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Hafencity University

# Horizon Europe

**CL6-2021-ZEROPOLLUTION-01-03**

CL5-2021-D2-01-16

CL6-2021-FARM2FORK-01-17

CL6-2021-CircBio-01-0

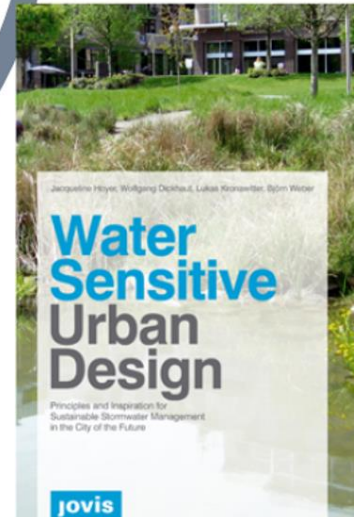
Politics  
Environment  
Technology  
Society  
Design  
Culture  
Economy

Interdisciplinary approaches on the interfaces between technical infrastructure planning and spatial, urban, landscape and open space planning



European & International Applied Research partnerships

**Blue Green Streets**



- Green Roofs
- Constructed Wetlands
- NbS for Storm water & Wastewater Management
- Multi-talented street designs

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Concha Civantos

FUNDECYT-PCTEX

TOPIC: HORIZON-CL6-2021-ZEROPOLLUTION-01-03:  
Preventing and managing diffuse pollution in urban  
water runoff

### OUR RESEARCH AND INNOVATION ACTIVITIES

- Water ozonation processes. Advanced chemical oxidation processes: Fenton, photofenton, ozone-hydrogen peroxide, catalytic ozonation, photocatalytic ozonation, ozone-activated carbon. Photocatalytic oxidation.
- Catalysts for advanced oxidation catalytic processes.
- Emerging and priority polluting compounds.
- Biological-chemical oxidation combination for wastewater
- Designing and synthesis of activated carbon adsorbents and catalysts
- Upgrading processes for water contaminants

### OUR INFRASTRUCTURES

- 2 labs of general use
- 1 lab with analytic equipment (HPLC and GC with different detectors (UV-visible, FID, TCD, etc), TOC, AOX, COD analyzers, etc).
- 1 lab houses a drinking water treatment pilot plant
- 1 lab (rooftop) with CPC photoreactors and photovoltaic panels to conduct pilot plant runs on solar advanced oxidation processes.
- horizontal and vertical activation ovens, ceramic reactors, high pressure and high temperature reactors
- 1 lab for the characterizations of the catalysts and HPLC and GC mass detectors

### OUR CONTRIBUTION TO THE IMPACTS

- able to reduce or control the pollution from contaminants of emerging concern, pathogens, among others
- able to develop technologies and procedures for capturing and upgrading water contaminants to commercial products

### OUR CONTRIBUTION TO THE ACTIVITIES

- Removal of contaminants of emerging concern, pathogens, among others. This includes analytical determinations of micro-pollutant concentrations, toxicity, pathogens, etc.
- Developing activated carbon adsorbents and catalysts and combination of them for targeting specific commercial products.

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**LET'S HAVE A MEETING!!**

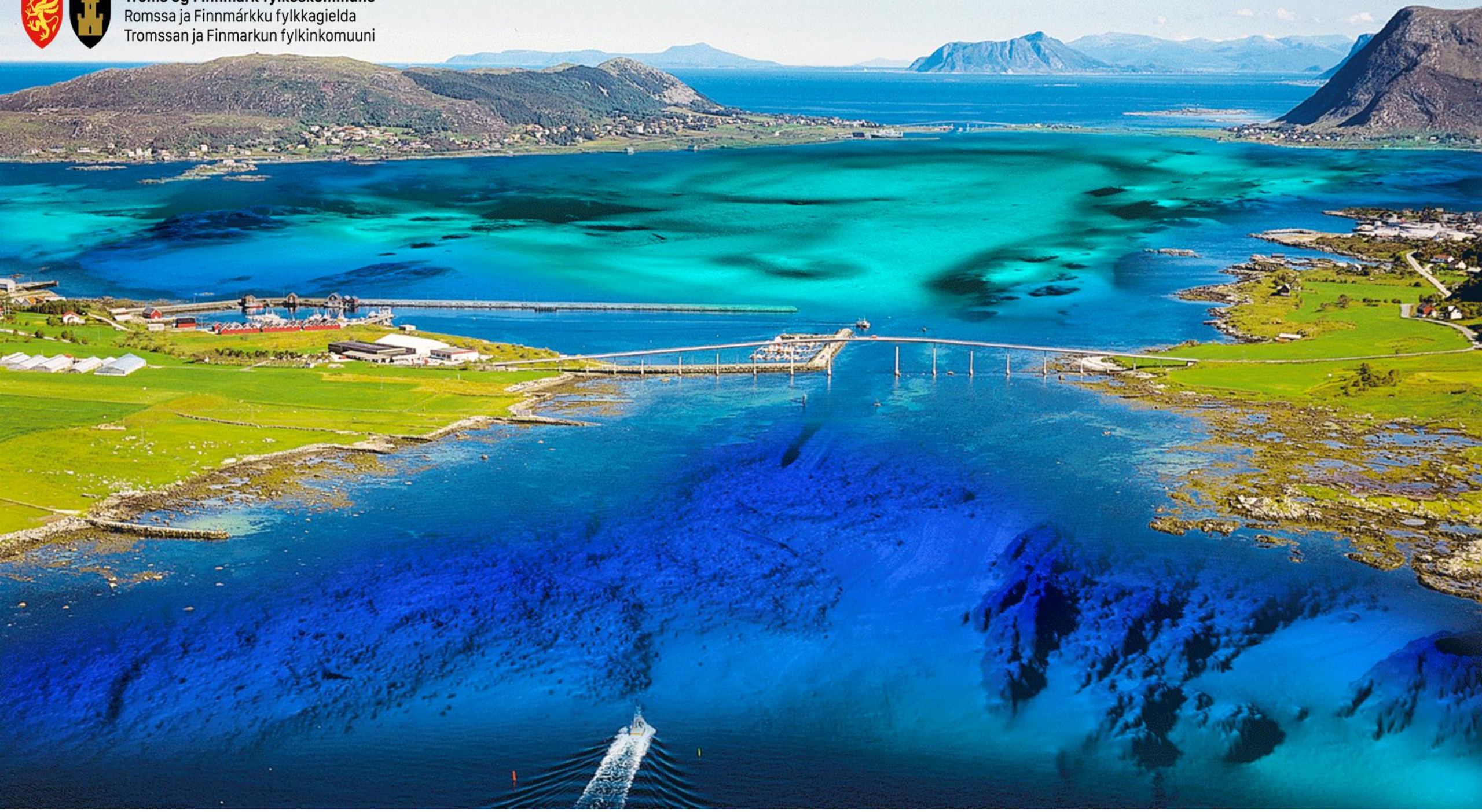


Stein Arne Rånes

Troms og Finnmark fylkeskommune



**Troms og Finnmark fylkeskommune**  
Romssa ja Finnmarkku fylkkagiielda  
Tromssan ja Finmarkun fylkinkomuuni





Yolanda Marín Ventura

Fundación Delegación Fundación  
Finnova

# Capitalisation of the CILIFO project:

## *Solutions for climate change adaptation and mitigation - recovery of burnt soils caused by forest fires*

The proposal seeks to capitalise on the results of the CILIFO project (0753\_CILIFO\_5\_E; funded by the Interreg POCTEP 2014-2020 programme), for the **recovery of burnt soils caused by forest fires through the implementation of technosoils.**



### GENERAL AIM

To demonstrate how the "artificial substrates" developed (also called technological, amendments or technosoils), coming from the valorisation of "non-hazardous waste", by means of specific formulations studied, are capable of reducing NOx (nitrogen oxide) pollution and improving the properties of the soils where they are applied.

### SPECIFIC OBJECTIVES

SO1. Design and development of "artificial substrates" created using non-hazardous waste for NOx capture and soil fertilisation.

SO2. Development of a "pilot project" in a real and scalable environment (from initial TRL6 to TRL9) on 4 test plots and 1 reference plot, for the monitoring of atmospheric NOx uptake and soil nitrates.

SO3. Study of the state of the art on the current legislation on the use of Non-Hazardous Waste (NHW); and improvement of the mechanisms of the legal regulatory framework for NHW.



The background of the slide features a city skyline with several tall buildings, including a prominent one with a curved facade on the left. In the foreground, there is a dense, lush green forest. A dark blue rectangular box is overlaid on the upper portion of the image, containing the text.

Mustafa Ersoz

Selcuk University

## Materials technologies and Biotechnology units

- ❑ R&D
- ❑ Analysis&Testing
- ❑ Collaboration with Industry

## Nanotechnology & Surface Engineering Laboratory



- ✓ Materials Science and technologies
- ✓ Membrane technology and applications
- ✓ Bio-based materials & biotechnology
- ✓ Energy
- ✓ Directed self assembly of nanostructures for CMOS Technologies

- ✓ Nanomaterials & Semiconductor Tech. (synthesis, patterning, functionalization, surface treat),
- ✓ CVD systems / Processing techniques (films, fibers, coatings, etc).
- ✓ Smart surfaces, interfaces chemistry
- ✓ Sensors developments

## Track Records

- ✓ **H2020-Twinning**-2019 EngSurf-Twin-952289 “Reinforcing the Scientific Excellence of Selcuk University in Engineered Surfaces and Films for Emerging Technologies ”
- ✓ **H2020-SPIRE**, 2020, Waste2Fresh “Smart Innovative system for recycling wastewater and creating closed loops in textile manufacturing Industrial processes
- ✓ **H2020-MSCA-RISE**-2017-778098 “Nanostructured Carriers for Improved Cattle Feed”
- ✓ FP7-**NMP**, Large Area Molecularly Assembled Nanopattern for Devices (LAMAND)
- ✓ FP7-**INFRA**-2012, The European Solar Infrastructure for Concentrated Solar Power (EU-SOLARIS)
- ✓ FP7-**SME**-2012-“Enhanced chitin-based biosorbents for drinking water purification “ChitoClean”
- ✓ FP7-**SME**-2013 ““Ingredients for Food and Beverage industry from a lignocellulosic source (LIGNOFOOD)
- ✓ **COST, ERA-NET**, Bilateral and National projects

Find information on the link; [https://www.youtube.com/watch?v=rJNhlAunS\\_g](https://www.youtube.com/watch?v=rJNhlAunS_g)