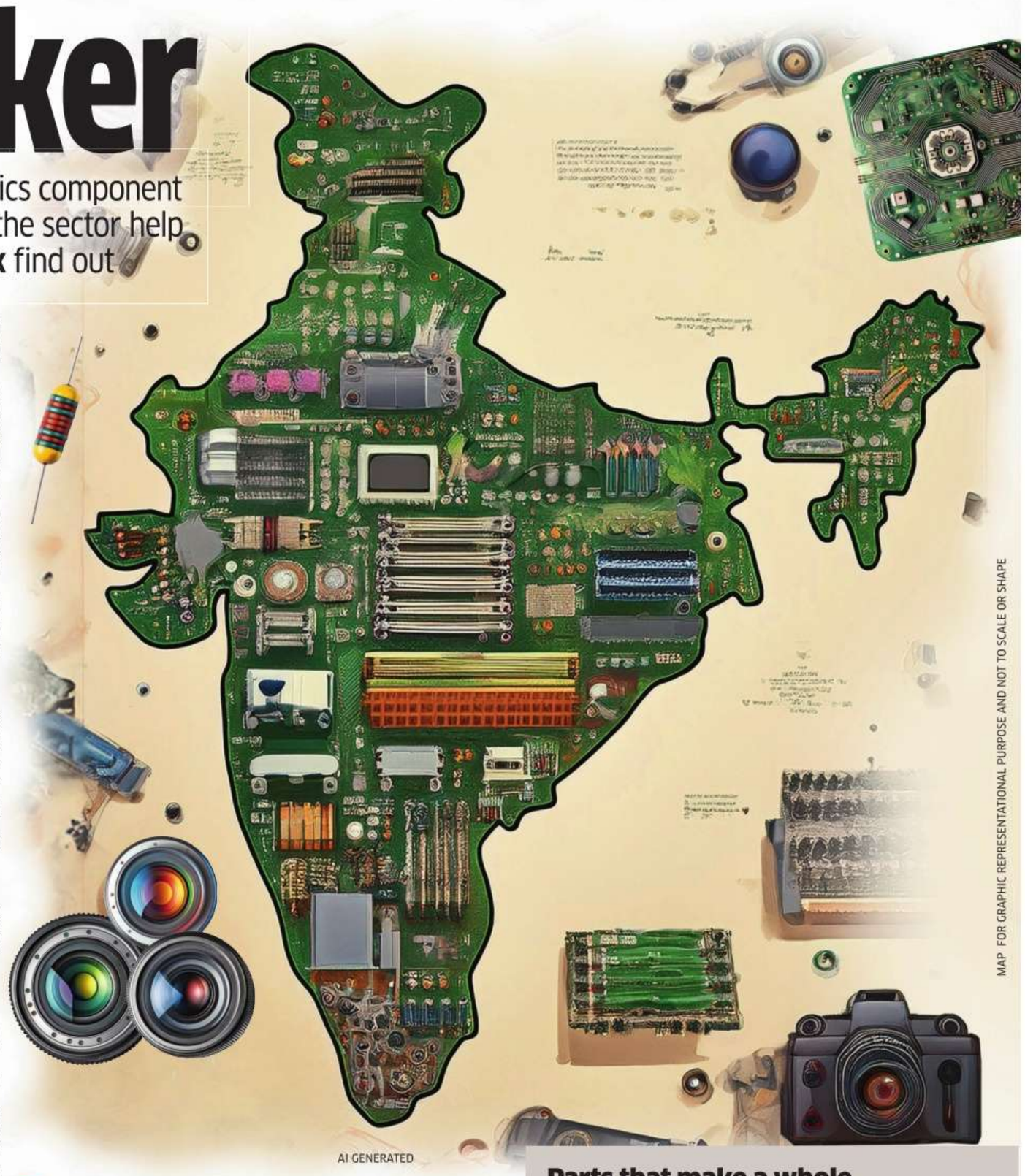
Circuit Breaker

India has plans to become a centre for sustainable electronics component manufacturing. Will a proposed new incentive scheme for the sector help in achieving that aim? **Aashish Aryan** and **Subhrojit Mallick** find out



AI GENERATED

MAP FOR GRAPHIC REPRESENTATIONAL PURPOSE AND NOT TO SCALE OR SHAPE

In 2022-23, the world produced electronic goods worth $4.3 trillion, of which China had a 59% market share. This was nearly two times the combined market shares of the next eight countries, which include the US, Taiwan, South Korea and Japan, and developing economies such as Mexico, Malaysia and India.

But while the gulf is wide on paper, the post-pandemic world has presented the developing economies with a billion-dollar opportunity.

Experts said that apart from making its presence felt in the mobile manufacturing space and trying to enter the diversified semiconductor supply chain, India should also look to top the cake with the cherry of the electronic component ecosystem.

For this, they said, a new incentive scheme to help establish a sustainable electronic component manufacturing ecosystem in the country will go a long way in cementing India's role in global supply and value chains.

The government has proposed to allocate up to ₹40,000 crore for the electronics component manufacturing scheme, likely to be rolled out later this year. As per initial discussions between stakeholders, the scheme is likely to be a capital expenditure subsidy in some cases, an operational expenditure subsidy in others, and a mix of both as and where necessary. Of the ₹40,000 crore, about ₹19,800 crore is likely to be allocated as subsidy for operational expenditures and roughly ₹13,000 crore for capital expenditure subsidy.

However, to be successful, the new scheme needs to adopt a multi-pronged approach, such as having adequate capital expenditure support, providing necessary operational expenditure incentives, addressing non-tariff barriers, and providing access to global markets to allow Indian companies to compete globally, according to the experts.

"We have suggested two layers of support. One is for those components which require higher support and do not have an ecosystem in the country. The others are those which do not require much support because there is already some ecosystem still existing in the country, but highly inadequate," said Rajoo Goel, the secretary general of the Electronic Industries Association of India (Elcina).

SKEWED RATIO

Of India's total electronics imports, 60-70% are of components and sub-assemblies, which go into the making of products such as mobile phones, televisions, laptops and personal computers. One of the biggest challenges that India's still-nascent electronics component sector faces is the investment-to-turnover ratio.

According to government estimates, an investment of up to ₹5 crore by a company operating in the finished products segment can yield a turnover of up to ₹100 crore, ensuring ample profits and keeping the cost of capital low.

On the other hand, an investment of ₹50-100 crore by a company making electro-mechanical components or lithium-ion cells for electronics products will yield a turnover of only up to ₹100 crore per year for the company.

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– Atul Lall, MD, Dixon Technologies

This skewed ratio, Goel said, keeps the cost of capital high, necessitating the need for incentives and up to 40% capital expenditure subsidy for these companies.

Other challenges such as lack of scale, absence of original design manufacturers, high-gestation period and excessive import dependency also need to be tackled.

"There are also larger, structural issues that need to be addressed—can we set up clusters? Can we replicate and set up what the Tamil Nadu government has done in terms of setting up dormitories? Can we have a flexible labour policy? These are larger issues but also an extremely important element to build a component ecosystem," said Atul Lall, vice-president of homegrown electronics major Dixon Technologies and president at Elcina.

The ministry of electronics and information technology, the nodal ministry for the ideation and implementation of these schemes, estimates that going by the current trend, the domestic demand for electronic components is expected to reach $160 billion by the end of 2028-29, up from $41 billion in 2022-23.

In an internal note, the IT ministry has estimated that the component production ecosystem, along with exports would have to grow at a compound annual growth rate of 53% to meet domestic demand. *ET* has seen a copy of the internal note.

"Be it battery packs, camera and display modules, printed circuit boards and electro-mechanical components for mobile phones, IT hardware or other consumer appliances, our import dependency is huge," a senior government official said. "Electronics import is the second largest commodity import in India after oil."

Although these challenges seem insurmountable on paper, the solutions are well within the reach of the government, said Goel.

To begin with, the industry needs to create products where the components being produced can be used to create new markets. Existing domestic markets, which depend a lot on imports, will find it difficult to consume the domestic production, he said.

"From that point of view, we need access to global markets. For that, we need support for testing, getting global approvals and some export promotion support," Goel said.

Another industry executive said that apart from these, the government should also focus on reducing logistics and finance costs while removing tariff disabilities.

"These are not financial needs, but these other aspects required for setting up factories and continuing running them. That cannot be part of a policy, because one ministry cannot dictate to the other how to pass clearances. But if you are taking two days to clear customs, that hurts efficiency," the executive said, requesting not to be named. "These are indirect financial costs to companies."

CHANGING NEEDS

Another aspect that needs to be looked at when it comes to setting up a component ecosystem is the potential to create high-value jobs.

Unlike assembly of finished goods, where floor staff are required in large numbers to assemble products part by part on an assembly line, it's a lot more automated in the case of components and sub-assemblies, according to experts.

"Because of their precise nature, both sub-assemblies and components that go into a mobile phone require a high level of automation. Components require more automation, sub-assemblies maybe less," said an industry executive.

According to the executive, the employee distribution in the assembly business is around 80% floor staff and 20% technicians and associates. For sub-assemblies, nearly 50% of the jobs are of associates or operators, 30% technicians and only 20% floor staff. This number is far higher for component production, which is almost entirely automated and the need for floor staff is less, the executive said.

To facilitate this, the government is now also planning to link employment to the incentive component makers can potentially get, apart from being linked to investment and incremental revenues, said Lall.

Factors such as import dependency, though complex due to the nature of global supply chains, can also be offset by tweaking the tariff structures. For example, raw materials such as laminate, copper foil, dry film resist, solder mask ink and pre-preg are not manufactured in India.

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These products are used in the manufacturing of printed circuit boards (PCBs), camera modules, display assemblies and lithium-ion cells, among other electronic components. Most of these products, including laminate, copper foil, dry film resist and solder mask ink are manufactured only by some companies and are, therefore, unlikely to be manufactured anytime soon by domestic companies, experts said.

"For example, there is aluminium-clad copper laminate required for manufacturing PCBs. Now, because there are duties on aluminium and copper, it is subject to import duty, which is causing a problem for PCB makers," Goel said.

The government also needs to ensure actual domestic value addition, which is still lagging despite the successes of plans such as the production-linked incentive scheme for smartphones.

Despite a sharp fall in imports of mechanics, vibrator motors, charger adapters, plastic parts, and other parts by value and volume, domestic mobile phone manufacturers imported more high-ticket items such as camera modules, display assemblies and battery packs last fiscal, underlining the need for deepening local value addition to make exports more competitive.

For instance, import of camera modules, which accounts for about 10% of the bill of materials (BoM) in a mobile phone, increased by 2.3% by volume, while battery packs, which account for about 6% of the BoM, increased by 12% by volume in the previous fiscal. This, even as the volume of import of plastic parts fell by 33%, and that of mechanical parts such as vibrator motors fell by 4% last fiscal. Incidentally, both components saw a reduction in import duty from 15% to 10% in the interim budget presented in February.

Lall of Dixon Technologies said that to make the scheme a success, the government should focus more on getting companies that make PCBs, including flexible and high-end ones for mobiles, mechanical, electro-mechanical, display and camera modules.

Parts that make a whole

Bare components	Raw material
PCB, flex PCB	Laminate, pre-peg, copper foil
Lithium-ion battery	Electrolyte, separator cathode/anode coating
Capacitors	Polypropylene film, spray wire
Camera module	Lenses, protective film
Display assembly	Glass cover, back light, contrast film, polariser film
Resistors	Electronics grade metal and metal alloy
Mechanics	Metal, metal alloy, auxiliary materials, plastic granules

New Gen AI Use Cases Will Change the Future of Business

SANDIP PATEL

Across India and the globe, the democratisation of Gen AI is well underway. The idea that there is a foundation model for everyone represents a profound opportunity for productivity and workforce revolution. The ability to intelligently automate tasks and gain instant insights has the potential to reshape the nature of work and how businesses operate, creating a new division of work between humans and machines.

Based on IBM's global 2024 CEO study, 72% of top-performing CEOs agree that competitive advantage depends on having the most advanced Gen AI.

As we reach a tipping point, where the economics of AI for business becomes compelling, applying the technology is not so much about seeking moonshots or adding some short-term incremental benefit. Rather, as the following examples show, customised foundation models offer the opportunity to retune all fundamental business priorities and processes with AI at their core.

Ensuring a positive customer experience is vital for every organisation. As such, one of the primary business value opportunities involves leveraging AI assistants for customer support. Today, about half of all call centre agents' time is spent on rote tasks such as researching and gathering information. But AI assistants can significantly accelerate the ability of businesses to retrieve immediate and accurate answers.

This year has also seen the rapid evolution of digital personalised employee assistants. For example, we have deployed a conversational AI-powered platform called AskHR. This assists employees to navigate routine processes within the organisation while also pushing out travel and weather alert notifications. As much as 94% of our employee interactions now happen through an AI chat interface without human intervention. This has enabled our HR team to refocus on more value-creating tasks.

A third use case with far-reaching implications involves enterprise developers augmenting their work with AI coding assistants. High-quality code can be created using AI-generated recommendations, based on natural language requests or existing source code. One example involves transforming business services relying on COBOL into high-quality Java code. This can help developers and IT operators simplify their ability to assess, update, validate and test the right code, accelerating application modernisation efforts.

Similarly, we are also witnessing the emergence of Gen AI platforms that provide insights to thoroughly understand the application landscape. This enables IT teams to discover the connections, dependencies, gaps and opportunities within an organisation's application architecture.

As we explore new use cases, nowhere is the potential to create Gen AI-powered solutions greater than in India, fuelled by youthful demographics and a rapidly growing tech talent pool. But as we race ahead, for the technology to thrive, it has to be built on a foundation of trust — always remembering that the purpose of AI is to augment human intelligence and not replace it. That's why scaling responsible AI practices and policies that promote explainability, fairness, transparency, robustness and privacy are critical for AI systems to be universally accessible and applicable.

The author is managing director, IBM India & South Asia. All views expressed are personal.

ENSURING AVAILABILITY

Scaling responsible AI practices and policies are critical for AI systems to be universally accessible and applicable

PIC: GETTY IMAGES

The Cybersecurity Threat Facing SMBS

AI GENERATED

Aashish Aryan & Kumari Rajlakshmi Singh

Cyberattacks against small and medium businesses (SMBs), especially in India, continued to grow in 2024. Globally, SMBs faced more than 559 million attacks between April and June 2024.

A survey of more than 1,400 IT professionals across these SMBs revealed that 88% of respondents experienced cybersecurity incidents in the past 12 months, while about 79% are concerned about ransomware attacks impacting them. Moreover, 96% respondents said they would pay the attackers if an attack takes place.

Here are some additional numbers, as revealed by the survey:

Sector-wise breakdown

Power and energy **25 million** attacks per site (average)

BFSI 60% higher bot attacks in India compared to the global average

Healthcare 100% of websites and businesses faced cyberattacks

Retail and e-commerce **200%** more bot attacks than the global average

SOURCE: STATE OF APPLICATION SECURITY REPORT FOR APRIL-JUNE 2024 BY INDUSFACE

Total attacks on SMBs: **559 million**

Total DDOS attacks on SMBs: **56.9 million**

Total bot attacks on SMBs: **276 million**

Total cybersecurity incidents recorded in India: **2.03 billion**

Factors contributing to cyberattacks

53% Critical high-level vulnerabilities

49% Inadequate security measures

48% Extensive use of cloud applications

What lies ahead for SMBs?

50% Respondents who perceive nation-state attacks as a major cybersecurity risk

63% Respondents who anticipate a rise in cybersecurity spending

SOURCE: ESET STUDY ON SMB IN INDIA AND ASIA PACIFIC

PIC: GETTY IMAGES

Bits & Bytes

META FACES $3.6-MN FINE IN BRAZIL FOR ALLOWING BOGUS ADS

Meta faces a fine of up to 20 million reais ($3.62 million) after losing a lawsuit in Brazil, by a department store that accused the company of accepting paid advertisements that fraudulently used the retailer's name to deceive consumers.

In her ruling, Judge Joana Ribeiro said it was unacceptable for Meta to sell ads in an insecure way to sustain its business model. The department store, Havan, called the decision a "landmark" in protecting the company's rights.

Meta declined to comment, but can appeal the decision.

CHINESE EV MAKERS SUFFER SETBACK IN EUROPE

Chinese automakers registered fewer electric cars across Europe in July, as new tariffs amplified the impact of a broader slump in EV sales.

Chinese brands accounted for 9.9% of EV registrations in the region, down from 10.2% in July 2023, according to Dataforce. Overall demand for EVs continued to weaken after Germany, Europe's largest auto market, removed incentives.

But Chinese automakers and their European counterparts that import battery-electric cars into the EU have been scrambling to adjust to the introduction of new tariffs, that raised duties on Chinese-made EVs to as high as 48%.

PICS: GETTY IMAGES

– Agencies