VOLTRRA

www.voltrra.com +86 178 8781 3802 Info@voltrra.com

Building B Ganghongji High-Tech Intelligent Industrial Park, 1008 Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District ,Shenzhen

Disclaimer

ENERGY STORAGE PRODUCT AND SOLUTION

MAKE ENERGY CLEANER AND MORE EFFICIENT

ABOUT VOLTRRA

Voltrra is a global leader in renewable energy solutions, specializing in hybrid inverters, lithium-ion energy storage systems, and solar power technologies. Our mission is to deliver high-quality, reliable, and energy-efficient solutions that empower homes, businesses, and industrial projects to reduce reliance on fossil fuels, cut electricity costs, and achieve energy independence. With advanced engineering, innovative product development, and smart energy management, Voltrra is at the forefront of China’s renewable energy revolution, making sustainable energy simple, reliable, and accessible for everyone.

From residential rooftops to large-scale commercial and industrial installations, Voltrra provides tailored solutions that maximize efficiency, reliability, and sustainability. Our single-phase and three-phase hybrid inverters, paired with lithium-ion battery storage systems, ensure uninterrupted power supply, seamless grid integration, and optimal energy usage for every client.

CONTRIBUTION FOR THE SUSTAINABLE SOCIETY

500+

Actively involved in global public charity, solving electricity problems for over 2,000 regions worldwide by participat- ing in clean energy projects such as rural areas, schools, and hospitals.

130 GWh

In 2024, our global delivery reached 1GW, achieving 130 GWh of clean energy generation.

1.06 million tons

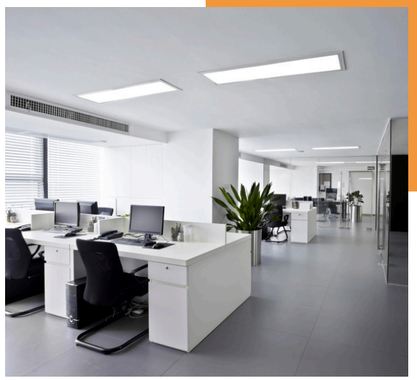
In2024, our newly implemented clean energy solutions globally helped reduce CO_2 emissions by1.06 million tons.

OUR VISION

Our vision is to lead the global transition to a sustainable, zero-emission future by accelerating solar energy adoption and promoting clean, energy-efficient solutions. We aim to empower communities, businesses, and industries with innovative technologies that reduce environmental impact, lower electricity costs, and support a greener planet. At Voltrra, we believe that renewable energy should be accessible, reliable, and scalable, helping the world move towards a cleaner and more sustainable tomorrow.

OUR MISSION

Our mission is to replace traditional fuel-based power systems with smart solar, hybrid inverter, and energy storage solutions. Through expert system design, professional installation, and ongoing monitoring, we deliver high-performance renewable energy systems tailored for homes, businesses, and industrial projects. By providing energy-saving consulting, cutting-edge technology, and reliable support, Voltrra enables customers to achieve energy independence, cost efficiency, and environmental sustainability. Every solution we create is designed to maximize performance, extend lifespan, and help clients confidently transition to clean, renewable energy.



ENTERPRISE QUALIFICATIONS

Shenzhen specialized, refined, unique and innovative enterprises

National high-tech enterprise

National level specialized and innovative "little giants" enterprise

Innovative small and medium sized enterprises in Shenzhen

PRODUCTION CAPABILITY

Manufacturing adopts the industry's advanced supply chain management system SCM, MES manufacturing execution system, ESD static electricity management system and ISO quality management system.

We are able to provide customers with energy storage system integration services and standardized energy storage system products from kW-MW level.

150,000 units

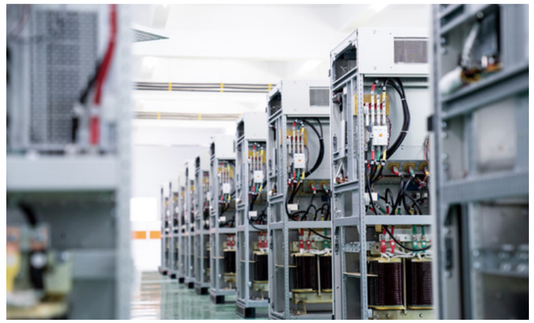
Residential energy storage annual production capacity

1.2GW

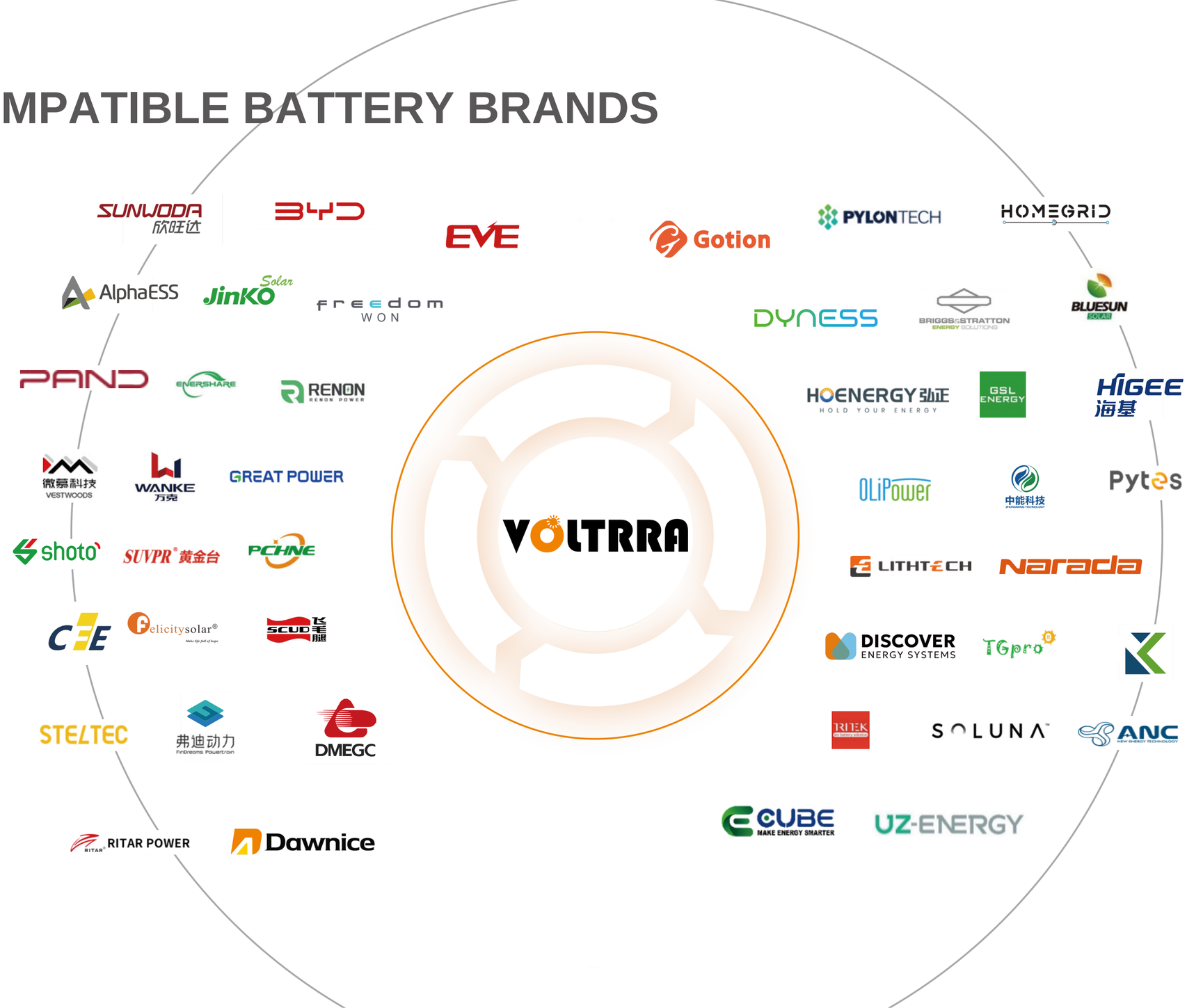
C&I energy storage annual production capacity

400MWh

System integration annual production capacity



COMPATIBLE BATTERY BRANDS



PRODUCTS LINE

Residential products

Single phase Hybrid inverter
Three phase Hybrid Inverter

Lithium Battery

Low Voltage Lithuim Battery
2.5 kwh
5.0 kwh
10 kwh
15 kwh

C & I /Microgrid products

PMA inverter module
MEGA series PCS
MPS series hybrid inverter

D A TA S H EET

VOLTRRA

FALCON 8/FALCON 10

Single-phase energy storage inverter

ON/OFF-GRID
Support on/off-grid AC coupling function.

MULTI-MACHINE PARALLEL
Support three-phase and multi-machine parallel connection.

REMOTE UPGRADE
Support BMS remote upgrade function (customized).

IP66 RATED
Engineered to last with maximum flexibility. Suitable for outdoor installation.

EFFICIENT - SAFE - DURABLE

UP TO
10k W
CHARGE/
DISCHARGE

Advanced System Monitoring
Please download the Solarman app.

TECHNICAL SPECIFICATIONS

Model	FALCON 8	FALCON 10
PV input data		
Max. PV input power (kW)	12	15
Max. PV input voltage (V)	550	
Start-up voltage (V)	100	
MPPT voltage range (V)	100~430	
Rated PV input voltage (V)	360	
No. of MPPT trackers	2	
No. of strings per MPPT tracker	1/2	
Max. input current per MPPT (A)	16/16+16	
Max. short-circuit current per MPPT (A)	24/24/24	
Battery input data		
Battery type	Lithium-ion / Lead-acid	
Max. charge / discharge power (kW)	8	10
Battery voltage range (V)	40~58	
Rated battery voltage (V)	48	
Max. charging / discharging current (A)	160/160	200/200
Rated charge / discharge current (A)	160/160	200/200
Battery charging strategy	Self-adaption to BMS	
BMS communication	CAN	
Output data (on-grid)		
Max. apparent output power (kVA)	8	1
Max. apparent input power(kVA)	8.8	0
Rated grid voltage (V)	8.8	1
Grid voltage range (V)	230	0
Grid input voltage (V)	176~270	1
Rated grid frequency (Hz)	230	0
Grid frequency range(Hz)	50/60	
Rated output current (A)	47~61	
Max. AC output current (A)	34.8	43.5
Max. apparent input current (A)	38.3	43.5
Power factor	38.3	43.5
Max. grid passthrough current(A)	>1 (0.8 leading ~ 0.8 lagging)	
THDi	43.5	
Grid type	<3%	
AC output data (back-up)	L+N+PE	
Rated output power (kW)		
Max. apparent output power (kVA)	8	1
Rated output voltage (V)	8.8	0
Rated output frequency (Hz)	230	1
Rated output current (A)	50/60	0
Max. AC output current (A)	34.8	43.5
Peak output power	38.3	43.5
Back-up switch time (ms)	≥110%, 10mins; ≥120%, 1min; ≥130%, 1s; ≥150%, 100ms	
THDu	<20	
Power factor	<3%	
Protection		
Supported protection	PV reverse polarity protection, Anti-islanding protection, Ground fault protection, Leakage current protection, Insulation resistance detection, Backup output short circuit protection, AC under-voltage protection, AC output over-current protection, AC over-voltage protection	
Surge protection	DC Type III / AC Type III	
Over voltage category	DC Type III / AC Type III	
Certifications and standards		
Certificates	ENIEC 61000-6-1:2019, EN IEC 61000-6-3:2021; EN 62109-1:2010; EN 62109-2:2011	
General data		
Ingress protection	IP66	
Operating temperature range (°C)	-25~+60	
Cooling	Fan cooling	
Relative humidity	0-95% (non-condensing)	
Operating altitude (m)	0~2,000(derating over 2,000)	
Dimensions W*D*H (mm)	486×231×530	
Weight (kg)	25.8	
Inverter topology	Non-isolated	
Noise emission (dB)	<55	
PV connection terminals	MC4	
Display and communication		
Display	LCD	
Communication	RS485/CAN	

FALCON

Three-phase hybrid inverter

Supports high power components

FALCO residential energy storage series

KEY STRENGTHS

- Support BMS (RS485) remote upgrade.
- Support full power discharge, automatic battery charge and discharge management.
- Compatible with single-phase and three-phase loads.
- Support 100% unbalanced load output.
- Support high power components.

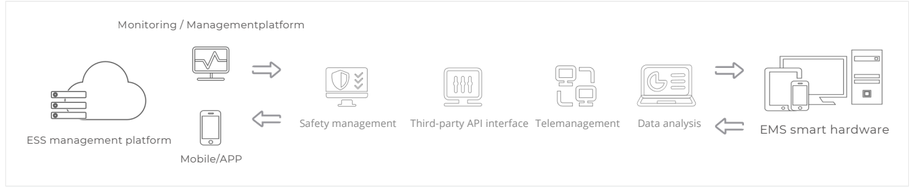
Model	R6KH3-P	R8KH3-P	R10KH3-P	R12KH3-P	R15KH3-P
PV input data					
Max. PV input power (kW)	9	12	15	18	22.5
Max. PV input voltage (V)	1000				
Min. PV input voltage (V)	125				
Start-up voltage (V)	125				
MPPT voltage range (V)	180~850				
MPPT voltage range@full-load (V)	250~850				
Rated PV input voltage (V)	600				
No. of MPPT trackers	2				
No. of strings per MPPT tracker	1/1				2/2
Max. input current per MPPT (A)	18/18				20/20
Max. short-circuit current per MPPT (A)	25/25				30/30

Battery input data					
Battery type	Lithium-ion / Lead-acid				
Max. charge / discharge power (kW)	6.6	8.8	11	13.2	16.5
Battery voltage range (V)	150~550				
Battery voltage range@full-load (V)	180-550	230-550	285-550	340-550	425-550
Max. charging / discharging current (A)	50/50				
Rated charge / discharge current (A)	40/40				
Battery charging strategy	Self-adaption to BMS				
BMS communication	CAN				
AC output data (grid side)					
Rated output power (kW) Max.	6	8	10	12	15
apparent output power (kVA)	6.6	8.8	11	13.2	16.5
Max. apparent input power(kVA)	13.2	17.6	22	26.4	33.3
Rated grid voltage (V)	220 / 380; 230 / 400				
Grid voltage range (V) Grid input	187~264.5				
voltage (V) Rated grid frequency	380; 400				
(Hz)	50/60				
Grid frequency range(Hz)	45-55 / 55-65				
Rated output current (A)	8.7	11.5	14.4	17.3	21.7
Max. AC output current (A)	9.5	12.7	15.9	19.1	23.8
Power factor	>0.99 (0.8 leading ~ 0.8 lagging)				
THDi Grid type	<3%				
	3L+N+PE				
AC output data (back-up)					
Rated output power (kW)	6	8	10	12	15
Max. apparent output power (kVA)	6.6	8.8	11.1	13.2	16.5
Rated output voltage (V)	220 / 380; 230 / 400				
Rated output frequency (Hz)	50/60				
Rated output current (A)	8.7	11.5	14.4	17.3	21.7
Max. AC output current (A)	9.5	12.7	15.9	19.1	23.8
Peak output power	≥ 110%, 10mins; ≥120%, 1.25min; ≥150%, 20ms				
Back-up switch time (ms)	<10				
THDu	<2%				
Protection					
Supported protection	PV reverse polarity protection, Anti-islanding protection, Ground fault protection, Battery reverse protection, Leakage current protection, Insulation resistance detection, Backup output short circuit protection, AC under-voltage protection, AC output over-current protection, AC over-voltage protection				
Over voltage category	DC Type II / AC Type III				
Certifications and standards					
Certificates	IEC 61000-6-1/-2/-3/-4, IEC 61000-3-11, IEC61000-3-12; EN 62109-1, EN 62109-2; EN50549-1; EN50549-10; EN50438; G98/G99:2022; VDE-AR-N 4105:2018; CEI 0-21:2022; C10/11; Rfg:2016/NC Rfg:2018/PTPiREE:2021; NRS 097-2-1:2017; Hungary; NTS V2.1:2021-07&UNE217002:2020&UNE217001:2020; NA/EEA-NE7 – CH 2020; OVE Directive R 25:2020, TOR Erzeuger Type A V1.2; TR3.3.1:2019;ANRE228; ANRE228; NA/EEA-NE7; PPDS:2022 for A1&A2; RS 097-2-1 :2017; OVE Directive R 25:2020, TOR Erzeuger Type A V1.2; EIFS 2018:2				
General data					
Ingress protection	IP65				
Operating temperature range (℃)	-25~+60				
Cooling	Natural cooling				
Relative humidity	0-95%				
Operating altitude (m)	4000(>2000 power derating)				
Dimensions W*D*H (mm)	566 x 219.5 x 593.5				
Weight (kg)	32				
Topology (solar / battery)	Transformerless / Transformerless				
Noise emission (dB)	<45				
Display and communication					
Display	Monochrome screen				
Communication	RS485,CAN,WiFi				

EMS

Energy management system

SYSTEM TOPOLOGY



Support load balancing and high-traffic access.
Support third-party platform integration for data sharing.
Support multi-energy type integration and intelligent scheduling.
Support real-time retrieval of logs and fault reports throughout the entire lifecycle.
Integrated third-party services such as weather forecasting, real-time grid electricity pricing, and more.

Equipped with a 10.1/7-inch LCD display, providing an excellent visual interface.
Integrated with dual ethernet ports and multiple communication serial ports.
Weather-resistant enclosure design.
<1s system response time for higher system stability.
Supports communication protocols for over 30 battery brands.

Fully template-based management internally.
Support template strategy management and hierarchical authorization management.
Customizable design to meet customer requirements.
Data visualization design.

The EMS energy management system is divided into two models: ES-01 and ES-02. ES-01 is a 10.1-inch integrated display and control screen, and ES-02 is a collection controller without a display screen.

ES-01

ES-02

Technical parameters	
Input power (V)	1 DC 9 - 36V
Power consumption (W)	<15W
CPU	800MHz main frequency, ARM architecture, 32-bit, NXP
Operating system	Embedded linux
Storage capacity	256M storage + 64GB storage TF card
Ethernet 100M	2 independent network ports
Operating system	Linux
Communication protocol	CAN, MODBUS
Communication interface	5 RS485, 2 CAN
IO port	3DO, 6DI
4G interface	1
USB interface	1

DATA ACQUISITION STICK

4G Wifi Bluetooth-wifi

The data acquisition stick supports various communication modes, including GPRS, WiFi, 4G, and Ethernet. It primarily collects and records the operational status and power generation data of the inverter, enabling long-term and effective monitoring of the energy storage system. The acquisition stick transmits data wirelessly to the monitoring platform, where the real-time status and historical data of the system are presented in clear, intuitive, and easy-to-understand charts. Users can customize fault alarm methods and receive timely notifications of abnormal or faulty conditions via SMS, email, and other channels. This solution allows users to monitor the system anytime and anywhere, greatly simplifying maintenance tasks.

PROJECT CASES

RESIDENTIALENERGY STORAGE

South Africa Residential Project

- 6kWp
- 10kW/10kWh
- Self-consumption
- 2023.06

Mexico Residential Project

- 12kWp
- 10kW/20kWh
- Self-consumption
- 2024.09

PROJECT CASES

MICROGRID

Iraq Oilfield Power Backup Project

- 500kWp
- 500kW/1.4MWh
- Back-up power
- 2024.08

Farm Microgrid Project in South Africa

- 358kWp
- 1MW/1.6MWh
- Back-up power
- 2024.06

OTHER CASES

California, USA 10kW/10kWh

Mongolia 5kW/5kWh

Jamaica 12kW/20kWh

Xinjiang, China 3.4MW/15.2MWh

South Africa 50kW/150kWh

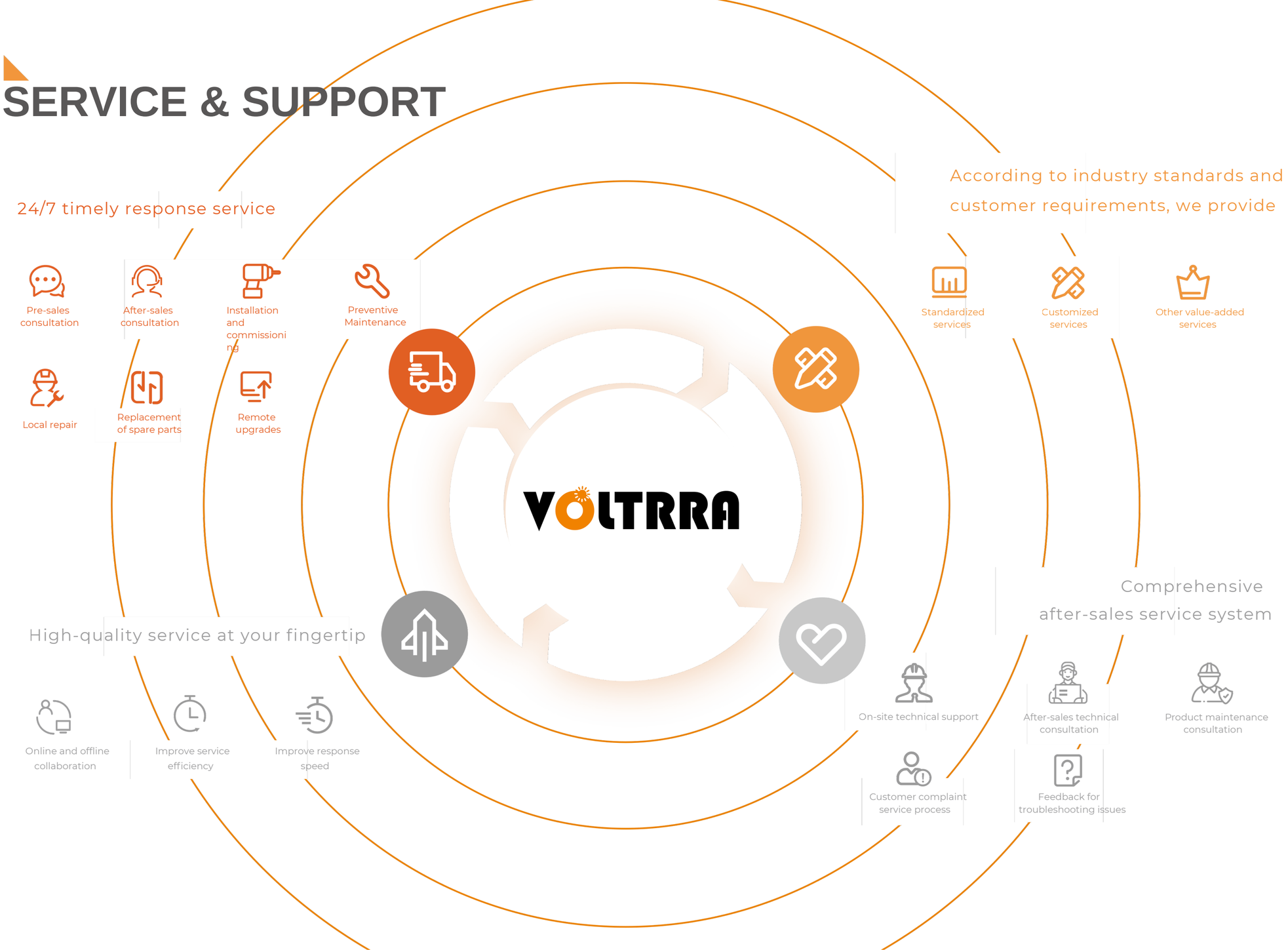
South Africa 150kW/300kWh

Dominican Republic 250kW/500kWh

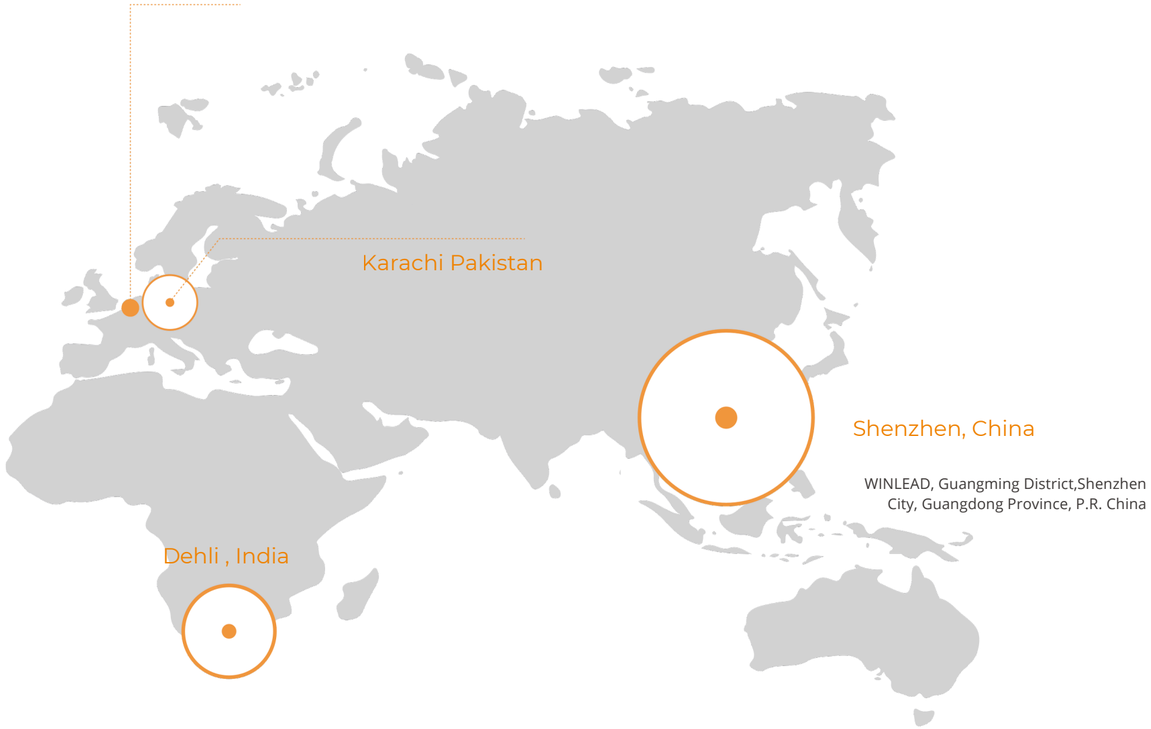
South Africa 1MW/2.4MWh

Norway 250kW/520kWh

SERVICE & SUPPORT



SERVICE CAPABILITIES



Voltrra's service capabilities cover the major regional markets. Additionally, Voltrra focuses on supporting local distributor partners to provide customers with comprehensive technical support and timely response services.

24/7
Timely response

3 Days
Scheduledon-site service

5 Days
Troubleshooting