### GOLDWIND CENTRAL ASIA & MENA

Levent Loft Residence, Esentepe Mah. Buyukdere Cad. No: 201, A Blok
D: 80-81-34394 Sisli, Istanbul-Türkiye
T: +90 212 280 00 15

### **GOLDWIND NORTH AMERICA**

20 N Wacker Drive, Suite 1375 Chicago, IL 60606 USA T: +1 - 312 - 948 - 8050 E: info@goldwindamericas.com

# **GOLDWIND SOUTH AMERICA**

Torre Marble - Av. das Nações Unidas, 14171 - conj. 1101 - Vila Gertrudes, São Paulo - SP, 04794-000 T: +55 (11) 3898 4033 E: southamerica@goldwind.com

# **GOLDWIND EUROPE**

Im Langental 6, D-66539 Neunkirchen, Germany E: europe@goldwind.com

### **GOLDWIND AFRICA**

9th Floor, Sinosteel Plaza, 159 Rivonia Road, Morningside, Sandton, Johannesburg, South Africa, 2196 T: +27 (0)10 007 2450 E: africa@goldwind.com

## **GOLDWIND AUSTRALIA**

Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000, Australia T: + 61 (2) 9008 1715 E: info@goldwindaustralia.com

## **GOLDWIND ASIA**

#10-11.02, Floor 10-11, Worc@Q2, No.21, Vo Truong Toan street, Thao Dien Ward, Thu Duc City, Ho Chi Minh City, Vietnam T: +84 (0) 28 66519088
E: asia@goldwind.com.cn



GOLDWIND SCIENCE & TECHNOLOGY CO., LTD.

www.goldwind.com E-mail: Corporate\_Comms@goldwind.com





**Product Portfolio** 

# **Driving Our Renewable Future**

48 countries across 6 continents

Global Business Network

167.3<sup>+</sup> billion CNY

**Total Assets** 

56.7 billion CNY

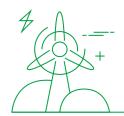
Operation Revenue (2024)

2 IPOs

Listed in Shenzhen and Hong Kong

10,000<sup>+</sup> employees

Over 3,000 R&D Personnel





**Goldwind's Global Team of Professionals and Strategic Partners Designs Next-Generation Clean Energy Solutions for New Power Systems** 



**28%**<sup>+</sup>

R&D Personnel in the Workforce



National Level Scientific Research Programs



2.8<sup>+</sup> billion CNY

R&D Investment (2024)



National Enterprise Technology Center



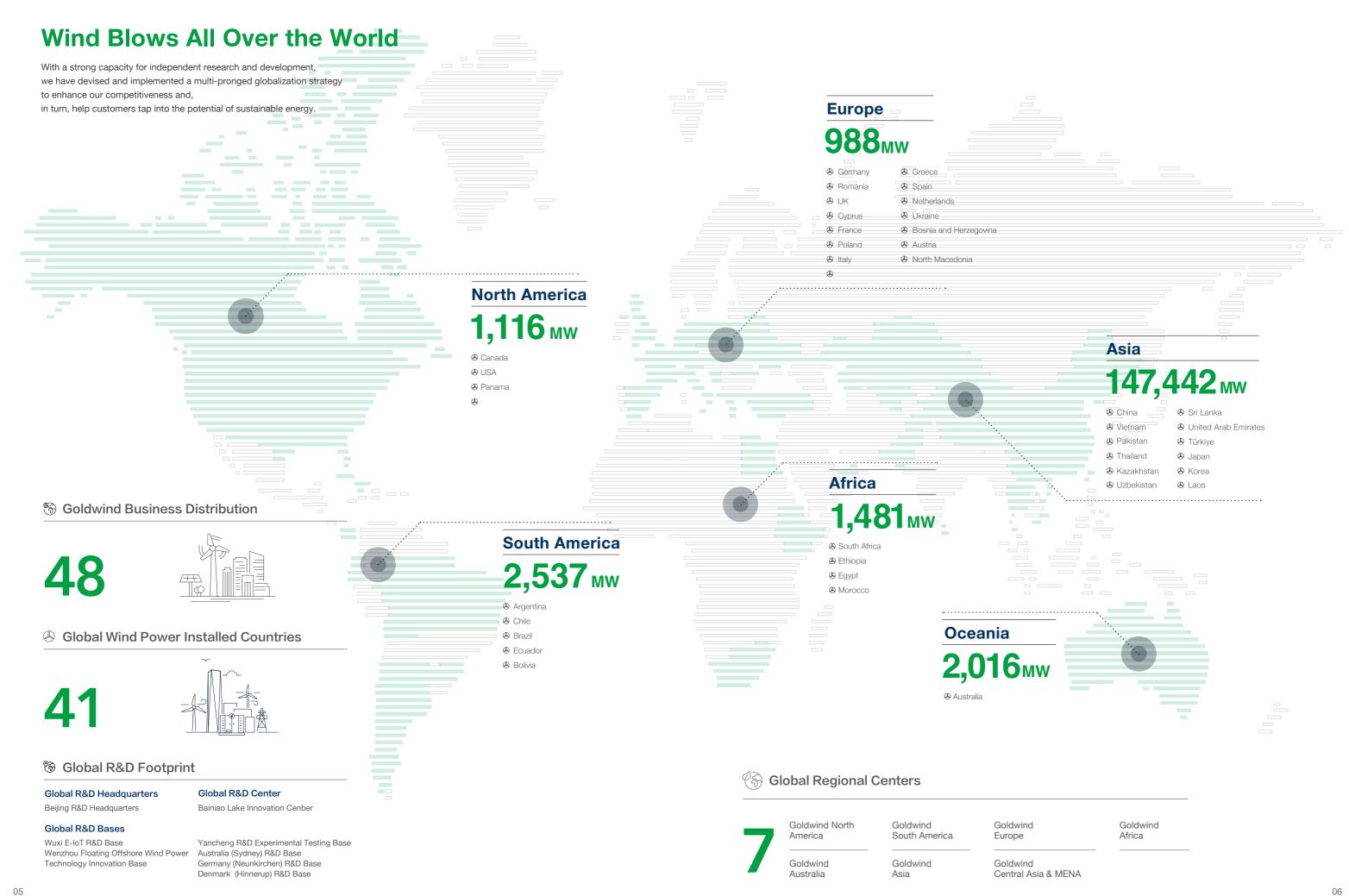
**7,600**+

Technology Patent Applications



Postdoctoral Programs

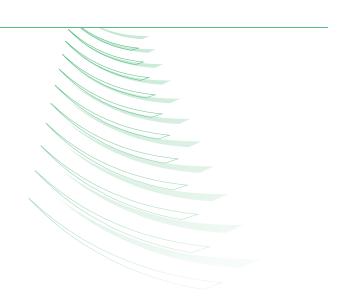








# Behind Each Smart Wind Turbine Is the Endless Pursuit of Technological Innovation and Excellent Quality





# **Higher Efficiency**

Proprietary airfoil & Carbon fiber blades
Permanent magnet drivetrain + Full-power converter
Guaranteed efficiency, sustained high power output



# **Smart Dispatch for Max Revenue**

Lifecycle dispatch & market-aware control for assured ROI



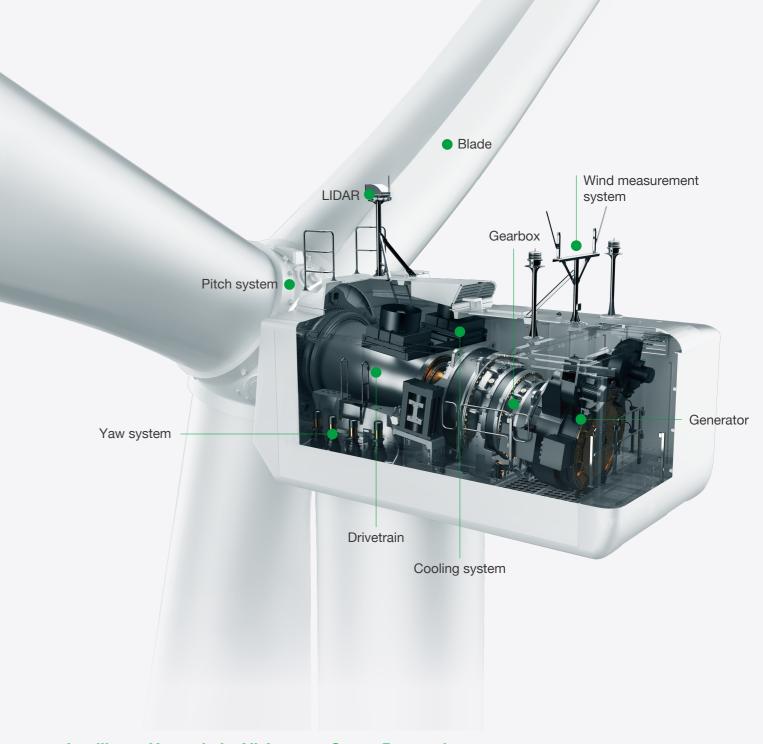
# **Higher Reliability**

Beyond-standard simulation & Five-dimensional testing Enhanced reliability, minimal defects Over 99% operational availability



Integrated wind-solar-storage solution enhances power stability

Superior grid-forming performance and reduces overall system cost



# **Intelligent Upgrade in All Aspects Smart Perception**

Real-time monitoring of severe wind conditions such as gusts, turbulence and wind shears can be conducted based on the advanced environment reconstruction algorithm for the perception system. The advanced unit controlling algorithm decreases the unit's operation risks while improving power generation.

# **Smart Diagnosis**

A comprehensive wind turbine health diagnosis and assessment system continuously monitors the status of core components online to early warning unhealthy facilities, reducing the overall failure rate.

# **Smart Coordination**

Based on the Goldwind intelligent wind farm control system, intelligent cooperative control schemes such as flow field synchronous control and full life cycle control are used to improve wind farm profits.

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# **Goldwind Onshore Platform Series**

4S/5S	Specification		GW136-4.2MW	GW136-4.8MW	GW155-4.5MW	GW165-5.2MW	GW165-5.6MW	GW165-6.0MW				
Operating parameter	Parameter	Unit										
	Rated power	kW	4200	4800	4500	5200	5600	6000				
	Wind class	IEC	IIA	IIB	IIIB	IIIB	S	S				
	Cut-in wind speed	m/s	2.5	2.5	2.5	3	3	3				
	Rated wind speed	m/s	11.2	11.3	10.8	10.7	11	11.4				
	Cut-out wind speed	m/s	25	25	24	24	24	24				
	Designed service life	year	20	20	20	20	20	20				
	Operating temperature	°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C				
	Survival temperature	°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C				
Rotor system	Rotor diameter	m	136	136	155	165.8	165.8	165.8				
	Swept area	m <sup>2</sup>	14527	14527	18869	21590	21590	21590				
Generator	Туре	\	Permanent magnet synchronous generator									
	Rated voltage	V	740	740	760	950	950	950				
	Туре	\		Full power converter								
Converter	Max Power factor regulation range	\	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.95 ~ inductive 0.95	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9				
	Rated output frequency	HZ	50/60	50/60	50/60	50/60	50/60	50/60				
	Rated output voltage	V	690	690	690	900	900	900				
	Aerodynamic brake system	\	Aerodynamic braking by feathering of three blades									
Brake system	Mechanical brake system	\	Generator hydraulic brake (for maintenance)									
Yaw system	Type/design	\ \	Motor-driven									
	Yaw bearing	\	Sliding bearing	Sliding bearing	Ball slewing bearing	Sliding bearing	Sliding bearing	Sliding bearing				
Control system and lightning protection	Туре	\	PLC control system									
	Lightning protection design standard	\	IEC 61400-24									
	Lightning protection level	\ \ \	LPLI									
	Туре	\	Steel tower									
Tower	Hub height	m	100 or site-specific	100 or site-specific	95/110/140 or site-specific	110 or site-specific	110 or site-specific	110 or site-specific				

# **Goldwind Onshore Platform Series**

7H/9H	Specification	GWH170-7.2MW	GWH175-7.8MW	GWH182-5.3MW	GWH182-6.0MW	GWH182-6.2MW	GWH182-7.2MW	GWH182-7.5MW	GWH182-8.0MW	GWH204-10.5MW				
Operating parameter	Parameter L	Init												
	Rated power I	W 7200	7800	5300	6000	6200	7200	7500	8000	10500				
	Wind class I	EC S	S	S	S	S	S	S	S	S				
	Cut-in wind speed r	n/s 2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5				
	Rated wind speed r	n/s 11.9	11.5	10	10.6	10.9	12	12.1	12.7	12.7				
	Cut-out wind speed r	n/s 24	24	24	24	24	24	24	24	24				
	Designed service life y	ear 25	20	25	25	25	25	25	25	25				
	Operating temperature	°C -30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-30°C~+45°C	-20°C~+40°C				
	Survival temperature	°C -40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-40°C~+50°C	-30°C~+50°C				
Rotor system	Rotor diameter	m 170	175	183.5	183.5	183.5	183.5	183.5	183.5	204				
	Swept area	m <sup>2</sup> 22698	24053	26446	26446	26446	26446	26446	26446	32685				
Gearbox	Туре	\	Three-stage planetary											
Generator	Туре	\	Permanent magnet synchronous generator											
	Rated voltage	V 1380	1380	1380	1380	1380	1380	1380	1380	1380				
	Туре	\	Full power converter											
Converter	Max power factor regulation range	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.95 ~ inductive 0.95	Capacitive 0.9 ~ inductive 0.9	Capacitive 0.9 ~ inductive 0.9				
	Rated output frequency	HZ 50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60				
	Rated output voltage	V 1140	1140	1140	1140	1140	1140	1140	1140	1140				
Brake system	Aerodynamic brake system	Aerodynamic braking by feathering of three blades												
	Mechanical brake system	\	Generator brake (for maintenance)											
Yaw system	Type/design	Motor-driven												
	Yaw bearing	\	Sliding bearing											
Control system and lightning protection	Type	PLC control system												
	Lightning protection design standard	\ IEC 61400-24												
	Lightning protection level	LPL I												
Tower	Туре	Steel tower/hybrid tower												
	Hub height	m 105 or site-specific	105 or site-specific	110 or site-specific	110 or site-specific	110 or site-specific	110 or site-specific	110 or site-specific	110 or site-specific	120 or site-specific				





The fully digital intelligent manufacturing system integrates all elements from workforce capabilities and automated systems to material optimization, data-driven processes, and sustainable environmental integration, enabling transparent processes, rapid response, and intensive efficiency.

A wind power logistics optimization solution featuring "digital transportation prediction + full-chain standardization + transportation resource matrix + specialized equipment adaptation" covers the entire "prediction-execution-emergency" cycle, achieving the largest delivery scale in the industry.



620<sup>+</sup>

In-House Overseas O&M Personnel **7.1 GW** 

O&M Capacity Overseas 30<sup>+</sup>

Countries Covered by Our O&M Network

# Global spare parts supply

Global supply of components:

93 site warehouses

14 national warehouses

3 central warehouses

# **Regional digital operation centers**

6 Global Digital Operation Centers Enhance generation revenue

# **Spare parts repair & optimization**

ost reduction

6 overseas repair centersin operation

WTG & Photovoltaic components maintenance and operation

# Local talent training

Improve local service capability

Local procurement of 1500+ spare parts

Provide technical training, GWO certification training

# **Environmental Life Cycle Assessment** Goldwind is committed to managing the impact on environment during the full life cycle of wind turbines. We identify the risks and strive to mitigate and avoid the risks during the wind turbine design, manufacturing, transportation, installation, Transportation Installation **Wind Farm Operation** Manufacturing **Raw Materials Decommissioning End of Life** Wind Turbine Full Life Cycle

# Goldwind has obtained the EPD certifications for 4S,5S,7H wind turbines and will continue to apply for the certifications for new products.

EPD is a declaration document on the environmental impact of a product or system throughout its life cycle, including the energy and resource consumption and CO2 emissions at all stages of the life cycle.

For a wind turbine, its life cycle includes the production of its parts/raw materials, production and assembly of the wind turbine, transportation and site installation of its large components, operation and maintenance for 20 years and above, and dismantling, recycling and reuse at the end of service life.





# **ENVIRONMENTAL PRODUCT DECLARATION**



# GW155-4.5MW

Program OperatorEPDItalyIssue Date2020/12/10PublisherEPDItalyValid to2025/12/10Registration NumberEPDITALY0134



# **GW136-4.2MW**

Program OperatorEPDItalyIssue Date2020/12/10PublisherEPDItalyValid to2025/12/10Registration NumberEPDITALY0135



# GWH182-5.3/6.2/7.2/7.5MW

Program Operator EPDItaly Issue Date 30/11/2023
Publisher EPDItaly Valid to 30/11/2028
Registration Number EPDITALY0508



# GW165-5.2/5.6/6.0MW

Program OperatorEPDItalyIssue Date21/04/2022PublisherEPDItalyValid to21/04/2027Registration NumberEPDITALY0266



# GWH170-7.2MW&GWH175-7.8MW&GWH182-8.0MW

Program OperatorEPDItalyIssue Date02/10/2025PublisherEPDItalyValid to02/10/2030Registration NumberEPDITALY0852