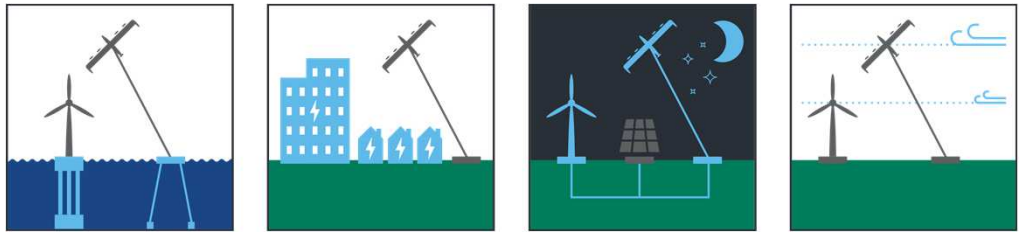
iea wind

Topical Expert Meeting TEM#102
Airborne Wind Energy



Session 3G:
Educational needs

23-24 September 2020

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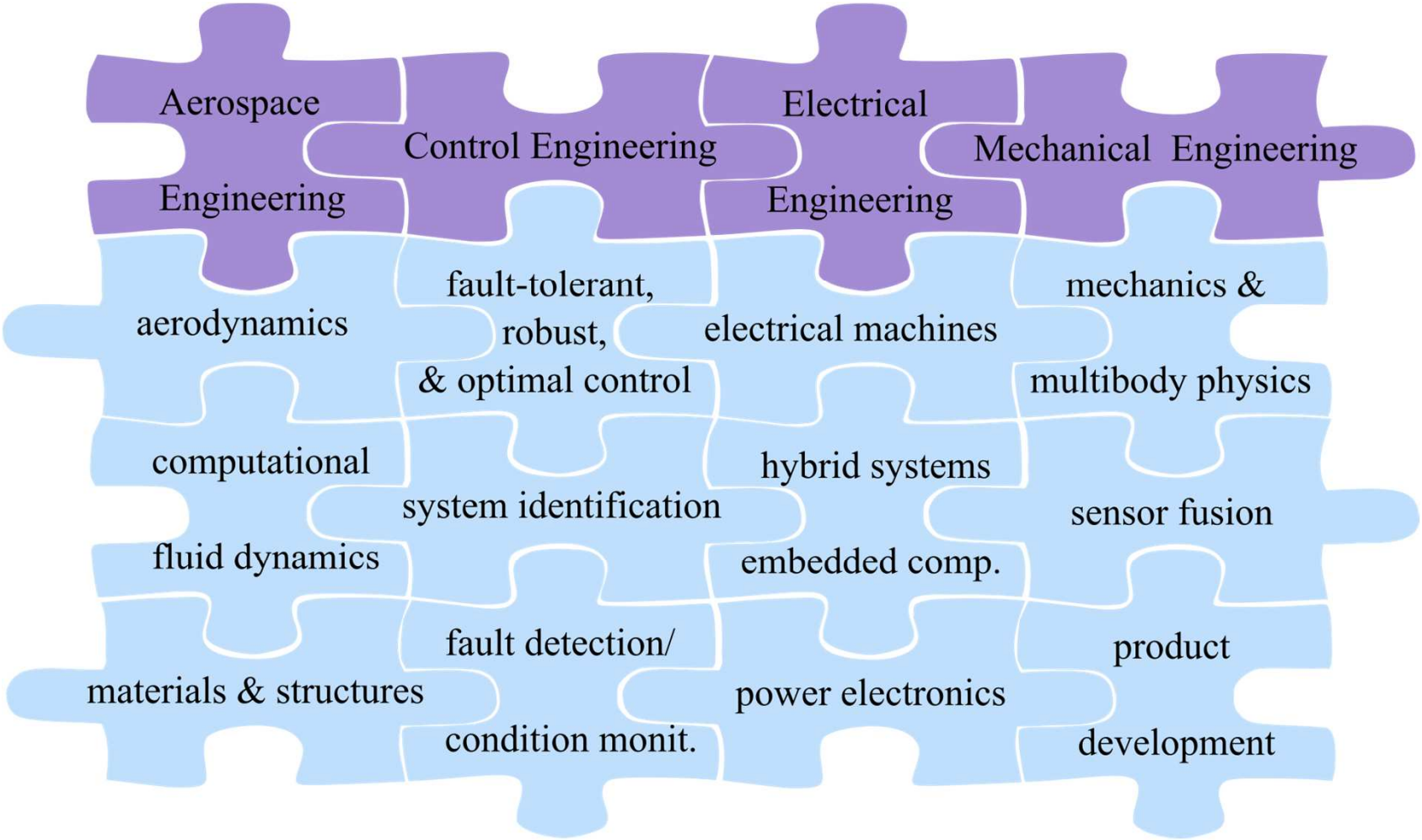
Engineering disciplines for commercial development of AWE



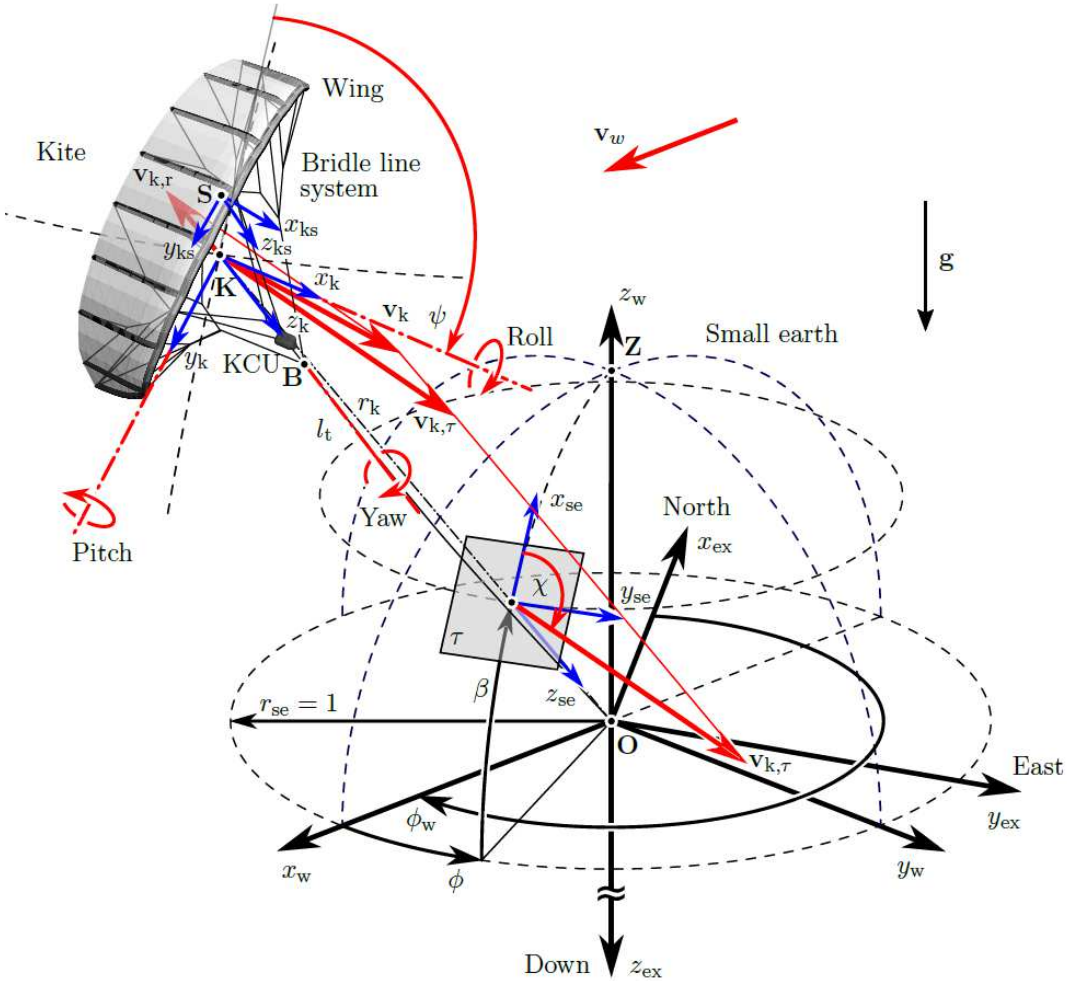
Other fields important for commercial development of AWE

- Systems engineering
- Safety engineering
- Social sciences
- Environmental sciences
- Economics
- Legislation, policy and regulation
- Certification
- ...

Current educational situation

- No coordinated systematic education on MSc level available
- Scattered PhD projects on AWE with focus on the technology
- Only one dedicated doctoral training network on AWE (2015-18)
- AWESCO Airborne Wind Energy System Modelling, Control & Optimisation
- R&D workforce mostly drawn in from other disciplines, like wind energy, aircraft design, aerodynamics, structures, ...

Not much know about the physics of *tethered* flight



Key questions

- Do we need specialized training and education?
- *Example 1: Master track on AWE*
  Example 2: Kitepower and Skysails introduced specialized training to become certified kite operator (like a pilot license)

N°

KITEPOWER

Certificate of Achievement

This Certificate is Proudly Presented to :

To Endorse the Candidate's Successfull Skills Acquisition as :

Kite Operator

Date

Instructor

Johannes Peschel, CEO

Issued by Kitepower BV - Airborne Wind Energy - Enewate - KvK number 70854688 - Certificate in compliance with permit : ILT2018/4281

Key questions

- Do we need specialized training and education?
- *Example 1: Master track on AWE*
  Example 2: Kitepower and Skysails introduced specialized training to become certified kite operator (like a pilot license)

- How to best deal with the pronounced multi-disciplinary character of AWE?
  Example 1: Does an engineer with wind turbine background have sufficient skills to develop AWE systems?
  Example 2: Can someone who designs and analyzes aircraft build AWE systems?

Discussion topics I

- Design and offering of bachelor, master courses or networked PhD programmes (like the past EU H2020 doctoral programme AWESCO or the new national (Netherlands) NEON with 4 PhD students)

- Vocational training, continuing education and online courses – how to provide that, for whom and by whom? Examples are ProfEd courses or MOOCs.

- How to deal with sharing knowledge between competing companies?

Discussion topics II

- Defining the most crucial fields: aeronautics, programming, simulation, production techniques, electronics, mechanics, …
- Publishing books on AWE
- Pushing open access publications of publications, test datasets, reference data, ...
- Extending the number of conferences, events, webinars, meetings, etc.

Thank you for your attention!

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