

Lenovo Powers Lenovo

Lenovo digitizes ESG data management across the value chain

Steering well-informed strategic decisions with a near-real-time view of the environmental, social, and governance performance of the manufacturing site.



Lenovo

Challenge: Accelerating the Shift to Sustainability



Climate change is one of humanity's biggest threats, and global enterprises are now working closely with governments and regulatory authorities to accelerate the shift to sustainability. Alongside environmental improvements, it is also crucial for businesses to implement healthy social and governance frameworks—helping to promote greater workplace safety, diversity, and inclusion.

Lenovo is committed to achieving Net-Zero emissions by 2050 and our sustainability efforts start with our own manufacturing and supply chain.

Introducing Lenovo ESG Navigator

To help achieve this goal, Lenovo has developed an innovative ESG management system called **Lenovo ESG Navigator** that helps monitor key ESG metrics at the factory site and deliver near-real-time insights on GHG (greenhouse gas) emissions and energy use.



Challenge: Striving for ESG Excellence



Committed to building a sustainable global economy, promoting diversity and inclusion in the workplace, and being a responsible corporate citizen, Lenovo has launched bold targets to improve its performance against key ESG metrics.

In particular, Lenovo is committed to net-zero emissions by 2050 with emission targets validated by the Science Based Targets Initiative (SBTi), an independent climate action group for the private sector.



Rico Liu

Sr. Manager, GSC Global Manufacturing
Lenovo



To help measure our progress toward Net-Zero, our goal is to reduce Scope 1 and Scope 2 greenhouse gas [GHG] emissions by 50% by 2030. For Scope 3 GHG emissions, we are targeting reductions of 25% per tonne-km of transported product in upstream transportation and distribution, reductions of 35% on average from the use of sold products, and reductions of 66.5% per million US\$ gross profit within the same timeframe.”

Challenge: Gathering Fine-Grained Insights



Hundreds of different factors contribute to the overall sustainability of Lenovo's operations. However, measuring the impact of sustainability initiatives at the manufacturing site presented some tough challenges.

Previously, Lenovo used manual processes to track practically all ESG metrics at its manufacturing sites. For example, employees used spreadsheets to track data on everything from energy usage on the factory floor to occupational health and safety, incident reporting, and workplace risk mitigation measures.



Rico Liu

Sr. Manager, GSC Global Manufacturing
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What can be measured, improves—but without the right tools, it's impossible to keep track of all manufacturing-related ESG variables in a company of Lenovo's size. To solve that challenge, we embarked on an ambitious project to digitize our manufacturing site and monitor ESG data points."

Solution: Lenovo powers Lenovo



Working with stakeholders across the business, we created an innovative ESG management platform: **Lenovo ESG Navigator**.

This integrated solution replaces the traditional manual management of ESG metrics with a flexible, transparent, and highly automated approach. It captures data across the value chain—all from a single point of control.

To put these new capabilities to the test, Lenovo deployed the ESG Navigator to support **Lenovo's Tianjin Smart Campus (TJSC)**—our state-of-the-art, AI-accelerated manufacturing facility in China. Using Internet-of-things (IoT) devices, we capture and process **thousands of data points** every hour, offering unprecedented visibility into the facility's environmental performance.



Lenovo ESG Navigator captures data and offers live visibility.



Rico Liu

Sr. Manager, GSC Global Manufacturing
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We need to collect 12 months of data to certify the campus under the Zero Carbon Factory Standardization developed by the China Electronics Standardization Institute [CESI]. Using our new ESG management platform, producing CESI's required reports will be easy.”

Result: Making Data-Driven Decisions



Lenovo now uses the ESG Navigator to capture more than **250,000 data points** across the manufacturing site and deliver dashboard reports for **228 KPIs**. It also helps simulate a 3D model of the facility that showcases all the different data points. So far, we have deployed the platform at two manufacturing sites, including TJSC.



Yujiao Liu

DT Business Process Design Analyst, GSC Smart Manufacturing Lenovo

“Our decision-makers now have access to ESG insights in minutes. Lenovo ESG Navigator has also accelerated reporting ensuring data accuracy, enabling management teams to steer decisions based on up-to-date information about what’s happening on the factory floor.”



Rico Liu

Sr. Manager, GSC Global Manufacturing Lenovo

“The combination of automated data collection at our manufacturing sites and dynamic dashboard reports has significantly reduced the manual work involved in ESG analytics. Using IoT devices to collect environmental data on electricity and water consumption and on indoor air quality data helps eliminate the risk of human error, all of which improves the accuracy of our sustainability reports.”

Result: Innovations at Tianjin Smart Campus



Based on internal testing, we have seen the below-estimated results at our Lenovo Tianjin Smart Campus.

- ✓ Use of clean energy such as solar.
- ✓ More than 32,000 square meters of distributed photovoltaic power generation panels will be laid on top of the three main buildings, with a total annual power generation of about 5 million kWh, which can meet the annual electricity demand of the park exhibition centre.
- ✓ More than 25% energy savings with the help of compressor waste heat recovery systems.
- ✓ Save 5% of fresh water every year through the park's rainwater storage system.
- ✓ Use of reclaimed water is further reducing the site's use of fresh water.



Result: Managing All Aspects of ESG in Manufacturing



For Lenovo, all aspects of ESG are crucial—and Lenovo ESG Navigator has been designed to deliver a near-real-time view of social and governance metrics, too.

For example, the platform enables us to track potential social and governance risks in areas such as occupational health and safety, sanitation, building security, and more, from a single dashboard. Employees can log information on potential risks, helping to ensure that all hazards are assessed and remediated promptly.



To support this objective, Lenovo stakeholders can configure the ESG Navigator to send automated alerts. In addition to reminding managers to investigate potential hazards, alerts can help the company manage recurring ESG-related activities. For example, users can track upcoming health and safety assessments and receive reminders via email as the date approaches.

Result: Delivering Global Impact



Lenovo is now implementing the ESG Navigator and other sustainability initiatives around the world, beginning with our major manufacturing facility in Monterrey, Mexico.



Leandro Sardela

Western Operations Director Manufacturing
Lenovo



We produce a large mixture of products in Mexico, which places complex demands on our manufacturing operations. Using Advanced Production Scheduling [APS] solutions developed by Lenovo, we're dramatically reducing the time taken to create production schedules. By replacing manual scheduling with an intelligent, centralized APS solution, we can orchestrate people, equipment, and materials to balance our production lines and minimize environmental impacts."

Monterrey site results:

- ✓ **47%** more units per person per hour with **22%** smaller teams.
- ✓ **56% to 73%** boost in number of products that pass quality control on first inspection.

Result: Targeting Sustainability Success



As Lenovo races ahead on its journey to net-zero emissions, the company is confident that the management platform, ESG Navigator, will be a key enabler of sustainability success.



JianBiao Yin

Sr. Manager, DT Strategic Business Process Design, GSC
Lenovo

- ✓ +250k ESG data points tracked
- ✓ 3D carbon data visualization of your entire facility
- ✓ 100% energy and environment data monitoring using IoT devices
- ✓ Near-real-time carbon data visibility



Although our global rollout of the ESG management platform is just beginning, we're certain that the solution is going to play an important role in supporting our global business as we move towards the 2050 emissions target."



To find out how your business could draw on Lenovo's experience and leverage solutions like the ESG Navigator to make more data-driven decisions in managing manufacturing footprint, visit Lenovo.com or speak to your Lenovo contact