

Tokyo Electron Unveils Ambitious Vision for the Future

TEL's ambitious business objectives go beyond financial achievements and semiconductor innovation—they also include a commitment to sustainability and a vision for the creation of a prosperous society. *By Bernard Thompson and Antoine Azoulay*



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Toshiki Kawai,
Representative Director,
President and CEO,
Tokyo Electron Ltd.

Semiconductors have transformed modern society, bringing once-dreamed-of technologies into reality in ways that now feel essential to daily life. As the foundation for innovations in everything from smartphones to artificial intelligence (AI)-driven systems, semiconductors are integral to remarkable advancements across a range of industries. At the heart of this transformation is Tokyo Electron Limited (TEL), one of the world's largest and most successful semiconductor equipment makers. Founded in 1963, TEL has become a cornerstone of the global chip supply chain. President and CEO Toshiki Kawai highlights the company's growth: "With a commitment to innovation and talent development, TEL has seen its operating profit increase by more than sevenfold in the last 10 years alone."

Over the years, TEL's contribution to innovations in semiconductor equipment has enabled chips to deliver higher performance and also become smaller, greener and more efficient. These advanced chips are now pivotal across sectors, propelling innovations, like autonomous driving, that have already started in some areas, and Industry 5.0—a blend of AI and human labor. This is what TEL does best—push technological boundaries that enable cutting-edge technologies to reshape how we connect, work and experience the world. As Kawai states, semiconductors' ever-growing impact on human civilization has wide-ranging

industry implications: "Last year, the semiconductor market was valued at \$527 billion, and it is now estimated that by 2030 the market will exceed \$1 trillion in size*."

TEL has eight pillars as its strong products. In the front-end process of semiconductor production, deposition, lithography, etching and cleaning are all highly critical processes. TEL is the only company in the world that can offer products for these four consecutive key processes. Its key product market share in each segment is number one or number two at present. In particular, extreme ultraviolet lithography (EUVL) is a vital technology. TEL's Coater/Developer, which is used for EUVL exposure systems, boasts a 100 percent market share. Also, the company's new focus area is packaging technology to integrate or collect various devices together. Recently, TEL's clients have adapted many of the back-end packaging processes, so the firm focuses on 10 pillars consisting of its existing eight pillars for the front end, in addition to two pillars for the back end.

In the rapidly growing semiconductor market, Kawai cannot find any factors which slow down its growth. "According to Ajit Manocha, the president and CEO of SEMI, it is expected that the semiconductor market will grow to a staggering \$5 trillion valuation by 2050, resulting in a tenfold increase in market size from 2023," Kawai shares. "Up until 2022, it took 75 years to reach \$500 billion growth; now we estimate the market size will double in less than six years. These are very exciting times in which we live**."

A Dedication to Global Progress

Recognizing this, TEL is driving midterm goals through digital technology, decarbonization, ambitious financial and R&D targets, and expanded human capital. As Kawai explains, these underscore the TEL Vision, the company's commitment to being a key player in global progress by advancing and innovating semiconductor technology. "The idea is that the company must utilize its own unique specialties to realize shared common values," he argues. "Our vision is to be a company filled with dreams and vitality that contributes to technological innovation in semiconductors."

TEL's Digital x Green concept, a plan to synergize digitalization and decarbonization, is a key part of this. Kawai explains that the aim is to reduce environmental impact through semiconductor innovation. "To build a strong and resilient society that sustains economic activity in any situation, the

world is adopting digitization and decarbonization," Kawai says. "By using the power of digital technologies, we can improve efficiency in various fields and achieve decarbonization. Digital x Green is essential in today's world."

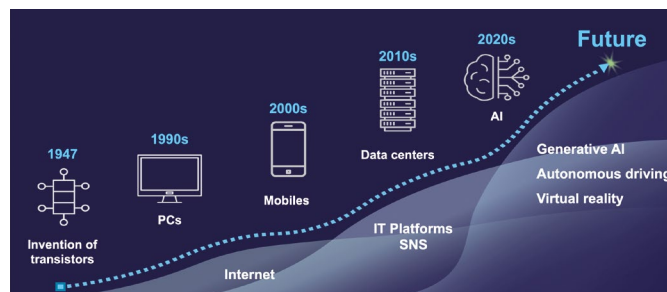
TEL's Growth Blueprint

As part of its midterm plan, TEL is dedicated to advancing semiconductor technologies and building up its portfolio of intellectual property, which already has 23,000 wafer-fabrication-equipment (WFE) patents, the largest in the world. Kawai underscores the essentials: "There are a number of factors required to accelerate innovation in semiconductor technologies," he begins. "Number one is high speed, number two is larger capacities, number three is superior reliability and number four is lower power consumption." To support this, the company has earmarked more than 1.5 trillion yen for R&D and 700 billion yen for capital expenditures for five years starting in fiscal year 2025.

Driven by Kawai's strong leadership, TEL is in good stead to reach its ambitious financial targets: 3 trillion yen or more in sales, an operating margin exceeding 35 percent and a return on equity (ROE) of over 30 percent by March 2027. Kawai emphasizes the magnitude of these objectives: "On the Prime Market of the Tokyo Stock Exchange, about 1,600 companies are listed. Only about eight generate operating profits over 1 trillion yen. In fact, on this stock exchange, there isn't a single company with an operating margin of 35 percent or more." His goal: to make TEL the first.

The Foundation of TEL—its Employees

To reach its ambitious targets, TEL recognizes that aggressively expanding its human capital will be essential. Over the next five years, the company plans to recruit 10,000 workers on top of



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TEL contributes to semiconductor innovation every day

Employees are the company's source of creating value

its current total of more than 18,000 employees. As Kawai notes, simply meeting this recruitment target will not be enough to achieve the financial goals. The culture is just as important: "The value of our employees becomes our corporate culture, so we want to hire people who share the belief that their work is contributing to society. This is the identity of our company."

To advance its goals, TEL has introduced the 3G initiative—Global, Generation and Gender—at the core of its diversity, equity and inclusion (DE&I)

strategy. Kawai says that this plan, focused on engaging global generations while promoting gender equality, fosters pride and a shared purpose across the workforce: "The important thing is that employees feel inspired by their work because they are contributing to society by enriching our lives."

This reinforces the motivation-driven and transparency-first culture prevalent at TEL—a pillar of Kawai's leadership. His hands-on approach includes visiting TEL group sites to engage with employees, listening

to their voices and exchanging conversations and ideas. "TEL has grown very smoothly," he says, "but the growth of our company should not be limited by my own personal ability. Therefore, meetings with employees are opportunities for me to learn."

A Vision for Tomorrow

Drawing on its legacy of pushing the boundaries of innovation, TEL is poised to drive a new era in semiconductors. Guided by Kawai's visionary leadership and a workforce dedicated to

a future-ready mission, TEL embodies its unique vision of being "a company filled with dreams and vitality that contributes to technological innovation in semiconductors." It is a vision brought about by a sense of togetherness, of individuals contributing to a bigger picture; of employees, clients and shareholders cooperating to achieve a greater aim: the advancement of society through innovation in semiconductor technology.

* Source: CY23, WSTS

** Source: IBS, August 2024

Technology Enabling Life

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