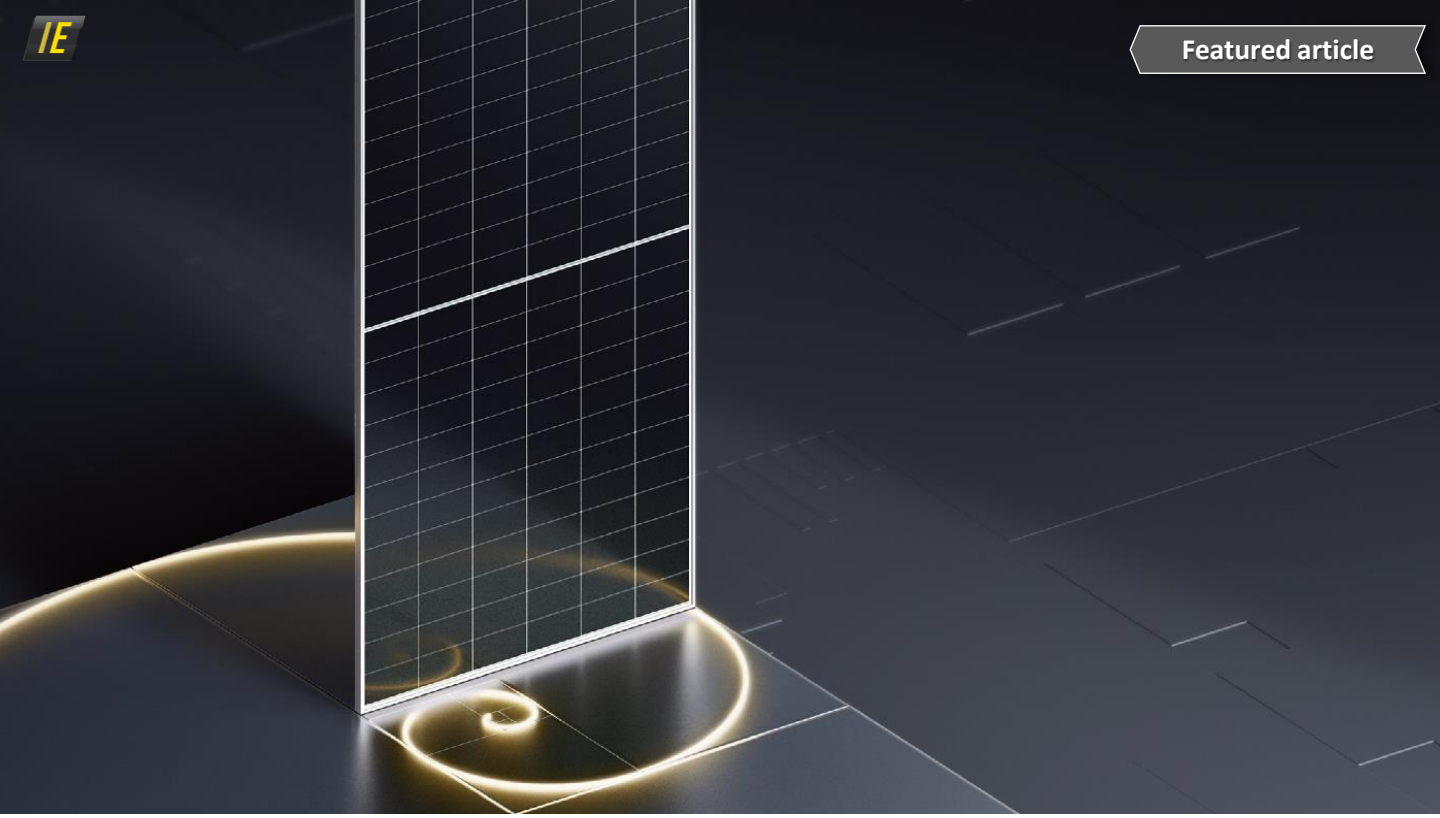


Article by LONGi

The reasons why Back Contact sets the path for the future of Photovoltaics

Underlying LONGi's technological leadership in the solar sector is the company's long-term focus on **efficiency**, **innovation**, and **sustainability**. LONGi's strategic emphasis on back contact (BC) technology as the future of crystalline silicon PV is driven by its great potential for maximizing efficiency. The theoretical efficiency limit for crystalline silicon PV is driven by its **great potential for maximizing efficiency**. The theoretical efficiency limit for crystalline silicon solar cells is 29%, and the LONGi Hi-MO 9 solar module has already achieved 26.5%.

Back contact offers wide range of advantages over previous technologies

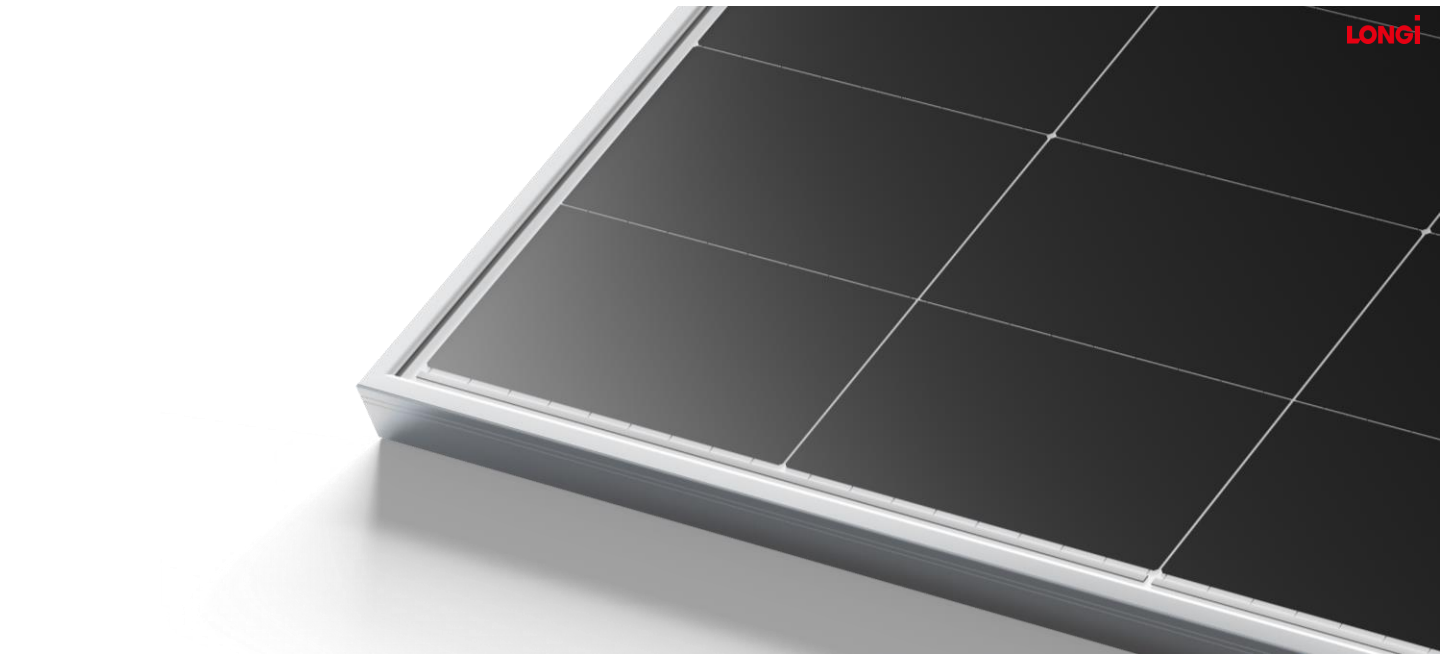
Compared to TOPCon, BC offers **higher efficiency**, **enhanced reliability**, **increased power generation**, **lower temperature co-efficiency**, **reduced operating temperatures**, **lower annual degradation rates**, **superior low-light performance**, and an **advanced Incidence Angle Modifier (IAM).**

With such proven strengths, **LONGi believes that BC represents the future of solar technology.**

LONGi prepares to meet future demand

In terms of production capacity, LONGi is scaling rapidly to meet the increasing global demand for Hi-MO 9 modules. The manufacturer anticipates **significant growth** through the widespread adoption of back contact technology by 2025.

As demand for high-efficiency solar modules increases, this technology will become more prevalent due to its ability to **boost energy output and improve system performance**. This could mean that BC technology is integrated across all installation segments, beyond utility to residential, commercial and industrial projects, driven by the push for **higher energy yields and reduced costs per watt**.



State of the art module design delivers efficiency increases on several fronts

Hybrid Passivated Back Contact (HPBC) technology is a state-of-the-art technique that integrates **back contact with hybrid passivation methods**. The back contact design facilitates a **busbar-free front surface**, thereby reducing shading effects and enhancing module efficiency. It also mitigates ribbon stress, which in turn improves the product's reliability.

On the rear side of the cell, the hybrid passivated back contact structure significantly **decreases metal recombination and contact resistance**. This design brings the cell's structure much closer to achieving the theoretically calculated efficiency, in industrial terms. Hybrid passivation, moreover, enhances the cell's conversion efficiency.

Hi-MO 9 module series brings together benefits of new tech

The result of this innovation for the Hi-MO 9 is **outstanding efficiency**.

With BC technology, the module achieves **conversion efficiencies of over 24,4%**, making it one of the highest-efficiency modules in the industry.

This is crucial for **maximizing energy output**, especially in areas where installation space is limited, and for utility-scale projects that demand the highest energy yields from every square meter.

The conversion efficiency has **improved by 5%** over similar technologies.

With **higher power output** and **lower installation costs** for PV stations, this makes it particularly appealing for utility-scale projects where maximizing energy yield is critical.

Another unique feature of the Hi-MO 9 is its **enhanced low-light performance** and **temperature coefficient**. Due to its innovative design, the module maintains excellent performance even in low-irradiance environments, such as cloudy or early-morning conditions, ensuring more consistent energy production throughout the day.

Its temperature coefficient is also optimized to **reduce efficiency losses** in high-temperature environments, making it suitable for a wide range of climates and geographies.