

Hybridization of offshore renewable energy farms

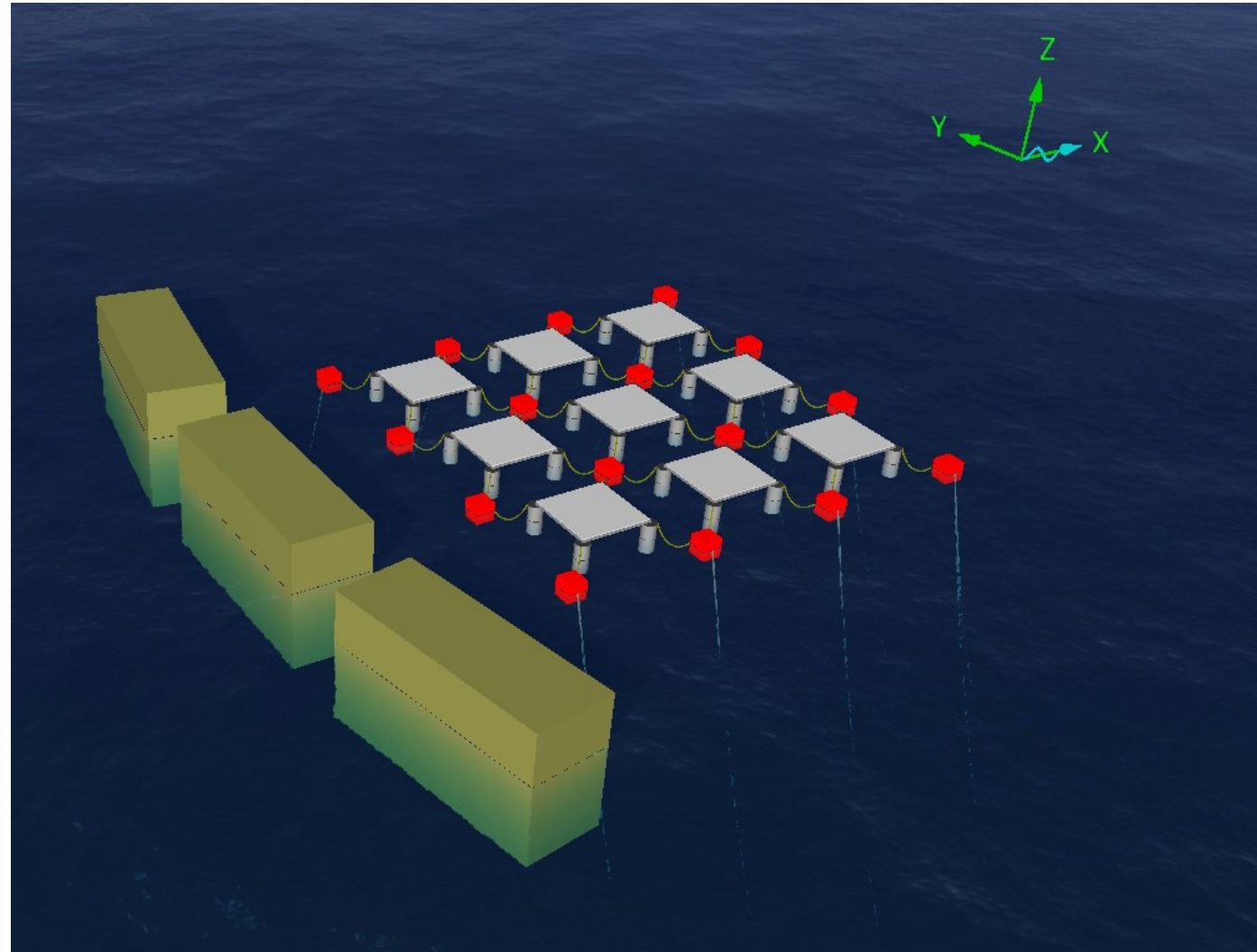
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Main idea of the thesis

- Offshore hybrid energy farm: wave energy + solar energy
- Offshore solar PV
 - Low TRL
 - For now, protected areas
 - Offshore environment is a challenge
- Wave energy
 - OWC
 - Integrated into a breakwater → protection
- Hybrid system
 - Compatibility
 - Lower LCOE

Diagram of
the Project





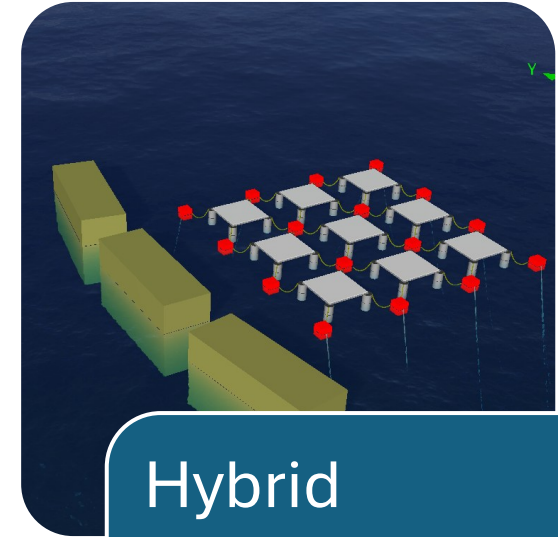
Solar structure

- EKIOCEAN
- Experimentation
- Simulations
- Optimization



WEC

- Breakwater design
- Wave attenuation
- OWC integration
- Mooring system







Hybrid

- Layout design
- Mooring system
- Experimentation
- Simulation

Done work

- EKIOCEAN
- Paper: forces on cylinders
- EWTEC

Experimental Determination of Forces and Hydrodynamic Coefficients on Vertical Cylinders Under Wave and Current Conditions

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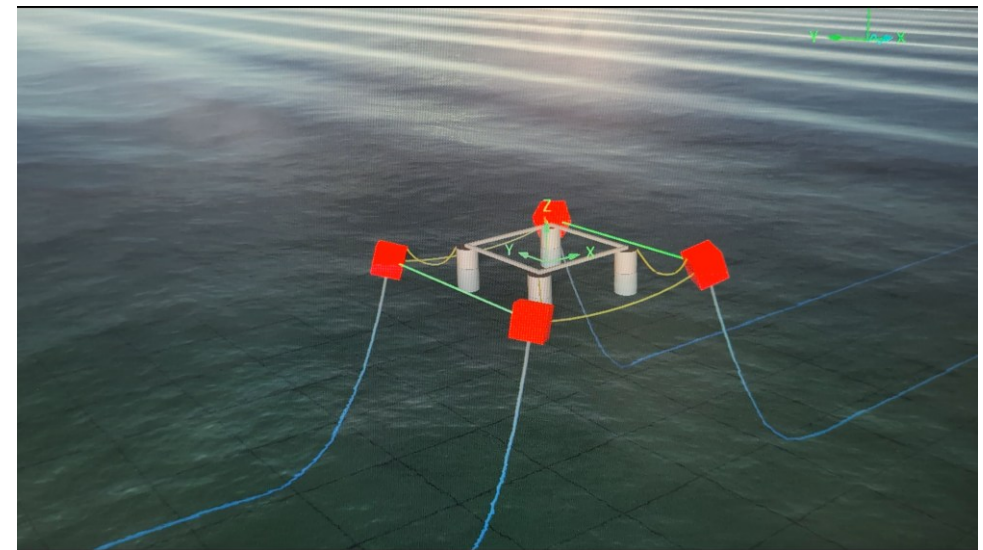
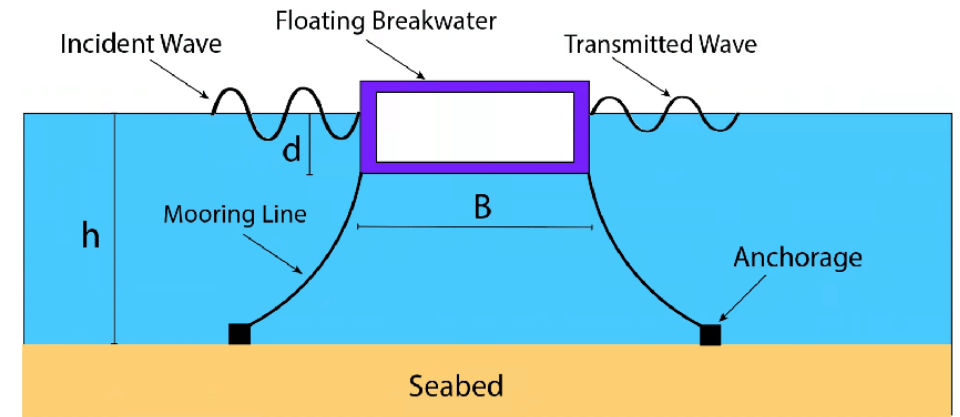
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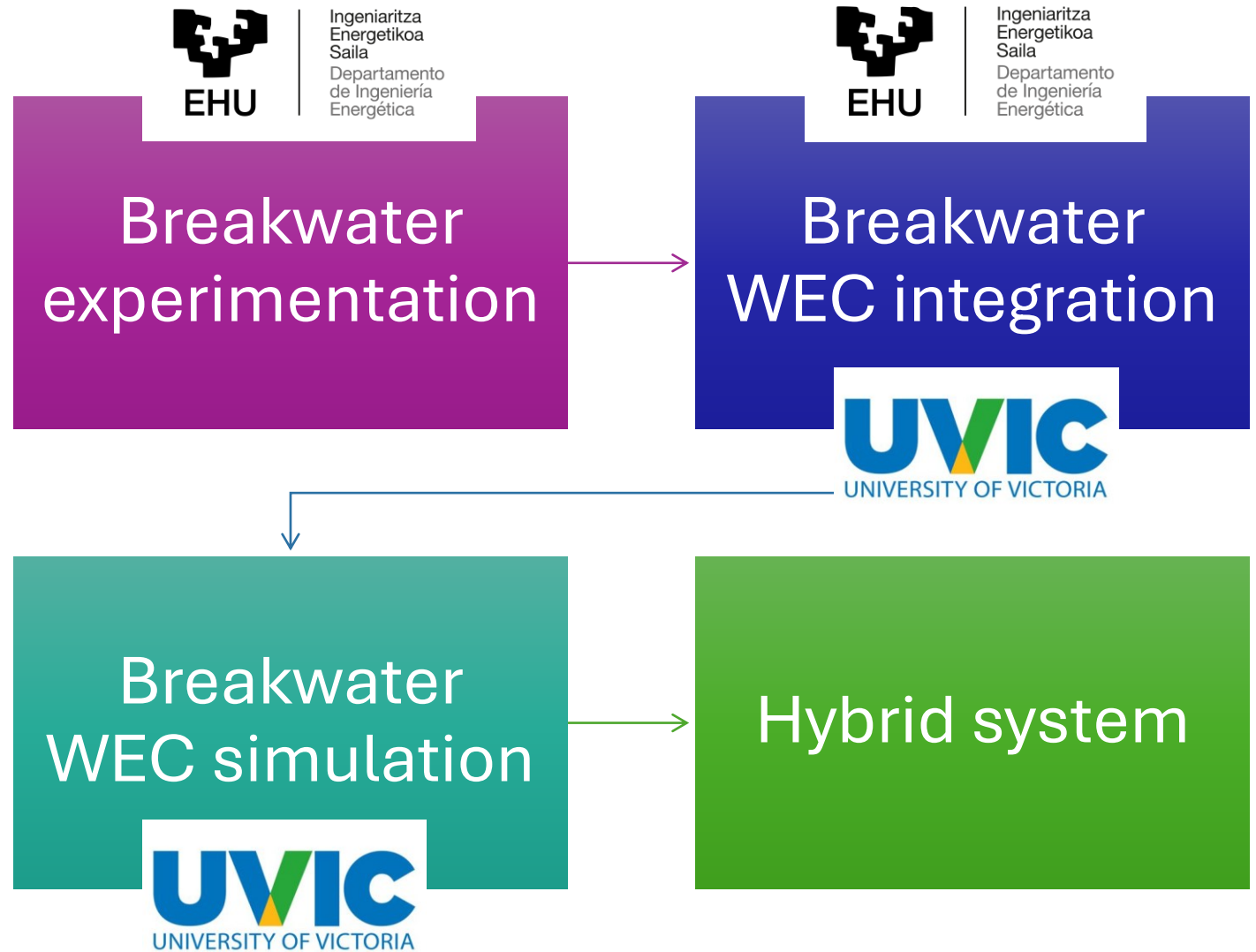


Current steps

- Breakwater design
- Solar structure simulations
- Solar structure optimization



Next steps



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