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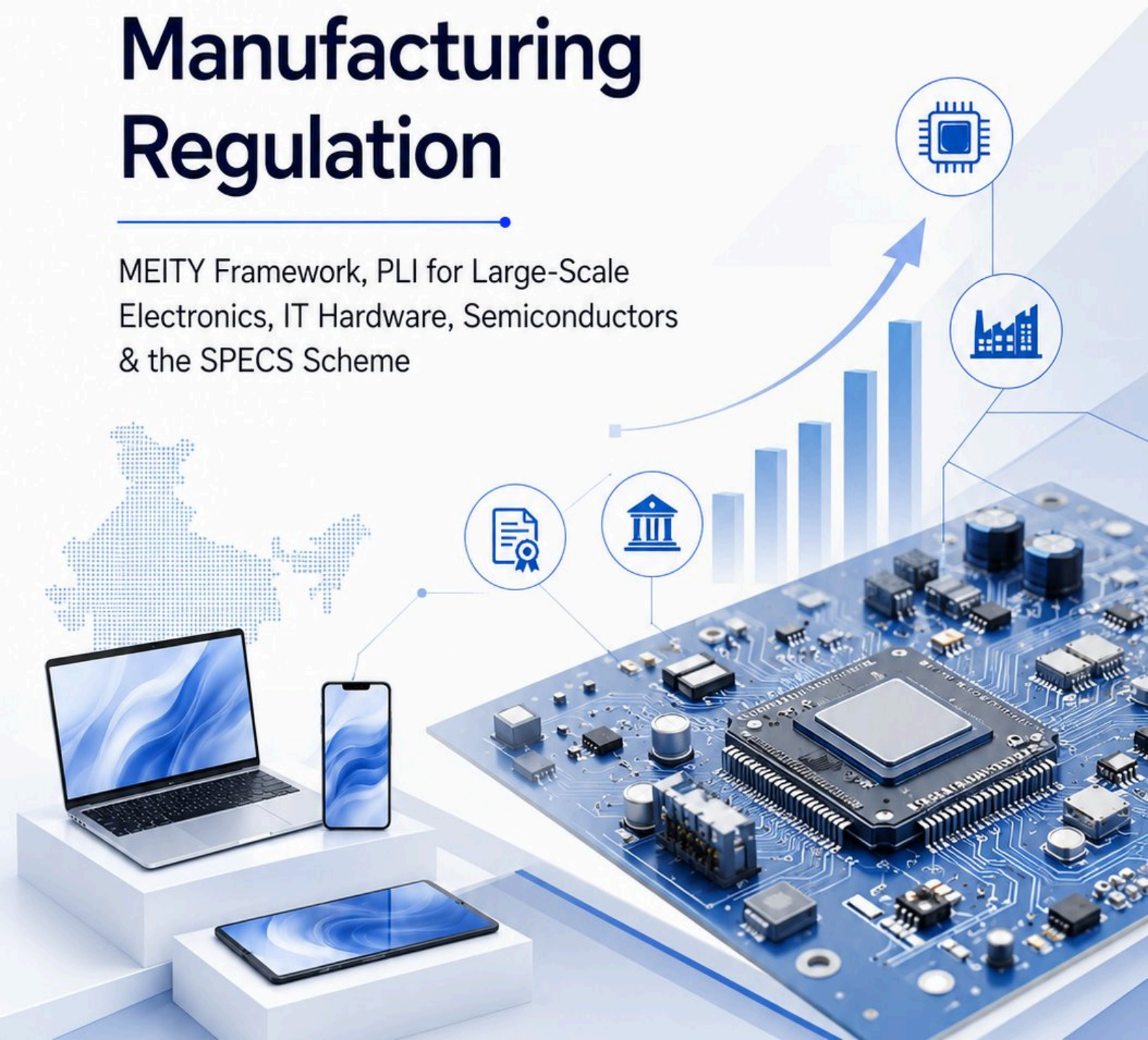
Electronics Policy, PLI Schemes & Manufacturing Regulation

MEITY Framework, PLI for Large-Scale Electronics, IT Hardware, Semiconductors & the SPECS Scheme



Electronics Policy, PLI Schemes & Manufacturing Regulation

MEITY Framework, PLI for Large-Scale Electronics, IT Hardware, Semiconductors & the SPECS Scheme

Booklet I of VI — Indian Electronics Sector Legal Series

Bhatt & Joshi Associates, Advocates & Legal Consultants

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CHAPTER ONE

MEITY and India's Electronics Policy Architecture

Ministry Mandate, National Policy on Electronics 2019, Regulatory Coordination and the ESDM Vision

> *The Ministry of Electronics and Information Technology (MEITY) is the apex regulatory and policy body for India's electronics sector, combining the functions of a technology ministry, industrial policy developer, and standards-setting authority. Understanding its mandate and the policy instruments it deploys is the starting point for any practitioner advising electronics manufacturers, importers or investors in India.*

1.1 MEITY: Statutory Mandate and Organisational Architecture

The Ministry of Electronics and Information Technology, constituted under the Government of India (Allocation of Business) Rules, 1961, exercises jurisdiction over the development and promotion of electronics hardware manufacturing, information technology, internet governance, cybersecurity, and digital communications infrastructure. MEITY's mandate encompasses the entire electronics hardware value chain — from semiconductor design and wafer fabrication through component manufacturing, electronics system design, and finished product assembly to after-sales service and e-waste management. The Ministry exercises its mandate through a

combination of direct policy instruments (production-linked incentive schemes, capital subsidy programmes, and cluster development funding), indirect instruments (customs duty recommendations, BIS quality order coordination, and tax incentive advocacy with the Ministry of Finance), and regulatory functions (administering the Information Technology Act 2000 in coordination with MHA and CERT-In, and overseeing the BIS Compulsory Registration Scheme for electronic products). MEITY's budget allocations for electronics manufacturing promotion have grown substantially in the post-2014 period, reflecting the government's strategic priority of building India into a global electronics manufacturing hub through the twin policies of import substitution and export promotion.

The organisational structure of MEITY relevant to the electronics manufacturing sector includes: the Electronics and IT Hardware Manufacturing Division (responsible for PLI schemes, SPECS, EMC, and cluster development); the Semiconductor Division (responsible for the India Semiconductor Mission and related policy); the Digital India Division (responsible for domestically produced electronics procurement under government programmes); the R&D Division (responsible for the C-DAC, C-DOT, CDAC and SAMEER research institutions); and the Standardisation and Conformance Division (responsible for coordinating with BIS on product quality standards and CRS administration). Each division interacts with different classes of private sector participants — the PLI division with large OEMs and EMS companies, the Semiconductor Division with fab and design companies, and the Standardisation Division with all product manufacturers and importers. For corporate counsel advising electronics sector clients, identifying the correct MEITY division and building institutional relationships with its officials is a practical prerequisite for effective advocacy on regulatory and policy matters.

1.2 National Policy on Electronics 2019

The National Policy on Electronics 2019 (NPE 2019), approved by the Cabinet in February 2019 to replace the NPE 2012, articulates the Indian government's comprehensive vision for the electronics hardware industry through 2025. NPE 2019 sets ambitious quantitative targets: achieving USD 400 billion in electronics production by 2025 (up from approximately USD 70 billion in 2019); generating employment for 10 million persons; developing a robust domestic components and semiconductor ecosystem; and positioning India as a net electronics exporter. The Policy identifies five strategic pillars for achieving these targets: creating a globally competitive manufacturing environment (through PLI, fiscal incentives, and infrastructure support); incentivising deep technology and innovation (through R&D support and semiconductor development programmes); creating a digital security ecosystem (through cybersecurity standards and trusted component supply chains); building human capital (through skill development and academic programmes); and developing trusted electronics standards and specifications (through the BIS CRS framework and quality orders). NPE 2019 has provided the policy framework within which the major PLI schemes for electronics — covering mobile phones,

IT hardware, and semiconductor design — have been developed and implemented, making it the foundational reference document for the entire post-2019 electronics manufacturing incentive architecture.

NPE 2019's emphasis on creating a "trusted electronics" ecosystem — referring to the need for verified supply chains that exclude components from potentially compromised or adversarial sources — has significant legal implications for electronics manufacturers and importers. The "trusted components" policy has influenced MEITY's procurement policies for government agencies (preferring domestically manufactured electronics from verified supply chains), has shaped the specifications in government electronics tenders, and has created the regulatory backdrop for the government's approach to certain foreign technology brands seeking access to the Indian market. For corporate counsel advising international electronics companies operating in India, understanding the "trusted electronics" dimension of NPE 2019 is important context for advising on regulatory risk, government procurement strategy, and supply chain structuring to meet Indian government preferences.

1.3 Phased Manufacturing Programme: Strategic Duty Framework

The Phased Manufacturing Programme (PMP) — under which MEITY proposes and the Ministry of Finance implements progressive increases in customs duty on specific electronic components and sub-assemblies to incentivise their domestic manufacture rather than import — is a central instrument of India's electronics localisation strategy. The PMP operates through MEITY identifying specific components in the mobile phone, television, and other consumer electronics value chains that are imported largely or entirely, and recommending to the Customs Tariff authority the introduction of basic customs duty (BCD) on those components with a defined phase-in timeline (typically 2–3 years) that gives manufacturers time to develop domestic sourcing before the duty takes effect. The legal mechanism is the annual amendment of the Customs Tariff notification, which adds newly identified components to the dutiable schedule at specified BCD rates. For mobile phone manufacturers, the PMP has progressively raised duties on PCBAs, chargers, camera modules, connectors, and mechanical components, creating a compulsory localisation incentive — manufacturers who do not develop domestic supply chains for dutiable components face an escalating cost disadvantage relative to those who source locally. For legal practitioners advising electronics companies on supply chain planning, tracking the PMP roadmap (which MEITY publishes through industry consultations) and modelling the duty impact of upcoming component-level duty increases is a critical advisory service.

1.4 Regulatory Coordination: BIS, TRAI, DoT, and MEITY

The electronics sector in India is subject to overlapping regulatory jurisdiction among multiple central government bodies, requiring practitioners to navigate a complex coordination framework. MEITY exercises primary jurisdiction over electronics product standards (through its

coordination with BIS on the CRS), the PLI and incentive schemes, and the IT Act regulatory framework. The Bureau of Indian Standards (BIS) administers the Compulsory Registration Scheme and the mandatory quality certification requirements for electronic products under the BIS Act 2016 and the Electronics and IT Goods (Requirements for Compulsory Registration) Order. The Telecom Regulatory Authority of India (TRAI) regulates terminal equipment (phones, modems, routers, set-top boxes) under the Telecom Commercial Communications Customer Preference Regulations and provides spectrum-related technical parameters that affect the type approval of radio equipment. The Department of Telecommunications (DoT) regulates radio frequency equipment through the Wireless Planning and Coordination Wing (WPC) — all wireless-enabled electronics (Wi-Fi, Bluetooth, ZigBee, cellular) require Equipment Type Approval (ETA) from WPC before commercial sale. Navigating this multi-agency framework — ensuring that a product is BIS-CRS registered (MEITY/BIS), has WPC-ETA approval (DoT), and meets the applicable spectrum-related technical conditions (DoT/TRAI) — is a mandatory compliance exercise for every manufacturer or importer of wireless electronics products in India.

CHAPTER TWO

PLI for Large Scale Electronics Manufacturing

Rs. 40,955 Crore Scheme, Mobile Phones and Components, Incentive Structure, Eligibility and Compliance Framework

> *The PLI scheme for Large Scale Electronics Manufacturing — India's largest single industrial policy programme — has transformed India's mobile phone manufacturing ecosystem. This chapter provides a comprehensive legal and commercial analysis of the scheme's architecture.*

2.1 PLI LSE: Scheme Design and Strategic Rationale

The Production Linked Incentive (PLI) scheme for Large Scale Electronics Manufacturing, notified by MEITY in April 2020 with a total budgetary outlay of Rs. 40,955 crore over five years (FY2020-21 to FY2024-25), is India's flagship industrial policy programme for the electronics manufacturing sector. The scheme provides cash incentive payments to eligible manufacturers of mobile phones and specified electronic components, computed as a percentage of their incremental sales above a base year benchmark. The scheme targeted two categories of beneficiaries: global mobile phone manufacturers with existing international sales above Rs. 10,000 crore (targeting Apple's EMS partners Foxconn, Pegatron, and Wistron, as well as Samsung) who qualified for incentive rates of 6% in year one declining to 4% in year five; and domestic mobile phone manufacturers (companies incorporated in India, typically from the Rs. 200 crore to Rs. 5,000 crore revenue range), who qualified for incentive rates of 6% to 4% over the same period; and manufacturers of specified electronic components (including PCBA, camera modules, displays, connectors, lithium-ion cells, and chargers) who qualified for incentive rates of 8% to 5% over five years. The PLI LSE's fundamental commercial logic is that the government's incentive payment (computed as a percentage of incremental sales) reduces the effective manufacturing cost in India sufficiently to overcome India's structural cost disadvantages (higher logistics cost, less developed component supply chain, higher energy cost) relative to established manufacturing hubs in China, Vietnam, and South Korea.

The scheme's implementation has generated impressive aggregate outcomes: India's mobile phone production increased from approximately Rs. 1.7 lakh crore in FY2019-20 to Rs. 3.7 lakh crore by FY2022-23, driven primarily by Apple's India production ramp-up through its EMS partners and Samsung's expansion of its India manufacturing operations. Apple's India production — initially limited to older models but progressively expanded to include current-generation iPhone models assembled at Foxconn's Sriperumbudur facility, Pegatron's plant, and Tata Electronics' facilities (which acquired Wistron's Indian operations in 2023) — has made India the second-largest iPhone production location globally after China, a strategic supply chain

diversification that both Apple and the Indian government regard as a major success of the PLI programme. For legal practitioners advising electronics manufacturers on PLI participation, the Apple supply chain's experience provides important benchmarks for: the investment and sales ramp timelines required to achieve PLI eligibility; the supply chain development obligations associated with PLI participation; and the compliance challenges of managing PLI claims alongside the complex intra-group transfer pricing relationships of large multinational EMS operations.

2.2 Eligibility, Base Year and Investment Thresholds

PLI LSE eligibility required applicants to meet different thresholds depending on their category: global players needed cumulative mobile phone sales above Rs. 10,000 crore for any of the three financial years preceding the application; domestic players needed cumulative mobile phone or electronic component sales above Rs. 200 crore for any of the three preceding years; and component manufacturers needed to meet product-specific investment and sales thresholds specified in the scheme notification. The base year for incremental sales computation was FY2019-20 — the year immediately preceding the scheme's notification. Incremental sales above the base year are the basis on which the incentive percentage is applied: an applicant whose FY2019-20 sales were Rs. 500 crore and whose FY2021-22 sales are Rs. 800 crore earns PLI incentive on the Rs. 300 crore incremental sales at the applicable year-2 rate. The minimum investment commitment for global players was Rs. 1,000 crore in electronic manufacturing related fixed assets over the incentive period; for domestic players it was Rs. 200 crore; and for component manufacturers it varied by component category from Rs. 50 crore to Rs. 200 crore.

2.3 Incentive Claims, Verification and Disputes

The PLI LSE incentive claim process follows the standard PLI mechanism: annual claims submitted by beneficiaries to MEITY supported by audited financial statements, GST return reconciliation, and independent CA certification; verification by MEITY's Programme Management Agency; and disbursement through PFMS. One specific compliance complexity in PLI LSE is the "mobile phone production value" computation — the scheme defines eligible sales as the value of mobile phones produced in India (with "produced in India" requiring a minimum value addition threshold that has progressively increased under the PMP). The interaction between the PMP's duty-induced localisation obligations and the PLI's domestic value addition requirements creates a compliance matrix: products that meet the PMP's current localisation profile (local PCBAs, chargers, and mechanical parts) are likely to meet the PLI's domestic value addition criteria, but products that continue to use imported components now subject to BCD need careful value calculation to ensure the PLI claim is not overstated. MEITY has issued clarifications on the value addition methodology through official circulars, and legal practitioners advising PLI beneficiaries must maintain current knowledge of these clarifications as the PMP schedule evolves.

CHAPTER THREE

PLI for IT Hardware: Laptops, Tablets and Servers

Rs. 7,325 Crore Scheme, Domestic Value Addition Requirements, Revised 2023 Framework, and MEITY Product Standards

3.1 PLI IT Hardware: Original Design and Objectives

The PLI scheme for IT Hardware, notified by MEITY in March 2021 with a budgetary outlay of Rs. 7,325 crore over four years, targets the domestic manufacture of laptops, tablets, all-in-one personal computers, servers, and ultra-small form-factor devices — categories that India imports almost entirely, predominantly from Chinese manufacturers. India imports approximately USD 5–6 billion of IT hardware annually, making it one of the most import-dependent segments of the electronics sector. The PLI IT Hardware scheme aimed to replicate the mobile phone PLI's success in shifting production from import to domestic manufacture, targeting: Rs. 3.26 lakh crore of IT hardware production over four years; Rs. 2.45 lakh crore of incremental sales; net foreign exchange savings of USD 20 billion through import substitution; and direct employment for 1,80,000 persons. The scheme targeted both global IT brands (Apple, Dell, HP, Lenovo, Samsung) and domestic manufacturers, requiring global players to achieve minimum incremental domestic production and domestic manufacturers to invest minimum Rs. 100 crore in manufacturing assets.

The original PLI IT Hardware faced significant commercial uptake challenges: most global IT hardware manufacturers declined to participate because the scheme's incentive rates (1–4% of incremental production value) were insufficient to offset the cost of establishing Indian production relative to the cost of importing finished products from Chinese factories that benefit from mature supply chains, skilled workforces, and significant economies of scale. The domestic value addition (DVA) requirements — which stipulated minimum DVA thresholds that applicants must achieve (starting at 5% and rising progressively) — were seen as commercially ambitious given India's near-total absence of domestically manufactured IT hardware components. The scheme's initial response was therefore limited, with only a handful of manufacturers meeting the eligibility criteria and committing to the investment and production targets required for participation.

3.2 Revised PLI IT Hardware 2023: Enhanced Framework

Recognising the original scheme's limited traction, MEITY comprehensively revised the PLI IT Hardware programme in May 2023 with significantly enhanced incentive rates and a modified DVA structure designed to attract global IT brand participation. The revised scheme provides incentive rates of up to 5% of net incremental sales in the first year (substantially higher than

the original scheme's maximum of 4%) and introduces a "hybrid model" that allows manufacturers to start with a lower DVA threshold (as low as 10% in year one) and progressively increase it over the incentive period, rather than requiring the original scheme's front-loaded DVA requirements. The revised scheme also expanded the product scope to include laptops with detachable keyboards (convertibles), laptop displays, and certain category of IT accessories, broadening the eligibility beyond the narrow original product list. The commercial attractiveness of the revised scheme is supported by a simultaneous MEITY initiative to require government procurement of laptops and tablets to progressively prefer domestically manufactured products — creating a captive government market demand that reduces the commercial risk for manufacturers who invest in India IT hardware production.

3.3 Import Restriction and the BIS Interface

MEITY's import restriction policy for IT hardware — which briefly introduced a mandatory import licence requirement for laptops and tablets in August 2023 before moderating it to a mandatory import authorisation system — has created significant uncertainty for the IT hardware supply chain. The import authorisation requirement, administered through DGFT, requires importers of laptops and tablets to obtain prior authorisation from DGFT before shipments can be cleared through customs. While the authorisation system has been implemented with a relatively permissive approval process (authorisations are generally granted without restriction in the current transition period), the regulatory overlay signals the government's long-term intent to progressively restrict laptop and tablet imports to channel demand towards domestic production. The BIS CRS requirement for laptops (under IS 13252 Part 1, the Indian standard for safety of information technology equipment) is a parallel regulatory requirement that must be met alongside the import authorisation — imported laptops must have a valid BIS CRS registration number before customs clearance, and the BIS registration requirement applies to both original brands and their IT hardware accessories.

CHAPTER FOUR

SPECS Scheme and Electronic Component Manufacturing

25% Capex Incentive, Eligible Components, Legal Framework and Supply Chain Development

4.1 SPECS: Scheme Architecture and Rationale

The Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), notified by MEITY in April 2020 with a budgetary outlay of Rs. 3,285 crore, addresses one of the most fundamental structural weaknesses in India's electronics manufacturing ecosystem: the near-total absence of domestic electronic component manufacturing. India's electronics assembly industry — even as it has grown rapidly under PLI LSE — remains largely dependent on imported components: semiconductors, passive components (resistors, capacitors, inductors), PCBs, connectors, motors, and display panels are all predominantly imported, mostly from China, Taiwan, South Korea, and Japan. This import dependence means that India's trade balance in electronics remains negative even as its domestic production grows, since the value added by assembly is a fraction of the total product value. SPECS aims to build the missing component manufacturing layer by providing a 25% financial incentive on capital expenditure (capex) for manufacturing specified electronic components in India. The 25% capex incentive is a grant-type support (payable in tranches as the investment is made), not a production-linked incentive — it reduces the upfront capital cost of setting up component manufacturing facilities rather than rewarding production output, making it appropriate for capital-intensive manufacturing processes where the production ramp-up is slow and the payback period is long.

4.2 Eligible Products and Investment Requirements

SPECS covers a wide range of electronic component categories that are considered strategically important for India's electronics manufacturing self-sufficiency: electronic components (semiconductor packages, resistors, capacitors, inductors, oscillators, filters, transformers, PCBs, FPCBs); solar photovoltaic cells and modules; lithium-ion cells and batteries; electronic displays (LCD, OLED, micro-LED); medical electronics components; defence and aerospace electronics components; and semiconductor wafers and compound semiconductors. The minimum investment requirement for SPECS eligibility is Rs. 1 crore for small categories (standard passive components) rising to Rs. 20–100 crore for complex categories (display panels, lithium-ion cells, semiconductor wafers). The 25% capex incentive is disbursed over the investment period: the applicant submits investment claims supported by asset invoices, commissioning certificates, and independent auditor certifications, and MEITY disburses the incentive in proportion to the verified investment. SPECS represents the government's recognition that PLI production incentives alone are insufficient to build a self-sustaining

electronics manufacturing base — without a domestic component industry, the value addition in Indian electronics assembly will remain limited and the supply chain vulnerability to import disruptions will persist. For corporate counsel advising component manufacturers considering India investments, SPECS provides a compelling financial incentive that can materially improve project economics, particularly when combined with available state government incentives for manufacturing facility development.

4.3 SPECS and PLI Interaction

The complementary interaction between SPECS and PLI LSE is a key design feature of India's electronics manufacturing policy architecture. SPECS incentivises component manufacturing investment, creating the domestic supply base; PLI LSE rewards the finished product assemblers who use those components (or import them if domestic sources are unavailable); and the PMP gradually increases duties on imported components to make the domestic component options — supported by SPECS — commercially competitive with imports. This three-part policy package creates a progressively self-reinforcing dynamic: as PLI-supported mobile phone production grows, demand for locally manufactured components increases; SPECS incentives make component manufacturing investments financially viable; and PMP duties make imported components progressively more expensive, closing the cost gap with domestic alternatives. The legal practitioner's role in this ecosystem is to help component manufacturers navigate the SPECS eligibility assessment, investment structure, and claim process; to advise PLI LSE beneficiaries on their supply chain localisation obligations; and to model the PMP duty impact on component procurement costs over the medium term.

CHAPTER FIVE

Electronics Manufacturing Clusters and Investment Framework

EMC Scheme, SEZs, DPIIT Clearances, FDI Policy and State-Level Electronics Parks

5.1 Electronics Manufacturing Clusters Scheme

The Electronics Manufacturing Clusters (EMC) Scheme, notified by MEITY in 2012 and revised in 2020 (EMC 2.0), provides central government financial assistance for the development of world-class electronics manufacturing infrastructure in India, including land development, factory sheds, power supply, water supply, roads, effluent treatment, and common facility centres (such as calibration labs, component testing facilities, and ESD (electrostatic discharge) safe workspaces). The EMC scheme's objective is to address one of the chronic barriers to investment by global electronics manufacturers: the absence of "plug-and-play" manufacturing infrastructure that allows companies to commence production without investing several years in developing land, utilities, and basic amenities from scratch. Under the EMC scheme, the central government provides financial assistance of up to 50% of the project cost (subject to a maximum of Rs. 50 crore for greenfield clusters and Rs. 20 crore for brownfield upgrades) to developing agencies (state industrial development corporations, SEZ developers, or industry associations) who agree to develop the cluster infrastructure to specified quality standards. The EMC grant enables state governments and industrial bodies to develop electronics parks that are financially viable and physically attractive to international investors, competing with the well-developed electronic industry parks in Shenzhen, Ho Chi Minh City, and Penang that have historically been preferred by global electronics manufacturers for new production investments.

5.2 SEZs and Sector-Specific Electronics Parks

Several Electronics Manufacturing Zones and Special Economic Zones across India provide specific infrastructure and fiscal benefits to electronics manufacturers, including: TIDEL Park and SIPCOT IT Park in Tamil Nadu (which host major electronics assembly and IT hardware manufacturing operations); Sriperumbudur SIDCO Industrial Estate near Chennai (which hosts Apple's Foxconn and Pegatron assembly facilities); Manesar and Bawal industrial areas in Haryana (with large electronics and automotive electronics clusters); Noida and Greater Noida in Uttar Pradesh (which host Oppo, Vivo, and other major mobile phone manufacturers); and the Brandix India Apparel City SEZ in Andhra Pradesh (which has been repurposed for electronics). The SEZ framework under the Special Economic Zones Act, 2005 provides electronics manufacturers within SEZs with: duty-free import of all goods (capital equipment, raw materials, components) used for export production; IGST and compensation cess exemption on domestic procurement; income tax exemptions for specified periods; and streamlined customs procedures.

For EMS companies and ODM manufacturers who produce primarily for export, the SEZ framework provides significant fiscal advantages that can materially improve the economics of India-based manufacturing relative to a Domestic Tariff Area (DTA) setup.

5.3 FDI Policy for Electronics Manufacturing

Electronics manufacturing in India is generally permissible under the automatic route of foreign direct investment (FDI), with 100% FDI allowed without government approval for most electronics manufacturing activities including: mobile phone assembly; electronic component manufacturing; printed circuit board manufacturing; and electronics system design and manufacturing (EMS) services. The FDI Policy 2020, administered by DPIIT under the Foreign Exchange Management Act, 1999, specifies only limited categories of electronics activities that require government approval — primarily activities with defence electronics or encryption technology dimensions that fall under the Defence Acquisition Procedure's "Make in India" preferences. For international electronics companies establishing manufacturing operations in India, the automatic route FDI mechanism enables rapid equity investment without waiting for government approval, and the company incorporation process (under the Companies Act, 2013) can be completed within 2–3 working days through the MCA21 portal. The practical investment facilitation challenge is not FDI approval but regulatory clearance coordination: a new electronics manufacturing facility in India requires environmental clearance (if above specified investment thresholds), state-level industrial licence or acknowledgement, connection to industrial utilities, and labour law registrations across multiple state and central agencies — a process that can take 6–18 months even with proactive facilitation.

> **Booklet I Key Takeaways:** India's electronics manufacturing policy architecture rests on five pillars: MEITY's strategic leadership under NPE 2019; PLI for mobile phones (Rs. 40,955 crore) and IT hardware (Rs. 7,325 crore) incentivising production scale; SPECS (Rs. 3,285 crore) building the component supply chain; EMC Scheme providing manufacturing infrastructure; and the Phased Manufacturing Programme creating duty-driven localisation incentives. For manufacturers, importers, and investors, navigating this multi-scheme framework requires integrated legal expertise across incentive scheme compliance, customs duty planning, FDI structuring, and state-level investment facilitation.

EXTENDED ANALYSIS

Electronics Manufacturing: Regulatory Deep Dive

WPC Type Approval, EMS Industry Framework, MSME Electronics, Startup Ecosystem and Future Policy

A.1 WPC Equipment Type Approval for Wireless Electronics

Every wireless-enabled electronic product sold in India — including smartphones, laptops with Wi-Fi, Bluetooth speakers, smart home devices, wireless keyboards, and any product using RF spectrum — requires Equipment Type Approval (ETA) from the Wireless Planning and Coordination Wing (WPC) of the Department of Telecommunications before it can be commercially sold. The WPC ETA is issued under the Indian Wireless Telegraphy Act, 1933, which prohibits the possession and use of wireless telegraph apparatus without a licence or type approval from the government. The ETA application process requires submission of: test reports from accredited testing laboratories demonstrating compliance with the applicable technical standards (power output limits, frequency accuracy, spurious emissions, and electromagnetic compatibility for the specific frequency bands used); the product's technical specifications; and the applicable application fee. WPC-recognised testing laboratories include TEC-approved labs, BIS-recognised labs, and foreign laboratories whose accreditations are recognised under bilateral MRA arrangements. The ETA is granted for specific model designations — any change to the product's RF hardware, antenna design, or firmware that affects radio performance requires either a fresh ETA application or a change notification supported by updated test data. For electronics companies managing large product portfolios with frequent model refreshes (smartphone OEMs who typically release 5–15 new models annually), the WPC ETA compliance programme requires dedicated internal resources to track approval status, manage renewal timelines, and coordinate with testing laboratories to ensure that new models are approved before commercial launch dates.

The interaction between WPC ETA, BIS CRS registration, and DOT's Telecom Equipment Type Approval (TETAP) — a separate approval requirement for telecom terminal equipment that receives cellular network signals — creates a multi-agency compliance matrix for mobile phones and connected devices that requires careful coordination. A smartphone sold in India must simultaneously hold: (a) BIS CRS registration under the applicable IS standard (for electrical safety and EMC); (b) WPC ETA for all radio transmitters and receivers in the device (Wi-Fi, Bluetooth, cellular, GPS, NFC); (c) TEC TETAP for cellular connectivity (required under the Indian Telegraph Act for devices connecting to licensed telecom networks); and (d) SAR (Specific Absorption Rate) compliance documentation under DoT's mobile handset safety guidelines (limiting the RF energy absorbed by the user's body from the device to safe levels per the ICNIRP guidelines). Coordinating all four approvals — each with different documentation

requirements, testing standards, and processing timelines — while meeting the commercial launch schedule is a significant project management challenge that leading electronics companies address through dedicated regulatory affairs teams with deep relationships with each approval authority.

A.2 Electronics Manufacturing Services Industry

India's Electronics Manufacturing Services (EMS) industry — companies that manufacture electronics products on behalf of brand-owner clients, providing the full range of manufacturing services from PCB assembly through final test and packaging — is a critical component of India's electronics manufacturing ecosystem. Major EMS companies operating in India include Foxconn (the world's largest EMS company, manufacturing Apple iPhones and other products at its Sriperumbudur facility), Pegatron (also manufacturing iPhones at its Hosur facility acquired from the Tata group), Dixon Technologies (India's largest domestic EMS company, manufacturing mobile phones, LED TVs, and consumer appliances for multiple brands), and Optiemus Electronics (manufacturing Blackberry and other brand products). The EMS industry's legal framework involves: contract manufacturing agreements between EMS companies and brand-owner clients (specifying the product specifications, quality standards, pricing, IP ownership, and indemnification arrangements); sub-contractor agreements with component suppliers; employment law compliance (under the Factories Act 1948, the Industrial Disputes Act 1947, and applicable state shop and establishment acts); and the complex customs and export compliance requirements for EMS operations that import components duty-free (under AA or EOU schemes) and export finished products.

The IP ownership provisions in EMS contracts are commercially critical: manufacturing processes developed by the EMS company for a specific client's products (such as a novel soldering technique for a particular component configuration) may be valuable process IP that the EMS company wants to retain for use with other clients, while the brand-owner client may want to ensure that its specific product design is not replicated for competitor brands. Standard EMS contract IP provisions typically: vest ownership of client-provided designs and specifications in the client; vest ownership of EMS-developed manufacturing processes in the EMS company; and create cross-licensing arrangements for improvements to client designs made during the manufacturing process (with the client having the right to use improvements for its products, and the EMS company retaining the right to use the improved process for other clients where it does not incorporate the client's confidential design elements). For legal practitioners drafting or reviewing EMS contracts, carefully delineating the boundary between client-owned design IP and EMS-owned process IP — particularly in the context of increasingly complex products where the manufacturing process is inseparable from the product design — is among the most commercially important IP structuring exercises in the electronics sector.

A.3 MSME Electronics Sector: Legal Framework and Incentives

India's micro, small, and medium enterprises (MSMEs) in the electronics sector — encompassing PCB assembly units, electronic component manufacturers, electronic testing and repair services, and small consumer electronics brands — operate under a distinct legal framework that provides specific protections and incentives alongside the general compliance requirements applicable to all electronics businesses. The MSMED Act 2006 (Micro, Small and Medium Enterprises Development Act) defines the MSME categories and provides the legal basis for MSME-specific policies, including: the mandatory delayed payment protection under Section 15-17 of the MSMED Act (requiring buyers of MSME goods to pay within 45 days or pay interest at 3× the RBI lending rate on delayed amounts — a protection that is particularly valuable for component manufacturers who supply to large electronics OEMs on credit terms); the government procurement preference policy requiring central government entities to source 25% of their procurement from MSMEs (with a sub-target for procurement from micro enterprises); and eligibility for MSME-specific credit guarantee schemes (under the Credit Guarantee Fund Trust for Micro and Small Enterprises — CGTMSE) that enable MSME electronics manufacturers to obtain working capital and term loans without collateral. For electronics MSMEs that manufacture components or provide EMS services, the MSMED Act's payment protection provisions are a practically important legal protection against the common commercial practice of large buyers imposing extended credit periods on small suppliers — legal practitioners should ensure that MSME electronics company clients are properly registered on the Udyam portal (the MSME registration platform) and are aware of their rights under MSMED Sections 15-17 when they experience delayed payment from large buyers.

A.4 Electronics Export Promotion and ELCINA Framework

The Electronics and Computer Software Export Promotion Council (ESC) and the Electronic Industries Association of India (ELCINA) are the primary industry bodies representing India's electronics export sector, providing market development support, trade facilitation, and advocacy for electronics exporters. The ESC, designated as the export promotion council for the electronics and IT sector by the Ministry of Commerce, provides: export award recognition for leading electronics exporters; market development assistance (funding support for participation in international trade fairs and buyer-seller meets); and advocacy with MEITY and the Ministry of Commerce on export policy issues. For electronics companies that export products to global markets, ESC registration provides access to export promotion funding under the MEITY's export development programmes and eligibility for ESC's certification and quality mark programmes that can enhance the credibility of Indian electronics exports in international markets. The Directorate General of Export Promotion (DGEP) under the Ministry of Commerce maintains a registry of recognised export promotion organisations and export houses, and electronics companies that achieve recognised export house status (Star Export House, Trading House, or Premier Trading House classification based on export performance) benefit from

expedited customs processing, priority banking support, and government recognition that can be commercially valuable in international business development.

A.5 Future Policy: India as a Global Electronics Hub

The Indian government's long-term vision for the electronics sector — articulated in NPE 2019, the India Semiconductor Mission, and the broader "Digital India" initiative — envisions India becoming one of the world's top three electronics manufacturing destinations by 2030, alongside China and Vietnam. Achieving this vision requires: continued and enhanced PLI support for mobile phones, IT hardware, and electronic components; successful development of India's first semiconductor fabs (Tata Electronics-PSMC in Dholera and the approved ATMP facilities); progressive development of the domestic component and materials supply chain; resolution of the WTO dispute over ITA-compliance of PMP duties; simplification of the multi-agency approval process (BIS, WPC, TEC) to reduce compliance cost and timeline; and strengthening of the electronics-sector skills pipeline through ITIs, polytechnics, and engineering colleges producing graduates with relevant electronics manufacturing competencies. For legal practitioners advising electronics sector clients, the policy evolution narrative creates important planning implications: companies that align their India investment and compliance strategies with the government's stated priorities (domestic manufacturing, localisation, export orientation, and advanced technology development) are most likely to benefit from the full range of available incentives and to build constructive long-term relationships with the regulatory authorities who will shape the sector's future. The convergence of India's large and growing domestic market, its established VLSI design talent pool, its improving infrastructure, and the global supply chain diversification imperative creates a historic opportunity for India's electronics sector — one that will require sophisticated legal and regulatory navigation to realise its full potential.

Booklet I — Complete Summary: India's electronics manufacturing legal and policy framework is at an inflection point, with the PLI programmes, SPECS scheme, semiconductor investments, and EMC infrastructure creating the conditions for India to transition from a primarily import-dependent electronics consumer to a significant global manufacturer. Legal practitioners who understand the complete framework — PLI compliance, BIS-CRS-WPC coordination, MEITY policy engagement, customs and export law, and investment facilitation — are positioned to provide transformative value to electronics sector clients navigating this complex but commercially exciting regulatory environment.