R&D Expenses, as it was earlier.**
- vii) It is also submitted that as contained in para 2.15 of TRAI Paper as below, as of now was contained in the DOT Notification dated 29.8.2018. This was not included in the updated Notification dated 31.8.2021, which is now on hold. This is one of the important provisions to be included in orders of DPIIT or DOT PPP MII. **There is need for this to move to the DPIIT main PPP MII Policy to avoid any doubt & confusion.**
- "The Public Procurement (Preference for Make in India) Order (2017), has described hardware design and software design and development among the main inputs/stages in telecom manufacturing. This Notification also specified the conditions for these inputs to be qualified for PMI - (i) the IPR resides in India for the hardware design; and (ii) the copyright for the software design and development is in India"
- viii) With reference to para 2.16 of TRAI Paper as reproduced below, it is submitted that PLI scheme with focus on investment and minimum turnover is not in real sense to promote design led manufacturing by MSME. This scheme is primarily for assembly without any focus on design or local content.

There is need for MSME financing without linkage to production. It is hoped that this would be covered in the proposed design led PLI or R&D incentives scheme. If not, then suitable consideration by TRAI is requested.

2.16 Also, PLI scheme is based on investment thresholds and increase in net sales. This may not serve the needs of small start-ups looking for seed funding or Companies who are in the expansion stage or Companies in R&D space. In view of the above discussion, the Authority would like to seek views of stakeholders

ix) There is need to fully implement the Mandatory Testing (MTCTE) by TEC, applicability of PPP MII to all private operators, implementation of PPP MII in projects granted LOC etc. by Govt.

x) We support TRAI Para 2.13 of TRAI Paper:

2.13 While the PLI scheme is a big step towards promoting local NATEM, it can also be argued that just a single scheme is not enough as it may not cover different requirements of the industry. There are many issues involved in promoting NATEM and TRAI recommendations of 2011 and 2018 on the subject have dealt with them in detail. As envisaged in NDCP-2018, for maximizing India's contribution to global value chains, focus on domestic production, increasing exports, and reducing the import burden will be required.

For the same, several parallel initiatives need to be taken, inter-alia, including the following:

- a. Steps to promote Research & Development (R&D),
- b. Providing funds for R&D,
- c. Developing R&D parks,
- d. Putting in mechanisms to develop skill sets
- e. Addressing issues related to patent framework like rights and obligations of Standard Essential Patent (SEP) holders including dispute resolution
- f. Promoting incubation centres
- g. Addressing issues related to testing and certification
- h. Ensuring availability of component ecosystem
- i. Setting up cutting edge technology FAB facility
- j. Providing various fiscal and non-fiscal incentives
- k. Creating funds for promoting manufacturing and entrepreneurial activities
- l. Creating infrastructure for facilitating manufacturing like tech parks
- m. Extending incentives for creation of such infrastructure/manufacturing facilities
- n. Addressing issues related to power availability and pricing
- o. Implementation, monitoring and periodic review of PMA policy
- p. Addressing issues arising out of Free Trade Agreements (FTAs)/Information Technology Agreements (ITAs)
- q. Announcing Incentive Schemes for telecom equipment parts
- r. Addressing ease of doing business issues including expediting clearances and review of all compliance requirements
- s. Promoting deployment of indigenous products in other Countries through incentivizing system integrators
- t. Showcase make in India start-ups and their products in international events
- u. Upgrading the manufacturing PSUs under DoT to effectively harness strategic and operational synergies.

Q3. Does the Electronic Development Fund (EDF) meet the requirements of promoting NATEM in India? What are the limitations in EDF for the NATEM sector and how can its scope be enhanced?

Response:

- i) We support 2.19 that EDF does not have exclusive focus for the Telecom Sector and is not sufficient to take care of the need of venture funding required for promoting NATEM in India.
- ii) We support 2.20 that “as 5G and futuristic technology infrastructure is going to be largely software driven, a separate fund for development of telecom related software should be conceptualized for the overall growth of the telecom & networking product ecosystem.”
- iii) As regards para 2.21 Start Ups, much more than funding, as rightly analysed by TRAI, their biggest difficulty is getting orders and access to market. **It needs to be appreciated that marketing is issue even with CDOT for their various technologies and with 4G, they have got success in BSNL only when the Govt. Insisted for local procurement without worrying for price, sufficient competition or sufficient capacity. We strongly suggest that a suitable policy amendment needs to be put in place to extend 4G domestic procurement to all TSPs and a scheme for Start Ups on the lines of support extended to CDOT for BSNL 4G.**
- iv) TRAI in para 2.22 has rightly captured the difficult of “Access to Trial”. This issue is with Start Ups as also any other local manufacturers. Also connected to this is non availability of spectrum for trials. TRAI is right in assessment that Telecom operators do not accept trials, as they work commercially on live network. BSNL also feels threatened and objects **to conducting trials. It is suggested that the scheme be made, which envisages certain incentive/grants coupled with mandate to TSP for accepting trials. BSNL/TSPs can also be asked to identify and earmark some low usages networks for trials.**
- v) With reference to para 2.23 of TRAI Paper, it is submitted that
 - a) Grand challenge scheme of Meity may include some grant or incentive, but as discussed above, the issue is access to trial and access to marketing.
 - b) It may be relevant to submit here that Meity initiated a challenge for Video Surveillance and someone won the prize. Yet for procurement by NIC (A body of Meity), a Notification was issued that Make in India does not apply for VSS/CCTV products. Thus, a situation exists, where Meity awarded a prize to some domestic Company but denied access to procurement by its own body NIC.
 - c) Likewise, DOT” s own USOF follows the route of operators/CSC for procurement, both of which do not follow PPP MII in letter and spirit, even though a clause is included. Here DOT’s own TEC approved specifications are also not followed in letter and spirit and non-TEC

specifications are notified, which denies access to market to TEC approved domestic manufacturers. **There is need to correct this.**

- d) There is need for appropriate policy to not only award the “challenge” but also allow them and other domestic manufacturers access to market, as was done in the case of BSNL 4G.**
- vi) Most of the domestic companies are afraid of entering into basic research & development of new technologies because of lack of framework for successful commercialisation of the outcome product. **In order to build confidence to these companies, a portion of all procurements in Government funded projects, should be reserved for those companies/products, who are involved in DSIR/ DoT recognised R&D of such products.**
- vii) **We are not discussing R&D incentive scheme, as a separate paper has been envisaged by TRAI for the same.**
- viii) Besides supporting R&D activities, there should also be a set-aside for a Sovereign Patent Fund (SPF) similar to countries like South Korea, France, Japan and China that will be used to negotiate licenses for essential/background patents/IPR from global players for 5G and 6G technologies on FRANDS terms. SPF can also be used to reimburse 50% of patent filing costs by Indian NATEM companies.
- ix)
- x) It has been rightly analysed by TRAI that there are several schemes by other departments, but there is need for a focus telecom need, even separate from electronics and IT. **This is due to the fact the other schemes/departments have open market, whereas in telecom the market is limited to licensed operators. We suggest a scheme on the pattern of Ignition grant with committed access to market to be made.**

Q4. Is there a need for creation of separate funds on lines of EDF or those earlier recommended by TRAI (like TEPF and TMPF) for promoting NATEM in India? What institutional mechanisms should be put in place to govern the fund(s)? Give justification and elaborate on its possible impact on the sector.

Response:

i) We support the recommendations made by TRAI on 12.4.2011:

1.30: The Recommendations strongly focused on creation of funds to cater to the requirement of local players and upcoming entrepreneurs. TRAI stated that 'TRDC should set up Telecom Research and Development Fund (TRDF) with a corpus of Rs 10,000 crore which should be invested in secure deposits and bonds and the interest accruals should be used for financing R&D projects.' The Recommendations cited the need to create a Telecom Manufacturing Fund (TMF) for providing venture capital to indigenous manufacturing and formation of a Telecom Research and Development Corporation (TRDC).

1.31. The Authority has also recommended identification of ten telecom manufacturing clusters to promote the TEM and stated that 'A Telecom Research and Development Park should be established with the purpose of facilitating research, innovation, IPR creation and commercialisation for fast and sustainable growth of the telecom industry.'

ii) We also support para 2.24:

The Authority in 2011 had recommended the Telecom Entrepreneurial Promotion Fund (TEPF) and Telecom Manufacturing Promotion Fund (TMPF) so that issues relating to private sector participation in the manufacturing of indigenous telecom equipment and market access for indigenous telecom equipment can be addressed effectively. For promoting research, innovation, standardization, design, testing, certification and manufacturing of indigenous NATE for 5G and subsequent generation technologies like 6G, broadcasting sector equipment in light of convergence, setting of dedicated funds either similar to EDF or in line with the ones earlier recommended by Authority (Telecom Entrepreneurial Promotion fund and Telecom Manufacturing Promotion Fund) may be required.

iii) The recommendations on R&D are not being discussed here, as a separate paper is envisaged by TRAI in that behalf.

Q5. What additional measures are suggested for promoting and supporting the Start-up ecosystem in the telecom sector in India.

Response:

In telecom sector, there are three types of products as under:

- a. Software based applications: The investment needed from for such products ranges from one lakh to few crores.
- b. Software based products using COTS IT equipment like 4G & 5 G core: The investment needed for such items is in the range of tens of crores and the development time is 2-3 years.
- c. Hardware based products like eNodeB for 4G & NR for 5G: The investment needed ranges from Hundreds of crores and the minimum development period is 4-5 Years.

As far as start-up companies are concerned, there is a limitation in the initial investment for product development, especially those incubations in the IITs & IIMs. Only after successful commercialisation of products, the investors are attracted towards the same. Therefore, the financial support is needed, for the Startups, to proceed in the field of R&D in telecom sector.

The major issue in the development of the telecom products is commercialisation of the products even after successful development. The year 2007 onwards, TSP were supposed to promote products, apps of Indian Startups & for the same each TSP got associated with one of the premier IIT of India. Seven Telecom Centro of Excellence (TCOEs) were opened & each comprising of one IIT & one TSP. **It is pertinent to**

mention that aforesaid TCOEs developed about thirty products, however, none of the product was inducted by any TSP in the network. Therefore, mechanism for commercialisation of the developed telecom products needs to be in place else the same will result in wastage of efforts and national resources.

Startups have two challenges i.e. Startups have ideas but need funding and secondly is once the product is designed, they need market pull. To resolve the aforesaid issues and taking other measures, following is recommended:

- i. Presently, there are several funding agencies such as DOT, MietY, DST approving similar projects concurrently and very often to the same institutions. Funds are largely allocated to Academia and more often than not to the same group by multiple funding agencies. Involvement of Startups and Industry will ensure automatic correction. Only commercially viable projects will be approved and there would be interest in product commercialisation. This will ensure that funds are released only to such academia who deliver the milestones and commitments to Industry. Academia shall get promotions and growth based on commercial success of product deliverables (except for earmarked blue sky or strategic sector research programmes).

Therefore, for resolving the first issue, all grants (except for blue sky research) shall be disbursed through industry out of which 30% should be earmarked for Startups. Presently most grants are given only to Academic institutions or Government labs. Industry/ Start up in turn will disburse funds to academic institutions based on who will deliver as per the milestones and deliverables. industry may be asked to put 25% of the project cost. This way Startups will get 100% fiscal support of which their risk is only 25%. They will be getting technology support and manpower from the academia.

- ii. The second problem of market pull for the products which can be addressed by strong focus on implementation of PPP-MII order in the desired spirit. To site an example, 'Video Conferencing solutions' were developed in India. C-Dot has developed excellent product, MietY had launched a hackathon and awards of ₹ 1 Crore given to Startups delivered the products and received award. Many other companies developed such solution yet Government largely uses foreign Video Conferencing solutions. MietY, the ministry who gave the awards to winners of Video Conferencing equipment has on the contrary has issued notification allowing exemption to NIC, its own body, to allow purchase of imported Video conference solutions that runs contrary to the objective of promoting domestic manufactured products of Startups and new entrepreneurs. Such response from different arms of the government Kill the spirit of all Startups so sensitivity to implementation of PPP MII would be key to the success of Startups.

- iii. To create exclusive Space for development & nurture of domestic solutions where infrastructure or resources are extended only to domestic designs e.g.

earmarking separate chunk of GSM band spectrum for deployment of private networks based on domestic technologies will create an exclusive space for domestic players to nurture. Similarly create exclusive space for domestic players for Drone technologies. These may look marginal but would provide an elbow space for domestic companies to flourish without the threat of being torpedoed by large MNC giants who have global muscle.

Q6.a. Which of the financial instruments related to project financing, contract financing and credit default insurance currently available in India are being used by the stakeholders and to what extent?

Q6.b. Are these financing instruments able to cater to the needs of NATEM in India?

Q6.c. Are there any suggestions to further improve these financial instruments or are there any new proposed financial instruments that can cater to the needs of NATEM in India? Please provide full details along with justification.

Response:

- i) The first and foremost need is a banking credit facility to Telecom manufacturers, so that they can supply equipment on credit to Telecom operators. This is so because foreign manufacturers get credit facility in their own Country, which they extend to Indian TSPs. So foreign manufactures offers equipment to India TSP on credit facility without any need for Indian TSP to approach the foreign credit agency. However Indian manufacturers expect TSPs to either pay the amounts or TSP has to arrange credit at their level. Therefore, it is imperative to extend such banking credit facility to Telecom manufacturers to enable them to supply equipment on credit to Telecom operators.
- ii) **It is recommended to promote EXIM bank to finance some of the mission critical or projects of national importance at same LoC terms and interest rates. It is also recommended to categorise some of such important project as deemed export as well to provide incentives to support NATEM.**
- iii) Organisations like SIDBI will not fund capital required for purchase of Technology, Software or Services since these are non-tangible assets but are very critical for NATEM. Further SIDBI funds only 50% of the Capex on Dies and Tools which is bare essential to start manufacturing products in India. SIDBI is very conservative in many other ways. Commercial banks have the right mix of ingredients and cover their risks by taking collaterals from promoters which genuine entrepreneurs can always arrange for their needs. Ideal and simple mechanisms is if **commercial banks could be extended 5 to 6% of interest subvention in telecom sector.**
- iv) We reiterate the earlier recommendations of TRAI in this behalf:

2.4 The Authority in these recommendations stated that 'DoT should coordinate with Ministry of Finance for making available the following financing options, in line with the practices followed by other export-oriented economies, to indigenous telecom equipment manufacturers: (i) Venture capital in the form of equity and soft loans. (ii) Project finance. (iii) Contract financing options. (iv) Credit default insurance.' DoT has informed TRAI that the Digital Communication Commission (DCC) while considering the said recommendations, has asked to seek further details from TRAI on the same.

2.6 In its 2011 Recommendation TRAI has mentioned various financing options to equipment manufacturers such as ❖ All domestic telecom equipment manufacturers producing Indian Products or Indian manufactured products and having an annual turnover of less than Rs 1000 cr, should get access to debt finance for capital and working capital for a period of 5 years on subsidized terms. The extent of subsidy will be 6% for the Indian Product Manufacturers and 3% for producers of Indian Manufactured Products. The Government should formulate a subsidy scheme for the purpose and the subsidy grants can be channelized for disbursement directly to the lending banks. ❖ To create a Telecom Manufacturing Fund (TMF) for providing venture capital to indigenous manufacturing in the form of equity and soft loans for supporting pre and post commercialization product development and brand creation. The TMF would be managed by a corporate body and headed by a person of eminence in the field of banking/venture capital finance.

2.7 Further in 2018 recommendations the authority stated for creation of Telecom Research and Development Fund (TRDF) with initial corpus of Rs. 1000 Crore. Subsequently, setting up of Telecom Entrepreneurial Promotion Fund and Telecom Manufacturing Promotion Fund was also suggested.

Q7. Whether the existing schemes relating on CAPEX and interest subvention are meeting the requirement of finance for NATEM in India.? Suggest modifications/ new schemes needed if any with details.

No comments. We hope these would be covered in design and R&D schemes.

Q8. Whether the existing financial assistance for MSMEs that are into NATEM are sufficiently catering to their requirement or a separate dedicated scheme is required for the sector? Please provide a detailed response along with suggested schemes, if any.

Response:

- i) Most of the schemes mentioned are general for all sectors. Telecom needs are special as procurement is generally by licensed operators and products needs certification and approvals.
- ii) MSME are required to compete with foreign large firms as also have to get support of System Integrators.
- iii) **We suggest need for a special provision, as already explained, whereby procurement officer/ TSPs asks SI to give committed preference to MSME products.**
- iv) In the Emergency Credit Line Guarantee Schemes (ECLGS) announced for 26 sectors, the telecom sector has not been included. **There is need to ensure that telecom sector is included in ECLGS & various other relief schemes announced by Govt as also in above scheme.**

- v) Some MSME schemes extend concessional credit to MSME, Exemption from payment of EMD, Bank guarantees and price preference to MSME, unmindful of the fact that MSME may be promoting an MNC product whereby Indian resources are indirectly supporting business of MNC products. It is common knowledge that CISCO, DELL, HP don't take projects in their own name and most large MNC companies sell products through Indian distributors or System Integrators who are technically MSME. All Chinese products like cameras, phones, switches are sold by MSME traders or SI.

This way Government budget to support domestic MSME manufacturers ends up helping MNCs market their product in India. Since bulk of NATEM products are imported and sold through distributors of MNC Companies so at a macro-economic level we are spending more of our resources in helping our competitors These policies need deep diving and course correction.

- vi) **For MSME biggest problem is market access hence most important is to create demand for their product where strict implementation of PPP-MII order in the desired spirit is the key.** Each violation of PPP-MII order must be taken to a logical conclusion and not closed by merely forwarding the grievances to the buyer organisation responsible for policy violation. This becomes a problem as seller (domestic industry) is victimised by the buyer organisation and buyer department invariably closes the complaint giving some fuzzy logic or by making some commitments regarding setting up a committee that never happens. Innumerable such cases are known to DPIIT.

Q9: Whether any cost disadvantage is experienced by domestic NATE manufacturers as compared to global counterparts due to various limitations discussed above? If yes, what is percentage cost disadvantage to domestic NATE manufacturers vis a vis other Country? The details of calculations and methodology adopted for the same may be provided.

Response: The disadvantages has been adequately covered in the TRAI paper.

Indian industry suffers cost disadvantage on account of various factors stated in the paper, largest of which is interest cost. Our interest cost is higher by about 5% compared to international standards. Total Indian handicap should be around 7% which needs to be compensated especially for exports. Independent studies by E&Y have clearly established that Indian companies making generic NATE equipment face up to 26% fiscal disability compared to their global peers in high value-added telecom manufacturing. Further, the disability rises to 29% for those product categories where buyer's credit is available on imports for a long period of time.

Q10. Whether schemes allowing tax holidays/deferment of tax are available for NATE manufacturers? If yes, are they meeting the requirement? If no, what modifications are required? Please justify and provide details.

Response:

- i) Prior to 2015, all DSIR certified R&D organizations were given a 200% weighted R&D deduction for tax purposes. Considering the strategic importance of domestic R&D in the telecom sector, the incentive should be reinstated for the next 5 years.
- ii) The deferred tax is not much useful
- iii) For promotion of domestic manufacturing, one of successful example is in Automobile sector, where almost every known global Company is in India for manufacturing and localisation is about 70%. The key reason for this is that even today import of automobiles attract Custom duty of 100% for cars costing above Rs 30.00 lacs and 60% for less than that. Localisation policy is ensured by Custom duty.
We feel there is need to appreciate above and implement the same in telecom sector.

Q11. Is the PMA/PMI scheme in its current form comprehensive for promoting NATEM? Are there any suggestions for modifications? How can the challenges associated with implementation of PMA/PMI be addressed? Please elaborate.

Response:

- i) We would like to refer para 2.41- Only creation of a domestic manufacturing industry in India is not sufficient, the manufacturers need a sustainable market to remain relevant
**We would request to remodify that-
Only a sustainable and continued access to market is most relevant**
- ii) Referring to para 2.42, the recommendations of TRAI of 2011 have been met for Government procurement BUT NOT FOR Telecom licensed operators. This needs to be implemented please.
- iii) NDCCP 2018 envisages:
(b) Ensuring strict compliance to Preferential Market Access requirements:
 - i. Preferring domestic products and services with domestically owned IPR in procurement by Government agencies, especially for procurement of security related products
- iv) Para 1.7 refers:
"The manufacturing Companies in India need to align with the 'Make in India' initiative of Government and enhance industry's share in the economy. They should aspire to emerge as an export hub for markets like South Asian Association for Regional Cooperation (SAARC), Association of South East Asian Nations (ASEAN), African, and Latin American Countries to start with, and then emerge as global market player in this sector."

- v) The Indian manufacturing Companies can dream of export hub and global exports, only if they have substantial market within India, as every Country asks the existing market supply base in home Country.
- vi) The PMA/PMI Scheme now called PPP MII has been framed to promote Indian telecom manufacturing and preference in procurement. In its present form it caters to 10% of telecom operators' market. Several escape routes to bypass PPP MII have been devised by procurement officers. These needs to be plugged in. Also, before declaring the list of products for local procurement under Clause 3a, the policy asks for "sufficient local capacity and local competition". This becomes difficult in case of telecom and start-ups and new technology products. There are violations in large numbers and only route available is complaint to DPIIT, who in turns refers to procurement, which tries to justify on one or other grounds. The only remedy is cancellation of tender, which does not serve Make in India. On the fresh tender alternative routes are adopted to avoid PPP MII. There is need for punishment to concerned officers in case of violations. The scheme needs to take care of following issues:

- a. It applies only to the procurement by Central Govt/Central PSUs. That means about 10% of market share pertaining to BSNL/MTNL. As stated in NDCP 2018 para (i) referred above ie. Preferring domestic products and services, the issue of National Security is equally important and valid for private operators' networks also. **It needs to be applied to private Telecom operators also.** It has been rightly captured in para 2.61:

the major share of wireless subscribers, about 90% of the total number of subscribers are served by the private telecom service providers leaving only 10% of subscribers who are served by PSU telecom service providers. Therefore, the domestic market for telecom products is dominated by the purchasers who are private service providers.

The details in this behalf are given in Annexure I, hereto

- b. Comprehensive PPP-MII policy, designed to extend preference to domestic manufacturers in public procurement can revive domestic manufacturing. Notwithstanding that Most of the time there is policy evasion by big buyers like NBCC, CPWD, Railways, Dedicated Freight corridors, ONGC, Defence, Purchases by NIC NIXI STPI under Ministry of Electronics and in the projects funded under USOF.

Large projects like Central Vista Project, Central Secretariat redevelopment project have been circumventing the policy on the ground that policy is not implantable in Turnkey projects. There is a need to bring about clarity on methodology of policy implementation in turnkey projects.

- c. **The issue of PPP MII needs to be properly addressed in case of USOF, DOT projects.** In tenders floated by the USOF during last five years though

applicability of PMA policy has been mentioned, however, not implemented for all the items e.g., clause-9 of PMA notification, dated August 29, 2018 stipulates that each of the products shall comply with the latest TEC GR /IR if such GR/IR have been issued. Notwithstanding that in any of such projects, except for tower which is a passive element, no active equipment was asked to comply with TEC GRs.

- d. **There is need to declare appropriate telecom products as 'security sensitive' and their purchase should be governed as specified in the cybersecurity policy, i.e., such security sensitive products shall be procured only from Indian technology owners where IPR, Technology, Design should be Indian.**
- e. **As mentioned in para 2.53, the scope of the policy should be enlarged to include purchases by State Governments, Purchases by Telecom operators, World bank funded projects for the listed products, Indian projects undertaken in other Countries against LOC or Grant in Aid etc.**
- f. Many of the Gol projects are implemented through State Governments, therefore, the **scope of policy needs to be enlarged to include State Government/ State Public Sector Enterprises (SPSEs) projects and also world bank funded projects / Lines of Credit projects/ Grant-in-Aid projects.** Further, as the telecom networks may pose security threat to the country, even if the project is funded by State Government, the PPP-MII orders needs to be applicable.

The PPP MII DOT Order dated August 29, 2018 stipulates that each identified products, services or works as mentioned therein shall comply with the latest TEC GR/IR, if such GR/IR have been issued. This is also supplemented by various other Govt. orders. However, PPP-MII/ PMA orders are circumvented by either mentioning specifications other than issued by TEC or not mention that the equipment shall comply to TEC GR/IR or other specifications issued by BIS/RDSO. The clause 10 of PPP MII is silent on the question of mandating Indian specifications. **There is need for specifications made by Indian standard bodies to be applied mandatorily and Strict exemplary punishment, in such cases, is needed to avoid consistent circumvention of PPP-MII orders by prescribing foreign certification or specifications.**

- g. The relevant provisions to above are:
 - i) Rule-144 (Fundamental principles of public buying (for all procurements including procurement of works) of 'The General Financial Rules (GFR) 2017', inter-alia stipulates as under:

The procedure to be followed in making public procurement must conform to the following yardsticks:

- a) The description of the subject matter of procurement to the extent practicable should be objective, functional, generic and measurable and specify technical, qualitative and performance characteristics.

- b) not indicate a requirement for a particular trade mark, trade name or brand.
- ii) Further, the clause-10e of PPP-MII order stipulates that *“Specifying foreign certifications/ unreasonable technical specifications/ brands/ models in the bid document is restrictive and discriminatory practice against local suppliers.”*
- iii) Notwithstanding that in many of the tender issued by the Public Procurement agencies, the brand/ make, foreign certifications/ unreasonable technical specifications are mentioned which is restrictive for the domestic manufactures and circumvention of the GFR and PPP-MII orders.
- iv) Turn Key projects:
 - i) Another trend now a days is procurement as a work/turn key through system integrator. In such cases the conditions of local procurement apply to entire tender as a whole and hence conditions of local value addition are covered in civil constructions, installations etc. Almost in all the EPC orders, the value of bought-out products is less than 50% of the project cost. e.g. in telecom cable project the technology and the value lies majorly in the installation.
 - ii) **It needs to be applied to item by item.** This was contained in DOT PPP MII order of 29.8.2018. This was not included in DOT Order of 31.8.2018, which has been put on hold. One such example is given in para 2.53:

2.53....USOF tenders element-wise compliance of Local Content as per the DOT Notification is not monitored instead low value addition components like tower erection, civil work, installation charges, AMC charges etc are construed as local value addition to take benefits under PPP-MII Order 2017 as these infra items are having high value in total site pricing. Therefore, the actual benefit of the PMI scheme for domestic equipment manufacturing is not getting extended.
 - iii) Large projects like Central Vista Project, Central Secretariat redevelopment project are not following the PPP MII on the ground that policy is not implantable in Turnkey projects. There is a need to bring about clarity on methodology of policy implementation in turnkey projects. Now-a-days, the telecom items are procured and installed under turnkey contracts/ Engineering, Procurement and Construction (EPC) contracts. The turnkey contracts/ EPC contracts have line items from various sectors out of which the value of the telecom equipment may be normally 10-15% or even less. The notification dated August 29, 2018, issued by Department of Telecommunications stipulates that *“It is hereby notified that the procuring entities will procure a minimum percentage as indicated under Preference to Make in India (PMI) of their telecom products, services or works requirements fulfilling Local Content (LC) criterion*

prescribed against each item". Therefore, it is required that the procuring agency must specify in its tender and ensure that each item /equipment being procured for the turnkey/ EPC project, individually meets the respective amount of local content and products must be sourced only from class-1 or class-2 local supplier, as the case may be, based on their availability else the local equipment manufacturer will never get an opportunity to participate in such turnkey projects because the EPC contractor can easily meet the overall domestic content by showing other expenses while import all the equipment and not using domestic products. In addition, since foreign OEM may give predatory prices to keep out domestic manufacturers, the responsibility to ensure policy compliance shall rest with procuring agency as well as the System Integrator (SI) or the Consultant.

- iv) **There is need to show case some best practice examples by the administrative departments for their own departmental/PSU purchases. Else these types of violations are quoted by other departments to avoid PPP MII in their procurement cases.**
- v) The local procurement is applicable for items notified under Clause 3a, which administrative ministry issues subject to "Sufficient local capacity and local competition". Occasionally the administrative ministry or procurement officers asks for minimum 3-4 manufacturers. This is difficult in case of telecom products. For example, globally there are only two manufacturers Ericsson and Nokia (and two in China Huawei/ZTE). Within India, there is only manufacturer (TCS) for 4G now. For 5G, 6G India wants to manufacture locally, but difficult to envisage 3-4 manufacturers. **Hence this clause needs to be modified/removed and applied even if there is one local manufacturer. Details in this behalf are given in Annexure II**
- vi) The complaint of violations is handled by DPIIT and finally discussed in a Standing Committee with Secy DPIIT as Chair. Generally, the procurement justifies their violations on pretext of urgency or need of a particular predetermined specification etc. And at the most remedy is cancellation of tender. On retender another escape route is envisaged. **Our request is to provide some exemplary punishment for procurement officer in case of violations.**
- vii) As mentioned in para 2.53, on many occasions' buyers ignored the directions of the Standing Committee for implementation of PPP MII order. **There is strong need for implementation mechanism in timely manner, else tenders are cancelled or hurried up under the pretext of urgencies.**
- viii) Against the standing instructions of DPIIT/PMO, various procurement officers continue to mandate foreign brands/approvals etc. **There is**

need for strict exemplary punishment in such cases to avoid continuous violations for prescribing foreign certification or specifications.

- ix) Another escape route is issuing tenders to Service providers (like Telecom Operators), who in turn do not follow PPP MII. **There is need for explicit provisions in PP MII that item by item compliance is mandated either in case of turn key or through some operator or other agency.**
- x) Another escape route is asking all products from same one OEM. In several cases domestic manufacturers have one/two products, but then they are denied procurement under this pretext and are left out from participating. This is captured in para 2.53 also. **There is need to provide that domestic procurement will be preferred even in the absence of all products from same OEM**
- xi) The local content definition as per Clause 2 of the PPP Order is “total value of item procured (excluding domestic indirect taxes) minus the value of imported content (including all custom duties) as a proportion of the total value in percent”. This definition includes transportation, installation, profit etc. in the total value of item, which provides escape route for genuine local manufacturers. This issue was sorted out by DOT in its PPP MII order of 29.8.2018. This was not included in DOT Order of 31.8.2018, which has been put on hold. **There is need to re define it as Total Bill of Material less imported contents in DPIIT policy itself to have uniform applicability across all sectors, or in the DOT PPP MII Orders.**

DPIIT letter No 45021/102/2019-BE-II (E-29930) dated 15.7.2021 has clarified that even after 16.9.2020 orders of DPIIT, the way to calculate LC in DOT 29.8,2918 shall stay:

Para 4: However, it is stated that DOT has issued its Nodal Ministry Notification with different criteria for calculation of local content. Hence for telecom products local content is to be calculated as prescribed in DOT Ministry Notification dated 29.8.2018

- xii) DOT Order of August, 2018 says: The local supplier has to manufacture equipment from component level in India and also develop local vendors for procurement of raw materials, components and parts for increasing local content. The Department has identified conditions for the inputs to be qualified as Local Content and maximum ceiling for design as LC out of total LC which are in Table-B and Table-C respectively. These were not included in the DOT order of 31.8.2021, which has been put on hold. **There is need to ensure this either in DOT order or DPIIT order.**

- xiii) With reference to para 2.54, we do not subscribe to the statement made by some vendors- "till the time India develops local component manufacturing ecosystem, realization of high value addition may be difficult....." It has been rightly captured by TRAI that the basic purpose of PPP M II is to promote localisation. If we continue to depend on imports, India can never be expected to develop component ecosystem. As has been stated elsewhere in these submissions by us, in automobile sector localisation has been of the order of 70% and targeted 100% within next few years by Custom Duty imposition route.
- xiv) GeM is a good tool for consolidation of domestic market demand and this digital platform can be used to ensure/ monitor proper implementation of policies designed to promote domestic manufactured goods. Large scale policy circumvention is observed but GeM insists on its limitations in ensuring correct declarations made by buyers as well as sellers. Incorrect and unsubstantiated certificates of domestic value addition are put by suppliers and remain unchecked. Similarly large buyers buy foreign products on GeM by issuing 'Proprietary certificate' that defeats the purpose. Grievances are flagged but remain unaddressed for various reasons. Our marketplace GeM continues to place imported products on its shelves, in the name of neutral market and under the garb of "best price discovery" unmindful of the larger objective of the Government to promote domestic products. Buyers continue to flout and Department of Expenditure supports circumvention of PPP MII order because they only focus on fast delivery of projects without being concerned about larger objective of building Aatam Nirbhar Bharat. **Need is appropriate intervention in this behalf.**
- xv) Circumvention of PPP MII policy is largely because large buyers interpret various clauses of the policy differently. Therefore, for simplification in understanding and ease of implementation, **there is need for issue of Frequently Asked Questions (FAQs), based on decisions taken in Standing Committee and various circulars issued by Government/ CAG/ CVC/ PMO/ DPIIT/ administrative ministries.**
- xvi) **Promotion of domestic manufacturing by Phased Manufacturing Program:**
- Ministry of Railways, Railways Board vide their OM No. No.2015/RS(G)/779/5 dated 10.1.2020 has issued following guidelines vide Clause 6,7,8 for promotion of domestic manufacturing via Phased Manufacturing Programme. **The same are worth consideration for telecom sector:**

6. Therefore, there is urgent need, especially under Make in India Policy of Government of India, to indigenize all the items, increase the local content of these items along with having sufficient number of Indian vendors with 50% and more local content.

7. Proactive actions must be taken in this direction, including insistence on Phased Manufacturing Programme from vendors for manufacturing within the country. One such example is vendor approval by RDSO for some of the signaling items on Cross Acceptance basis.

8. In addition, suitable mechanism for phased indigenization may also be developed in line with clause 13 of Make in India Policy for items being manufactured under "license/technology collaboration agreements with phased indigenization" and details submitted to Board.

vii) We request Enforce fiercely, fearlessly and forcefully the definition of 'Domestically Manufactured Products' under PMA as per TRAI recommendations on Telecom Equipment Manufacturing Policy:

- The products have been designed, developed and manufactured in India by an entity duly incorporated in India
- IPRs for the products reside in India.
- Commercial value of the IPRs accrue to India
- The product meets the minimum value addition criterion prescribed in the policy.

viii) Assembly v/s manufacturing

- a. There is need to differentiate and clarity on definition of assembly and manufacturing and technology owned by India/others, Indian design based manufacturing. What Indian policies promote and want is manufacturing and not assembly. And to ensure that various concessions/incentives announced for manufacturing are not grabbed by the so-called assembly unit, which has been the case so far.
 - b. Manufacturing can be of two types:
 - Using own India grown technology and setting up manufacturing facilities, land, building, machineries etc.
 - Using foreign technology and setting u manufacturing facilities.
- Assembly is simple importing components in SKD/CKD form and assembling without any local procurement. In some cases may be very minimal. Assembly can also be of two types:

- Getting assembly done by a third party called EMS, which are 100% foreign owned as also some domestic owned.
 - Setting up an assembly plant and invest in infrastructure.
- c. Now a days contract manufacturing or EMS is accepted, who handles assembly work. In this the assembly infrastructure is set up by someone and used by several manufacturers, all of which are entitled to be called Make in India without any investment in fixed assets or employment. In this case the OEM can stop at any given time orders to EMS without incurring any responsibilities or liabilities. In the case of EMS the investment in fixed assets is done by one Company and on that basis manufacturing incentives/facilities are claimed by several number of Companies. There are no criteria for local value addition. There is also no technology absorption in case of ERMS, except for assembly.

The assembly of telecom equipment does not give real value to the Country. Some examples to bring in this point are given below:

- i) *A study long back during the year 2009 found that China was assembling iPhones and contributed sale revenue of about US\$2 Bn. And China hardly got US \$ 6.50 out of each iphone of US \$ 600.*
 - ii) *Times Magazine 16thMay, 2011 carried an article on manufacturing of I Phones. This clarifies that out of 500 USD cost of iPhone, only 7 USD goes to China for manufacturing. USA gets profit of 321 US \$ and balance cost of components/parts etc. is US \$ 179. So, assembly contribution is little above 1% only in both studies quoted here and above.*
- d. It is also submitted that domestic manufacturing does not imply indigenous manufacturing, as there is no distinction between an Indian and a foreign Company manufacturing in India. This also leads to a view that all domestic manufacturing need not be going to ensure complete security.
- e. There is also basic difference between assembly, manufacturing and design led manufacturing. In this behalf the TRAI recommendations made in 2011, 2018 are still relevant and are reiterated for implementation

Para1.32. quotes: In 2018, the Authority, extending over its 2011 Recommendations, further recommended that 'India should aim to achieve the objective of 'net zero imports of telecommunication equipment' by 2022.' To achieve the same, the Authority classified goods into fully finished imported goods and indigenous products. Indigenous products were further classified on whether they were designed, manufactured, or assembled in the Country.

2.43 Authority in its 2011 recommendations defined Domestic manufactured products as products manufactured in India that meet the minimum value addition criterion prescribed in the policy. Domestic manufactured products were further categorized into either Indian Manufactured Products (IPR residing outside India) or Indian Products (IPR residing within India).

f. We reproduce below the 2018 recommendations of TRAI in this behalf and reiterate the same: The Authority recommends: (Refer paragraph 2.70)

(a) All telecom products meant for use in the telecommunication network or by consumer and marketed in the country should be classified in following categories:

- i) Fully finished imported products: This category of products are manufactured by foreign registered Companies using hardware designs and software technologies developed outside India and have high level of value addition outside India.
- ii) Indigenous products: This category of products are designed and/or manufactured in India by the Companies registered in India. Since the ambit of such products would be large, there would be a need to create more granularities in this classification as mentioned below:
 - (aa) Made in India Products – Using designs of foreign registered Companies, this category of products are manufactured in India by Companies registered in India. Such products have imported sub-systems, which use HW and SW technology developed outside India and have very low level of value addition in India.
 - (ab) Designed in India Products - Products designed by India registered Companies but manufactured outside India.
 - (ac) Designed and Made in India Products – Products designed and manufactured by the India registered Companies in India.

Q12. Whether the incentives to Telecom Service Providers to deploy indigenous manufactured products in their network will be helpful in promoting NATEM in India? Please justify with reasons. What incentivization model is suggested?

Response:

- i) NDCP 2018 envisages:
 - (b) Ensuring strict compliance to Preferential Market Access requirements:
Incentivizing private operators to buy domestic telecom products.
- ii) 2.48 In its 2018 Recommendations Authority reemphasized, that **we also request:**

- (d) PMA policy should be made applicable for all public telecom networks to address the national security concerns. (2011 also same recommendations)
- (e) Telecom Service Providers should be incentivized for deploying indigenous telecom products, beyond the quantities to be mandated under the PMA, by giving them graded incentives
- iii) As of now even though licence conditions specify TSPs to follow Make in India and TEC GRs, but these are not followed. There is no incentive or compliance to follow Make in India.
- iv) We reiterate earlier recommendations of TRAI:
-) **2.43: The Authority stated that: The Department of Telecom should suitably modify the relevant clauses in the UAS Licences issued/to be issued and the Unified Licence to include the stipulations of percentages of market access, value addition and auditing in respect of domestic products.**
 -) **2.44: It was recommended that the service provider procuring more than 10% of the market access requirement of telecom equipment in the form of Indian Manufactured Products should get a rebate equivalent to 10% of its licence fee for that year and the service provider procuring more than 20% of its telecom equipment requirement in the form of Indian Manufactured Products should get a rebate equivalent to 20% of its licence fee for that year. It was clarified that for the purpose of this recommendation licence fee does not include USOF contribution of 5% of AGR.**
 -) **2.46 The Authority also recommended that For Indian products if a service provider is not able to meet the criteria of market access, then it will deposit an amount equal to 10% of the shortfall in the value of the equipment in the Telecom Research fund or the Telecom Equipment Manufacturing.**

Q13. What should be the incentive structure (fiscal and infrastructural) for Telecom Product Development Clusters (TPDC) set up within the EMCs or separately?

RESPONSE:

- i) **We would like to reiterate the earlier recommendations of TRAI:**
- a) **2.63: Authority in 2011 had recommended that “Ten telecom clusters be identified immediately. The Central/State Governments should make all efforts to develop infrastructural facilities in a time bound manner so that the infrastructure related disabilities are removed for the units that are located in the clusters.”**
 - b) **2.64: Authority in 2018 further recommended that “Telecom Product Development Clusters (TPDC) within the Electronic Manufacturing Clusters (EMC) should be established. The Government should extend suitable incentives to the TPDCs so as to attract talent and investments into these clusters.”**
 - c) **We support incentives to TPDC as per para 2.66**
 - d) **An important component that can vastly enhance the utility of TPDCs is the creation of common testing infrastructure and testbeds (e.g., IITM testbed for 5G, 6G) within these clusters. GoI should provide access to this shared infrastructure at a reasonable cost to industry with replication at multiple locations and enabling remote access. As we move into the next-generation technologies for 5G advanced and 6G we can extend the Testbed to enable maturation, testing, PoCs, pilots of research ideas to enable development of SEPs based on Indian IPR. This needs to be a platform to foster**

collaboration, joint development and joint research between Indian Academia, Indian Startups & Companies. The testbed should also provide a pre-trial platform for Indian NATEM vendors and service providers.

Q14. Whether NATEM is facing any limitation affecting competitiveness of Local manufacturers due to misdeclaration of HS codes, inverted duty structures, landed cost differential etc.? Please provide specific details. What are the suggestions for improvement? Please elaborate.

RESPONSE:

- i) Misdeclaration of description of the product and putting them in 'others' category is common cause of concern e.g., VoIP gateway has no specific HS code but invariably it is put under router, giving the description as router with FXS (VoIP extensions) ports to circumvent the Basic Custom Duty (BCD) as router is exempted from customs duty whereas VoIP switches attract duty. Similarly, there are number of telecom equipment on which BCD was levied which is circumvented by importing those products under the 'Others' category. Therefore, in most of the cases 'Others' category is used for circumventing the BCD.

This issue of Mis-declaration in duty free HS codes is being attended by DOT in effective way by recommending revised classifications and training of customer officers. **There is need, however, to put in place a mechanism to achieve this in specified time line.**

- ii) **Mis-declaration of HS codes to circumvent imposition of customs duty:** Mis-declaration of HS codes to circumvent imposition of customs duty is very rampant and must be nipped. The DoT sought imposition of customs duty on functional parameters of product. The issue is regarding non-implementation of the 2014 Notification, wherein all items under HS classification 8517xxx were exempted from payment of duty with an exception from exempting VoIP, Optical, RF and Carrier Ethernet products from payment of duty which effectively meant that import of these products were to be subjected to customs duty from the applicable date. This custom duty was initially 10% and subsequently as per notification dated 11 Oct 2018 increased to 20%. Objective of the notification was to promote domestic manufacture of these new technology telecom products that were based on technologies that did not exist when ITA 1 agreement was signed by India.
- iii) **Inverted Duty Structure - Basic Custom Duty on 'Inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990':** Basic Custom Duty (BCD), of 10%, was levied on certain non-ITA finished telecom equipment/ products (under HSN Codes 85176290 & 85176990) vide Department of Revenue notification, No. 75/2018-Customs dated October 11, 2018 which acted as a step towards

strengthening the domestic telecom product/ equipment manufacturing industry in the country.

Further, BCD on parts, components and accessories except populated printed circuit boards for use in manufacture of, inter-alia, broadband modem, routers, set-top boxes (for gaining access to Internet) falling under tariff item 8517 62 30, 85176930 and 85176960 respectively and their Sub -parts for use in manufacture of aforesaid mentioned items was made 'Nil' vide Department of Revenue, Ministry of Finance notification, No. 50/2017-Customs dated June 30, 2017, if the importer followed the procedure set out in the Customs (Import of Goods at Concessional Rate of Duty) Rules, 2017. The relevant extract of the notification, No. 50/2017-Customs dated June 30, 2017 enunciating 'Nil' BCD on the aforesaid items and the 'Condition-9' therein.

In addition, the BCD on 'Inputs or raw material for use in manufacture of all goods falling under tariff items, inter-alia, 85176100, 85176290 and 85176990' was made as 'Nil' as per Department of Revenue, Ministry of Finance notification, No. 57/2017-Customs dated June 30, 2017 (refer Sl. No. 8(v), 8(vi) & 8(vii) in the table of the aforesaid notification).

The BCD of 10% on certain finished telecom products under tariff items 85176290 & 85176990 (Para-1 above), 'Nil' BCD on 'parts, components & accessories' under tariff items 85176230, 85176930 & 85176960 (Para-2 above) and 'inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990' (Para-3 above), which are utilised for manufacture of domestically designed & telecom products/ equipment such as Optical Transport Equipment, OTN products, POTP or POTS products, PTN products etc., extended support to the domestic telecom equipment/ product manufacturers in being competitive vis-à-vis the products of Multi-National Companies (MNCs) who enjoy the economies of scale due to their presence across the globe. The same was in consonance with the national objective of AtmaNirbhar Bharat & 'Vocal for Local'.

Subsequently, BCD of 10% was levied on the Printed Circuit Board Assembly (PCBA) for many Non-ITA Telecom equipment products tariff item 85177010 vide Department of Revenue, Ministry of Finance notification, No. 02/2020 dated February 2, 2020. Nevertheless, the exemption on other components provided as per notifications, No. 50/2017 & 57/2017 (Para-2 & 3 above) continued subject to following procedure set out in the Customs (Import of Goods at Concessional Rate of Duty) Rules, 2017.

However, the provisions of 'Nil' custom duty as per Sl. No 8 (v), (vi) and (vii) under notification, No. 57/2017-Customs dated June 30, 2017 were omitted

vide Department of Revenue, Ministry of Finance notification, No. 03/2021 dated February 1, 2021, resulting into levying up to 20% on importing 'Inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990'. Though, 'Nil' BCD continued on 'all goods other than the parts of cellular mobile phones and inputs or sub-parts for use in manufacture of parts thereof' under tariff item 85177090 (refer Sl. No. 5 of Department of Revenue, Ministry of Finance notification, No. 57/2017 dated June 30, 2017), however, the clause doesn't cover all the telecom items as the same covers only a specific tariff line i.e. 85177090. As a result, the items which are classifiable under tariff line 85176100, 85176290 and 85176990, when imported for manufacture of non-ITA products such as POTP equipment etc., attract BCD and are deprived from the benefit as per previous provisions under notification No. 57/2017.

The aforesaid omission of provision of 'Nil' custom duty on 'Inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990' has resulted a big setback to the domestic telecom equipment manufacturing industry.

On one hand Government of India has a vision of promoting domestic manufacturing and also promoting foreign Original Equipment Manufacturers (OEMs) to bring their manufacturing lines in India under various incentive schemes such as Production Linked Incentive (PLI) Scheme, whereas on the other hand such imposition of BCD up to 20% on import of 'Inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990' will be detrimental to such efforts.

In view of the above, it is recommended that till the time electronic component manufacturing industry is set-up in India, no duty shall be levied on 'Inputs or raw material for use in manufacture of all goods falling under tariff item 85176100, 85176290 and 85176990' and the earlier provisions, as per Sl. No 8 (v), (vi) and (vii) under notification, No. 57/2017-Customs dated June 30, 2017 may be revived and the case for the same may be taken-up with Department of Revenue, Ministry of Finance for issue of notification.

There is need for an institutional mechanism to address the issue within 15-20 days at the most.

- iv) On the issue of Under invoicing/ dumping of cheaper goods, it is submitted that at present the burden of proving antidumping duty lies with the Indian challenger manufacturers. It is very lengthy and cumbersome procedure to proof antidumping duty and to secure the order. **There is need for appropriate mechanism, where on complaint by domestic manufactures with limited proof, the department analyses the matter and within**

shortest possible time imposes the antidumping duty. In such case the burden of proving will rest with foreign exporter.

- v) With regard to FTA, this is serious issue. FTA route is openly used to export equipment from other Countries by masking as made in FTA Country. There is always a local content condition in FTA, but that is also openly floated, as it depends on declaration by the exporter and there is no verification at the time of imports into India. We feel that the Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020, addresses this issue. **There is only need for its proper implementation and it is suggested for that a committee of concerned officers and industry needs to be recommended.**
- vi) With regard to WTO, it is submitted that as an observer to the WTO's Agreement on Government Procurement (GPA), India is not legally bound to comply with GPA provisions. Parties to the agreement are mostly developed countries with mature industries and domestic manufacturing.

The Agreement on Government Procurement (GPA) is a plurilateral agreement under the auspices of the World Trade Organization (WTO) that entered into force in 1996. It regulates Government procurement of goods and services by public authorities of the parties to the agreement, based on the principles of openness, transparency and non-discrimination. The GPA was negotiated in parallel with the Uruguay Round in 1994, and entered into force on January 1, 1996. As a signatory to the WTO, India can extend the policy to the private sector for core security interests.

- vii) As regards WTO's ITA 1, earlier there was an impression that India has committed zero duty imports under ITA1 for all telecom products including mobile handsets and wireless equipment. However, this is not found to be correct. On 25TH March 1997, when the ITA-1 agreement was signed, total 217 lines (including expositions) were part of the schedule. As per the schedule, the tariff were to be reduced to zero duty level proportionately over a period from 1997 – 2005. It was made applicable to the equipment existing at that time. For example, wireless/mobile, 5G,4G,3G etc. were not even known at that time. Most of the wireless telecom products like GSM BTS, Switches etc. did not even exist and, therefore, they cannot be covered in ITA 1. They were not a part of HS classification 8517, in which most of the telecom items were covered. The issue is that when India signed WTO's ITA 1, the HS codes 85.17 and 85.25 were described in a particular way. Subsequently due to various reasons the description of the codes has been changed, which allowed import of several other equipment's, which were not originally envisaged.

- We feel there is need to impose highest duties on the products not covered in ITA1/WTO and for the items covered in WTO, as per our original commitment made therein.** At the moment custom duties on mobile phones/4G equipment is only 20%, **which needs to be increased.** As per WTO India can impose custom duties upto 40%.
- viii) As regards inverted duty structure, Govt. has been prompt in addressing the issue, but it is time taking process. **There is just need for an institutional mechanism to address the issue within 15-20 days at the most.**

Q15. Whether the current schemes/ measures or policy support for exporters of Indian manufactured equipment are sufficiently meeting the requirement to promote the global competitiveness of Indian NATEM exporters? Are the Schemes/instruments in India consistent with the international schemes for exporters in leading manufacturing Countries? Please suggest measures to bridge the gap if any.

RESPONSE

- i) **EXPORT PROMOTION THROUGH LOC/ GIA**
- a) Biggest way to promote exports is through grants/LOC extended by Govt via Exim Bank and other sources. As regards EXIM Bank referred in para 2.71.2, while extending LOC to foreign Countries, they have a condition of procurement from India. Under this any Indian Company, may be trader, gets the tenders. **We feel there is need to impress upon EXIM Bank to mandate procurement from Make in India as per PPP MII.**
- b) Apart from strengthening the diplomatic relations, the LoC/ Grant in Aids are extended to the friendly Countries for promoting the exports to the respective country. The LoC/ GiA projects are implemented under the Indian Development and Economic Assistance Scheme (IDEAS) Guidelines. The IDEAS guidelines were issued by Department of Economic Affairs on December 7, 2015. At that point in time, the Public Procurement (Preference to Make in India) policy (PPP-MII) was not in existence though certain departments, including Department of Telecommunications, had notified Preferential Market Access (PMA) policy for their sector. Subsequently, Department for Promotion of Industry and Internal Trade has issued comprehensive PPP-MII order during 2017 wherein concerned nodal departments/ ministries were authorised to notify, inter-alia, local content etc. The clause-5 of The IDEAS Guidelines stipulates as under:

“5. Requirement of import of goods and services from India:

Goods and services for minimum 75% value of the contracts covered under these loans must be sourced from India. A relaxation not exceeding 10% may be considered on a case-to-case basis for projects involving significant civil construction work. Further, this

exemption should be sought before the project is tendered. LoCs may finance up to 100% value of contract on FOB/CFR/CIF/CIP' basis.”

- c) Line of Credit (LoC)/ Grant-in-Aid contracts pertaining to the telecom sector, generally, have goods & services related to civil construction and other items which may constitute the bulk of the project in value terms. The equipment/ materials, other than telecom equipment, may constitute 75% of the value of the contract. Consequently, EPC contractors, instead of sourcing telecom equipment manufactured and designed in India, tend to supply imported telecom equipment purchased in India in Indian currency which need to be corrected. Thus, telecom products manufactured in India are deprived under LoC/ GiA contracts. The implementation of PPP-MII Order, issued by Department for Promotion of Industry & Internal Trade, in Line of Credit projects will result in increasing the export of the telecom equipment/ products and in-turn will help achieve export targets.
- ii) Another big issue for exports is the existing base in home Country. **And for this the provisions mentioned in this paper for promoting of local manufacturers gets prime importance.**
- iii) The price of any commodity plays an important role in any domestic or international market. The competitive price depends on the economies of scale, as a result, the export of telecom products cannot be seen in isolation as economies of scale cannot be achieved without the domestic consumption of the product. The large domestic demand can be leveraged by domestic companies to create innovative, high-quality products and solutions that not only meet the needs of the highly competitive Indian market, but also address the global market. Considering the security of the nation and safety & security of persons, the deployment of indigenous telecom products in Indian telecom networks is indispensable. **This can be achieved by effective implementation of PLI, PPP MII as discussed here in above.**
- iv) There is already a Champion Scheme, as mentioned in para 1.27.6:
- Champion service sector scheme (CSSS) was announced on 24.03.2021 by the Ministry of Commerce and Industry. A total amount of Rs.3369.75 Crore for 3-5 years has been approved for the scheme by the Expenditure Finance Committee based on the proposals submitted by the concerned Ministry/Department. Under the scheme, in 2020-2021, DoT was allocated Rs.15 Crore for their sectoral scheme 'Brand building of India as Telecom Manufacturing and Services Destination'.
- Another Rs. 44.5 Crore was allocated to DoT for Setting up of Digital Communications Innovation Square (DCIS). Under DCIS, maximum support to a start-up/MSME is given up to Rs 40 Lakhs for the project duration. Startups (Scaling Stage)/MSMEs who have already tested their prototypes (hardware/software innovations) are eligible to receive the support.
- v) In order to promote NATEM exports, Government of India is requested to create National 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 whole Europe, Samsung & LG in Korea; hence India too should aspire to create such global leaders in the telecom sector. National Champions can be selected through a transparent process and shall be supported in multiple ways such as:

- i. Matching grants/soft loans for R&D and new product development.
 - ii. Commercialisation support in the form of assured business in all government telecom projects.
 - iii. In government tenders, even if there is only one 'Indian Product', the same shall be procured, rather than being imported.
 - iv. National Champions shall be given an opportunity to supply at 'fair' price, based on already discovered global prices (or imports) and/ or based on their cost structure.
 - v. Active export promotion through a \$10B G2G lines of credit in bilateral trade so that global volumes can be generated
- vi) Let's see how does the world promotes its own technology and exports the same. Creation of a technology, making big hype, in home Country orders without bothering about rates/proven past experience/technology proof in real working conditions and then global marketing. And let's remember that the funding for technology R&D is often extended by Government, may be coupled with defence or other requirements. **We feel there is need for a mission mode project to announce certain technology for championship in India and then make it India pride. The announced plans of Govt. for 6G are in this direction. The need is to formally take a decision to procure 6G locally only and announce high custom duties and invest graciously in R&D and patents.**

Q16. Whether the existing incentives/policies issued by DoT and MeitY do meet the requirements for the growth of telecom software products? What additional policy initiatives and enabling regulatory measures are suggested to facilitate integration of telecom equipment and software products that are made in India? What measures are required to enhance exports of such products? Please justify your response.

RESPONSE:

- i) **As referred in para 2.76, there is need for a 100% software-based incentive scheme for telecom sector, which cannot be PLI type, as software is heavily dependent on manpower costs. It is expected that this may be covered in the design led, R&D schemes. If not then can be recommended here.**
- ii) For branding of India as a 'Technology Product Nation', it is recommended to create an export promotion fund with a corpus of ₹ 1000 crores for telecom equipment and software products which may be utilised for hosting events,

conferences and international 'buyer-seller' meets that will showcase domestic companies to national and international customers. The model of trade show here should be like Make in India show by Govt. in Cebit/Dubai where investments and branding was made by Govt.

Q17. Stakeholders are also requested to comment on other relevant issues, if any.

Response:

1. There are some exemplary cases of success of Make in India:

- Automobile- all global manufacturers in India for manufacturing
 - Even today import duty on cars is 100% and 60% for cars upto 40,000 \$
 - Import duty on auto parts/components(HSS 87.08) 15+28+10% Social welfare surcharge ie. 53%
 - 70% localization achieved and now targeting for 100%
 - <https://auto.economictimes.indiatimes.com/news/industry/focus-on-localisation-else-govt-will-increase-import-duty-on-auto-parts-nitin-gadkari/81205738>
 - Even during 2021 budget Duty increased in some auto parts.
 - Promoting EV vehicles BUT DUTIES WILL REMAIN SAME
 - The import of new vehicles shall be permitted only through the Indian Customs Port at Nhava Sheva (Mumbai), Calcutta and Chennai.
 - The Government of India has allowed the entry of second hand vehicles into the country only through the Mumbai port.
 - After import it is necessary to submit the imported vehicle to Vehicle Research and Development Establishment (VRDE), Ahmednagar, of the Ministry of Defence or the Automotive Research Association of India, Pune or the Central Farm and Machinery Training and Testing Institute, Budni, Madhya Pradesh, or other notified testing agency authorised by the Indian Government
- BSNL 4G
 - In spite of all odds domestic insisted
 - CDOT made core, Tejas RAN and TCS putting together
 - Relaxations rightly given, if needed in specifications.
- 5G
 - Entire world except ITU was opposing on cost/interoperability/scale

- On seeing Govt commitment, all objections dropped and 3GPP/All vendors agreed
- **KEY FINDING- Import restrictions and Firm Govt commitment- Pharma etc. not discussed here**

2. The issue of IPR and SEP

As per para 1.34, DOT has asked for more information on TRAI recommendations for creation of a portal for Standard Essential Patents (SEP). In this behalf:

- i) The NCDP 2018 in this behalf provides:
 - a) iv. Ensuring the availability of essential background IPR in Fair, Reasonable and Non-Discriminatory (FRAND) terms required for promoting local manufacturing
- ii) Para: 1.33. Authority in 2018 outlined the need of IPR creation in India and concerted efforts in the research and innovation domain.....
 - Alternate Dispute Resolution Framework for time bound resolution of patent licensing disputes should be institutionalized in the country.
 - A common portal should be developed for self declaration of Standard Essential Patents (SEP) by the patent holders in the telecom products. The portal should have the facility for listing of registered telecom product design, manufacturing, marketing and System Integration (SI) Companies along with their designs/ products so that development of the complete ecosystem in the Country can be facilitated.
 - To expand understanding about patent filing policies and procedures, the patent information cells should be created in leading Universities/ technical institutions to be identified for promoting research, innovation, and development of telecom technology and systems designs.
- iii) **We still reiterate the above recommendations for IPR** and submit below more details.

The existing patent laws have worked against the local manufacturing Companies in Telecom/Mobile Handset industry. In fact, IPR royalties are biggest hurdles and bottleneck for local manufacturing. Once local manufacturer achieves some level, several IPR patent holders start asking royalties and manufacturer does not know how to respond.

The fundamental issues are:

1. Intellectual property (IP) and Standard Essential Patents (SEPs) have potential to serve as considerable barriers to diversification as technology suppliers staunchly protect their investment and designs. While these practices and their commercial drivers are not unique to the telecoms sector, the Government should consider appropriate measures given the significant role IP plays in the development of telecoms equipment. This issue is complex and has to be set within legal frameworks and international agreements.
2. There are tens of thousands of SEPs that have been declared to standard setting organisations (SSOs) as being essential to standards, such as 3G, 4G, 5G and WiFi. Whilst most of the patents when tested in court are likely to be invalid or not infringed, many will relate to the provision of the network by the network operator, as well as products, such as handsets, that communicate with the operator networks.
3. A challenge for CPs (TSPs) is that there are so many patents declared essential to standards, such as 4G and 5G, that it will not be possible for operators to assess which of the patents are essential, valid and infringed. Complicating matters further is that many standards relevant to networking technology, such as 3G, 4G, 5G, Zigbee and WiFi, target aspects of data security and privacy in these networking systems, for example encryption, keys, base-stations and device recognition, etc., for which there are many claimed SEPs.
4. Few Companies dominating the world market, result in (a) Intellectual Property costs for several products far exceeding their Bill of material (BOM) cost due to closely held technology (b) Controlling prices, Driving standards and their enforcement.
5. IPR is important to be respected and paid. The issue is that once reasonable level is achieved in domestic mfg, they are bombarded with IPR cases. Recently (i) Dolvi filed against Reliance for 20 Mn \$ for smartphone mfg. (ii) Interdigital sued two Mobile mfrs for 20 Mn \$ each. Earlier Examples of Micromax, Lava etc. 5G and 6G non clarity of IPR suits are bound to come
6. There is no authority whatsoever in India or abroad, who tell that how many patents and how much royalty is applicable for any telecom/mobile handset products. As a result the royalties payable are not known at the start of project. Once project achieves critical mass, the royalty claims start bumping. **So manufacturers are placed in UNKWON LIABILITY POSITION.** The answer to this is compulsory licensing by Government, wherein all patents holders are required to approach Government for licensing. TRAI in this behalf in its Consultation paper of 2018 has said:

*“However, **there is no single window like structure in place**, which can provide clarity in terms of patent licensing requirements at the time of commencement of manufacturing activities.”*

2. As stated by TRAI in its consultation paper of 2018 itself, **“the concept of SEPs does not have any statutory recognition in the Patents Act, 1970.”** So various Courts, industries, forums, bodies take their own interpretation and understanding and there is no unanimity across globe or even within one Country. Even the Standard Setting Organizations like European Telecommunications Standards Institute (ETSI) and Institute for Electrical and Electronics Engineers (IEEE) do not declare any patent as SEP.
3. There is no authority in Government or abroad, who confirms that so and so patent is SEP (Standard essential Patent). As a consequence, any patent holder starts claiming it to be SEP and starts demanding royalty. Majority of legal battles on authenticity of SEP ends up in negotiations, hence the patent is SEP or not remains not known.
4. Nobody in Government or foreign body tells what royalty rates on the IPR are. As a result, this goes on negotiations and taking shelter of confidential clause, the patent holder does not disclose the rate of royalties decided in the past. This creates UNKWON

LIABILITY and the rates depend on the bargaining/financial powers of the manufacturers. TRAI in its consultation paper of 2018 in this behalf has said:

“Non Disclosure Agreements may result in differential in royalties to be paid. Rate of royalty differs substantially from one potential licensee to another. This results in higher costs for the local manufacturers and therefore higher purchase costs for the consumers. A need therefore exists to transparently mention the range of royalties to be paid in percentages wherever feasible”

5. Logically royalty should be on the cost of component/part on which patent holder have IPR. As a rule, royalties are claimed on the entire cost/sale price of the product. Legal battle in this behalf remains unsolved and is decide by negotiations. As such this is another UNKNWON LIABILITY. TRAI in its Consultation Paper of 2018 itself has said in this behalf:

“Issues pertaining to the basis for determination of royalty i.e., whether on the value of the Smallest Saleable Patent Practicing Component (SSPPC) or on the net price of the downstream product, or some other criterion remains open ended”

6. The same argument also applies to occasions when readymade product, called CBU Complete built Unit is imported.
7. On various occasions the Government prescribes the technology to be adopted to meet the given licence conditions/specifications, but no disclosure as to what are royalties on IPRs. So one more UNKNOWN LIABILITY
8. The manufacturer is left to himself to contest the legal battle. Any new manufacturer's capability and financial powers are limited as compared to IPR holders, who contest case worldwide with high legal professionals and high costs. In some countries like China, the IPR cases are handled by a Government agency. There is need that Government decides some agency in India to handle and guide and contest legal IPR case.
9. Globally there is fierce competition and contest in Courts on various IPR cases on daily basis. Same Company files against one other in several Countries. On Most of times the cases are not decided and negotiations arrived and, on several occasions, contrary judgments may appear. The Indian judicial system is hardly able to keep trek of latest judgments/happening worldwide due to first being overloaded with several cases and then lack of any training/skills available in India by Government. Most of the lectures/articles are written by interested lobbyists, depriving the opposite view. The answer is special Courts in India and also training for judicial persons from Government level with balanced speakers of all the sides.
10. The fact is that the mobile/telecom manufacturers import basic chip/semiconductor and other components from abroad. Any violation of any IPR has to be on that component/chip/semiconductor. Indian manufacturers just assemble that. So any violation of IPR patent is at the end of component/chip manufacturing. If Indian Company is also manufacturing component/chip, then he should be liable to pay IPR royalties, otherwise not.
11. A large number of Companies are 'holding out' and refusing to license their SEPs to all Companies in the supply chain that want a licence,

preferring to seek licences from end customers, such as network operators.

12. Appreciate how Government helps in local manufacturing by negotiating with IPR Holders.

(Please see next page)

Thinking for themselves

India and China aim to challenge western tech firms through innovation, not just cheap labour

ON THE sixth floor of the sleek headquarters of Sasken Communication Technologies in Bangalore, India, a small cubicle serves as an office for the chief executive, Rajiv Mody. There, hanging on a wall beside a photograph of Mahatma Gandhi, is a plaque of patent number 5,072,402, for a "Routing System and Method for Integrated Circuits", granted to Mr Mody by America's patent office.

Sasken, a publicly traded firm with 6,000 employees and over 2,400 employees,

writes the code that is embedded deep inside the hardware of telecoms equipment, from mobile phones to high-speed internet modems. The patent on the wall is a visible sign that the company, like India itself, is trying to shift from low-end work to more sophisticated technologies, complete with home-grown inventions. The same thing is happening in China. And both countries are using the intellectual-property system to stake out their turf.

For the moment, both are better known

as places where intellectual property needs special protection. As a strategy for economic development, nabbing someone else's patents is nothing new. Immediately after America's declaration of independence, its government made it official policy to steal inventions from Europe, expediting the country's rise as an industrial power in the 19th century, notes Doron Ben-Atar of Fordham University in New York. Yet in India and China, the pressure for respecting intellectual property more is

Without home-grown technology, India and China have to depend on foreign firms, and they do not like it. China, in particular, has seen a surge in the royalties it is paying to foreign firms, and is trying to stem the flow. When Qualcomm's boss went to China in 2001 to negotiate royalty payments for his company's third-generation mobile-phone standard, he agreed to accept less than what he charges others. Within a year, China was working on developing its own 3G wireless standard. If it succeeds, Qualcomm will see its royalties shrink further.

13. Significant IPR creation is happening in the Country, the need for classification of domestically manufactured products in true sense as 'domestic products having IPR resides in India' and rest to be construed as Assembled or Manufactured in India.
14. Let us not be bogged down by lobbyist that there is conflict between Competition IPR and both can exist simultaneously, even though IPRs are de-facto monopolies. There is need for interface and right balance between competition and IPR. Every Nation has make IPR policies considering their development level, Nation needs and priorities. This achieves more significance in present era where globalization is facing a backlash across several economies. Competition is an important policy to promote and protect public interests. Hence need for appropriate policy formulation, implementation and enforcement to promote both innovation and consumer welfare.

Suggestions:

- i) Make telecom under compulsory licensing.
- ii) Declare one Government body who will decide the SEP/IPR patent royalties payable
- iii) Declare one Government agency that will contest and handle all IPR legal cases filed.

Declare special courts in India for IPR Cases and also training for judicial persons from Government level with balanced speakers of all the sides.

- iv) Clarify in the policy statement that IPR Royalties are payable on the cost of components having IR and not on the entire sale cost of product.
- v) Clarify as a policy that as and when Government mandates any technology for standard/specifications, it should also indicate IPR Patent royalties payable.
- vi) Clarify as a policy that IPR royalties are payable by the manufacturer of component/chips/semiconductors and not by users of the same.
- vii) A committee consisting of academia, DoT and domestic industry should vet and approve all SEP patents and any licensing charges to be paid. Government of India organization to be set up that will examine validity and negotiate on behalf of all Indian equipment manufacturers to get “reasonable” patent pricing for SEPs claimed by any patent holder.
- viii) Government to negotiate for IPR royalties for India as a whole for manufacturing and then applicable to all manufacturers, refer example of China quoted above.
- ix) By policy make classification of domestically manufactured products in true sense as ‘domestic products having IPR resides in India’ and rest to be construed as Assembled or Manufactured in India.

3. Telecom Products-Security Aspects:

- i) The present days telecom equipment/ service is capable of routing or redirecting user data traffic or permitting visibility into user data or packets, causing network traffic to be disrupted remotely, or otherwise poses an 'unacceptable risk' to national security or the security and safety of the citizens. In view of above, it has become indispensable to recognise the threats to our communication network & the risks involved thereof and take necessary steps to achieve self-reliance in respect of development of technologies as well as design, development and manufacturing of telecom products.
- ii) As referred in Para-3.4 of Consultation Paper, Lawmakers in the US are actively pushing for 100% local content in telecom products amidst the risk of data security breaches.
- i) **We would urgently urge that the telecom products be declared as a security product with regard to WTO.**

4. NEED FOR AN TECHNOLOGY PLAN FOR INDIA to ensure market when products are developed and solution to L1 practice in actual procurement.

- o Govt. to identify technologies required for India where Govt. can allocate market once product is made in India. Focus on products where we can create success stories rather than chase futuristic technologies and blue sky research programs. This process has ben started with 5G and 6G intentions of Government.
- o Two options:
- o Govt. negotiates & acquires it and pass on to domestic for manufacturing.
- o DOT to create a fund & promotes development of technology in India with support of identified Companies of Silicon Valley. We have access to Silicon Valley team who we can get them involved as partner, team member, mentor etc
- o Need is access to market. After innovations R&D...where to supply?. Need marketing support.

5. Issue of Spectrum for Domestic Manufacturers.

- i) NFAP 2011, Spectrum Allocation Policy provisions of NFAP 2011 clearly envisage the need for de-licensing of certain frequency bands for specific usages and to encourage Indian Innovations in Telecom & lead the Global Market:

- *NFAP 2011 identifies the provisions to assign frequencies in GSM frequency bands for operation of Micro cellular low powered telecommunication systems using indigenously developed systems and technologies under IND foot notes 50 & 55.*
 - *“IND 50”: Requirements for Micro cellular low powered, telecommunication systems with maximum EIRP up to 4 Watts, FDD access techniques may be considered at specific locations for indigenously developed systems and technology, in a small chunk, in the frequency band 900 MHz presently used by existing wireless users of captive systems subject to co-ordination on case-by-case basis”.*
 - *“IND 55”: Requirements for Micro cellular low powered telecommunication systems with maximum EIRP up to 4 Watts, FDD access techniques may be considered at specific locations for indigenously developed systems and technology, in a small chunk, in the frequency band 1800 MHz presently used by existing wireless users of captive systems subject to co-ordination on case-by-case basis”*
- ii) *The NFAP 2018 did not contain any such provisions*
- iii) *Further, the earlier policy NTP 2012 has also envisaged one of the strategies as under:*

“4.7 To consider requirement of spectrum in certain frequency bands in small chunks at specified locations for encouraging indigenous development of technologies/ products and their deployment”

- iv) The NDCP 2018 also has following provisions:

2.3 Research & Development

(e)Simplifying the process of obtaining Experimental Licenses and establishing regulatory sandboxes; viz.:

- i. Enabling creation of suitable infrastructure for testing of new products and services with due regard to safety and security concerns
- ii. Facilitating allocation of spectrum for R&D and experimentation at affordable prices
- iii. Simplifying and fast-track approvals for products and services for experimental purposes through de-licensing and other mechanisms; and promoting establishment of test beds, incubators, innovation centres, etc. in collaboration with industry and academia

- v) **There is urgent need to implement the above referred provisions of NDCP 2018 in the frequency allocation plan NFAP 2018 by suitable amendment.**

6. Telecom Finance Corporation:

- i) In spite of availability of the Indigenous products, the private telecom service providers are reluctant to buy the same. One of the main

reasons is vendor's credit at low interest rates along with a moratorium period of 4-5 years.

- ii) National Telecom Policy 2012 stipulated creation of Telecom Finance Corporation. "Therefore, on the lines of Indian Railway Finance Corporation and NHAI, Infrastructure Investment Trusts (InvIT), a Telecom Finance Corporation/ InvIT may be established, by the Government of India, for telecom sector for providing long term soft loans with certain moratorium period to the telecom service providers who buy the indigenous telecom equipment."
- iii) As per answer to Lok Sabha Question No 1231 dated 23.11.2016, the Telecom Commission directed on 02.07.2013 to set up Telecom Finance Corporation. On the basis of tenders dated 9.12.2013/14.07.2011, inviting consultant for preparation of DPE, the report has been submitted on 28.10.2016. As per answer to question "since then a 'Consultancy Monitoring Committee' of Department of Telecommunications is examining this report."
- iv) The aims and objectives of TFC (Telecom Finance Corporation) were given in reply to Lok Sabha Parliament Question No 3624 dated 18.3.2015 as below:
 - (i) To make available schemes of funding such as line of credit, bridge loans, corporate loans, debt refinancing, venture capital financing and other related financial/funding solutions for borrowers in telecom sector.
 - (ii) To mobilize various sources from domestic & international sources at competitive rates.
 - (iii) To support manufactures of telecom equipment especially in small & medium scale sectors by providing financing at competitive rates.
 - (iv) To provide non-fund based service like-Guarantees, Letter of Credit, Letter of Comfort, Indemnification, Financial advisory and consultancy services and other relates activities.
 - (v) To work as a catalyst to streamline the functions of its borrowers in financial, technical and managerial areas to ensure optimum utilization of available resources.
 - (vi) Financing of all such activities that contribute towards overall development of Information & Communications Technology (ICT) in the country.
 - (vii) To expand into other financial services like Merchant Banking etc. to provide a complete bouquet of financial services to prospective clients.
 - (viii) To participate by way of equity contribution in other infrastructure related funds.

(ix) To adopt best practices in financing infrastructure and develop core competencies in facilitating infrastructure development.

(x) To provide inputs for policy framework and regulation from the financial angle.

(xi) To promote development of green and energy efficient equipment taking into account economic viability

There is need to expedite the setting up of Telecom Finance Corporation.

v) Lack of clarity for Administrative Ministry for Mobile Handset

The wireless and mobile as per allocation of business rules lies with Department of Telecom (DOT), which is specialized department for such products. DOT has mandated IMEI, SAR tests, Standard Operating Procedure for verification of fake IMEI numbers on mobile, CEIR, ICDR, Indian Languages, Panic Button, GPS, Mandatory testing for National Security Issues. And Ministry of Electronics and IT has prescribed Compulsory registration/BIS testing for consumer safety parameters such as electric shock, current leakage etc. and Mobile handset Surveillance. There is need that the appropriate department ie. DOT should look after all the mobile, wireless related issues. Including of telecom/mobile in the MeitY schemes of MSIP etc. is not an incentive issue. These schemes are owned, operated by MeitY and can be administrated by MeitY.

vi) Issue of Private Consultants working in Telecom arena

There is need to adopt something on the lines of SEBI registration of Consultants/Research Analyst “SECURITIES AND EXCHANGE BOARD OF INDIA (RESEARCH ANALYSTS) REGULATIONS, 2014” dated 1.9.2014.

It is pertinent to note that a specific consultancy Company submits a report, very often, encompassing recommendations for local manufacturing which becomes basis for subsequent discussions in Government. Most of these reports are funded and sponsored by vested interests/ importers lobby. There is hardly any requirement of disclosures by them as whom they are representing. Further, no qualifications are prescribed for them. As a result, any person appointed by the Company becomes an expert.

It is well known fact that most of the smart city project reports are tailor made by some consultants to serve interest of someone. Recommendations of Bidder Company to qualify in Gartner’s quadrant are proof of such situations.

vii) Issues connected to Data collection for production-Information dissemination for local manufacturers

There is always need of data of actual manufacturers, their capacities, production details. In the absence of a central place where all telecom manufacturers are registered, this data becomes difficult. The manufacturers are also not required to give production data to Government or any other private/statutory body. **We feel there is need for an administrative mechanism asking all manufacturers to supply data either to Government or an industry association.**

viii) Institutional Mechanism for Monitoring Telecom Equipment Manufacturing:

The telecom equipment manufacturing needs be monitored in DoT headquarter at appropriate level, i.e. as Member, Telecom Commission level, heading a separate production unit as recommended by TRAI in their previous consultation paper.

ix) International Practices for Support Telecom Equipment Design, Development & Manufacturing of Telecom Equipment:

i) General

The Countries have been protecting and promoting their home technologies toothlessly and forcefully. Major global brands emerged and R&D created well-known brands, as their Countries supported them by a policy directive on new technologies and time to time course corrections leading to creation of viable Ecosystem.

Under Chapter-3 of the Consultation Paper, TRAI has nicely comprehended the protection/ support extended by Governments of various countries be it USA, China, Germany, United Kingdom, South Korea and Taiwan.

It is recommended that the Government of India may also analyse the protection/ support provided by the Governments of various Countries and may also evolve similar framework for supporting the telecom industry for design led manufacturing and lead the Country to achieve self-reliance.

For example,

- a) USA not allowing GSM for about 10-15 years and depending only on CDMA technologies indigenously developed by a US Company (Qualcomm)
- b) So called Europe club not promoting CDMA and adopting GSM
- c) Korea not allowing GSM for substantial time and promoting CDMA (ETRI) resulting in big brands such as Samsung, LG etc.

- d) China used its own standards for local development. During 1985 China mandated that V 5.1 compatible programme controlled switching systems. This standard was not compliant with any foreign Company. The Chinese local HJD04 programme controlled switches were developed during 1991. That was first large-capacity switching device designed and produced by China.
- e) China not allowing 3G, 4G and insisting its own technology calling it TD-SCDMA, TD-LTE (developed by China Academy of Telecommunications Technology (CATT)
- f) China protecting its own HD DVD technology/specifications.
- g) China followed a Market Access Policy for China 'leapfrog' old technologies. It provided strict restrictions on foreign firms and joint ventures. There was high degree of regulation in the manufacture of mobile handsets, import quota on components, requirement of production licence, network license to sell mobiles in China. Success of this policy is evident from the fact that during 1998 no smart phone local Chinese brand and now so many such as Huawei, ZTE, Gionee, Oppo, Vivo, Coolpad etc.
- h) Japan mandating its own standards for mobiles phones and using them fearlessly and these specifications were applicable only in Japan.

We would urge India also to have a policy to support its homemade technologies in above ways. A point in issue can be 4G/5G only from domestic and planning the same for 6G

ii) USA

Other than incentives mentioned in para 3.5 A of TRAI Paper, we would like to submit followings:

- a) They have a well-defined differential policy of Made in US, Make in US, US brand etc. with graded incentives, promotions and mandatory deployment.

USA General economy

- b) Across the Globe Countries including developing world look to emulate the success of the US economy
- c) Debate-Power of market driven mechanisms v/s state drive mechanisms
- d) It preaches small state, free market doctrine BUT has been directing large public investment programs in Technology and innovations that underline it's past and current economic success.

- e) To emulate US- do as the **US actually did, not as it say's it did more State not less.**
- f) Learn how to organize direct and evaluate State investments so that they can be strategic, flexible and mission oriented.
- g) The important thing for **Govt is not to do things which individuals are doing already and to do them a little better or a little worse but to do those things which at present are not done at all.**
- h) Creating markets not only fixing them

USA ON ICT

- i) From the internet to Biotech and even shale gas, the US state has been the key driver of innovation led growth willing **to invest in the most uncertain phase of the innovation cycle and let business hop on for the easier ride down the way.**
- j) Silicon valley- the State has historically served wealth creation process key actor in it and often a more daring one, **willing to take the risks that business won't.**
- k) Every technology that makes the iphone smart and not stupid, owes it's funding to both basic and applied research funded by the State.
- l) All the technological revolutions in the past from the internet to today's Green tech revolution required a massive push by the State.
- m) US funded many of the innovations behind the information technology revolution
- n) STOPPED GSMA for several years to protect Qualcomm CDMA
- o) US Successfully lobbied China for CDMA(a 2G technology) in 1999 to favour Qualcomm

US iPhone example

- p) The iphone depends on the internet, which started as ARPANET- funded in the 1960's by the Defence Advanced Research Project Agency (DARPA), a part of the defence department
- q) Global positioning system (GPS) began as a 1970's US military program called NAVSTAR.
- r) The iphones touch screen technology was created by the Company fingerworks- founded by Prof at the Publically funded University of Delaware and received grants from the National Science Foundation and the CIA
- s) SIRI the iphone's voice technology, has it's lineage to the US Govt. It is a spinoff of a DARPA Artificial Intelligence Project.

- t) DARPA Deptt. Of Defence initiated Technology Reinvestment Program(TRP) with 800Mn\$ & targeted dual use technologies-military and commercially viable.

US Pharma example

- u) Most promising new drugs trace their origins to research done by the tax payer funded National Institute of Health. (Budget-30 Bn USD)
- v) Pvt pharma Companies focused on D rather than R part of R&D
- w) US Govt. heavily invested in the technologies that unleashed it (SHELLENBERGER, NORDHAUS, TREMBATH and JENKINS, 2012)
- x) When in 1976 MorganTown Energy research Center (Owned and operated by US Department of Energy and the Bureau of Mines) launched the Eastern Gas Sales Project which demonstrated how Natural gas could be recovered from Shale formations, The Federal Government opened the Gas research Institute, funded through a tax on Natural Gas Production and spent billions of dollars on Research in to Shale Gas.
- y) In this same period the SANDIA National Laboratories also part of the US Department of Energy developed the 3D Geologic mapping technology used for fracking operations.

US Green Energy example

- z) Green Companies Tesla Motors, Solar City and Space X all led by Entrepreneur Elon Musk benefitted from \$ 4.9 billion in local, State and Federal Government Support.
- aa)The State also forges demand creates the market for their products by Granting Tax credits and Rebate to consumers for Solar Panels and Electric Vehicles and by contracting \$ 5.5 billio worth of procurement contracts with Space X and \$ 5.5 billion for the National Aeronautics and Space Administration (NASA) and the US Airforce.
- bb)The Tesla motors also benefitted for a Massive publicly funded guaranteed loan of \$ 465 Mn.
- cc)Tesla Solar City and Space X have also benefited from Direct investments in Radicle technologies by US department of Energy in the case of battery technologies and Solar Panels and by NASA in case of Rocket Technologies.

iii) China Para B 3.6 to 3.9

- a) The prime incentives in China are (i) Govt funding for R&D through State/Universities (ii) assured market without ready product/price considerations/proven product, as all TSPs are Government controlled

(iii) addressing the global obligations through State regulations, which are beyond global commitments (iv) Govt treating private industries almost a Govt. owned to defend and promote them. Openly promoting domestic content without any doubt and global concerns. (v) promoting Camera/Video industries drastically and supplying dirt cheap products, in the interest of capturing data.

We feel there is need for a group to be formed in DOT, which should consider feasibility as to what facilities available in China can be considered for India.

b) Referring here para 3.6 of TRAI Paper:

3.6 In the context of China a key component of the switch to indigenous innovation in the Country was direct funding of Chinese firms. China funded more than 100 Government research institutions with over 600,000 technicians and specialists engaged in various types of R&D related to the production of telecommunications equipment and other high-technology goods.

c) Referring para 3.6:

'Made in China 2025' (MIC 2025) in 2015 which seeks to boost China's economic competitiveness by advancing China's position in the global manufacturing value chain including core component manufacturing, leapfrogging into emerging technologies, and reducing reliance on foreign firms. The domestic content requirement for mobile and other electronic devices are as high as 80% according to MIC 2025. At the same time the scheme grants preferential access to capital to domestic Companies. As a result, State-owned banks are distributing subsidies, low-interest loans, and bonds, especially for small and medium-sized enterprises.

d) In addition to para 3.6 to 3.9, we would like to submit:

- Selling price is a political price rather than product price
- STOPPED 3G,4G and promoted own technology
- Incentives & regulations/control through States, which are outside WTO (China acceded to WTO in December, 2001), Not following WTO intentionally to support domestic Companies.
- Exercising variety of formal and informal methods to balance market liberalizations with its authority to promote sectoral development. State bullied to form JV with State owned telecom equipment manufacturers.
- 1993 Ministry Guidelines requires 60 to 70% of local content.
- Networking & Mobile equip. import need type approval (Not needed for domestic)
- Ruthless deployment of own technology even without price, trials
- Retained monopoly over internet and network deployment
- Making procurement for outsiders difficult by Chinese laws, registrations etc.
- Directive on strengthening Regulations in the management of Telecommunication sector, 1993- explicitly stated that foreigners could

neither invest in nor participate in the operations of telecom services.(Still in force- all operators are Govt or State controlled)

- Catalogue for guidance of Foreign Investment Industries 1995 reiterated the FDI Ban
- China Telecom Regulations legalized two main type of telecom services- basic and VAS. The Basic includes fixed line and mobile. Broadband Network Operation is redefined not basic service but VAS.
- China Telecom Regulations & Arrangements for approval of Network Access of Telecom Equipment 1998- enhances State Control of technology in equipment sector. Needs equipment makers to obtain network access permits for imports
- Investment incentive for domestic includes discounts on sales tax, city maintenance, construction, consumption & resources, subsidies for education, community development
- Huawei founded in 1988 by Ren Zhengfei, former Director of PLA responsible for telecom research. The PLA General Staff Deptt Information Engineering Academy funded Huawei. Rest is history
- 1993 China Academy of Telecommunications Technology (CATT) started promoting TDMA, with funding from "863 Program" of Ministry of Science & Technology. Later TD-SCDMA in 1998 adopted by ITU as international 3G Standard.

iv) UK

a) We would like to refer para 3.20 of TRAI Paper:

3.20 Developing equipment within the Country has been a priority with the U.K. In this context in September 2021, the U.K Government launched a new diversification strategy for the complete removal of "high-risk" vendor equipment from the Country's next generation telecom infrastructure. The new strategy aims at tackling the issues of "overreliance" on vendors and address its privacy concern by shifting focus towards domestic components. This is sure to boost the demand for indigenous products in the Country.

We feel this is most unique way to promote domestic equipment, as it offers readymade market. India has a policy of trusted products, under which as of now the existing equipment deployed from untrusted sources has not been mandated for replacement. It is fact that this will pose biggest National Security Risk.

We feel need is to order its replacement on the lines of UK Government to promote domestic manufacturing.

b) Referring para 3.28 of TRAI Paper:

3.28 U.K. Government launched a £30 million competition, Future RAN Competition (FRANC) to fund R&D projects with the main aim of accelerating the adoption of Open RAN (O-RAN) in the Country.

We feel there is need for such an initiative in India for ORAN and 6G.

v) Japan

- NTT, the operator, developed strong cooperative relationship with domestic Companies, provided stable market and worked closely in designing, manufacturing & testing of equipment's.
- Ministry of Post & Telecommunications (MPT) created Japan specific classification of services, tight control the terms of competition, used administrative guidance to regulate the business scope and prices and organize mergers and assemble consortia of firms.
- Developed own standards virtually only in Japan- PHS
- More focused on internal market as a choice.
- OUTSIDE JAPAN STRONGEST GOVERNMENT LOBBIES MORE THAN USA FOR JAPANESE COMPANIES. EG Submarine cables in India ONLY NEC- single bid

vi) South Korea

- Micromanaged competition between market players in telecommunications
- Nurtured development of telecom equipment through investment in R&D and infrastructural development.
- STOPPED GSMA for several years to promote local CDMA Manufacturers.
- Ministry of Communications (MOC) declared a formidable institutional structure and approved incentives for Chaebol (large business conglomerates) such as Goldstar, Samsung to design and produce electronic switching systems. Allotted 3% of Korea Telecom Authority (KTA) revenue to R&D, guaranteed future markets through massive procurement budget and Govt research centers (ETRI), coordinated R&D and technology collaborations.

vii) TAIWAN

Referring para 3.43, as below, **we suggest this be taken in account while framing scheme for R&D/Design led manufacturing:**

3.43 Cash grants under various Government programs:

These Grants are administered for R&D and innovative business models for various industries up to 50% of an R&D project's expenditure. Grant volume varies depending on the program and can range from NTD 1 million to tens of million which offers more flexibility. The Industrial Development Bureau offers a subsidy program, the "Industrial Upgrade Innovative Platform Program, that can subsidize up to 50% of an approved R&D budget, with no ceiling.

Annexure-I

Applicability of PPP MII and TEC GRs to Private TSPs

1. The 'Unified Service License' conditions available at https://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf?download=1 stipulate mandating all the Telecom Service Providers, public as well private, to use indigenous telecom equipment. We would like to refer the Clause-24.3, Chapter-4, Unified Service License Agreement:

“24.3 The licensee shall adhere to the prevailing directions/ instructions and shall also abide by further directions / instructions as may be issued by LICENSOR from time to time in respect of

(a) Preferential Market Access for procurement of indigenous manufactured products,

(b) Mandatory testing of equipment and

(c) Requirements on IPv6 implementation.”

Department of Telecommunications as Licensor, as per powers conferred from the above clause of the Unified Service License Agreement, can very well mandate all the TSPs, including private service providers, for Preferential Market Access for procurement of indigenously manufactured products; Consequently, we find no reason for DoT not able to invoke the above said clause of the License Agreement as a Licensor.

Details of Clause 24.2- 27.3 Chapter 4: Unified Service License Agreement

- 24.2** The Licensee shall adopt Renewable Energy Technologies (RETs) for powering the Telecom Network, deploy energy efficient equipment and reduce the carbon footprint as per prevailing directions/ instructions and shall abide by further directions / instructions as may be issued in this regard by Licensor/ TRAI from time to time.
- 24.3** The licensee shall adhere to the prevailing directions/ instructions and shall also abide by further directions / instructions as may be issued by LICENSOR from time to time in respect of
 - (a) Preferential Market Access for procurement of indigenous manufactured products,
 - (b) Mandatory testing of equipment and
 - (c) Requirements on IPv6 implementation.
- 25.** The Applicable System:
 - 25.1** In the process of operating the Services, the Licensee shall be responsible for:-

- (i) The installation of the systems excluding the installation of the equipment at the subscriber's premises which will be left at the option of the subscriber;
- (ii) the proper upkeep and maintenance of the equipment;
- (iii) maintaining the criteria of performance;
- (iv) maintaining the Quality of Service as per clause 29.

26. Engineering Details:

- (a) The Licensee shall furnish to the Licensor or its authorized representative(s), in such manner and at such times as may be required, complete technical details with all calculations for engineering, planning and dimensioning of the system/network, concerned relevant literature, drawings, and installation materials regarding the applicable system.
- (b) Licensee shall supply all tools, test instruments and other accessories to the testing party of Licensor and /or TEC for conducting tests at any time during the currency of the License.

27. Network Interconnection:

27.1 Interconnection amongst the networks of Licensees shall take place where specifically provided for in the Service Authorization Chapter in PART-II of the Schedule to the License. In such cases the conditions of interconnections as specified below shall be applicable.

27.2 Transmission links for interconnection shall meet relevant standards or Interface Requirements (IR) issued by TEC from time to time.

27.3 Interconnection between the networks of different Licensees for carrying circuit switched traffic shall be as per national standards of CCS No.7 as amended from time to time by Telecom Engineering Centre (TEC) and also subject to technical feasibility and technical integrity of the Networks and shall be within the overall framework of interconnection regulations/ directions/ orders issued by the TRAI/ Licensor from time to time. For inter-networking between circuit switched and IP based network, the Licensee shall install Media Gateway Switch. Further, the Licensor may direct the LICENSEE to adopt any other technical standards issued by TEC on interconnection related issues.

Note on Sufficient Capacity & Sufficient Competition

- The DPIIT Clause 3a says:
 - (a) In procurement of all goods services or **works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition** only 'Class-I local supplier as defined under the Order, shall be eligible to bid irrespective of purchase value.
- So, decision of “sufficient capacity and competition” rests with DOT as administrative/nodal ministry. And “sufficient” has not been defined as one/two/three. Technically the “sufficient” can be ZERO and it was ZERO at the time of tender of BSNL for 4G and was fully supported by DOT/DPIIT/GOI.
- Worldwide there are only two manufacturers of wireless products Ericsson and Nokia, so we cannot discover third Company in the world.
- The BSNL procurement for 4G was 100% reserved for domestic manufacturers as per PPP MII. With great efforts we have only one Company in India (TCS) for 4G. If we go by minimum three Companies, then we cannot place orders for BSNL 4G from TCS/CDOT based on PPP MII. And let us also appreciate that CDOT is not going to give technology to any other Company, as substantial work has been done by TCS.
- India is now focusing on domestic 5G and 6G and by no chance we can dream of 3-4 manufacturers.
- Whenever we start manufacturing chips, we do not envisage 3 companies. Even if we achieve one, it would be great success
- In telecom sector the purchaser is licensed operator and not open market. Hence participation by local manufacturers is restricted by the tender conditions.
- For last 3-4 years the tenders are coming for turn key/System integrator. Hence the manufacturers of telecom products do not bid directly to PSU/TSP and it is for System Integrator to select the individual items, even though our request for the same is always pending.
- Even if a manufacturer has bid or supplied through SI, his name will not appear on the records of PSU/TSPs.
- The bidding to BSNL/Telecom PSU also suffers on the issue of non-payment and delays in payments from PSUs.
- We have only one domestic manufacturers in India for wireless equipment of 2/3/4G, (VNL), other than two global Companies, but he has not got any orders from any PSU/USOF/TSPs during last 3-4 years.
- No orders from USOF/DOT have gone for wireless equipment/services to BSNL during last 3-4 years and consequently no tenders from BSNL in this behalf, except current 4G.
- In the current tender of BSNL for 4G, there were other bidders like L&T, HFCL, Pertsol, Gallore etc., but not even offered opportunity to submit their equipment for POC. So, we cannot think of three vendors even in near future for 4G and 5/6G.

- In the case of Submarine cables tenders issued during last 3-4 years, the eligibility conditions were such that no local manufacturers/installer could bid, even though they had experience. And likewise, they may not be able to bid, unless the DOT supports domestic industry and provide appropriate eligibility conditions.
- We would also like to put on record that there were 4-5 domestic manufactures of submarine cable. However last supplies of few kms were made by one industry during 5 years back. Hence all of them have closed down the manufacturing of sub marine cable.
- **The capacity in telecom products is not an issue as with the help of EMS, any capacity an be achieved.**
- Single tender is allowed under GFR Rule 166:

GFR Rule 166 Single Tender Enquiry.

Procurement from a single source may be resorted to in the following circumstances :

- (i) It is in the knowledge of the user department that only a particular firm is the manufacturer of the required goods
- (ii) In a case of emergency, the required goods are necessarily to be purchased from a particular source and the reason for such decision is to be recorded and approval of competent authority obtained.
- (iii) For standardisation of machinery or spare parts to be compatible to the existing sets of equipment (on the advice of a competent technical expert and approved by the competent authority), the required item is to be purchased only from a selected firm.