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COMMENTS ON TRAI CONSULTATION PAPER ON PROMOTING LOCAL MANUFACTURING  
IN THE TELEVISION BROADCASTING SECTOR

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**1. What is your assessment in respect of local manufacturing in the television broadcast sector of India? Is there requirement for a focused action in promoting local manufacturing in the television broadcast sector? Please elaborate.**

Local manufacturing for headend, transmission and CPE products did happen in India. However, the market for Indian-manufactured products was limited to the small DPOs. The large DPOs and ISPs relied mainly on imported products due to issues discussed under Q4. These issues remain even today.

After digitalisation the market share of small DPOs has declined progressively, and with it, Indian manufacturing. But there are certain developments in the market which offer hope for a revival provided some focused action is taken. Some of these developments are:

1. Linear broadcasting is being disrupted by streaming. Delivery of TV over the internet – OTT – is the new and growing platform for content.
2. Delivery of linear and OTT content has given rise to 2 new types of STBs called the hybrid STB (linear RF + OTT) and OTT STB (IPTV + OTT). DPOs are increasingly replacing the existing RF STBs with Hybrid/OTT STBs.
3. ISPs have emerged as new customers for Hybrid/OTT STBs because of convergence – they are now adding delivery of linear and OTT channels to their internet service.

For the sake of brevity, we shall heretofore call large MSOs, Pay DTH operators and large ISPs as Large Operators and small MSOs and small ISPs as Small Operators.

**Q2. Do you think there is an adequate opportunity, market, and/or demand for the manufacturing of television broadcasting (headend, back haul transmission, CPE and others) equipment in India? Please provide your comments with supporting inputs and data. What are specific requirements of special interfaces and features needed in transmission equipment used in Television broadcasting sector? Elaborate with respect to specific equipment like headend interface equipment and CPE/STB.**

A back-of-the-envelope estimation of the market for Hybrid/OTT STBs is about 100 million (50% of the installed base of RF STBs). Assuming that the market for Indian manufacturers would only be the Small Operators and Freedish consumers, the market size is still 45 million. This can further be reduced to about 30 million if we factor in higher cost of these STBs and competition from smart TVs. Figures are approximate.

Add to this the market for ONT/ONU which is estimated by TEMA to be 7 million currently and expected to grow to 18-19 million by 2026. Put together, we can expect a market for Indian manufacturers of about 10 million Hybrid/OTT STBs and ONT/ONU per year for the next 5 years.

Due to disruption of linear broadcasting there is no significant market or growth potential for headend and other transmission and CPE products. In case of OLT, there will be growth but volumes do not

justify any big initiative for manufacturing in India. Therefore, the focus should be on CPE products like Hybrid/OTT STB and ONT/ONU.

BIS needs to frame the specifications for Hybrid/OTT STBs. TEC has already framed the specifications for ONT/ONU.

***Q3(a). Do Indian manufacturers have adequate capabilities to meet the broadcasting (headend, transmission, CPE and others) equipment demand of the Indian cable television sector?***

Indian manufacturers have adequate capabilities. The Hybrid/OTT STBs and ONT/ONU manufacturing has a lot in common with RF STBs. Only some additional test equipment for WiFi testing and calibration is needed.

***Q3(b). If yes, then what new measures, if any, are required for the local manufacturing sector to capture a greater market share?***

These new measures are discussed under Q11c.

***Q3(c). If your answer to Q3(a) is negative, then please comment what measures can enable local Industry to consider manufacturing of equipment for broadcasting (headend, transmission, CPE and others) segment? Please provide supporting inputs with relevant details.***

NA.

***Q4. What are the reasons for the limited market share of local STBs? Do the local manufacturers face any entry/exit barriers such as, but not limited to cost competitiveness, and/or technology-related issues? Please elaborate with supporting inputs.***

The main reason for the limited market share of local STBs are as follows;

1. Duty-free imports of STBs under ASEAN FTA by Large Operators.
2. Access to credit insurance by overseas manufacturers.
3. Market consolidation leading to decline of Small Operator segment – the main market for Indian manufacturers.
4. Subscriber-linked Minimum Guarantee (MG) imposed by OTT content providers on DPOs.
5. Grey market in STBs for Freedish.

***Q5. What measures do you suggest for improving the competitiveness of local manufacturers? Please elaborate your comments with supporting inputs and data.***

In the context of Hybrid/OTT STBs and ONT/ONU the following measures are suggested:

**1. Tariff:**

- (a) A Hybrid STB has a dual function: It decodes RF as well has internet access. Therefore, either of HS Code 85287100 or HS Code 85176960 can apply to it. Under the latter the duty is nil. It is recommended that a Hybrid STB should be classified under HS Code 85287100, the same as the RF STB. This can be justified on the ground that the dominant function of the STB is as described under HS Code 85287100. Alternatively, a specific classification can be created for Hybrid STBs.
- (b) The tariff classification of ONT/ONU is not clear. It is being cleared currently under various classifications including HS Code 85176950 under which the duty is nil. This ambiguity should be removed or a specific classification created.

- (c) The customs duty on complete Hybrid STB and ONT/ONU should be made 20% and on populated PCB 10%.
2. **FTA:** Hybrid STB and ONT/ONU should be kept out of the purview of FTA agreements. Specific classification of Hybrid STB and ONT/ONU may help in this.
  3. **MTCTE Approval:** MTCTE approval should be made mandatory for ONT/ONU.
  4. **Design Support:** Design support for ONT/ONU should be provided through a nodal design centre like C-DOT.
  5. **PLI:** The investment under PLI scheme should be reduced to Rs 5 crores for MSME. A higher investment is not required for manufacture of Hybrid/OTT STBs and ONT/ONU.

***Q6. What other measures can be taken to encourage the adoption/usage of domestically produced STBs and other Consumer Premises Equipment among the distribution platform operators?***

The big OTT channels now insist on a subscriber-linked Minimum Guarantee (MG) from DPOs to qualify for a distributor discount. Netflix even denies access to its channel through a license if MG conditions are not met. This is the single biggest block for Small Operators in offering OTT content to their subscribers. As a result, they are unable to compete with Large Operators (who meet the MG requirement) and are steadily losing subscribers to them. This, in turn, kills the only customer segment for Hybrid/OTT STBs manufactured by Indian manufacturers.

This MG is almost identical to what was earlier being charged by broadcasters of linear channels before TRAI abolished it. That measure had levelled the playing field between small and large operators.

**For Hybrid/OTT STBs, the biggest measure that can be taken to encourage the adoption/usage of domestically manufactured STBs is the abolition of subscriber-linked minimum guarantee (MG) being charged by OTT channels.**

The grey market for Freedish can be controlled by DD. DD has a panel of 11 approved manufacturers for DD Freedish. If DD announces that only DD approved STBs should be used to receive the Freedish service it will definitely encourage usage of domestically-manufactured BIS-approved STBs.

***Q7. MeitY supported development of local CAS, which has been available for more than two years. What further measures, if any, should be undertaken to enable increase the market share of local STBs, that are designed in India, running on Indian CAS and made in India? Please elaborate with reasoning.***

The MEITY-supported iCAS has been a complete failure due to the inherent conflict of interest – the iCAS supplier was also a STB manufacturer. This formulation has never worked in any part of the world.

The solution is an Indian CAS by a neutral non-manufacturing organization like C-DOT. The CAS should be independent of the STB. This will not only reduce the dependence on foreign CAS suppliers, a vital security measure since CAS servers are all located abroad, but also drive interoperability. This will certainly give a fillip to STB manufacturing in India. Even Hybrid/OTT STBs need CAS.

TRAI had held consultation on this and almost finalized a policy for a USB-based CAS, but the policy was never announced.

**Q8(a). As per the estimates, yearly broadcasting imports in India amount to more than USD 20 billion. Do you think this market size reflects high potential for local manufacturers for broadcast equipment?**

Yes, it does.

**Q8(b) If yes, why the television broadcast sector is still dependent on imports for deployment in networks? Please elaborate.**

In case of headend and transmission products the local manufacturers lacked the technical skills to meet the demands of the big DPOs. The big DPOs preferred to go with tested solutions that were being deployed in the West. In case of STBs the reasons have already been elaborated under Q4. As a result, the manufacturing of headend, transmission and CPE products remained essentially in the small-scale sector, serving the needs of the small operators. This segment is in decline and hence the import dependency has gone up even more.

**Q9(a). Looking beyond local markets, can Indian industry gear itself to export television broadcast equipment for export markets?**

Yes, it can.

**Q9(b). If yes, what specific measures may be required to enable local manufacturers to compete in global market for television broadcast equipment? Please elaborate with relevant figures and inputs.**

Internationally too the headend market is more or less over due to disruption. However, fixed broadband networks like GPON are proliferating, creating demand for transmission products like OLT and CPE products like Hybrid/OTT STB and ONT/ONU.

But here, too, the market is segmented. At the top end are companies like Huawei, Nokia and Ericsson. At the lower end are a plethora of Chinese manufacturers. Indian manufacturers can target the low end. To take a share they will need design support. This can be sourced through a technology tie-up or through an organization like C-DOT.

In any case, Indian manufacturers will first need a local market in order to progressively develop world-class capabilities. So, the initial focus should be on developing the Indian market for these products.

**Q10. Is there potential for promoting local manufacturing of all types of broadcasting equipment, more specific to television broadcasting equipment e.g. head-end, transmission, CPE etc. or at this stage the industry should focus on specific segment like Customer Premises Equipment / Set-Top Box? Please specify the segment (if any) and support your answer with relevant market size in terms of value and volume.**

The potential exists mainly for CPE products Hybrid/OTT STBs and ONT/ONU. This is where the focus should be. An estimate of market size for Indian manufacturers is given under Q2. This estimate excludes the Large Operator market segment which is expected to continue being serviced by overseas manufacturers. If domestic manufacturers achieve scale (through policy measures), this dynamic can change too.

**Q11(a). Do the existing policy measures and fiscal initiatives adequately address the needs of the Indian Television Broadcast manufacturing sector?**

No, they do not.

***Q11(b). If yes, please provide supporting note(s) to your answer.***

NA.

***Q11(c). If the answer to Q11(a) is negative, what policy measures are required to boost local electronics manufacturing in the television broadcasting equipment sector? Please provide details in terms of short-term and long-term objectives.***

As explained earlier, only CPE products in the broadcasting sector hold the potential for large scale manufacturing. The policy initiatives that need to be taken to boost manufacturing of Hybrid/OTT STBs and ONT/ONU are already elaborated upon under Q5 & Q6.

***Q12. Should the government extend the PLI scheme to the television broadcasting sector? Which equipment deployed in the television broadcast network should be covered under the PLI scheme? Please elaborate with supporting note(s).***

Set Top Boxes should be covered under the PLI scheme. OLT and ONT/ONU is already covered.

***Q13. There is a need to have a standard understanding of the scope of 'local manufacturing' amongst all the stake holders to bring uniformity in the consultation. What should be the scope and definition of 'local manufacturing' in the lines of manufacturing vis-à-vis assemblage of the television broadcasting equipment and their core components?***

CKD assembly should be the target. The import of populated boards, adapters, remote controls, plastic casings should be discouraged since indigenous capacity exists for these items. However, bare PCB boards, electronic components, WiFi antennae and other specialized items should be permitted for import under nil customs duty since indigenous capacity for these items does not exist.

***Q14. Will a stronger R&D ecosystem enable the growth of local broadcast manufacturing sector? If yes, please suggest steps to promote and incentivize R&D undertaken in India to build domestic capability in television broadcast equipment manufacturing.***

For a distributed manufacturing infrastructure, it does not make much sense for each unit to develop in-house R&D capability. Electronic products require both hardware and software design. It takes enormous resources and time to complete designs that meet world-class standards. Moreover, top class design talent in the ESDM space is quite limited in India.

It is better to have a nodal design centre sponsored by the govt., something along the lines of C-DOT from where the manufacturers can source their core designs. Note that even then substantial resources have to be invested by manufacturers in R&D for customization and productionisation.

***Q15. In view of the concerns raised about Free Trade Agreements (FTAs) affecting the cost competitiveness of the local products, what policy measures do you suggest to address this issue? Please elaborate with supporting note(s).***

If possible, the import of Hybrid/OTT STB and ONT/ONU should be kept out of any FTA list of items. Specific HS classification of these items may help.

***Q16(a). Do you think that there is a cost disparity due to additional expense on infrastructure vis-à-vis competing nations that adds to disadvantage for local manufacturers?***

Yes.

***Q16(b). If yes, please elaborate along with supporting inputs and item-wise comparison, such as with reference to availability of power, labour, land, strong supply chain and logistics, etc.***

The cost of power, labour and land are not the main contributory factors to the cost disadvantages of Indian manufacturers. What contributes to the cost disadvantage of Indian manufacturers are basically 3 things:

1. Lack of design infrastructure.
2. Lack of components infrastructure.
3. Lack of supply chain infrastructure.

China has a very well-developed and competitive infrastructure for all three. A manufacturer in China typically has a R&D department that develops the design and a factory that does the manufacturing. He also has access to a supply chain that delivers high quality components at the lowest prices.

An Indian manufacturer has access to none of the three. It, therefore, becomes very convenient for him to import the product in SKD or CKD from a Chinese manufacturer, do minimal value-addition and sell in the Indian market. This is what Indian manufacturing is at present. How then can Indian manufacturing compete with China?

The only solution to this problem is to develop the infrastructure in India for all three. This can be done in a phased manner.

1. Design infrastructure. The GOI can play a big role in this by involving organizations like C-DOT, C-DAC, CEERI and technical institutes like the IITs.
2. Components infrastructure. Here we can first target high value-add components like SoC and CPU ICs. Since design is linked to the choice of SoC and CPU the two are inter-linked. Most of China's products are designed on Chinese SoC and CPU chips.
3. A standards body should be created for approval of components (along the lines of BIS). This will enable Indian manufacturers to source components directly from approved manufactures in India or abroad.

***Q 17: Please list (item-wise) the cost disadvantages that an Indian manufacturer faces vis-à-vis its international competitors. Please quantify such disadvantages in percentage terms to enable broad estimation.***

The combined cost disadvantage is about 20%. Therefore, a 20% tariff on CBU and 10% on populated PCB is adequate.

***Q18. Any other issue you may like to raise relevant to the present consultation?***

We must re-iterate the issue of Minimum Guarantee being imposed by OTT content providers on DPOs (see reply to Q6). This must be abolished ASAP.