



Response to TRAI Consultation Paper No. 17/2010 on Encouraging Telecom Equipment Manufacturing in India

Research & Development

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

Telecom R&D is very critical factor for IPR creation and promoting the indigenous Telecom product development and manufacturing. Today, India is lagging behind in Research & Development in telecom sector by more than ten years.

There is no knowledge base for the core Telecom technologies in the country. Technologies are evolving at rapid pace. There is need to have long term vision for technology development. It takes long and continued efforts to establish competitiveness in the domain. Long term commitment and investment in the R&D programmes should be the key.

The objective and focus of Indian R&D efforts for the year 2020 should be that India has full control on the on-going and next generation telecom technologies. We should also target to create home grown technologies, to meet our India specific challenges especially for rural telecom expansion and enhance our ability to compete in the global market.

By this time we must have design (IPR) ownership of most of the core Telecom network components so that 100 % of telecom networks requirements can be met using Indian Products.

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

To meet the target of full technology control and equipment manufacturing for domestic use as well as exports by the year 2020, we should target to achieve India's R&D efforts are at par with the global technology and quality standards by the year 2015.

India should try for having indigenously developed known next generation technologies so that by 2015 India is in control of the latest technology that could be manufactured and also we could further do R&D to have an edge over the technologies by the year 2020. This will enable India to emerge itself as fully and self reliable nation in terms of indigenous manufacturing of telecom equipment through in-house R&D efforts by the year 2020.



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

The definition of Indian Products shall constitute:

- R&D is done in India, so that the know-how and control resides in India only, to combat obsolescence, and to thwart security threats. In case any work is outsourced, the entire control and ownership of such work rests with Indian registered company, having majority stakes with Indian citizens.
- Product IPR, viz., brand name, source-code of proprietary software, hardware design, bill of material, etc., exclusively created for the product, are globally owned solely by an Indian company.
- Commercial exploitation of the Product IPR is carried out solely by an Indian company, and all proceeds (Including Global) accrue to it, in India.

To encourage the indigenous innovation and creation of IPRs we must have aggressive milestone:

Target should be to have:

- 70% of total requirement of equipments and solutions inducted into the telecom networks through "Indian Products" by 2013.
- and, 100 % by 2015.

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

Telecom R&D and product development requires a lot of up-front investment in infrastructure creation and to support long lead recurring cost on the manpower, prototyping and other support work. The government should encourage such efforts in the form of grants/soft-loans, so that adequate R&D is done and telecom products and IPR can be created in India.

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

Countries like China are shifting its R&D spending from government-controlled research institutes to large and medium-sized enterprises, which according to reports, account for 60 percent of total R& D spending.



Autonomous Govt institutions and Private sector companies with R&D focus in respected core areas are best suited to carry out the R&D efforts, as they will be more focused on completion and commercialization of the product developed by R&D so that the capital investment in R&D will be returned by way of revenue generation after commercialization.

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

The institutions such as IITs and other engineering / research institutions in India should have close working arrangements with the industries to have joint R&D programme for development of Indigenous products /technologies. This way subject matter experts or research associates of these institutes can align their research programme with the commercial needs of the industry / market.

Similarly Indians abroad having technology expertise should be encouraged to provide know-how to Indian companies to have head start for the latest technology products. This will definitely reduce time delays as seen in the case of C-DOT development efforts.

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?

Presently, Department of Science and Industrial Research (DSIR), under Ministry of Science & Technology, supporting such R&D initiatives of the country.

The role of government should be that of a facilitator to:

- a) Facilitate between manufacturer, R&D institutions and the operators to manufacture prototypes and field try the developed systems before commercialization of the product.
- b) Provide incentives in terms of funding for R&D efforts.
- c) Take policy decisions with regard to taxes and duties to promote indigenous development and manufacturing so that the systems can compete with the imported products.
- d) Constitute a **Technology Administrator** (for e.g., Telecom Engineering Centre) to control and closely monitor the R&D efforts in the public and private sector in the country. This was in practice during 1980s when the then TRC (Telecom Research Centre) was getting the systems designed & developed by the manufacturing units according to the specifications issued by TRC. They should monitor the R&D



developments, its applicability in Indian context and give timely directives and support to ensure uninterrupted R&D efforts. They should guide the R&D institutions / manufacturers to ensure speedy completion of the projects for early commercialization

Government should also implement reservations for the indigenously developed 'Indian Products' for government / public- sector requirements while inviting tenders for the same.

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

Yes, a separate R&D fund should be set up under the Department of Telecommunications, and managed by the 'Technology Administrator' in the lines of USO Fund. **Telecom Engineering Center (TEC)** would be the best candidate to designate as "Technology Administrator".

Since the developments are mainly aiming to upgrade the quality of services in the telecommunication industry and the beneficiaries of such development will be the end-user, i.e., the service provider, **it is suggested to charge fixed percentage (say 5%, to be decided by the government/regulators) as R&D Cess from all service providers towards the R&D fund and give concession to those who buy 'Indian Products'**

The fund can be utilized for R&D funding for private & public undertakings / institutions under the monitoring by the **Technology Administrator**.

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

As a special focus sector, special tax concessions and incentives should be provided to Indian companies who create IPR and develop telecom products. They should be given an **Income tax holiday for 10 years** and for manufacturing in India, **excise duties should be reimbursed to them.**

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?

It is a fact that domestic manufacturing is done in India primarily on technology that was developed abroad, for which India has no IPR. To encourage indigenous manufacturing, if



some type approved indigenously manufactured equipment is available in India, the service providers should not be permitted to import the equipment. The operators, who use the indigenously developed Indian Products, should be given incentives in form of rebates in the USO/R&D Fund contribution and / or tax holidays. Such incentives should be linked with the amount of Indian products used in their network.

In spite of the fact that India has abundant technology talent and a large domestic market, there have not been too many telecom product success stories from India. The concept of use of Indian products / Indian manufactured products to be introduced immediately.

Reserve the deployment of only “Indian Products”, in government funded projects, especially, for the security related networks, as it does not contravene any of the provisions laid down by WTO. In view of above, we are of strong view that there should be following percentage mandated for the use of “Indian Product”.

- 1 30% by 2011 end
- 2 50% by 2012 end
- 3 70% by 2013 end.

Similarly, reserve the deployment of “Indian Products” in rural networks.

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

We are of the opinion that the following percentage should be mandated for the use of “Indian Product”.

- 1 30% by 2011 end
- 2 50% by 2012 end
- 3 70% by 2013 end

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

The incentives should be given to individual service providers who use Indian products or Indian manufactured products in their core network. The incentives should be in the form of rebates in the USO/R&D Fund contribution and / or tax holidays. Such incentives should be linked with the amount of Indian products used in their network

Charge additional 5% R & D Cess from all licensed telecom service providers and then **give concession to those who buy “Indian Products”.**



Incentivizing Telecom Service Providers (Exemption from the Contribution):

Any telecom operator who buys “Indian Products” shall be eligible to a reduced Contribution of up to 0 % in a graded manner on pro-rata basis, getting the maximum reduction of 5%, if he buys more than 75% of purchase value of core telecom equipment.

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

The suggestion above is an incentive for using “Indian Product” & also a disincentive for not using an “Indian Product”. This is complied with all international agreements.

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

There should not be any duties levied on imported goods, as we are bound by WTO rules

Anti dumping duties shall be imposed on all telecom and IT products, subassemblies, assembled & shipped from neighboring countries.

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?

Yes, the government should mandate **30-70%** of the requirements, (as mentioned in 3.15 to 3.19 above) progressively over the years for the Indian manufactured products for private/public-sector requirements.

3.21 What, if any, could be the implications of such a step?

With such step, the indigenous manufacturing industry in India will be more active, which can help to reduce the overall Capex and Opex of the operator over the years and can also help to create more job opportunities in the country. Also the technology control with Indian company will help address the security issues.



Setting up of Special Zones or Telecom Clusters

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

As first step, the suggestions made above should be followed & setting up of clusters should be left for second step, as otherwise the most important need of the “ Indian Product” industry will be diluted, as it has happened in the past many times.

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

There is no need for any financing. If the above steps are taken, than the investments will come automatically.

Testing, Standardization and Accreditation

(3.27, 3.28 & 3.29)

Telecommunication Engineering Centre (TEC) should be strengthened for setting up the Technology Roadmap for India in the telecom space. It should be made the Nodal Agency for coordinating all activities relating to Telecom R&D and Manufacturing in India, and it would be involved in Technology Forecast, R&D funding, Funding for commercialization of local manufacturers, and for laying down national standards/specifications for telecom in India.

- a. TEC will lay down national standards/specifications and prepare technology roadmap which should be mandatory for introduction of any telecom product or service in Indian telecom network.
- b. Enforce testing and certification of all telecom products, like other countries. Accordingly, DoT should make conformance to the national standards and requirements mandatory for all products.
- c. TEC shall test/validate all telecom products and services to be deployed in Indian telecom network.
- d. User organizations and government purchasers should buy TEC-certified products only.
- e. TEC to be given necessary powers to address the concerns of Indian IPR holders and Indian manufacturers.



- f. TEC should be a stakeholder in all government funded/aided R&D projects, hence should be accountable for successful adaptation and commercialization of technology.
- g. Ensure compliance to security requirements of the country and drive technology for development of encryption algorithms to plug security holes.
- h. Scrutinize all software source codes to ensure compliance to all requirements and regulations.

TEC should take up Indian-specific or home-grown standards.

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?

As suggested in 3.19 above, the anti dumping duties should be imposed aggressive on all telecom & IT products, sub assemblies, manufactured, assembled & shipped from neighboring countries.

Also government should allow deferred payment of Excise/VAT for 10 years with 1% interest. This will compensate for the other duties, taxes and levies within the domestic tariff area like ST/Octroi/service tax/entry tax etc.