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Why Sustainability Is Becoming a Design, Manufacture, and Supply Chain Requirement for the Electronics Industry

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As electrification accelerates, sustainability is becoming a critical factor in the electronics supply chain. Manufacturers must balance innovation with environmental accountability, embedding climate action, responsible sourcing, and transparent governance into engineering, operations, and partnerships across the global technology ecosystem.

Electrification is reshaping industries worldwide, from transportation and energy systems to digital infrastructure and advanced manufacturing. At the heart of this transformation are electronic components and interconnect technologies that enable power management, battery systems, and high-efficiency electronics.

As demand for these technologies grows, attention is increasingly turning to how they are produced. For manufacturers across the electronics supply chain, sustainability is no longer limited to corporate reporting. It is becoming a strategic consideration that influences engineering decisions, factory operations, and supply-chain relationships.

Customers, investors, and regulators are placing greater emphasis on environmental, social, and governance (ESG) performance. As a result, suppliers are expected not only to deliver technical innovations but also to demonstrate measurable progress in reducing environmental impact and strengthening responsible business practices.

Sustainability as a strategic foundation
For technology manufacturers supporting electrification, sustainability is closely linked to operational resilience and long-term competitiveness.

Manufacturing electronic components often involves energy-intensive processes and complex global supply chains. Addressing environmental impact, therefore, requires a coordinated strategy that integrates emissions reduction, resource efficiency, and governance across global operations.

At ENNOVI, sustainability is embedded within the company's operational framework through six pillars: environmental stewardship, people excellence, innovation, quality excellence, sustainable procurement, and governance. This structure helps ensure sustainability considerations are integrated into product development, manufacturing processes, and supply-chain management rather than treated as a separate reporting activity.

The goal is not only to reduce environmental impact, but also to strengthen operational discipline and long-term value creation.

Figure 1. ENNOVI Mobility India Pvt. Ltd. Chennai site took part in a tree planting event on 19th December 2025 at Araneri Government School in Tamil Nadu.

Manufacturing efficiency as an engineering challenge

For electronics manufacturers, emissions reduction is ultimately a manufacturing problem. The processes used to produce interconnects, power components, and precision electronic assemblies require significant energy, particularly in high-volume production environments. Reducing the environmental footprint of manufacturing, therefore, depends on improving the efficiency of these operations without compromising throughput, quality, or reliability.

In practice, this means applying the same engineering discipline to energy performance that manufacturers already apply to yield, cycle time, and overall equipment effectiveness (OEE). Energy management standards such as ISO 50001 provide the framework for this approach, enabling facilities to monitor energy performance systematically, identify inefficiencies and implement continuous improvement measures. Embedding this discipline into manufacturing operations allows companies to decarbonize production without compromising reliability or output.

Figure 2. ENNOVI Mobility India Pvt. Ltd. Chennai site has donated computers to three local schools in Sriperumbudur.

A structured pathway to emissions reduction

Alongside operational improvements, a structured climate strategy is essential. ENNOVI has established clearly defined greenhouse gas (GHG) reduction targets supported by a roadmap and measurable performance indicators. The company has committed to achieving Net Zero Scope 1 and Scope 2 emissions by 2040, supported by its RE100 commitment to transition to 100% renewable energy.

These goals are supported by initiatives such as expanding ISO 50001 energy management systems across manufacturing sites, investing in energy-efficient equipment, and implementing operational improvements that reduce electricity consumption.

As production volumes grow alongside electrification, the ability to decouple manufacturing output from emissions will become increasingly important for electronics suppliers.

Responsible supply chains
Sustainability in electronics manufacturing extends beyond factory operations. Global supply chains often involve multiple tiers of suppliers and diverse geographic regions, making responsible sourcing and transparency essential. Increasingly, customers expect suppliers to demonstrate that environmental and social standards are upheld throughout the value chain.

ENNOVI addresses this through supplier engagement programs, sustainability clauses in contracts, and ongoing assessments aligned with global ESG expectations. These initiatives encourage suppliers to adopt responsible practices while strengthening supply-chain resilience.

Engaging people and communities
Operational improvements alone are not enough to drive long-term sustainability. Employee engagement and community participation also play an important role.
Across ENNOVI's global sites, employees participate in initiatives such as World Earth Day activities, tree-planting programs, and local community engagement projects. Creating a culture where sustainability is understood and supported at every level of the organization helps ensure environmental and social priorities remain embedded in operational decision-making.

Transparency and global standards
As sustainability expectations evolve, transparency in reporting is becoming increasingly important. ENNOVI aligns its sustainability disclosures with globally recognized frameworks, including the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), Task Force on Climate-related Financial Disclosures (TCFD), and the Greenhouse Gas (GHG) Protocol. The company also supports broader international initiatives such as the United Nations Global Compact (UNGC) and the UN Sustainable Development Goals (SDGs).

Independent assessments also play an important role in validating ESG performance. ENNOVI has achieved the EcoVadis Platinum rating for five consecutive years, placing it among the top 1% of companies evaluated globally. In addition, the company has received strong Climate Disclosure Project (CDP) scores, including an A rating for Supplier Engagement and B ratings for Climate Change and Water Security.

These benchmarks reflect the increasing importance of credible, data-driven ESG performance within global electronics supply chains.

Building a sustainable electronics ecosystem
Electrification will continue to reshape industries and infrastructure for decades to come. Electronics manufacturers play a central role in enabling this transformation, but their responsibilities extend beyond technological innovation.

Ensuring that electrification delivers lasting environmental and social benefits requires sustainability to be embedded throughout the electronics ecosystem—from product design and manufacturing processes to supply-chain partnerships and governance frameworks.

As expectations continue to evolve, companies that integrate sustainability into engineering, operations, and strategic decision-making will be best positioned to support a more resilient and responsible electronics industry.

About the Author

Nantha Kumar Chandran is the Chief Sustainability Officer at ENNOVI (formerly known as Interplex), a provider of interconnect solutions. He is a seasoned sustainability leader with 30+ years of experience advancing ESG strategy, reducing carbon footprints, and embedding sustainable practices into business operations. He specializes in stakeholder engagement, compliance, and supply chain transformation to deliver long-term value and measurable environmental impact.
He holds a Bachelor's in Chemical Engineering, an MBA, and an Executive Diploma in Board Directorship from Singapore Management University.