

# BUSINESS MODEL INNOVATION THE CASE OF THE MAINTENANCE SERVICES FOR THE WIND ENERGY INDUSTRY

## A Project in Research for Innovation

– the overarching strategic research programme of Halmstad University, supported by The Knowledge Foundation

Knowledge Foundation



### Partners:

Gamesa Wind Sweden AB, Varberg Energimarknad AB, Ecopower Academy, Northern Europe AB, Inventlab AB, ImaComp Consulting AB, Halmstad University

### Background and Motivation

- Evolution in the industry mainly driven by wind turbine manufacturing & installation.
- In-house innovation leading to dissimilar and expensive wind turbine designs resulting in information asymmetry.
- The market for maintenance services in Sweden is underdeveloped and dominated by turbine manufacturers.
- A survey targeting turbine owners & operators showed a high dissatisfaction with the existing offers as the average length of downtime dramatically.

### Research Problem

- The field of business model innovation is theoretically underdeveloped
- The process of business model innovation and the specific challenges associated with it is not well understood
- What predetermines the ability of the firms to undergo business model innovation (e.g. explaining how organizational inertia could be overcome) is also not well understood
- The context of maintenance services in wind energy industry is not studied from a business model innovation perspective

### Research Approach

Qualitative, interactive approach. Three main project phases - "Exploration" (Case studies, Mapping business models, Literature studies); "Execution" (Workshops on how to innovate BM related to maintenance services); "Extension" (Implementation of the results in participating partners, Generalization of the results)

### Purpose

- Exploration of existing business models, and development and implementation of innovative business models in the context of maintenance services for the wind energy industry in a collaborative industrial setting.
- Practical purpose of the project is to increase the competitiveness of the involved companies through the implementation of new business models, in order to ensure high availability of the wind farm systems to produce energy with low disturbances through optimal maintenance services.

### Illustrations of Performed Activities and Achieved Results

- Ideation experience workshop – a tool for the early phases of business model innovation
- Study on Customer Value for Business Model Innovation. The Case of O&M Services in Swedish Wind Energy Industry
- Extension of the project to China (Shanghai Dianji University and Goldwind Science and Technology in Beijing)
- Series of workshops planned and executed
- KK Synergy application on business model innovation submitted
- Two international educational 3-months-long program performed on Wind Power Technology Innovation – about 60 students

### Illustrations of Planned Activities

- Quantitative survey study of the whole population of the wind turbine owners and operators
- Qualitative case studies based on the survey study
- Further develop the tool for different phases of BMI process



### Illustrations of Publications

1. Hoveskog, M., Halila, F., Danilovic, M., (2014) Learning Networks for Knowledge Coproduction on Business Model Innovation in Wind Energy Industry. In proceeding of: Conference paper to be presented at the BAM 2014 The Role of the Business School in Supporting Economic and Social Development, Track 8: Innovation, At Belfast Waterfront, Northern Ireland. DOI: 10.13140/2.1.3602.4967
2. Campbell, D., Danilovic, M., Halila, F., Hoveskog, M., (2013) The Clash of Business Models in Emerging Economies: The Case of Wind Energy Industry in Africa. *The International Journal of Management Science and Information Technology* (10), s. 10 - 50.
3. Hoveskog, M., Halila, F., Danilovic, M., (2013) Business Model Innovation – The Case of Goldwind in the Emerging Economy of Africa. Proceedings, Internationalization Strategy of Chinese Firms (SMF August 2013), Shanghai, China.
4. Danilovic, M., Halila, F., Hoveskog, M., Liu, L., (2013) Business Model Innovation for the Internationalization of the Chinese Windpower industry. Global Business Model Innovation: An International Conference, Oktober 2013, Shanghai Dianji, China
5. Liu, L., Danilovic, M., Hoveskog, M., Halila, F., (2013) The Swedish Maintenance and Services Market in Wind Power Industry Lessons Learned and Opportunities for Chinese Service Providers, the International Conference on Advances in Social Science, Humanities, and Management (ASSHM 2013 December), Guangzhou, China

### Illustrations of Master Thesis

1. Göthberg, N., & Simonchik, A., (2014) Customer value for business model innovation: Case of O&M services in Swedish Wind Industry. (Student paper). Högskolan i Halmstad.
2. Abt, T., & Erath, F., (2014) Power of E-Motion: Business Model Innovation for the Introduction of Electric Cars to China. (Student paper). Högskolan i Halmstad.
3. Liu, X., & Goisa, M., (2013) Influence of the Institutional Context on the Business Model: A case study of a solar power company in China.. (Student paper). Högskolan i Halmstad.
4. Campbell, D., (2012) Winds of Change: Business model innovation in the African wind energy market. (Student paper). Högskolan i Halmstad.
5. Ghanbari, A., & Oyelakin, M., (2012) Management System for Operations Maintenance in Offshore Wind Turbine Plant. (Student paper). Högskolan i Halmstad.
6. Pataci, H., (2011) How to Get A Strategic Position in Global Wind Turbine Industry. (Student paper). Högskolan i Halmstad.

### Contact Information

Professor Dr. Mike Danilovic, mike.danilovic@hh.se  
Assistant Professor, Dr. Maya Hoveskog, maya.hoveskog@hh.se  
Associate Professor, Dr. Fawzi Halila, fawzi.halila@hh.se  
Assistant Professor, Göran Sidén, goran.siden@hh.se  
Lic Eng, MSc EE, MBA, Leif Nordin, leif.nordin@hh.se  
Phd Candidate Jasmine Lihua Liu, jasmine.lihua\_liu@hh.se  
MSc Anastacia Simonchik, anastacia.simonchik@hh.se

