Introduction to AWESCO Kick-Off Days

Moritz Diehl, Rachel Leuthold, Roland Schmehl

Freiburg, March 2, 2016

Overview

- The Organising Team at the University of Freiburg

- Overview of the Two Days

- Short Introduction of all Participants

- The Initial Training Network AWESCO (Roland Schmehl)

History of the Team

2006 - 2013
KU Leuven (OPTEC)

2013 -
University of Freiburg

- founded in 1457

- 25 000 students (52% female, 14% international)

- all faculties (humanities, sciences, medicine, *engineering*)

**Albert-Ludwigs
University of Freiburg**

University of Freiburg (since 1457)

Faculty of Engineering (since 1995, 45 prof. 1700 stud.)

Computer Science

Microsystems Engineering

Sustainable Systems Engineering

Systems Control and Optimization Laboratory

Systems Control and
Optimization Laboratory

syscop.de

Some Selected SYSCOP Team Members

- Secretary: Christine Paasch (organizer of this event)

- AWESCO fellows: Rachel Leuthold, Andrea Zanelli, Fabian Girrbach (XSENS), Jonas Koenemann (AmpyxPower)

- Greg Horn (visiting from California, previously Makani)

- Technical Engineer: Thorbjörn Jörger

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AWESCO Kick-Off Week Schedule

Wed	Thu	
WP1	WP3	
1: Mikko Folkersma (TUD)	8: Andrea Zanelli (ALUFR)	
2: Paul Thedens (Skysails)	9: Fabian Girrbach (Xsens)	
3: Thomas Haas (KUL)	10: Peter Listov (EPFL)	
Coffee Break	Coffee Break	
WP2	WP4	
4: Rachel Leuthold (ALUFR)	11: Hisham Eldeeb (TUM)	
5: Mahdi Salari (UL)	12: Jonas Koenemann (Ampyx)	
Lunch	Lunch	
6: Ashwin Candade (Enerkite)	13: Sebastian Rapp (TUD)	
7: Elena Malz (CHAL)	14: Eva Ahbe (ETHZ)	
Coffee Break	Coffee Break	
Board Member Meeting	Project Management Skills	

Program of Today

- Intro
- WP1: Mikko Folkersma, Paul Thedens, Thomas Haas
- Break
- WP2: Rachel Leuthold, Mahdi Salari
- (Election of 2 ESRs to attend Steering Board)
- Lunch
- WP2: Ashwin Candade, Elena Malz
- Break
- 15:00 Steering Board Meeting
- 16:00 Syscop Lab Tour

- 19:30 Dinner at Kartoffelhaus, Basler Strasse 10

Program of Today

Work Package 1: "Modelling & Simulation" - Roland Schmehl (TUD)

1. "FSI simulations on kites" - Mikko Folkersma (TUD)
2. "Durable Structural Reinforcements of Large Scale Fabric Kites" - Paul Thedens (Skysails)
3. "An efficient inexact NMPC scheme with stability guarantees" - Thomas Haas (KUL)

Work Package 2: "System Design & Optimisation" - Moritz Diehl (ALUFR)

4. "Optimal Control of Dual Kites in Pumping-Cycle Operation" - Rachel Leuthold (ALUFR)
5. "Ground Station Design and Optimization for Airborne Wind Energy" - Mahdi Salari (UL)
6. "Multi-Disciplinary System Design, Safety and Cost Optimisation of AWE" - Ashwin Candade (Enerkite)
7. "Grid Integration of Airborne Wind Energy Systems" - Elena Malz (CHAL)

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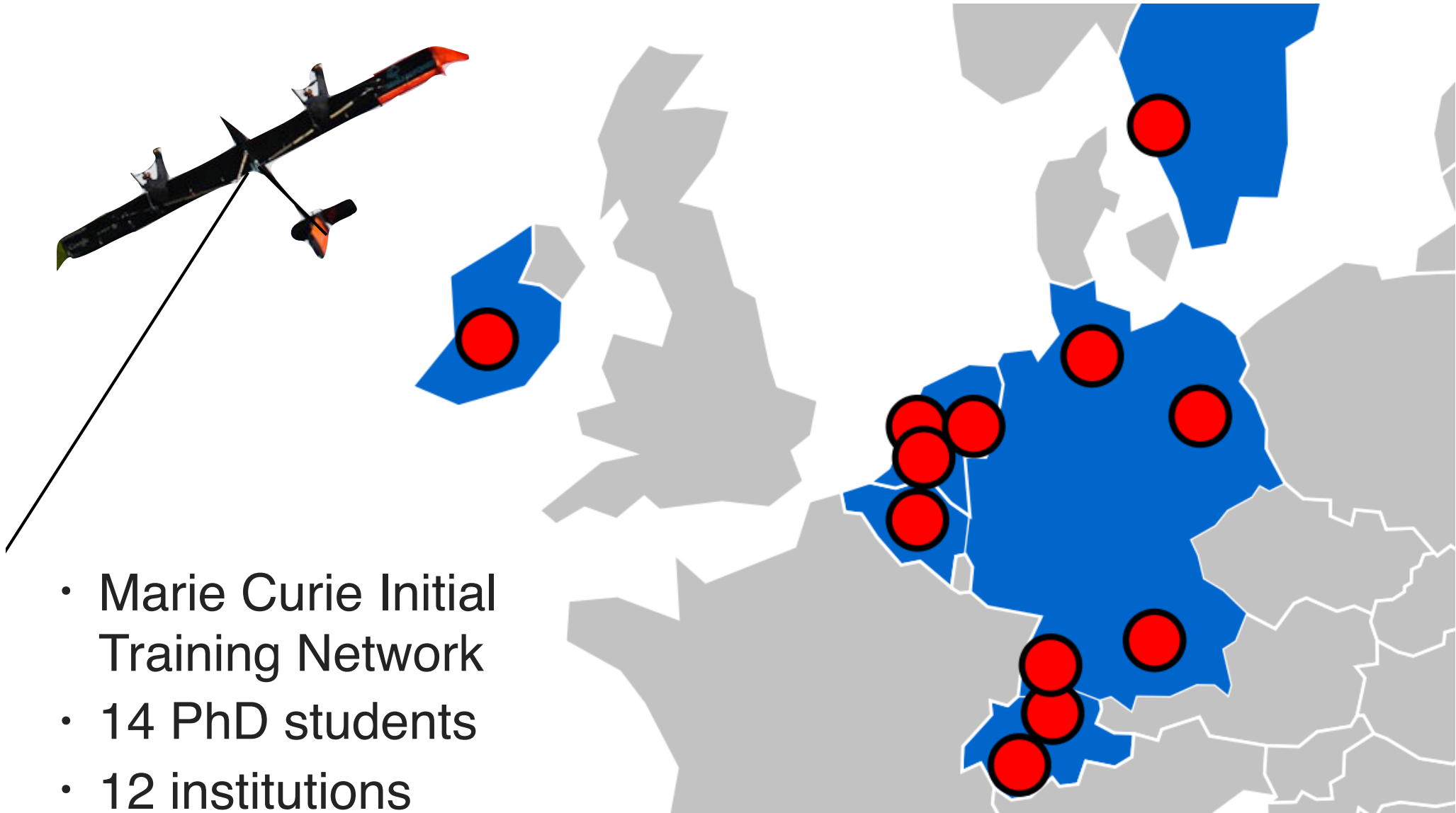- The Initial Training Network AWESCO (Roland Schmehl)

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The Sponsor: EU Project AWESCO

Airborne **W**ind **E**nergy **S**ystem Modelling, **C**ontrol and **O**ptimisation

- Marie Curie Initial Training Network
- 14 PhD students
- 12 institutions