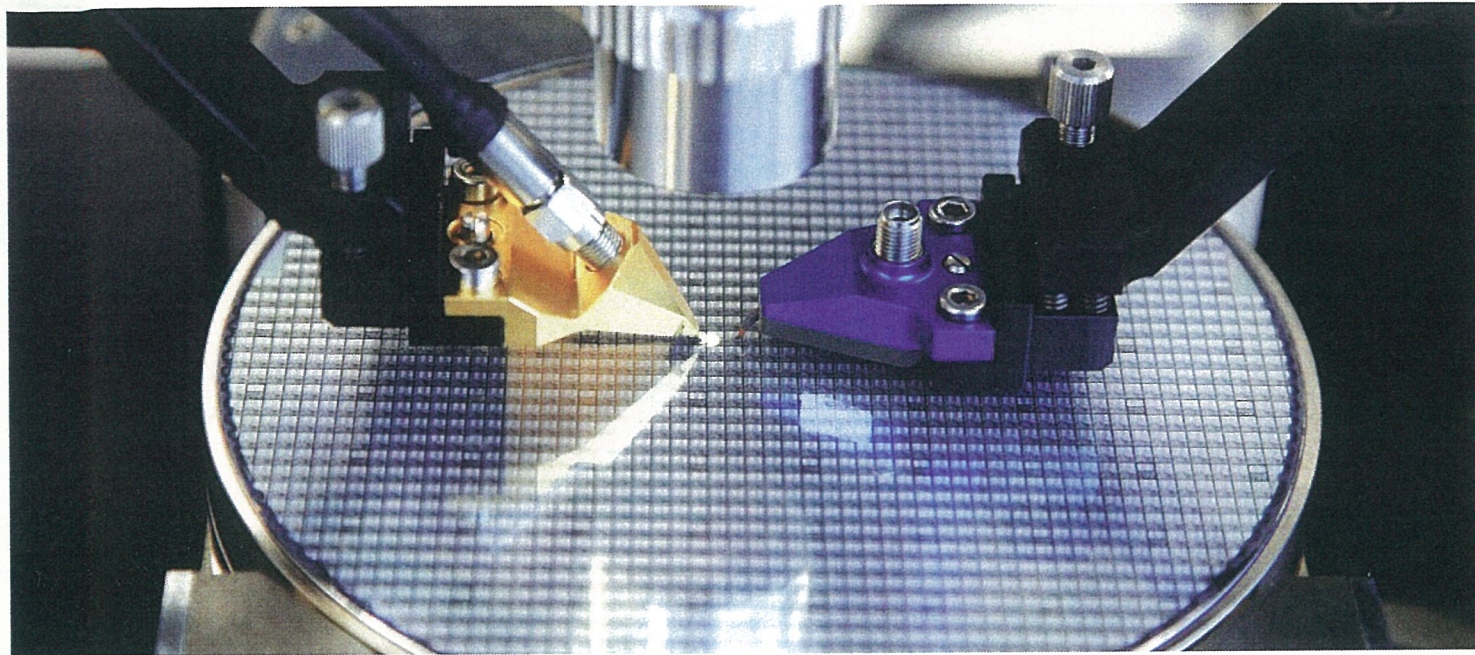


# Semiconductor Review



## TOP 10 SILICON WAFER MANUFACTURERS IN APAC - 2024

### — Gokin Solar gokinsolar.com

Gokin Solar specializes in photovoltaic green energy, encompassing R&D, manufacturing, and sales within the photovoltaic industry. Its key products include large-size monocrystalline silicon rods, silicon wafers, and high-efficiency photovoltaic modules, focusing on the entire industry chain from silicon rods to finished modules.

### — Siltronic siltronic.com

Positioned as one of the world's leading manufacturers of silicon wafers with diameters up to 300 mm, Siltronic partners with many preeminent chip manufacturers and companies in the semiconductor industry. Their strategy is rigorously based on long-term success, efficiency, and the achievement of quality and growth goals.

### — HIGHLY Technology Inc. highly.com.tw

HIGHLY Technology Inc. specializes in the research, development, and production of semiconductor materials. The company focuses on producing high-quality semiconductors and polished silicon wafers, characterized by meticulous process control and management. Their commitment to excellence ensures the delivery of superior products to meet industry standards.

### — Sumco Corporation sumcosi.com

Sumco Corporation produces and sells silicon wafers for the semiconductor industry globally, including Japan, the US, China, Taiwan, and Korea. It offers a range of products such as monocrystalline ingots, polished, annealed, epitaxial, junction isolated, silicon-on-insulator, and reclaimed polished wafers.

### — LDK Solar Technology Group saiweisolar.com

LDK Solar Technology Group (hereinafter referred to as "LDK") is a national high-tech enterprise focusing on silicon purification, silicon ingots, silicon wafers, battery research and development, production, sales and power station construction and operation, and a national intellectual property demonstration enterprise.

### — USJC usjpc.com

USJC, a leading foundry manufacturer, operates a major 300mm semiconductor wafer factory in Japan, producing around 35,000 wafers monthly. The facility is equipped for large-scale disasters with a hybrid seismic isolation building, lithium-ion capacitor backup power, and an LNG satellite base, ensuring cutting-edge technology provision worldwide.

### — Umesato Electronics umesato-electronic.co.jp

Umesato Electronics is a leading producer of high-quality silicon wafers for the semiconductor industry. The company's core strengths lie in its specialized production capabilities, commitment to quality, and efficient production management system, enabling it to deliver tailored solutions and exceptional value to its clients.

### — Ferrotec ferrotec-global.com

Ferrotec is a diversified technology company with a global presence in various industries. It specializes in advanced material, component, system, and manufacturing solutions that enhance product performance and reliability. The company's core businesses span areas such as ferrofluidic seals, E-beam components, machinable ceramics, and thermoelectrics.

### — SEIREN KST CORPORATION kst.seiren.com

SEIREN KST plays a crucial role in the global semiconductor supply chain, supporting the semiconductor ecosystem with high-quality silicon wafers and thin films required in chip manufacturing processes and various optical applications.

### — Okmetic okmetic.com

Okmetic, established in 1985, is an essential link in the value chain of the semiconductor industry and the entire electronics industry. It supplies advanced, customized silicon wafers for the production of micro-electromechanical systems (MEMS), sensors, radio frequency filters, and devices as well as power devices.



# Certificate



## The Journey of Silicon Wafers from R&D to Mass Production

Established through the strategic acquisition of KST World Corporation by SEIREN in 2019, SEIREN KST has emerged as an indispensable contributor to the global semiconductor supply chain. Headquartered in Fukui Prefecture, with a sales office in Tokyo, the firm provides high-quality silicon wafers and thin films, essential components for chip manufacturing processes and various optical applications.

"We guarantee excellence, reliability, and precision in every wafer, empowering top device manufacturers to pioneer modern, high-performance technologies," asserts Yojiro Kamei, president and CEO of SEIREN KST.

The company has a diverse product portfolio tailored to meet research and development (R&D) and mass production needs, featuring films ranging from four to twelve inches. Among its flagship products are thick thermal oxide, silicon-on-insulator (SOI) and silicon carbide (SiC) ingot/wafers.

The SiC wafers are crucial for applications requiring high breakdown voltages, especially in electric vehicle (EV) powertrains where reliability and performance are paramount. SEIREN KST has also established a supply chain for these SiC with industry leaders.

SiO<sub>2</sub>-based films, on the other hand, have a wide range of applications in the silicon photonics market, particularly for creating the underclad layer of silicon photonics devices. These films remain remarkably particle-free and stress-free up to 25 µm, serving as ideal base wafers for various devices.

SEIREN KST's expertise further extends to its SOI, which are ideal for high-tech applications like LiDAR systems, pressure sensors, MEMS



Yojiro Kamei,  
President and CEO

mirrors, and gyroscopes. Renowned for their versatility, these components are preferred by companies to meet diverse technological requirements.

A key differentiator for SEIREN KST is its ability to meet specific customer specifications. The company caters to academic markets and startups, accepting orders of small quantities with varied requirements. This flexibility fosters long-term relationships, with clients frequently returning for mass production orders. It also prioritizes quick turnaround times, adapting to the fast-paced development cycles of its customers, ensuring SEIREN KST remains a trusted partner in the semiconductor industry.

One notable success story involves a Japanese communication company facing issues with optical fiber communication devices due to the limitations of the existing oxide films. SEIREN KST's particle-free and stress-free thick thermal oxide films proved vital, allowing the client to achieve large-scale production for the first time while considerably improving product quality and market share.

Today, SEIREN KST holds over 50 percent of the market share in this sector. It stands on the trajectory of expansion

and innovation, with a five-year project underway to acquire new fabrication facilities and invest in high-quality equipment like grinding machines. This initiative aims to meet the growing demand for its thick thermal oxide films and SOI wafers. The firm is also exploring new materials, such as gallium nitride (GaN) and silicon oxide on SiC, to diversify its offerings and stay ahead of technological advancements.

Geographically, SEIREN KST is focused on expanding its market presence overseas, as one-third of its current revenue comes from international clients. To achieve further growth in this aspect, the company actively participates in global exhibitions and seeks partnerships to enhance its distribution network and revenue streams, ensuring it remains competitive and continues to expand its global footprint.

**"We guarantee excellence, reliability, and precision in every wafer, empowering top device manufacturers to pioneer modern, high-performance technologies"**

SEIREN KST's dedication to quality, cost-effectiveness, delivery, and technological advancement positions it as a leader in the semiconductor industry. The company continuously invests in research and development to innovate and enhance its product offerings. As SEIREN KST progresses, its focus on supporting the semiconductor supply chain with advanced solutions remains steadfast, ensuring its continued prominence within the industry and its capability to thrive in the years ahead. 



## SEIREN KST CORPORATION

*This award is in recognition of SEIREN KST CORPORATION's stellar reputation and trust among customers and industry peers, evident in the numerous nominations we received from our subscribers. SEIREN KST CORPORATION emerged as a Top Company after an exhaustive evaluation by an expert panel of C-level executives, industry thought leaders, and our editorial board.*

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