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**Fwd: Consultation paper on promoting Local Telecom Equipment Manufacturing**

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**BHARAT GUPTA** <bharatgupta.trai@gmail.com>  
To: interconnection.trai@gmail.com

Mon, Oct 9, 2017 at 9:44 AM

Dear Sanjay,

For compilation please.

Best Wishes,  
**Bharat Gupta**  
Joint Advisor  
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From: **Rajesh Tuli** <rajesh@coraltele.com>  
Date: 6 October 2017 at 09:28  
Subject: Consultation paper on promoting Local Telecom Equipment Manufacturing  
To: [bharatgupta.trai@gmail.com](mailto:bharatgupta.trai@gmail.com)

Dear Mr Gupta,

I am glad to share my comments on the aforementioned subject. This topic is very dear to me as we are a hard core Indian design and manufacturing company that started business as a first generation entrepreneur in 1991 the year, India signed ITA 1 agreement. I have been a strong advocate of PMA and actively participated in the two day marathon brain storming session that TRAI held in outskirts of Delhi in 2011.

This is one policy of the Government that can change the entire landscape provided it is effectively implemented. Last PMA policy in telecom has failed because Government went by the advice of the trade associations that are controlled by lobbies in whose basket import weighs heavier than domestic manufacture. Advice of genuine domestic manufacturers including the one's suggested by TRAI were ignored.

I strongly believe influence of larger lobbies with greater reach are working at cross purposes and those energies need to be neutralised before we can succeed in our attempt.

Pls find my written comments in the desired format attached with the mail. I would be glad to share proof and / or justification of any statements made in the attached document if that can help build a stronger case.

I would be happy to join you for any personal discussion on this topic.

Warm Regards

Rajesh Tuli  
M D, Coral Telecom Ltd.  
# 91-9891499300.

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 **TRAI paper on PMA.docx**  
33K

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

PMA in telecom has failed because Government went by the advice of the trade associations that are controlled by lobbies in whose basket import weighs heavier than domestic manufacture. Advice of genuine domestic manufacturers including the one's suggested by TRAI after two days of marathon brainstorming session at outskirts of Delhi in 2011 were also ignored.

Policy notified was nebulous, relied on self certification for compliance to value addition (VA) norms and definition of domestic had no correlation with real foreign exchange outflow. Domestic value addition was dependent on carrying out some functional processes and 50 to 60% VA could be claimed if industry certified that IPR was Indian. Both these parameters were vague not verifiable and unrelated to the foreign exchange outgo.

Under such situation it made no sense to take the difficult path of doing product design or R&D in India. Assembly of SKD was a simple option to comply to PMA.

Justification: After five years of PMA implementation import has gone up exponentially & export has been shrinking. Only thing that PMA policy has done is to shift finished goods import to SKD imports. Assemblers of electronic goods claim PMA advantage by giving a "Self signed certificate" of PMA compliance. DGFT data stand testimony and need no further justification.

While yearly average growth rate of imports is about 20% but PCBA has seen average (arithmetic average over 5 years) growth rate of more than 200%. & "others" category has seen an average growth greater than 50% goes to prove that PMA only shifted focus from product import to aggressive SKD import.

Since 2013 i.e after launch of PMA scheme populated PCB import has more than doubled every year

- 2015 it became 1.2 thousand Crores
- 2016 it became 3.5 thousand Crores
- 2017 it crossed. 8 thousand Crores
- 2017-18 in six months it has already crossed 21 thousand Crores on annualised basis

In the last six months populated PCB has become thrice of what it was in the whole of last year goes to prove that industry is trying to hoodwink the government & importing material as populated PCB & SKD.

That is why another item where import has seen big spurt is under the category “Others” (parts of telegraph / telephony equipment) from 30 thousand crores in 2016 to 40 thousand Crores in 2017 & in the six months of current year it has already crossed 70 thousand Crore on annualised basis. This is because of SKD parts of telecom equipment are being imported under “others” category.

SKD assembly with little VA was the route and overnight everyone became PMA compliant which goes to prove India is still not matured for “Self certification” as a process for which Trade associations lobbied very hard.

Indian brains are very agile is clear from the fact that after demonetisation, overnight India declared its black economy as white and deposited it into the banks. This happened despite the fear of scrutiny by Income Tax department hence I strongly believe India has not matured to a stage where Government can rely on “Self Certification” by the individuals and that too for a part of the total business which makes reconciliation with the certified books of account a near impossible task.

#### Monitoring and enforcement of policy was very poor

Rampant violation of the PMA policy was observed by the buyer organisations including societies and companies directly under MeitY who was the nodal ministry for PMA implementation. At least 20 cases of violation of PMA policy were taken up by me with DOT as well as MietY. Sometimes they did write to the nodal ministry of the buyer organisation but intervention never yielded any positive results. It seems larger lobbies with greater influence were working to derail the PMA implementation and proof for the same is that “rate contacts” for MNC brands continued in companies under MietY for products that were otherwise reserved for domestic manufacturers under PMA. Violation was reported, multiple times, at highest offices in MietY for five years without results despite the fact that author of PMA policy in the ministry was chairman of NICS I for sometime. After PMO intervention grievance is pending at the desk of at MietY since over an year with comments “Report awaited from NICS I”. Another similar grievance flagged through PMO is lying at desk of scientist F of MietY without action since weeks. Powerful influence is evident as cases were pursued for over four years through office of the Secretary commerce for corrective action in departments of the same ministry but nothing could be achieved despite her efforts. This shows that larger lobbies are at play to foil India’s desired roadmap. Records of written communication in each case can be shared if required.

Against a representation made by me to the PMO, Department of Telecom is on record saying that they have limited control on buyer organisation and their role is in advisor capacity.

PMA policy was ineffective and buyers circumvented the policy by either stipulating technical

conditions or eligibility conditions that will eliminate the domestic players.

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

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

- RFP / RFQ for projects will have clauses like OEM should be in Gartner's Golden Magic Quadrant. Gartner is a private US consulting firm.
- Functional requirements specific for an MNC product. Frivolous conditions like number of LEDs or colour of certain keys on the facia are the tender conditions. Or size of the video screen of a video phone or pixels that only one MNC player complies.
- Bidder to have Pan India presence & presence in at least 4 overseas locations.
- Qualification criterion of supplying new technology products in large quantities while same is being introduced in India.
- Membership of organisations like ECMA (European Computer Manufacturing Association) instead of membership of TEMA (Telecom Equipment Manufacturing Association of India).
- Technical specifications or conformity of European or American certifications.
- Make the PMA products part of a very large turnkey project that can be taken up by a large system integrator. Annual turnover & eligibility criterion of such SIs would eliminate domestic ICT manufacturers.

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

**Q.2 what policy measures are required to be instituted to boost Innovation and productivity of local Telecom manufacturing in our country? Please provide details in terms of Short-Term, Medium-Term and Long-Term objectives.**

Government will have to take cognizance of the fact that with 90% dependence on imported IT & Telecom products. Our technology base has been eroded and home grown products cannot be expected to fight global competition who are light years ahead in technology. Moore's law has been breached and we have not missed the bus but we have been crushed under the bus hence need surgical intervention followed by sustained care and support.

India will need to create an ecosystem to support market pull for domestic design products and entrepreneurs as well as “Start ups” will be motivated, if and only if, they see some success stories which younger generation may like to emulate. Our best brains prefer to leave IITs and take up jobs with global players because of lack of supportive ecosystem to try, absorb & adopt new Indian products.

Closing down of incumbent manufacturer / design companies in India is creating a very gloomy & dismal picture that is rather disappointing for budding entrepreneurs. Most start ups incubated in IITs have closed down stand testimony to this. Annual reports of DSIR / TDB / DST / MietY are full of successful technology development initiatives but none of them find space in the marketplace stand testimony to the fact that ecosystem to absorb home grown products does not exist in India. I am on some of these committees and know for sure that some good work is happening but none of the products find space on market shelves and all our R&D work is like dolls in a museum, till technology declares them obsolete and irrelevant. I interact with students of IIT including two of my own sons and know for sure that bright one's don't want to take up product development in India bcoz they don't see relevance in adoption of their work in the Indian marketplace. Most kids feel that appreciation of their work and acceptance of the same, in the market, would be higher if they were to work for global players. Money is not the main driver but “successful adoption of their efforts”, is what motivates them to join MNC companies.

### Short Term

Focus on development of simple products that can be commercialised easily (low hanging fruits) with existing skillset in the country. Fund them and support them liberally to ensure success.

Presently Government's approach in funding R&D projects is to give large number of grants to various academic institutions with the objective of capacity building. Each of these are sub-optimally funded hence final sellable product is not created. Shift the strategy to fund small number of projects that lead to development of a commercially sellable products. Fund them adequately with Industry as the prime driver of the project. Sub-optimal funding should not be done as that only leads to wastage of our limited resources unless the end deliverable is capacity building only.

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

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

set under the influence of larger lobbies who don't want the roadmap to succeed.

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

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

### Medium term

Focus on Technology development projects where academia & Industry should collaborate. Industry should have financial stake and would be in a position to control & steer the project. Team should be held accountable for commercial success with adequate rewards.

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

Government should consult genuine Indian design and manufacturing companies rather than consult foreign consultants and trade associations. Justification :TCOE was clear case of hijacking India's R&D efforts in Telecom, where large lobbies influenced the Government in eloquent debates that collaborative approach with Telecom companies was ideal method of carrying out R&D. It was systemic hijacking of Government agenda, for 10 long years, is evident from the fact that not one product developed in TCOEs was tested or commercialised by any Telecom operator. Telecom operators and large Industry associations are controlled by global giants and as long as Government takes inputs from them or the foreign MNC consultants our main agenda is bound to get hijacked. Our present state of dependence on imports to the extent of 90% of our needs cries it out loudly.

Proof is that FICCI never ever supported PMA and never did their recommendations to the Government favoured the PMA policy. COAI, AUSPEI always opposed PMA policies in the open house sessions and collectively they ensured that the policy is rendered toothless. In the present consultative process of the Government, minority voices get lost and unfortunately in India, domestic design & manufacturing companies are in minority with very limited lobbying power in MNC controlled trade associations. Government should identify genuine Indian domestic design companies with proven commitment to design efforts and actively seek inputs from them to frame policies.

Decide on certain successful Indian companies who would act as product champions and support them to develop complex and challenging products for commercialisation.

### Long term

Decide on certain futuristic technologies where India can gain strategic advantage and set them up as a mission mode project with active industry participation. In such a project sufficient funding would have to be budgeted at global scale. Industry partner should have sizable stake and must be held responsible for commercial success.

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

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

Framework is not a critical impediment to growth although it needs up-gradation. Challenge is to change buyer behaviour in adopting Indian designed products and in inculcating pride in whatever that is Indian. Behaviour can be influenced by administrative changes asking for reasons for not adopting Indian designed products and seeking explanations for asking features or technical specifications in tenders that are not available in Indian designed & manufactured products.

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

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

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

Cost of components & raw material in India is higher than the neighbouring country by a factor

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

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

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

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

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

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

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

### **Q.8 Should an export oriented/promotion approach be adopted in the telecom equipment manufacturing sector? If yes, Please suggest the steps to be taken to create suitable environment to attract foreign**

investment players for setting up establishments which in turn can result in technology dissemination, innovation, generation of jobs, skilled labour force, etc.?

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

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

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

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

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

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

#### Suggestion

- Ensure micro management rather than macro management of economy, so that correction starts at each company level, collective effect of which will change the scenario at the country level.
- If present import bill at macro economic level is 90% for telecom & IT products then agile and fertile Indian mind should be asked to work on a strategy that each Telecom & IT company maintains foreign exchange import (capex, open or miscellaneous spend in foreign currency) at less than 20% of the company's turnover to gain PMA advantage. This will effectively bring down our national import bill & fertile Indian brain will work in sync with the Government's intended roadmap.
- Present technology level in the country cannot afford to set up networks without MNC products hence when MNC products are there to stay, create a structured synergy rather than a conflicting eco-system.

- Create an enabling trend and encourage an ecosystem that motivates each company including the big MNCs to maximize Indian value addition to 80% and take the PMA advantage.
- Start monitoring and correcting the trend at micro level i.e. at the level of each company so that collective efforts make a difference at the national level. Product level monitoring is very easy to manipulate in a multiproduct company because foreign exchange expenses for a product declared as PMA complaint can always be booked under another product of the same company which is then declared as PMA non complaint.
- Process of self certification will have to be replaced with a declaration on a specified format that will have extract of figures from the balance sheet. These declarations should be made public to bring in transparency. Figures in the prescribed format would be from books of account as extracts from publically declared numbers in balance sheet or ROC or RBI declaration. DOT will only provide space in a specified format on the portal while Public and competitors will scrutinize and ensure compliance.

### Implementation methodology

- Any company big or small in telecom products & services that ensures less than 15% import content be treated as an Indian Telecom Champion entitled for preference in market access.
- To make the system foolproof, company & its related companies (if in similar products business) must have less than 15% expenses (revenue or capex) in foreign exchange. This disclosure is available in “notes of accounts” of every balance sheet. Each foreign exchange transaction is verifiable in records of RBI and records are digitized. Related companies if in similar business is considered to minimize chances of manipulation. Related companies are well defined in accounting practice as well as in ROC. They will file their claim for such preference in a format that will clearly show Foreign exchange payments (reconciled with balance sheet) as a percentage of the total revenue of the company. They will also certify the import content in all purchases from their major suppliers and for this purpose any supplier supplying more than 5% of the companies turnover will be considered major supplier & top 80% of the suppliers in value terms will be considered in the format. Process will be self certification but transparently uploaded on website of DOT available for public scrutiny. Balance sheet along with annexures is a public document.

### How it will help

- At micro economic level each company will try to ensure that import content is less than 20% of the total revenue sales of the company. This can be cascaded to bring down overall import percentage progressively by 10% per annum such that in next seven years 70% demand would be met from domestic vendors.
- Large companies including MNC will procure domestic products and integrate with their core technologies to get preference in market access. This will ensure that MNCs focus on their core technologies while helping Indian companies learn & develop non core technology products. This should be considered a “win win” strategy because India anyway does not have these core technologies at the moment.
- Large companies with core technologies will “off load” peripheral technologies and product development to Indian companies so that they get preference for their products. Big MNCs would be motivated to do so & in the process they will help Indian industry to develop products

& technologies. They may not help Indian development in Core technology areas but then at least in edge routers & software they will be motivated to help Indian companies.

- This should bring in a positive reinforcement spiral and slowly Indian ecosystem will become self sustaining & robust.
- Once basic level of sustenance & strength is achieved by the Indian design & manufacturing industry another strategic intervention may be required (somewhere after four years) to catapult into the next higher orbit of technology design & innovation when core and high level technology designs can be expected from domestic industry.

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

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

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

RFQ & RFP for new projects should be based on products & technologies for which local competence is available even if that means compromising with some of the latest advancements as long as the product broadly meet our end user requirements. Often one finds frivolous features added to the specifications just to favour certain specific brands. Indian industry especially in Telecom & IT has been left behind the "global best" and they need domestic grooming.

State Government purchases should be motivated to adopt PMA policy to enlarge its scope & applicability. It should be made mandatory for any State Government project that is receiving central funds.