



▶ Company Profile 2014

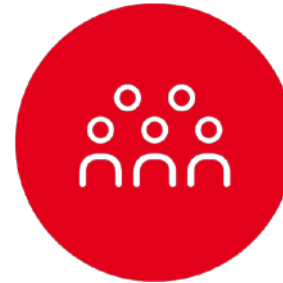
Carraro:
Global Leader in
Eco-Power
Transmission Systems.

Carraro Group Key Figures



Turnover 2012 / MM USD

1.137



Headcount 2012

4,010



Plants

14

Italy, India, China, Germany
Argentina, Brazil

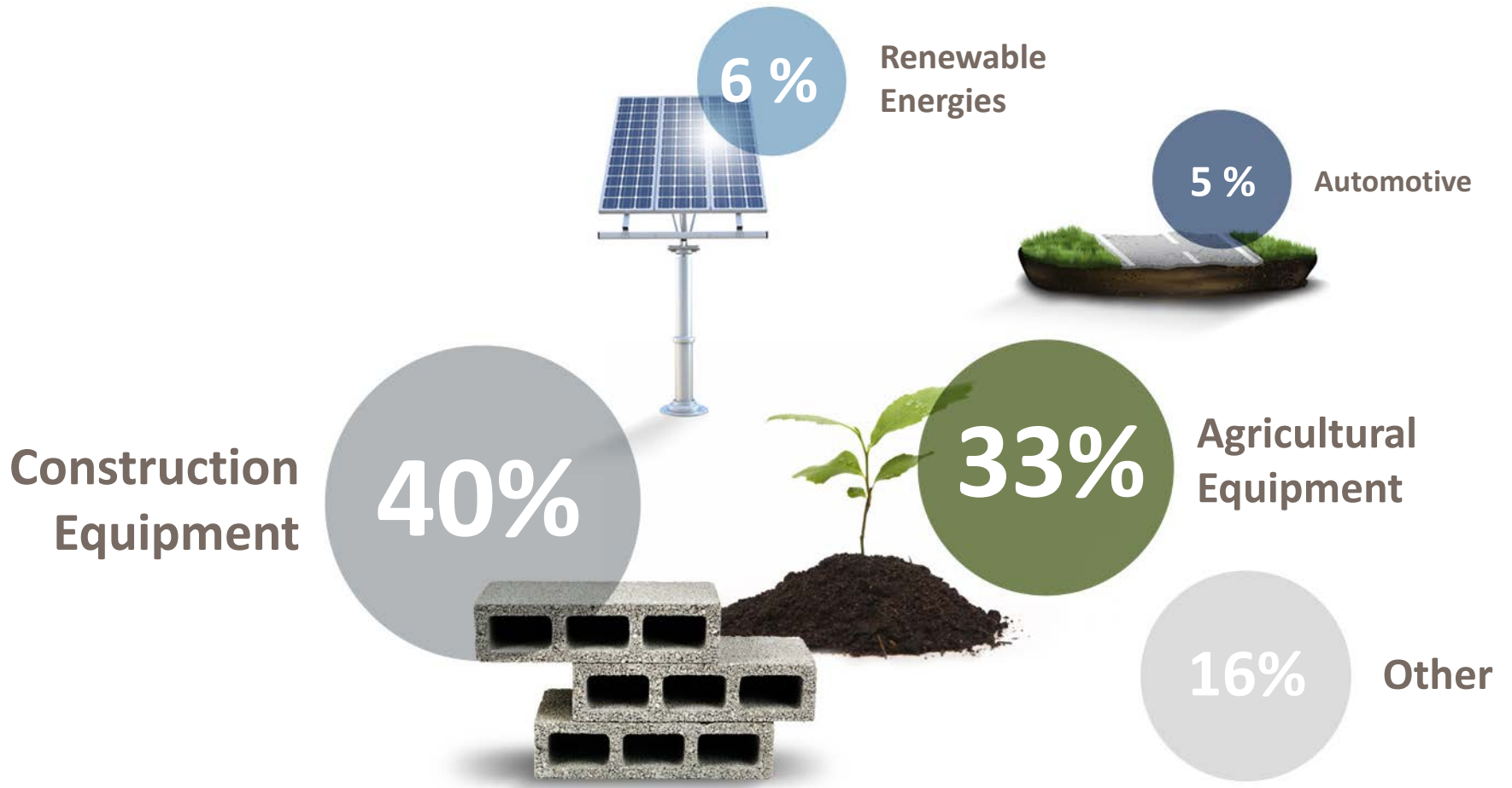


R&D Centers

6

Italy, Germany,
Argentina, India

Carraro Application Markets



Carraro Group Areas



Drivelines & Components



Vehicles



Electronics

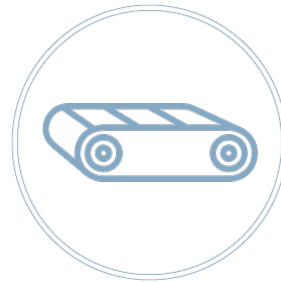


Santerno Business Areas

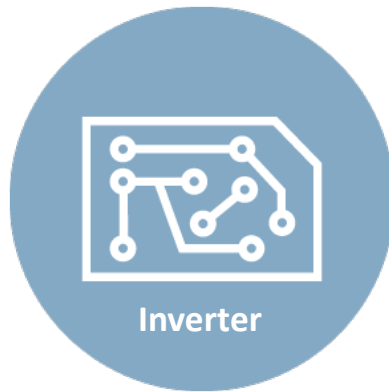
Solid Experience in Renewable Energy Technologies



Photovoltaic



Industrial Automation



Inverter



Wind Energy

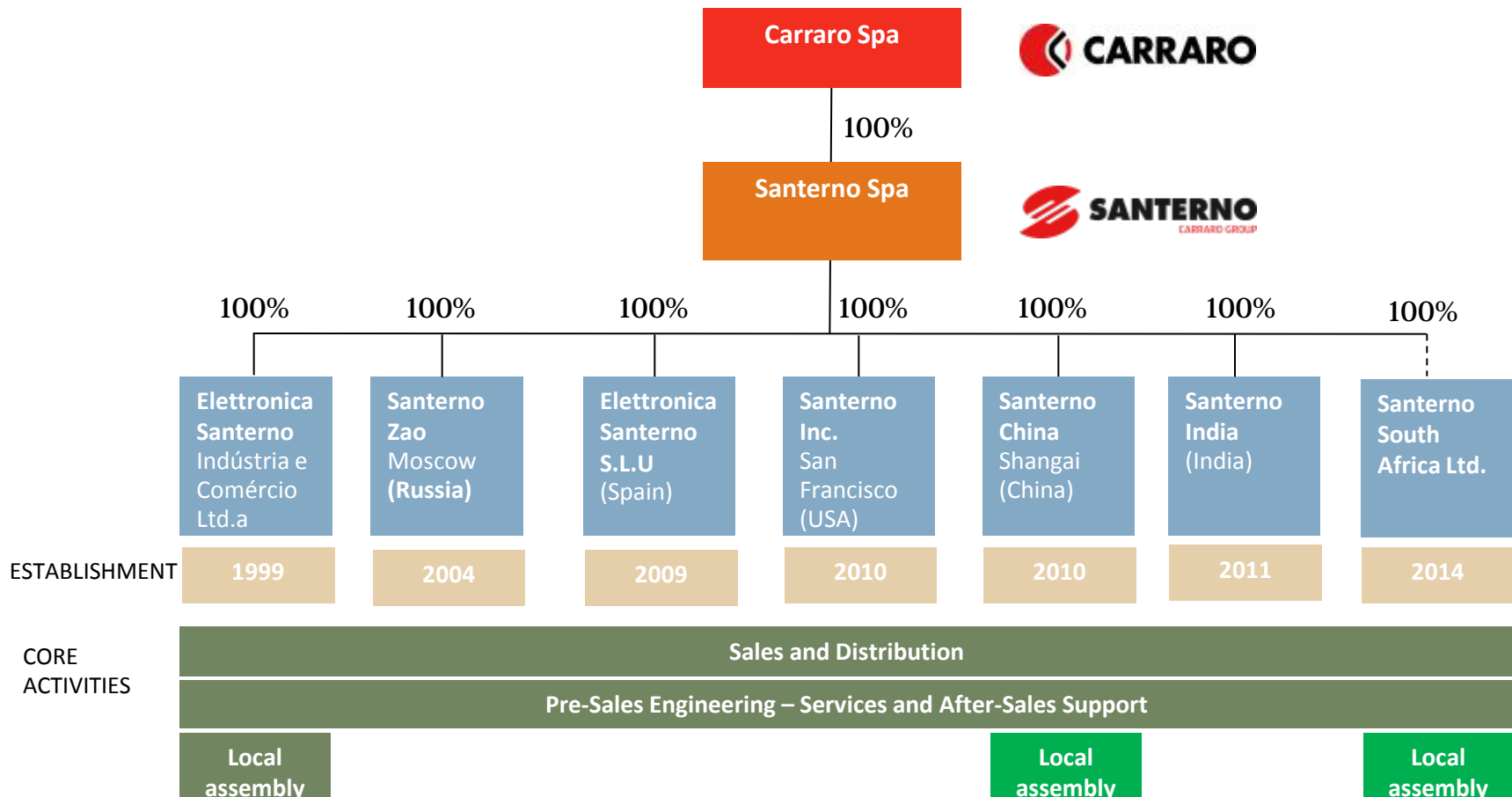


Hybrid and Electric Traction

- **40+ years** in Industrial Automation
- **25+ years** in Solar Inverters
- **15+ years** in Hybrid Buses
- **6 years** in Wind Turbine Inverters

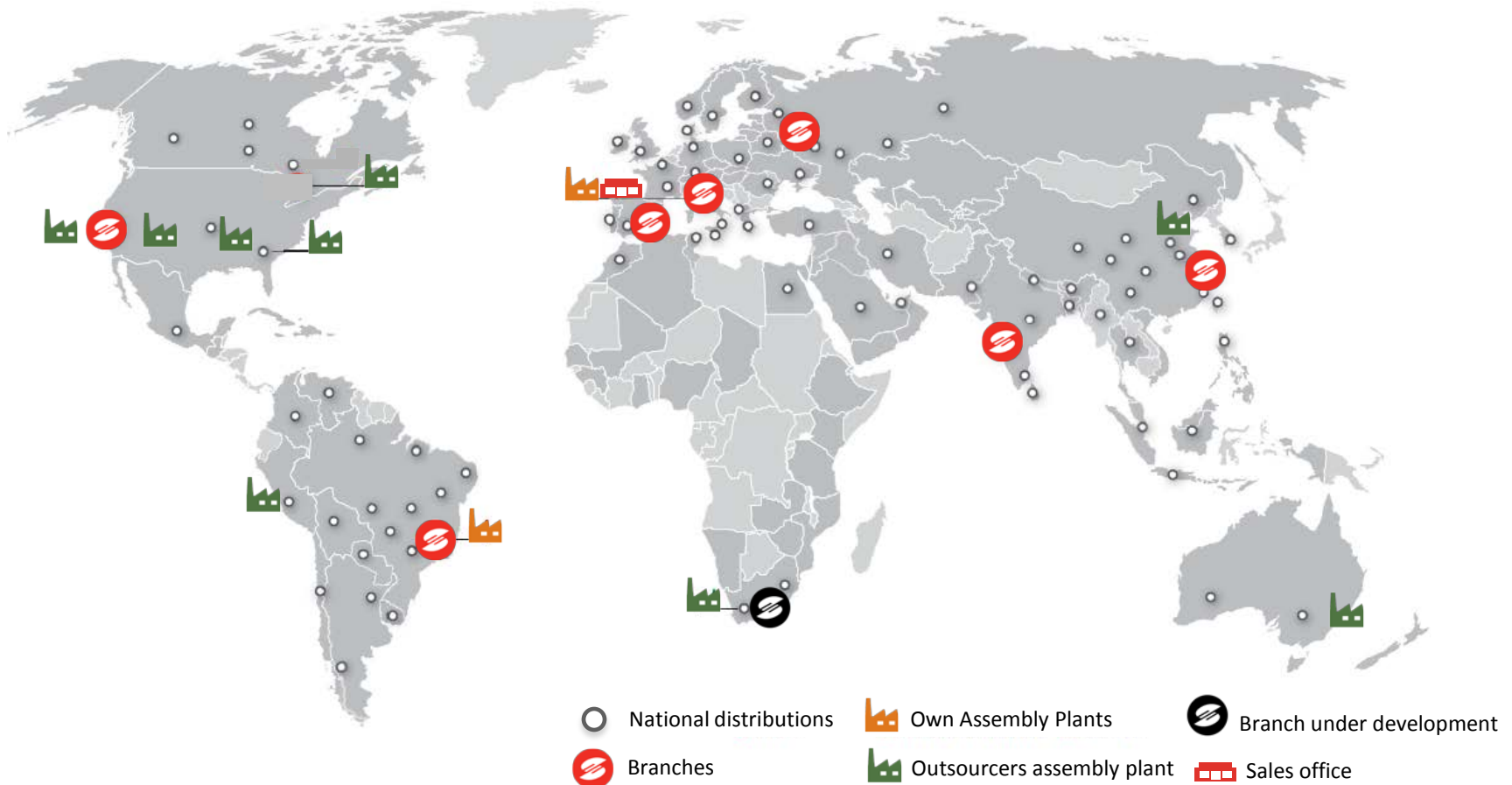
Santerno's Company structure

Santerno is wholly owned by the Carraro Group with headquarters in Italy and seven subsidiaries all over the world



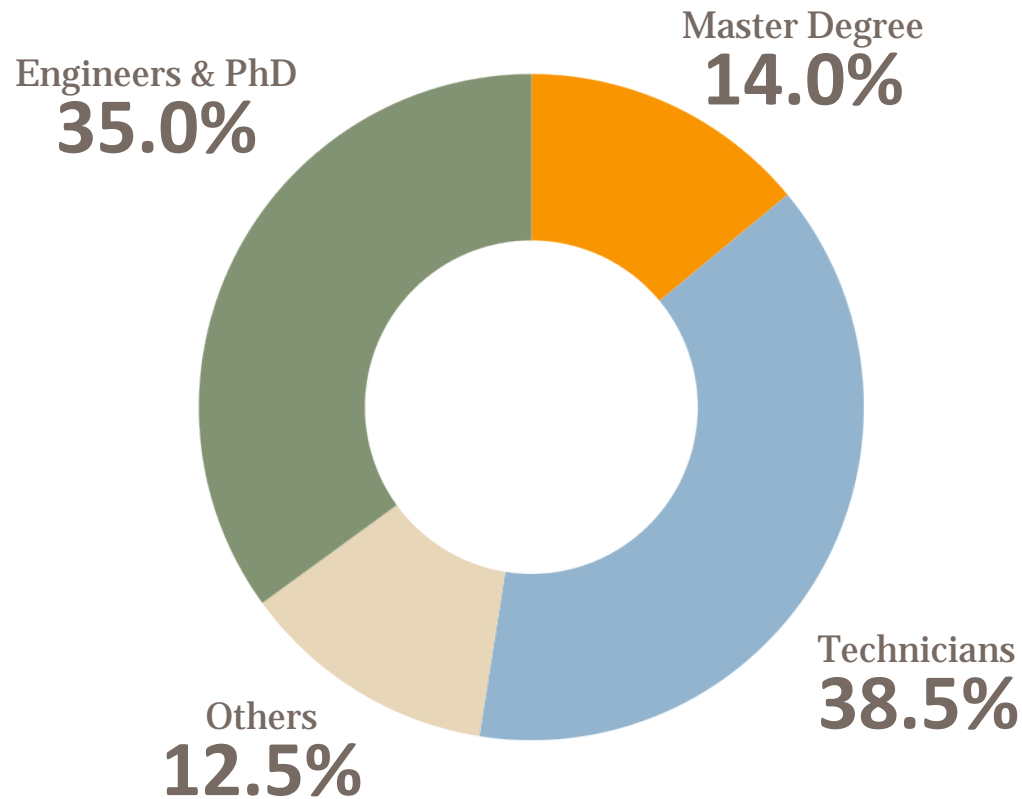
Santerno Global Footprint

Current footprint of Santerno covers major renewable energy and industrial automation markets – target regions defined



Santerno Employees

Smart, Young and Highly Skilled People



Headcount: 200

PV Inverters For All Power Segments

Full product coverage from 2 kWp single-phase to 2,200 kWp

Residential

Isolated and trafo-less single phase inverters
Power range from 2 to 9.0 kWp
Easy access via WiFi communication



DG

3-phase inverters
Power range 10 to 950 kWp
With and without integrated transformer
Available in both CE and UL versions



Utility Scale

Up to 2 Mvac rated output power
Designed Shelter and Open Skid execution
Easily transportable without special permits



Engineering & Innovation

Monitoring System Design

Residential

- Wi-fi connectivity
- Iphone app available
- Multinverter feature



Plants

- Power Plant Controller
- Remote monitoring
- SMS & mail alarm
- Stand-alone logger
- Plant web browser
- Top connectivity



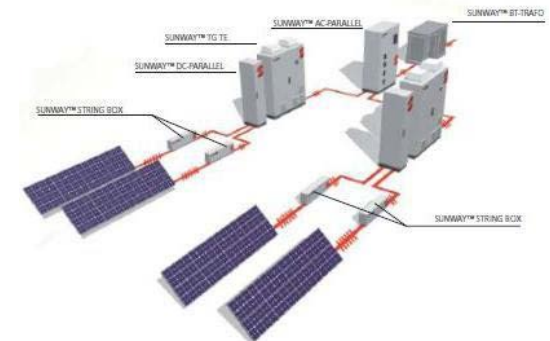
Power Plants & System design

Products

- Sunway Station
- Outdoor Skids
- MV cubicles

Capabilities

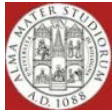
- Power Plants engineering
- System Integration & SCADA
- MV & HV Grid code compliancy



Scientific Partners

Principal cooperation institutes and companies in research, innovation and industrial perimeters

Scientific



University of Bologna



University of Napoli



UNIVERSITÀ DI PISA



Polytechnic University of Turin



University of Salerno



BUREAU VERITAS ITALIA



Consiglio Nazionale delle Ricerche



Arca Embedded srl



Fraunhofer ISE



Company - Related



POWER TRANSISTORS IN SILICON CARBIDE



WIPRO Applying Thought



PS Evaluation Services

Your Global Partner in Product Approval



DNV



B+W ENGINEERING a DNV company



STMicroelectronics



SMP



Infineon technologies



Terna



Centro Ceramico Bologna

PV Utility Scale - A Success History

>3.5 GW Solar Inverters Installed – Utility Scale Selected Reference Projects



1994	3 MW	Serre, Italy
2008	20 MW 26 MW	Calasparra, Spain Fuente Alamo, Spain
2010	10 MW	Golmud, China, 2850 m
2011	124 MW 10 MW 5x11 MW	Ravenna, Italy Shigatse, China, 3895 m France, biggest project
2012	20 MW 81 MW	Kutch, India Kalahari Desert, South Africa
2013	265 MW 126 MW	Imperial Valley, CA, USA Nakorn Sawan, Thailand

PV Distributed Generation – A SuccessHistory

>3.5 GW Solar Inverters Installed - DG Rooftop Selected Reference Projects



2002	50 kW	Airport, Bologna, Italy
2007	1000 kW	Marseglia Group, Bari, Italy
2008	500 kW	Cataluna, Spain
2009	4700 kW	KME industry, Serravalle, Italy
2010	1000 kW	GS Baolv, China
2011	3200 kW 1900 kW 150 kW 50 kW	Port warehouses, Ancona, Italy Sihong Jiangsu – China Walmart Store, Ontario, Canada Italian Embassy, San Paolo, Brazil
2012	200 kW	Kan Man Food, NJ, USA
2013	5x250 kW 1000 kW	IKEA stores, China Yolo, California , USA

References: 5x11 MW Northern Paris France

Santerno Inverters in 5 Renault Plants Parking, the Biggest PV Project for the Automotive Industry.



References: 630 kW Manta Manabi Ecuador

One of the First Utility Scale PV Plant in the Country



References: 10 MW Shigatse Tibet

Santerno Inverters in the Desert at 4000 mt. above the sea level



References: 1.5 MW Mildura Australia

Santerno Inverters With CPV Technology



265 MW Calexico USA

The World Largest Single-Axles Tracker Solar PV Plant



81 MW Kalahari Desert ZA

The very first and largest PV plant in South Africa



81 MW Kalahari Desert ZA

The very first and largest PV plant in South Africa



126 MW Nahorn Sawan, Thailand

The Largest PV Plant in Thailand



Santerno Human Resources

We are aware that only through proper consideration of human capital can we effectively compete and achieve future goals.



Research & Development

Innovation is the keyword for Santerno to ensure continued business growth. This both in products and processes with utmost creative open-mindedness.



Our Values



We Are Accountable

Ethics, Respect, Quality, Accountability



We Create Value

Economic Consciousness, Standardization, Simplicity



We Develop Talents

Teamwork, International Development



We Stimulate Innovation

Change, Innovation, Know How



We Work Together

Partnership, Passion, Reliability

Global Partnerships

The lines between Santerno and our customers become blurred such that we each think of ourselves, each other and the “whole” as a special experience; which leads to new possibilities, innovation, risk-taking and the perpetuation of a mutually enriching relationship.



Santerno

- ✓ Your Reliable Partner for a Long- Term Success Story
- ✓ Worldwide Presence and References
- ✓ 3.5 GW Installed Worldwide

