

WP 6 – Climate Action: Making data widely available

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WP 6 – Climate Action: Making data widely available



- Engineering and consulting company
- Sustainable engineering and design solutions
- 17 000 employees worldwide

- Interact II: WP8, Drones in Arctic Environments
- Increase awareness of drone technology and sensors
- <https://eu-interact.org/using-drones/>



Aim of WP6

- Demonstrate environmental change over long periods using breaking science technology.
- Combining old data and resources in text/images with recent data
- Increase awareness of **machine learning** and **artificial intelligence** and how to use the technology.
- Produce a best practice scheme for the use of this methodology at Arctic research stations.
- Cooperation should lead to new businesses, methods, products and/or technology thanks to “hidden” data.
- Potential stakeholders apart from researchers: forest industry, local and Indigenous communities, the tourist industry and logistics and shipping companies



Artificial Intelligence, Machine Learning and Deep Learning

- Artificial Intelligence: Simulating natural intelligence
- Machine Learning: Data is fed to a network -> training -> prediction
- Example: Establish the rules of a chess game -> input A TON of chess games into the network -> HARVEST



AI, ML and DL

- Examples:
 - Predicting time series
 - Estimating filters (system identification)
 - OCR
 - Object detection
 - Natural Language Processing



AI, ML and DL

- What drives AI and what is the common denominator to make the mentioned examples work better?



AI, ML and DL

- The more data...
... the better the AI
- The question of data and
the researcher



AI, ML and DL

- How is data used for our detriment?
- How can it be used for good (hint the climate)?



AI, ML and DL

Once again:

- AI is run by data and fuelled by data.



Tasks

- **Task 6.0** Management of the WP (*project management, use of experts, master thesis projects*)
- **Task 6.1** Identify diverse data sources related to land use, icescapes, landscapes and ecosystems in collaboration with a few identified stations and local and Indigenous communities (*WP2 Station managers, WP3 Virtual access, historical data, combined with recent data*)
- **Task 6.2** Exploring possible applications of machine learning for data mining focusing on topics related to land use, icescapes, landscapes and ecosystems (*identify the AI technology trends and AI algorithms, workshop*)
- **Task 6.3** Application of machine learning and pilot study (*demonstrate the capacity of the technology, D6.3 and reporting, D6.4*)
- **Task 6.4** Ensure open data access to newly extracted information (*data from WP6+WP2 will be available through WP3*)



Future deliverables

D6.1 Pre-study on inquiries and needs from identified station managers and researchers, to identify possible datasets and type of questions to be answered (Month 14)

D6.2 Workshop with demonstration on technology available today and expected in the future in the area of ML and AI technology (Month 14)

D6.3 Use machine learning on some example data to make specific algorithms and methods available and demonstrate the outcome (Month 26)

D6.4 Report on future strategy and planning for the area of AI and ML to be applied in Arctic research (Month 32)

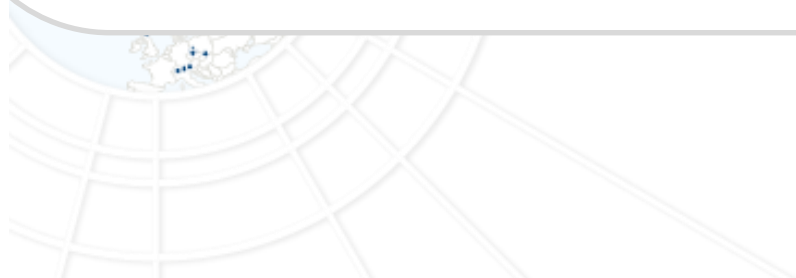
Internal collaboration

What information would be helpful from the other WPs?



Internal collaboration

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- It's all about sharing data – we'll do the rest!

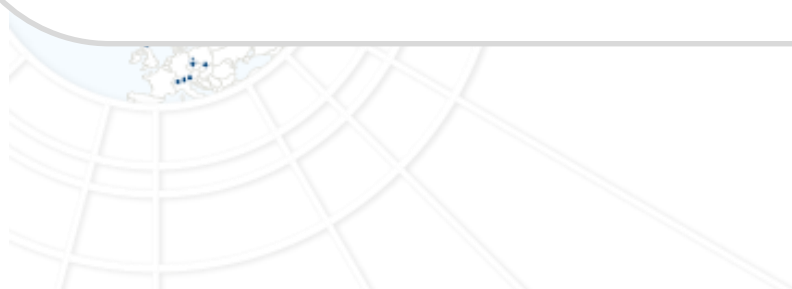


Internal collaboration

What information would be helpful from the other WPs?
- It's all about sharing data – we'll do the rest!

- Photos and paintings
- Logbooks
- Statistics
- Texts
- Reports

Still, we will need inputs from station managers and researchers from relevant programs





External collaboration

- Potential collaboration with industry partners and current customers
- Knowledge from other AI programs within AFRY
- Academia/universities