

## AI powers India's electronics ambitions as MSMEs move up the value chain, say expert

RITWIK MUKHERJEE

AS one of the world's fastest-growing industries, Electronics System Design and Manufacturing (ESDM) is steadily reshaping global value chains, with India emerging as an increasingly critical player in the evolving ecosystem. With the country aspiring to become a \$1 trillion digital economy by FY26 and targeting a \$500 billion electronics ecosystem by 2030, electronics manufacturing has moved beyond being merely an industrial objective to becoming a strategic national mission.

At the heart of this transformation lies a new catalyst — artificial intelligence.

According to Dr Dipra Bhattacharya, management consultant and AI strategist, AI is rapidly transitioning from a technology luxury to a powerful engine of economic empowerment, particularly for micro, small and medium enterprises (MSMEs) operating within the ESDM sector. "AI is no longer an optional add-on. It is becoming the foundation for the next generation of globally competitive manufacturing enterprises," Dr Bhattacharya said.

He believes that India's MSMEs must now move beyond traditional contract assembly models and embrace high-value design capabilities and intelligent manufacturing practices if the country is to realise its electronics ambitions.

"The strategy is not about replacing human capital, but amplifying it," he said.

One of the most significant opportunities, according to him, lies in integrating AI-driven computer vision into surface-mount technology (SMT) lines. Such systems can automate real-time defect detection, enabling even smaller enterprises to achieve international quality benchmarks at a fraction of conventional costs.

Generative AI is also proving to be a game changer. By democratising printed circuit board (PCB) design,



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Dr Dipra Bhattacharya

high-value components could significantly strengthen India's position in global electronics supply chains and reduce dependence on imports.

Government support is also providing fresh momentum. The recently announced Electronics Components Manufacturing Scheme (ECMS), with an outlay of Rs 40,000 crore, alongside the flagship IndiaAI Mission and its subsidised compute infrastructure, has substantially lowered the financial barriers associated with advanced automation and AI adoption.

These policy interventions are expected to accelerate innovation and help smaller enterprises access technologies that were once available only to large corporations.

Dr Bhattacharya believes the message for entrepreneurs is unequivocal.

"Adopting AI is no longer a futuristic option; it is the immediate blueprint for cross-border scale, margin expansion and true global competitiveness," he said.

As global supply chains continue to diversify and technology becomes the defining factor in industrial competitiveness, India's ESDM sector appears poised for a new phase of growth — one where AI-enabled MSMEs could become the country's strongest manufacturing advantage.

these tools are dramatically reducing product development timelines, compressing prototyping cycles from several months to just a few days.

Beyond manufacturing finished products, Indian MSMEs are increasingly finding opportunities in the broader AI infrastructure supply chain. Companies are beginning to specialise in producing cooling modules, customised harnesses and sensor housings required by global semiconductor and chip manufacturing companies.

Industry experts say this shift towards specialised,

## UNSC needs fundamental change in P5 decision-making structure: India

**Security Council reforms may fail if restricted to mere changes to non-permanent category, says India's Permanent Representative P Harish**

YOSHITA SINGH  
UNITED NATIONS

INDIA has cautioned that reform of the UN Security Council will border on "failure" if only its non-permanent category of membership is expanded.

India's Permanent Representative to the UN Ambassador Harish Parvathaneni made these remarks on Monday while addressing the Inter-Governmental Negotiations (IGN) meeting on Security Council reforms.

"UNSC reform would be grossly inadequate, bordering on failure, if expansion is limited only to the non-permanent category as it would fundamentally not change the decision making power-structure of the P5," Parvathaneni said. "Groups and member states have waited this long for real and meaningful reforms," he further added.

Parvathaneni was addressing the meeting, with focus on the 'Elements Paper', a document that contains points of convergences and divergences of UN member states on reform of the powerful UN body.

Parvathaneni stressed that by advocating expansion of the permanent category, India's consistent effort has been to bring in a "greater sense of balance and equity" in the Security Council, and change the decision making parameters of the five veto-wielding permanent members - China, France, Russia, UK and the US.

India has been at the forefront of years-long efforts for achieving reform of the Security Council, including expansion in both its permanent and non-permanent categories, saying the 15-nation Council, founded in 1945, is not fit for purpose in the 21st Century and does not reflect contemporary geopolitical realities.

Delhi has consistently underscored that it rightly deserves a permanent seat at the horse-shoe table. India last sat at the UN high-table as a non-permanent member in 2021-22.

India was critical of the 'Elements Paper' tabled for discussion, saying that it neither captures the overall state of play accurately nor accounts for the overwhelming sentiments of the majority of member states.

He pointed out that support of a



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majority for expansion in the permanent category of the Security Council has been reduced to 'a significant number of delegations' in the 'Elements Paper'.

"Despite the categorical position of a majority of member states in favour of expanding the permanent category, as reflected either in the national statements delivered at the IGN or through association with groups such as L69, G4, CARICOM etc., this has not been depicted accurately," he said.

Parvathaneni also noted that the 'Elements Paper' mentions that the permanent category would be expanded through the Fixed Regional Seats proposal, which he said "incredibly has only been documented" in this 'Elements Paper'.

It further adds that member states elected to such seats would serve in their national capacity and not formally represent their respective regions.

"These present three inherent issues — one, the proposal does in no way expand the permanent category; two, the concept of regionalism would not be served if the concerned member states act in their

national capacities; and three, it weakens the case of SIDS (Small Island Developing States), a cross-regional group which India has been consistently supportive of."

India said this whole proposal is akin to granting a veto to the 10 elected members of the Council, who sit at the horse-shoe table for two year terms, "bereft of convoluted arguments of permanency. This proposal confuses veto power with permanency."

Further, India said that the Elements Paper proposes further discussion and clarification on the concept of 'permanency', on which Parvathaneni said that the UN Charter is very clear and there is no room for ambiguity. He noted that Article 23 clearly categorises the UNSC members into two — permanent and non-permanent.

"Therefore, the definition of a permanent seat needs no further elaboration of classification as a divergence. Groups and member states, including the African group, the G4 and L69, treat a permanent member, serving or future, strictly in accordance with the provisions of the Charter," he said. The Ele-

ments Paper reflecting expansion of the category of two-year term non-permanent members as a convergence portrays only a part of the picture, he said adding that groups and member states add qualifiers and attach other interlinked parameters as they endorse expansion in the non-permanent category.

India also underscored the need for text-based negotiations on UNSC reform to ensure that discussions are more purposeful and outcome-oriented. "IGN cannot be fundamentally different from other UN processes, wherein negotiations are held on the basis of a text. Groups and member states express their views on the text under consideration," Parvathaneni said.

India called on the co-Chairs of the IGN to take the lead on formulating a text, "with clearly-defined milestones and timelines, so that groups and member states could engage in a purposeful and outcome-oriented manner, and thereafter consider, if necessary and as appropriate, any bridging proposal."

With the UNSC reform process moving at a snail's pace through the decades, India asserted that a "nothing is agreed until everything is agreed" approach must not become a tool to block progress.

"Status-quoists have tried to use this argument in their favour and thereby, entrench the existing inequities in the Security Council," Parvathaneni said.

## Best time to collaborate and invest in India, says Piyush Goyal

NEW DELHI

UNION Commerce and Industry Minister Piyush Goyal said that he has invited global businesses to partner in India's growth story, saying the opportunities to collaborate, invest, and scale in the country have "never been more promising" as the country advances towards becoming a global hub for innovation and manufacturing.

Sharing details of his visit to Sophia Antipolis, widely regarded as Europe's first and largest science and technology hub, Goyal said the ecosystem offers a compelling example of how research, talent, and enterprise can come together to drive economic growth and technological advancement.

"As India advances towards becoming a global hub for innovation and manufacturing, the opportunities to collaborate, invest and scale together have never been more



promising," he said in a post on social media platform X. The minister said he visited the technology park after participating in Bharat Innovates 2026 and engaged with industry leaders operating in the innovation hub.

He highlighted that more than 2,600 companies are based in Sophia Antipolis, working across a range of cutting-edge sectors.

"A fascinating visit to Europe's Silicon Valley! Building on the momentum of Bharat Innovates 2026, visited Sophia Antipolis, Europe's first and largest science and tech-

nology hub," Goyal noted. "With over 2,600 companies operating across cutting-edge sectors, the technology park offers a compelling example of how research, talent and enterprise can come together to drive economic growth and technological advancement," he highlighted.

Goyal said he held discussions with industry captains and encouraged them to become active partners in India's development journey under the leadership of Prime Minister Narendra Modi. The visit forms part of the govern-

**Sharing details of his visit to Sophia Antipolis, widely regarded as Europe's first and largest science and technology hub, Goyal said the ecosystem offers a compelling example of how research, talent, and enterprise can come together to drive economic growth and technological advancement**

ment's broader efforts to showcase India's growing capabilities in technology, innovation and advanced manufacturing while attracting greater foreign investment into the country. Goyal noted that innovation-driven ecosystems such as Sophia Antipolis demonstrate the importance of fostering collaboration between academia, research institutions and businesses to create sustainable economic growth and technological leadership.

## PM Modi discusses 'growing partnership' with Slovakia in defence, tech and nuclear energy

BRATISLAVA

PRIME Minister Narendra Modi met with Slovakia's President Peter Pellegrini on Monday and discussed the growing partnership between the two countries, including digitalisation, innovation, defence and nuclear energy.

Modi, who is in Bratislava as part of his weeklong visit to Europe, met Pellegrini at the Presidential Palace, where the two leaders welcomed the growing partnership and ongoing cooperation between India and Slovakia.

"Today's talks with President Pellegrini covered diverse subjects such as closer ties in manufacturing, transport, innovation and investment linkages, energy, biofuels and more," Modi said in a post on social media.

"There is also immense scope to cooperate in the field of digital technology. We also talked about deepening people-to-people linkages," he added.

They recalled Pellegrini's visit to India for the AI Impact Summit in February 2026.

"I am glad that @narendramodi and I can build on the open and friendly dialogue we began during my visit to New Delhi this February," Pellegrini posted on social media.

"Happy to have continued the important conversations we had when we last met. Your insights are indeed great to hear," Modi said.

The two leaders expressed satisfaction at the ongoing cooperation and welcomed the growing ties between the two countries in the fields of trade, investment, technology and people-to-people ties. They also discussed regional and global developments of mutual interest, the Ministry of External Affairs (MEA) said in a statement.

"Both leaders discussed expanding cooperation across di-



verse areas and advancing the warm and friendly relations between the two countries," official Spokesperson of the MEA Randhir Jaiswal posted on social media.

Prime Minister Modi and President Pellegrini also watched a painting exhibition in the Presidential Palace by Slovak artists dedicated to the theme—"Varanasi City."

They also witnessed a special Yoga demonstration by Slovak school children.

Later, Pellegrini hosted a banquet dinner in honour of Prime Minister Modi.

Earlier, India and Slovakia elevated their ties to a comprehensive partnership and firmed up 11 agreements to expand the bilateral cooperation in a range of areas such as migration, digital technology and defence following talks between PM Modi and his Slovak counterpart Robert Fico.

Modi, along with Fico, also met with Slovak business and industry leaders across various domains, including railways, defence, the automotive sector, energy, nuclear energy, IT, and healthcare.

"Had insightful discussions on strengthening economic ties, boosting investment flows and expanding collaboration in innovation, technology, manufacturing and more," Modi said after the

meeting. He highlighted "India's reform trajectory and growing opportunities and invited Slovak companies to deepen their partnership with India."

The Prime Minister also highlighted the major reforms and policy initiatives introduced by India in recent years, including the SHANTI Act and encouraged Slovak companies to take advantage of the growing opportunities in India, Jaiswal said.

"We discussed opportunities to deepen economic engagement, boost investment flows, and expand tech cooperation across various domains, including transportation, green energy, emerging technology and defence production," he added.

Modi invited Slovak companies to take advantage of the growing opportunities in India, particularly in the areas of infrastructure, defence, renewable energy, digital innovation, semiconductors, AI, and healthcare, the MEA said in a statement.

Slovak Industry leaders welcomed India's reforms towards Viksit Bharat and expressed confidence in India's economic trajectory. They welcomed the conclusion of the India-EU FTA, noting that its implementation will open new business opportunities for them, the statement said.

## Mangaluru Airport boosts landing safety with CAT-I lighting system, 2nd in Asia

MANGALURU

MANGALURU International Airport has successfully commissioned the Precision Approach Lighting (PAL) Category-I system for Runway 24 following approval from the Directorate General of Civil Aviation (DGCA), it was announced on Monday.

Notably, the facility is only the second of its kind in Asia, placing Mangaluru International Airport among a select group of airports worldwide, with such advanced infrastructure.

This marks a significant milestone in enhancing operational safety and landing precision at the airport. The PAL Category I system is designed to provide pilots with enhanced visual guidance during the critical final stages of landing, particularly under conditions of reduced visibility at a tabletop facility.

Mangaluru International Airport is a subsidiary of Adani Enterprises Limited (AEL),



the flagship of the globally diversified Adani Group. With this commissioning, the airport further strengthens its commitment to safe, reliable and efficient aircraft operations while meeting regulatory compliance, according to the company statement.

"The commissioning of PAL system reflects the airport's continuous focus on adopting advanced technologies to enhance aviation safety and passenger confidence," the airport spokesperson said.

This project stands out as one of the most

unique and first of its kind airfield lighting installations in India.

The approach lighting system features Airfield Lighting Intelligent Management Systems (ALIMS) mounted on specially engineered towers, extending 900m outwards from the runway threshold.

Most of these towers rise higher than the iconic Qutub Minar, highlighting the scale and engineering complexity involved.

A key highlight of the project execution is the zero-accident record maintained throughout the construction phase, underscoring the airport's adherence to the highest standards of safety, planning and execution, said the company. The PAL system complements ongoing airside enhancements undertaken by the airport, including upgrades in runway lighting and safety infrastructure, reinforcing its long-term vision of becoming one of the safest tabletop airports in India.