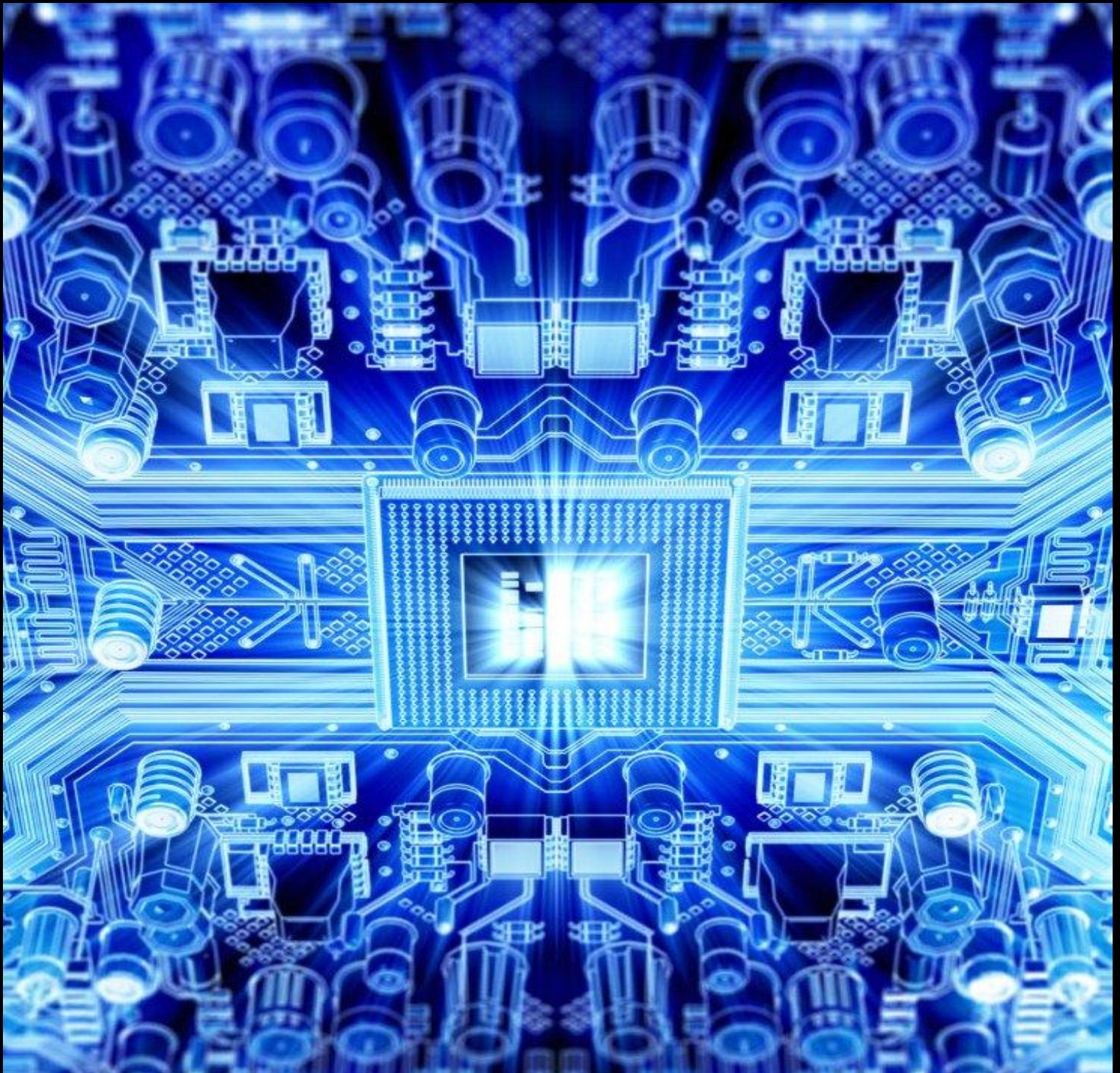


ELECTRONICS MANUFACTURING SUMMIT 2018

Proceedings Report



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Image source: <http://www.circuits-central.com/wp-content/uploads/2015/09/home-2.jpg?id=1920>

Executive Summary

The electronics industry in India has, over the years, emerged as **one of the most significant growth contributors** for the Indian economy. However, it currently accounts for **less than 2% of India's GDP**. Much of India's domestic consumption is met through imports. Further, India contributes to less than 2% to the global electronics industry. The industry in India is confined to low-end value chain and the value addition, currently, is as low as 5-10%. However, India, with its **huge market and unique location** at the crossroads of the East and West offers huge opportunity to be developed as a manufacturing hub for electronics – both for catering domestic demand as well as that for exports.

Against this backdrop, **Manufacturers' Association for Information Technology (MAIT)** organized the **Electronics Manufacturing Summit 2018** on **17th January 2018** in **New Delhi**. The event featured leaders from the industry – comprising of OEMs, electronics manufacturing systems (EMS) companies as well as component manufacturers – along with dignitaries from the government of India including that from NITI Aayog, Ministry of Electronics and Information Technology (MeiTY) and Department of Telecom (DoT). The summit also saw participation from APEITA (Andhra Pradesh Electronics & IT Agency).

The basic requirement for realizing the vision of 'Make-in-India for the World' is establishment of world class authentic manufacturing for electronics in India. Considering from the enterprise perspective, there has to be a **business case** for establishment of such an ecosystem. This, in turn, requires availability of key **resources** such as **land, power etc., skilled workforce** and **capital**. Further, the enterprise needs to be **profitable** to ensure economic sustainability of the system. Each of these aspects for successful manufacturing is discussed below in turn.

Profitability of business is one of the key requirements for any manufacturing enterprise, including electronics manufacturing. There are three requirements to ensure that a firm is profitable. There are:

1. Low input cost,
2. Cost effective manufacturing, and,
3. Fair product price.

Input cost, itself, is a function of **cost effective manufacturing** as well as **low logistics and inventory costs**. An important way in which latter, i.e. low logistics and inventory costs, can be addressed is by establishment of a local supplier ecosystem. In case of original equipment manufacturers (OEMs) / electronics manufacturing systems (EMS) companies, this essentially means establishment of a **component ecosystem**. A further enabler of this entire ecosystem, from OEMs to component manufacturers, in reducing input cost is by development of **dedicated manufacturing clusters** as well as a **robust logistics infrastructure**. In fact, development of these two key enablers also augments the business case for an enterprise by providing readily available resources including land, power, skilled workforce etc.

Technology can play an important role, as another enabler, to ensure that the manufacturing process per se is cost effective, timely and without waste. This applies to the entire electronics industry ecosystem, from OEMs to component manufacturers.

Cost effective manufacturing, ultimately, has to be ensured by **economies of scale**. A prerequisite for this is **optimum capacity utilization**. This, in turn, is driven by **consistent demand** for manufactured products. In case of electronics manufacturing, this is especially the case with component manufacturers. In fact, it is one of the grievances of the component manufacturers that the buyers (OEMs / EMS) do not commit to a steady demand. They also face **threat from imports** and the buyers usually take decisions based on the most cost-effective input, whether domestically manufactured or imported.

While the threat from imports can be addressed through appropriate **import barriers such as duties and tariffs**, this can only be a temporary measure considering the global trade dynamics and India's commitment to the World Trade Organization (WTO). Another way in which the Government is helping

the industry is through **incentives such as PMA** (preferential market access) for domestically manufactured electronics products. In any case, India does not operate in a vacuum and these policies may invite a counter-policy based backlash from the impacted countries. Therefore, a dynamism of policy response is required.

As has been seen through global experience, a **selected product portfolio** is helpful in ensuring that the economy of scale is achieved. Rather than focussing on building all products / components in India, the focus should be on selected products / components which can be manufactured for domestic as well as export consumption.

Ultimately, the industry itself has to address the issue of consistent demand by offering **products of high quality and of latest technology**. This is especially important for the EMS companies as they endeavour to capture a significant export market. The products should also adhere to **international standards and systems**. Technology again would be a key enabler here. However, since the technology for this sector is quite complex and changes rapidly, this may take some time to pick-up in India.

Finally, in order to ensure profitability, the electronics manufacturers should be able to command a fair price for their products. This issue is especially critical in case of component manufacturers who, often, feel that they are not considered partners in the value chain and the component **buyers exercise a significant bargaining power**. This needs to be addressed and the industry leaders feel that a strategy of OEMs, EMS companies and the component manufacturers need to be closely aligned for the electronics manufacturing system to be successful. There is also a greater need for the **OEMs to handhold EMS companies** for a greater alignment of strategies.

One of the issues which face the entire industry – especially component manufacturers and the EMS companies – is that of **long capital investment cycles**. It takes a long time, as compared to other manufacturing industries, to realize return on investment on capital. This becomes even more critical due to inconsistent demand of the finished products / components, late disbursement of financial incentives and working capital problems. The government has stepped in here and **offers various schemes** such as M-SIPS, EPCG scheme and duty exemption and remission schemes. However, it has been seen that unprofessionalism within industry sometimes leads to ineffectiveness of these schemes and their unreachability of those actually in need. The industry needs to step in and **address this unprofessionalism** by pointing out black sheep among its ranks.

Ultimately, any and all incentives offered by Government require an investment of tax-payers money. Therefore, there has to be a **socio-economic return on this investment**, one parameter of measurement of which could be the **volume of high-skilled high value adding jobs** that are created in the economy. This skilled workforce would also serve as one of the key resources for making a business case for electronics manufacturing.

There has also been a concern regarding ease of doing business especially related to the processes and disconnect between Union and state governments, between state governments and also between various arms of the government. However, it is increasingly being witnessed that these concerns are being addressed by the government.

To summarize, following are the broad action points, for both the government and the industry, to help achieve the vision of 'Make-in-India for the World' are as below:

Broad action points for the government include,

1. Development of manufacturing and logistics infrastructure through development of manufacturing clusters, transport hubs, roads, railways, ports and airports. This infrastructure should be aimed at both the domestic as well as export market.
2. Strengthening and further development of suitable policy initiative to help the industry achieve profitability. These policies should address areas such as capital requirement, demand fulfilment,

safeguards from imports etc. Further, these policies need to be dynamic in nature considering the dynamic nature of global trade itself.

3. Ensuring ease of doing business, especially by addressing disconnect between various governments and their arms.

Broad action points for the electronics manufacturing industry include:

1. The industry, as a whole, should work in synergy and with an aligned strategy. Various members of this ecosystem should be considered partners and dealt with accordingly.
2. Identify key areas where Government should intervene in order to help the industry overcome its disabilities. Further, the industry should provide key evidence regarding its disabilities to help the government take effective actions.
3. Large industry players should come forward for investments in mega clusters as anchor industries and should be willing to handhold its partners.

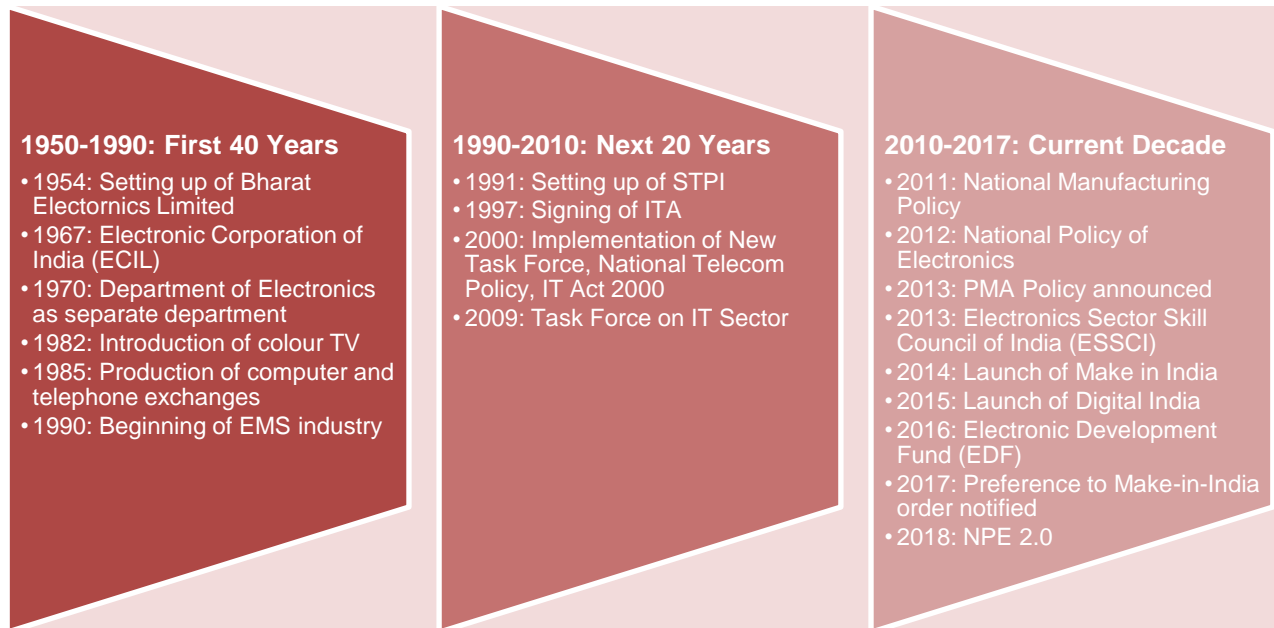
The next few chapters of these reports elaborate upon each of the above aspects.

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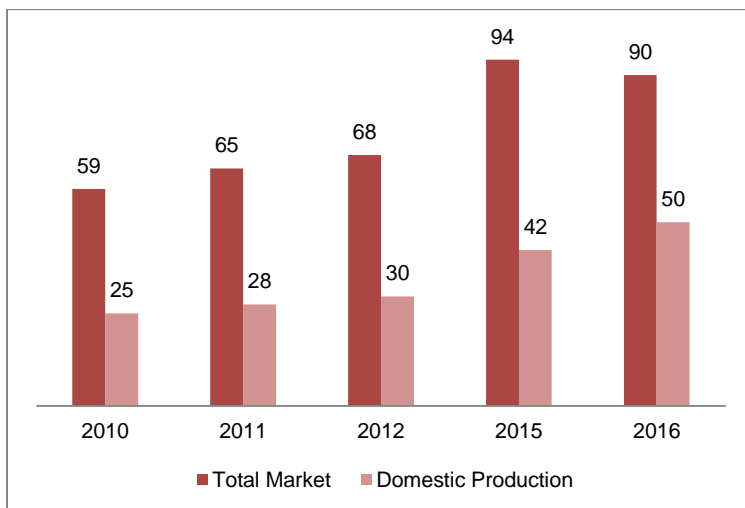
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Electronics Manufacturing Summit 2018¹

The IT industry in India has played a key role in putting India on the global map and has, over the years, emerged as one of the **most significant growth contributors** for the Indian economy. The graphic below shows the journey of IT industry in India since independence.



However, India currently contributes less than 2% to the global IT electronics industry. While the demand for the Electronics and IT Hardware in India has been very significant and is growing at a very rapid pace, domestic manufacturing of Electronics and IT Hardware is at a very nascent stage and most of the demand is catered through imports.



Global Electronic Hardware is USD 2 Trillion, whereas India Production- US\$ 32.46 billion (1.5% of World Share).

Our Domestic Consumption- \$63.6 billion (58% is through imports) and Export - US\$ 6 billion (less than 1% share in the world markets).

Industry to GDP ratio is just 1.7% (its 15.5% for Taiwan, 15.1% in South Korea and 12.7% in China)

Our value addition is 5-10%, whereas in China it's as high as 70%; South Korea and Taiwan is above 50% level; Vietnam is 30% mark and in Brazil has reached sub 20% levels.

Status of Electronics Manufacturing in India

¹ Source: Theme Paper for Electronics Manufacturing Summit 2018 prepared by Manufacturers' Association for Information Technology (edited).

In addition, the electronics manufacturing in India is **confined to low-end value chain** and India lags behind in electronics hardware manufacturing capabilities due to myriad challenges including high cost of power and finance, high transactional costs, prevalent tax structure and poor base of supply chain and lack of component ecosystem. For India to emerge as a global hub for manufacturing and participate in Global Value Chain (GVC), it needs to adopt best practices from global manufacturing supply chain, identify partners in local ecosystem to forge a long-term manufacturing setup.

One of the other reasons for the slow growth of this sector is lack of sufficient demand for such products in the country. For certain segments, such as LED and CAS, the government has acted as demand aggregator while in case of mobile/ handset manufacturing, the captive demand has been enough to drive high demand. However for the other electronic and IT hardware products, there is a need to create demand for the products which may need to be government-fuelled/triggered demand. Therefore, there is a need for import substitution along with export-orientation to help unlock the demand opportunity.

The Government of India has been making significant efforts towards achieving its agenda of '**Make-in-India**' and '**Digital India**'. In fact, one of the key pillars of Digital India is achieving **Net Zero Imports by 2020** through electronics manufacturing.

An **exports-led approach** will provide an additional base of volumes to attract investment in the component ecosystem, and will enhance competitiveness of exports of IT products from India. This approach will guarantee volumes and competitiveness at the same time. This is what the about "**India for the World strategy**" is all about.

To put the rationale for India for the World strategy in perspective, it is worth noting that India's **domestic demand for electronic goods was approximately \$64 billion in 2014-15. In comparison, the world market in 2014 was \$2 trillion.** There is a need to understand the dynamics of each product segment. Some of the products are high technological products and can only be developed in global key strategic nodes while there are other products which can be developed indigenously where India has an inherent advantage.

Usually, consumer products are easier to localize. Given the high volume and low complexity of such consumer products, one can find more examples of consumer electronics being localized. On the other end of the spectrum are products procured by Enterprise products. The manufacturing for Enterprise products can be characterized as high complexity and low volume.

There is need for product specific approach and we should also learn from other product segments as components are more or less the same. Core Working Groups set up by MeitY for developing road map for encouraging domestic manufacturing of finished product, sub-assemblies, and components is a good & positive step in this regard. There is also a need to develop an understanding on the reasons for PMA to be not as successful as envisaged initially (due to unrealistic value add norms based on BOM% rather than globally accepted substantial transformation norm). There is need for transition to Design and IP creation in India. India has a promising hardware engineering talent and vibrant design competencies; hence **Design-in-India can lead to Make-in-India.** There are various design elements such as the whole fabrication, mechanical design, the PCB (printed circuit board) layout, component selection, RF testing that can be done in India.

Manufacturers' Association for Information Technology (MAIT²) believes that there is need for policy support which promoted import-substitution (India for India) as well as export-orientation (India for the World) to achieve Net Zero Import by 2020. Stable long-term policy and understanding of the global dynamics will encourage investments in design-led and value-added manufacturing in India.

2 Established in 1982, MAIT has a vision to develop, maintain and accelerate ICT ecosystem that will transform India into a digital knowledge economy and a global manufacturing hub. MAIT's mission is to expand domestic market by catalyzing Digitization of India, establish India as a Global hub for ESDM and work with stakeholders to improve Ease of Doing Business. We are headquartered in New Delhi with key affiliates across the globe.

To achieve this, there is a need to have a consistent and cohesive investment policy across central and state Government wherein the central incentives are clubbed with state incentives and made available to investors. There is need for Central investment facilitation window which works on simplification of process from continuity of business perspective and not just from initial investment. Currently, there is a significant disconnect between the state and the central policies which is adding to the overall confusion for the investors.

An integrated approach to improve the overall infrastructure and business environment is required in the country. The existing Sagarmala project can be linked with west and south India, which accounts for 80% domestic market plus it has proximity to Gulf, Europe, and Africa. There is need to create North Eastern Gateway to China for Movement of Goods as North East can be our trade gateway to China.

Against this backdrop, MAIT (Manufacturers' Association for Information Technology) organized the **Electronics Manufacturing Summit 2018** on **17th January 2018** at **Sovereign 1, Hotel Le Meridien, New Delhi**. The Summit brought together global decision-makers in manufacturing, senior representatives from Central & State Government and local ecosystem players from ICT supply chain to share their experiences with an objective of developing a vibrant electronic manufacturing ecosystem in India.

The event also aimed at providing an opportunity for global giants in supply chain to discuss their investment plans in India, provide insights into their sourcing requirements and for the Indian component manufacturers to showcase their capabilities, thereby, creating a strong case for developing India's electronic manufacturing capability.

The inaugural session of the event was followed by three special sessions (known as super sessions):

1. **Super Session I: Promise to Performance – Making Policies Work:** interactions with leaders from Indian industry and Government on making policies work for our country.
2. **Super Session II: Learn from Leaders - “Making India NEXT Manufacturing Destination”:** The session will have Top 4 Global Supply Chain Leaders share their experience in building a supply chain.
3. **Super Session III: Enablers for increasing the Value Addition, gearing up component ecosystem:** This session will highlight key factors and enablers for increasing the Value Addition in India. The speakers in this session are leaders in India who have made manufacturing possible.

This document details the proceedings of the summit and is organized across 6 chapters. The executive summary summarizes and concludes the proceedings of the report and summarizes the recommendations for policy formulation that were offered through the course of the summit. Chapter 2 provides a detailed introduction to the backdrop and the context of the summit. Chapter 3 summarizes the opening of the summit along with the keynote address. Chapters 4 to 6 discuss the proceedings of the super sessions which formed the backbone of the summit.

Introduction to the summit

Opening address by Shri Nitin Kunkolienker, MAIT



Shri Nitin Kunkolienker
President, Manufacturers' Association for Information Technology (MAIT)

Shri Kunkolienker is currently member on Board of Directors of M/s Synegra EMS Limited, Verna, Goa. He is also Director of M/s Govind Poly Oxygen Ltd. He is a member of Governing Council of Electronic Skill Development Council of India. He has also been President of Goa Chamber of Commerce & Industry for nine years (July 2001-June 2009).

It is with great pride, privilege and honour that I welcome you all to the first so ever electronic manufacturing summit 2018 uniquely titled as "Make In India" for the globe. I am happy that we are more than 25 large corporations, 100 plus suppliers participating in this summit. In a way MAIT has acted as a thread that has bound all the stakeholders in the electronic manufacturing space. This has never happened before. ICT industry as a whole has played a key role in putting India on the global map and has, over the years, emerged as one of the most significant growth contributors for the nation.

The government of India initiative of digital India and "Make in India" mission has set **an ambitious target of achieving net zero imports of electronic products by 2020 and also make India into a global manufacturing hub**. If I talk about the domestic consumption of the total electronic goods, it's around 63.6 billion US\$, out of which 60 percent of the consumption is met through imports. The production of electronic goods in India is almost 32.46 billion US\$, which is around 1.5% of the global share. In terms of value addition we are less than 5% across the product segments. NITI Aayog has brought in a remarkable paper on Make in India strategy for electronic products. The paper for the first time suggested for an export oriented strategy which is the theme of today's conference also.

We have achieved a few initial successes. However, there are miles to go in terms of analysing and fixing the key fundamental factors which will help to **increase the value addition which is currently less than 5 to 7 percent**. I am sure the government will address this through, this new national electronic mission for electronics, telecom and industrial policy. There is a **legitimate concern on low value addition in India** and we have to however recognize that there are no magic wands to ramp up value addition Value addition is a factor of the component ecosystem of the country and one of the main objective of this conference is to encourage the global majors such as Cisco, Dell and others to source from India and at the same time provide an opportunity for Indian component ecosystem to showcase their abilities and capabilities.

MAIT members both Indian and global companies are committed to increase value addition in India. I firmly believe we can have a win-win situation and MAIT is committed to make this happen. **For electronic industry to blossom in India, we need to focus both on domestic demand as well as exports**. The demand aggregation clubbing the export and imports will provide the required economy of scale and address getting upon of value chain of the country.

We also need to promote CKD (completely knocked down) based manufacturing in country as SKD (semi-knocked down) is not going to help us in a way. 80% of the electronic consumption is located in south, west and northern part of the nation and hence **there is a need to build a very strong logistic connectivity in this region**. The existing Sagarmala project can be of great help and if you take it properly it can really boost a nation in the long way.

While we look at the domestic supply chain and logistics we also **need to build a very good export based logistic chain**, which can help us to access the emerging market like Africa, Gulf or even Europe cost effectively.

Another aspect which really bothers is the federal structure of the country. There is **disconnect between the state and central government in policies**. In fact, there is disconnect between various ministries and department of central government. There is disconnect between the state ministries, there is disconnect between state and centre and I think a **proper integration strategy will help this industry in a big way**. Both the government state and central are coming forward; they are coming together for enabling GST in this country. A similar exercise can also be replicated for the purpose of promoting in this country and I think most of the states having a common agenda of making manufacturing happen in this country.

And I think MAIT and DoT can take a step in this regard and that could setup a new example. I thank valuable leadership of Mr. Sawhney and Dr Ajay Kumar who has recently taken over the secretary defence production for their support. I am indeed grateful to Smt. Aruna Sunder Rajan at DOT, Shri N Sivasailam, Special Secretary DoT, Shri Sanjay Kumar Rakesh, Joint Secretary of MeiTY. Mr Marwah has been a constant support to us always. The key deliberations during the summit will give us a roadmap to help in developing the manufacturing ecosystem in India. This summit will be an annual feature and MAIT, committed to manufacturing, will take the leadership role in setting electronic manufacturing in our country in a very big way. With this I am very sure that we have set the ball rolling, best days are here and MAIT is looking to work together with NITI Aayog, MeiTY, DoT and DIPP to achieve the Prime Minister's dream to "Make in India". In the words of honourable prime minister's, "we want to present the world the enormous opportunity that India offers as a base for manufacturing, design, research and development". We are grateful to the honourable Prime Minister and honourable Minister of IT for taking a big lead in promoting digital India and I think it's our time now to respond and contribute to the welfare of the nation. Jai hind, Jai Bharat. Thank you.

Keynote address by Shri Jeff Purnell, Cisco



Shri Jeff Purnell
Vice President and Chief Procurement Office (Global), Cisco

In his role Shri Purnell is responsible for all commodity sourcing, supplier management and cost management in support of Cisco's cost, quality and delivery goals. As part of Cisco Supply Chain since 2009, he has executed multiple roles within product operations driving technical capabilities, central process development, business operations and leading the Enterprise segment.

I am really honoured to be here, in India, today to share the stage with the esteemed guests. I want to talk about how to accelerate "Make in India"; not only for India but for the rest of the world. I have been in Cisco for 23 years. In 1995, when I joined the company, the company's vision was to change the way the world lives, work, learn and plays. It is still our company's vision and I am really proud that we have played a key role within the world and actually have been achieving that over last 24 plus years. **What is so exciting about coming to India is how well the country is aligned (to our vision) with what is happening with digital India, the innovation and drive to really move India to the forefronts of digital technology.** We at Cisco, are really proud to be an advocating partner with MAIT, with the government of India and all of you and really helping accelerate not just "Make in India" but "Make in India" for rest of the world.

About 2 years ago, we stepped back and looked out on our priorities as a company and aligned those with the priorities of Prime Minister Modi's and the Indian government. We have been doing a lot of things in India for 23 years actually, focused on R&D. We actually have had manufacturing on the development site, services, IT and other things. But we stood back and looked at the priorities and one thing came evident to us that **what we really need to accelerate was actual local manufacturing** and "Make in India". We did step in quickly and are proud to have kicked off local manufacturing here in India for enterprise switching solutions for retail, banking, healthcare and many other industries in India.

Before we go there, I want to talk about Cisco at a global level. Cisco is about 50 billion US\$ company

with 6 billion US\$ R&D expenditure. We invest heavily in R&D. We differentiate our product for customers and its takes really advance innovations. We have 19,000 patents out of which over a thousand of patents were developed by engineers here in India. So, a significant part of R&D investment and innovation comes out from India facility. Globally we have 73,000 employees out of which 10,000 employees are in R&D in Bangalore. We have 300,000 partners and channel partners delivering our products to the markets.

First of all we are global. We operate on outsourced manufacturing pattern. We do not manufacture anything directly inside Cisco. It is all through partners and our ecosystem from component suppliers to manufacturing partners to service to logistics. Everything is critical to our successes to be able to manage this value chain. We ship products to over 150 countries in the world. We manufacture in 13 countries today, we are very complex and we have very broad range of portfolio. This comprises of everything from small IP firms to very large refrigerators. **In order to manage that complexity, it takes a lot of internal connections but also very, very tight ecosystem.** To give you the sense of scale we move around 30,000 orderable products which are close to two hundred twenty thousand components daily which is a very high velocity. But it is broad – which is very different. We have a very high velocity but broad product portfolio so from our supply chain perspective; we need to have scale for particular product through manufacturing in a couple of places in the world for exports to all other countries as opposed to setting up manufacturing in every single country for single product which is not feasible for us.

India is our latest piece of the footprint which we have just added in our global network. When we talk about manufacturing, we call it performance supply chain i.e. the standard make and deliver. For this to be achieved, it is really important to have a huge investment map. What differentiates Cisco (from competitors) is that **we have located our R&D engineers all over the globe.** Many of them are here in India and are innovating and driving enhance technology working through that with our engineers, with our supply chain internal organisation, with our partners in ecosystem to make sure we have technology and access to that technology we need. That's the significant investment we make because we are leading from the edge. We need to make sure we get an access to that kind of technology. The format is also critical and like as I said recently we took next step in building out “Make in India” and actually starting to assemble and manufacture products here locally. It's really part of the whole initiative of our commitment to step in but really it is the first step because **most of our sourcing for this is actually coming from rest of the world. This is because these are the places where the complete ecosystem exists** and one of our goals forward is actually expand our ecosystem. So we should talk not only “Make in India” from assembly perspective but actually start increasing the amount of sourcing and then also increase the foot print to be able to make in India for India and also to expand to export to rest of the world.

In my role as a global supply manager, my job is to make sure we get a good strategy for sourcing and that is what drives the performer supplier chain. In our ecosystem today we have over 700 suppliers globally and we have relationship with many of them from decades. There are some supply vendors in India with whom we are working for over 15 years. We have vendors in many parts across rest of the world where we worked with them on a long term basis. As the complexity of products is so high, the connection between both of us and our supply chain partners and engineers is important and hence we need to make certain investments and more overtime. Once you get in and going in you get some problems and you go through the problems and go through with partners - it's not something that happens in 6 to 12 months' time. Some relationships go over 5, 10, 15 years so **for us to be able to build that ecosystem here is going to take investment from our side or from government.** We recently brought 30 of our top supply chain professionals and engineering professionals to Delhi and spent time with our suppliers. We were actually able to show the suppliers what Cisco is, what we are, what is it that it takes to do business with us. We then provided those suppliers the opportunity to really sit down with us and share with their capabilities, how our needs matched their capabilities, and then agree with our next step to really accelerate the ecosystem. Measurement of success is not based on how well we did yesterday; it's a year from now how many suppliers we are doing business with.

If we look at it, what we really need from a supply ecosystem we can break it under five areas. The first area is **we need to have an aligned strategy.** If the supplier is working with some unaligned strategy to

what we are doing and what we need then it doesn't work. So we first try to find where they are trying to go in business, what capabilities they have, what capabilities they need and then do we align or do we not. If we align, that's great, let's work together and see how we can grow together. If not, let's agree it's not a good fit and find business elsewhere. We need to make sure we first align from a strategic prospective.

Another area that's really important is, given the complexity and scales that we run globally, is **we have to make sure that we have digital operations, the suppliers we worked with have got modern infrastructure** and how they run and manage their operations and connect into both our and our partner's infrastructure. This is so that we can track the flow worldwide because, considering the scale we deal in, not being digital doesn't work.

Few years only innovation technology was making sure we have strong partnership such that we can access the leading edge technology. The point is also assuring with the suppliers as to what is that we need, with developing where we need, reaching meaning in what kind of technology they will be developing so it's taken our needs so we have a good partnership going forward.

Clearly **customer excellence is absolutely important** because what we do on our daily basis and our customers rely on running some largest global networks in the world and any issue with quality not being delivered as promised just cannot be tolerated. We do make sure that we are right on top of making sure that customers are getting what they need.

I need not remind all of you that you see news every day, related to business security, the threat of cyber security issues, attacks, counterfeit etc. We need to make sure that we allow our customers to run and manage their own security so **how we help our customers to be secure but at the same time we need to make sure we are secure**. All the way down, within our supply chain in the ecosystem, make sure we are not painting product or putting risk or threat into our, that could then threaten more of our customers and ourselves.

And **sustainability** lastly is the key. We want to be a good global citizen, we want to make sure you are right for the world and I believe that all of us align on that as we have been talking to suppliers.

These are those five key areas that we look at as we were studying about suppliers. We have been doing this in global manufacturing, working in development and supply ecosystems for years and it had been great success with it. We believe that we can bring that here to India for lot of lessons we have learnt along with put and strategy that India has.

Some of the key things that we have learnt over the years in doing this, one is coupling the advancement and **in India I think that it is a great opportunity because we have such a large investment in R&D** here and I think we have over 10 key product lines that are fully designed, owned and managed out of India. At last, we really take couple of steps to **ensure smooth innovation very, very quickly**. Second thing we are going to touch on is a very, very, **robust ecosystem which takes many years to build**. We know that it takes investment and we are committed to make investment of our time to help to develop it with the right partners.

We have a lot of experience we have gained through our work across the globe and we want to bring those here in India. One **it takes time to build the eco-system for us to be effective competitive globally** for a particular occasion. So it is very **important to have incentives** which act as a kind of catalyst to allow people to get going to achieve the scale we need. Then it runs on more organic basis such that it is sustainable all the time. Other issue includes that of **ease of doing business** making us feel that we have got the infrastructure that allows us to move the product. Lastly, I think there is lot of catching up to do with many manufacturers in India. At the same time there is an opportunity to really step ahead and I think the area for that is really looking **how to use digital manufacturing, new technology like block-chain and other kind of things that are coming up across the world**. So let's join hands to make India a hi-tech hub. Cisco is committed; you can see that by our continuous investments and our first step forward in doing local manufacturing including large investments in R&D.

Keynote address by Shri Ajay Sawhney, MeITY



Shri Ajay Prakash Sawhney, IAS
Secretary, Ministry of Electronics and Information Technology (MeiTY)

Shri Sawhney has handled various assignments in the State of Andhra Pradesh, covering land administration, law and order and quasi-judicial functions, rural development, health & family welfare, communication & information technology, e-governance and elections etc. He has also worked as the Principal Secretary to Chief Minister of AP after the reorganization of the State of Andhra Pradesh.

It is great pleasure for me to be here and I would like to first of all thank MAIT for bringing together many of the key associations, global MNCs, domestic industry players and also people from the government together for this manufacturing summit. I think, over the past few years, we are seeing India's determination to get back its share in manufacturing. I think for about more than a decade, or for a couple of decades, India has done very well in the IT industry but primarily in the software. With the "Make in India" programme I think the **determination of India to get back its share of manufacturing is very clear**. Over the short period of last 2 to 3 years we have already seen a very good momentum build up. It can be seen especially in the area of mobile manufacturing; where from just 6 million units assembled in India in 2014-15, the number went up to 115 million units in 1 year and then went to 175 million units in very next year in 2016-2017. The growth that has been witnessed in this segment during these years is huge. We are also seeing huge demand in the entire electronic segment where the year on year growth demand is of the order of 19-20%. Currently we continue to import a very large percentage of what we consume here. But various policy measures on the ground as well as efforts by the industry are giving us the confidence that we are seeing all the parts of eco-systems getting into the country. Starting with large part of manufacturing being primarily assembly, I think **we are seeing more and more sub-assemblies happening within the country**. Under the M-SIPS programme itself, where we provide some capital subsidy to companies that come in and manufacture within the country, we have supported more than 100 SMT lines in the very recent year or couple of years. With this I think we are only meeting the part of our demand, we are still meeting demand in some of existing areas.

There is yet another story which is playing currently; almost all the **major technology companies across the globe have very large percentage of their R&D presence in India**. Almost all major MNCs, that have the most finest and sophisticated IP and most sophisticated products across the globe, actually do huge part of their development and design within India.

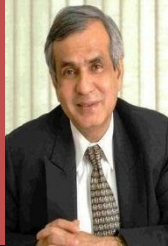
I think combining the **three factors**: one the **enormous demand** that we have in the country, the **capabilities in design and software and that in embedded systems** and the **growing momentum in manufacturing**, I think this builds a fabulous base for us in India.

Simultaneously we are now moving into a period **where new products are coming in rapidly**. If we look back at iPhone, the iconic product, representing huge revenue for one of the largest companies globally, is less than 11 years old. iPad is less than 8 years old. These came in and became huge products adding to the top line and bottom line and they are actually used by all of us. By 2025 and 2030 the products that are going to be the most important or most successful products across the globe probably are not here yet. These products will get designed now, they will get developed and manufactured and as we see electronics in the internet of things age, **we will see devices move into almost every part of our life**. We will see huge momentum in automotive, electronics, factories, homes and agriculture in practically every segment of the economy. We have **hugely talented software designers and now more and more hardware eco-systems**; I think this gives me tremendous confidence that many products can actually get designed and developed and lot of manufacturing also can move to the country.

From initially supporting growth of industry primarily to meet the large Indian requirement, I think **we also need to move and shift our focus towards exports**. It is a great move on the part of MAIT to bring together MNCs here. I think that is an opportunity for Indian manufacturers, Indian component suppliers

and for various people who provide the many components that goes into the devices. If we can do this for cell phones into electronics it is almost the same components it doesn't matter whether you are putting the entire eco-system together for cell phones or for something else. It is the same component, same value chain, same eco-system and I hope that today's summit will help us come out with various recommendations. We are almost there with the new national policy on electronics but still the thoughts and suggestions are welcome and I hope next version of national policy will help us grow focus to grow many verticals within electronics. With these words I once again thank MAIT for giving me the opportunity to be here and I wish this summit all success. Thank you.

Keynote address by Dr. Rajiv Kumar, NITI Aayog



Dr. Rajiv Kumar
Vice Chairman, NITI Aayog

Dr. Rajiv is a leading Indian economist and holds a D.Phil. in Economics from Oxford University (1982) and a Ph.D. from Lucknow University (1978). He is the author of several books on India's economy and national security. In the past he served as the Government of India nominee on the boards of various national and multinational bodies.

It is a real honour and privilege to be here and to be invited to this conference to deliver key note address. First and foremost, I have to congratulate MAIT for having launched the supply demand portal and I hope it succeeds. I do think it will be a great facility to have the seamless connection between the suppliers and the users of electronics in India. So congratulations once more and I hope we will see this portal flourish.

Ladies and gentlemen I want to share with you my feelings and I hope you will agree with me. We at the moment are at the cusp of a very major change in this country. I can feel it in my bones and you can feel it in yours. The last three or four years have seen such an incredible energy, incredible dynamism, and incredible focus on India's growth and development on India going digital. I predict in some sense that next few years could be called the goldilocks period for the economy. I had said this in August and I want to repeat that we had bottomed out in July. The economy and the economic cycle are beginning to turn up and you can see that in the third quarter result. You can see it also in the fact that second half of 2017-18, the economy will grow at 7% at least and going forward I think the economy will grow at 7.5% and this will soon move to 8 or 9% rate of growth. I say this because we have got all the structural factors and over and above that there is this huge wish to work for the progress of the country within the Government.

The Government of India is focussed on 2 or 3 major things. One is to replace the Indian state, which was known to be a soft state or flabby state or the corrupt state, a state which Ashutosh Varshney, professor in Brown University called predatory state, which did nothing for its citizens, but only did something for itself. This **corrupt and predatory state is being replaced by a development state**. A development state of the kind that you have in East Asia that you have in Korea and you have in Taiwan and that you have in China. A developed state which is committed to deliver its mandate in making efficient delivery of public goods and services to the economy. This is a huge governance form that is taking place at this moment.

One another aspect of this particular moment that is going on is to **reduce the gap between public sector and private sector**. No longer in the government anybody is comfortable with the fact that this is the way we do it in the government. No longer; that is the fact. **We want to achieve**; what we can achieve in the private sector, we want to achieve in the government sector. I think this is the constant daily endeavour. I assure you from having seen this Government now working from the inside for the last 4 months that this is spread across all aspects of the central government and so I think this is work in progress.

Other very big feature which is led by our Prime minister is that **since we want to improve accountability, transparency, efficiency, we have to go digital**. And the use of digitalization, digitalized data, you know the e-governance etc. is just being ramped up on a daily basis in the

government. At NITI Aayog, for example, the DMEO, the Development Monitoring and Evaluation Office, has developed the dash board for 46 ministries where it collects live data on almost a daily basis. It's a portal where the ministries are expected to put the data on a daily basis. We work with real time data and this dash board is then used by NITI Aayog to make presentations every quarter to the prime minister on the performance of these ministries. Now this is something which is unprecedented in Indian situation and that's what tells me, that we are now at this situation. Earlier the complaint always used to be that the private sector is pulling away and the government sector is not keeping up.

As Mr. Ajay Sawhney said that we are coming out with new policies in different sectors including electronics, for example. In NITI Aayog we have brought out a nutrition strategy, we are working in an energy policy; we are working on a policy for electronics for electric mobility. So the short point being with the government now delivering on its mandate for efficient timely and transparent delivery of public goods and service. There is no reason for me to believe that India will not reach double digit growth rates in a very near future and then continue with it and sustain it over the period of time because that's also we have to do it also because of our own imperatives. **Our young people with 65% of population below 35 years of age will accept nothing else.** Their aspirations have exploded and we now need to deliver on them, so that's why we will do it.

For this thing to happen, **the electronics industry will have to play a hugely important role.** With the kind of disruptive technologies that we are facing such as artificial intelligence, internet of things, the machine learning, the robotization, the virtual reality etc. In one of my visits to an architectural school in Mumbai, I saw them teach their children through virtual realities to what their design would look like, all this is happening around us. The core of all this, somewhere, is hard core electronics components manufacturers and that ability. So electronics will of-course play a very big role and therefore this industry must share the growth. It is imperative that you do it. So therefore I look towards you, as it were, to become now the driver of this chain become the prime driver of this growth because that's what you have done. That's how the industry developed in East Asia, you know with Taiwan, with Korea, with Singapore, with China recently where this industry did have about 15 to 17% share of the GDP. In India it is still 1.7 or 1.5%, so there is a huge scope now for us to do it.

As Mr. Sawhney himself mentioned, and I just pointed out to you, the **domestic scope is huge and immense.** We have 65 billion US\$ consumption out of which 60% is imported, so we have a 24 or 25 billion US\$ domestic product as it were, but the rate of growth is 20% per annum and that rate you can double every 4 years and if you just compound it and you have the power of exponential you can see that you can go up to trillion dollars by the time India achieves 100 years of its own independence in 2047. But I still want to maintain, and this is a basis of the paper that NITI Aayog has bought out which will "Make in India" for the export strategy, is that is not enough. **While we will grow to a huge domestic market, the global market would then be 10 times that.** It's already 2 trillion US\$ that is growing and I must say that unless Indian component industry sets its sight on the global market it would be difficult. It also has to set its sight to achieve the scale, the technology, the cutting edge technology, the market access, the collaborations for being up there and raising its share in the global market and expanding its share at the same compound rate.

And I am afraid that we will still not be able to achieve, what we can achieve in the domestic market. There is a bit of **a domestic market pull that happens in India all the time.** There is a myth I call in the economy is the myth of a large market. A **myth of the large market** because the population is growing from 1.2 to 1.6 billion **gives us the impression that there is a huge domestic demand,** but the fact is that your per capita income is still 1800 dollars and therefore **to grow this per capita income we need to have a net export demand so that our people can get employed in supplying this global industry** because that is the way the demand and the purchasing part is grown and which is why we have written the paper that we have given to NITI Aayog.

But more importantly ladies and gentlemen at a very recent meeting in NITI Aayog with all the economists, the Prime Minister himself said that **it's time for India to look at an export driven strategy and this is what I expect this industry to do and to lead the charge.** We don't need to talk any more about the fear that electronic imports will be 500 billion US\$ and the bill will be as much as the oil bill etc.

Now is how do we ramp up our share in global markets you know from what it is to 8 times, 5 times, 10 times. And that's what I think the industry should be focused on. And if you do that, if you actually turn your eyes to the global market and start looking away from the domestic market and don't keep export as the residual category, you know the situation would become what governments did in 1980's. The day when the whole government industry in India started with the export market and then you know what has happened. If we do the same then, given the domestic demands and the scales that you can already achieve, I am sure I am convinced that India could be a huge world player in electronics manufacturing. Given also the fact that Indian government is now openly and keenly attracting multinationals and foreign direct investment in this sector, I think this is the time for us to make that move and what can we do.

What can we do in the government? The first hint that came to me is what Nitin said, that **there is a disconnect between the central and the state governments** and there is a disconnect between what is happening on the ground there and I completely agree you know and I also tell you that the action has now shifted quiet radically to the states and not in Delhi. So what we are going to make or break this whole moment. We are going to make or break this ambition to go global at the level of the states. And this is where NITI Aayog can play a very big role because **NITI Aayog's twin mandate is one to promote cooperative federalism and second to promote competitive federalism**. So it means that basically NITI Aayog must be doing things to bring all the states on the same page for every industry for every sector as far as possible and now we want to do this through setting about a competitive process among the states so that they all want to catch up with each other. So **we need to do the benchmarking, implement the best practises and then bringing them up**. In sectors after sectors, we are developing rankings whether it's a medical delivery, schools or nutrition etc. We are developing composite rankings on which we want to rank the states and then tell them to improve their ranking. **Can MAIT help NITI Aayog to give us the parameters, which can set up out a ranking index for states on ease of doing business for electronics?**

So the ease of doing business, I am just assuming for electronics **the factors that make electronic manufacturing happen and for it to achieve the scales and whatever may be different** from the ease of doing business generally for governments. If it is so, **can we get to know and can you help us to develop a set of parameters** on which we can develop a composite ranking for the states to achieve that. If we do that I think we will help each other in making manufacturing level at the state level also that's my first suggestion.

The next one is that you know **with the implementation of the GST, the one big competitive advantage that small industries players had was evasion of the tax and now it would disappear**. These MSME or these smaller players etc. are now being forced to enter the formal economy so that you know they have to buy all the GST goods etc. In which case **they now need much more access to credit, technology and market, which they don't have**, and this is where the big players sitting here can now play a nurturing role, a promoting role for our smaller sector. This has not happened, if you look around you, our MSME's, smaller companies are not yet part of the global or regional value chain, which is why we get a tremendous pressure on us on the policy saying that we must review all are free paid agreements because they are not being benefited and they are being slumped by the import etc. **Can I request MAIT to bring together a policy on forming joint ventures in electronics whereby you can provide these smaller players all the 3 things that I mentioned because if you do then you can create an ecosystem, which can enable us to join the global and regional value chain.**

I must say that, if there are some **factors, which prevent global value chain from forming within India**, this might be **custom difficulties**, this might be **import difficulties**, this might be **logistic difficulties** and this might be **procedure** again at the state level that brings you back to earlier suggestion. If you find out for particular state or states in general, **what are the steps they need to improve** that we and NITI Aayog need to push that with you to improve the ease of doing business and enhance the environment for manufacturing?

Finally we need to create an **innovative ecosystem in this country for manufacturing** to succeed. Especially for manufacturing electronic to succeed, we have the opportunity, we have that domestic market, we have the huge global market expanding, we have China where the real wages are rising now

by 14% per year, so that there is a move away from that to other industries. We have all these things, we have those skills, we have the entrepreneurs, everything is there in place and we just need to bring it together. And to bring it together I think the last piece you might need is to create an innovative ecosystem in this country and this is again NITI Aayog where we have something called the “Atal Innovation Mission”, which was established in 2000 but more importantly they have now sanctioned 19 Atal incubating centres and 13 of which are already financed for 10 crore each. Now this incubation centres are hoping to connect to IIT and the other institutions with the industry, and **these incubation centres, where your industry can play a huge role if you start collaborating and cooperating with them to create that innovative system without which I am afraid we can never become a global player.** I hope that 5 years from now and saying that India’s share in global market is gone up from 1.3% to something like 4% and that will be the day to celebrate. Thank you very much.

Keynote address by Shri Bhaskar Reddy, APEITA



Shri Bhaskar Reddy
CEO, Andhra Pradesh Electronics & IT Agency (APEITA)

Shri Reddy along with his team promote investments into the state for electronics and IT industry. He has more than a decade experience in the field of Electronics and closely associated with industry, associations, governments-both domestic and foreign. Extensively travelled in the East, he understands the ecosystem of the industry and the challenges it is facing and has a deep knowledge about the policies

Our legendary Chief Minister Mr Nara Chandra Babu Naidu is the driving force behind Andhra Pradesh for the last 3 years. He had done whatever needs to be done for undivided Andhra Pradesh. After the division where we were separated from Telangana, he has started doing the same thing again, he has taken a very short time of 3 years but we are reaching there.

The key statistics for you are that we are 8th largest state in India with 4% of India’s population but one thing that I want to tell here is that our state has 14 ports and 12 airports. I mean if you look at the theme of this event it say “Make in India” it doesn’t stop there it goes beyond for the World. If you look at only “Make in India”, what our honourable Prime Minister had asked 3 years back that we have 33 states in India wherever you can go to manufacture, but if you add that later one for the world your choices are limited because all the 33 states don’t have the logistical support to make for the world where **Andhra Pradesh has got that advantage in terms of both airports as well as ports.** We already have 6 ports existing and we are building another 8 ports, we have 6 airports and we are building another 6 airports/ That is the kind of logistical support which the state government is building.

This is the vision with which **we are going ahead to create 200 thousand jobs by 2019 in the field of electronic manufacturing.** We are not talking about manufacturing at an overall level but in electronic manufacturing we are targeting 200 thousand jobs. How do we wish to achieve it? To create that **we need to have infrastructure in 6000 acres of land, we need to build 24 million square meters of build up space and we need to bring a 5 billion US\$ investment.** This is the reason why I am here and that is the reason my team is here that is the reason why all over friends from the industry to see us everywhere.

If there is event in India or abroad you see us because we want the investments to come to India because there are 2 or 3 reasons. Reason one is the achievement what we had achieved pretty like we were state of the year and so many awards which we have received in last 3 years and in ease of doing business number 1 jointly with Telangana who are brother and sister next to us and we have a land pool of 300 thousand acres. Andhra Pradesh has 13 districts, **when we were divided from Telangana, we had the disadvantage of not having a city like Delhi, Mumbai, Bangalore, Chennai or Hyderabad,** and we had a city like Vizag which is like a two tier city like Ahmedabad, Pune, Coimbatore and Madurai. We didn’t have a big city but what our Chief Minister and the administration did was that **we leveraged the advantage of having bigger cities like Chennai and Bangalore within the proximity of our districts** and try to develop those districts as manufacturing clusters and we have succeeded in doing that. I told

you just now if you want to make it for the world this is the place where you have to be because if you want to reach to any country in the east from India it is going to be Andhra Pradesh.

We have the second largest coast line of 934 kilometres and the **clusters are coming up everywhere**. I think somebody has mentioned in the morning in the inauguration function about the **Vizag Chennai industrial corridor which is being developed as Delhi Mumbai industrial corridor** on the same lines and one more thing is fortunately **that falls under Sagar Mala Project**. So whatever benefits the central government is going to roll out to Sagar Mala project are going to come in this place that is one which we are looking at all our electronic manufacture cluster fall under that. Then there is another highway which connects Hyderabad to Chennai, actually there is a connection here there is another electronic manufacturing cluster coming up. There is another highway which connects Bangalore to Chennai which is again going to be developed as **Chennai Bangalore industrial corridor** as announced by the central government so our clusters fall on that and finally we have what is called as a Bangalore Hyderabad which we are expecting to be announced as an industrial hub from Hyderabad to Bangalore. It is a beautiful highway where you can reach actually Hyderabad from Bangalore in 6 hours flat, 536 kilometres, where our clusters are coming up. The first cluster is coming up in Vizag which is the second largest port in the country and it is the headquarters for eastern naval base, that is the base for eastern command of the navy it has got the metropolitan culture. Our ministers always say that if you marry Bangalore with Goa you get Vizag. It has got the culture of both Goa and Bangalore, it has got the beaches of Goa and it has got the high skilled manpower of Bangalore. So, Vizag is the place where you can look at for your manufacturing in fact what we are doing is **we are promoting Vizag as a place for manufacturing** and we have been travelling across the globe also to promote Andhra Pradesh. Where ever we went for example Taiwan, China, Korea most of the companies were saying is we don't want to come straight away with the manufacturing facility because we want to test the waters and they want to may be start with service centre, sale centres and warehouse and then slowly within two years they will get in to manufacture for those companies. There are many MNCs present here and I suggest them that is Vizag is the best place for your sales office or for your warehouse. **We can offer you plug and play from 100 seats to 2000 seats you can just come setup your sales office or service office within no time**, and there is electronic manufacturing cluster also next door. There is a Chithapuram area which is an Industrial area where you can get from 2 acres to 200 acres and fortunately **in Andhra Pradesh, lands are already acquired by the government of Andhra Pradesh. These are free hold lands available for you to take, you don't need to talk to any farmers also, these are legally with the state government** and you know we just give the land to you or if you want we will build and give the sheds on long lease whichever way is possible. So in Vizag or Vishakhapatnam as we call it, the focus is on medical electronics but we are also promoting other electronic industry also there, but the focus would be on medical electronics and the second one is the **Nellore corridor** and most of you would have heard about Shri city. **Shri city falls under that corridor**. In fact one of the biggest company, Foxconn is in Shri city, they already are making mobiles. So Shri city is the second cluster, which we are promoting and the focus is on automotive consumer components and mobile that is the focus for us. The third one is the **Tirupati node which we are trying to develop as a triangle between Tirupati, Chennai and Bangalore**. It actually falls in two districts Nellore and Chittoor so those districts are being developed as electronic hub and we already have two electronic manufacturing clusters there for which have got final approval from the government. Another one is the **private electronic cluster called Sri Venkateshwara electronic cluster** where Celkon is producing mobiles and Karbonn is also going to start very soon and then there is another 500 acres electronic manufacturing cluster next to airport. We keep on saying to companies like you that you don't need to go anywhere you just get in to Tirupati airport and take your suitcase walk in to the EMC which is next door. What separates the EMC from the airport is only the compound wall. It is so near that you don't need to travel. So Tirupati is another area which we are developing where we are trying to leverage the social infrastructure existing in Chennai, social infrastructure existing in Bangalore and trying to develop these two districts. The fourth one is **Ananthapur node** which is here in fact if there is anybody from Bangalore or you have visited Bangalore from airport, you can reach electronic city in two hours from airport. If you want to reach this place it takes flat 60 minutes so what we are suggesting to companies is if you want to have social infrastructure, have your R&D centres, have your high end white collar jobs in Bangalore but for your low cast manufacturing move here because land is cheap and labour is cheap. In fact 40% of the labour that is working in Bangalore comes from this district Ananthapur, so you don't need to go anywhere. So these are the four

clusters we are developing exclusively for electronics.

Apart from that we have also have other industrial clusters this is Orvakal we call it as. This is a continuous land of 32,000 acers acquired by the government ready to be developed as an industrial hub. This is just two hours from Hyderabad international airport, just get into Hyderabad airport drive out of the city this place can be reached in two hours. This is our capital Amaravati and this is the **Krishna Patnam node**, because Krishna Patnam is one of the biggest private port which is being developed in India. There is another node called **Donokanda node** and the **Machlipatnam node** so all these nodes are coming up that gives a great opportunity for anybody who wants to make it for the world you can reach any place in the east within no time like Hong Kong, Singapore or wherever you want to go logistically that becomes easy for you.

Vizag is the second largest port in India and it is also the financial capital of Andhra Pradesh. It has a lot of skilled manpower. It is the first international airport in Andhra Pradesh. There is a major railway junction connecting Kolkata and Chennai and it is on the national highway. In fact all our manufacturing hubs are on the national highway you don't need to go anywhere else and these are the some of the companies as I presented earlier Vishakhapatnam is our IT hub. Most of the IT companies are coming there it is going to be our Fintech valley and inviting lot of financial technology companies to come and establish their offices. We have Wipro, Tech Mahindra, IBM, HSBC, Franklin, Fidelity, ANSR and Cognizant these are few of the companies but more companies are coming.

We **offer plug and play** for you. We **offer land and built up space for your factory or warehouse** and **Andhra Pradesh is one of the few states which is power surplus**. We produce around 8,200 megawatts and our usage is 7,200 megawatts we have a surplus of 1,000 megawatts power available and **industry gets a separate line**. This is separate from the household line so there is no tripping, there is no power cut. It is uninterrupted quality power. In fact **Andhra Pradesh has the largest solar park in the country**, I think 3500 megawatts in one place and 3500 megawatts is coming up at one place, so we are a power rich state. There is no problem with power and water also is not a big issue because we have **plenty of water available** and Nellore node the same thing what we can offer you.

In fact when it comes to manpower Andhra Pradesh government has gone ahead and created an agency called APEITA with the **mandate to basically train students to provide necessary skills to the students and make them job ready**. For example I mean except Foxconn which faced problem since they came early, the next companies will not find any problem because we have learned our lessons. For Foxconn, it was difficult to find the people. We are teaching skills to the people so that they become job-ready. We are providing them skill with an objective of keeping them ready. When a company comes they don't need to go anywhere. The way we are giving power and water to the door step, **we will also deliver manpower to the door step**. The HR manager of the company has to interview them and select them because first and second level of screening would have been done by us. You just need to select them since we want to save your time in recruitment. I mentioned only few but there are around 160 companies in Shri City. It is a 7,000 thousand acre industrial estate so many companies are there. We may not offer plug and play here but the remaining things are the same.

The third one which is Tirupati has all the facilities. There are few companies which are already functioning. What the government of Andhra Pradesh also offers is 25-30% of subsidy and we have done away with interest subsidy and other things because we don't want any other confusion, so we have increased the capex subsidy so that you know the cost of establishment of factory comes down drastically. The state offers great infrastructure, excellent connectivity, industrial friendly labour regulation, ease of doing business, proactive government machinery, unmatched physical incentives and a very happy society. In 18 months or 540 days, you easily start your company. In our chief minister's own words, "it is my personal commitment to ensure the best ease of doing business infrastructure support, market connectivity and policy environment to make your business successful in Andhra Pradesh." Thank you.

Super Session 1

Promise to Performance – Making Policies Work

Panellists for super session 1



Shri Arijit Sen
Director, Government Affairs, Dell

Shri Sen is the Director, India Government Affairs and Public Policy at Dell Technologies. Prior to joining Dell, he worked for HP Inc., where he ran government affairs for India. He hails from Kolkata and has done his schooling and college from St. Xavier's. He earned his executive MBA from IIM Ahmedabad.



Dr. Deepak Thakkar
Vice President, Business Development, Flextronics

Dr. Thakkar is the Vice President Business Development for Flex and leads the India business as part of his emerging markets portfolio. In his current role, Dr. Thakkar leads a team responsible for driving Flex's Sketch-to-Scale™ platform in India, delivering competitive differentiation, global manufacturing efficiencies and supply chain velocity to large Indian customers in various market segments.



Shri Jun Kim
Vice President, APJC Global Manufacturing Operations, Cisco Systems

Shri Kim's functional accountabilities include PCBA manufacturing, final product assembly & testing, material planning & procurement, fulfilment, Japan pre-delivery inspection and OEM/ODM management. Shri Kim joined Cisco in 2016 and is based in Hong Kong. He joined CISCO after 21 years with Hewlett Packard (HP) where he held various leadership positions in supply chain and general management roles.



Shri Shrikanth RD
Director Manufacturing, Lenovo India

An IIM-Bangalore alumnus, Shri Shrikanth is Director-Manufacturing at Lenovo. Previously, He has held several important positions at Lenovo viz. GM-India Manufacturing Operations and DGM-Production & Engineering. Earlier, he was Operations Manager at Flextronics and Production Engineer at Motorola as well as BPL India.



Shri Aman Sethi
Director APJ, Supply Chain, Dell

Shri Sethi is B.Tech. from IIT-Delhi and MBA from IIM-Bangalore and leads Dell's global strategy team based out of Singapore. His team drives strategic agenda for Dell's Global Operations Leadership including supply chain design, commodity strategy and supply chain evolution. Prior to joining Dell, he was an engagement manager with McKinsey & Co.

Special Address By:



Shri N. Sivasailam, IAS
Special Secretary, DoT, Government of India

Shri Sivasailam graduated in Mechanical Engineering from University of Delhi. He did his Post Graduate studies at the Faculty Management Studies, University of Delhi and at the London School of Economics in Business Administration and Social Policy & Planning in Business Administration and Social Policy & Planning in Developing Countries respectively.

Panel discussion highlights

The theme of the Electronics Manufacturing Summit 2018 focused on **'Make-in-India for the World'**. As highlighted in a previous chapter, India currently contributes to less than 2% to the global electronics industry. Thus, there is a huge scope for Indian electronics industry for increasing its share towards fulfilment of global demand for IT and electronics product.

What is required to spur electronics manufacturing in India?

As per industry leaders, the following are the key aspects that will spur manufacturing in India with an aim at global market.



Industry leaders consider manufacturing profile as well as adoption of latest technology as the key towards scaling manufacturing operations in India. This is followed by developing and leveraging the skills which are available in India.

"While the journey towards scaling manufacturing operations to world class levels requires a long checklist, there are three things which come to the top of my mind. The first is manufacturing profile. Cisco has a profile of around 30,000 shippable items and this is an opportunity for us. The second top of

mind is the spirit of leap frogging as we ramp up our manufacturing. The third top of mind, specifically when we are looking at India, is the fact that there is an opportunity to leverage the skills. We have virtually every function represented in India, including research and development.”

- Shri Jun Kim, Cisco Systems

However, the jobs which are created need to be high skilled once and those which help in high value addition.

“Not only do we need to create jobs in India but these need to be highly skilled and high value addition jobs. There are entrepreneurs in India who are willing and have the capability to set-up that kind of infrastructure to support that growth.”

- Shri Aman Sethi, Dell

One of the bottlenecks in electronics manufacturing in India is achieving economies of scale and having optimum capacity utilization.

“Do you really think that there would be economies of scale in building every capacity, resistor, transistor, wire and screw in India? Do we really need that? I say you don't. Don't look at that as either-or scenario – let's look at that as a China + India scenario. We have about 50-60% of all the electronics and mechanicals that we would ever need. The rest comes from different parts of the world, yes, including China.”

- Dr. Deepak Thakkar, Flextronics

“The important thing to note about India is that the capacity utilization is not optimum and a lot of that is because of the ease with which a country like China can compete from a cost perspective.”

- Shri Aman Sethi, Dell

“We cannot manufacture all our 30,000 orderable items in India as it will not be possible for us to keep the capacity utilization to the maximum. So actually we manufacture only a couple of product families and build them to fulfil global demand.”

- Shri Jun Kim, Cisco Systems

At the same time, it is believed that a start needs to be made and then rest of the things, including economies of scale, will follow.

“Multinationals which are building products at different locations in the world and are then importing them here are doing so because the component level supply chain is not fully developed here. But that is okay. We do not have to wait for the entire ecosystem to be built. We can start with some things like durables, complex boards, large servers etc. Let's address these first. Once that happens skills will come along, supply chain will come along and then there will also be economies of scale.

- Dr. Deepak Thakkar, Flextronics

“While we can use India as a base to manufacture for the globe, I would like to draw your attention to the Indian market itself. Let's not underestimate that market. The kind of growth we are witnessing in India is unparalleled, whether it be North America, Western Europe, Eastern Europe, Africa or anywhere else. If we can feed the needs of the local market this will create an ecosystem, which will in turn create skill level and a supply chain. All the capabilities exist in India. India is not that difficult a market to be in.”

- Dr. Deepak Thakkar, Flextronics

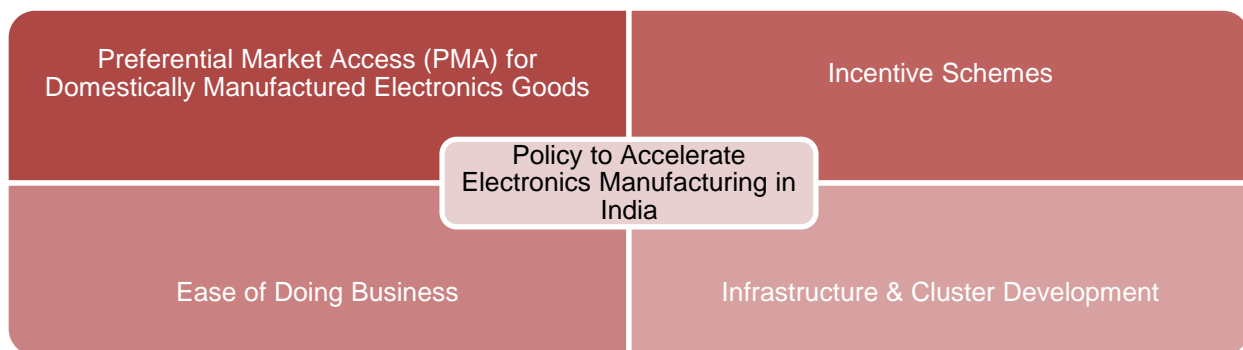
What policies are required to achieve this goal?

Active Government intervention is the cornerstone for a successful electronic manufacturing setup in the country.

“It is important to develop broad range of policies to promote manufacturing in the country. The policies formed give us an impression that we are all set to enter manufacturing in a manner by which we make it relevant to the world. It will be great to see the global companies making in India for the world as we have standards that are at par with worlds manufacturing standards.”

- Shri N. Sivasailam, Special Secretary, DoT

Following are the major policy initiatives which are expected to drive forward the electronics manufacturing industry.



Preferential Market Access (PMA) for Domestically Manufactured Electronics Goods

PMA or preferential market access is a practice of introducing guidelines that are designed to favour firms that manufacture domestically.. India's PMA policy was notified in February 2012 and was made applicable to all government ministries and departments (apart from defence). However, it excluded commercial sales from its purview. India's PMA policy is driven by two objectives, viz. (1) addressing India's national security concern and (2) preserving & promoting domestic manufacturing/ value addition.

As per some views³, PMA has the potential to increase the capabilities of local manufacturers as also to encourage foreign direct investment in India. In this view, PMA is non-protectionist in nature (one of its major criticisms) since it allows foreign entities to participate in manufacturing through the FDI route.

“PMA will push local manufacturing and, consequently, component ecosystem can come up within India. What we need is not just assembly of IT and electronics products in India but complete manufacturing.”

- Shri Shrikanth RD, Lenovo India

On the other hand, there are a few counterviews too . As per these views⁴, PMA is more apt for industries which have reached a saturation curve and where it can match global best in terms of technology and quality. There is also a criticism that there is no evidence of a correlation between PMA and security of telecom networks and services, which is one of the key objectives of the policy.

3 Source: http://icrier.org/ICRIER_Wadhvani/Index_files/Policy_Report_1.pdf

4 Source: <http://www.voicendata.com/can-pma-drive-local-manufacturing/>

“PMA cannot be end-of-all-policy but only a temporary solution towards realization of the larger strategy. If this larger strategy doesn’t succeed, then PMA itself could be more counterproductive to the electronics manufacturing in India.”

- Shri N. Sivasailam, Special Secretary, DoT

Further, there is a risk of precipitating similar policies in other countries or regions which could be counterproductive to the industry’s aim to manufacture for the global market.

“While PMA is important and critical for local manufacturing it has to be comparative globally. India is not working in a silo and any initiative (in this regard) will propel Chinese government to come up with some set of initiatives on their side too. Africa is an upcoming economy and they too will try to work something out.”

- Shri Aman Sethi, Dell

Incentive Schemes

Incentives are considered as one of the ways in which policy can help industry become cost competitive.

“The strategy in the short term would be to get our cost competitive so that we can export out of India without penalizing our customers or business. This can come in the form of incentives.

- Shri Jun Kim, Cisco Systems

Ministry of Electronics & Information Technology (MEITY) provides various incentive schemes⁵ to help accelerate electronics manufacturing in India. These are discussed below:

- 1. Modified Special Incentive Package Scheme (M-SIPS):** In July 2012, Modified Special Incentive Package Scheme (M-SIPS) was notified with an objective to offset disability and attract investments in electronics manufacturing. This scheme provides a capital subsidy (20% in SEZ and 25% in non-SEZ) for units engaged in electronics manufacturing. It also provides reimbursements for countervailing duty (CVD) / excise for capital equipment for the non-SEZ units. It also provides for reimbursement of central taxes and duties for high capital investment projects.
- 2. Export Promotion Capital Goods (EPCG) Scheme:** This zero duty EPCG scheme is available for exporters of electronic products and allows import of capital goods (for pre-production, production and post-production) at zero customs duty. The beneficiaries are obligated to ensure exports equivalent to 6 times the saved duty to be fulfilled in 6 years.
- 3. Duty Exemption & Remission Schemes:** While a duty exemption scheme enables duty free import of inputs required for export production, a duty remission scheme enables post export replenishment or remission of duty on inputs used in export product.

However, since incentives are funded by tax-payers money, the socio-economic cost benefit needs to be measured. It was opined that the creation of high-skill jobs, which could be considered as a ‘pay-off’ to the tax payers’ money, should be considered as one of the ways to measure the success of such incentives.

“While incentives are the first piece (of policy support) that come to mind when we talk of making local manufacturing competitive, the important point to note is that these are funded using tax payers money. So there needs to be an ROI to ensure optimal utilization of this money. One way to do that is to create high skill jobs.”

- Shri Aman Sethi, Dell

⁵ Source: Ministry of Electronics & Information Technology (MEITY)

Infrastructure & Cluster Development

Infrastructure development and promotion of electronics manufacturing cluster has to be one of the key focuses of policy intervention. While infrastructure is required to speed up transportation of goods and services, clustering of electronics manufacturing will enable flexibility and support.

“Development of clusters for electronics manufacturing is important. It was also a part of the National Policy on Electronics. It has to be in a robust way similar to what we see in some other parts of the world. Having a concentrated critical mass of manufacturing community enables flexibility and support from the stakeholders including skilled work force.”

- Shri Jun Kim, Cisco Systems

“One of the examples which I can cite is that of China. The volumes we were dealing with for PCs was too high and we required a runway which could accommodate a (Boeing) 747. Six weeks later when I came back there was such a runway being built.”

- Shri Jun Kim, Cisco Systems

Ease of Doing Business

Ease of doing business has been one of the key pain points of Indian industry including electronics. However, of late this sentiment has been improving.

“I do want to give credit where it is due. The work we have done with the government of over the years has made a lot of progress and we have seen a lot of results which is why we are at the point we are today.”

- Shri Jun Kim, Cisco Systems

While businesses acknowledge that the ease of doing business in India has improved, there is still a lot that needs to be done. Specifically, in the current context, there is a need to usher in greater coordination between the centre and states and for bringing in uniformity in processes and laws across various states.

“One of the things which need to be looked at is the centre-state perspective. Just from pure logistics perspective, if you look at the permits that are needed for inter-state transport, it is still different. Some of the states have e-permits while others don't. Similarly, there should be same set of criteria across states to be able to rent a warehouse. These things need to be uniform and will increase the ease of doing business.”

- Shri Aman Sethi, Dell

“One of the important things that we need to focus upon as part of the policy is ease of doing business. This may be for larger industries or even for MSMEs but this is the need of the hour. It is important to have a right model of working. This includes right support from all – whether it is the union government or the state governments.”

- Shri Shrikanth RD, Lenovo India

Summarizing the discussion: Top 5 take-away

The following points summarize the super session 3 and can be considered as top five take-aways from the discussion.

1. The players in this sector need to have a winning product profile, should adopt latest technology and also focus on developing and leveraging skills. In addition, the industry as a whole should focus on adhering to international standards and systems.
2. Scale of operations and capacity utilization is important from the perspective of cost competitiveness.
3. A robust component ecosystem needs to be developed to achieve authentic manufacturing in the country.
4. Government can assist industry to stand on its feet through instruments such as PMA (preferential market access) and incentives scheme.
5. Further, a push on improving ease of doing business as well as support system development (infrastructure and manufacturing cluster) would help the industry compete with the best in the world.

Super Session 2

Learn from Leaders – Global Perspective on “Making India NEXT Manufacturing Destination”

Panellists for super session 2



Shri Parag Kar
Vice President, Government Affairs, Qualcomm India & South Asia

Shri Kar has been the company's key regulatory and policy interface for the Indian subcontinent and the region since January 2005. He has over 22 years of experience in the telecommunications industry. He holds a Bachelor's Degree in Electronics and Telecommunication Engineering from the Regional Engineering College Bhopal and a Master's Degree from the Indian Institute of Technology, Delhi.



Shri Sanjay Kumar Rakesh, IAS
Joint Secretary, Ministry of Electronics and Information Technology (MeiTY)

Shri Rakesh is IAS officer of 1990 batch Tripura cadre. He has served as the Chief Vigilance Officer at Central Warehousing Corporation and was Joint Secretary to Government of India, Ministry of Rural Development. He served as Principal Secretary (Power) to the Government of Tripura and as Director of ONGC Tripura Power Company Ltd. Besides many other high profile positions.



Shri Jeff Purnell
Vice President and Chief Procurement Office (Global), Cisco

In his role Shri Purnell is responsible for all commodity sourcing, supplier management and cost management in support of Cisco's cost, quality and delivery goals. As part of Cisco Supply Chain since 2009, he has executed multiple roles within product operations driving technical capabilities, central process development, business operations and leading the Enterprise segment.



Shri Ng Poh Seng
Senior Director, Flextronics

Shri Seng has 35 years of experience in the Electronics Manufacturing Equipment Supply business. He worked for USA manufacturer of Through-hole and SMT equipment supplying to ODM and EMS companies in the 80s and 90s in India and South-East Asia markets. From year 2000 onwards, he worked for Flex covering Singapore, India and China.



Shri Aman Sethi
Director APJ, Supply Chain, Dell

Shri Sethi is B.Tech. from IIT-Delhi and MBA from IIM-Bangalore and leads Dell's global strategy team based out of Singapore. His team drives strategic agenda for Dell's Global Operations Leadership including supply chain design, commodity strategy and supply chain evolution. Prior to joining Dell, he was an engagement manager with McKinsey & Co.



Shri Anoop Malhotra
Country Manager & Director, Jabil India

Shri Malhotra is B.Sc. and FCA, and has 33 Years' experience in Multinational and Indian companies in Business Development, Corporate Finance, M&A in Asia. He has successfully implemented various Projects in India and involved in due diligence of companies in Asia. He has expertise in Business & Financial Management, Strategic Investment and managing multiple plants and projects.

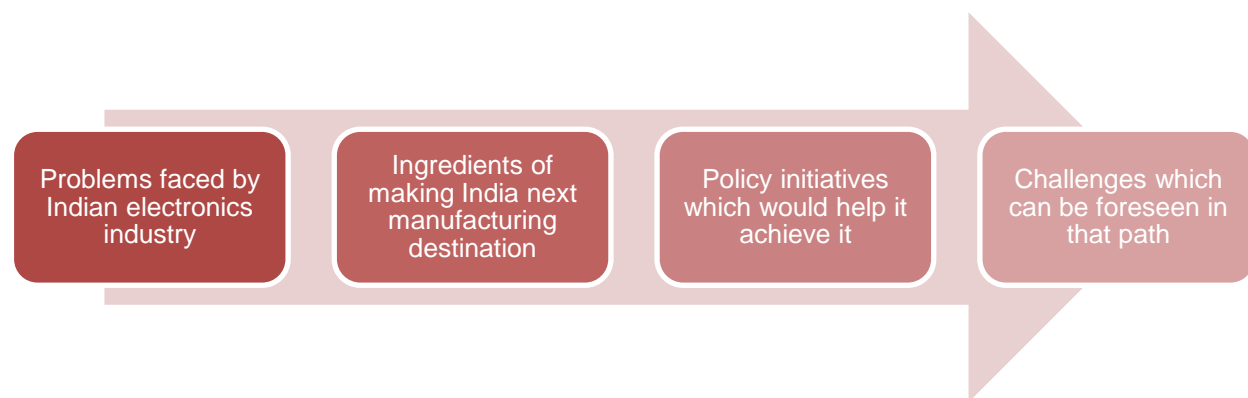


Shri Josh Foulger
Country Head & MD, Foxconn International Holding, India

Shri Foulger has around 25 years of hands-on International experience in managing mega operations and global supply chains. Prior to Foxconn, he spent 17 years with the Nokia Corporation, where he was the President of the Nokia SEZ and started the manufacturing operations for Nokia in India, and a few countries. He has a Master's Degree in Industrial Engineering from the University of Texas.

Panel discussion highlights

The focus of the Super Session 2 was on taking learnings from global experiments on making India the next manufacturing destination for electronics. The following are the key discussion points that emerged through the panel discussion:



This section of the report discusses all of the above aspects.

Problems faced by Indian electronics industry

In the view of the panel, Indian electronics industry faces several challenges towards emerging as a true global destination for electronic manufacturing.

The following are some of the problems that have been articulated and discussed in detail by the panel:

- 1. Long capital investment cycles:** Considering that the investment cycles are long along with a lot of fixed commitment (for example, difficulties in laying off employees in case of drop in demand), industry is averse to taking investment decisions. Decisions are usually slow (even taking up to 3 years many times).

“Capital investment cycles, while a challenge in any manufacturing, are especially long in electronics manufacturing. It takes 1 to 3 years to decide on an investment depending upon the scale. There is a lot of fixed commitment, including employment, which we have to take. Manufacturing is an ecosystem creator.”

- Shri Josh Foulger, Foxconn

2. **High manufacturing cost:** One of the major reasons of other geographies (east and south-east Asia) emerging as manufacturing hub is due to low cost of manufacturing there. On the contrary, India is considered a region associated with high cost of manufacturing.

“While some of the global manufacturers of OEMs have to come to India due to PMA, they start asking questions related to landed cost. Why should they manufacture it here? Basic issues, such as scale of operations and landed cost, have to be addressed. This could be in the form of incentives or through a strategy to mix domestic and exports.”

- Shri Anoop Malhotra, Jabil India

3. **Threat from imports:** This comprises two aspects:
- This is a corollary of the point 2. Low cost of manufacturing in other Asian geographies has led to low priced imports into India. This has led to a cost disadvantage for Indian industries.
 - Free trade agreements (FTA) have also acted as a barrier since rules of origin (criteria needed to determine the national source of a product) are many times difficult to enforce. Since the duties and tariffs are dependent on national source, origin becomes important to identify so that there is no undue disadvantage to the local industry on this aspect.

“Free Trade Agreements are a legacy and a historic reality. We are obligated to follow what has been signed. In order to handle the issue (threat of imports) we have taken up with customs to ensure that the rules of origin are strictly enforced. Industry help in determining which parts are made where would be required.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

4. **Industry unprofessionalism:** It has also been seen that a few black sheep within the industry, who take undue advantage of the policy. This leads to actions on the part of the government which impacts the entire industry. However, the industry has not been very forthcoming on identifying and separating out such defaulters.

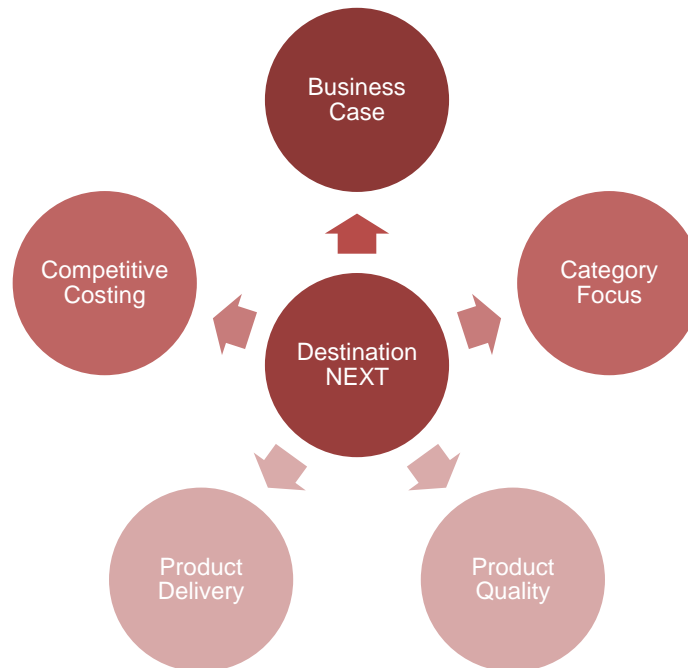
“Industry is as professional and unprofessional as the government itself. Now, for example, we have a certain incentive scheme and some companies take undue advantage of that or try to do some short-circuiting. This creates a problem for the entire industry.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

5. **Trust deficit:** There has been a trust deficit between the industry and the government. This has led to insufficient or ineffective policy response. However, of late this has reduced substantially. The current union government is considered more receptive to industry suggestions.

Ingredients of making India next manufacturing destination

In view of the panellists, the following would be the ingredients of the strategy to tackle the above problems and launch India on the path to electronics manufacturing destination.



First of all, there should be a clear and **robust business case** and an entrepreneurial mind-set to ensure acceleration in setting up of an electronics manufacturing ecosystem.

The global experience clearly indicates that there has to be a **product category focus** rather than spreading energies across the product spectrum.

“India as a country has to distinguish itself in select product categories. For example, Thailand is known for hard disc manufacturing, Vietnam for mobile manufacturing, China is manufacturing a lot of electronics. We need to have a laser sharp focus that allows us to drive strategy and the policy which meets that strategy.”

- Shri Aman Sethi, Dell

“We need to set up a selective product category manufacturing in India and manufacture those for the domestic as well as export market.”

- Shri Jeff Purnell, Cisco

“Whatever policy is made should result in the OEMs making a cost comparison and saying that it makes costing sense to purchase components from India.”

- Shri Ng Poh Seng, Flextronics

Needless to say the **product quality and delivery** has to be world class to compete in the global market. Further, since the electronics manufacturing is a part of the global industry, the design has to be of the **global scale**.

"We need to make sure that the cost, quality and delivery performance is unrivalled against anywhere else in the world. This not only needs to support the work we do for customers in India but also for export for the global market."

- Shri Jeff Purnell, Cisco

"Electronics industry is of global scale today. So I think it is very important that we design our set-up for the global scale."

- Shri Josh Foulger, Foxconn

Finally, the manufacturing has to be **cost-competitive** vis-à-vis other established geographies. Only then will it be sustainable.

"We made a successful attempt 13 years ago at our Nokia factory. We exported to 130 countries and it was the largest factory in the world at that time. We built a robust supply chain and brought together all suppliers. We looked at the landed cost, beat the China price and expanded our deliveries to Asia-Pacific, Latin America and other geographies. We were able to do it by being cost competitive."

- Shri Josh Foulger, Foxconn

Policy initiatives which would help to achieve it

The panel felt that the following government initiatives will help make India the next manufacturing destination.

1. It is felt that the cluster presence is quite fragmented (multiple clusters per state). Going by the example of other successful geographies, there is a need to focus on fewer (maybe 4 to 6) mega clusters in the country which could be promoted as global hubs.

"Government is taking a lot of initiatives like cluster development. However, they could learn from global experience such as Shenzhen in China, Penang in Malaysia and that in Mexico. We have a lot of clusters in India – may be 4 to 5 each in Andhra Pradesh, Maharashtra etc.. So this is quite fragmented – and government is spending money but without desired results. The desired results will come only if we concentrate in few clusters in the country and make those as global hub for electronics manufacturing."

- Shri Anoop Malhotra, Jabil India

2. While promotion of various clusters for manufacturing is a good strategy, the location of these clusters may lead to cost differential for the products manufactured there. In order to be competitive, the cost structure in these clusters should be such that they continue to be globally competitive.

"India needs to compete with China in terms of policies. Now they are promoting movement of industries from the East coast to the interiors. However, they are making sure that the distance (to the coast) does not lead to additional costs."

- Shri Ng Poh Seng, Flextronics

"You have to compete with China. You have to compete with Mexico. In China, the government is providing compensation for logistics."

- Shri Josh Foulger, Foxconn

3. Successful implementation of policies in other sectors including cluster development, such as that of Software Technology Parks of India (STPI) in case of software industry, could be adapted.
4. Any policy, ultimately, has to ensure a healthy return on investment for the industry. This could be done by implementing suitable import barriers and/or driving export facilitation.

"The basic requirements for successful manufacturing is there has to be an adequate ROI, there has to be safety of investment and simplification of procedure. I believe if these three could be provided anybody would commit (for investment)."

- Shri Sanjay Kumar Rakesh, IAS, MeITY

5. Economics of different product categories within electronics industry are different. Therefore, the policies have to be differential. For example, different tax slabs for these product categories.

"Another way (to provide financial incentives) is to have different income tax slabs for different focus industries."

- Shri Josh Foulger, Foxconn

6. Finally, there has to be a greater coordination and synergy between the policies and systems adopted by union and the states. Further, processes and policies have to be easy and simple to follow.

"There have been some challenges in the past to deal with the government at the union vis-à-vis the states. One of our requests would be to make the coordination between the two simpler from the industry perspective."

- Shri Ng Poh Seng, Flextronics

"Cohesions within government departments have been a challenge in the past. However, we have to complement the current government. We have seen phenomenon policy push in the last two to three years. Even the cohesion is increasing."

- Shri Josh Foulger, Foxconn

"We went through a learning phase... the simplification of process is being attempted."

- Shri Sanjay Kumar Rakesh, IAS, MeITY

Driving long term growth

The panellists feel that while the opportunity to make India the next manufacturing destination exists, there are a few challenges which the panellists foresee.

1. Adoption of complex technology – both for products and for the manufacturing process. This may take some time pick-up.

"Some components, such as memory, which are highly complex, will take many years to start being manufactured in India. However, there are some components, such as die casting, which can be manufactured. So it is about efficiency and making sure that the costs can be comparative with the rest of the world."

- Shri Jeff Purnell, Cisco

2. Protectionist strategies such as import barriers, even if provided to the industry, cannot continue for long given the global market dynamics. Therefore, these could only be temporary measures and the strategy has to look beyond these in long term.

“One of the ways in which ROI can be ensured is that we raise a barrier to imports. However, this protection cannot continue for longer period due to global trade commitments that we have. It is an interconnected world.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

3. Support resources (in form of various financial incentives) are scarce and the government has to take a decision regarding which sector these should be extended to. Clear and empirical evidence is required to take such a decision. Such evidences should ideally come from the industry basis which the government can take robust policy decisions.

“The demand for financial incentives needs to be bagged up with proper research and analysis. There has to be supporting evidence to demonstrate how industries are at a financial loss when in India. Government is a hydra-headed body and when we demand money from the finance, there has to be some other activity which needs to be postponed.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

4. The onus on identifying the exact areas where policy push is required lies on industry. The government could then discuss, deliberate and formulate the policies.

“What needs to be done to come up with a plant which can use 100% capacity is the industry’s job. Helping to meet those demands is the government job. First the industry needs to identify, what is that is required. Ultimately, the government cannot finance the inefficiencies of the industry but only the disabilities. The onus of showing that these are not inefficiencies but disabilities lies with the industry.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

5. Mega clusters lead to an accelerated manufacturing push. These clusters usually require an anchor industry to come up and support ancillaries and component ecosystem. While government can provide infrastructure for such a mega cluster, the responsibility to encourage the ecosystem development lies with the industry.

“We had a scheme where we sanctioned around 20 clusters of large and medium size. The mega clusters require an anchor industry which will attract the component and subsidiary industry. If any industry wants to work as an anchor we are willing to work with the industry.”

- Shri Sanjay Kumar Rakesh, IAS, MeITY

6. India does not operate in a vacuum but in a global value chain of electronics goods and services. Any step taken by Indian industry and the government is bound to have a counter response from the geographies which will be impacted by this. Therefore, dynamism of response is required.

“When we ramp up manufacturing in India, the geographies which are currently contributing to global manufacturing will take hits. So there will be push back from those markets. So these things have to be taken into consideration.”

- Shri Parag Kar, Qualcomm

Summarizing the discussion: Top 5 take-away

The following points summarize the super session 3 and can be considered as top five take-aways from the discussion.

1. Considering the long investment cycles and high manufacturing cost, a robust business case for electronics manufacturing has to be established. This would be enabled by having focus on particular product categories, maintaining product and delivery quality and having competitive costing for the same.
2. Cluster development for electronics industry is important. However, the focus can be on few mega clusters rather than many small and medium sized clusters. However, major companies should come forward to serve as anchor industries for these mega clusters - a prerequisite for a cluster ecosystem development. Further, government should adopt policies, such as logistics subsidy, so that clusters are equally cost competitive.
3. Policy support, in the form of incentives, export facilitation, import-barriers and differential policies for different product categories would be required. Further, a greater coordination between union and state governments would be helpful in increasing the ease of doing business.
4. Industry should take the onus on providing evidence of disabilities in absence of policy initiatives (including incentives). Further, it should highlight exact areas where policy push is required.
5. Industry should also address unprofessionalism within its own ranks - which often leads to problems to the entire industry.

Super Session 3

Enablers for Increasing the Value Addition, Gearing Up Component Ecosystem

Panellists for super session 3



Shri Biswapriya Bhattacharjee
Executive Vice President, Kantar IMRB

Shri Bhattacharjee is the Executive Vice President at Kantar IMRB (a Kantar-WPP Company). He is an electronics engineer with a Post-Graduation in Management and has more than 18 years of experience across Market Research and B2B Sales & Marketing. Currently, he leads the Technology Research practice team in Kantar IMRB.



Shri S.K. Marwaha, IES
Director, Ministry of Electronics and Information Technology (MeiTY)

Shri Marwaha holds a Bachelor's Degree in Electronics and Communication Engineering from University of Delhi and a Post Graduate Diploma in Management. He belongs to the 1989 batch of Indian Engineering Services. In his working experience of over 26 years in the Government of India, he has handled policy matters pertaining to the Electronics and Information Technology Industry.



Shri Kiron D Shah
Founder-Director & Managing Director, Velankani Information Systems Limited

Shri Shah has over 20 years of rich & varied corporate experience both in the USA and India. After completing his Masters' in Business Administration from the Rutgers University, USA, he worked for Wall Street as an investment banker. Between 1993 & 1999 he was MD of Heubach Colour manufacturing facility in Gujarat, India. Since 1999, he has been involved with the India operations of the Velankani group.



Shri Sanjiv Narayan
Managing Director, SGS Techniks Manufacturing

Shri Narayan is an electronics engineer from IIT Delhi and MBA from FMS, Delhi. In 1990, he launched his own company for providing electronic manufacturing services (EMS), called SGS Techniks Pvt. Ltd. He was president of ELCINA (Electronic Industries Association of India) for 2 terms in 1988-89 and again 2002-03. He was also Chairman of ESC (Electronics and software export promotion council) 2007-09.



Shri Vinod Sharma
Managing Director, Deki Electronics Ltd

Shri Sharma has been the Managing Director of Deki Electronics Ltd., since October 25, 2002 and was executive director since 1992. He also serves as the President of ELCINA (Electronic Industries Association) and the President of Council of Electronic Hardware Associations of India (CEHA, comprising of Elcina, MAIT, CETMA and TEMA).



Shri Satendra Singh
Head-Global Supply Network & Engineering, Nokia Siemens Network

Shri Singh heads strategy and business development for Global Manufacturing at Nokia. In his current role, he is responsible for global manufacturing strategy, global supply network definition and capacity management, manufacturing performance management and project management. He has over 26 years of experience in general management operations, supply chain management etc.

Panel discussion highlights

Way forward: EMS supported by domestic component manufacturing

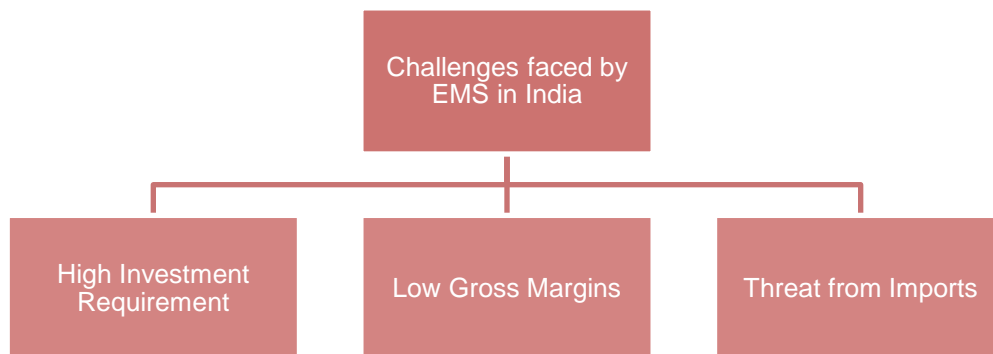
There is a lot of optimism with respects to manufacturing of India as it has been witnessed the imports are being replaced increasingly by local production.

"I am happy to say that the growth rate of imports is coming down and a lot of domestic demand is being met by domestic production. The demand is increasing at a rate of around 19%. It is projected that our electronics demand will be around 170-220 billion by the year 2020 and will go up to 400 billion by 2023-24. This presents a huge opportunity for the industry to invest and make the production grow."

- Shri S.K. Marwaha, MeITY

Challenges being faced by EMS companies

The three key challenges which the electronics manufacturing system (EMS) currently face include the following:



"Investments required in setting up of electronics manufacturing services (EMS) are very large and there is a long gestation period. This is very painful."

- Shri Sanjiv Narayan, SGS Techniks

While gross margins are low for EMS companies, it is felt that a greater vertical integration will help alleviate this problem.

"EMS (electronics manufacturing services) business is a low gross margin business – as low as 30-40%. These margins start increasing if there is a vertical integration. I believe this country deserves that everything is manufactured here and that is how you make it efficient."

-Shri Kiron D Shah, Velankani Information Systems

“Even though EMS has been in India for a long time, the main hindrance for its growth is threat from imports. Whenever a large demand has been there the government has taken the easier way out by saying that there is not enough capacity in the country.”

- Shri Sanjiv Narayan, SGS Teknics

Challenges being faced by component manufacturers

Component manufacturers in India also face problems, albeit different from those in EMS manufacturing, barring **high investment** which remains a common denominator for both types of companies. Since there is **no commitment for product purchase** on behalf of OEMs, it is usually difficult for the investment decisions to take place. There is also a tendency of **‘pricing extortion’** on behalf of OEMs which drives down the profitability of component manufacturers.

“Investing in a component ecosystem becomes difficult. Our customers do not commit to a demand but ask us to start manufacturing first. Then they will compare our product cost to the cheapest Chinese product on that day and shall give us a target of 5-7% lower cost than that. Further, they will give us a road map to reduce cost by 2-3% per quarter. That is not how business can be done.”

- Shri Vinod Sharma, Deki Electronics

“There is a greater challenge to set up a component manufacturing as compared to EMS. The former is much more capital intensive and the returns are in 6 – 8 years. Now nobody wants to take that risk. While an EMS player can make do with 50-60% capacity utilization, anything less than 70% is death in case of component manufacturing. So obviously there has to be tie-up to demand or a long term contract.”

- Shri Vinod Sharma, Deki Electronics

In many cases, the competition faced from **cheap imports** also makes component manufacturing in India uncompetitive and unviable.

“On a daily basis, me and my team of 600 people have to face a new competitor from China – mostly from China but sometimes also from Korea or Japan – who is supplying capacitor at a slightly cheaper price to what I supplied to yesterday. This creates a competition and what leads us to believe that what our customers (OEMs) want is the cheapest possible product.”

- Shri Vinod Sharma, Deki Electronics

In view of the panellists from the domestic component manufacturing background, there is a lot of grievance with respect to **unjust treatment** being meted out to them by OEMs as compared to imports. In addition, there is also a **trust deficit**, wherein, they are not considered partners in the system.

“Component manufacturers pay the GST for EMS companies by reducing cutting down on invoice. However, at the end of the month EMS companies use that invoice to get the GST input tax credit. Further, EMS companies pay component manufacturers as long as 60 to 90 days post the delivery of invoice. On the other hand for Chinese imports, the EMS companies not only pay GST at the import borders and also pay them faster. Further, while they want components just-in-time from domestic manufacturers, they keep a large inventory for imports.”

- Shri Vinod Sharma, Deki Electronics

“While we keep blaming the government, there is a lot of mistrust within the industry. There is no discussion on product quality and discussion is only on cost. For any discussion, the component manufacturers are not even invited and, even if they are, only junior decision makers usually meet them.”

We have to build a competitive manufacturing ecosystem on a relationship basis mutual trust, openness and transparency.”

- Shri Vinod Sharma, Deki Electronics

Apart from this, there is also dissatisfaction regarding **late disbursement of financial incentives**. This leads to a lot of **working capital problems** among the component manufacturers.

“The issue regarding refunds is that if the money doesn’t come to us when it is promised it is not worth very much. If I do not know when I am going to get the money I am not going to put my money into that investment.”

- Shri Vinod Sharma, Deki Electronics

Building up the component ecosystem: key ingredients

In view of the panellists, electronics manufacturing services (EMS) supported by a home-grown component manufacturing ecosystem would be the way forward to start authentic manufacturing in India.

“I believe EMS (electronics manufacturing services) would really be the game changer. So far we have been called assemblers but eventually we will graduate to manufacturing. That is when we will generate demand for components. Before that happens, the investment required for component manufacturing will not come. Unless component manufacturers see a steady demand, investments – which have a long gestation period – will not happen.”

- Shri Sanjiv Narayan, SGS Teknics

To start with, idle capacity for assembly of printed circuit boards is the key should be utilized. In this endeavour, it is expected that OEMs would guide and handhold the EMS companies to provide quality products and delivery.

“Getting PCB (printed circuit boards) assembled in India is the key. There is sufficient capacity of SMT (surface-mount technology) lines in the country – around 800 in number with 80 million components an hour capacity. Except for few months in a year, the capacity of these lines lies unutilized. These are actually future ready factories.”

- Shri Sanjiv Narayan, SGS Teknics

“One of my requests is that the OEMs should choose the EMS partner and work with them closely. There will be certain amount of handholding which will be required as we go along.”

- Shri Sanjiv Narayan, SGS Teknics

One of the immediate challenges with EMS companies face is threat from imports. This becomes especially pronounced when there is a huge demand which cannot be fulfilled locally, in which case, the imports are the only substitute. However, industry has requested the government to not to allow these imports at zero duty.

“While the EMS industry understand that an immediate large demand cannot be met domestically and has to be substituted through imports, our request would be not allow the imports to come in at zero duty. When there is some duty, we shall start witnessing local manufacturing taking place.”

- Shri Sanjiv Narayan, SGS Teknics

Eventually, to build up authentic manufacturing in India, the EMS industry has to be supported by a home-grown component manufacturing ecosystem.

"I do not think that we need to harp upon the fact that if we really want to become a manufacturing hub, an exporting hub and a globally competitive place to do business, we need to have a component ecosystem in India. We need to manufacture most of the components here in India to really graduate to authentic manufacturing."

- Shri Vinod Sharma, Deki Electronics

Product quality, technology, scale and skills are important for the success of any manufacturing set up. However, the most important aspect is a robust supply chain. A just-in-time delivery also offers advantages which imports cannot.

"We at Nokia asked ourselves a question as to what would be required to make our operation self-sustaining and competitive. We came down to four things which I like to call TSSS. These are a technology base which gives me competitive product, organizational skills including managerial bandwidths to train people on floor, the scale of operations and, finally, the supply chain."

- Shri Satendra Singh, Nokia Siemens Network

"(Robust) supply chain is an absolute requirement. If I need my operation to have continuous production, I can't wait for X number of weeks for components to come from somewhere. There has to be a clear strategy that the components are made available where they are needed."

- Shri Satendra Singh, Nokia Siemens Network

"What is very important is to ensure supply chain velocity. If we can turn around the products in a short time it would be very useful."

-Shri Kiron D Shah, Velankani Information Systems

Since high cost of manufacturing is a concern, helping reduce that is one of the key assistance which is required. This could be in terms of **duty differential / tariff-based protection, preferential market access (PMA)** for local products or through **production based incentives**. All these would help lower cost of manufacturing and will help component ecosystem compete with imports.

"A discussion needs to happen as to how much should be the duty differential would be needed so that a component manufacturer can keep his head above water."

- Shri Vinod Sharma, Deki Electronics

"I do not think government can help us any more – i.e. by giving a duty differential of more than 10%. However, considering a 25% subsidy under M-SIPS and, considering the type of investment assistance being given by Andhra Pradesh, I have 55% of my plant and machinery paid to by the government. This is actually brilliant."

- Shri Vinod Sharma, Deki Electronics

"Other ways of ensuring a shorter return on investment in case of component business is either PMA (preferential market access) which gives incentive for local procurement or some kind of product incentive which was introduced in the last policy on electronics for PCB but, unfortunately, did not see the light of the day."

- Shri Vinod Sharma, Deki Electronics

"We have suggested the government to have some default guarantee scheme for the component suppliers to the Indian manufacturers so that their bankers are satisfied and give them the working capital."

-Shri Kiron D Shah, Velankani Information Systems

"I think the role of government, which it needs to understand, is not to just give us financial incentives. Those are just 25% of the story. The 75% of the story is to enable business in India. They have done that right in two ways. First in the case of national supercomputing machine, a billion dollar project, and then in the case of smart meters which is worth around six billion dollars. Now we need to make sure that only made in India components go into these."

-Shri Kiron D Shah, Velankani Information Systems

Policy-push by the government

Some of the key steps which have been taken by the government to promote authentic manufacturing in India by supporting both EMS and component manufacturers include:

1. **Phased manufacturing programmes (PMP)** to progressively increase the domestic value addition for establishment of manufacturing in India. This has already been initiated for mobile manufacturing.

"The main point of concern is that the value addition is low and we are trying to tackle that. We have successfully introduced the phased manufacturing programme (PMP). Starting from semi-knocked down (SKD) we have started with a differential excise duty. Now for moving from SKD to CKD (completely knocked down) we are holding detailed discussion with the industry to come up with a phased manufacturing plan. We have identified 14 sub-assemblies which will go into mobile phones over a period of next four years."

- Shri S.K. Marwaha, MeITY

2. **Rationalization of tariff structure** for protection from imports and that in **GST structure** to make domestic manufacturing more cost competitive.

"Other areas (apart from mobile phone manufacturing) where India has emerged as cost effective and competitive design destination are for LED lights and set top boxes for colour TV. For these categories too we rationalized the tariff structure."

- Shri S.K. Marwaha, MeITY

"On policy front, we have taken several decisions such as rationalization of GST structure in view of representations from the industry. We took it up with the Ministry of Finance and a lot of correction has happened. In addition, we have increased the basic customs duty to beyond 10% for non-ITA goods. Further, based on industry recommendation, we have increased the incentives under MEIS (Merchandise Export from India Scheme) from 2% to 4%. This will provide a good incentive for the industry to manufacture not only for domestic production but also for exports. Similarly, rules of IGCR (Import of Goods at Concessional Rate) were rationalized. We are currently in the process of revising National Electronics Policy (NEP) and have held several rounds of discussions."

- Shri S.K. Marwaha, MeITY

3. While under ITA (Information Technology Agreement) of WTO, to which India is a signatory, the government is committed to completely eliminate tariffs in IT products, the government has worked to impose a basic customs duty on some product categories including finished mobile handsets.

“One of the challenges that we face is that we are giving BCD (basic customs duty) benefits in view of the ITA (Informational Technology Agreement of the WTO). However, this agreement was signed in 1997 when mobile manufacturing was not present. We took a decision to impose a 10% BCD on finished mobile handsets. We are now witnessing that the industry is getting started and around 107 mobile handset and component manufacturing units have come up.”

- Shri S.K. Marwaha, MeITY

Summarizing the discussion: Top 5 take-away

The following points summarize the super session 3 and can be considered as top five take-aways from the discussion.

1. Electronics manufacturing services (EMS) supported by a home-grown component manufacturing system is the way forward to start authentic manufacturing in India.
2. Challenges faced by EMS in India include high investment requirement, low gross margins and threat from imports.
3. Challenges faced by component manufacturers include high investment, lack of commitment for product purchase on behalf of OEMs, imports, as well as unjust treatment and trust deficit on behalf of OEMs. In addition, working capital problems due to late disbursement of financial incentives is also an issue plaguing the industry.
4. Product quality, technology, scale, skills and, most importantly, a robust supply chain, are important for the success of any manufacturing set up.
5. Government has taken many steps to promote authentic manufacturing in the country. These include phased manufacturing programme (PMP) for mobile manufacturing, rationalization of tariff structure etc.

Report authors

Biswapriya Bhattacharjee

Executive Vice President
biswapriya.bhattacharjee@imrbint.com

Sankalp Shrie

Group Account Director
sankalp.shrie@imrbint.com

Rahul Bharadwaj

Senior Account Manager
rahul.bharadwaj@imrbint.com

KANTAR IMRB

(formerly IMRB International)
8, Balaji Estate, Guru Ravidass Marg
Kalkaji, New Delhi – 110019
Ph: +91 11 4269 7800