THE LEADING SERVICE PROVIDER IN A GROWING MARKET

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AGENDA

Introduction
Market trends and strategy
Deep dives
Summary and Q&A
Our aim is to grow the service business, while taking out cost.
VESTAS SERVICE PERFORMANCE

The service business has delivered a CAGR of 16-23% on all key metrics from 2015 to 2017

**Service revenue**
- mEUR
- FY 2015: 1,138
- FY 2016: 1,309
- FY 2017: 1,522

  **Change:** +16%

**Service order backlog**
- bnEUR
- YE 2015: 8.9
- YE 2016: 10.7
- YE 2017: 12.1

  **Change:** +17%

**Fleet under service**
- GW
- YE 2015: 54
- YE 2016: 70
- YE 2017: 76

  **Change:** +19%
KEY FACTS

True global player with 83 GW under service and 20% larger fleet than nearest competitor

**AMERICAS**
30.8 GW

**EMEA**
43.0 GW

**APAC**
9.2 GW

+10,000 employees dedicated to service
Servicing +8,000 MW of non-Vestas turbines
Operating in 64 countries
€13.2bn Service backlog
+40,000 turbines under service
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THE POTENTIAL

The global wind O&M market is expected to grow 8-9% annually until 2026

Global wind O&M market, 2017-2026
BnUSD

Source: Make 2017
MARKET GROWTH DRIVERS

The market growth is supported by an expected 11% annual growth in installed fleet and an aging fleet that are not outweighed by price development that historically has decreased 8% annually.

### Installed base

<table>
<thead>
<tr>
<th>GW</th>
<th>2017</th>
<th>2018e</th>
<th>2019e</th>
<th>2020e</th>
<th>2021e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>514</td>
<td>567</td>
<td>629</td>
<td>694</td>
<td>757</td>
</tr>
</tbody>
</table>

Global onshore installed wind base, 2017-2021

### Aging fleet

<table>
<thead>
<tr>
<th>Years</th>
<th>2012</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.6</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Average age of onshore installed fleet, 2012-2017

### LCOE development

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>H1 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28.8</td>
<td>21.3</td>
<td>26.4</td>
<td>20.5</td>
<td>20.4</td>
</tr>
</tbody>
</table>

Average annual price per MW for full scope contracts, 2014-H1 2018

Source: Make Q3 2018 ; Bloomberg NEF 2018
KEY MARKET TRENDS

Vestas is well positioned to maintain leading position

INDUSTRY TRENDS
- From support schemes to competitive market mechanisms
- Industry maturity reduces cost and AEP uncertainty

SERVICE TRENDS
- Commoditisation of basic offering
- Increased focus on Service by OEMs
- Accelerated digitalisation
- Deal complexity and increased sharing of gains and risks

VESTAS COMPETITIVE POSITION
- Scale advantages to continue to benefit Vestas
- Competitive solutions, high renewal rates and multi-brand skills to support Vestas growth
- Best positioned to leverage value from digitalisation given size and domain expertise
- Service innovation to support increase in output and optimised asset management
CAPTURING THE GROWTH OPPORTUNITIES

Customised offerings supporting main customer segments

<table>
<thead>
<tr>
<th>Customer needs</th>
<th>Financial investors</th>
<th>Active asset managers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Business case certainty</td>
<td>• Flexibility</td>
</tr>
<tr>
<td></td>
<td>• Performance optimization support</td>
<td>• Ease of doing business</td>
</tr>
<tr>
<td></td>
<td>• Few suppliers with aligned incentives</td>
<td>• Low response time across regions</td>
</tr>
<tr>
<td>Value proposition</td>
<td>• Asset lifetime contracts with aligned incentives</td>
<td>• Knowledge transfer</td>
</tr>
<tr>
<td></td>
<td>• Product upgrades</td>
<td>• Global footprint and scale advantages</td>
</tr>
<tr>
<td></td>
<td>• Digital solutions for optimised asset operation</td>
<td>• Tailored solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Framework agreements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Digital solutions and training services</td>
</tr>
</tbody>
</table>

**Value proposition**

- +70% renewal rates and average initial contract duration increased from 9-10 years in 2015 to ~13 years in 2017/18
- 8-9% annual growth in transactional sales since 2015
CAPTURING SCALE ADVANTAGES IN OPTIMISED OPERATING MODEL

INITIAL FOCUS

- ~5% reduction in back-office cost over the last two years from creating centers of excellence in India and Poland
- ~5% reduction in labour cost over the last two years from application of Lean methods
- Increased digitalisation of core processes and application of advanced analytics to optimise maintenance cost
- Use of artificial intelligence for automation of repetitive processes, e.g. drone inspections, image recognition, etc.
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MULTIBRAND FOOTPRINT

Vestas is servicing all major platforms across 345 sites, 17 countries and 5 continents.
MULTIBRAND CASE STUDY
Proven capabilities on non-Vestas platforms

Highlights

• Vestas Service team takes over service in January 2018
• Tailored service recovery plan for immediate operational improvements
• Turbine availability performance lifted from 84% to 97% by September 2018

Multiple sites
Location: Brazil
Size: 58 WTGs
Scope: AOM 4000
OUR AMBITION

Positioning Vestas for accelerated digitalisation

Our ambition is to become the digital leader in sustainable energy

Industry-leading volume of data across turbine technologies

Industry-leading technology stack from Utopus Insights

Industry-leading ability to capture value through scale - internally and externally
With the acquisition of Utopus Insights, Vestas has created a platform for future digital solutions to make Vestas as the digital leader in sustainable energy.
BRIDGING TO THE FUTURE OF DIGITAL ENERGY

Vestas’ digital journey

1. ShopVestas.com
2. Intuitive, interactive and customizable energy asset data visualization and performance monitoring
3. Firestorm conditioning monitoring
4. World’s largest data repository

Vestas’ digital offerings

1. XPLORE
   - Intuitive, interactive and customizable energy asset data visualization and performance monitoring

2. MAESTROS
   - Scalable, secure and flexible energy analytics platform for data ingestion and curation

3. PULSE
   - State-of-the-art predictive analytics that enable proactive asset maintenance

4. HYPERCAST
   - Hyperlocal renewable energy forecasting powered by advanced energy-specialized weather forecasting
SUMMARY

1. **Worlds largest service provider** with 83 GW under service and largest multi-brand service provider

2. Vestas expects to continue **being the market leader** given strong value propositions on both core and advanced offerings like digital solutions

3. Capturing additional scale advantages in the digital transformation of the operating model to support **strong profitability**
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