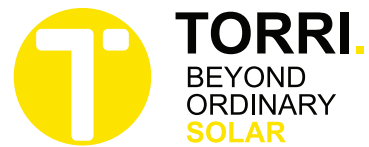




TORRI.
BEYOND
ORDINARY
SOLAR

TORRI. BEYOND ORDINARY SOLAR is a brand of FIER S.p.A.,
owned by the Torri family.

The company operates through an integrated certified management system: ISO
9001:2015, ISO 14001:2015, ISO 45001:2018 and Factory Inspection.



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The Group.

Over 65 years of family business history and investments in the industrial and manufacturing world. The Torri family has been operating manufacturing facilities in Italy since 1977 and collaborates with global supply chains.

Fier S.p.A. is a cutting-edge manufacturer of photovoltaic panels, distinguished by its unique design and innovative technologies. A key player in the premium segment of the photovoltaic industry, with twenty years of know-how and experience in photovoltaic panel assembly.

Results inspired by values that have always shaped every investment, technology and product:

- **Longevity and safety.** Values to uphold in order to consolidate personal and societal assets
- **Innovation.** Developing technologies capable of enhancing product characteristics
- **Design.** Combining aesthetics and performance



Polo Tecnologico, Brescia, Italy



Our main Business Units:



Foundry. Since 1977

Designs and manufactures die-cast aluminium components, complete with mechanical machining and surface finishing. Serving a wide range of industrial sectors and developing bespoke projects based on customer specifications. Made in Italy.



Photovoltaics. Since 2007

Designs, manufactures and distributes premium-grade photovoltaic panels and complete photovoltaic systems including inverters, storage systems and charging stations.



It is a story of hard work and sacrifice, of courageous choices and unwritten rules handed down through three generations.

But it is also the most important meeting point between us and the market.



Michele Torri - Founder & CEO of Torri Solare

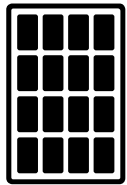


Beyond Ordinary.

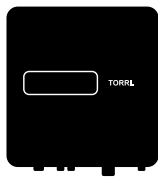
Going beyond the ordinary is a way of life, a daily mindset. It is the search for models that challenge the status quo, replacing it with other shared values.

OUR PRODUCTS

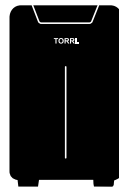
Under the TORRI brand we design and manufacture over 50 models of:



Photovoltaic
Panels



Inverters



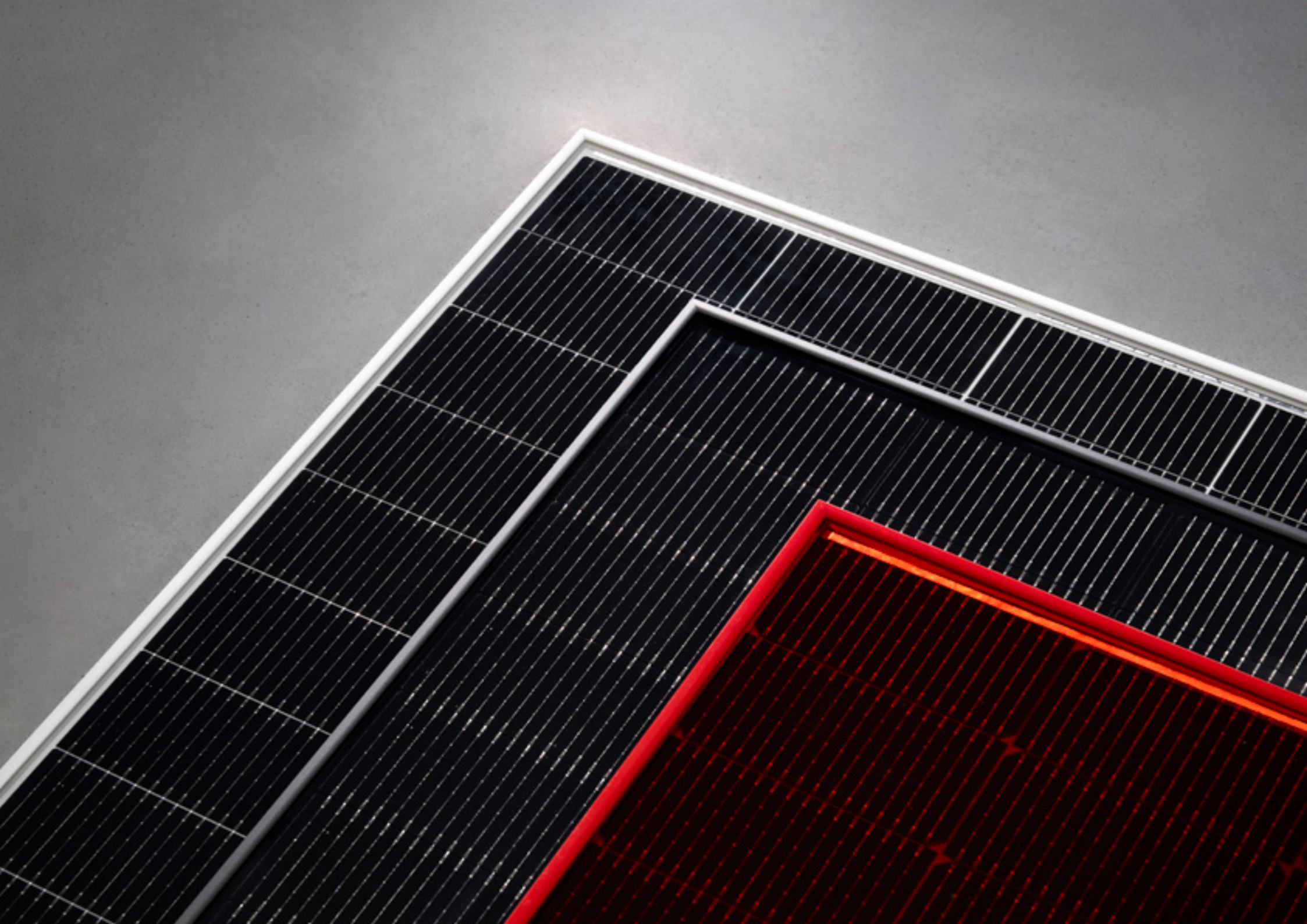
Battery Storage
Systems



EV Charging
Stations



Mounting
Systems



Stronger Than Time.

Tremendous energy and ambition to 'go beyond', through choices that generate long-term value.

20 Years

of production experience in the industry.

1 Million

photovoltaic panels manufactured.

70 Million

photovoltaic cells soldered.



2007 - Italy's first photovoltaic panel factory.

Torri Solare was founded, among the first photovoltaic panel manufacturers in Europe. The first facility, with a capacity of approximately 20 MWp, was established alongside the family's historical business.



2012 - The first patent: DIAMANTE technology recognised as innovative by the GSE.

Investments in research and development opened the door to new patented and innovative integrated products. DIAMANTE technology quickly became the best-selling line.

2016 - 'Artisans of photovoltaics' and the post-Feed-in Tariff era.

The claim 'Artigiani del fotovoltaico' (Artisans of Photovoltaics) was introduced for the first time, to directly express the strong roots with the territory and to create a unique values-based positioning during a period of significant market contraction.



2021 - The new Technology Hub in Brescia.

Dal 2021 l'azienda ha bonificato e riquilificato un lotto industriale a Brescia, da circa 10.000 mq, costruito negli anni '70 e trasformato nel polo tecnologico dove sono concentrate le attività del gruppo. All'interno dell'area avviene la produzione e la sperimentazione dei nuovi prodotti e delle nuove tecnologie.

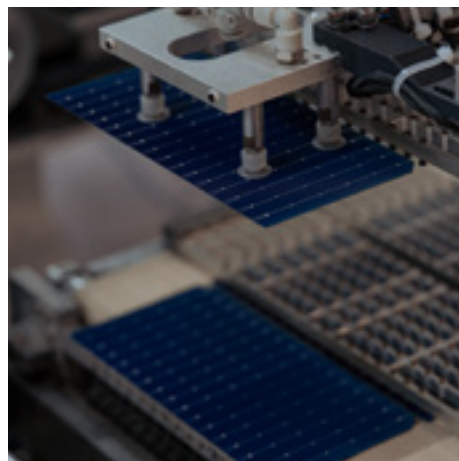


2022 - TORRI at Dubai Expo 2020.

The Italian Trade Agency (ITA) and the Ministry of Foreign Affairs and International Cooperation selected the company to represent Italian enterprises investing in technology and sustainability in Italy.

2024 - The future is Beyond Ordinary.

The new production line completed the investment cycle in Italy: the company is a sector leader in the premium segment with a new claim, 'BEYOND ORDINARY SOLAR'. In the same year, the network of partner installers was launched: Beyond Solar Partner became Italy's largest specialised photovoltaic community within just a few months.



2025 - X-CORE² Technology sets new product standards.

The new patented X-CORE² technology was unveiled at the Museo Mille Miglia in Brescia to an audience of over 150 partner installers.

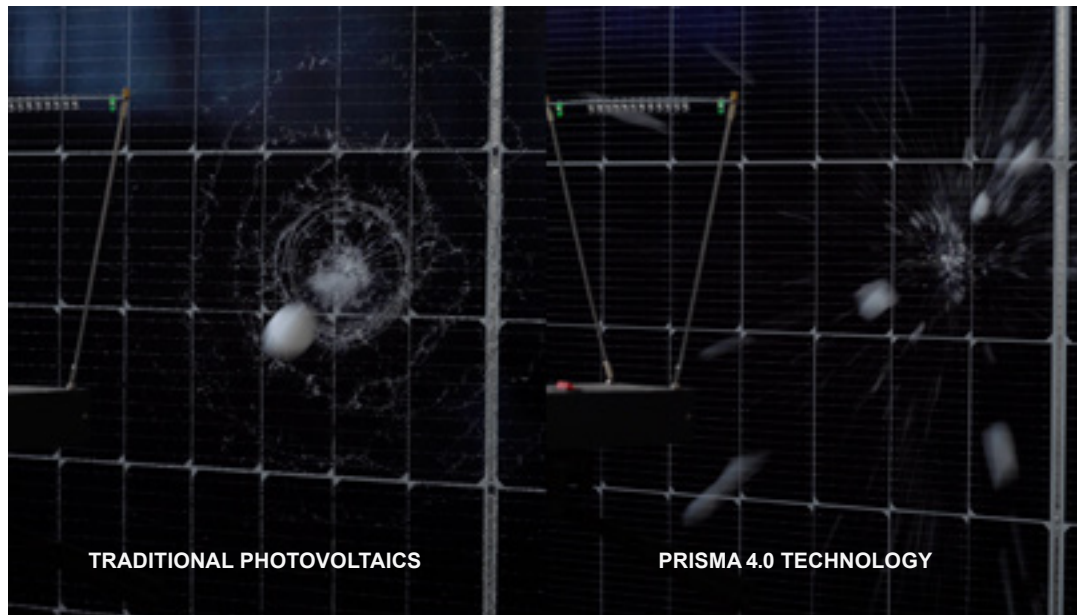


TORRI.
BEYOND
ORDINARY
SOLAR

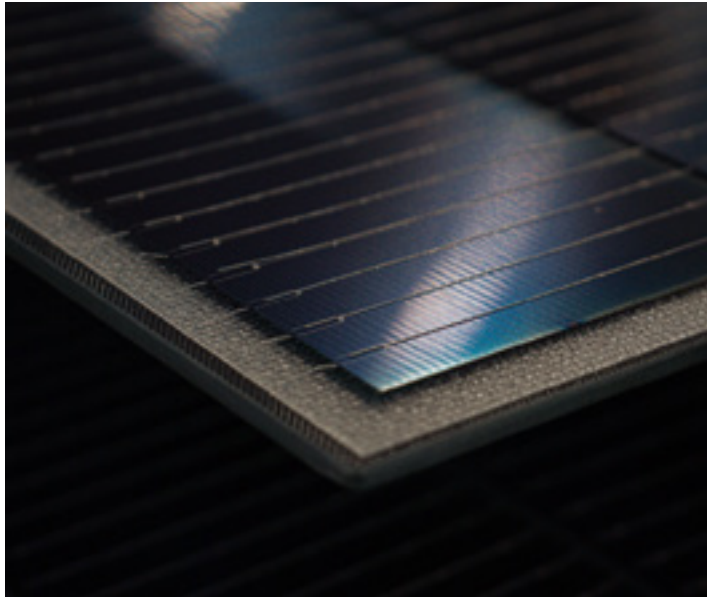


Buy for Life, not for Now.

What we create carries our intention, our care, our identity.
Choosing products with a soul is an act of inner harmony.



*Watch the video
to learn more*



A unique construction model

We manufacture photovoltaic panels that are truly one of a kind, designed to be the alternative that rises above market standards. From the construction model to the industrial design of the products - beyond the limits of imposed homologation.

Maximum circuit protection

We pursue the highest possible protection of the conductive circuit from external factors. Fewer external factors mean greater operating stability over time and a guaranteed return on investment. Our technologies ensure maximum protection even against accidental events during installation and maintenance operations.



UNIVERSITÀ
DEGLI STUDI
DI BRESCIA

UNIVERSITÀ DEGLI STUDI DI BRESCIA
DIPARTIMENTO DI INGEGNERIA MECCANICA E INDUSTRIALE

5 CONCLUSIONI

Il presente report ha documentato l'attività svolta nell'ambito dei test di resistenza strutturale su pannelli fotovoltaici, finalizzata alla valutazione delle prestazioni dei moduli sotto carichi meccanici statici e impatti simulati di grandine, utilizzando la normativa CEI EN IEC 61215:2021 come riferimento principale. L'attività ha riguardato non solo lo svolgimento dei test sopra menzionati ma anche dello sviluppo delle metodologie di prova e del setup sperimentale.

I risultati ottenuti hanno dimostrato che i pannelli fotovoltaici testati possiedono un'ottima resistenza ai carichi meccanici statici e agli impatti simulati di grandine superando abbondantemente i valori minimi prescritti dalla normativa IEC in questione. I test di carico statico superano di 3 volte gli standard previsti dalla normativa, con una resistenza del SILVERED 4.0 che è pari ad almeno 750 kg/m². Per i test grandine superiamo di oltre 8 volte gli standard previsti dalla normativa in termini di energia cinetica, in termini di paragone rispetto al vetro da 3,2 mm, che si rompe in quasi il 90% dei casi all'impatto di una sfera da Ø 45mm sparata ad almeno 30,7 m/s, il vetro da 4 mm ha resistito più volte a colpi ripetuti senza riportare danneggiamenti.

In particolare, per i test grandine, si è evidenziata l'importanza del processo di creazione delle sfere di ghiaccio per garantire risultati di test coerenti e ripetibili. Sebbene l'introduzione di PVA come additivo abbia migliorato la tenacità delle sfere di ghiaccio, rendendo più realistici gli scenari di test, sono emerse difficoltà relative alla ripetibilità e all'isotropia del materiale. Questo aspetto sottolinea la necessità di ulteriori approfondimenti per ottimizzare la metodologia di produzione delle sfere e garantire l'efficacia dei test di resistenza alla grandine.

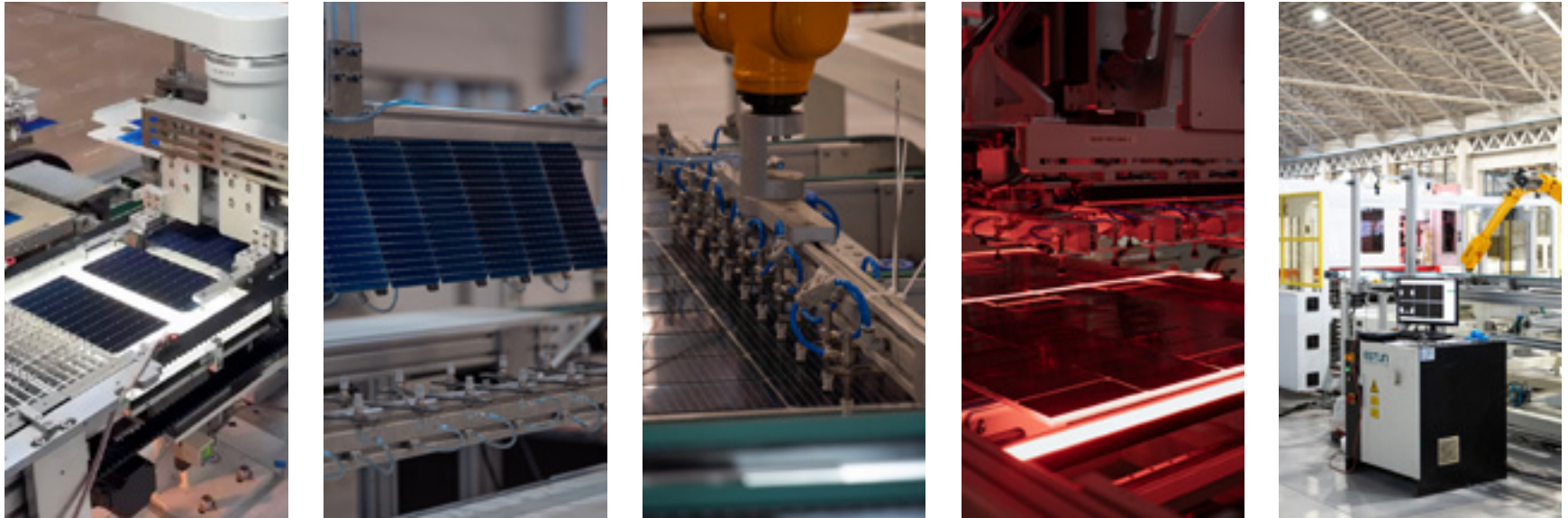
Human Driven Values.

We believe in manufacturing that creates real value. Our people work every day on materials, processes and products to deliver maximum value to the end customer.



*Step Inside the Factory
with Ingegneria Italia's team*





We could simply state that we have a facility in Italy assembling over 80 MW/year of premium-grade photovoltaic panels, but we prefer to say that the time has come to elevate solar energy to an essential resource in our daily lives.

UnConventional Thinking.

It is a non-conventional approach compared to the rest of the market, yet fully aligned with the values that define our company.

Industrial design is inspired by a culture of high-performance, durable and impactful products. Knowledge of factory processes merges with other worlds: art, culture, human trends and environmental change.

OUR TECHNOLOGIES

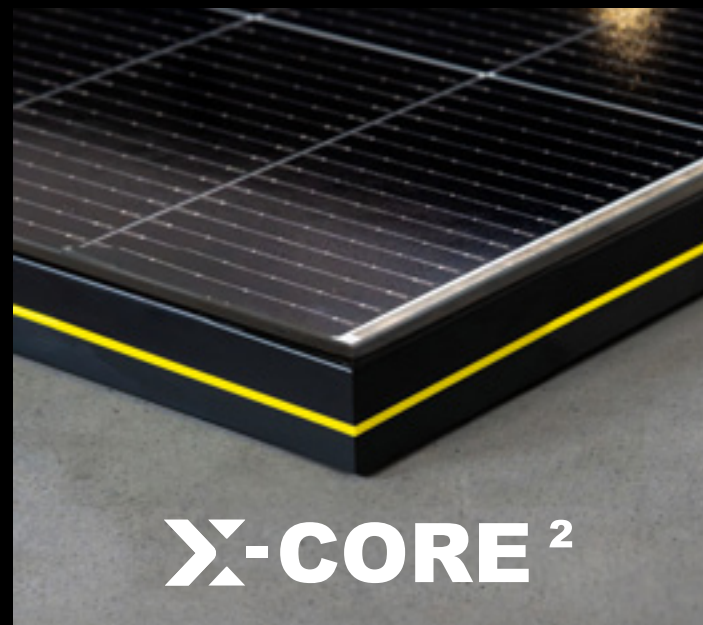






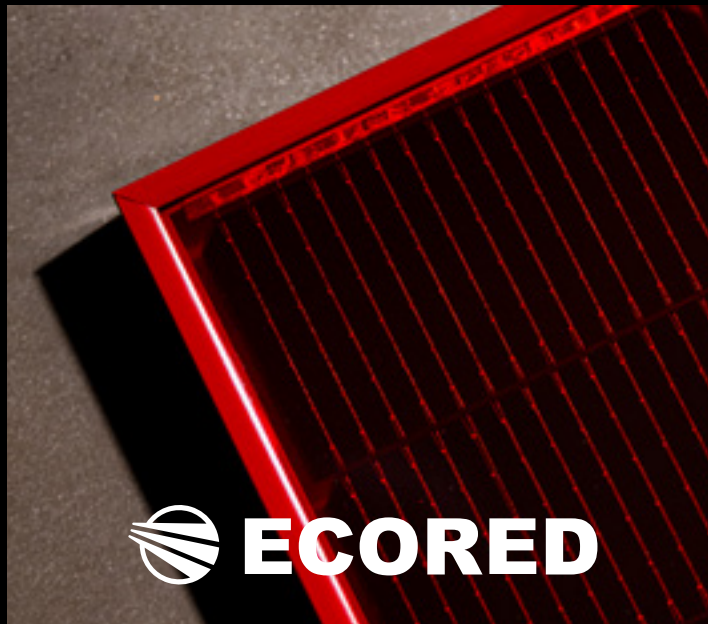
A unique
construction model.
8x more hail-resistant.

PRISMA 4.0 technology is engineered to protect the silicon circuit within the panel itself. The results achieved are extraordinary and unique. The patented special frame creates a plate effect every time the photovoltaic panel is subjected to accidental events, such as hail or foot traffic, during the system's lifecycle.



Engineered for endurance.
Resistant to all external
stresses.

The patented special frame precisely calibrates the anodised aluminium and the polymer insert, generating a plate effect whenever the photovoltaic panel is subjected to accidental events such as hail or foot traffic during the system's service life.



Pigment-free colouring and transparent back sheet for maximum heat dissipation.

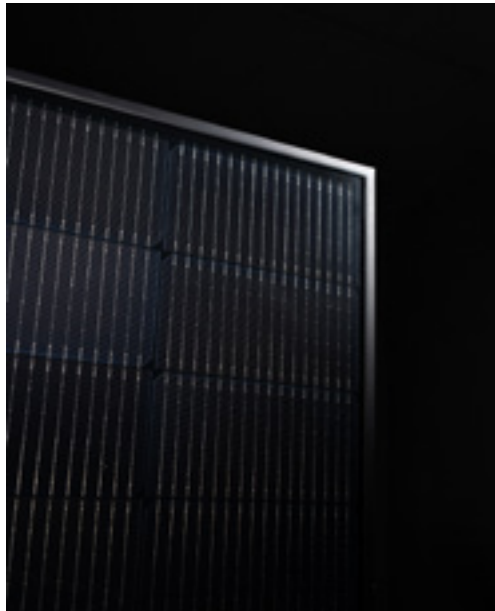
The technology that best represents the balance between maximum output and the beauty of integration in harmony with architecturally significant urban contexts.



System electronics. Balanced and consistent energy management.

La serie AURA riceve il nome dall'elettronica di controllo che è impiegata nei nostri Inverter Ibridi. Anche l'algoritmo di gestione dei flussi di energia tra utenza, rete e batteria è contenuto nel principio di lavoro e sviluppo continuo del programma AURA.

Disegno Italiano.



Our greatest ambition is to represent, through our products, an industry whose DNA has always been defined by excellence.

The synthesis lies in robustness: protection against ever more unpredictable weather events. Eliminating external variables with a safe product means being self-sufficient, free from the unexpected.



TD DISEGNO ITALIANO

The time is right for premium-grade,
Made-in-Italy photovoltaic products.

TORRI.

Solar Lab.

Italy's first training laboratory
inside a photovoltaic panel
manufacturing plant.

*Step inside
the laboratory*



“

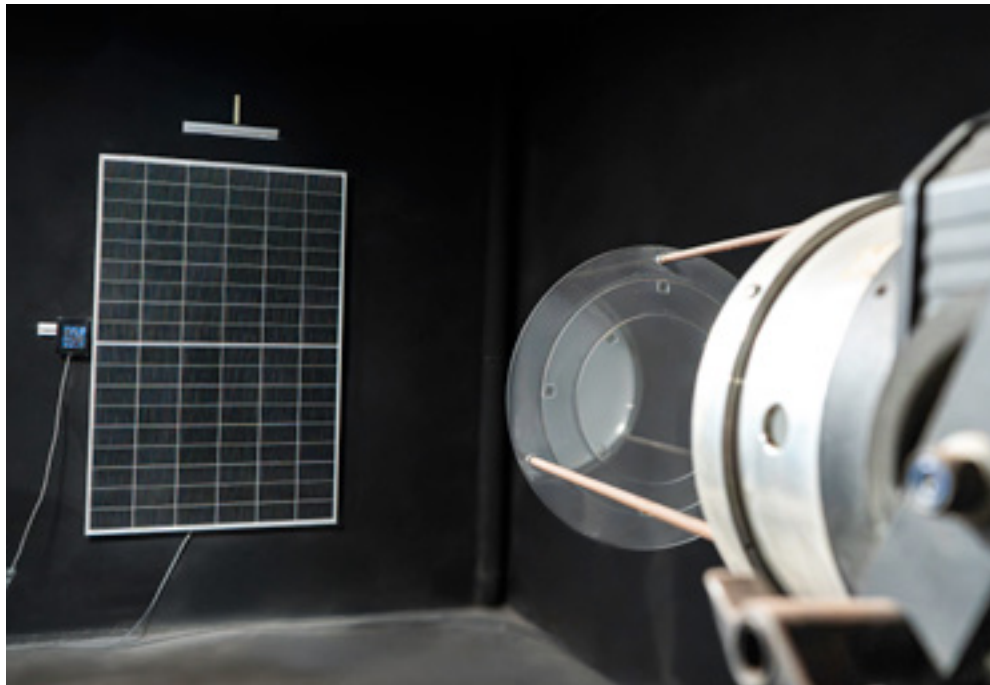
A factory that creates products
with value for people.

A laboratory conceived as a place where
value is researched, developed and shared.

”



We invest in the laboratory to promote awareness among technicians about the importance of safety and structural strength in photovoltaic modules, and how these factors impact every phase, from design through to installation.



80%

of photovoltaic systems installed in Europe are rooftop installations, where installation-related criticalities are particularly high and climatic conditions are often severe. In continents such as Asia, over 70% of photovoltaic systems are ground-mounted.

Solar Day

Solar Day is the training program dedicated to professional communities: engineers, architects and industrial surveyors.



Solar Academy

Solar Academy is the training program dedicated to technical firms and design offices, created to develop advanced photovoltaic expertise, with a special focus on photovoltaic modules.



Italy's Largest Community.



X-CORE² Launch Event, Museo Mille Miglia, Brescia

Ours is a network that unites industry professionals who share the great ambition of embodying the values of Italian industrial culture.

People rarely meet by chance, it is a shared vision that brings them together, and a shared purpose that strengthens them along the way.

200+
Partner Installers
across Italy

500+
Professionals hosted
at the factory

5,000+
Consultations
carried out every year

Manufacturing Industry

PV capacity: ~900 kWp · Year 2022
Storage: 200 kWh

A production facility with high energy demands, now equipped with an innovative photovoltaic system and an industrial-scale storage solution that together contribute to reducing consumption by at least one third. Excellent workmanship by the installation contractor, who worked alongside our R&D team to select the appropriate fixing systems for the various roof types.



Kupral S.P.A



Fabbrica d'armi Pietro Beretta S.P.A

Craftsmanship & Industry

PV capacity: ~500 kWp · Year 2023

A photovoltaic system must deliver tangible benefits and an adequate economic return. The manufacturers and artisans rooted in our region know this well: a durable investment is always a sound one. Prestigious technology made even more high-performing and thoroughly monitored.



Open Air Theatre Expo Milano 2015

Open Air Theatre - Expo Milano 2015

PV capacity: ~100 kWp · Year 2015

DIAMANTE VENTILATION BOX

The Open Air Theatre at Expo 2015 is the large outdoor venue located at the southern end of the cardo of the exhibition site. The largest event space on the site, with a seating capacity of approximately 6,000, it is dedicated to San Carlo Borromeo. The theatre hosted the inauguration ceremony of the exposition and, from March to August 2015, the 'Allavita!' show created exclusively for the event by Cirque du Soleil.

Giardino delle Quattro Stagioni

PV capacity: ~50 kWp + ~15 kWh storage · Year 2016

Project by architect Carlo Ratti

To the right, the Palazzo Reale; to the left, the Duomo di Milano. In the centre, the Garden of the Four Seasons. It was an honour for us to be the technology partner for this ambitious and visionary project, a significant installation both technically and ethically, housing all four seasons of the year within an energy-autonomous habitat.



Giardino delle Quattro Stagioni

Autodromo di Arese - Alfa Romeo

PV capacity: ~30 kWp · Year 2015
DIAMANTE VENTILATION BOX

An outstanding example of how 'making choices of value' coincides with 'understanding the value of time'. DIAMANTE is just the crown jewel of a one-of-a-kind building that combines good taste, enhancement of the architectural context, and sustainable innovation.



Autodromo di Arese Alfa Romeo



CEM Ambiente

Tertiary Sector

PV capacity: 142.375 kWp · Year 2021

Commercial and service sectors know they can drastically reduce their energy consumption through photovoltaics. The ratio of usable roof surface to energy needs is favourable for this category, which achieves energy self-sufficiency of over 50% and often considerably more.



Bottega S.P.A

Agricultural Sector

PV capacity: ~500 kWp · Year 2022

The agricultural sector has always been attentive to sustainability and has sustainability innovation in its DNA. The energy market is readily accessible to these companies, tied to tradition yet oriented towards renewables for many years. From biogas to agrivoltaics: a strong identity of enterprises that innovate.

Residential & Hospitality

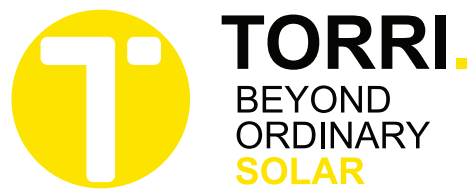
PV capacity: ~34.98 kWp · Year 2022

We might convince ourselves it is a minor consideration, but in the long run the product we choose for our home will accompany us for decades. That is why, when we think about products for this application segment, we think only of the best.



Hotel Zodiaco, Lago di Garda





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