LINDEMANN-REGNER

Your Leading EPC Partner And Manufacturer Of Energy Systems In Europe

LND ENERGY GMBH PROFILE

A Tier 1 Global Transformer and SST Manufacturer

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COMPANY PROFILE

LND ENERGY GMBH (Headquartered in Munich, Germany)

– is a global manufacturer of transformers and solid-state transformers (SST),
The company represents top-level quality in the European power engineering industry.

With profound technical expertise and rigorous quality standards, LND Energy has set a benchmark for precision and reliability in electrical manufacturing. The company operates a joint production center in Jiangsu Province, China, establishing a globally integrated model of "German headquarters + Chinese production. " This approach combines German engineering excellence with flexible, globally oriented manufacturing and service capabilities.

CORE BUSINESS

Power Infrastructure Solutions
company specializes

European / Middle Eastern
Key Markets

EPC Services

The EPC business provides full-cycle services from load calculation, system design, equipment selection, and standardized installation to commissioning, operation, and acceptance. These services cover a wide range of applications including renewable energy integration, grid modernization, industrial high-reliability power distribution, and commercial power supply systems. This approach helps shorten project timelines and reduce coordination costs. For the European market, CE and EN standards are strictly followed, while for the Middle East market, special emphasis is placed on high-temperature endurance and sand-resistance design. Multiple benchmark projects have been successfully delivered.

Power Equipment Manufacturing

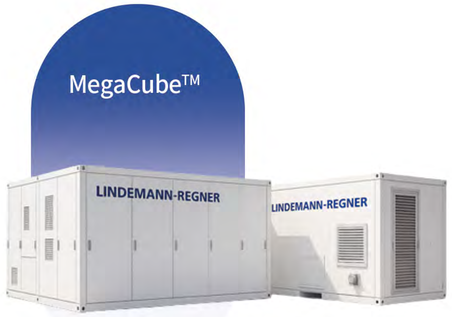
The product range includes transformers, power distribution systems, and other key electrical components. All products are developed and manufactured according to international standards, ensuring high efficiency, reliability, and operational safety.

PHILOSOPHYCORPORATE

Based on the principle of "German standards and global collaboration," LND Energy provides integrated power solutions covering product development, manufacturing, engineering, and project execution.

The company aims to contribute to global energy transformation and grid modernization, becoming a reliable partner in international power infrastructure development.

CORE PRODUCTS



Transformers: Oil-immersed and dry-type transformers compliant with DIN 42500 and IEC 60076 standards, featuring high reliability, low losses, and long service life. Rated capacities range from 100 kVA to 200 MVA with voltage levels from 400 V to 430 kV.

MegaCube™: An integrated, independent pre-installed energy storage system combining E-House (prefabricated cabin) and containerized battery cabinets, with core component integration, wiring and commissioning completed in-factory. Compliant with mainstream EU/US wiring standards and communication protocols for compatibility and reliability. On-site, no complex wiring/commissioning-basic installation enables "plug-and-play", ensuring efficient deployment and a revolutionary solution for energy storage project

Distribution Systems: E-houses, ring main units, and high and low-voltage switchgear compliant with EN 62271, characterized by intelligent control, modular design, and high operational safety.

Other Products: AIDC power supply systems, control and monitoring units, and solid-state transformers designed to cover multiple stages of the power system chain.

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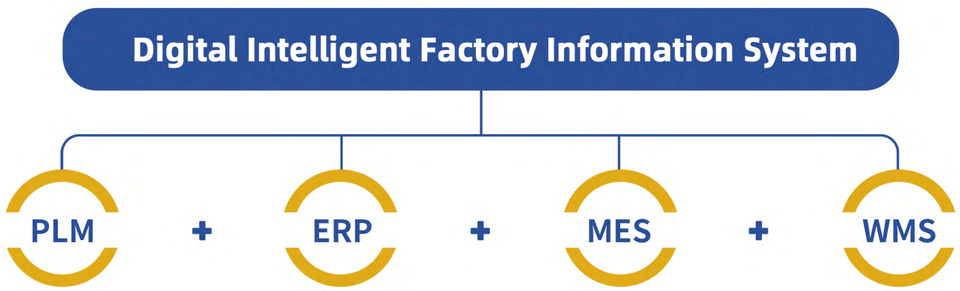
INTELLIGENT MANUFACTURING WORKSHOP

MES "INTELLIGENT BRAIN"

Enhance efficiency and monitor production in real time

The equipment has been integrated with SAP, PLM and MES systems to ensure the balance of production processes and material flow, further improving efficiency, quality and fulfillment capabilities. To break through the efficiency bottlenecks in the entire chain from "design - production - management and control", the company achieves multi-level optimization through multi-system interaction. Design data is directly connected to production, eliminating the need for paper-based transmission of BOM and process routes. PLM and 3D software enable automatic processing by equipment, achieving seamless integration between design and manufacturing. In terms of production planning, MES decomposes the main plan from ERP into three-level online plans, and APS automatically generates work orders and intelligently selects materials, enhancing efficiency and reducing inventory. On-site management is facilitated by the informatization of production lines and WMS systems, accelerating operations and material transfer, and ensuring full control over production scheduling, logistics and execution, significantly improving operational efficiency.



CORE PROCESSES

CORE TECHNOLOGY FOR TRANSFORMERS

Silicon steel transverse cutting / fully automated transverse cutting line

Silicon steel longitudinal cutting / fully automated longitudinal cutting line

Core stacking / fully automatic robotic stacking system

Winding casting / intelligent vacuum casting system

CORE PROCESSES FOR RING MAIN UNITS (RMU)

Cabinet assembly / fully automated assembly and production line

Cabinet welding / TRUMPF laser welding system, Germany

Cabinet cutting / TRUMPF laser cutting system, Germany

Gas leakage inspection / SEILER automatic helium leak detection system, Germany

STANDARDS COMPLIANCE & CERTIFICATION

Supported by an intelligent, process-controlled manufacturing system and comprehensive final testing at the intelligent inspection center, all products are guaranteed to comply with **German standard DIN 42500** and **international quality standard IEC 60076**.

MEGACUBE™ SERIES

Overview

The MegaCube series combines a prefabricated E-House with a containerized battery cabinet to form a highly integrated, factory-assembled storage system available in modular capacities such as 5 MWh and 10 MWh. All key components, internal wiring, communication configurations, and full system-level commissioning are completed under controlled conditions in the factory, ensuring optimal performance at delivery. The system is designed in compliance with leading IEC and UL standards and supports communication protocols such as Modbus and IEC 61850, enabling direct interoperability with European and North American grid and monitoring environments. No complex on-site installation or commissioning is required. After basic placement and connection, the system is ready to operate, delivering a true plug-and-play deployment experience.

Key Advantages

Exceptional Installation Efficiency With Dramatically Shorter Project Timelines

Thanks to fully pre-assembled and factory-tested system modules, installation time is significantly shortened. A 5-MWh storage system can be installed within 48 hours, while a 10-MWh system requires only 72 hours. Compared with traditional on-site assembly and commissioning, total project duration is reduced by more than 80 percent, minimizing construction-related delays and enabling faster project energization.

Short Delivery Cycles That Safeguard Project Schedules

Backed by a mature supply chain and streamlined manufacturing processes, the total lead time from order placement to delivery at European project sites does not exceed 15 weeks. This is well below industry averages and provides predictable timelines that improve overall project planning and execution efficiency.

Plug-And-Play Design That Lowers On-Site Requirements

All wiring, testing, and system integration work is completed at the factory. At the project site, only basic mechanical placement and electrical connection are required. This eliminates the need for specialized technical teams on location and significantly reduces manpower and equipment costs associated with on-site commissioning.

Designed For Compliance With European And North American Standards

The system is engineered and tested according to major IEC and UL standards, as well as widely used communication protocols such as Modbus and IEC 61850. It can be integrated directly into European and North American grid infrastructures and supervisory platforms without additional adaptation, ensuring smooth market entry and compatibility.

Factory-Level Commissioning For Enhanced System Reliability

Unlike on-site commissioning, which is affected by environmental and logistical variables, factory testing takes place in controlled conditions with stable temperature and humidity. Professional testing equipment enables comprehensive multi-scenario simulations that identify and resolve potential issues early. The system reaches optimal operating status before shipment, significantly improving long-term reliability and reducing O&M costs.

Integrated Architecture Adaptable To Diverse Applications

The combination of an E-House structure and modular containerized battery cabinets provides a highly integrated and easily transportable solution. It is suitable for off-grid energy storage in remote areas as well as urban peak-shaving projects. Its modularity allows flexible deployment across a wide range of operational environments.

Fully Certified

The entire series has EU CE certification and US UL certification, and meets the additional certification requirements of European member states such as Germany VDE.

MEGACUBE™
ESS+E-House Set

Capacity: 5MWh

Voltage: 0.69-10.5/21/35kV

Power: 2500 kW

5MWh-2500kW

Product Introduction

MegaCube LM-5MWH features an integrated "battery container + E-House" design: PCS, dry/oil-type transformer and RMU come pre-installed inside the E-House, while DC bus, protection and SCADA are factory-wired and commissioned. Fully compliant with IEC/UL and mainstream protocols (Modbus, IEC 61850), the system arrives plug-and-operate—only basic setting and grid hookup are required on site. It delivers fast deployment, predictable quality and high reliability for C&I peak-shaving, campus storage and distribution-level flexibility. As a modular capacity unit within the MegaCube family, it keeps your upgrade path straightforward.

Technical Parameters

LM-5MWh|2.5MW-0.69|10.5-35kV

System Overview			
Rated energy	5.016 MWh	Rated power	2.5 MW-3MW
DC Voltage	1330V	AC Voltage	0.69 – 10.5/21/35kV
System Architecture	Battery container + E-house container (PCS + transformer + RMU)	Dimension	6058×2438×2896 + 6058×2438×2591
Weight	55t	IP level	IP55 + IP54 (converter IP65)
Battery Energy Storage			
Layout	1 × C173F5016		
Nominal Capacity	5.016 MWh	CH/DCH Rate	0.5/0.5 C
Nominal Voltage	1330 V	Voltage Range	1160–1480 V
Maximal Current	2160 A @Vmin	Cycle Life	≥6000 cycles @80% SOH
Service Life	20 years	Charging Temperature	20–50 ℃
Dimension	6058×2438×2896 mm	Discharging Temperature	10–50 ℃
Weight	43 t	Storage Temperature	-30–55 ℃
IP Level	IP55	Relative Humidity	≤95%(non-condensing)
Altitude	≤3000 m		
PCS			
Layout	2 parallel × EH-1725-HA-UD		
Max. DC Voltage	1500 V	DC Voltage Range	1000–1500 V
Max. DC Current(per PCS)	1936 A	System DC Current Capability	3872 A
DC Loading Ratio	56%	DC Operating Margin	43%
AC Output Power(per PCS)	1897.5kVA@30℃, 1725kVA@45℃, 1509kVA@50℃	System AC Output Power	3795kVA@30℃, 3450kVA@45℃, 3018kVA@50℃
Max. AC Output Current(per PCS)	1588A@30℃, 1443A@45℃, 1263A@50℃	System max. AC Output Current	3176A@30℃, 2886A@45℃, 2526A@50℃
Nominal AC Voltage	690V,3W+PE	AC Voltage Range	607–759 V
Nominal Grid Frequency	50/60 Hz	Harmonic (THD)	<1.5% at 100% load
Power Factor	-1 to +1	Ingress Protection rating	IP65 (converter)
Max. Efficiency	99%	European Efficiency	98.5%
Cooling	Forced air	Operating Temperature Range	-40–+60 ℃ (derating above 45 ℃)
Relative Humidity	0–100% (non-condensing)	Max Altitude	5000 m (derating above 3000 m)
Dimension	2300×1435×2350 mm	Weight	2800 kg
Transformer			
Isolation mode	Dry/Oil type	Rated Power	3.15 MVA
LV/MV	0.69/21kV (Optional: 11/35kV)	Transformer Vector	Dyn11
RMU (Optional)			
Rated Voltage	24 kV	3s Short-time Withstand Current	21 kA / 3 s
Rated Frequency	50/60 Hz	Peak Making Current	54.6 kA
Rated Power Freq Withstand (1 min)	50/60 kV	Grounding Circuit Making Current	21/54.6 kA（rms/peak）
Lightning Impulse Withstand	125/145 kV	Short-circuit Breaking Current	21 kA
Rated Current	630 A	Earth Fault Current	48 A
Internal Arcing Level	AFLR	Enclosure Protection Class	IP54/IP4X
Protection Grade of Airbox	IP67	Gas	SF6 or Eco Air

MEGACUBE™
ESS+E-House Set

Capacity: 10MWh

Voltage: 0.69-10.5/21/35kV

Power: 5000 kW

10MWh-5000kW

Product Introduction

MegaCube LM-10MWH scales up with two battery containers in parallel and multiple PCS in parallel housed inside the E-House, while the main transformer is an outdoor oil-immersed unit to accommodate higher apparent power and thermal headroom. Despite the larger rating, on-site work remains light thanks to full factory pre-assembly and testing. It targets distribution-level peak shaving, VPP participation and rapid capacity growth—maintaining drop-in compatibility with the 5 MWh module at interface and controls level.

Technical Parameters

LM-10MWh|5MW-0.69|10.5-35kV

System Overview			
Rated energy	10.032 MWh	Rated power	5MW
DC Voltage	1330 V	AC Voltage	0.69 - 10.5/21/35kV
System Architecture	2 Battery container + E-house container (PCS + RMU) + transformer	Dimension	6058×2438×2896 + 6058×2438×2896 + 6058×2438×2591 + 3420X3070X3000
Weight	113t	IP level	IP55 + IP54 (converter IP65)
Battery Energy Storage			
Layout	2 × C173F5016		
Nominal Capacity	10.032 MWh	CH/DCH Rate	0.5/0.5 C
Nominal Voltage	1330 V	Voltage Range	1160-1480 V
Maximal Current	4320 A @Vmin	Cycle Life	≥6000 cycles @80% SOH
Service Life	20 years	Charging Temperature	20-50 ℃
Dimension (per Container)	6058×2438×2896 mm	Discharging Temperature	10-50 ℃
Weight (per Container)	43 t	Storage Temperature	-30-55 ℃
IP Level	IP55	Relative Humidity	≤95%(non-condensing)
Altitude	≤3000 m		
PCS			
Layout	3 parallel × EH-2000-HA-UD		
Max. DC Voltage	1500 V	DC Voltage Range	1000-1500 V
Max. DC Current(per PCS)	2245 A	System DC Current Capability	6735 A
DC Loading Ratio	65%	DC Operating Margin	35%
AC Output Power(per PCS)	2200kVA@30℃, 2000kVA@45℃, 1750kVA@50℃	System AC Output Power	6600kVA@30℃, 6000kVA@45℃, 5250kVA@50℃
Max. AC Output Current(per PCS)	1841A@30℃, 1674A@45℃, 1465A@50℃	System max. AC Output Current	5523A@30℃, 5022A@45℃, 4395A@50℃
Nominal AC Voltage	690V,3W+PE	AC Voltage Range	607-759 V
Nominal Grid Frequency	50/60 Hz	Harmonic (THD)	<1.5% at 100% load
Power Factor	-1 to +1	Ingress Protection rating	IP65 (converter)
Max. Efficiency	99%	European Efficiency	98.5%
Cooling	Forced air	Operating Temperature Range	-40-+60 ℃ (derating above 45 ℃)
Relative Humidity	0-100% (non-condensing)	Max Altitude	5000 m (derating above 3000 m)
Dimension	3450×1435×2350 mm	Weight	4200 kg
Transformer			
Isolation mode	Oil-immersed	Rated Power	6.3 MVA
LV/MV	0.69/21kV(Optional: 11/35kV)	Transformer Vector	Dyn11
Overall Dimension	3420X3070X3000 mm	Oil Type	natural ester oil
RMU (Optional)			
Rated Voltage	24 kV	3s Short-time Withstand Current	21 kA / 3 s
Rated Frequency	50/60 Hz	Peak Making Current	54.6 kA
Rated Power Freq Withstand (1 min)	50/60 kV	Grounding Circuit Making Current	21/54.6 kA（rms/peak）
Lightning Impulse Withstand	125/145 kV	Short-circuit Breaking Current	21 kA
Rated Current	630 A	Earth Fault Current	48 A
Internal Arcing Level	AFLR	Enclosure Protection Class	IP54/IP4X
Protection Grade of Airbox	IP67	Gas	SF6 or Eco Air

SST SOLID-STATE TRANSFORMER R&D

Next-generation semiconductor-based power conversion

To reinforce our European premium quality DNA, the company has established an R&D center for European electrical and SST standards in China. The core technical team is led by senior engineers from China, Germany, and the Czech Republic, integrating the latest technological developments from both Europe and China. Our manufacturing base is certified to DIN EN ISO 9001, ensuring the synergy of German design and efficient Chinese production.

Ultra-High Efficiency

⩾98.5% efficiency reduces energy losses and operational costs

Compact Size

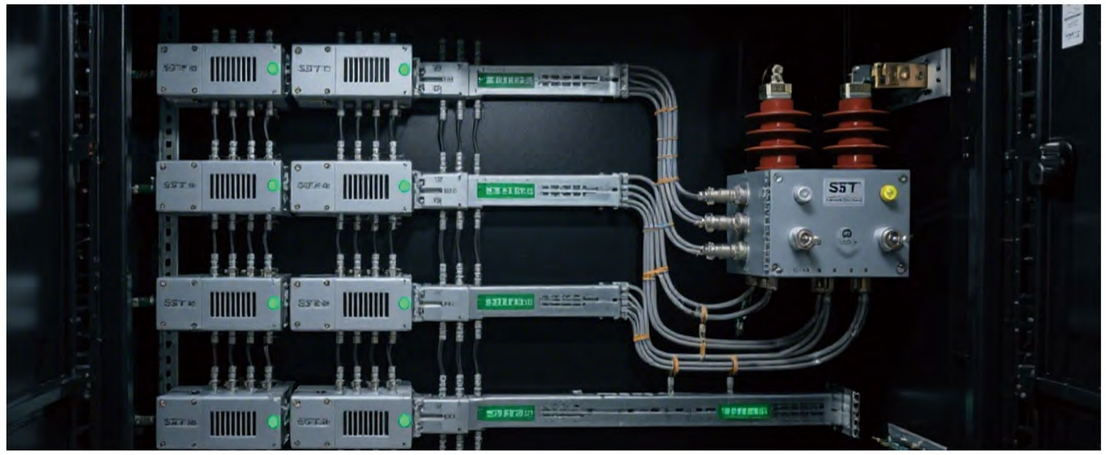
60% smaller footprint compared to traditional transformers

Bidirectional Power

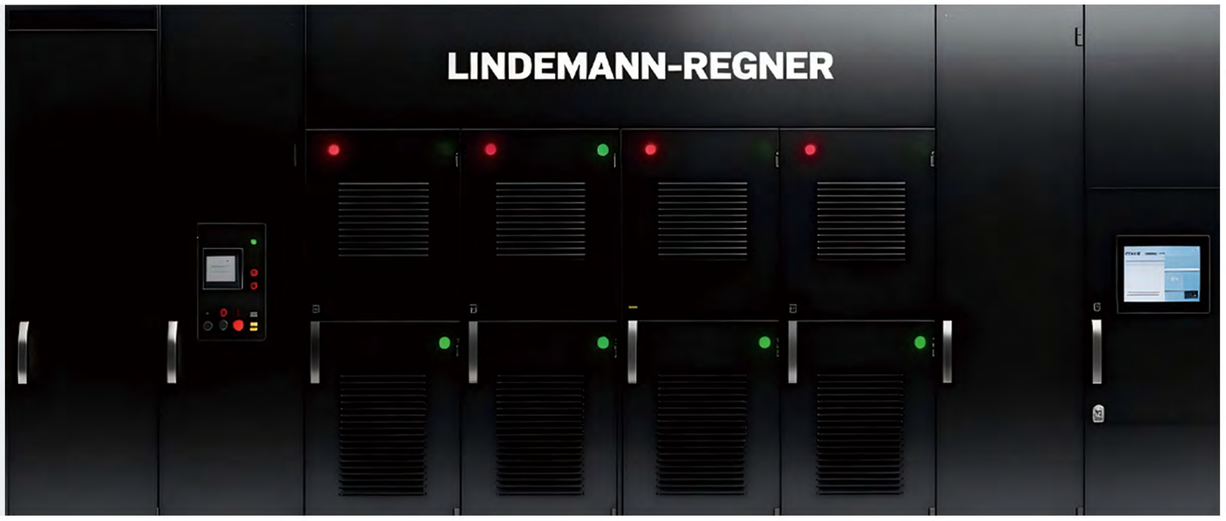
Seamless power flow control for grid stabilization and storage integration

Fast Protection

Millisecond-level protection with <10 ms fault isolation



Currently, the company is conducting in-depth collaboration with globally renowned universities such as TU Dresden (Germany) and Shanghai Jiao Tong University (China), jointly developing SST solid-state transformers and key components. Medium-voltage MW-class products are expected to be launched in 2027, undergoing the most rigorous TÜV performance testing in Germany. With European top-tier quality as its foundation, the technology aims to drive the global power equipment upgrade and contribute to the energy transition through the strength of German engineering and Chinese industrial excellence.



EPC

FULL LIFECYCLE PROJECT MANAGEMENT

The company operates as a German EPC provider (Engineering, Procurement, Construction) within the European and Middle Eastern energy sectors. Its activities focus on comprehensive lifecycle management of complex energy projects, covering all stages from conceptual design to long-term operation. The service portfolio spans the entire value chain of energy infrastructure projects, including offshore wind grid connections, energy storage systems, and large-scale distribution facilities. All projects are executed in accordance with German engineering and safety standards, ensuring efficiency, operational reliability, and sustainability through an integrated management approach.

Technical Consulting and Project Evaluation

Energy audits, feasibility studies, and market assessments form the basis for customized solutions in compliance with DIN,EN,and IEC standards.

Lifecycle-Oriented Planning and Design Optimization

Design and planning are based on total lifecycle cost analysis, combining accurate budgeting with performance-oriented engineering.

Procurement and System Integration

Strict supply chain control and the use of European resources guarantee adherence to the highest quality and energy efficiency requirements.

Digital and Modular Construction

Modular design principles and digital monitoring systems shorten construction time and reduce on-site risks.

Quality Assurance and Maintenance

After the project is put into operation, intelligent monitoring, preventive maintenance and rapid response services will be provided.

Project Refinancing & Operational Performance Support

For operational projects, the company provides financial and technical support, enabling clients to improve profitability, cash flow, and long-term asset performance.

SERVICE

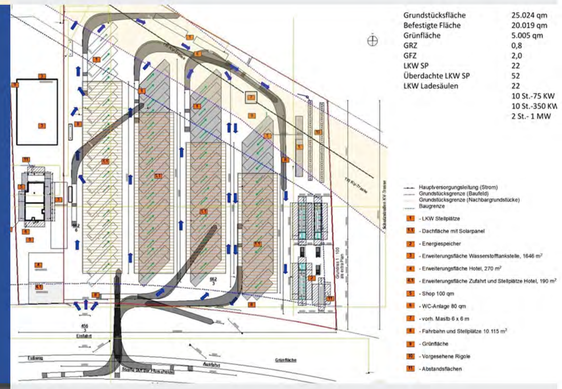
From conceptual planning to long-term operation, LND Energy provides comprehensive lifecycle support based on certified engineering, digital supervision, and on-site service expertise. The company's competence covers EPC implementation, transformer and switchgear manufacturing, as well as smart grid and system integration for utility and industrial power networks.

EPC Project & Installation

Turnkey implementation and safe commissioning of medium- and high-voltage transformers, SST systems, and switchgear in full compliance with IEC and EN standards. All projects follow structured execution procedures ensuring electrical, mechanical, and operational reliability throughout commissioning and service life.

Comprehensive Technical Maintenance

Preventive and corrective maintenance programs defined under Service Level Agreements (SLAs) secure maximum equipment uptime, operational safety, and extended lifecycle performance. Condition monitoring and predictive diagnostics enable proactive maintenance strategies and optimized cost efficiency.



HV/MV Transformer & System Design

Engineering design and simulation for distribution networks, grid interconnections, and microgrids, including load-flow studies, short-circuit analysis, and ROI modeling. System architectures are developed in accordance with European grid codes and regional operating conditions.

GLOBAL DELIVERY & SERVICE NETWORK

Leveraging a coordinated network of German R&D, Chinese intelligent manufacturing, and global logistics, LND Energy has established a rapid delivery and service network ensuring 72-hour service response and 30–90 day core equipment delivery.

After-Sales Service

A service network headquartered in Munich and covering France, the Czech Republic, Hungary, Poland, and Dubai, with more than 20 authorized service partners across Europe, enables 72-hour response times and 24/7 remote technical assistance.

Production Assurance

Regional production and logistics centers in Lübeck, Shanghai, and Dubai maintain strategic inventories of transformers, RMUs, and switchgear systems, guaranteeing continuous supply capability for major grid and EPC projects.

Warehousing Network

Dedicated long-term storage facilities at Lübeck, Shanghai, and Dubai ensure the immediate availability of key components for core regional markets.

Logistics Coordination

Through cooperation with DHL and international logistics providers, a multimodal transport concept—comprising sea, air, and land routes-enables 48-hour dispatch within Europe and 30- to 90-day global delivery. For critical infrastructure projects, the "Global Priority Dispatc" program ensures time-bound delivery and coordinated commissioning support.

LND ENERGY PROJECTS

01 180 kW Ultra-Fast Charging + Customized BESS + LND Energy High-Efficiency Power Conversion

Advanced German grid-boosting technology ensuring efficient and stable charging performance.

02

LND Energy Integrated Off-Grid / Microgrid Solution

Hybrid power supply with solar PV, diesel generation, BESS, and EMS.

03 LND Energy Grid-Connected / Microgrid System

1000 W peak load management + 180 kW ultra-fast charging. Self-developed MP-ESS-200 modular cabinet integrated with 137 kWp PV array.

04

100 kW Stable Microgrid for Irrigation Supply

Reliable operation under extreme temperatures up to 55 °C, integrating PV, diesel generation, BESS, EMS, and active liquid cooling.

05

5 MVA High-Capacity Microgrid with Charging Infrastructure

Grid-connected hybrid solution combining PV generation and dynamic AC/DC load management.