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Advanced Solar Cells: Entering the bifacial n-type era: technology and production landscape

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The photovoltaic (PV) industry is poised for significant expansion as we enter the bifacial n-type era, anticipating a continuing exponential growth trajectory. By 2027, the global PV market is expected to achieve an annual installation rate of one terawatt (TW), underscoring the sector's accelerating momentum. Central to this surge is the adoption of bifacial n-type technology, which offers superior efficiency and durability compared to traditional p-type PV cells. This technological shift is set to revolutionize solar energy production, enabling more effective harnessing of solar power from both sides of the panel. Manufacturing will be geographically diversified, with significant production capacities emerging in China, India, the United States, the European Union, Latin America (LATAM), and the Middle East and North Africa (MENA) regions. This global distribution of production facilities will enhance supply chain resilience and foster regional expertise. Additionally, localized manufacturing is expected to stimulate economic growth and job creation in these regions. As bifacial n-type technology becomes the industry standard, it will drive down costs and improve the overall sustainability of solar power. Consequently, the PV industry's transition to this advanced technology marks a pivotal step towards a more sustainable and energy-independent future.

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