Company Presentation
Senvion GmbH

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Turkey Country Sales Manager

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Agenda

- Overview
- Strategy
- Technology and Service

Overview

Senvion was founded in 2001 by a merger of various companies

Senvion History

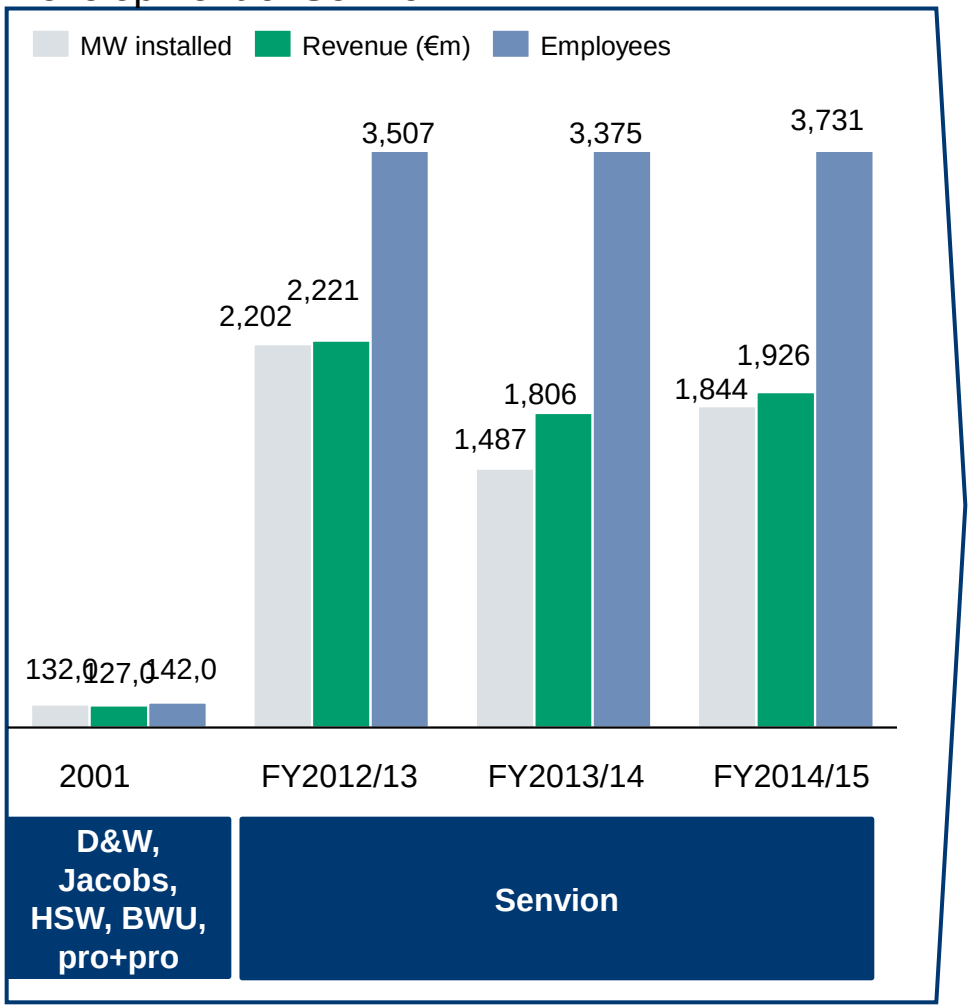
REpower Systems → SENVION wind energy solutions

Company snapshot

- Headquartered in Hamburg, Germany
- Pioneer in offshore area
- Renamed to Senvion in Jan. 2014

A brief review:
We at Senvion have achieved significant growth

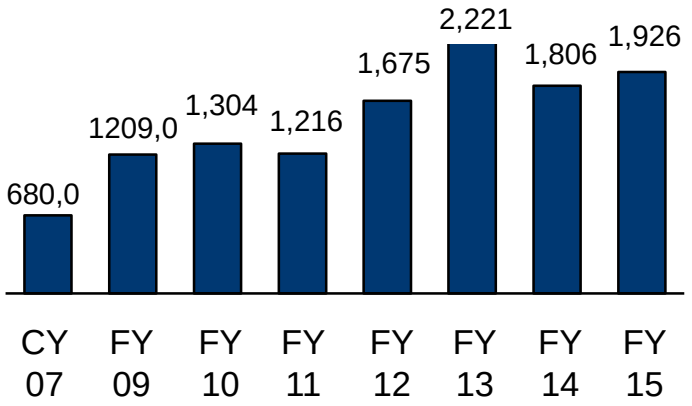
Development of Senvion



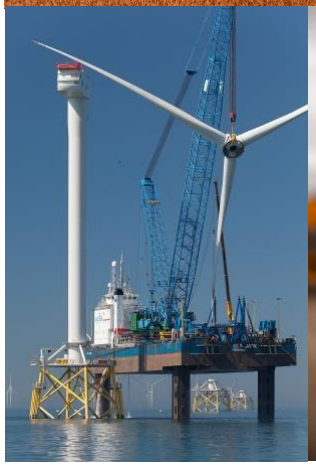
Key facts at fiscal year-end (FY 14/15)

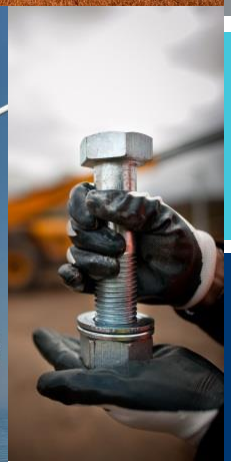
- Cumulative capacity: Approx. 12,000 MW
- Number of turbine installations: Approx. 6,000
- Annual manufacturing capability: Approx. 2,900 MW

Revenue development (€m)



Outstanding successes





Installation Performance
111 multi-megawatt turbines offshore installed

Canada
Contract for 150 MW wind farm "MU" in Quebec signed

Portugal
Contract for five wind farms signed totalling 172 MW

Products
Prototype of Senvion 6.2M152 turbine installed

Offshore
Contract for offshore wind farm Nordergründe totalling 18 x 6.2M126 turbines

Offshore
Contract for 332 MW offshore wind farm Nordsee One

Products
Launch of 3.XM series featuring Next Electrical System (NES)

Products
Launch of 3.2M122 and 3.4M140 for low-wind sites

Acquisition
Centerbridge is the new owner of Senvion

Installation Performance
6,000th wind turbine connected to public power grid.

Strategy

Our USP going forward:
Most reliable price-performance leader

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Vision

"We deliver wind turbines to our customers with a winning price-performance ratio and highest fleet reliability."

Mission

"We will profitably grow until 2018 and ...

... reach 35% onshore market share in our top 5 markets

... reach 20% onshore market share in our other target markets

... stay solid number 2 in offshore."

Our vision and mission
have been translated into five cornerstones of our strategy

Our strategic cornerstones

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1 Regional focus

Product offering 2

Senvion

3 Functional Excellence

Service offering 4

5 Offshore strategy

Our strategic cornerstones enable us for success

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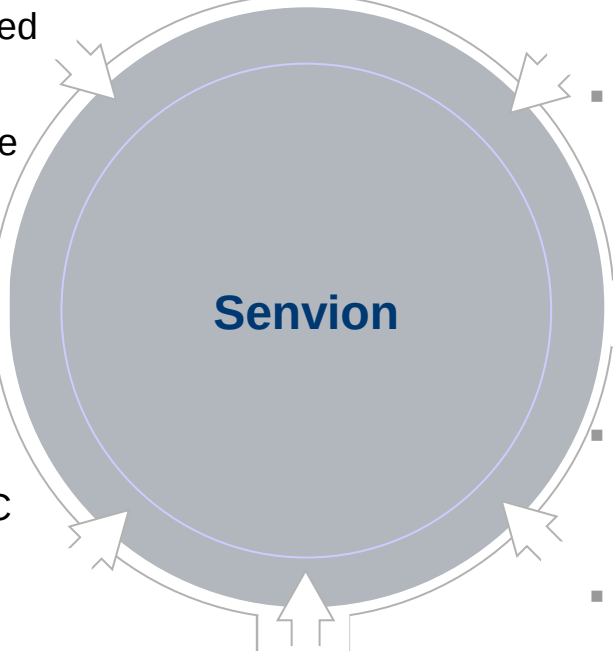
1 Regional focus

- Grow against the trend in our stronghold markets with adjusted sales approach
- Leverage hub structure to serve satellites
- Enter High volume markets

2 Product offering

- Short-term focus on cost-out and performance upgrades
- Mid-/Long-term focus on advancing our platforms to establish a new performance benchmark



3 Functional Excellence

- Leveraging cost reduction
- Ensure process stability in SC and PD
- Improve quality

4 Service offering

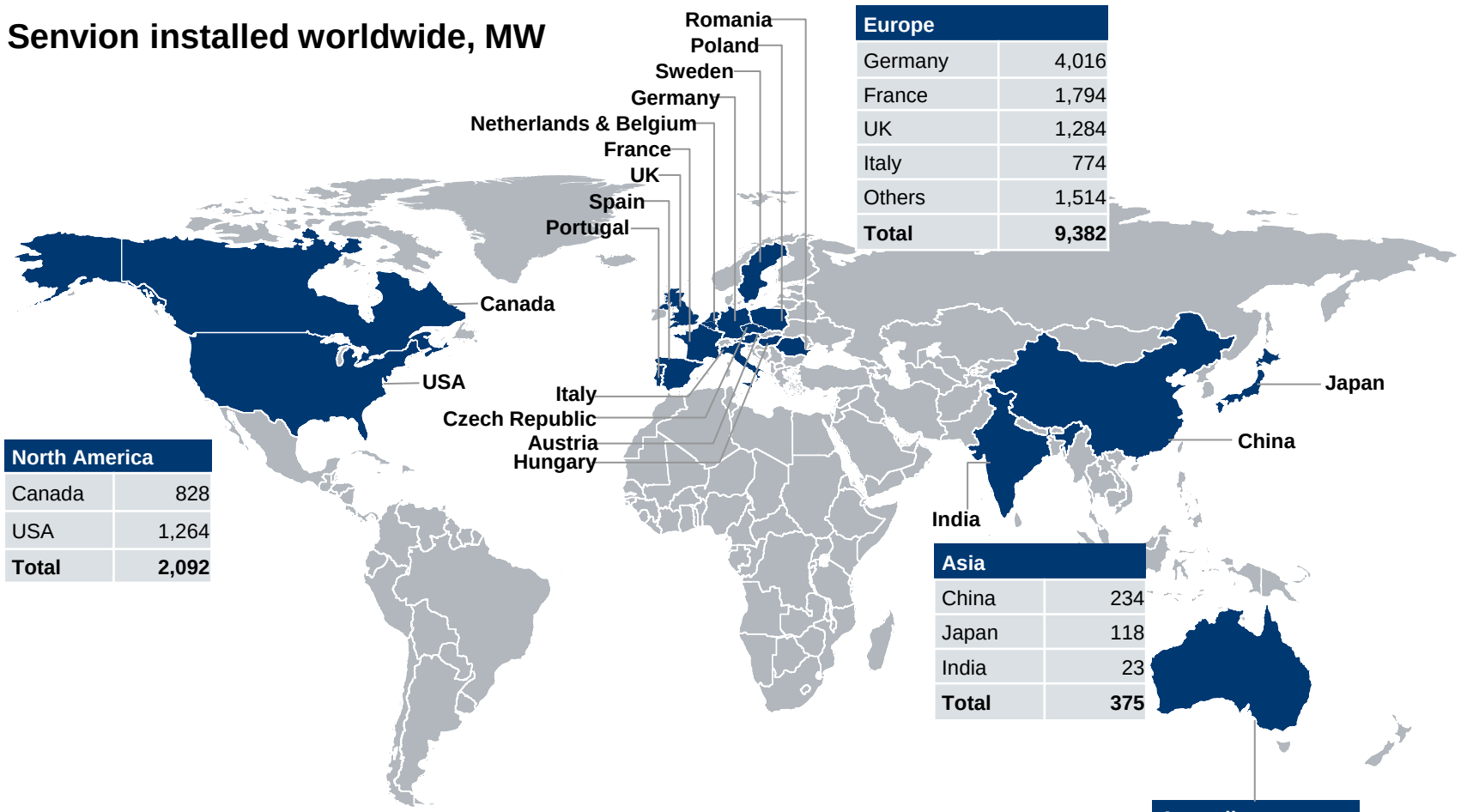
- Optimize the service business performance of Senvion
- Develop new service products and increased focus on after sales

5 Offshore strategy

- Leverage 6.XM platform and build on strong positioning as current number 2 in offshore market
- Improve balance sheet to compete for projects

12.288 MW installed worldwide ...
... which is ~3% of the global installed capacity.

Senvion installed worldwide, MW



Europe	
Germany	4,016
France	1,794
UK	1,284
Italy	774
Others	1,514
Total	**9,382**

North America	
Canada	828
USA	1,264
Total	**2,092**

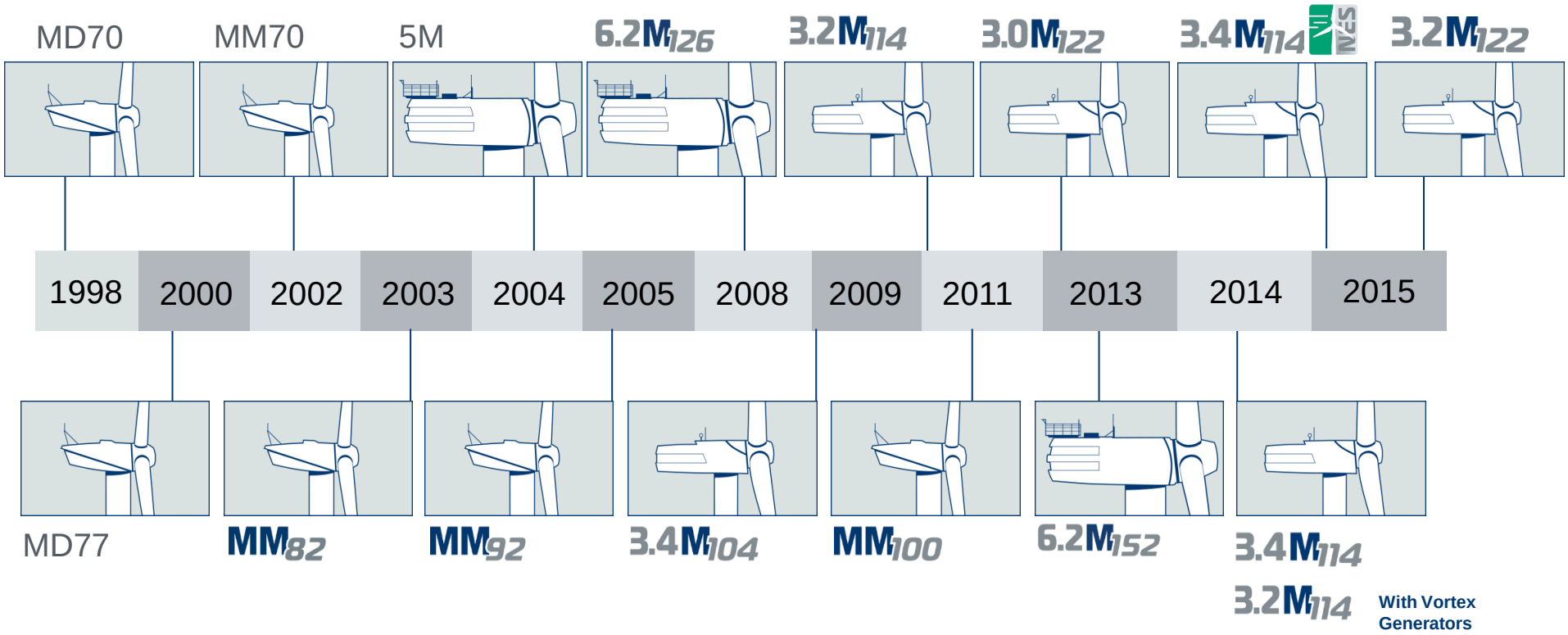
Asia	
China	234
Japan	118
India	23
Total	**375**

Australia	
Total	**439**

Source:
Senvion; status 1 April 2015; Includes all installed and SCADA connected systems;
Senvion installation from 1987 onwards

Technology and Service

Technology – Senvion product portfolio: An introduction evolution of Senvion turbines



Wind turbine 3.XM
Based on experience

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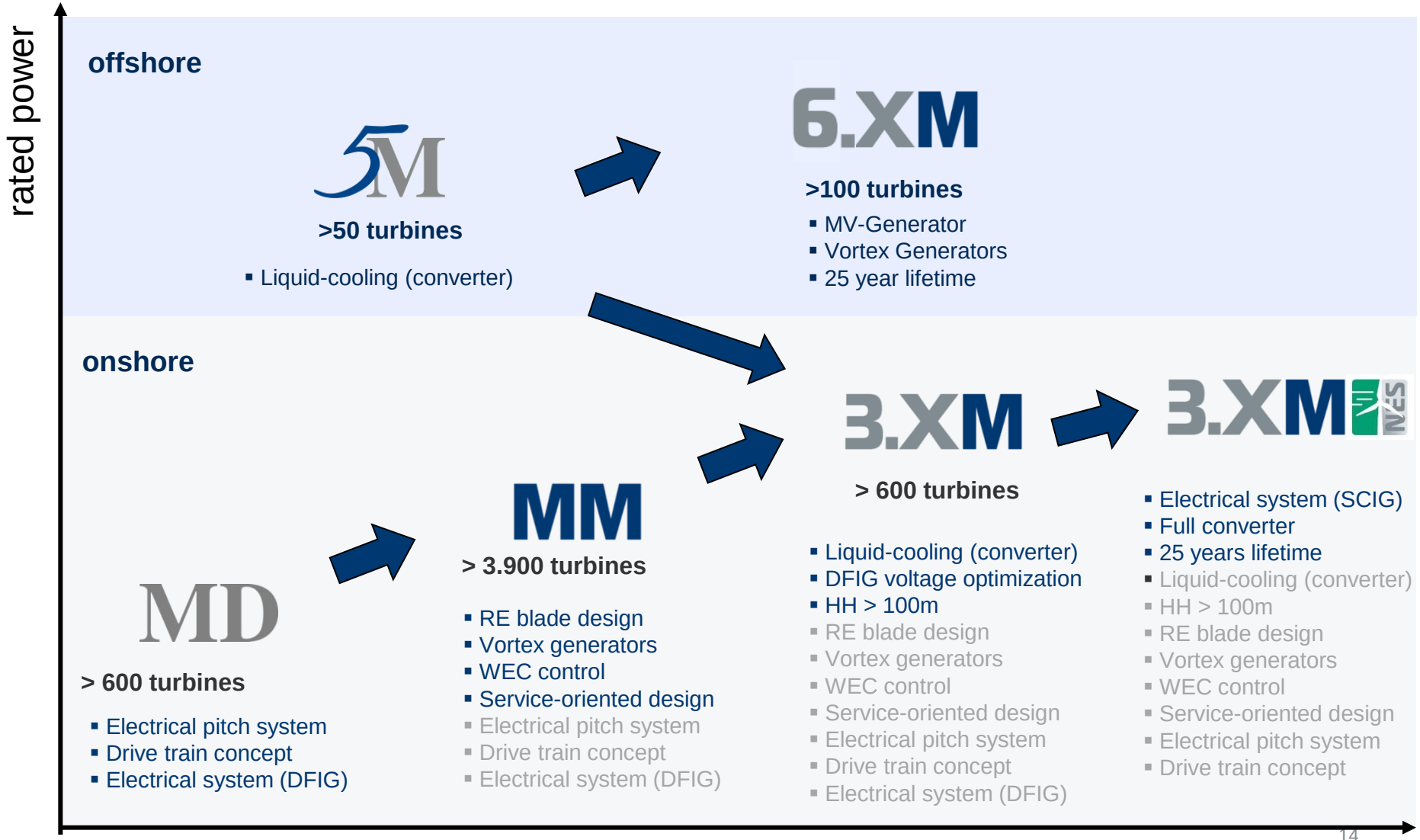

Installation figures by the end of 2014

Senvion Product Portfolio
Portfolio Introduction

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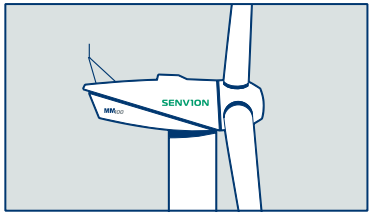
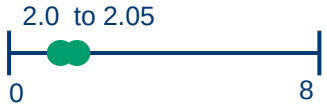
MM series



Comments

- **MM82:** maximum energy yields in **high wind location** also suitable for height restricted locations.
- **MM92:** best-selling wind turbine model suitable for **medium and low wind locations**
- **MM100:** with high capacity factor - wind power system for **low wind speed locations**

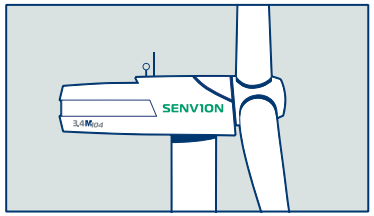
Rated power (MW)



Certification

MM82: up to IEC IA
MM92: up to IEC S (based on IB)
MM100: up to IEC IIB
up to IEC S (based on IIIA)

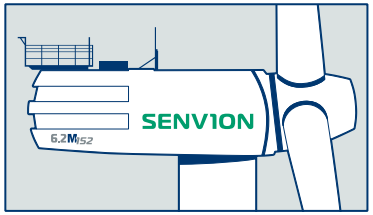
3.XM series



- **3.4M104:** advanced turbine for **high and medium wind speeds**
- **3.4M114: improved performance** for medium wind speeds - available with hybrid and steel tower solution even above 100m
- **3.2M114VG:** available with hybrid tower and hub **heights up to 143m** - providing optimal yields even on difficult terrain
- **3.0M122:** maximum efficiency at **low-wind sites** with a rotor diameter of 122m.

3.4M104: up to IEC IB
3.4M114: up to IEC IIA
3.2M114VG: up to IEC IIA
3.0M122: IEC IIIA
3.2M122: IEC IIIA
3.4M140: IEC IIIA

6.XM series



- **6.2M126:**
  Tried and tested performance to match the challenges of large **offshore wind farms** and deep waters
- **6.2M152:**
  Optimised performance to provide **20 per cent increased yield** and 25 year life time for offshore projects

6.2M126
Onshore: IEC IB, IEC IIA
Offshore: IEC IB, S

6.2M152
Onshore: IEC IB
Offshore: IEC S

Technology – product portfolio: An example calculation – Onshore 3.0M122

How many households can be supplied by a 3.0M122 (3 MW) onshore wind turbine?

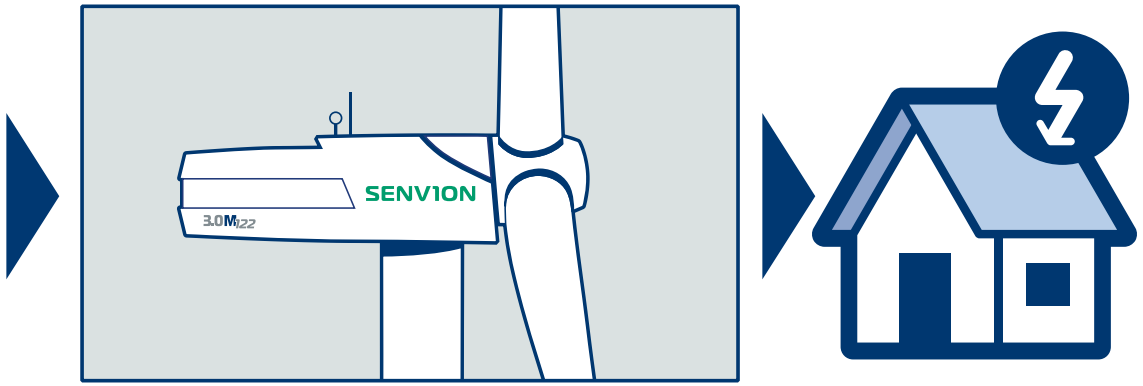
Rated output: 3 megawatts (MW)

- Around 2,500 hours in full-load operation[1]
- 3,000 kilowatts x 2,500 hours

  _____
- = 7,500,000 kWh

- 7,500,000 kWh / 3,800 kWh [2]

  _____
- = **Approx. 2,000 households**



[1] May vary strongly depending on location
[2] Model calculation based on a three person household with an average consumption of electricity of 3,800 kilowatt-hours (kWh) per year

Technology – product portfolio:
An example calculation – Offshore 6.2M152

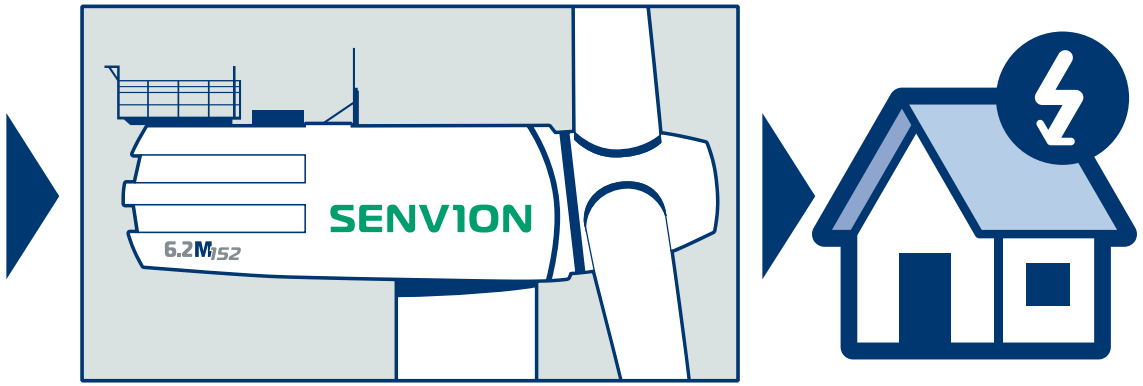
How many households can be supplied by a 6.2M152 (6.15 MW) offshore wind turbine?

Rated output:
6.15 megawatts (MW)

- Around 4,000 hours in full-load operation[1]
- 6,150 kilowatts x 4,000 hours

  _____
- = 24,600,000 kWh
- 24,600,000 kWh / 3,800 kWh [2]

  _____
- = **Approx. 6,500 households**



[1] May vary strongly depending on location
[2] Model calculation based on a three person household with an average consumption of electricity of 3,800 kilowatt-hours (kWh) per year

MM-Series

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MM82

MM92

MM100

Wind turbines MM-Series
Portrait

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MM82

Rated Power:	2,050 kW
Rotor:	82m
Swept Area:	5,281m²
Hub Heights:	59m 50 Hz (IEC IA/DIBt WZ 3) 69m 50 Hz / 60 Hz (IEC IA) 80m 50 Hz / 60 Hz (IEC IA/DIBt WZ 3)
Electrical System:	Asynchronous Generator (DFIG) External / Internal Transformer System
Operating Temperature:	-20° C to +35° C (optional: 50 Hz/60 Hz: +40° C; 80m HH 60 Hz: -30° C; 69m HH 50 Hz: -30° C)
Max. Logistical Weight: (biggest component)	< 70t
Sound Power Level:	104.0 dB(A)

Wind turbines MM-Series
Portrait

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MM92

Rated Power:	2,050 kW	
Rotor:	92.5m	
Swept Area:	6,720m²	
Hub Heights:	64m	50 Hz / 60 Hz (IEC IIA)
	69m	50 Hz / 60 Hz (IEC IIA)
	80m	50 Hz / 60 Hz (IEC IIA/DIBt WZ 3)
	100m	50 Hz / 60 Hz (IEC IIA/DIBt WZ 2)
Electrical System:	Asynchronous Generator (DFIG) External / Internal Transformer System	
Operating Temperature:	-20° C to +35° C (optional: 60 Hz: -30° C, 50 Hz/60 Hz: +40° C)	
Max. Logistical Weight: (biggest component)	< 70t	
Sound Power Level:	103.2 dB(A)	

Wind turbines MM-Series
Portrait

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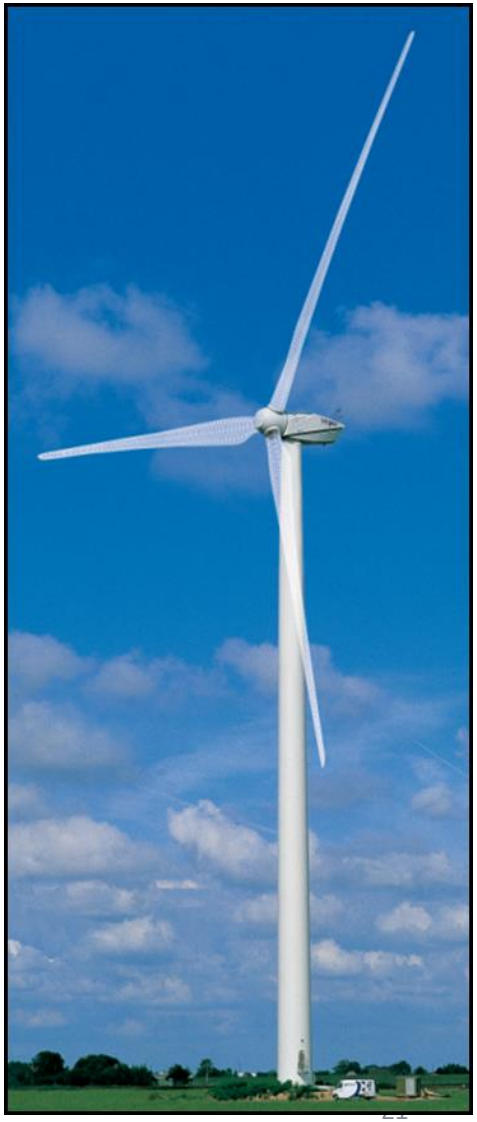
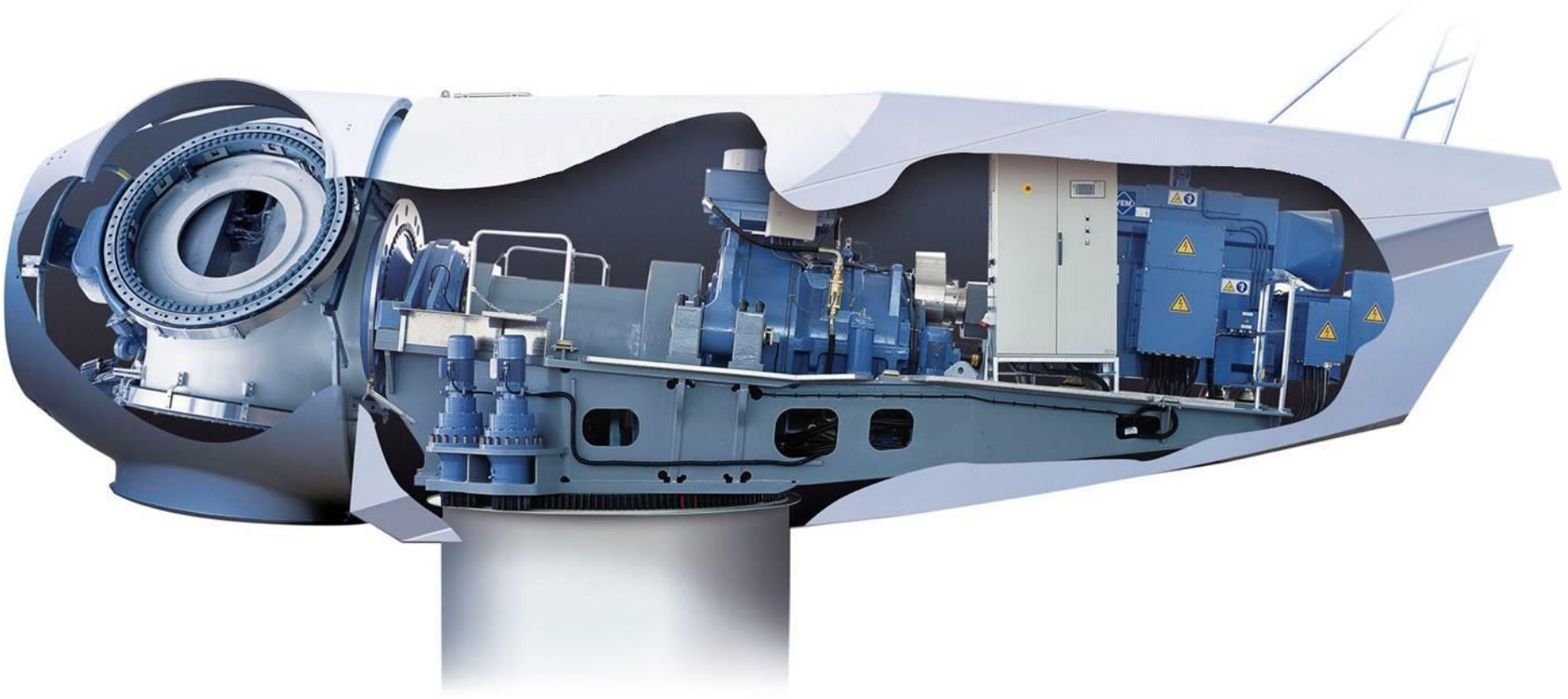
MM100

Rated Power:	2,000 kW (50 Hz)/1,800 kW (60 Hz)	
Rotor:	100m	
Swept Area:	7,854m²	
Hub Heights:	75m	50 Hz / 60 Hz (IEC IIB/DIBt WZ 2)
	80m	50 Hz / 60 Hz (IEC IIB/DIBt WZ 2)
	100m	50 Hz / 60 Hz (IEC IIIA/DIBt WZ 2)
Electrical System:	Asynchronous Generator (DFIG) External / Internal Transformer System	
Operating Temperature:	-20° C to +35° C	
	(optional: 50 Hz/60 Hz: +40° C)	
Max. Logistical Weight: (biggest component)	< 70t	
Sound Power Level:	103.8 dB(A)	



Wind turbines MM-Series
Serviceability



3.XM-Series

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3.4M104
3.4M114
3.2M114
3.0M122

3.XM NES
3.2M122
3.4M140

Wind turbines 3.XM-Series
Portrait

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3.4M104

Rated Power:	3.400 kW		
Rotor:	104m		
Swept Area:	8,495m²		
Hub Heights:	73m	50 Hz	(IEC IB)
	80m	50 Hz	(IEC IB/IIA, DIBt WZ 3)
	100m	50 Hz	(IEC IIA, DIBt WZ 3)
Electrical System:	Asynchronous Generator (DFIG) Internal Transformer System		
Operating Temperature:	-20° C to +35° C (optional: +40° C)		
Max. Logistical Weight:	< 60t (biggest component)		
Sound Power Level:	105.6 dB(A)		

Integrated Service Package - optional

Wind turbines 3.XM-Series
Portrait

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3.4M114

Rated Power:	3.400 kW		
Rotor:	114m		
Swept Area:	10,207m²		
Hub Heights:	93m	50 Hz	(IEC IIA, DIBt WZ 4)
	119m	50 Hz	(IEC IIA , DIBt WZ 4)
	143m	50 Hz	(IEC IIIA, DIBt WZ 3)
Electrical System:	Asynchronous Generator (DFIG) Internal Transformer System		
Operating Temperature:	-20° C to +35° C		
Max. Logistical Weight:	< 60t (biggest component)		
Sound Power Level:	104.2 dB(A)		

Wind turbines 3.XM-Series
Portrait

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3.2M114VG

Rated Power:	3.200 kW		
Rotor:	114m		
Swept Area:	10,207m²		
Hub Heights:	93m	50 Hz	(IEC IIA, DIBt WZ 4*)
	119m	50 Hz	(IEC S)
	123m	50 Hz	(IEC IIA, DIBt WZ 4*)
	143m	50 Hz	(IEC IIIA, DIBt WZ 3*)
Electrical System:	Asynchronous Generator (DFIG) Internal Transformer System		
Operating Temperature:	-20° C to +35° C (optional: +40° C) -30° C to +35° C for Cold Climate Version		
Max. Logistical Weight:	< 60t (biggest component)		
Sound Power Level:	104.2 dB(A)		

Wind turbines 3.XM-Series
Portrait

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3.0M122

Rated Power:	3.000 kW		
Rotor:	122m		
Swept Area:	11,690m²		
Hub Heights:	89 m	50 Hz	(IEC IIIA, DIBt WZ 3)
	119 m	50 Hz	(IEC IIIA, DIBt WZ 3)
	139 m	50 Hz	(IEC IIIA, DIBt WZ 3)
Electrical System:	Asynchronous Generator (DFIG) Internal Transformer System		
Operating Temperature:	-20° C to +35° C (optional: +40° C)		
Max. Logistical Weight:	< 60t (biggest component)		
Sound Power Level:	104.5 dB(A)		

Wind turbines 3.XM-Series
Portrait

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3.2M122

Rated Power:	3.200 kW
Rotor:	122m
Swept Area:	11,690m²
Hub Heights:	136-139m 50 Hz (IEC IIIA, DIBt WZ 3) Further Hub Heights to follow.
Electrical System:	Induction Generator (NES) Internal Transformer System
Operating Temperature:	-20° C to +35° C (optional: +40° C)
Max. Logistical Weight:	< 60t (biggest component)
Sound Power Level:	106.0 dB(A)

Wind turbines 3.XM-Series
Portrait

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3.4M140

Rated Power:	3.400 kW
Rotor:	140m
Swept Area:	15,394m²
Hub Heights:	107-110m 50 Hz (IEC IIIA, DIBt WZ 2) 127-130m 50 Hz (IEC IIIA, DIBt WZ 2)
Electrical System:	Induction Generator (NES) Internal Transformer System
Operating Temperature:	-20° C to +35° C (optional: +40° C)
Sound Power Level:	104.0 dB(A)

Wind turbine 3.XM
Serviceability

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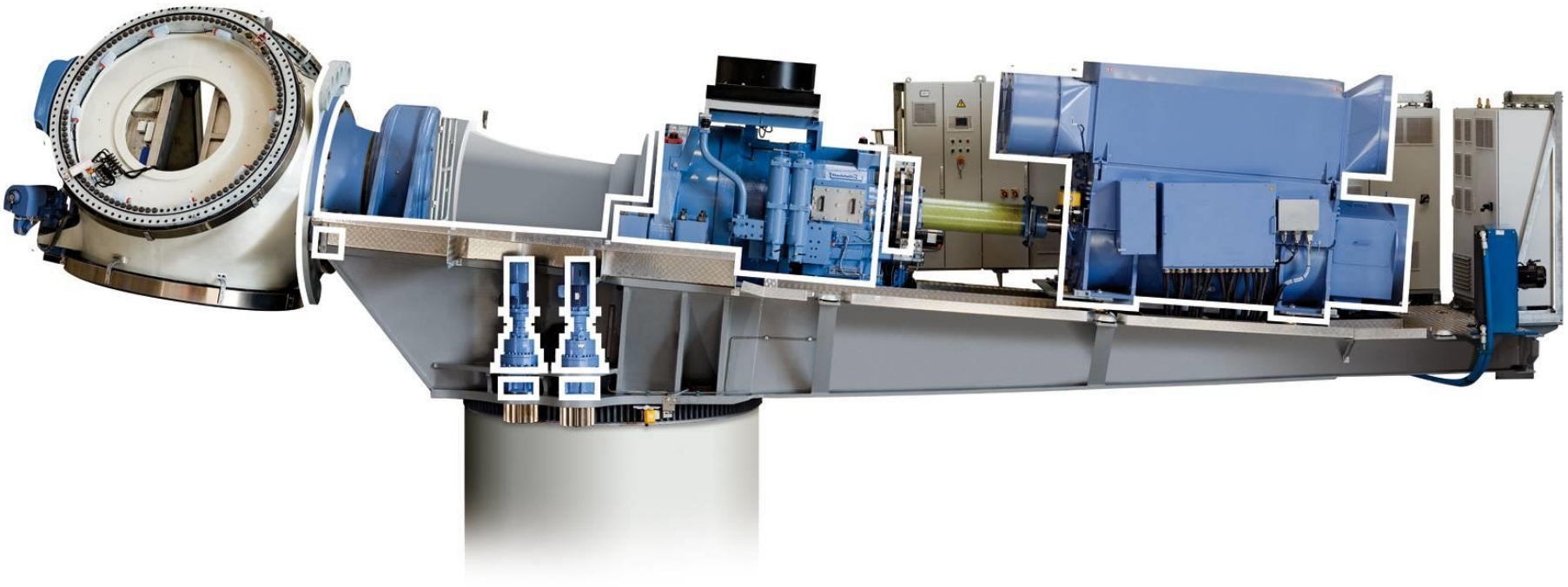

Thank you for your attention

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