IAMAI

Internet And Mobile Association Of India

PRODUCTION LINKED INCENTIVE FOR SMARTPHONE COMPONENT MAKERS

Policy Recommendations for Specific Mobile Component Manufacturing

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INDIA'S NEED TO STRATEGICALLY UPGRADE ITS MANUFACTURING CAPABILITIES

The Indian electronic component sector began its transformational journey towards an export-led manufacturing hub with the National Policy on Electronics (NPE), 2012 and has been supported by various incentives,[1] With its relatively short gestation period, the mobile component manufacturing sector can play a strategic role in ensuring India's long-term macroeconomic growth and stability, especially, in the following areas -

- To be **a growth engine** with a CAGR of around 25% to make India a $5 trillion economy
- To **convert the imploding electronic import bill** – the second largest for India – **to net foreign exchange positive** by increasing the country's share of value addition[2]
- To integrate domestic mobile component manufacturing ecosystem into the global value chain and **hedge for geopolitical risks like biohazards**. Anecdotal evidence indicates that the coronavirus outbreak has exposed has exposed the overdependence of the world and India's assembly capabilities on China.

To this end, 2020 calls for a **paradigm shift from screw-driver technology to design-led technology** and an upgradation of the sector's manufacturing capabilities. An assembly-centric support framework becomes brand-focused, whereas a **manufacturer-centric framework would enable India to move up the value chain** by encouraging the growth of mobile component ecosystem. There is a need to support India's mobile component manufacturing sector to make it the **preferred end-to-end destination for global supply chain players**. The mechanisms should aim to make the **Indian operating environment equally conducive, if not more, to counter the inertia of shifting the supply chains to India for the large-scale component manufacturing companies.**

ROADMAP TO PLI FOR SPECIFIC SMARTPHONE COMPONENTS

The **nascent sector of mobile component manufacturing with its underdeveloped ecosystem requires a focused support package** that is most likely to spur its growth as well as integrate and streamline its systems and supply chains. The production-linked package (PLI) of Rs 42,000 crore, planning to offer a benefit of 4-6%[3] (hereafter referred to as 5% overall) on incremental production for a period of five years, aims to create an incremental production of $110 billion worth of mobile phones and their parts, generate exports of $78 billion, and create 0.2 million fresh jobs.[4] Additionally, it will contribute Rs 4,782 crore to the exchequer through direct tax collections.[5] This next phase of incentivisation should focus on increasing production of those components and processes in the country which **are high growth accelerators, require sticky large investments, are highly profitable in double digits, have a high value addition on BOM, and are fungible across sectors**. To that end, IAMAI has identified chargers and PCBA as two mobile components that could help India to achieve its manufacturing targets if provided the right boost in the upcoming PLI scheme.

[1] The incentives provided by the government include the Modified Special Incentive Package Scheme, 2012, Merchandise Exports from India Scheme, 2015, and Remission of Duties or Taxes on Export Products (proposed)

[2] According to NPE, 2012, by 2025 domestic mobile handset consumption will rise to $80 billion heavily straining the balance of payments unless offset by $110 billion exports with targeted value addition of 34%

[3] The incentive is 6% for the first two years, 5% for the next two years and 4% for the fifth year resulting in an overall incentive of around 5% for the five-year period

[4] Government plans Rs 42,000 crore Make in India boost for mobile phones, Times of India, 3 March 2020 with exchange rate of Rs 74/$

[5] Government plans Rs 42,000 crore Make in India boost for mobile phones, Times of India, 3 March 2020

CHARGERS WORTH $5 AND ABOVE – POTENTIAL LEADING GLOBAL HUB

India has a **high potential of becoming the leading global exporter of chargers** worth $5 and above (hereafter referred to as charger market in the report), currently comprising 50% of the overall market, if they are treated at par with mobile phones. Charger manufacturing in India faces the same disabilities as those faced by mobile phones. The 2% incentive, half of the 4% given to mobile phones, under MEIS enabled India to successfully attract two major charger manufacturers, namely Flex, the largest US ODM – a $27 billion giant and the second largest ODM in the world, and Salcomp, a former Finish company and a dedicated charger manufacturer. In the **absence of a continuation and harmonisation of support, there is a risk of these investments migrating to Vietnam despite the combined potential of the domestic market and exports.** However, if manufacturing of these chargers is supported by PLI, the macroeconomic benefits are a quantum leap as summarised in the table below based on the inputs of large-scale charger manufacturers who will avail of the incentive as communicated to IAMAI. These benefits have been explained in the paragraphs under the table under various points.

Incremental Impact of PLI incentive on Chargers worth $5 and Above vis-à-vis Base Year

	As at 2019-20 with 2% MEIS	For the period 2020-21 to 2024-25 with ~5% PLI
Production FOB ($ mn)	800	6,500
Value Addition (% BOM)	8%	45%
Investment ($ mn)	200	400
Exports ($mn)	650	4,700
Employment	12,000	25,000

Source: Extrapolated from Industry Inputs

Make in India - **A 2% MEIS support resulted in local value addition of 8% for chargers. A 5% PLI will translate into more than a five-fold increase in localisation of value addition to 45%.**

Charger Components	Value-Addition		
	Share of Each Component	Current Localisation with 2% MEIS	Estimated Localisation post PLI @5%
Capacitor	8%		
Insulator	3%		
Inductor	5%		
Transformer	11%		11%
PCB	5%		
Diode	3%		
Fuse	3%		
IC-Linear	16%		
Transistor	5%		5%
Resistor	2%		2%
Connector	12%		
IDM	2%	2%	2%
Glue	3%	3%	3%
Mechanical	19%		19%
Packaging	3%	3%	3%
Total	100%	8%	45%

Source: Industry inputs from large-scale charger manufacturers

Export-heavy product segment

Estimates peg the **penetration of network-connected devices per person** at 6.58 in 2020[6] and more than doubling to 15 in 2030[7]. Consequently, chargers are not only being bought as a complimentary product of the mobile handset but also independently to **enable charging multiple smart devices across a range of locations** including workplace, home, and car due to life-style changes. This consumption pattern is currently more prevalent in Europe, the US and China. They are also the **dominant consumers of the type C chargers, comprising 50% of the overall charger market and expected to rise to around 70% by 2025, with higher safety features and FOB of $5 or more providing an attractive export opportunity.**

If the India domestic ecosystem is supported to become the global hub of mobile charger manufacturing, it can **fully meet the rising domestic demand as well as address 70-80% of the export market by 2025** displacing China as the leading exporter. This will cement the country's foundation as the global hub to eventually manufacture chargers for all categories of electronic products including the future domestic demand for type C chargers and leapfrog to the next category of charger for smart devices.

Forex gains

The global market for chargers in 2025 is estimated to be $10 billion with $5 chargers comprising around 70% of the market.[8] The Indian export of all chargers (HS85044030) has risen from $143.05 million in 2016-17 to $366.78 million in 2019-20 (April-December) with an **estimated CAGR of 40% for last 3 years.** Looking ahead, with a 5% PLI, **overall production of chargers worth $5 and above in India is expected to touch $6.5 billion with the exports comprising $4.7 billion.** Apart from reducing the vulnerability of domestic manufacturing to geopolitical risks and biohazards, it will enable India to **gain valuable forex on electronic devices and reduce the external vulnerability of the current account deficit.**

Employment multiplier

This product segment is a **labour-intensive process and has one of the highest direct employment multipliers of 4.**[9] Additional investments into chargers will result in immediate generation of significant direct employment and indirect employment in up-stream ancillary units. Industry inputs indicate that beneficiaries of 5% PLI for chargers can **raise their employment through direct employment generation in the semi-skilled, organised sector, as well as provide at least four-fold indirect employment generation down the value chain.** Furthermore, the current manufacturing facilities are **all 100% women jobs** resulting in **significant livelihood benefits and social security benefits** from provident fund deductions.

Investment magnet

According to industry inputs, a production-linked incentive for mobile chargers with FOB of $5 or more alone will pull in **immediate investments to the tune of $200 million by 2021.**

GDP Growth Accelerator

- $4.7 bn exports
- 1,20,000 jobs*
- 6-fold increase in local value add

Quick Returns

- Shortest lead time to investment
- Immediate job generation
- Creation of ancilliary units and employment

Strategic Gains

- Integral part of the global value chain
- Global hub of power adapters
- Positive message to investors

*Includes the 25,000 direct jobs created and approx. 95,000 indirect jobs

6 Statista Research Department, Feb 19, 2020

7 MarTech Advisor, Mar 4, 2019

8 Enhancing Export Competitiveness of India's Electronic Hardware Manufacturing Ecosystem – Policy Measures and Recommendations, MAIT, August 2019

9 NASSCOM-FICCI-EY report on 'Future of jobs in India – A 2022 perspective" https://www.ey.com/Publication/vwLUAssets/ey-future-of-jobs.pdf, MEITY annual report 2018-19https://meity.gov.in/writereaddata/files/MeiTY_AR_2018-19.pdf, IMM Bangalore Counterpoint Research report http://repository.iimb.ac.in:8080/bitstream/123456789/1/WP_IIMB_528.pdf

On the contrary, the absence of MEIS and the exclusion of chargers from the Phase I of the PLI 2020 will be a **devastating blow to existing investments in India.** Industry inputs indicate an imminent **loss of at least 12,000 existing direct jobs and the flight of at least 1,20,000 potential new jobs with their corresponding investments to Vietnam.** Such a retrogressive step will not only result in revenue loss for the exchequer but also dent the confidence of foreign investors in the long-term policy stability and commitment of the country.

PCBA – INTERMEDIATE STEP TO MOBILE EXPORTS FROM INDIA

Although India's mobile export numbers have been remarkable and the country displaced Vietnam in 2018 to become the second largest producer of mobile phones, the **net value-add remains low.** Most of the components continue to be imported increasing India's dependability on China and external vulnerability.[10] The objective of the production-linked incentive framework is to attract dominant companies and bring large-scale mobile manufacturing into India, to boost exports, generate employment and accelerate economic growth.

In any electronic device, the **process of PCB fabrication and assembly commands at least 50% of the BOM of the smartphone.**

According to market research firm techARC, India needs to find more long-haul measures that go beyond tweaking duty structure to develop the overall ecosystem. If PLI support is provided for PCBA for mobile phones for a medium term of 3-5 years, the ecosystem will develop to a scale that can make India **a global mobile manufacturing hub.** The benefits are detailed below –

1. Cornerstone for full mobile assembly

When the PCBA is done in a specific geography, it naturally attracts the full product assembly into that region **leading to subsequent manufacturing of mobile components such as mechanicals, display units, and overall mobile assembly** in the country. This is a key step in making India the hub for mobile component manufacturing and will **pave the path for becoming a leading mobile manufacturer for global markets.**

2. Phased approach to move from PCBA to mobile manufacturing

No country in the world has jumped from assembly to high-end manufacturing. Historical precedence shows this to be **a step-by-step process** as detailed below.

- The first step is to **encourage companies to set up PCBA capabilities** in the country.
- The next step is nurturing the PCBA capabilities to **develop and scale up the complete ecosystem** by attracting similar operations located elsewhere with lucrative operating environment. The scale of PCBA capabilities then starts moving towards a certain threshold.

3. Once the tipping point is reached, the logistical realities of PCBA pulls in the production and assembly of the end product, mobiles in this case, for domestic consumption and exports. Historically, **countries with PCBA capabilities have taken 3-4 years to achieve this milestone.**

4. High Inertia of PCBA and PCB processes

Among all the sub-assemblies in a device, PCBA is the most complex process. Consequently, **once the PCBA-related capabilities have been developed and PCB production is established in one geography, the inertia is very high.** Thus, the PCB and PCBA industry is highly fragmented, with **bulk of the manufacturers based out of Japan, Taiwan, South Korea, United States and China. Of these, China accounted for 48.01% of the global output volume of PCB and PCBA in 2017.**[11] In order to counter this inertia, the incentive should be high enough to induce the migration of large-scale manufacturers. If the PCBA is incentivised at 5%, it will increase **PCBA production to over $3 billion** for the large-scale export-centric manufacturers in the country.

10 What are the key reasons behind India's rising electronic exports?Livemint, 03 Sep 2019

11 The worldwide market for PCB and PCBA is expected to grow at a CAGR of roughly 3.4% over the next five years, will reach 77600 million US$ in 2024, from 63400 million US$ in 2019, 360 Research Reports

5. Step towards more complex and profitable manufacturing

Attracting a multi-product PCBA capacity into the country leads to **subsequent manufacturing of higher margin product PCBAs** such as medical electronics, industrial electronics, etc. This is because **PCBA capabilities are fungible across electronic products.**

- The Indian government has been successful in attracting investments into local manufacturing of PCBA in the first phase. In the second phase, with an immediate PLI of 5%, the investment in PCBA will **retain the gains so far and rise to a level that will accelerate the evolution of the ecosystem** and add scale to existing operations. As the ecosystem develops and reaches the tipping point of a certain level of scale, PCBA operations will be attracted to relocate from the other parts of the world to India. This will **help the value-addition to gradually increase resulting in localising a larger portion of the smartphone value-add in the country.**

India started mobile PCBA operations in the last few years but the dependency on China continues to be high due to the absence of a domestic ecosystem of component manufacturers.[12] This vulnerability has been exposed with the COVID-19 pandemic. A PLI support of around 5% will boost the **profitability of PCBA operations in India for large-scale export-centric manufacturers** and prompt PCBA operations to migrate from other manufacturing countries to India.

More importantly, **if PCBA is not included in the PLI scheme, companies have no long-term commitment to anchor PCBA operations in the country and will migrate** to competing nations with existing final phone synergies namely Vietnam, Malaysia and China.

A FRAMEWORK TO ENABLE INDIA TO RACE AHEAD OF THE CURVE

ICT has proven time and again that **radical growth is always disruptive and hardly ever incremental.** In the past, India benefited from leapfrogging into the digital age whether it was the mobile revolution or the early adoption of blockchain technology for success of Digital India. **India is the only country in the world with a billion mobile, a billion biometric and a billion bank accounts.**[13]

India now needs to strategically invest to be meaningful in the existing manufacturing environment as well as ahead of the curve when the next wave of technological innovations hits the world. This will require building the capability to manufacture those mobile components that will continue to be relevant in the not-so-distant future. For instance, building charger capabilities will help India to manufacture wireless chargers that can be used across a wide variety of electronic items including electronic vehicles. Likewise, developing PCBA capabilities and reaching a level of maturity wherein mobile manufacturing can be done in India will enable the country to be dominant in the smart devices of the future.

At the same time, caution needs to be exercised to avoid directing precious resources towards non-starter areas. The objective of this paper is to provide the industry perspective on two key mobile components, namely chargers and PCBA, that have been identified to have a radical impact on India's future as a mobile component manufacturing hub. In order to sustainably attract global investors to shift their manufacturing facilities from existing locations, **PLI has to provide an undeniably attractive support framework.** This will enable **the mobile component manufacturers to set shop in India of a scale that will enable them to command the global value chain and change its architecture in the country's favour.**

12 https://www.businesstoday.in/technology/news/smartphones-still-not-made-in-india-key-parts-still-imported-from-china/story/303704.html

13 The technological leapfrogging of India, Gulf News, Amitabh Kant, 15 August 2018

About IAMAI

The Internet and Mobile Association of India (IAMAI) is a young and vibrant association representing the entire gamut of digital businesses in India. It was established in 2004 by the leading online publishers but, in the last 16 years, has come to effectively address the challenges facing the digital and online industry including mobile content and services, online publishing, mobile advertising, online advertising, ecommerce and mobile and digital payments among others.

Thirteen years after its establishment, the association is still the only professional body representing the online industry. The association is registered under the Societies Act and is a recognised charity in Maharashtra. With a membership of nearly 300 Indian and overseas companies, and with offices in Mumbai, Delhi, Bengaluru and Kolkata, the association is well placed to work towards charting a growth path for the digital industry in India.

IAMAI is thankful to all the major component manufacturers for their inputs and continued support in making of this report.

www.iamai.in

Printed and published by Dr. Subho Ray on behalf of
Internet and Mobile Association of India.

Contact

Dr. Amitayu Sengupta
amitayu@iamai.in