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Ref: GM/RD/001

Date: 17/01/2011

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**Sub: Consultation Paper on "Encouraging Telecom Equipment
Manufacturing in India"**

Dear Sir,

This is with reference to the TRAI Consultation Paper on Encouraging Telecom
Equipment Manufacturing in India.

In this regard please find enclosed ITI's comments for your kind perusal and
consideration.

Sincerely yours,

Lt.Col. (Retd.) A.M.Uniyal

Encl: as above

Comments on the issues raised in the consultation paper **“Encouraging Telecom Equipment Manufacturing In India”**

Introduction:

We totally agree with the TRAI's views on domestic R&D and telecom manufacturing segment that (i) R&D and innovations are the pre-requisites for strengthening the country's telecom manufacturing segment and (ii) There is an immediate need to enhance R&D to strengthen the domestic telecom manufacturing segment to accrue the benefits of huge telecom equipment market.

The indigenous R&D and manufacturing segments which are the foundation for telecom sector have not experienced the required growth to become self sufficient. This situation has resulted in the excessive dependence on the foreign telecom manufacturers for equipment and maintenance of telecom networks. This heavy dependence on imported equipment has become a cause of concern with respect to national security and maintenance of networks and at the same time resulted in huge out flow of foreign currency reserves.

For encouraging and strengthening the domestic telecom R&D and manufacturing segments to become self sufficient there is a requirement of taking drastic policy initiatives and infusion of more funds by the Government.

Our point-wise comments on the issues raised in the consultation paper are as under.

We have also given some additional points for consideration that are not discussed in the consultation paper.

Research & Development

3.1 What should be the objective and focus of the R&D effort for 2020?

The following should be the focus of the R&D for 2020.

- 1) To bring in Products for increasing the throughput for the data user through Broadband using Technologies like LTE, Advanced LTE & Mobile WiMAX to Std. IEEE 802.16m
- 2) To have Software certification lab to trace malicious software
- 3) To focus on Inter-operability
- 4) To focus on Home Automation by bringing in Wireless enabled devices for all the electrical / electronic items used at Home
- 5) To focus on Industry Automation
- 6) Advances in Video call Technologies to avoid Travel as far as possible including Projector Phone Technology
- 7) Multi-Technology Handsets and Web-based Devices

3.2 Flowing from the above, what should be the objective and focus of the R&D effort for 2015?

- a. To bring in products for increasing the throughput for the data user through broadband using technologies like LTE, Advanced LTE & Mobile WiMAX to Std. IEEE 802.16m
- b. To have Software certification lab to trace malicious software
- c. To focus on Inter-operability

3.3 What is the level of 'Indian Products' that we should attempt to achieve at the end of 2015 and 2020?

1. LTE Base Stations
2. LTE User End Equipment
3. Home Automation Products
4. Satellite Communication Products (It may be noted that almost all Satcom products available in the Market are Non-Indian Products)
5. OTN systems and devices

3.4 What is the broad level of investment required for this effort?

An investment to the tune of Rs. 5,000 Crores is required to achieve the same.

3.5 Which Institutions, whether in the Public or private sector, are best suited to carry out this effort? And why?

These Institutions shall be a mixture of Public & private sector along with some reputed Academic Institutions like IITs, NITs etc. Preference shall be given to PSUs by setting up dedicated R&D centers for developing new products / assimilation of technologies developed abroad.

If only one sector (Private / Public) is given this task, the talent available in the country will not be properly used.

There shall be a Regulatory body to oversee that focus areas are given encouragement & thrust.

3.6 What can be the linkages established with Institutions or Indians abroad? Will this reduce time delays?

Linkages to Institutions abroad shall be limited to Academic Institutions abroad preferably dominated with Indians. Linkages could be in Research / Development in advanced Telecom Fields. FDI could be attracted from NRIs for funding R&D Projects in India. However, it is felt that it may not result in reducing time delays.

3.7 What should be the role of the Government and the Industry in regard to the R&D effort? In particular, what should be the investment, if any, by the Government?

3.8 Should an R&D fund be set up? If so, how can the fund be managed effectively to meet its objectives?

In order to boost the indigenous R&D, it is necessary that the government should take up the following policy initiatives:

1. Infusion of funds by Government to the indigenous telecom R&Ds/ Public Sector Units (PSUs) for enhancement of facilities
2. Reimbursement of R&D expenditure to telecom R&D organizations of PSUs on actual basis.
3. Centralized co-ordination of R&D activities in the country

The following key R&D activities are to be centrally co-coordinated for effectiveness by Telecom Engineering Center or any other designated institution.

- (i) Pooling of resources for optimum utilization.
 - (ii) Identification of projects/technologies and allocation of projects to various R&D centers in the country. This centralized allocation of the projects will help in avoiding duplication of work by different R&Ds.
 - (iii) Centralized Quality and Standards management necessary to bring out world class products in short time frame.
 - (iv) Funding of projects: The funds allocated by the government to all the R&D centers in the country to be centrally managed and prioritized for effective and efficient allocations depending up on the nature and requirement of the projects.
 - (v) A centralized 'Technology Watch Group' with eminent researchers/scientists on board to be formed which will forecast the technologies (which are having huge market potential) which can be taken up for indigenous development.
4. Attracting Best talent to R&D

Trained and talented manpower is the foundation for any R&D establishment. To draw and retain highly skilled talents for taking up research in high technology area, attractive remuneration packages on par with global trend to be offered.

5. Setting up specialized institutes for training

Though we have huge technical manpower but the majority of them are not sufficiently trained for taking up R&D work in the state-of-the-art technologies. We need to set up specialized training institutes/ 'Centres of Excellence' to bring them up to required standards in key technological areas.

3.9 What could be the fiscal incentives to be offered by the Government? Should such incentives be linked to any outcome?

Government can offer incentives in terms of partial funding / Re-imburement of expenditure / Soft loan. Suppose a Project is offered 50% funding / grant initially and the outcome is partially / fully not met, the funding could be reduced to 25-30%. So the Incentive shall be linked partially to the outcome.

Sourcing of Inputs

3.10 What are the components that can be manufactured in the country with due consideration to commercial viability?

The following components which are having commercial viability may be considered for manufactured in India.

- a. Resistors
- b. Capacitors
- c. Inductors
- d. General Purpose ICs
- e. Transformers
- g. Transistors
- h. Diodes including GD Tubes
- i. MMICs
- g. Crystals, Crystal Oscillators
- g. Fabrication of ASICs designed by Indian Companies
- h. Mechanical Enclosures

3.11 What should be the degree of indigenous manufacture of components that we can reasonably achieve a period of 5/10 years?

At present almost 70 – 80% components (in value) are sourced from outside India. It shall be brought down to around 30- 40% in a period of 5 – 10 years.

3.12 What, do you think, is the feasibility of setting up of commercially viable fabricating units to manufacture chips, ICs?

It is feasible subject to the subsidies to be offered to the Fab companies. If certain amount of export is assured, it becomes more viable, since the volumes will be huge.

3.13 Is the Duty on components currently being levied high? If so, on what components can the duty be reduced? What are the financial implications and the corresponding benefits?

Customs Duty on all components for import shall be Nil. CVD shall be reduced to 3-5% in order to lessen the investment in manufacturing sector. SAD may not be levied. Government may lose certain revenue. By doing this, the price of the Indian telecom products will become cheaper and Indian Manufacturing companies will be able to compete very well with imported telecom equipment thus giving boost to Indian telecom manufacturing Industry.

3.14 Should electronic Manufacturing service companies be incentivised? If so, how?

Yes. By giving subsidies / grant from Government, for setting the manufacturing infrastructure (PCB Fabrication, PCB SMT Assembly line, Mechanical Processing, EMI / EMC test facility, environmental labs, test Instruments), more companies will come forward to set up Telecom manufacturing facilities. Also, If buying the test instruments is not commercially viable for testing, Nil duty should be allowed for hire-return from foreign companies.

Manufacturing of equipment

3.15 Should the concept of mandatory use of Indian products/Indian manufactured products be introduced in the Indian context? If so, can this be introduced immediately or should it be introduced at a later date? If so, by what date?

3.16 What could be the percentage to be stipulated for both these categories?

3.17 What should be, if any, the incentives to be given to individual service providers for use of Indian equipment?

3.18 Likewise, what could be the disincentives, if any, for use of imported equipment? This is compatible with international agreements?

Presently, telecom service providers have no compulsion to use equipment manufactured by indigenous companies. Their procurement of equipment is dependent on choice of technology, funding mechanism with long-term low interest credits by foreign suppliers.

We agree that the concept of mandatory use of Indian products/Indian manufactured products be introduced in the country after three years. However, the compulsory local manufacturing of imported equipment should be made immediate rather than with in a time limit (say 3 years) at least for the orders beyond certain value. This is required since the technology is changing fast and in three years time it may become obsolete.

Cost advantages to be given for indigenous equipment over imported equipment

Some specific percentage of procurement (more than 30% and up to 50%) by service providers should be reserved for indigenously developed telecom products. 100% deployment of only indigenous products for government funded projects especially for the security related networks as it does not contravene any of the provisions of WTO

For an order beyond certain value, the Transfer of Technology (ToT) by the OEM for indigenous production is to be made compulsory.

Also, all foreign equipment suppliers to compulsorily set-up their repair/service centres in India. This would indirectly force the suppliers to transfer the technology, which will result in spares required for maintenance to be manufactured indigenously giving a boost to domestic manufacturing segment.

The telecom service providers may be given incentive in terms of reducing their license fee if they procure a good portion of their equipment more than 60%, from Indian manufacturers.

Subsidy/funding for indigenous telecom equipment manufacturers to be provided by the Government for up-gradation of their manufacturing infrastructure to be on par with world-class standards.

It may not be feasible to introduce disincentives except for levying higher Import duty on telecom equipment.

3.19 What could be the duty structure to be imposed on imported goods?

The Customs Duty could be 30-40% on Sub-system / System level Telecom Equipments. However to encourage Indian Products / Indian manufactured products, The Customs duty on components should be NIL.

Promoting Domestic Manufacture

3.20 Should a percentage of the Indian market be reserved for the Indian manufacturers? If so, what should be the percentage?

To start with, a percentage of the Indian market of 10% shall be reserved for Indian products / Indian manufactured products like it has already started in ADSL CPE in some tenders. It shall be gradually increased to 60 – 70% in about 10-12 years.

3.21 What, if any, could be the implications of such a step? Setting up of Special Zones or Telecom Clusters

If Special Zones / Telecom Clusters are set up, pooling of resources could be done effectively to increase production but it is very difficult to begin with. This will become successful only when sufficient orders are available to Special Zones / Telecom Clusters

3.22 What, if any, are the advantages of setting up of clusters for manufacture of Telecom equipment within the country?

As we are aware from Taiwan case study, by setting up ITRI, the manufacturing costs have come down and the manufacturing process became faster, India also can get benefited in the same way addressing the Global requirements also.

3.23 What is the investment required for setting up of such clusters?

No Comments

3.24 How can the financing of such clusters be best done, based on international experience?

No Comments

3.25 What would be the lead time required for setting up of such clusters?

The time required for setting up Telecom Clusters may be about 2 to 3 years.

3.26 What are the considerations for the location of such clusters? Testing, Standardisation and Accreditation

3.27 What, in your opinion, would be the best agency to set up and manage such a Common facility/ies?

3.28 What would be the facilities and the level of investment required in such a facility?

3.29 How will such an investment pay for itself?

Setting-up of Common Product Certification to International Standards & Testing Facility for Global Accreditation. Product Certification to Global Standards would facilitate acceptance of products manufactured in India in the International market and, therefore, enhance the exports. The funding for setting up of this facility should be done by the Government.

TEC would be the best agency for test certification. However, for security certification exclusive laboratory set up is required to be established. The government should support this activity by providing funds to Indian companies which can setup such security evaluation centres in the country.

The following facilities are required in these facilities:

- a) Environmental Test Chambers (Dry Cold, Dry Heat, Rapid Temperature Cycling, Damp Heat, Damp Heat Steady state etc. covering different categories of equipment
- b) Vibration Test Equipment
- c) EMI / EMC Test Facility

d) Testing Infrastructure for Certification of Telecom Products with latest Test Instruments

The Investment for the facilities could be recovered from the telecom product manufacturing companies. These test facilities can be networked to see that underutilisation could be avoided by pooling the resources.

Funding/FDI

3.30 What, in your opinion is the likely requirement of Capital for companies that could take up the manufacture of telecom equipment?

It can be worked out only after deciding the Products for Manufacture, which really decides the processes & Test Instruments for the Manufacture of Telecom Products

3.31 What could be the best manner of facilitating availability of capital to such firms?

To start with, Capital Equipments can be hired subject to feasibility in order to reduce the Initial Investment cost and subsequently Government can allow subsidy / partial funding to develop the Infrastructure.

3.32 Would setting up of Institutions like ITRI be desirable and feasible?

Yes, it is desirable to set up Institutions like ITRI of Taiwan in India also. Even though there may be initial hiccups, it is feasible in a long run.

Duties and Levies

3.33 What would you suggest should be the tax structure in respect of imported and indigenous manufacture of telecom equipment, keeping in view the international agreements?

Even though there are International Agreements for free Telecom Trade, Brazil has introduced doubling of Custom Duty to imported Telecom Equipment (for the products available / manufactured in Brazil) to protect the Indigenous Telecom Manufacturers of Brazil.

Suggested Customs Duty for imported Telecom Equipment at Sub-system / System level shall be at least 25-30%. The Excise Duty / VAT on Indigenously manufactured Telecom Equipments shall be limited to 5% or less to promote local manufacturing. Infact tax holidays can be given for a specified period as done in case of software industry. It may be noted that Government of India has already introduced Anti dumping duty on import of STM-1 Optical Equipment from certain countries. It is suggested to introduce this Anti-dumping Custom Duty on all Telecom Equipment, which are already being manufactured In India.