



FROM WATER TO SUNLIGHT – HAITIAN GROUP’S JOURNEY TOWARD A BRIGHTER, SUSTAINABLE WORLD



Haitian Group owns and operates the ex-Heraeus PV silver-paste business in Shanghai and Singapore; the Shanghai site was built for ~3,000 t/yr and serves as the primary manufacturing/R&D base now under Haitian Group.

In a landmark move that has reshaped the global photovoltaic materials landscape, Haitian Water Group Co., Ltd.-a name long synonymous with advanced water treatment and environmental solutions-has made a powerful entry into the solar technology sector. Through its newly established division, Haitian Group, the company has taken over one of the most respected silver paste portfolios in the world: the photovoltaic metallization business of Heraeus, Germany’s pioneering solar materials specialist.

The acquisition, valued at approximately CNY 502 million (USD 68.5 million) and completed in May 2025, included Heraeus’s entities in Shanghai and Singapore, effectively transferring world-class R&D, production facilities, patents, and customer relationships to the Haitian fold. This strategic step marks Haitian’s evolution from an environmental engineering company into a global player in advanced renewable materials-and signals its intent to anchor itself firmly in the high-growth solar ecosystem.

A Legacy of Excellence, Reimagined

For over a decade, Heraeus Photovoltaics stood as an innovation leader in conductive silver pastes used for solar-cell front contacts and busbars. Its SOL

series-recognized globally for precision, consistency, and high conversion efficiency-has powered solar cell production across PERC, TOPCon, and HJT technologies.

By inheriting this legacy, Haitian Group gains not only a technological edge but also a legacy of trust built with the world’s top solar manufacturers. With operations in Shanghai and Singapore, the business boasts an estimated annual production capacity of 3,000 tonnes of solar pastes, supported by sophisticated R&D and application laboratories.

Today, under Haitian’s stewardship, the former Heraeus portfolio is being re-energized-combining German innovation, Asian scalability, and Chinese manufacturing excellence. This integration gives Haitian Group the scale and agility needed to serve the evolving demands of the n-type PV era, where ultra-fine printing, low silver consumption, and high reliability are critical success factors.

Technology that Defines the Future

At the heart of Haitian Group’s success lies a robust suite of next-generation metallization technologies, designed to match the speed of change in the solar cell landscape:

- **Fine-Line Screen Printing:** Achieving ultra-narrow fingers (<20 μm) with stable rheology for high-yield, high-speed lines.
- **TOPCon-Compatible Pastes:** Engineered for contact with poly-Si/tunnel oxide structures, offering low contact resistivity and superior adhesion.

- Low-Temperature Ag Pastes for HJT: Advanced formulations that cure at ~200°C, safeguarding TCO layers while ensuring excellent conductivity and reliability.
- Ag-AI and Back-Side Pastes: Optimized for robust interconnection, solderability, and long-term performance under stress conditions.

The integration of Heraeus’s IP portfolio—historically exceeding 300 patents—into Haitian’s R&D framework further strengthens its ability to innovate for upcoming PV technologies, including perovskite tandem and hybrid cell architectures.

A Global Footprint with Asian Agility

From its Shanghai headquarters, Haitian Group now oversees end-to-end operations, from formulation to customer application support. The Singapore hub acts as a vital bridge to Southeast Asia and India—two of the fastest-growing solar markets. Together, these centers position Haitian Group as a global supplier with regional responsiveness, capable of offering just-in-time deliveries, technical consultation, and product customization.

Looking Ahead

For Haitian Water Group, this acquisition is more than diversification—it is a declaration of intent. The company envisions Haitian Group as a pillar of its new-energy materials division, targeting global leadership in solar metallization within the next five years.

As the world’s energy transition accelerates, Haitian Group stands at the crossroads of science, sustainability, and scale—ready to empower the next generation of solar technology with materials that make sunlight work smarter, faster, and cleaner.

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The company’s clients include some of the world’s largest cell and module manufacturers, many of whom have already qualified its pastes for n-type TOPCon and heterojunction (HJT) mass production lines.

Driving the Transition to a Sustainable Future

As the photovoltaic industry races toward higher efficiencies and lower costs, silver paste remains one of the most critical materials determining cell performance and manufacturing economics. Haitian Group’s entry comes at a pivotal moment—when the global market is undergoing consolidation and a technological shift from PERC to n-type architectures.

By merging Heraeus’s proven science with its own production excellence, Haitian Group is poised to redefine the economics of solar metallization. Its products promise not only higher energy yields but also silver-thrifty formulations, aligning with the industry’s sustainability and resource-efficiency goals.

