



Indian Electronic System Design and Manufacturing (ESDM) Disability Identification Study

Executive summary

Knowledge partner:



About this study

This study on the Indian electronics system design and manufacturing (ESDM) industry has been commissioned by the Department of Electronics and Information Technology (DeitY), Ministry of Communications & Information Technology, Government of India, with the intention of conducting a thorough and systematic analysis of this industry and identifying the challenges Indian electronic system design and manufacturing companies are facing.

Although India's ESDM market is growing at a robust rate, most of the demand is being met through imports. The domestic ESDM market is expected to reach US\$94.2 billion in 2015 from US\$68.3 billion in 2012. However, domestic production and services in the industry far lag behind the demand, with revenues from domestic production estimated at US\$29.8 billion in 2012 and forecasted to reach US\$42.4 billion in 2015. Going forward, the Government estimates the demand for electronics to increase to US\$400 billion by 2020, while the production will grow to around US\$100 billion by the same year. This is an alarming situation for the country, because growing at this rate, the electronics import bill is expected to far exceed the oil import costs by 2020 and result in a major balance of payments crisis. Reaching US\$400 billion in market size by 2020 is the true potential of India's ESDM industry. However, if supply-side measures on promoting local manufacturing are not implemented, this could result in reduced demand with the INR adjusting itself, and result in the country's aspiring class not being able to afford electronics and the associated benefits of transparency and productivity. It would also adversely affect India's per capita GDP growth, since domestic consumption of electronics is correlated to the per-capita income of economies.

The objective of the report is to understand the factors causing disability in electronic system design and manufacturing and preventing its growth in India. In order to understand this, the report focuses on some key electronic product segments including the consumer electronics segment, e.g., set-top boxes; IT systems and hardware, e.g. notebooks and point-of-sale (POS) printers; the industrial electronics segment, e.g., smart energy meters, and the electronic component segment, e.g., printed circuit boards (PCBs), to analyze the issues faced by manufacturers in these segments as well as the industry as a whole.

The report highlights the overall ecosystem-related issues (including business environment and tax-related ones) faced by electronic product manufacturers in the country. It identifies certain electronics products (from the segments mentioned above), which are categorized into high/medium/low value-addition products and ITA 1/non-ITA1 products, and quantify disabilities in terms of designing and manufacturing products in these electronic product segments in India, as compared to importing complete products from abroad. The report makes recommendations and suggests solutions to the Government of India in its quest to overcome challenges to local manufacturing.

Ernst & Young LLP is the India Electronics and Semiconductor Association's (IESA's) knowledge partner in formulating this report.

Executive summary

Global production of electronics is estimated at US\$1.78 trillion for 2012, which grew by 1.7% y-o-y. With the revival of the global economy, the electronics industry was expected to pick up and grow at a modest 4.4% y-o-y to reach US\$1.86 trillion in 2013. The rapid growth of consumer electronics in emerging economies and the burgeoning demand for smartphones and tablets are the key growth drivers of the overall electronics market.

India's ESDM market is estimated to have reached US\$68.3 billion in 2012, growing by 5.7% as compared to 2011. Furthermore, although its growth rate was moderate last year, the Indian ESDM industry is expected to grow at a CAGR of 9.9% from 2010 till 2015 to reach US\$94.2 billion. This is more than twice the growth rate of the global ESDM market and indicates the huge potential of the domestic market.

However, the major challenge faced by India today is that there is not adequate manufacturing in the country to meet the demand for ESDM. It is estimated that by 2020, the demand-supply gap will reach close to US\$300 billion and will lead to a situation where the electronics import bill for the country will exceed oil import costs.

Another challenge India faces is that the manufacturing of electronic products that mainly takes place in the country is a low value addition, and is mainly focused on last mile assembly.

The Government of India is increasing its focus on this sector, and aims to transform it from a consumption-driven market to the one with manufacturing capability to meet local and export-related demand while simultaneously focusing on producing high-value add electronic products.

This study focuses on identification of key issues across different electronic segments, including consumer electronics, IT systems and hardware, and industrial electronics, to discover the root causes for the limited growth (at a rate that is inadequate to meet local demand) of overall manufacturing in the country.

For the purpose of this study, we considered the electronic product segments listed in the matrix below and have selected the top 25 electronic products from these segments. These products have been deemed by the IESA as being strategically important for India because of their market size and/or growth potential. They have been classified as ITA I/non-ITA I products and in terms of present state of value addition (high/medium/low) done in the country¹.

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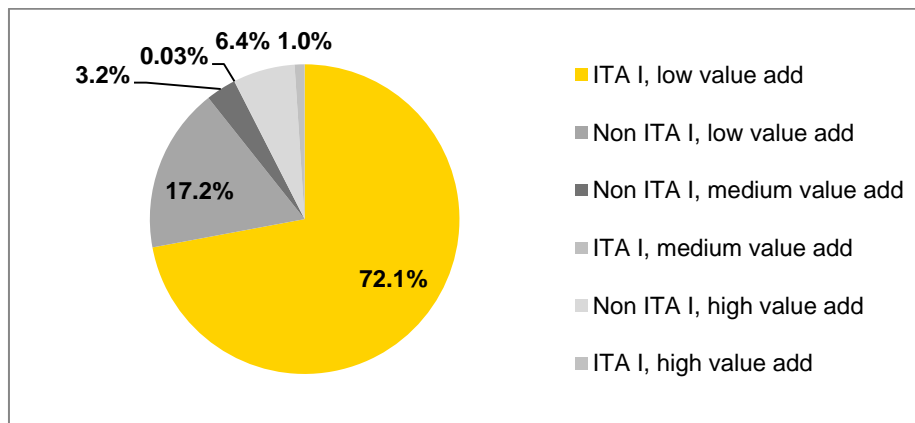
High local value addition: implies value addition > 50%; high level of local sourcing and of indigenous design, complete system manufacturing

Medium local value addition: implies value addition of 20%-50% — EMS, CKD assembly, sourcing of minimal components.

Low local value addition: implies value addition <20% — SKD assembly, minimal sourcing, no local design influence

Value addition ↑	High	Other electronics (such as smart cards without magnetic stripe) Telecom products and equipment (products such as telecom network equipment)	Industrial electronics (such as power supply, offline UPS, inverter, CFL) Automotive electronics (such as 2W – Ignition)
	Medium	Telecom products and equipment (such as BTS – WiMax) IT systems and hardware (such as POS printers)	Consumer electronics (such as set top boxes without internet function) Automotive electronics (such as instrument clusters – 2W, 4W) Industrial electronics (such as online UPS)
	Low	IT systems and hardware (such as notebooks, desktops, printers, USB flash memory drives/memory cards, tablets, LCD monitor, servers) Mobile devices (such as mobile handsets) Telecom products and equipment (such as routers, switches, BTS - GSM/CDMA, PON/GPON ONT)	IT systems and hardware (such as MFDs) Industrial electronics (such as smart energy meters, LED lighting) Automotive electronics (such as engine management system – 4W, car radio) Consumer electronics (such as Flat Panel Display TV, digital camera with the exception of digital still image video cameras)
		ITA I products	Non ITA I products

Among these, products that account for nearly 89% of the total market value of the products in the list above are currently only manufactured with low value addition in India, as indicated in the chart below.



High domestic value addition in the products indicated is due to factors detailed below:

- ▶ High share of components/raw materials (BoM) procured in the country in overall BoM
- ▶ High cost of products being designed by local manufacturers due to their complexity (and thereby, long design-to-revenue cycles)

The traditional interpretation of “high value addition” in the manufacturing industry primarily refers to the higher share of BoM that is locally procured. However, in the ESDM industry, due to the complex nature of the products, design-related activity also plays an important role in increasing domestic value addition.

The Government needs to focus on addressing the key issues faced by manufacturers of electronics so that the share of high and medium value add categories in the overall electronics product market increases by 2020. The aim should be to increase the share of the high value add category to 30% by 2016 and 60% by 2020.

Disability to domestic ESDM and factors causing it

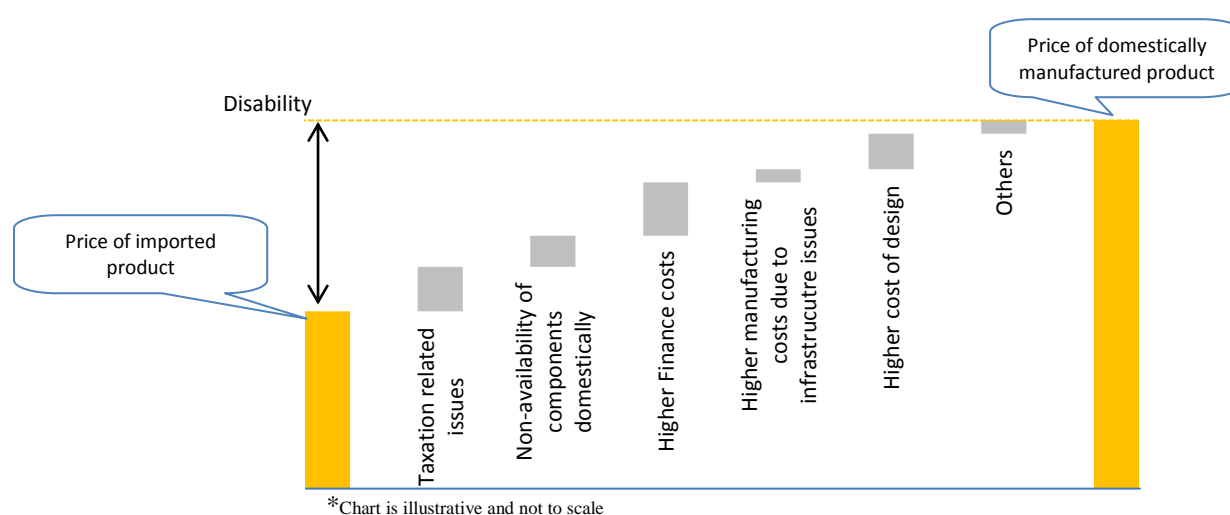
For the purpose of this study, “disability” has been defined as the difference (in percentage) in the selling price (SP) of a product that is manufactured in the country (Case 1) and that of the same or similar product (including all import taxes) when imported (Case 2). In this study, a margin of 5% has been assumed to compute the selling prices of domestic manufacturers.

Disability has been broadly classified into disability due to the tax structure and disability due to various factors in the business environment.

Disability due to tax is the difference in the overall taxes paid in India in Case 1 and Case 2 (after offsets) as a percentage of the SP of products manufactured in the country.

Disability due to the business environment includes disabilities due to factors including inventory-carrying costs, other working capital costs, freight costs, electricity costs, real estate costs, etc. (A detailed explanation is provided in section 4.1.)

An illustrative chart depicting the disability is shown below.



The extent of disability to manufacturers of electronic products in India ranges from ~7% to ~26% depending on the nature of the product. The table below provides a summary of the disability for some representative products in each of the segments identified above.

Value addition	ITA1/Non-ITA1	Examples of products	Disability as a percentage of SP
High value addition	ITA1	Telecom Networking equipment etc.	26 % ¹
Medium value addition	ITA1	PoS Printers etc.	19 %
	Non-ITA1	Set top boxes etc.	14 % ²
Low value addition	ITA1	Notebook Computer	13 %
	Non-ITA1	Energy Meter ³	7 %
Component		Printed circuit board	19 %

1. Disability represented here is for generic ITA1 – high value added products from telecom segment. However, disability rises to 29% for specific telecom networking products, where buyer’s credit is available on imports for a long period of time.

2. Disability represented here is generic for non-ITA1 medium value added products in the consumer electronics segments. However, manufacturing of set-top-boxes has certain specific disabilities, which when included, increase the overall disability of domestic STB design and manufacturing to 22.1%.

3. Energy meters with AMR functionality

Given the thin profit margins of domestic manufacturers (assumed as 5% for computation of disability), disability of 7%-26% has a huge impact on the businesses of electronic product manufacturers in the country.

Note: The disability represented here in the case of MVA and HVA products is for those whose higher value addition is primarily due to high design costs. However, due to the complex nature of the products, their design-to-revenue cycles are long and result in increased design costs. Furthermore, due to high interest rates, as indicated in the “Factors causing disability” section below, products with long design-to-revenue cycles have higher disabilities. Therefore, in essence, domestic manufacturers that add higher value (due to execution of complex designs) face higher disability. In the case of products whose value addition is due to the high share of domestic BoM, disability could dip slightly (depending on the share of domestic BoM and assuming that the components are available in the country in the required scale at competitive prices). This is due to reduced freight charges, inventory-carrying costs and disability of design-related expenses.

Issues causing disability in domestic design and manufacturing

As part of our study, we identified and quantified multiple factors across taxation, business environment, etc., which are creating and sustaining this disability. The key factors causing/sustaining disability across various segments are summarized below-

Taxation-related issues:

1) BCD-related issues:

- a. BCD exemption on imported finished products for ITA1 products, especially when the net cost of domestic manufacturing is higher, is an encouraging factor for imports vis-à-vis products manufactured in the country. In addition, some non-ITA1 products such as multifunction printers also have 0% BCD.
- b. However, manufacturers of products in the country have to pay non-zero BCD on some imported components, especially for those with dual-use functionality (e.g., fuses, inductors, batteries, certain ICs, etc.), which are used to manufacture such products in the country. This results in a differential duty structure for these products.
- c. Although there is concessional duty applicable on many raw materials/parts/components used in manufacturing of ITA1 products, the procedure of availing this concessional duty is sometimes long and complex, and results in stock-outs or increased inventory-carrying costs for domestic manufacturers.
- d. Convergence of technologies and miniaturization of devices have enabled multiple functionalities to be combined into single electronic products. This makes it increasingly difficult to interpret definitions of products in the ITA 1 agreement in order to apply the duty to new age products. Therefore, there is a danger of 0% BCD being applied on import of some non-ITA1 products due to confusion with respect to their classification.

Impact:

- ▶ 0.5%–2.5% disability due to differences in basic customs duty (for products with different duties for imported products and import of components)
- ▶ Lost opportunity to balance disabilities of domestic manufacturers through increased BCD on imports
- ▶ High inventory-carrying costs due to delay in clearances while availing exemption from duties
- ▶ Ineligible products receiving benefit of 0% BCD

2) Higher sales tax rate for domestic manufacturers: Higher sales tax rates are levied on products manufactured in the country (in the case of certain products such as set-top boxes), where a C-Form is not issued by the buyer. In such cases, tax has to be paid at the rate of VAT instead of CST by domestic manufacturers. However, in the event such products are imported, only SAD is charged (and no VAT), since these are imported for the specific use of operators (e.g., Multi-System Operators, in the case of set-top boxes).

Impact:

- ▶ Imposing CST instead of VAT could offset disability by 7%–8% (only for specific products such as those mentioned above).

3) SAD refunds to traders vs CST paid by manufacturers

Traders are eligible for exemption from or refund of SAD in the case of inter-state sale and the manufacturer has to pay CST, which is not refundable and cannot be offset against any other tax for products that are directly imported and traded in India. However, CST does not need to be paid by traders, since such products are generally directly imported and thereafter sold for consumption. However, since VAT is paid in both cases, CST paid by manufacturers continues to be an additional cost. The table below illustrates this scenario.

Trader (taxes payable)	Domestic manufacturer (taxes payable)
CVD	Excise duty
SAD (exempted/refunded)	CST (no exemption/refund/offset)
VAT	VAT

Impact:

- ▶ The impact of the additional tax paid by domestic manufacturers (in comparison with imports) is ~ 1.95%.

4) Non-cenvatable cesses for manufacturers when components are imported (while cess is charged only once on import of end product)

When domestic manufacturers import components used to manufacture end products, duties such as on CVD, SAD and Education & Higher Education (2% & 1%) are levied in addition to BCD. While CVD and SAD are eligible for credit of Cenvat, cesses are not. Apart from this, domestic manufacturers pay Education & Higher education cess (2% and 1%, respectively) again as Excise duty. However, the Education & Higher Education cess is only payable once for import of end products. The table below illustrates this scenario:

Trader (taxes payable)	Domestic manufacturer (taxes payable)
BCD on imported end products	BCD on imported components
	CVD and SAD on imported components (cenvatable against ED on end product)
	Education & Higher Education cess on imported components (not cenvatable)
CVD and SAD on end products (SAD being exempt or refundable as elaborated above)	ED on end products
Education & Higher Education cess on end products	Education & Higher Education cess on end products

Impact:

- ▶ Non-cenvatable cesses to be paid by domestic manufacturers on imported components create disability of 0.2%–0.3% (depending on the proportion of imported BoM and extent of domestic value addition)

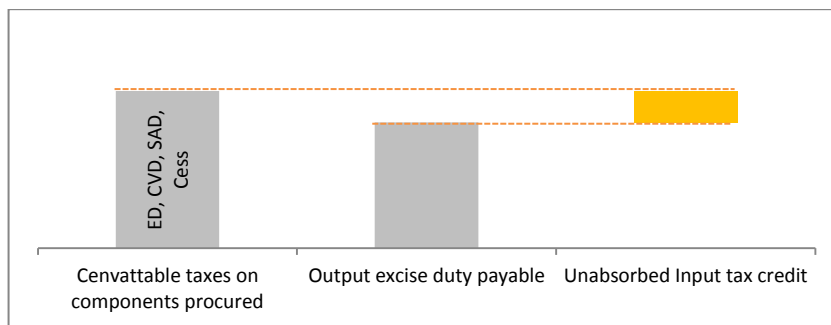
5) Input sales taxes that cannot be offset against output sales tax for manufacturers when components are procured in the country (interstate)

CST is applicable when domestic manufacturers procure components from other states, which cannot be set off against Sales Tax (CST/VAT) payable on end products. This increases the cost of procuring components for domestic manufacturers.

Impact:

- ▶ Non-offsettable Sales Tax paid on components procured from other states in the country is currently creating disability of 0.1%–0.5% (depending on the share of components procured from other states in the overall BoM).

6) Unabsorbed cenvat: Certain taxes on components procured (such as CVD, SAD and ED) are cenvatable and can be set off against output duties payable. However, when input taxes are higher than output taxes payable, the difference cannot be offset and results in unabsorbed cenvat. This can happen when most of the components are imported (with CVD and SAD applicable) and the extent of domestic value addition is low. The chart* below illustrates this scenario.



*Indicative only; chart not drawn to scale

Domestic manufacturers cannot always offset input taxes against output taxes payable. This results in unabsorbed input tax credit. This is a cost for manufacturers and accumulates over the years, especially for low value adding manufacturers at then ascent stage of their operations.

Impact:

- ▶ ~0.1% - 0.5% disability due to unabsorbed input tax credit (for products with unabsorbed input tax credit)

- 7) The total cost of manufacturing such products increases due to all the other disabilities. Therefore, Excise duty rates for products manufactured in the country and CVD rates for imported products are the same, although absolute amounts are different due to the high base on which excise duty is paid (in the context of transaction value-based assessment for ED).

Impact:

- ▶ Excise duty paid due to various disabilities in the system creates a disability of 0.2%–1.2% (depending on the extent of other disabilities).

Finance-related costs:

- 8) **High cost of working capital-related financing:** The high cost of working capital-related financing (receivables and payables) due to high interest rates is another major challenge faced by domestic manufacturers, since it increases the overall cost of finance. In addition, in the case of some products (set-top boxes telecom infrastructure equipment, etc.), foreign banks offer long credit periods of up to seven years at LIBOR-linked interest rates. These rates are low as compared to those offered for domestic borrowing. Therefore, domestic manufacturers attempting to match long credit periods (available on imports) are confronted with two key challenges:

- ▶ Inadequate availability of working capital-related financing for long periods
- ▶ High rates of interest on domestic borrowing

Impact:

- ▶ 1.5%–4.5% disability due to high cost of working capital-related financing (depending on the nature of the industry and payable/receivable cycles)
- ▶ Impact going up to 8% in the case of products where buyers credit is available for import for long durations

- 9) **High cost of finance for design-related expenses:** In India, high rates of interest, combined with long gestation periods (design to commercialization), especially for high value addition products, result in disabilities for manufacturers by increasing per unit interest costs.

Impact:

- ▶ Disability caused by the impact of the high cost of finance on design-related expenses varies from 0.2%–8.5%, depending on the complexity of a product (rises with increasing design-to-revenue cycle time).

- 10) **High cost of financing capital expenses:** The high rate of interest paid on domestic borrowing for capital expenses adds to the high cost of finance for domestic ESDM players that borrow from local financial institutions.

Impact:

- ▶ 0.25%–0.6% disability due to the difference in the cost of financing capital-related expenses, which can be higher in the case of manufacture of components where capex requirements are much higher

Availability of components

11) Inadequate availability of components at required scales and competitive prices in India -

Issues arising from inadequate availability of components are due to low levels of component-manufacturing activity in India and the absence of strong component distribution hubs that can import and trade components in large quantities. Although there is some manufacturing activity in the country, it is limited to a few parts of its component ecosystem (e.g., passives and PCB).

An inadequate component-related ecosystem also discourages domestic design/manufacture of end products in two ways:

- ▶ Individual manufacturers import components for their own use (in relatively small amounts) from different global component-manufacturing locations. This entails additional effort without any cost advantage vis-à-vis getting end products manufactured in other low-cost manufacturing countries. It tends to encourage trading of end products vis-à-vis manufacturing these in the country by importing required components.
- ▶ The longer supply chain of components results in high inventory-carrying and freight costs.

Impact:

- ▶ 2%–3% disability due to high inventory-carrying costs
- ▶ 1%–2.5% additional freight costs (depending on mode of transport and share of imported BoM) incurred due to import of components instead of domestic procurement

Conversion costs

12) High cost of manufacturing (conversion costs) due to inadequate availability/reliability of power (resulting in its high blended cost), high cost of real estate, etc.

Impact:

- ▶ 0.25%–0.6% disability for domestic product manufacturers due to unreliable power supply, which can go up to 3% in manufacture of components where power consumption is high)
- ▶ 0.25%–1% disability due to high real estate costs (depending on location)

Other issues

13) **Poor brand perception of India as an electronics-manufacturing destination:** The relatively poor perception of India as an electronics-manufacturing destination worldwide has resulted in high international marketing expenses being incurred by domestic manufacturers.

Impact:

- ▶ Disability due to higher international marketing efforts required by Indian manufacturers is ~ 1%. In addition, a negative brand-related perception also results in slow inflow of global investments in the ESDM sector.

Other issues that are adversely affecting domestic manufacturing of electronics on a large scale need to be addressed by the Government. These include an inadequate R&D ecosystem, a discouraging start-up environment, the lack of efficient logistics and supply chains, and inflexible labor laws.

A summary of the issues and their impact is provided in the table below:

Issue	Quantitative impact (as percentage of revenue)*	Qualitative impact
Taxation-related issues	3%–6%	
Nil BCD on import of ITA1 products	0.5%–2.5%	Lost opportunity to balance disabilities for Indian manufacturers by increasing BCD on import of end products
Differential duty due to 0 BCD on import of ITA1 products	0.5%–2.5%	
Complex/Long procedure for availing concessional duty on import of components		Inability to meet demand/delivery timelines and loss of reputation
Other tax-related disabilities	2.45%–4%	
For products such as STB and VAT — to be paid by manufacturer; SAD for imports	7%–8%	
SAD is refunded/exempted for traders; CST to be paid by domestic manufacturers	1.95%	
Non-cenvattable cesses for manufacturers in the case of imported components; cess charged only once on import of end product	0.2%–0.3%	
Input sales taxes that cannot be offset against output Sales tax for manufacturers when components are procured interstate in India	0.1%–0.5%	
High Excise duty paid by domestic manufacturer (compared to CVD on imported product) due to high base on which ED is paid**	0.2%–1.2%	
Un-absorbed cenvat	0.1%–0.5%	
High cost of finance	2% - 14%	
High cost of working capital-related financing(receivables and payables)	1.5%–4.5%[#]	
High cost of finance for capital-related expenses	0.25%–0.6%	
High cost of finance for design-related expenses	0.2%–8%	
Inadequate availability of components in the country	3%–5%	Manufacturers seeing little reason to manufacture components in India in an inadequately supporting ecosystem; whereas most of the ecosystem of other low-cost manufacturing countries is mature
High inventory-carrying costs	2%–3%	
Additional freight-related costs due to import of components	1%–2.5%	
Deficient infrastructure (high manufacturing cost)	0.5% - 1.5%	
Unreliable power supply	0.50%–0.60%[^]	
High cost of real estate	0.25%–1%	
High cost of international marketing	~ 1%	

* Values are only indicative and have been calculated, based on data pertaining to specific products. They are subject to change, depending on the nature of products, segments, components used and other external factors.

** In the context of transaction value-based assessment of ED

This can go up to 8% in case of products with longer duration of buyer's credit on imports; ^ In case of component manufacturing that has large power requirement, this can go up to 3%

Recommendations

The following recommendations are suggested for manufacturers making components for electronics products to enable them to overcome the challenges they are facing:

Suggestions for improving recent ESDM policies to increase uptake

1) Preferential market access policy:

- a) **Repositioning PMA to VAMA:** It is recommended that the name of the policy is changed to “Value addition-based market access (VAMA) policy” to ensure that it appropriately summarizes the intention of the policy and allays concerns in global organizations.
- b) **Complying with the policy:** Considering the challenges faced in the ESDM sector and the need for the Government to handhold the domestic ESDM sector, it is recommended that the initiatives taken by it with respect to providing preferential access to electronic products manufactured in the country are continued without any dilution.

2) Modified Special Incentives Package Scheme (MSIPS)

It has been over a year since the policy was notified. It is suggested that it is reviewed in accordance with clause 5.1.2 of the notification (with provision for periodic review) to include the following modifications, which can help to improve uptake of the scheme in the industry.

- a) Since manpower and other non-capex related costs also form a significant part of the overall cost of manufacturing electronics, it is recommended that the scheme is expanded to include overall project-related expenses (including capital expenses) instead of capital expenses alone.
- b) For the purpose of this scheme, definition of capital expenses needs to include any items that can be capitalized under the Income Tax Act.

3) Electronic Development Fund (EDF)

Need to make EDF immediately operational: EDF is expected to engender a well-funded and healthy ecosystem of fab-less chip companies, and ESDM product-manufacturing companies in India. A strong “systems” ecosystem is essential for attracting additional private investments in the components sector and also to ensure the success of semiconductor fabs being set up in the country.

4) Improving effectiveness of existing schemes

- ▶ Approval and disbursement should be faster and more time-bound.
- ▶ Sub-optimal funding should be avoided to have the maximum impact and funding decisions need to be based on the quality of proposals rather than the size of funding requests.
- ▶ Disbursements of incentives can be made in the form of cash or even “ESDM scrips,” which can be earned and used against any Central tax payments such as TDS, Income Tax, CST, Service tax and Excise tax.

Taxation-and finance-related costs

- 5) **Deemed export status to ITA1 products:** The status of “deemed export” should be granted to ITA1 products/components manufactured and sold in India. This would enable the benefits of drawback, advance authorization and refund of output Excise duty paid by manufacturers by availing credit of input taxes paid on components imported and made in the country and paid for in cash for value addition. Domestically manufactured electronic products (DMEP) for the purpose of conferring the status of deemed export on them should be identified by using domestic value addition norms, where the threshold progressively increases over the years.
- 6) **Soft loan to discharge VAT/CST for ITA1 products:** Grant of interest-free soft loans for a period of five to seven years for discharge of VAT/CST, based on criteria for gross VAT/CST payable, should be made universally available under the incentive-related policies of all Indian states with respect to locally manufactured and sold ITA 1 products. For the purpose of availing the benefit of deemed export and interest-free soft loans for discharge of VAT/CST, DMEP should be identified by using the domestic value-addition threshold, where the threshold progressively increases over the years.
- 7) **BCD rationalization for non-ITA1 products:** For non-ITA1 products, BCD on import of end products should be increased to match the disability for domestic manufacturing of each product. The extent of increase of BCD may not only balance the disability, but also enable strong margins and attract investors/manufacturers to manufacture electronics products in the country.
The definitions of products in the ITA1 agreement need to be carefully examined so that Import duty-related concessions are not provided to ineligible products. Clearly mapping of various products to HS codes need to be ensured to avoid ambiguity in interpretation of product descriptions in an ITA agreement. BCD rationalization can be coupled with tighter value-addition and country of origin clauses.
- 8) **Interest subvention:** For ITA1 and non-ITA1 products, interest subvention of 2%–5% of the interest rate should be provided to domestic electronics design and manufacturing companies on interest paid on their working capital. The extent of subvention provided should increase with growth in domestic value addition.

Component-related ecosystem

- 9) **Component FTWZ:** A duty free component trading and warehousing zone (component FTWZ) needs to be established in the vicinity of a major port or a manufacturing cluster with a dry port. The development of such a zone may receive the same financial assistance as a greenfield / brownfield EMC (depending on where the zone comes up). Distributors with warehouses in such a zone can be eligible for benefits under the MSIPS scheme, provided they abide by norms pertaining to preferential fulfilment of orders from domestic customers of components.
- 10) **Encouraging domestic component manufacturing:** Manufacturers of the top 10 ESDM components should be incentivized to manufacture these in the country simultaneously with their imports. Deemed export status for a period of five years for manufacturers of such components (along with those that are part of ITA1) is recommended to provide high-quality, reliable and cost effective power and water to component manufacturers (including fab).

- 11) Branding- and marketing-related issues:** A targeted marketing strategy should be adopted to attract global leaders in the 10 ESDM components as well as EMS. At the same time, the international and domestic component manufacturers who are already present in the country and have invested in it should be suitably incentivized (as indicated above) and motivated to invest further and scale-up their operations. Their success stories need to be documented and widely publicized as case studies to brand India as a leading global investment destination in these fields.

Start-up environment and design

Entrepreneurship must be promoted to attract more IPR/R&D-driven domestic fabless and product/system companies by publicizing various schemes for start-ups. Provided below are some start-up- and design-related recommendations:

- 12)** The Government should co-invest with seed/angel/venture capital funds by providing a matching amount to any ESDM company that manages to obtain seed/angel/venture capital funding from a recognized seed/angel/VC fund.
- 13)** The Government should set up ESDM incubators, with state-of-the-art tools and test facilities that can be used on a shared basis by ESDM product companies and start-ups, in at least five academic institutions in India.
- 14)** The Government should expand MSIPS to include “overall project costs,” as suggested in its recommendations for MSIPS. This should cover the R&D manpower expenses of ESDM units R&D manpower expenses of Electronics companies involved in stand-alone R&D / design.
- 15)** It should set up product-specific ESDM Centres of Excellence (CoEs), which can act as technology incubators and provide technology- and infrastructure-related support (pre-commercialization licenses, SMT lines for prototypes, etc.) at leading educational institutes.

Process-related initiatives:

- 16) Self-declaration to be accepted:** Manufacturers would make self-declarations about products they manufacture and for which they intend to use imported components/parts/raw-materials to overcome process-related delays, ensure minimum loss of time due to Customs' requirements and EHTP/SEZ-related formalities, and avoid undue high taxation on dual-use components/parts/raw-materials. Manufacturers would also provide their annual requirement for such components/parts/raw-materials and certification by a chartered accountant or chartered engineer, based on input-output ratio and norms, without the need for procurement or inspection certificates.
- 17) Measures to check dumping:** If the price differential between the best quote from an Indian manufacturer and vendors based abroad is higher than 30%, the Government should immediately initiate anti-dumping investigations against the vendors abroad and take appropriate action if evidence of dumping is found.

Infrastructure and labor

18) Encouraging open-access power and group captives: Regulations on open-access power is to be relaxed for electronic manufacturing clusters. This is to consolidate the demand from all ESDM units in a particular cluster and enable low-power consumption units to avail the benefits of open-access power.

In addition, Group captive/Captive power plants based on renewable sources of energy that cater to the requirement of ESDM units are to be independently eligible for the MSIPS scheme (even if such a power plant is setup for existing manufacturing units). This would also act as a catalyst to the growth of the domestic industry for power-generating energy subsystems through renewable energy projects.

19) Relaxation of labor laws: In order to aid the rapid growth of the nascent ESDM sector, relaxation from labor laws on restrictions on overtime work, flexibility in maintaining employee headcount to suit business needs, work timings for women employees, etc., are to be provided for electronic manufacturing clusters for a period of five years, without compromising on safety and health aspects.

Others:

20) Promotion and branding: Global promotion and branding activities to be undertaken by the Govt. of India to establish India's brand as an ESDM destination. The Government can provide reimbursement of 25% of actual expenses incurred in international marketing & promotion, trade show participation etc. by domestic ESDM companies, subject to a limit of INR 1 mn per annum per company

21) Status of sector: Infrastructure status to the ESDM sector may be considered in view of the importance of the ESDM sector in enabling India's infrastructure and development, considering the disabilities faced by the sector and the country being a signatory to agreements such as the ITA and other FTAs.