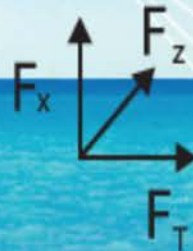


# Airborne Wind Energy in Teacher Education

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AWEC 2013



# Outline

- context vocational teacher education (VET teachers)
- concept and wiki *kite & tech*
- the VET perspective:
  - technical analysis
  - target group analysis
  - didactic design
- resumé and outlook

# Münster University of Applied Sciences

Facts	
Students	11,854
Faculties	12
Interdisciplinary institutions	2
Research institutes	8
Degree programmes	77
Third-party funding (preliminary)	€ 14.6 million

As of 2013

Staff	
Professors	257
Endowed chairs	1
Honorary professorships	5
Lecturers with special duties	47
Employees	635
Apprentices	48

As of 2013

<https://en.fh-muenster.de/index.php>

# Institute of Teacher Training for Vocational Education

## Areas of work

- Conceptual design, organisation and evaluation of vocational teacher training programmes in cooperation with the University of Münster
- Study courses in Vocational Didactics and Vocational Education
- Research & Development in Vocational and Teacher Education



# Cooperative study programme Teacher Training for Vocational Schools:

## Vocational Subjects

Civil Engineering  
Electrical Engineering  
Information Engineering  
Nutrition & Home Economics  
Design  
Mechanical Engineering  
Design Technology  
Health/Nursing

## Educational Science

## Academic Subjects

Sports  
Religion (RC/ Prot./ Islam.)  
German  
English  
Spanish  
French  
Biology  
Economics/Politics  
Mathematics  
Physics  
Chemistry

***Crossing and bridging study subjects***

# R&D-Framework: Technology & Outdoor Education

cross-curricular approach:

- experience in outdoor sports & education
- professional curriculum issues
- interactive media

<https://en.fh-muenster.de/ibl/projekte/erlebnispaedagogik.php>

# Project and wiki: *kite & tech*

## Kites and AWE

- highly demanding natural sport
- new medium of OE
- relates to technical and social knowledge

## wiki as a medium for

- publishing and knowledge exchange
- networking in education / sports
- introduction (technical analysis) to AWE

[www.ibl.fh-muenster.de/en.kitewiki/](http://www.ibl.fh-muenster.de/en.kitewiki/)

# Target group analysis results

Exemplary field work at TU Delft and NTS Berlin,  
“Airborne Wind Energy Service Technician” core skills:

- applied engineering disciplines ...
- maintenance process knowledge
- safety & environmental skills

Curricular references in industrial vocations:

- mechatronic technician
- aircraft and industrial mechanic
- several vocations of electronic technicians

[http://www.ibl.fh-muenster.de/kite/wiki/index.php?title=Qualifikationsanalyse\\_für\\_die\\_Instandhaltung\\_von\\_AWE-Systemen](http://www.ibl.fh-muenster.de/kite/wiki/index.php?title=Qualifikationsanalyse_für_die_Instandhaltung_von_AWE-Systemen)



# Didactic design in Teacher Ed for VET

Learning tasks around AWE:

- the way of force from kite to public power supply
- planning maintenance processes
- Multidisciplinary: integrating mechanical and electrical engineering topics with sports, OE economics
- Potential and limitations of different wind energy technologies
- ...

# Resumé and outlook

AWE in teacher education is at the very beginning.  
Further demands:

- analyse tasks and qualification / skills
- develop & revise curricula
- prove & revise learning projects
- broadcast into general (teacher) education
- network in trans-/international contexts
- build up shared knowledge base(s)

Recent Initiatives: peer reviewing and MINT



*Thank You!*

*Questions and proposals ??*