



# Goldwind Group Corporate Introduction

Beijing, October 2013

# Agenda

## **Part 1** Company Overview

Part 2 Technology, Products and Solutions

Part 3 Internationalization Strategy

Part 4 Corporate Social Responsibility

Part 5 Corporate Aspiration

# Goldwind at a glance

**15**  
Years

Over 15 years of experience in the wind industry.

**16**  
GW

Over 16GW of power installed worldwide as of 2012.

**13,300**  
Turbines

Over 13,300 wind turbines installed worldwide as of H12013.

**2**  
IPOs

Two public stock exchange listings (Shenzhen and Hong Kong).

**3**  
Awards

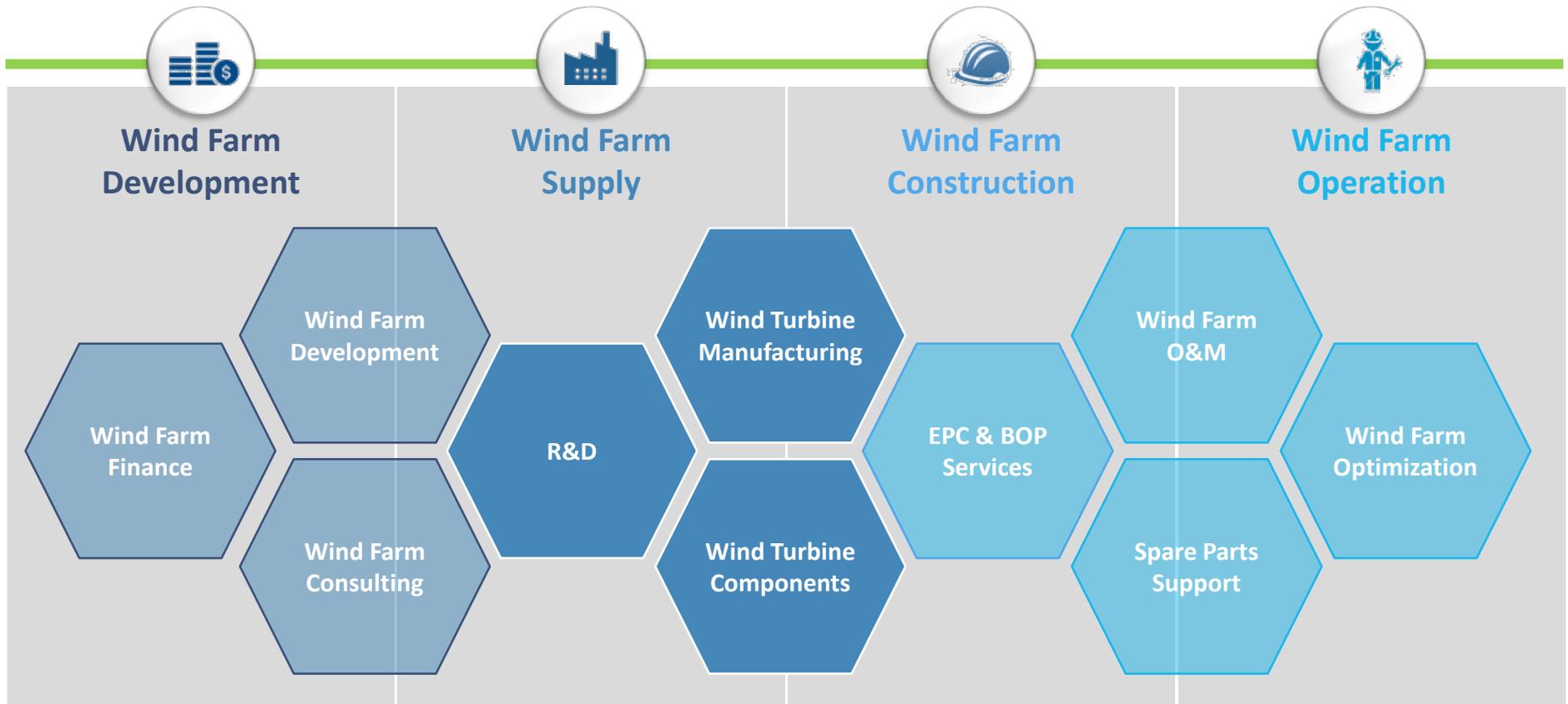
Recognized (2010 - 2012) by MIT as one of the 50 most innovative companies.

**1<sup>st</sup>**  
China

The largest WTG OEM in China since 2011.

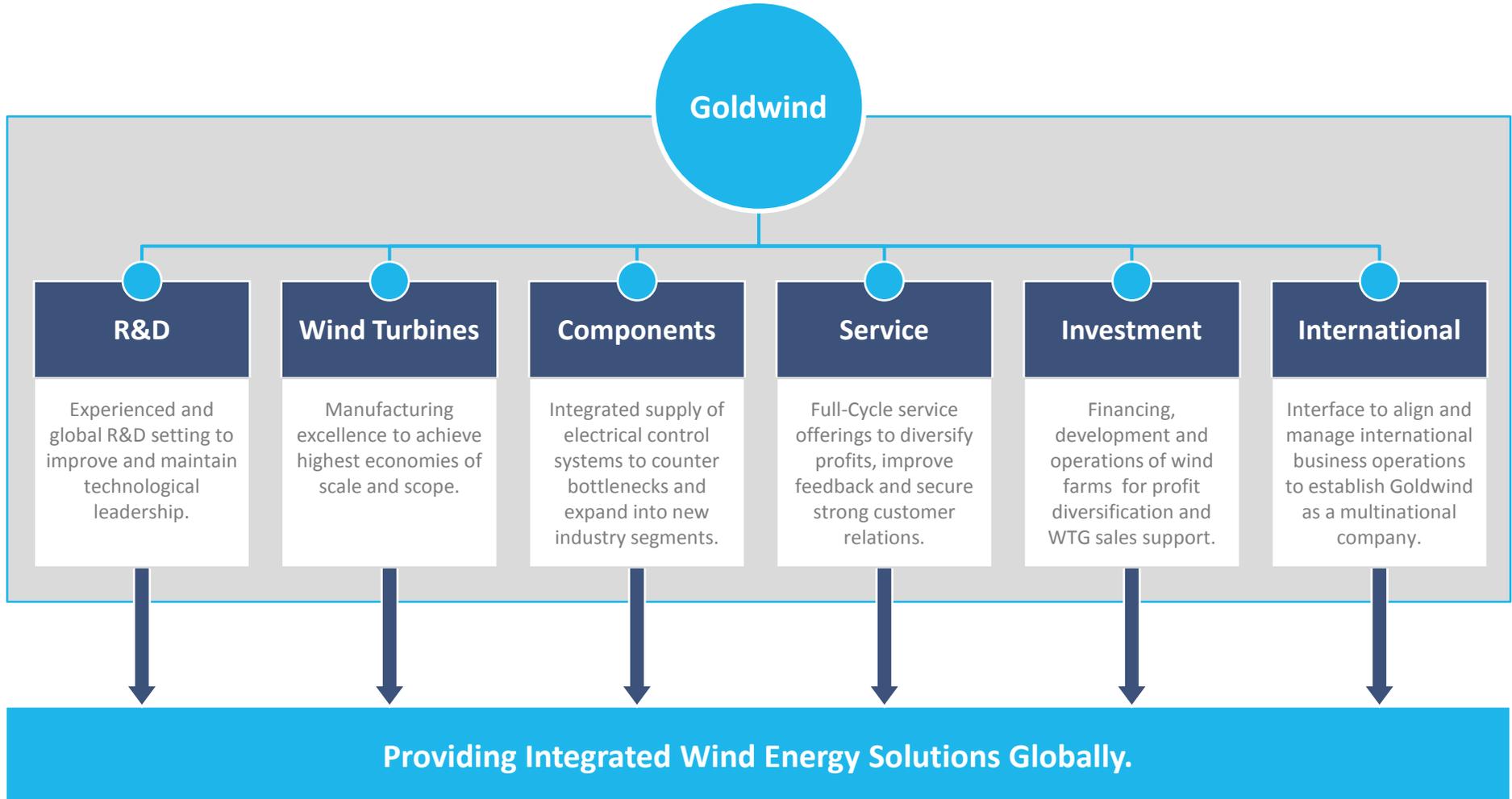
# Our Business Model: A provider of integrated solutions

Goldwind offers a comprehensive turnkey menu of services including R&D, project development, turbine manufacturing, project management and after-sale service.



# Our Organization: Well positioned to achieve our goals

We can offer diversified solutions through globalization, expansion of our existing business segments and development of new business lines.



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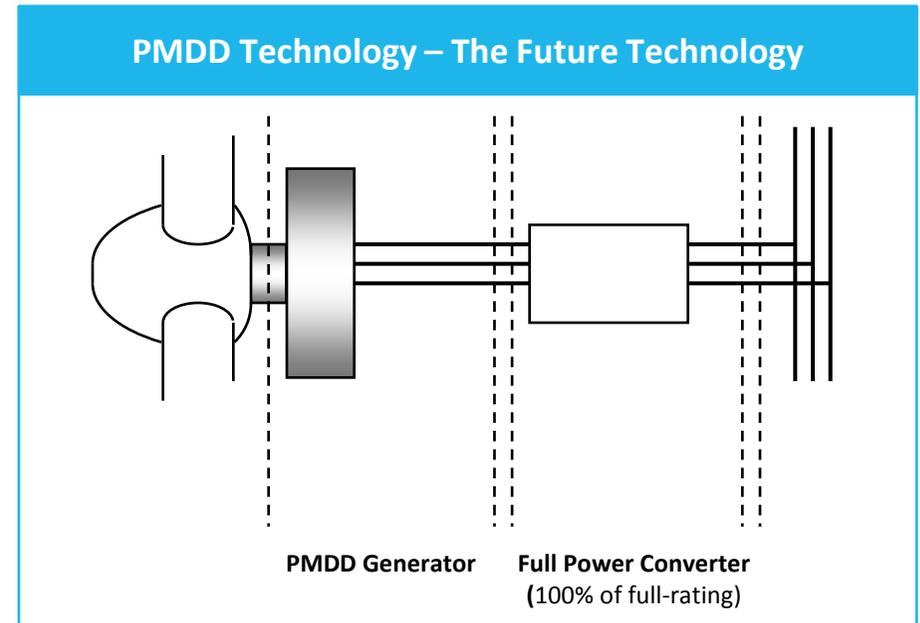
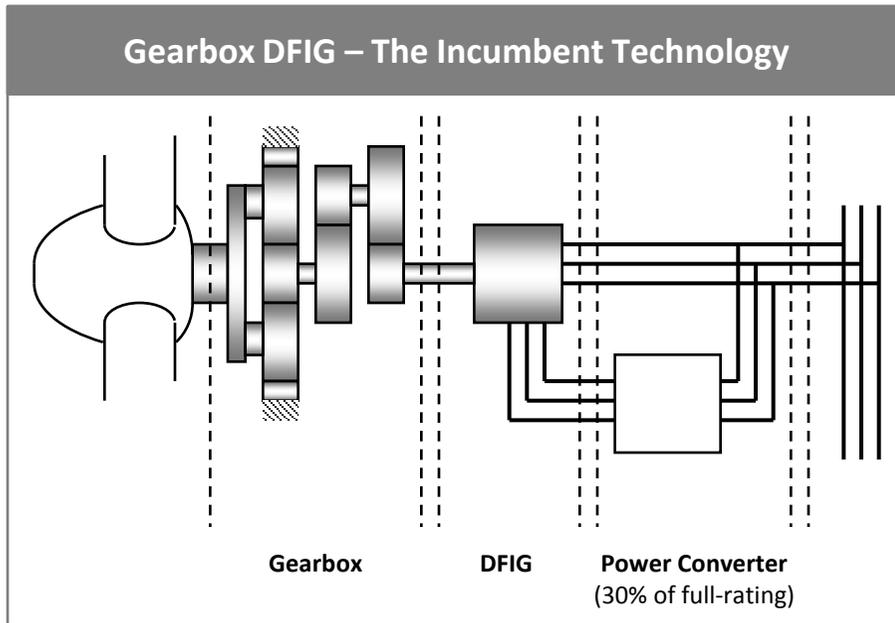
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# PMDD provides essential technological benefits

The simplicity of the Permanent Magnet Direct Drive technology improves reliability, enhances power output and minimizes maintenance cost.



## Direct Drive



- Eliminates failure of gearboxes
- Eliminates gearbox energy losses
- Reduces number of parts required

## Permanent Magnet Generator



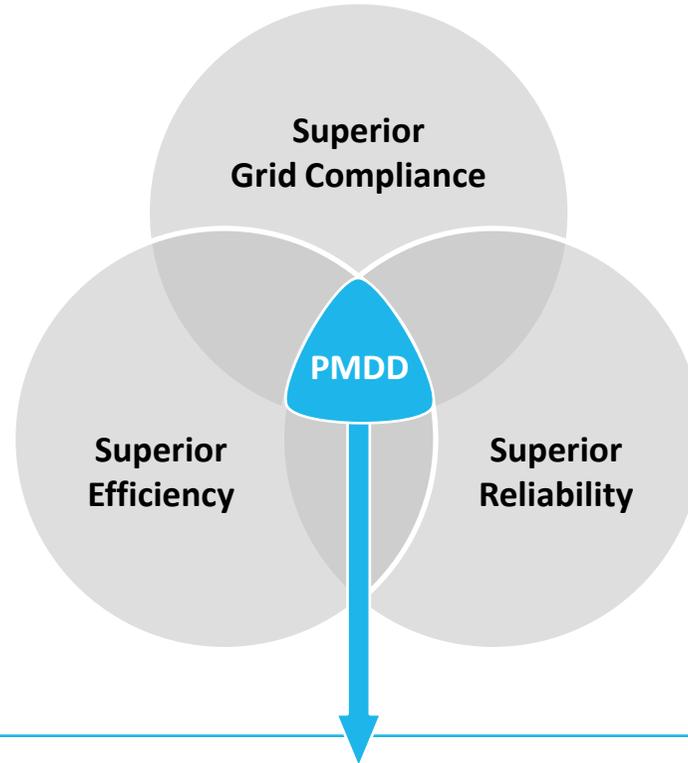
- Better fault ride through/zero power requirement to energize
- Eliminate secondary winding losses
- Eliminate slip rings & associated maintenance

## Full Power Converter

- Grid friendly
- More control and operational flexibility
- Meet Future Grid Codes and Requirements

# PMDD: The superior generator for strong wind energy economics

Goldwind has optimized its direct-drive permanent magnet design and enhanced its essential benefits to ultimately lower cost of energy for the customer.



**3–5 %**

Higher Power Output

**Higher Top-Line &  
Lower Bottom-Line**

**20 %**

Lower Maintenance Cost

# Partnered for Success: Goldwind and Vensys lead the industry

Partnership provides mutual benefits to both parties so that success is maximized. With Vensys, Goldwind possess over 20 years of PMDD R&D expertise



## Cutting-Edge Technology

Pioneer of Direct Drive Technology

Strong team of leading wind energy experts

Technology-focused business model

License and component revenue streams

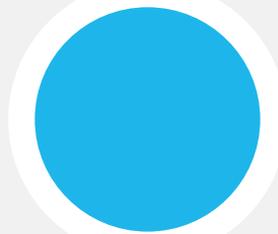
## Full-Scale Wind Energy Solutions

Cost-efficient manufacturing excellence

Global sales presence & customer relations

Highly competitive all-round business model

Strong financing & capital capabilities



**1990**  
Began R&D of  
DD WTGs

**1995**  
Developed 1st  
600kW DD WTG

**2003**  
Joint R&D of 1.2MW  
DD WTG

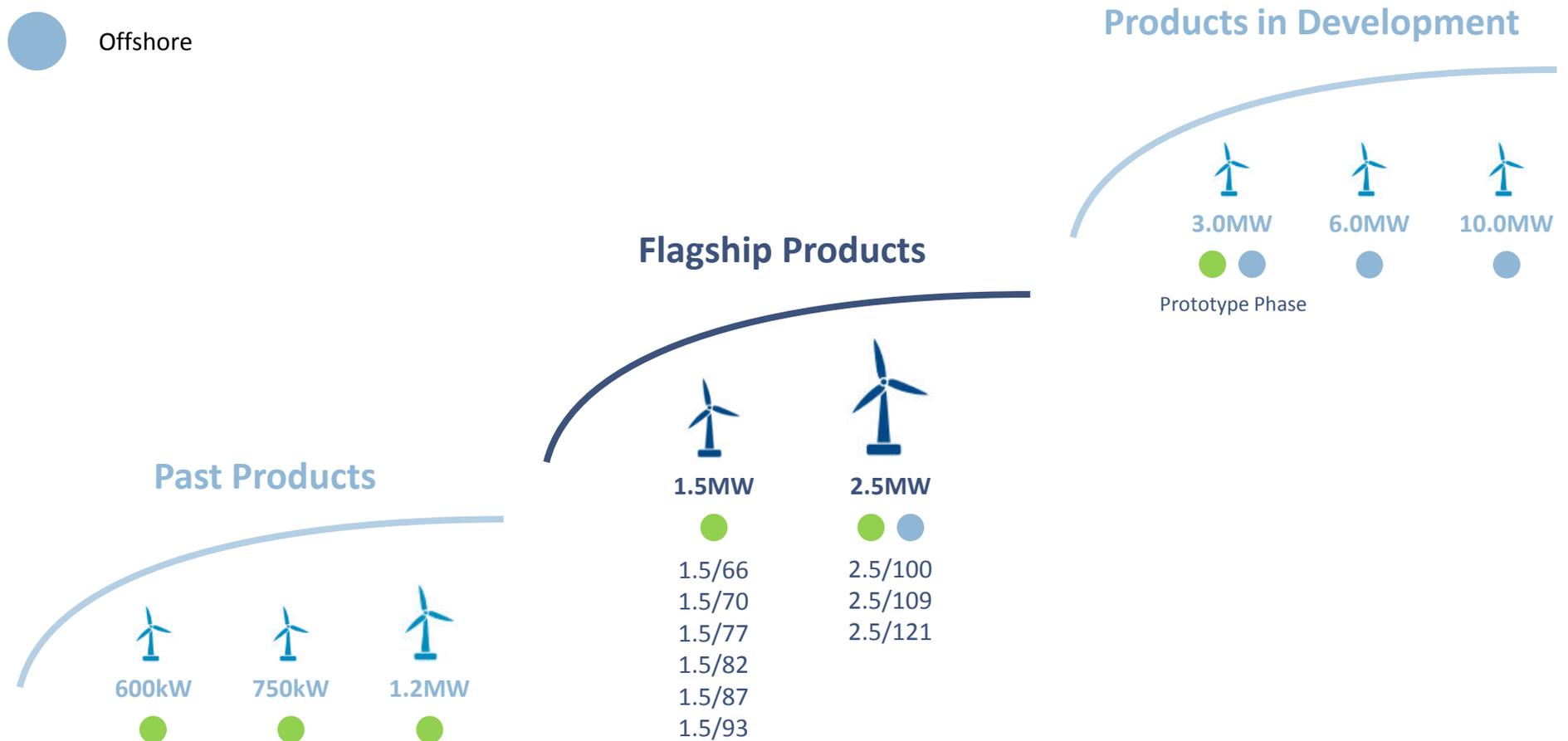
**2004**  
Joint R&D of 1.5MW  
DD WTG

**2008**  
Goldwind Acquired  
70% of Vensys

**2009**  
Joint R&D of 2.5MW  
DD WTG

# Our Products: Development that satisfies our customers needs

Progressive evolution in developing a highly competitive portfolio of WTGs with a systematic approach to achieve the best combination with blade, tower and foundation.



# Focus on Innovation: Product specialization drives our sales success

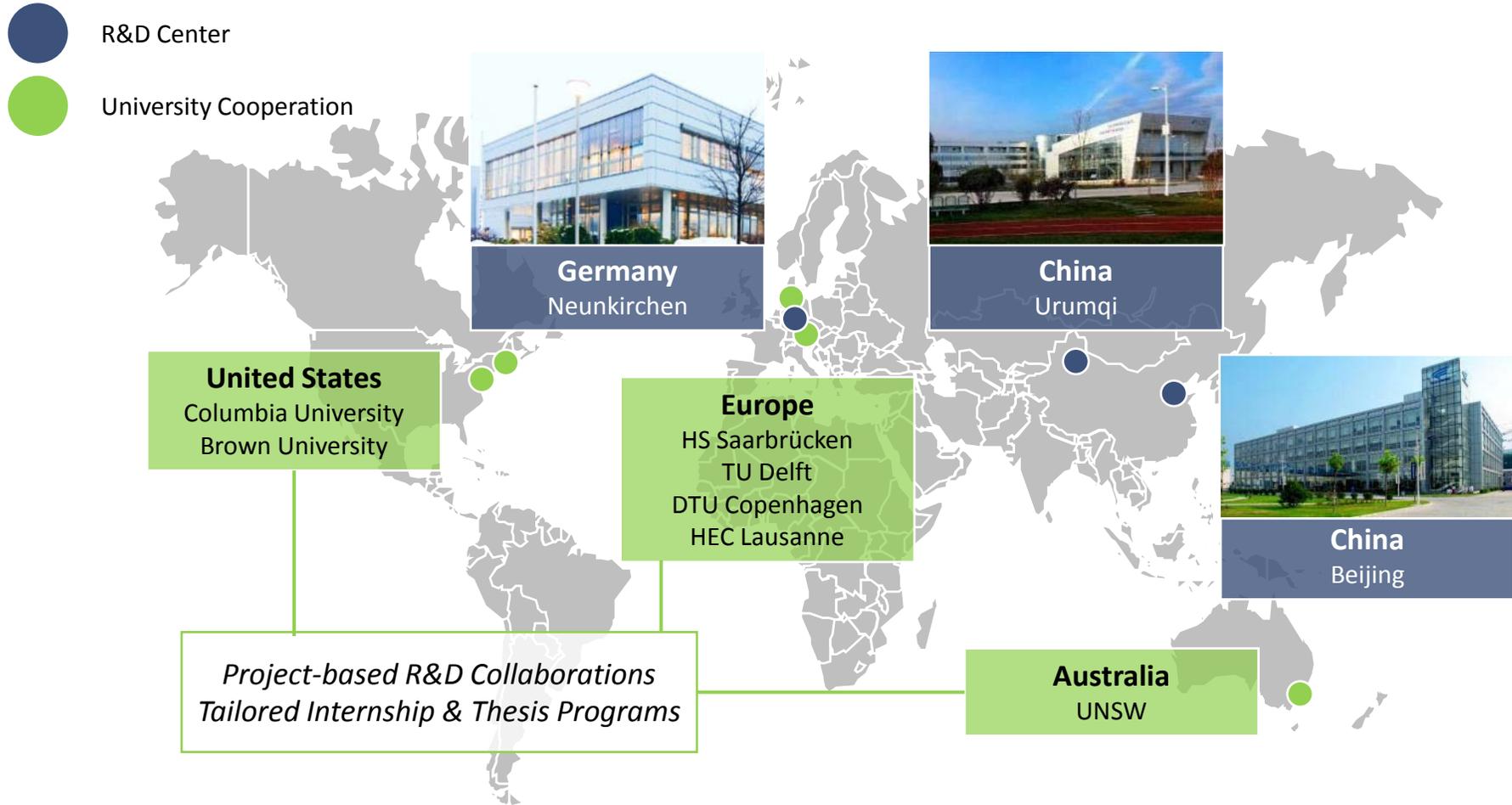
Specialized products designed for challenging environments drive China sales and give Goldwind a competitive advantage in the global market.



Environment	China Installations	Global Installations
Low temperature	Heilongjiang, Liaoning, Jilin, Inner Mongolia, Xinjiang, Hebei, Gansu, Ningxia	USA
High temperature	Jiangxi, Hainan	Ethiopia, Pakistan
High altitude	Yunnan, Guangxi, Guizhou, Qinghai	Ecuador, Chile
Low wind speed	Beijing, Hebei, Shanxi	Cyprus
Coastal/intertidal	Jiangsu, Jiangxi, Shandong	
Offshore	Jiangsu, Liaoning	

# Global R&D: Leveraging international synergies and knowledge

Goldwind employs over 800 R&D and Service engineers based in 3 R&D centers and holds strong partnerships with leading universities around the world.



# Supply Chain Excellence: Creating a global supply footprint

We achieve to create global long-term partnerships with the leading suppliers in the industry and demonstrate our commitments to local suppliers.



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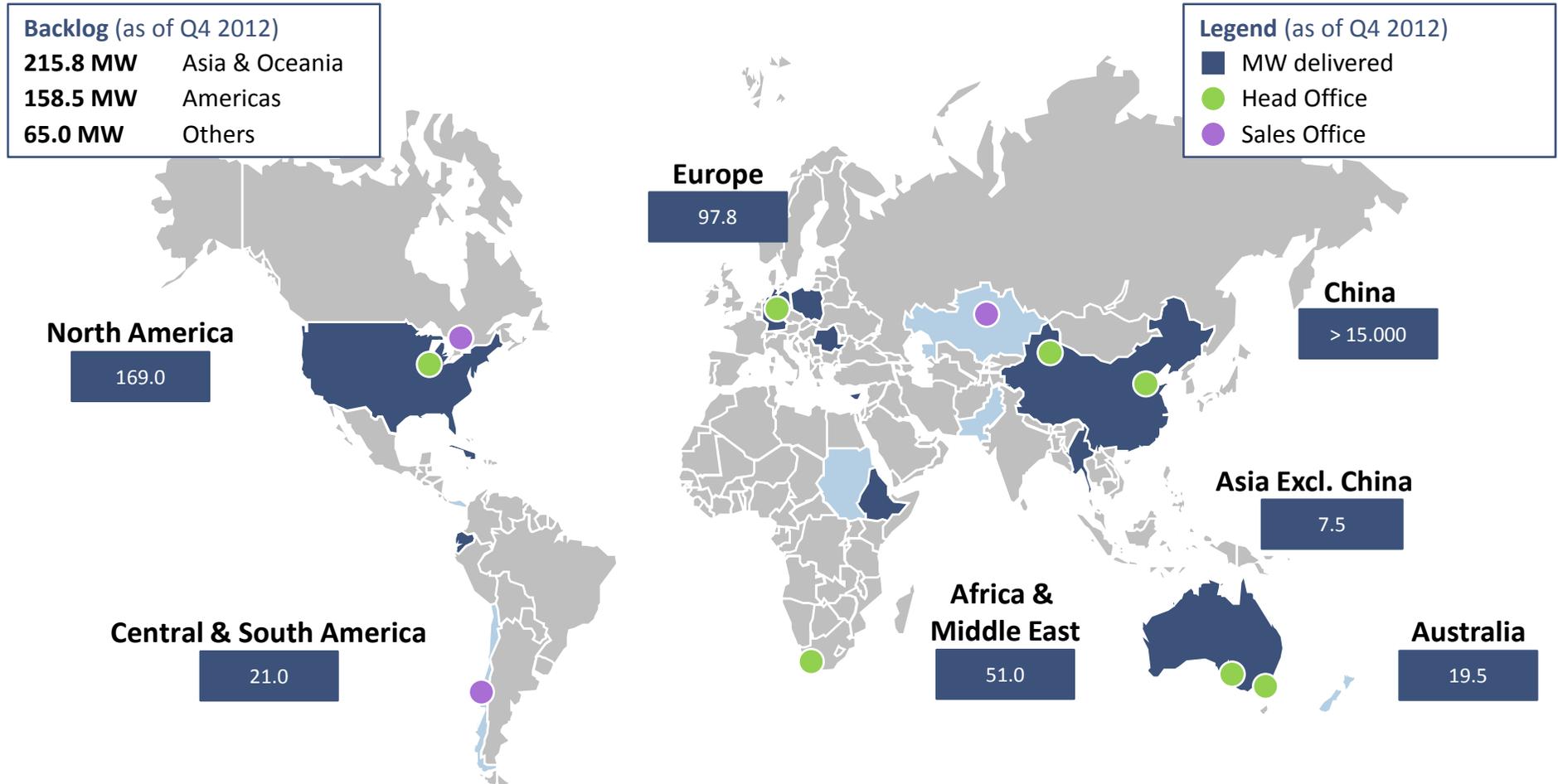
# Globalization through localization

Globalization through localization leads to tailored solutions as well as quantifiable, long-term returns and benefits for local communities, and sets Goldwind apart as a global leader.



# The Goldwind Group has a growing international track record of 372MW

With over 366 MW delivered and a backlog of 439 MW outside of China, Goldwind is successfully developing a broad international footprint.



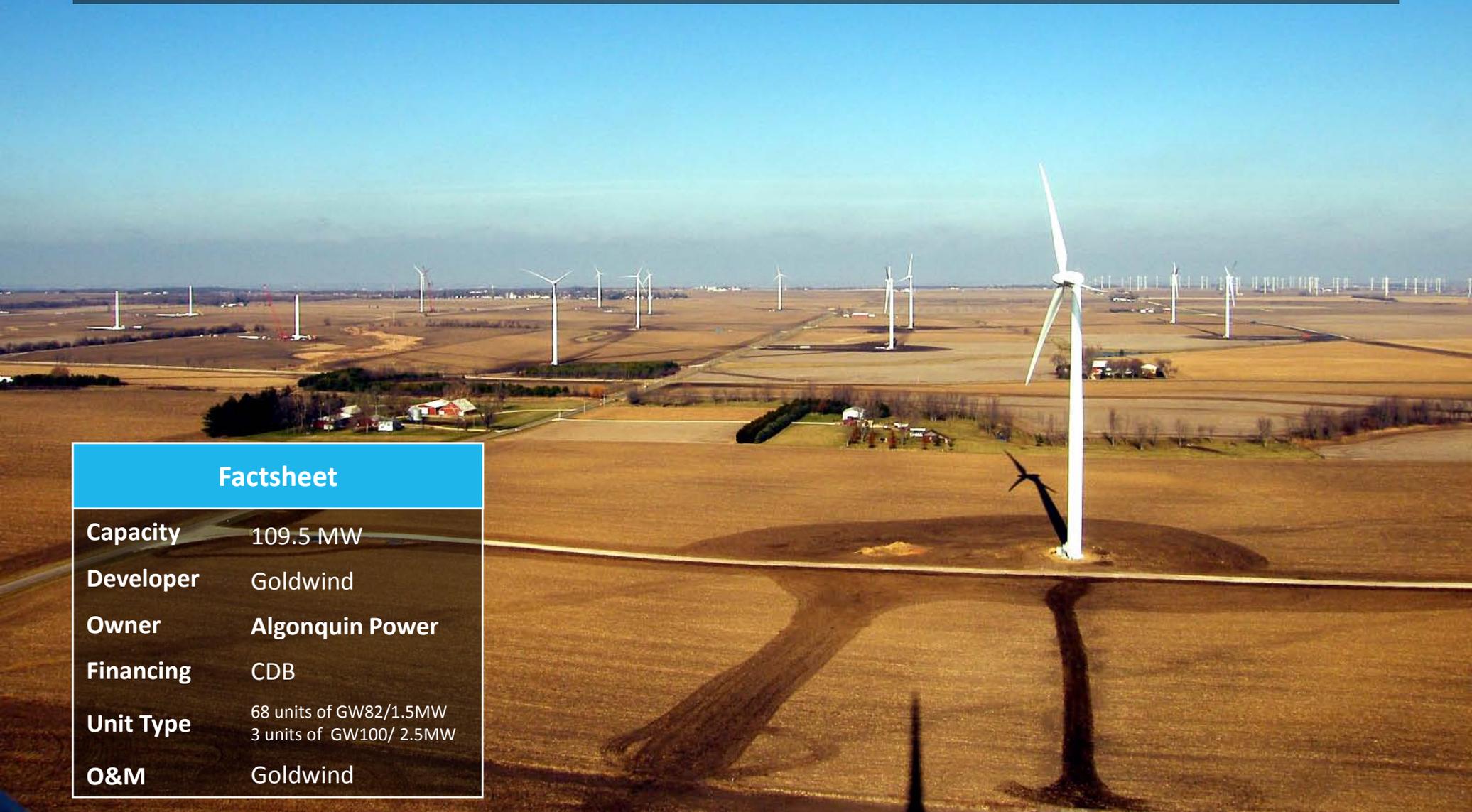
Note: International deliveries includes internal sales to international projects and sales by majority-owned subsidiary Vensys

# North American Case Study: US Shady Oaks project

Goldwind's largest foreign wind project demonstrates its strong international EPC and O&M capabilities.

## Factsheet

<b>Capacity</b>	109.5 MW
<b>Developer</b>	Goldwind
<b>Owner</b>	<b>Algonquin Power</b>
<b>Financing</b>	CDB
<b>Unit Type</b>	68 units of GW82/1.5MW 3 units of GW100/ 2.5MW
<b>O&amp;M</b>	Goldwind



# Africa Case Study: Ethiopia Adama project

Adama Wind Farm awarded African Wind Project of the Year at Terrapinn's 2011 Africa Energy Awards.



## Factsheet

<b>Capacity</b>	51.0 MW
<b>Developer</b>	Hydro China
<b>Owner</b>	Ethiopia Electric
<b>Financing</b>	China Ex-Im Bank
<b>Unit Type</b>	GW77/ 1.5 MW
<b>O&amp;M</b>	Goldwind

# South America Case Study: Chile Ckani Project

The Ckani project is developed through a Joint Venture between Goldwind and Mainstream.

## Factsheet

<b>Capacity</b>	70.5 MW
<b>Developer</b>	GW & Mainstream
<b>Owner</b>	GW & Mainstream
<b>Financing</b>	CDB
<b>Unit Type</b>	GW 87 / 1.5
<b>O&amp;M</b>	Goldwind

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Goldwind Installed Capacity

> **16 GW**

Equivalent to

- >12 million tons coal saved per year,
- > 29 million tons carbon emissions reduced per year,
- > 21 million acres newly planted forest.



Equivalent to

# Hong Kong

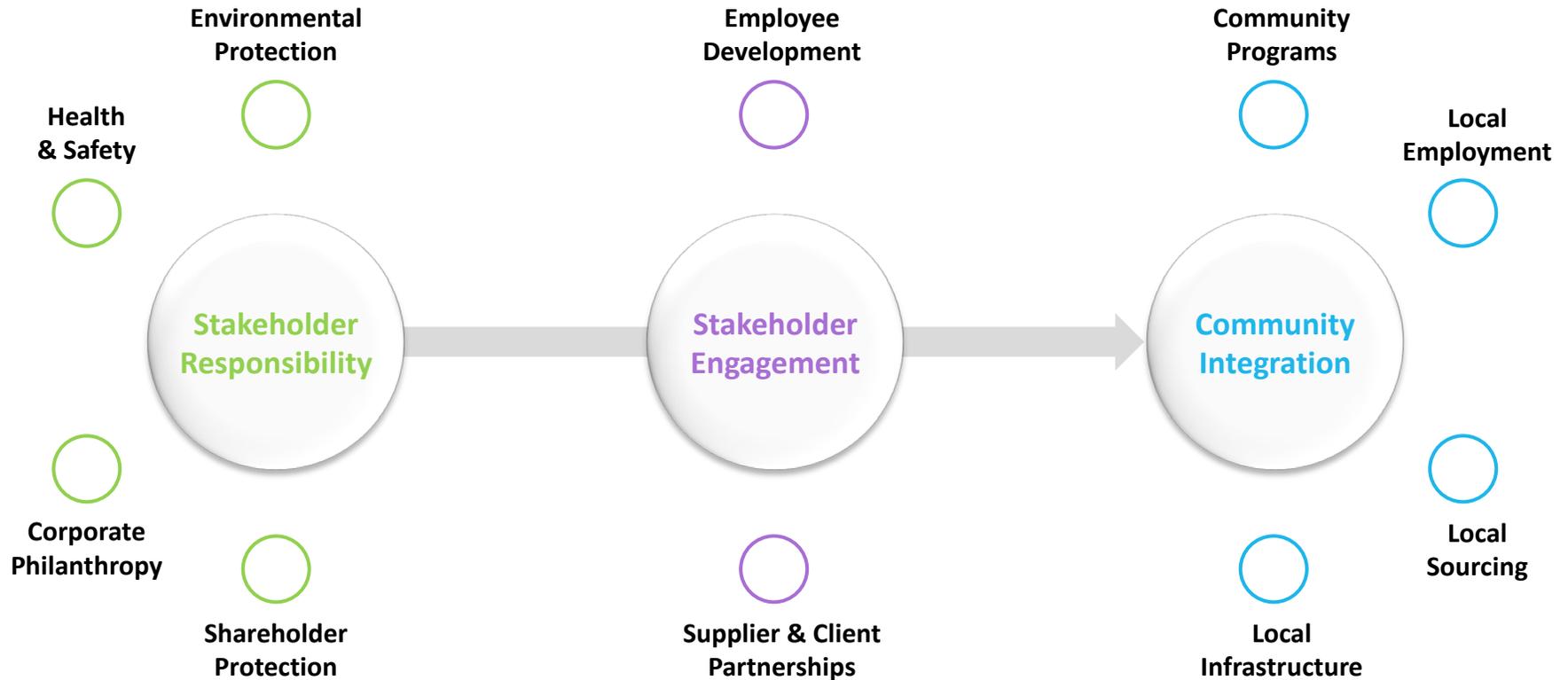
Total Annual Electricity Use



More than  
**Sidney**  
Total Annual Electricity Use

# From Corporate Social Responsibility to Proactive External Integration

Goldwind takes a comprehensive approach towards corporate responsibility to provide environmental, social and economic benefits.



# Employee Development: Goldwind University (GWU)

In September 2011, Goldwind launched the first corporate training and recreation facility within China's wind turbine manufacturing industry.



# North American Case Study: US Shady Oaks project

From construction through operation, Shady Oaks generates significant economic and fiscal benefits in the United States and the community.

## Economic Benefits

Over 900  
Construction Jobs  
+  
Project-related  
activities

Over 20  
Operation Jobs  
+  
Project-related  
activities

## Fiscal Benefits

Property Taxes  
+  
Lease Payments

Over 20 Years

Over  
**\$ 200 Million**  
Economic & Fiscal  
Benefits

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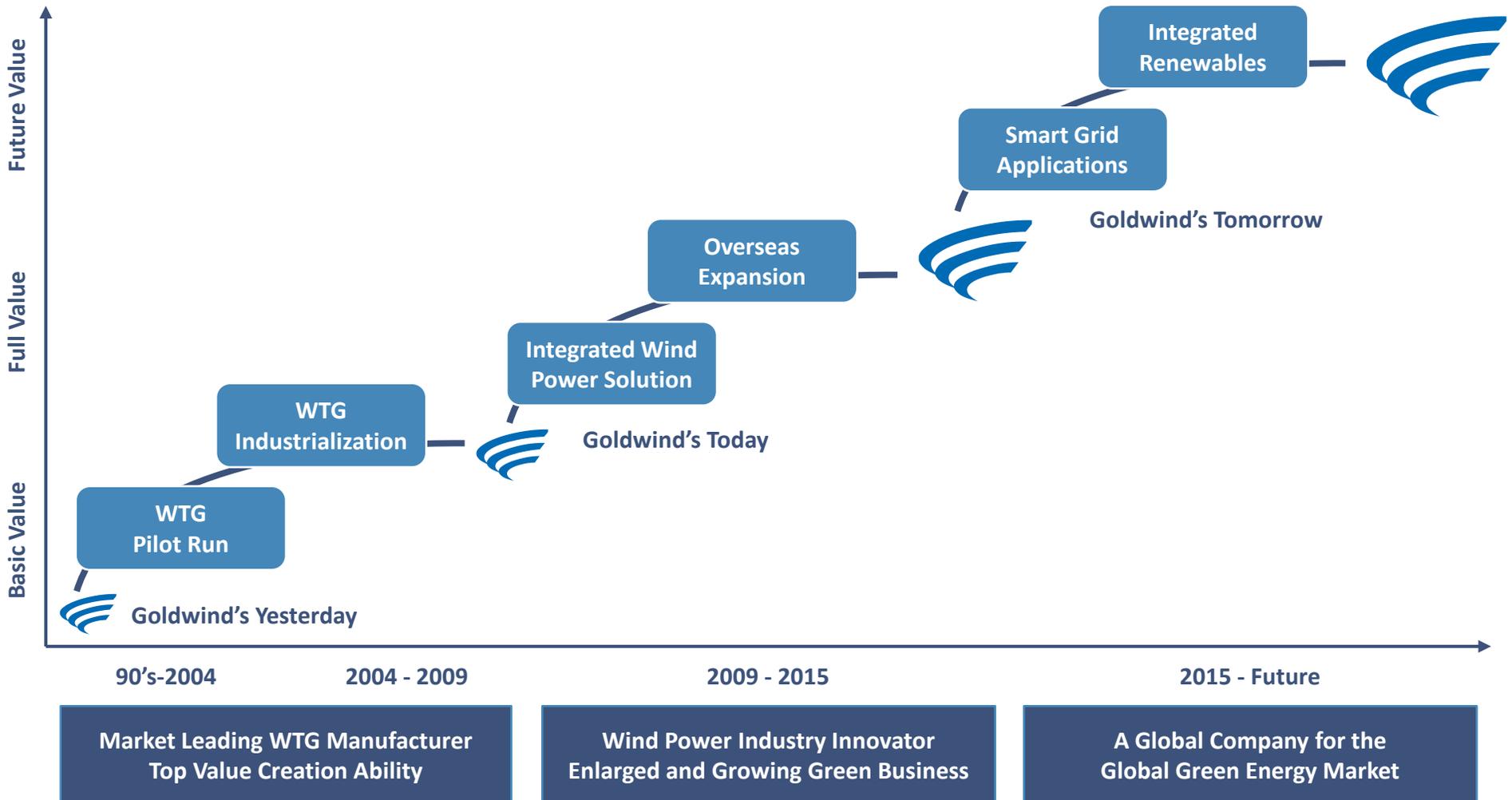
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# Our Goal: A global company for the global green energy market

Goldwind is devoted to advance the global wind industry and transforms its portfolio of integrated wind power solutions into an enhanced set of offerings across renewables.



# Promising market---- ECOWAS : Foreseeable growth



The Economic Community Of West African States (ECOWAS) includes 15 countries, of which 14 are located on the continent, with a population close to 300 million (based on 2009 estimation).

The West African Power Pool (WAPP) which is a specialized institution of ECOWAS constitutes the institutional framework of the regional electric system.

The strategic objective of the WAPP is based on a dynamic vision of the integration of the operation of the national electricity networks in a unified regional market, with cross borders network and regional generation projects.

Currently, the electric sector of the WAPP countries supplies only 30% of the population. The peak load of the region has exceeded 6500MW for a total consumption of almost 40000GWh.

## ECOWAS : Wind resources of best identified sites

Country	Average wind speed (m/s)	Generation (MWh/y/MW)	Comment
Senegal	6	2588	
Gambia	6	2588	
Guinea-Bissau	5	1717	Low for investment
Guinea	8	4051	
Sierra Leone	Too low	X	No feasible wind project
Liberia	Too low	X	No feasible wind project
Mali	7.2	3531	
Ivory Coast	4.8	1565	Low for investment
Ghana	6	2588	
Burkina Faso	6.5	2999	
Togo	5.8	2451	
Benin	6.5	3006	
Nigeria	7.8	3933	
Niger	8	4051	



# Our Commitment to the West and North African Countries

Goldwind plans to establish its Office in ECOWAS region, which will cover the wind project in the whole area and also in North African countries.

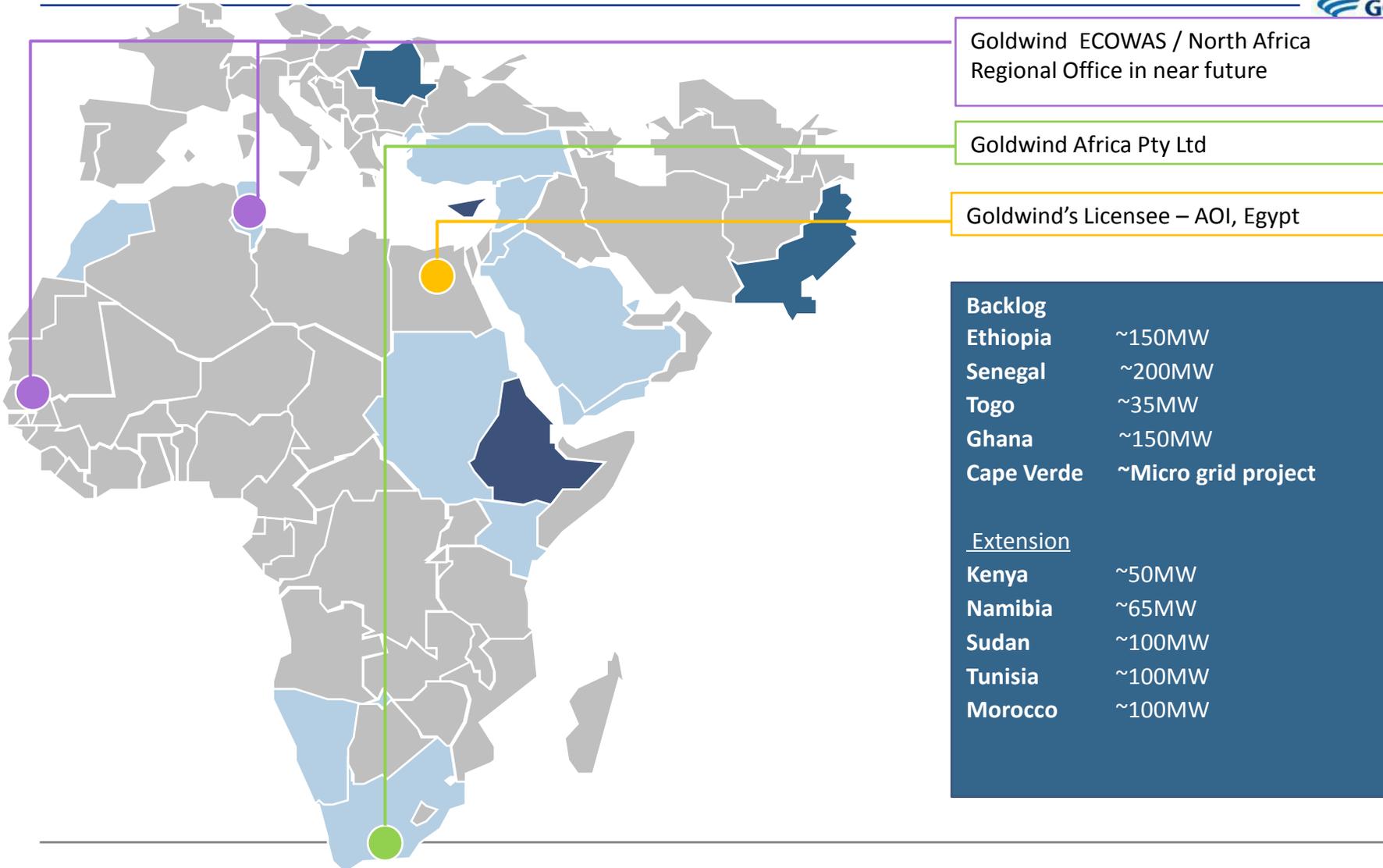


The Fifteen ECOWAS Member States



# Our Commitment to the West and North African Countries

Proven track record and strong backlog



Contact

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