

Web Processing - Standardized GIS Analyses for Cable Route Planning

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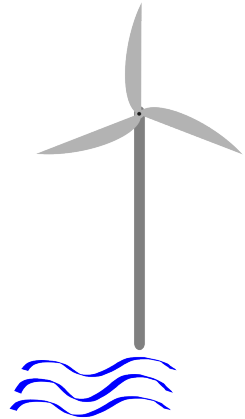
Topic and Motivation

Topic

- ▶ route planning, e.g. connection of offshore wind farms to the power grid
- ▶ conflicts with land usage, land coverage, regulation
- ▶ routing cables from landing point to final position
- ▶ offer a standard web service for the routing

Motivation

- ▶ Energy Security
- ▶ Contribution to important real world problems



Method and Research Issue

Method

- ▶ Least cost path (LCP)
 1. input: Destination and Cost Raster
 2. Aggregated Cost and Backlink → Route
- ▶ Web Processing Service (WPS)
 - ▶ standardized GIS¹ web service
 - ▶ processing spatial data (Raster and Vector)

Research Issue

- ▶ optimization of rasterization
- ▶ reduce area of high resolution raster

¹Geographic information system

Timetable

Start Date	End Date	
09/23/2022		Project Start
09/23/2022	10/10/2022	Initial Literature Study
10/01/2022	10/23/2022	Initial Data Search
10/14/2022		Kick-Off Presentation
10/16/2022	10/28/2022	Data Conversion/Costs/test execution
10/28/2022	12/31/2022	provide WPS/implement LCP
12/14/2022		Midterm Presentation
12/14/2022	02/01/2022	Optimization/Research Issue
02/01/2022		Feature Freeze
02/01/2022	02/28/2023	Finalizing Report
02/28/2023		Submission
03/15/2023		Final Presentation