



Shifting paradigms in solar technology

In an era where major players are vying for supremacy with ever-new technological solutions, one company is beginning to stand out with a new module that boasts 29% efficiency. We are talking about Tenka Solar. With European headquarters nestled in the innovation hub of Munich, Germany, this company is not just participating in the renewable energy industry; it is propelling it forward.



Born with a vision to harness the sun's power more efficiently, this global solar energy firm has transcended traditional market boundaries, evolving from a new entrant to a dominant force that challenges and surpasses established industry giants.

Initially focused on the Asian market, with extensive operations across China, India, and Bangladesh, the company has, over the years, expanded its reach to embody a truly global presence. This expansion is evidenced by its impressive production capacity of over 20 gigawatts peak worldwide, distributed across three factories in China and one in Europe, specifically in Italy.

With over 15 years of experience in manufacturing high-efficiency solar modules, the company has steadily cultivated a reputation for excellence and innovation. Its transition into the European market began earnestly in 2021, with a

strategic focus on markets like Italy, Spain, and Germany. This was closely followed by an ambitious move into the South American market in 2022. Additionally, activities to penetrate the North American market commenced this year, with plans to fully establish operations by the end of 2024.

Three core technologies

At the heart of the company's groundbreaking achievements in the renewable energy sector are three pivotal technologies: Orion, PrismaX®, and Ultimate.

Orion

Orion technology, a linchpin in tenka Solar's product lineup, is characterised by its innovative nanometric coating. This allows it to work homogeneously with the entire range of visible light, enabling higher absorption than standard panels.

The result of a discovery by our researchers, this coating is composed of thousands of small prisms whose characteristics allow the photon flow to be ordered, guaranteeing a superior capacity to convert the sun's rays into usable energy; a unique process that brings several important benefits.

The solar panel therefore not only achieves higher efficiency, up to 23,8% module efficiency, but also maintains this performance over time with minimal deterioration.

All panels in the Orion range guarantee a minimum deterioration curve and therefore the maintenance over time of continuous performance of over 90% for the first 15 years and 80% for the next 15.

The high quality of the panels is ensured by the timely, accurate and consistent control of the standards applied to the production cycle, which begins with a meticulous search



for raw materials and ends with a thorough examination of all process steps.

Ultimate

Orion Ultimate embodies the zenith of tenka Solar's engineering, merging high-efficiency solar technology with sophisticated design aesthetics by relocating all metallic contacts to the backside of the module, it enhances light collection and reduces losses due to shading. This solution not only increases the efficiency up to 24.3% but also offers up to 20% more power output on the same surface area, simultaneously reducing construction costs by up to 20%.

Orion Ultimate panels are particularly suited for projects where aesthetic value and high efficiency are paramount, featuring a sleek deep black design that complements any architectural style. These panels are also engineered to reduce the risk of micro cracks, ensuring longevity and consistent performance.

PrismaX®

PrismaX® is truly a game changer in the solar industry, introducing tandem technology on a mass production level for the first time. This technology combines extending operational times by 30% and capturing more energy from dawn until dusk silicon solar cells with an additional organic layer to push module efficiency to an unprecedented 29%.

With this solar panel, an extra organic layer is placed under the silicon layer based on tandem technology. The silicon layer reveals narrow gaps between the solar cell strings, allowing the organic layer and thus the entire PV module to be activated, even in situations with little sunlight. The design allows the panel to operate effectively even in low light.

The solar panels stand out by starting their energy capture earlier and finishing later than

traditional panels, leveraging every possible hour of sunlight. This unique capability enables them to produce 30% more energy, even from indirect sunlight, enhancing efficiency significantly.

Furthermore, PrismaX® technology ensures cells operate more efficiently thanks to an innovative organic layer and sophisticated software. This combination prevents excessive heating and significantly reduces



cell degradation over time, marking it as a leading solution in solar energy sustainability and longevity.

The introduction of tandem technology demonstrates Tenka Solar's commitment to pioneering research aimed at maximising power output to truly transcend the limitations of the current market.

Commitment to research and development

The dedication to leading the solar industry is further demonstrated by its substantial investments in research and development.

With its own labs, as well as collaborations with labs in China and Toronto, Canada, the company has positioned itself at the forefront of solar technology innovation. These efforts have yielded significant advancements, such as the phase-out of PERC technology in favor of more efficient alternatives like the Orion N-Type TOPCon and Retro-Contact technologies.

Future vision and market strategy

Looking forward, the company's strategic initiatives are focused on further expanding

their market reach and enhancing the accessibility of their high-efficiency solar solutions. With the ongoing expansion into the North American and continued penetration into European and South American markets, the company aims to solidify its position as a leader in the global renewable energy sector. This includes nurturing strategic partnerships and continuing to innovate in ways that reduce production costs and increase the efficiency of solar energy systems.

The company also places a high value on direct relationships with its customers, ensuring that they receive personalised service and support no matter where they are in the world. This customer-centric approach is part of the company's broader mission to not only sell solar panels but also to foster a sustainable energy future for all.

To conclude, let us quote some of the statements made by Alessandro Giaquinta, CEO of Tenka Solar, during a recent interview. In his remarks, the CEO reflects on the company's transformative journey and its ambitions for the future of the energy sector.

'We've made a deliberate choice to radically alter the market landscape with the introduction of our new solar panel and its unprecedented efficiency. We are propelling the solar power into a new era and we invite everyone to join us: together, we are not just witnessing a change; we are the change.'

By embodying innovation and sustainability in every facet of its operations, the company not only aims to lead the charge towards a cleaner energy future but also ensures that its products offer superior performance and reliability. With a strong foundation in advanced technology and a clear vision for the future, the company continues to shape the landscape of renewable energy on a global scale.

www.tenkasolar.com

tenka Solar at Intersolar E

If you are eager to learn more about PrismaX and its revolutionary efficiency, do not miss the opportunity to engage with our technicians during the Intersolar E fair.

Visit us at the Munich Trade Fair from June 19th to 21st, 2024, at Pavilion A3, Stand 420.

During this event we will be collecting initial pre-orders, while the production of the panels will commence in the last quarter of the year.

