

NATUREACH - Nature Reachable for all

Project Kick off Workshop 30 March 2023 in Umeå

Interreg



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the European Union



University of Vaasa



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Region
Västernorrland



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NATUREACH

NATUREACH – Nature Reachable for all

- The use of nature-based activities for promoting health and well-being has experienced a clear growth over the past few years and decades.
- In this project, we seek new **digital solutions** to the current challenges in social and health care services in Finland and in Sweden.
- The main goal of the project is to improve human health, wellbeing and quality of life by digitally produced **nature-based interventions**.
- Project aims to strengthen the **well-being and inclusion** of people with special needs and reduce social inequality by responding the challenges regarding **accessibility to nature** and effectivity of social and health care services.



Providing VR-nature experiences to clients and care professionals

- *VR dome, glasses and screens*



Sound System
5.1 Surround Sound system

Projection
5 x full HD short throw projection system

Frame
Powder-coated steel geodesic frame

Technology
Igloo media server and wifi router

Door
Fully lockable door

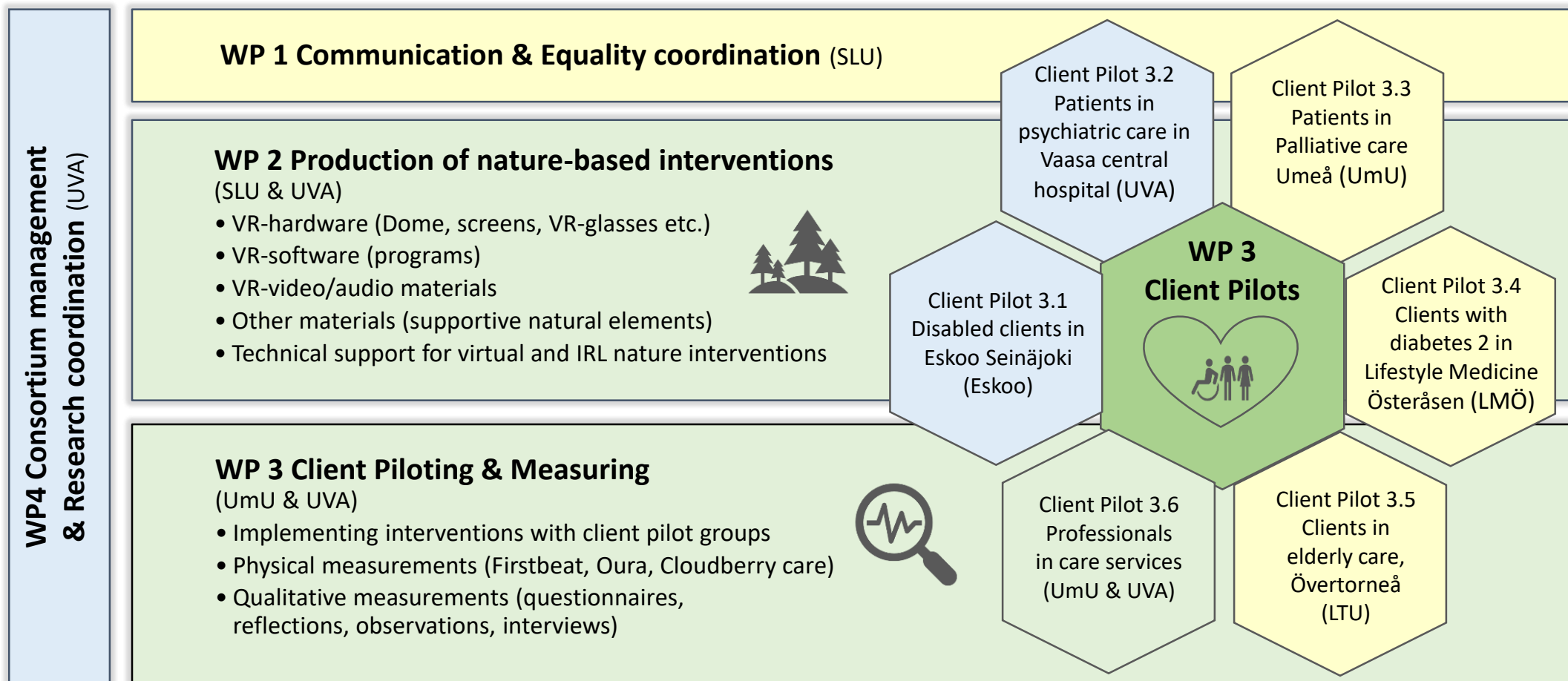
Cover
Dartex cowling & polished GRP panels

Screen
Fully immersive 360° projection screen

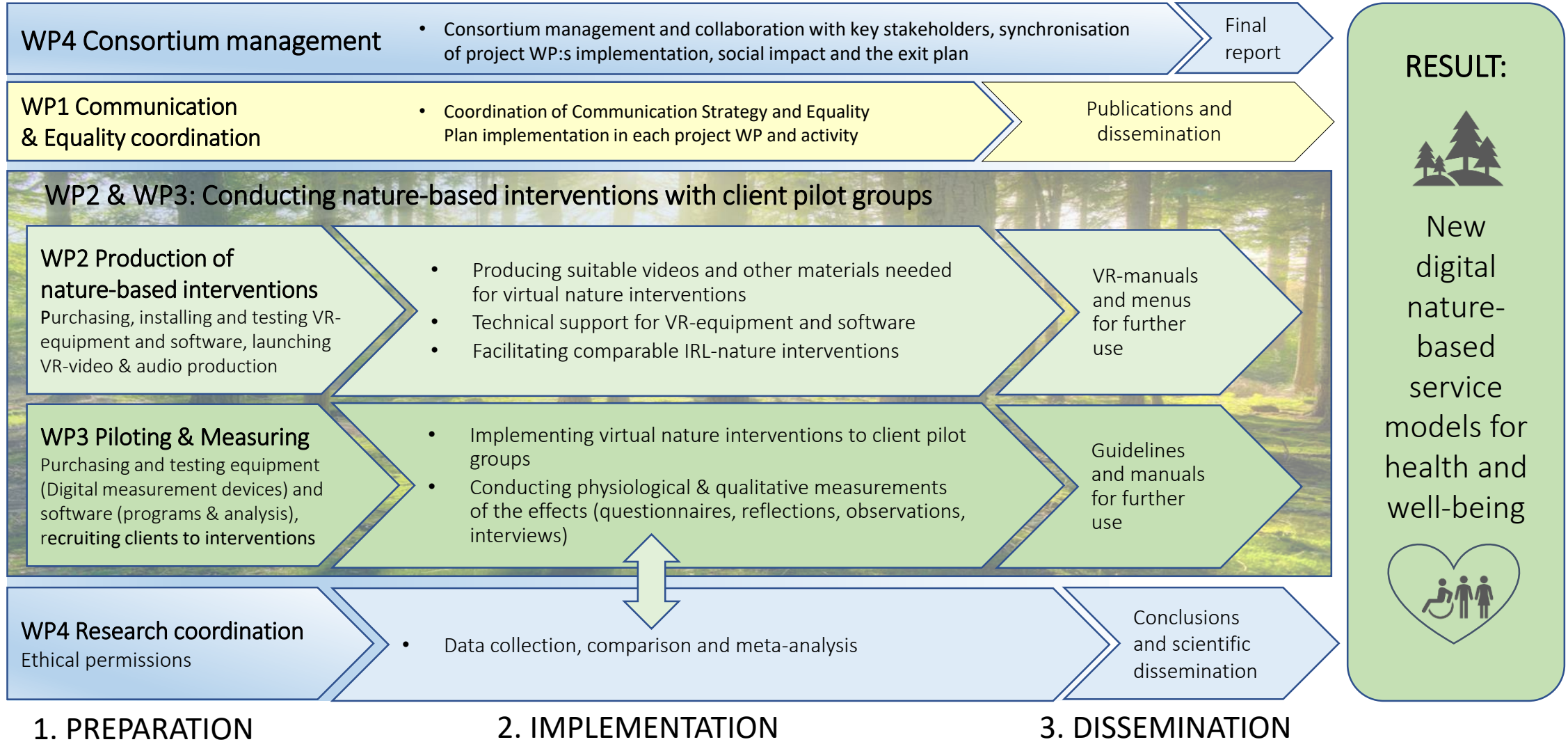


NATUREACH Project Work Packages

(WP-leader presented in parentheses)



NATUREACH Process flow chart 2023-2025





Project Consortium in Finland

- Project coordinator, University of Vaasa: Martta Ylilauri, Catharina von Koskull, Vaiva Stanisauskaite, Jyri Nieminen et al.
- Eskoo's Support and Care unit, Seinäjoki, Wellbeing Services County of South Ostrobothnia: Johanna Mäki-Rautila et al.
- University of Tampere/ EPANET: Elina Kontu, Satu Peltomäki
- University of Helsinki: Minna Huutilainen
- Hanken: Johanna Gummerus
- **External client organization:** Patients in Eating Disorders Outpatient clinic in Vaasa central hospital (Wellbeing Services County of Ostrobothnia: Marita Niemelä, Maija Vuori et al.

Project Consortium in Sweden

- SLU, Swedish University of Agricultural Sciences: Ann Dolling, Elisabet Bohlin, Anna Maria Palsdottir, Martin Gärdemalm et al.
- Umeå university: Lisbeth Slunga Järholm, Monika Norberg, Kristina Lämås, Madelen Bodin et al.
- LTU, Luleå university of Technology: Päivi Juuso, Åsa Engström, Jeaneth Johansson, Johan Jirlén et al.
- Lifestyle support services Österåsen, Region Västernorrland: Benno Krachler, Charlotte Högberg et al.
- **External client organizations:** Palliative Medicine Umeå, Norrland university hospital: Henrik Ångström, Annika Kramer, Johan Philipsson et al.
Äldreomsorg enhet i Övertorneå (Norrbotten), Aina Bleikvasli et al.

Dome/device and video supplier companies will be put out to tender

Nature and health - Scientific findings

- It's about restoration!
- Scientific findings
 - To “just be” in nature increases mental and physical well-being
 - Improved mood
 - Increased ability to focus
 - Reduced stress
 - Reduced blood pressure
 - Improved sleep
 - Increased energy level
- We have a special "feeling for nature“



Why is nature good for us?

- Evolved in and adapted to a life in nature/forest
 - Nature is understandable, predictable and meaningful – coherence
- Spontaneous attention in nature
 - Few demands
 - Right amount of stimuli
 - All the senses and the brain “can rest”
- Directed attention in daily life
 - Many demands and decisions
 - Tiring





**Nature for
human health**



**Multi-sensory
environment**

Can virtual nature be as good?

Previous research on health effects of "VR-nature" - a few studies indicates:

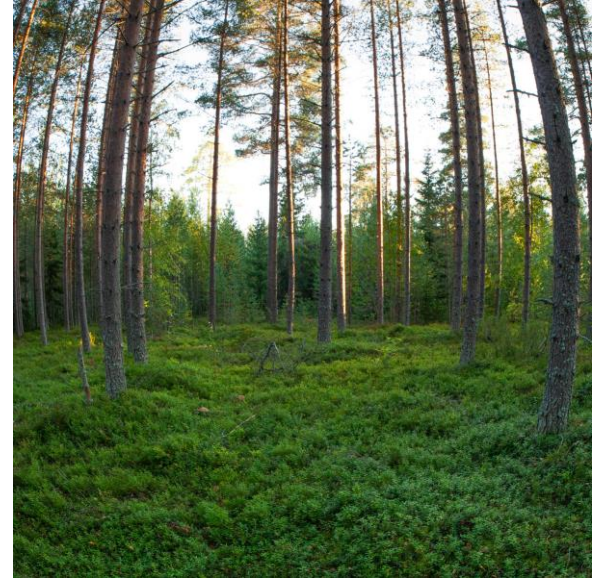
- *Positive response to nature vs town 360 pictures/films*
- *Virtual nature improves mood and reduces stress amongst young adults and pensioners*
- *Some claim a virtual forest can be as restorative as a real forest, some that it cannot*
- *Virtual sound and scent are also important*
- *Physiological parameters do not change, whereas psychological measurements show recovery*

**But : How were the interventions adapted and how was the quality ?
How can the interventions be improved?**

Challenge

- **Aim - Bring the nature indoor**
- Try to give the same feeling indoor as outdoor
- To make the intervention as good as the IRL-experience
- How to make a treatment/ "service model"?

WP 2 Production of nature-based interventions





Client Pilot 3.1 Disabled clients in Eskoo's Support and Care unit, Seinäjoki (Wellbeing Services County of South Ostrobothnia)

1. Eskoo Care Unit; 24/7 care unit to adults with profound intellectual and multiple disabilities in demanding care

2. Eskoo Support Unit; adults with needs of high psychosocial support (incl. intellectual disabilities neuropsychiatric disorder) and autistic support

The aim is to reinforce the client's recovery, positive experiences and sense of inclusion

- **VR-equipment:** VR dome without headsets, VR-glasses with headsets
- **Multisensory interventions:** olfactory and tactile sensations are possible
- Methods used in assessing the effects: Photovoice, structured observation by staff, HRV-measurements (Firstbeat and Oura)
- IRL-interventions included if possible (Support unit), also staff is participating in interventions

Client Pilot 3.2 Patients in Eating Disorders Outpatient clinic in Vaasa central hospital (Wellbeing Services County of Ostrobothnia)

The aim for nature-based interventions is to support care, reduce anxiety and increase the well-being

VR-equipment: VR-glasses with headsets

- **Multisensory interventions:** olfactory and tactile sensations are possible
- Methods used in assessing the effects: Questionnaires and individual interviews of the staff members involved in the care and interventions
- Also staff is participating in interventions

Client Pilot 3.3: Patients in Palliative medicine Umeå

The aim for this pilot is to investigate the possibility to use virtual nature experiences for palliative patients who are treated with advanced home care, and thereby increasing well-being and alleviating pain and anxiety.

1. Patients with serious illnesses and limited survival who are in need of terminal advanced care.
 2. Relatives that are close to the patient and assist in the care will also be offered to take part of the VR nature experiences.
- **VR-equipment:** VR-glasses with headsets
 - **Multisensory interventions:** olfactory and tactile sensations are possible
 - Methods used in assessing the effects: Primarily VAS self-assessments of symptoms such as pain and anxiety and a mood scale. Individual interviews of the patients, their relatives and the employees involved in the care. HRV (heart rate variability) could be considered, but only if it doesn't involve any disturbance or discomfort for the patient.
 - Also staff is participating in interventions

Client Pilot 3.4: People with diabetes mellitus in Lifestyle support services Österåsen, Region Västernorrland

The aim for this client pilot is to use IRL- and VR-nature to improve lifestyle. To introduce VR as a method to bring the nature indoors as a tool to encourage the life style changers and others to be more active and go out in the IRL-nature. Also, to provide some of the VR-tools to nature and health entrepreneurs as a PR-tool and to be used at bad weather.

- **VR-equipment:** VR-glasses with headsets
- **Multisensory interventions:** olfactory and tactile sensations are possible
- IRL-interventions are included
- Methods used in assessing the effects:
Psychological measures: Mood survey, Perceived sensory dimensions, quality of life
Physiological measures: Blood sugar levels, weight, need for diabetes-related drugs, (blood pressure, HRV)
- Also staff is participating in interventions

Client Pilot 3.5: Senior care services in Övertorneå Municipality

Thus, the aim of this client pilot is to promote healthy homes and sustainable living, as well as to combat loneliness of older adults living in elderly care units.

VR-equipment: VR-glasses with headsets, screens in a room at the units aimed for pauses/recreation for the residents

- **Multisensory interventions:** olfactory and tactile sensations are possible
- IRL visits in nearby nature and/or nature view through window.
- Methods used in assessing the effects:
Observations, discussion/reflections in groups, Personal interviews, observations, physiological measurements.
- Also staff is participating in interventions



Program:

11.00 Transportations for the Finnish participants to the Umeå Arts Campus

12.00 Lunch and introduction round ([Restaurant Tonka, Östra Strandgatan 24](#)) ↗

13.30 Introduction to the themes: Virtual nature interventions, client pilots and project goals
([Curiosum, Östra strandgatan 32](#)) ↗

Martta Ylilauri (UVA), Ann Dolling, Anna María Pálsdóttir, Elisabet Bohlin and Martin Gärdemalm (SLU)

Short presentation from client groups

14.15 VR session at Curiosum dome ([Curiosum, Östra strandgatan 32](#)) ↗
Madelen Bodin (Umeå university) and Martin Gärdemalm (SLU)
<https://www.curiosum.umu.se/en/discover2/dome-theater/> ↗

15.00 Coffee break

15.15 Equipment testing and group discussions on VR & video production
from client perspective ([Curiosum, Östra strandgatan 32](#)) ↗
Antti Martikainen (Virtual-dawn) <https://virtual-dawn.com/> ↗
Martin Gärdemalm (SLU)

17.00 Workshop summary

17.30 Dinner and discussions ([Restaurant 1897](#)) ↗

19.00 Transportations to the harbour and railway station

