

# Mission Adaptation au changement climatique et aux transformations sociétales

*Evénement de réseautage du 7 mars 2023*

*Merci de couper vos micros et caméras*



# Ordre du jour

- 14h00-14h05 : Accueil des participants
- 14h05-14h30 : Bref rappel de la Mission et des appels à proposition 2023
- 14H30-16H00 : Session de pitchs



# Les Missions : késako?

### Objectifs

- Répondre à certains **défis sociaux** complexes
  - Générer des **solutions** et **initiatives** dans une **logique de transversalité** et de **co-conception**
  - Provoquer des **changements systémiques** ayant un fort impact sur la société et allant au-delà des instruments existants.
- 
- ➔ Nouveau rôle de la recherche et de l'innovation (R&I) dans le cadre du programme Horizon Europe, en adoptant une approche globale et en redéfinissant la relation avec les citoyens.

# Les Missions : késako ?

Adaptation au changement  
climatique, y compris la  
transformation de la société



Santé des  
océans, des  
mers et des  
eaux côtières  
et intérieures



5  
domaines  
de missions



Cancer

Villes neutres  
pour le climat et  
intelligentes



Santé des  
sols et  
alimentation



# **La Mission « Adaptation au changement climatique »**

## Contexte politique

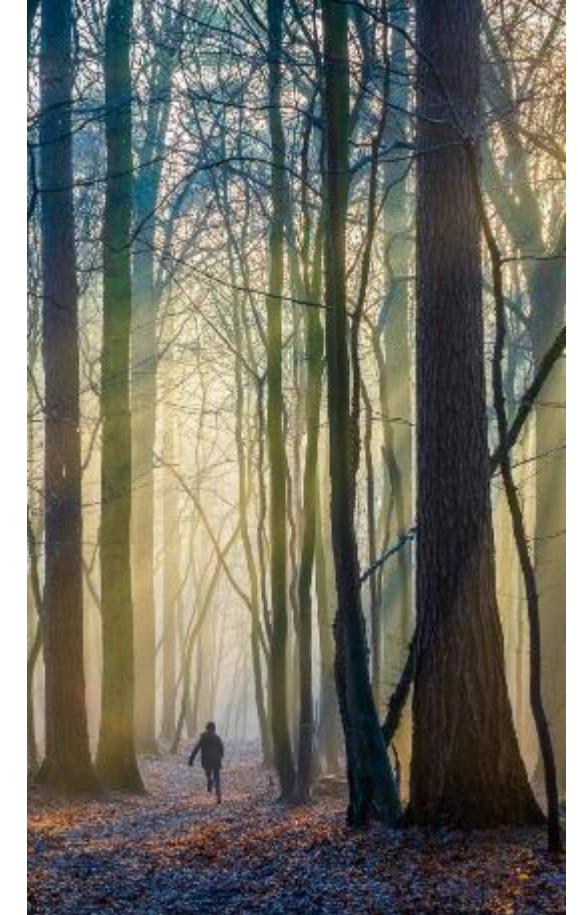
La nouvelle stratégie Adaptation au changement climatique

## La nouvelle stratégie Adaptation au changement climatique

D'ici à 2050, l'UE sera une société pleinement adaptée aux effets inévitables du changement climatique

### Objectifs :

1. Une adaptation plus intelligente
2. Adaptation plus systémique
3. Une adaptation plus rapide
4. Intensifier l'action internationale





# Le plan en œuvre de la Mission ou *implementation plan (CE)*



# Le Plan de mise en oeuvre de la Mission Climat

Publié le 29/09/2021



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Lancement officiel de toutes les missions le 29/09/2021

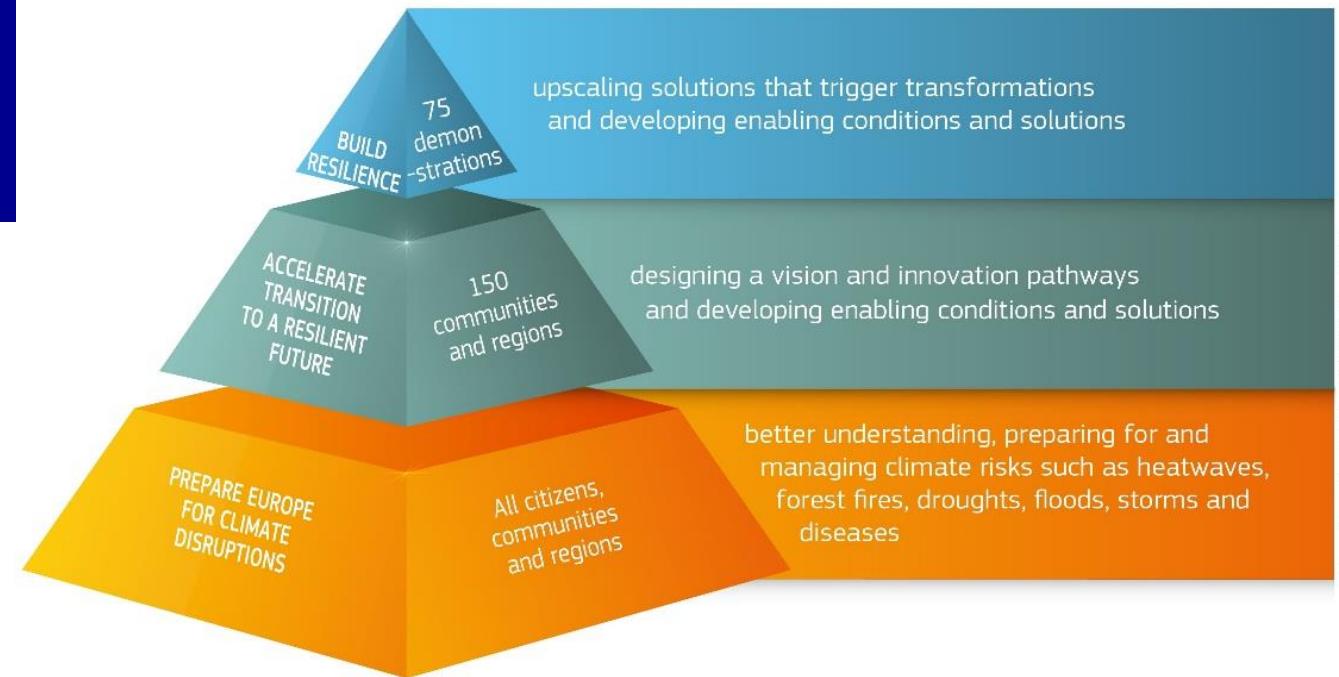
<https://www.horizon-europe.gouv.fr/lancement-de-la-mission-adaptation-au-changement-climatique-et-aux-transformations-societales-27800>

### Objectif de la mission

**Aider au moins 150 régions et communautés européennes à devenir résilientes au climat d'ici à 2030.**

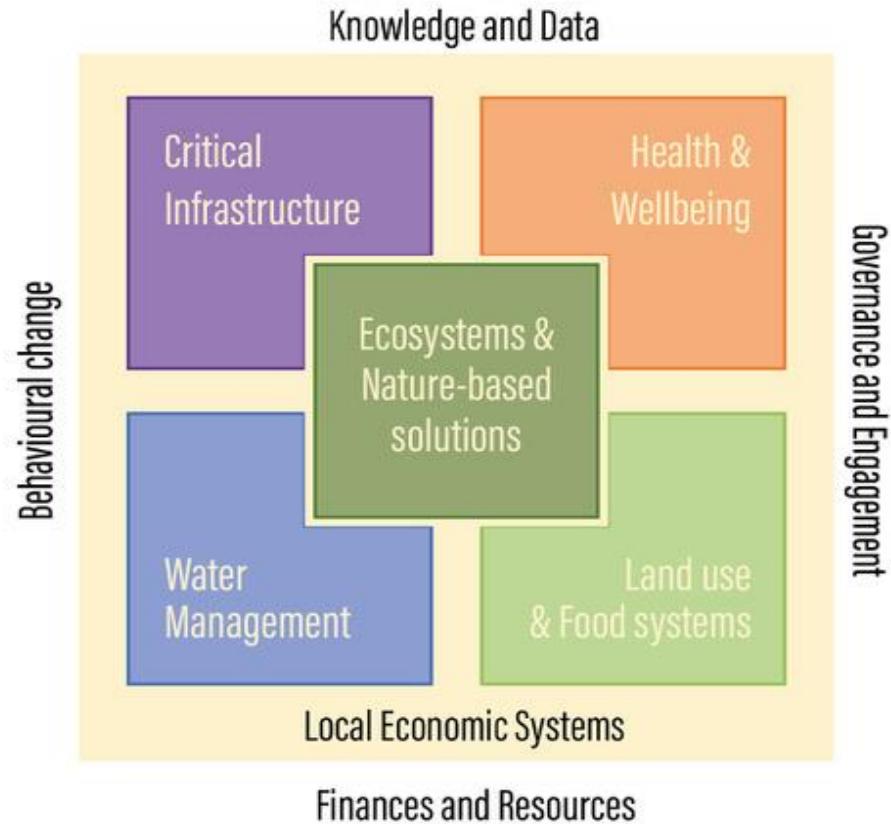
3 objectifs :

- 1. Préparer et planifier la résilience climatique**
- 2. Accélérer les transformations vers la résilience climatique**
- 3. Démontrer les transformations systémiques vers la résilience climatique**



# Le Plan de mise en oeuvre

## Les domaines d'innovation visés



**Une approche locale** prenant en compte les différents niveaux de vulnérabilité et de préparation au changement climatique, le niveau d'ambition et les besoins en matière d'innovation de chaque région.

**Une approche systémique**, réunissant plusieurs domaines d'innovation pour améliorer la résilience des systèmes-clés en développant les conditions propices à la transformation.

**Une approche inclusive** réunissant tous les acteurs concernés comme les administrations, le secteur privé et la société civile, en particulier les citoyens.

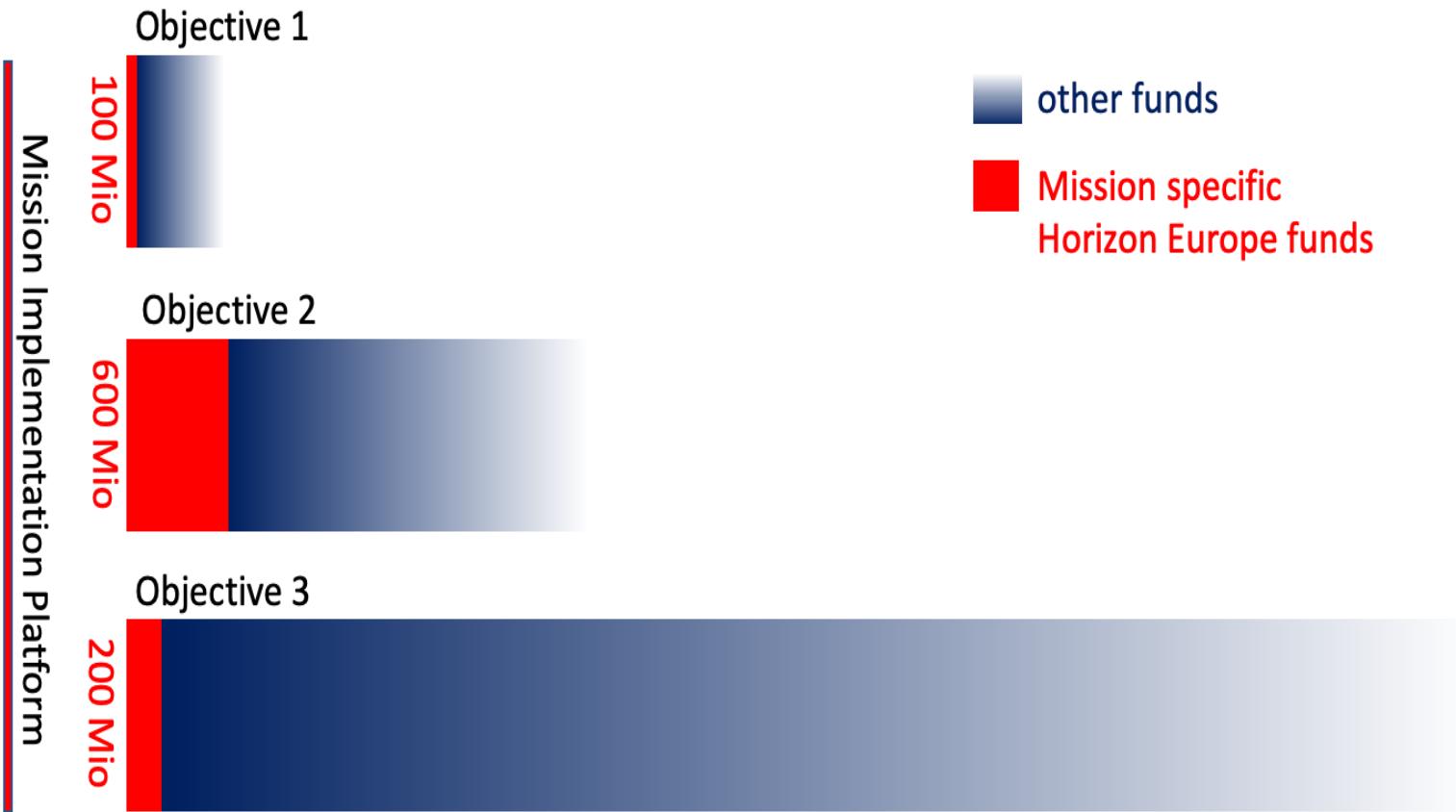
## Plate-forme de mise en œuvre de la Mission

(Mission Implementation Platform/MIP) :

- 1. Offrir une assistance technique** aux autorités régionales et locales pour :
  - passer de l'évaluation des risques à l'**élaboration de pistes d'adaptation**,
  - identifier des **projets de démonstration** d'adaptation au climat et des **pistes de financement** possibles.
- 2. Offrir un soutien** aux autorités régionales et locales et aux communautés sur :
  - comment **accéder aux connaissances** sur les **solutions** et les outils d'adaptation,
  - comment **impliquer les parties prenantes**.
- 3. Créer une communauté** de pratique dédiée à l'adaptation au climat et à la résilience, avec un accès à un site web restreint, pour :
  - **apprendre les uns des autres** et échanger les leçons apprises,
  - identifier les **possibilités de collaboration**.
- 4. Animer** la communauté de pratique en :
  - organisant régulièrement des **événements** ou des webinaires,
  - créant un **espace de collaboration** (forum).



# Le budget de la Mission



## Hypothèses

- HE: ~1 milliard d'euros par Mission pour la R&I, la facilitation et la coordination
- Autres fonds :
  - Autres fonds du CFP (ERDF, ESF+, EAFRD, LIFE, ...)
  - Fonds nationaux
  - Finances privées
- Ratio du levier de HE : autres fonds = 1:10



## **Les appels 2023 Mission Adaptation**

### Programme de travail « Missions » 2023-(2024)

# Programme de travail “Missions” 2023-2024

## Les appels 2023

Topics 2023 Mission adaptation...	Type d'action	Budget topic	Budget projet	Nombre de projet(s) financé(s)	Niveau de TRL attendu	Date d'ouverture	Date de clôture
HORIZON-MISS-2023-CLIMA-01-01: Testing and demonstrating transformative solutions increasing climate resilience of the <b>agriculture and/or forestry sector</b>	IA	30M€	8-10M€	3	6-8	10/01/2023	20/09/2023
HORIZON-MISS-2023-CLIMA-01-02: Testing and demonstrating transformative solutions to protect <b>critical infrastructure</b> from climate change, mainstreaming nature based solutions	IA	34,81M€	8-11M€	3	6-8	10/01/2023	20/09/2023
HORIZON-MISS-2023-CLIMA-01-03 : Testing and demonstrating transformative solutions to build resilience towards <b>health risks</b> caused by the effects of climate change	IA	18M€	4,5-6M€	3	6-7	10/01/2023	20/09/2023
HORIZON-MISS-2023-CLIMA-CITIES-01-01: Urban greening and re-naturing for urban regeneration, resilience and climate neutrality	IA	40M€ (20M€ Climate + 20M€ Cities)	10-12M€	4		10/01/2023	27/04/2023
HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01: Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape <b>water retention capacity</b> at regional scale	IA	15M€ (5M€ Climate+5M€ Ocean+5M€ Soil)	15M€ Cascading funds	1	6-7	17/01/2023	20/09/2023

Budget 2023 Mission Adaptation et appels conjoints : ≈ 138M€



### ➤ Objectifs 2 et 3 de la Mission Adaptation

#### Aperçu de projets déjà financés

##### LIFE SORIA

**FORESTADAPT** | Sustainable adaptation to climate change of forest sector management in the province of Soria | Life 19  
CCA/ES/001181

**Eco2adapt** | Ecosystem-based Adaptation and Changemaking the resilience of Tomorrow's Forests | Horizon-CL6-2022-Climate-01-05

**LIFE CO2SAND** | Increasing climate resilience and carbon sink of sandy soils on agricultural land | LIFE20 CCA/NL/001625

#### Expected outcome

- Fostering a **systemic approach** to climate resilience
- Develop & test solutions to make the agriculture and the forestry sectors **more resilient**
- Develop solutions contributing to the implementation at the local level of the **Common Agriculture Policy** and the related **National Strategic Plans**
- Develop solutions being **close to nature** (or at least neutral and supporting biodiversity)

#### Scope

- Improving resilience of the agriculture sector and/or forestry sector, improving their capacity to withstand dry periods and extreme droughts
- **Exploiting agro-ecology** to enhance the climate resilience of the farming system
- Exploring integration of available **smart farming approaches** & use of technologies such as AI, remote sensing, & IoT
- Development of **more natural ecosystems**, generating combined benefits for climate mitigation, reduction of water flooding and soil erosion & maintaining or restoring rivers, peatland, wetland and natural floodplain
- Demonstrating & increasing awareness of the **value of maintaining & restoring existing natural systems, preservation** of cultural landscapes & socio-ecological systems

- *Include at least 4 demonstrations in regions/local authorities/communities from at least 3 different EU Member States and/or HE associated countries*
- *Explore possible reapplication to other regions, starting from those located in the same biogeographical areas.*



IA

Budget appel : 30M€

Budget prop.: 8-10M€

TRL : 6-8

Deadline : 20/09/2023



Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions

➤ Objectifs 2 et 3 de la Mission Adaptation, en complt du topic 2021-CLIMA-02-03



IA

Budget appel : 34,81M€  
Budget prop.: 8-11M€  
TRL : 6-8  
Deadline : 20/09/2023

## Aperçu de projets déjà financés

**LIFE RESEAU** | Retrofiting solution for increasing the resilience of urban wastewater infrastructures in heavy precipitation areas | LIFE20, Climate Action

**LIFE RADOMKLIMA-PL** | Adaptation to climate change through sustainable management of water of the urban area in Radom City | LIFE14, Climate Action

## Expected outcome

- Testing solutions making the existing or new critical infrastructure **more resilient**
- Developing, testing and bringing closer to the market **NBS able to protect infrastructure** from adverse effects of climate change
- Reducing potential **economic & social losses** caused by extreme weather events and interruption of service due to unavailable critical infrastructures
- Making public & private actors **more prepared** to cope with climate change
- Improved prevention & management of emergency events linked to **adverse climate effects**

## Scope

- **Critical infrastructure** from climate impacts able to withstand changing climate (*in particular in terms of maintaining efficiency of operations, reducing maintenance costs and protecting the capital invested*)
  - Solutions for building/managing new critical infrastructure **and/or** upgrading/ regenerating/ revitalising/ refurbishing existing ones through **green/blue/hybrid infrastructure**
  - **Digital solutions and services** to better predict, monitor and report on climate events, trigger adequate risk management and emergency procedures, and protect both business and population
- *Include at least 4 demonstrations in 4 different regions/local authorities/communities from at least 3 different EU Member States and/or HE associated countries*



Testing and demonstrating transformative solutions to build resilience towards health risks caused by the effects of climate change

## ➤ Objectifs 2 et 3 de la Mission Adaptation



IA

Budget appel : 18M€  
Budget prop.: 4,5-6M€  
TRL : 6-7  
Deadline : 20/09/2023

### Aperçu de projets déjà financés

**IDAlert** | Infectious Disease decision-support tools and Alert systems to build climate Resilience to emerging health Threats | [HORIZON-HLTH-2021-ENVHLTH-02-03](#) (autres projets intéressants vers le lien de l'AAP)

**BEPREP** | Identification of best practices for biodiversity recovery and public health interventions to prevent future epidemics and pandemics | Horizon-CL6-2021-Biodiv-01-11

**LIFE RESYSTAL** | Climate change REsilience framework for health SYStems and hospiTALs | Life, Climate action

### Expected outcome

- Involving regions, local authorities and communities to develop and test **transformative solutions** helping to mitigate the effect of climate change on health & human wellbeing
- Developing & testing climate resilience solutions that **protect human health**

### Scope (addressing both aspects)

#### 1) Improve prevention and policy-making:

- Insights into short- & long-term health effects of **climate-related stressors**, incl. **planetary health considerations**
- Comprehensive and user friendly** epidemiological surveillance and modelling & forecasting tools
- Better forecast, early warning & response systems, decision-making models for **health impacts of climate change**
- Health impact assessment** of adaptation measures & monitoring of effectiveness of solutions (inc. NBS)

#### 2) Improve preparedness of health systems:

- Innovative solutions** to reduce impact of climate change on human health & wellbeing
- Training curricula** on health & climate change for medical & other healthcare professionals across Europe
- New innovative, fit-for-purpose, end-user driven early **warning & response systems** or improved existing ones
- Feedback & sharing best practice** from pilots to the new Health Emergency Preparedness and Response Authority

- *Include at least 4 demonstrations* in regions/local authorities/communities from *at least 3 different EU Member States and/or HE associated countries*
- *Explore possible reapplication to other regions.*



### ➤ Objectif Transversal



IA

Budget appel : 40M€  
Budget prop.: 10-12M€  
Deadline : **27/04/2023**

### Aperçu de projets déjà financés

**CIRCuIT** | Smart cities adopt circular and regenerative systems | H2020-SC5-2018-2020

**LIFE LUNGS** | Towards a more resilient Lisbon UrbaN Green InfraStructure as an adaptation to climate change | Life, Climate Action

**LIFE URBAN-ADAPT** | Demonstrating urban climate adaptation and resilience in inner city Rotterdam | Life, Climate Action

### Expected outcome

- Regenerated, rehabilitated, climate-proofed, resilient, environmentally, socially & economically upgraded built environment
- Improved livability, functionality, quality of life and social cohesiveness of the urban areas
- Integrated, transdisciplinary, adaptive, transparent & participative urban planning practices & decision making processes to facilitate the integration of greening, renaturing and biodiversity-enhancing solutions in urban climate plans
- Innovative methods, digital tools and data-driven models enabling identification, prioritization and visualization of holistic solutions and scenario analysis
- Mutually compatible and supportive EU sectorial and urban/region cross-scalar planning for climate mitigation, adaptation and neutrality at both city and region level
- Increased social awareness about urban climate related vulnerabilities (such as flooding, heat-waves, etc.)...

### Scope

- Setting-up, in each participating city, collaborative platforms to engage relevant actors & expertise in co-designing, testing and demonstrating co-created urban rehabilitation, regeneration, re-purposing or (re)conversion plans deploying greening and re-naturing approaches
- Regional dimension concerning climate adaptation properly accounted for, through the involvement of competent regional authorities responsible for the design and implementation of the regional climate mitigation and adaptation measures to ensure cross-scalar (city/region) compatibility and coherence of the different plans.

- Lead demonstration cities + replicator/follower cities
- Link with HORIZON-MISS-2021-CIT-02-03 & work in coord. with the Cities Mission + the future Climate Adaptation Mission Platform.
- Explore opportunities for collaboration & synergies (DUT; European Urban Initiative of Cohesion Policy, Urban Agenda for the EU, HORIZON-MISS-2021-CIT-01-02, Covenant of Mayors, CIVITAS initiative, Living-in.EU, New European Bauhaus)



## Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale

➤ Objectif 3 Mission Adaptation + Objectif 1 Mission Ocean & waters + Objectif 2 Mission sol



IA  
Budget appel : 15M€ Budget prop.: 15M€  
TRL : 6-7  
Deadline : 20/09/2023  
Cascading funds : 100000€/third party

### Aperçu de projets déjà financés

**FramWat** | Framework for improving water balance and nutrient mitigation by applying small water retention measures | Interreg

**LIFE-IP Waters of Life** | Protect and restore high ecological status waterbodies in Ireland | Life, environment

### Expected outcome

- Effective & inclusive integrated approaches to the **management of landscape, soil, water, vegetation** at a regional level, to increase the resilience to climate change impacts on soils, waters, habitats and biodiversity
- **Effective NBS & ecological approaches** to increase landscape water retention capacity, incl. soil water retention capacity
- **Economic feasibility** of these solutions, ensuring their long term sustainability
- Enhanced implementation of the **European Green Deal**, the **EU Adaptation Strategy**, the **EU Biodiversity Strategy**, EU legislation for the protection of **freshwaters & the EU Soil Strategy for 2030**
- Better information & greater **mobilization of all relevant actors**, for an effective and sustainable governance of soil, water and all other landscape components to achieve climate change resilience & increase water retention

### Scope

- Demonstrate **socio-ecological approaches & NBS** to increase landscape & soil water retention capacity, leading to improvement of quality and quantity of ground and surface waters, and boosting resilience to climate change impacts. A combination of nature-based measures with hybrid solutions and relevant Blue-Green engineering may be considered
- Various stakeholders involved for planning, implementing & managing measures to increase landscape retention capacity
- Identify, create & disseminate **best-practice examples** for end-users to ensure landscape water retention capacity in the LT
  - *Demonstration activities carried out in 3 different MS or AC.*
  - *Full-scale demonstration of innovative solutions in real conditions of landscapes in the selected countries*
  - *Involve at least 5 “associated regions” as third parties, to showcase the feasibility, replicability, scaling up of the developed solutions.*



### Représentants français de la mission Adaptation :

- Marion Bardy, MASA, [marion.bardy@agriculture.gouv.fr](mailto:marion.bardy@agriculture.gouv.fr)
- Lauric Cecillon, MASA, [lauric.cecillon@agriculture.gouv.fr](mailto:lauric.cecillon@agriculture.gouv.fr)
- Annabelle Rondaud, MESR, [annabelle.rondaud@recherche.gouv.fr](mailto:annabelle.rondaud@recherche.gouv.fr)
- Basudeb Chaudhuri, MESR, [basudeb.chaudhuri@recherche.gouv.fr](mailto:basudeb.chaudhuri@recherche.gouv.fr)

### Point de contact national Climat/Energie

- Nous contacter : [pcn-climat-energie@recherche.gouv.fr](mailto:pcn-climat-energie@recherche.gouv.fr)
- La page Mission Climat sur le site Horizon Europe du MESR
- S'inscrire à la liste de diffusion du PCN Climat-Energie

### Agenda

- **17 et 18 Janvier 2023 : Infodays Missions de la Commission européenne, pour les appels 2023**
- 2 juin 2023: Second Mission Climate Forum (date still to be confirmed)

### Et aussi

- FAQ Mission Adaptation
- Les Régions et autorités locales ayant signé la charte Mission Adaptation
- Programme de travail Horizon Europe 2023-2024



## Session de pitches



# Ordre du jour

1. European Institute of Cultivated Forestry, Christophe Orazio
2. XYLOFUTUR, Bérénice Kimpe
3. University of Liège, Pierre Delaplace
4. Univ. Rennes 1/CNRS, Andreas Prinzing
5. Bloomeria, Laurie Delmer & Thibault Dory
6. Kinéis, César Gracia-Berges
7. Université Gustave Eiffel, Yasmina Boussafir
8. Angers Loire Métropole, Olivier Sorin & Irene Gutiérrez
9. Province of Liege, Gilles Haux
10. Aarhus Municipality, Thomas Kirk Skov & Søren Winther Lundby
11. Colas, Cédric Leroux
12. ESTP – IRC, Gilles BETIS
13. ARIA Technologies, Fanny Velay & Joséphine Hébert
14. Reveleo, Aurélien Alfaré
15. Luxembourg Institute of Science and Technology, Elie Daher
16. TOMARO, Jacques NOEL
17. Association marocaine pour la protection du littoral et Développement durables, Benmohammadi Aicha
18. Higher Education Ministry, Bizerte Sciences College, Hatem BELGUTH
19. LIMBHA ESB's laboratory, Jérôme Moreau
20. CIL4Sys Engineering, Esther Slamitz
21. AFNOR Standardization, Lina ISMAIL



# European Institute of Cultivated Forestry

## *Christophe Orazio*

1) Topic(s):

HORIZON-MISS-2023-CLIMA-01-01: Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector

2) Description

- Maintain and promote result coming from REINFFORCE infrastructure to address 2 questions:
- What forest trees species and provenances for tomorrow : a network of arboreta under a climatic gradient
- What management for today forest: a network of demonstration sites for adaptative forest management

3) Expertise : Infrastructure and project coordination, communication, data management and analysis, multi-actor network

4) Partenaires identifiés : INRAE, CNPF, CRPF

5) Expertise recherchée : *analyse, monitoring*

6) Types de partenaires recherchés

*Extension of teh concept and network above atlantic area*

## Informations de contact

Nom de l'organisation

**Institut Européen De la Forêt Cultivée**

Type d'organisation

**Association loi 1901 multi-acteurs**

Nom de la personne de contact :

**Christophe Orazio**

Département et expertise de ce dernier

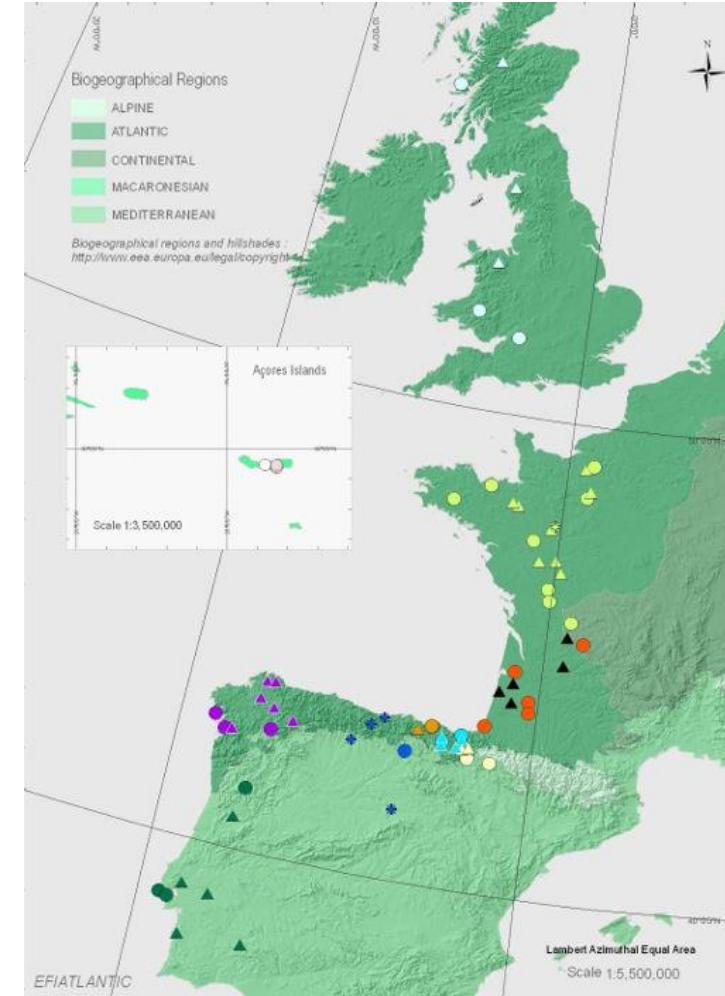
**Forestry, risk management, stakeholder engagement, shared resources**

Adresse email

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[Reinforce.iefc.net](http://Reinforce.iefc.net)





# XYLOFUTUR

## *Bérénice Kimpe*

## 1) Topic(s)

HORIZON-MISS-2023-CLIMA-01-01 « Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector »

## 2) Expertise (keywords)

- **XYLOFUTUR** (*as facilitator*): network of 270 stakeholders from the whole forest value chain (from the resource and its mobilisation to all the wood-based applications – *decarbonisation and substitution*)
  - Connecting with local forest and wood value chains (forest multifunctionality, timber construction)
  - Overview of innovation in France (resilience/adaptation to climate change leading to the new uses of wood, innovative uses of alternative species)
  - La Wood Tech: network of start-ups (incl. decarbonisation, AI-driven or satellite forest monitoring)
- **GASCOGNE BOIS** (*Xylofutur's member*): company from the woodworking industry (primary processing)
  - Types of projects: bio-based glues, wood mechanical classification
  - Offered expertise: specific equipment such as glue pilot line or equipment for wood quality classification

## Contact data

**Xylofutur, innovation cluster for the forest- and wood-based sector in France**

[www.xylofutur.fr](http://www.xylofutur.fr)

Linkedin: <https://bit.ly/3llgQir>

Twitter @XylofuturEU

### Contact:

Bérénice Kimpe, EU project manager

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Phone: +33 7 81 89 09 60



**University of Liège**  
*Pierre Delaplace*

### 1) Topic(s) HORIZON-MISS-2023-CLIMA-01-01

Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector

### 2) Description du projet

Follow-up of the BiodivERsA-funded action BIOFAIR: BIOdiversity of soils and FArmingInnovations for improved Resilience in European wheat agrosystems [<http://www.biofair.uliege.be>]

### 3) Expertise offerte

Ecotron facility, rhizosphere processes, root system architecture, soil functioning and N<sub>2</sub>O emission, STICS modelling, European field trial network (ESP, FR, BE, CH, GER), food quality (protein & vitamins, technological properties), BIOFAIR stakeholder board

### 4) Partenaires identifiés:

Under construction, based on existing BIOFAIR consortium with very positive interactions

### 5) Expertise recherchée

Climate change and food-web modelling, mesofauna (earthworms), isotope and GHG analytics, EA

### 6) Types de partenaires recherchés

University, research center, private sector

# ULiège Plant Sciences

## Session de Pitches

### Information de contact

University of Liège, Gembloux Agro-Bio Tech  
TERRA Teaching and Research Center  
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Plant Sciences Group  
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Teaching and Research Center, Jennifer Michel



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Teaching and Research Center, Vincent Leemans.



**Univ. Rennes 1/CNRS**  
*Andreas Prinzing*

**1) Topic(s) (Code(s) et titre(s))**

**HORIZON-MISS-2023-CLIMA-01-01:** *Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector*

**HORIZON-MISS-2023-CLIMA-CITIES-01-01:** *Urban greening and re-naturing for urban regeneration, resilience and climate neutrality*

**2) Description du projet (si applicable : objectifs, activités, impacts visés...)**

*Compensating impact of bad climate on trees by: « good neighbours » (positive biotic interactions) / within-tree plasticity and heterozygosity / strong mycorrhization / feedback of trees on climate.*

**3) Expertise offerte (mots clés)**

*herbivores, mycorrhiza, parasitoids on seeds, seedlings and trees (sampling, rearing) // biotic interactions (herbivory, mycorrhizal activity [via collaborators], litter decomposition, parasitism) // functional traits of trees (life history, ecomorphology, simple physiology) // evolutionary biology (developed the concept of phylogenetic isolation, heterozygosity [via collaborators]) // microclimate, remote sensing with satellite and drone (via collaborators). <https://www.researchgate.net/profile/Andreas-Prinzing-2>*

**4) Partenaires identifiés – none for the moment**

**5) Expertise recherchée (mots clés) – sylviculture, networking, European calls**

**6) Types de partenaires recherchés – see « 5) expertise recherchée »**



## Informations de contact

**Nom de l'organisation** (éventuellement le site web) Univ. Rennes 1/CNRS

**Type d'organisation** « Unité Mixte de Recherche »

**Nom de la personne de contact** head: Joan van Baaren, for the part on forests: Andreas Prinzing

**Département et expertise de ce dernier** Research Unit « Ecosysteme, Biodiversity, Evolution »: vast competences in ecology and evolution, including responses to climate at the level of physiology of individuals, population dynamics and community assemblage. Study systems: insects, spiders, plantes, mycorrhiza; in agricultural, forest, urban and natural environments

**Adresse email** for the part on forests: andreas.prinzing@univ-rennes1.fr

**Téléphone ( facultatif )** for the part on forests : 0033 +6 06 65 13 87



**Bloomeria**  
*Laurie Delmer & Thibault Dory*

## 1) Topics

**HORIZON-MISS-2023-CLIMA-01-01** : Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector.

**HORIZON-MISS-2023-CLIMA-01-02** : Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions.

**HORIZON-MISS-2023-CLIMA-CITIES-01-01** : Urban greening and re-naturing for urban regeneration, resilience and climate neutrality

We develop tools and applications using a public blockchain (  polygon ) because :

- ❖ It's a perfectly auditable ledger that can be used to **prove statements from organizations or individuals** ;
- ❖ You can create innovative **communication** and **governance** tools.
- ❖ Polygon is a **carbon neutral chain** since 2022

## 2) Expertise

- **Platform development** : write commitments on the blockchain and upload evidences over time to bring transparency and trust to companies / organizations / public individuals
- **Design governance tools and implement processes using web3 technologies** to let individuals and organizations solve coordination problems → Innovative ways of voting like *quadratic voting* can be implemented depending on the use case.
- **Innovative communication tools** : digital certificates containing various info about implemented projects / tokenized carbon certificates



# BLOOMERIA

Connects the world of blockchains, companies, citizens and environmental organizations to get the funds needed to protect nature



[www.bloomeria.org](http://www.bloomeria.org)



[laurie@bloomeria.org](mailto:laurie@bloomeria.org)

AISBL

**Laurie Delmer**



Strategic manager  
0485/466.181

**Thibault Dory**



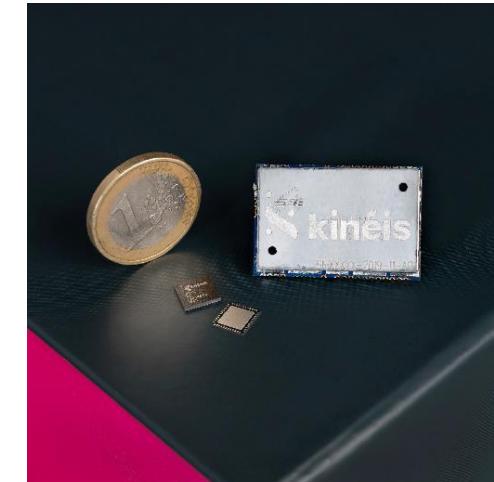
Blockchain engineer



**Kinéis**  
*César Gracia-Berges*

### 1) Expertise offerte: global IoT data connectivity by satellite - IoT monitoring devices :

- Miniaturization: small modems (2cm\*3cm), easy integration (UART)
- Small data packets (3 to 27 bytes) for very low energy consumption (100-500mW)  
*→ Long autonomy on small batteries for autonomous devices*
- Low cost: modems (15-25 euros) and airtime (monthly fee 1 to 10 euros / device)
- Global coverage, no white spots, no roaming
- Dedicated licensed frequency bands ~400MHz
- Downlink: remote configuration, commands
- Native Doppler-effect geolocation (low precision)
- Revisit time (latency): 5 to 15 minutes



### 2) Topics: different topics can use low cost in-situ sensing devices for remote monitoring / geolocation (IoT devices deployed in the field)

- Need for satellite IoT backup data connectivity for LPWAN/Cellular, or standalone
- Low-cost satellite IoT connectivity for in isolated areas

Examples:

- science, oceanography (buoys, drifters); blue economy;
- monitoring of soil temperature, humidity and pH;
- air dynamics observation, pollution, CO<sub>2</sub>, NO<sub>x</sub>, CH<sub>4</sub>, etc.; mini meteorology stations;
- tracking & monitoring of birds and wild animals, migrations;
- monitoring of operational parameters for offshore wind farms, tidal farms, autonomous energy production units, etc.;
- monitoring of transports pollution; monitoring of autonomous rechargers

1) Some of the topics that we are interested in:

- HORIZON-MISS-2023-CLIMA-01-01: Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector;
- HORIZON-MISS-2023-CLIMA-01-02: Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature-based solutions;
- HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01: Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale

## Informations de contact

Nom de l'organisation: [Kinéis, France – www.kineis.com](#)

Type d'organisation: [private company](#)

Nom de la personne de contact: [César Gracia-Berges, R&D Project Manager – Products Department](#)

Adresse email: [cgracia@kineis.com](mailto:cgracia@kineis.com) , <https://www.linkedin.com/in/cesar-gracia-03075b29/>

Téléphone: [+33 6.48.42.52.21](tel:+33648425221)



### Kinéis: our company

French satellite telecommunications operator

- 60 employees (90% R&D & Innovation engineers), Toulouse
- Experience in EU funded projects: ESA, Horizon Europe, Eurostars...
- 9 ARGOS legacy satellites + 25 nanosatellites to be launched in 2023
- Fundraising of 100M€ in 2020: new constellation fully funded
- 20.000 active IoT devices





**Université Gustave Eiffel**  
***Yasmina Boussafir***

1) **HORIZON-MISS-2023-CLIMA-01-02:** Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions

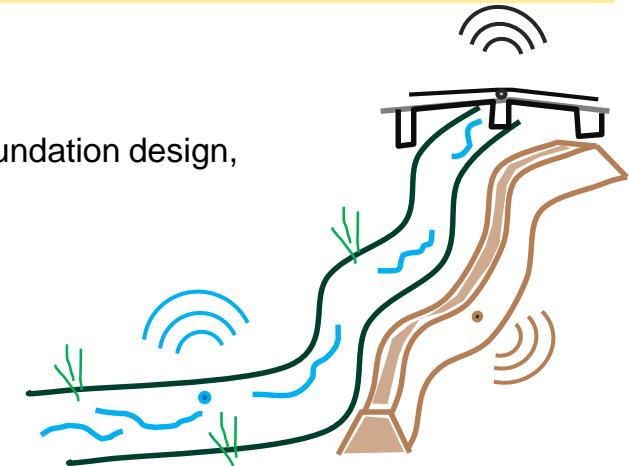
2) **Description du projet - Resilient Bridges and Rivers Insfrastructures, thanks to optimized Instrumentation and Devices**

**Bridges**, **Levees** and **Riverbanks** are essential elements of land use planning, subject to seasonal cycles, exceptional stresses and natural hazards. To guarantee their performance, they benefit from periodic visual inspections but rarely from continuous instrumented monitoring. An effective continuous, detailed and optimized (costs and data quantity) monitoring of these structures can allow a prediction of the state of damage, a reassessment of the life span of the structures, and, real-time alerts.

This project proposes (1) work on already existing systems (feedback) and new site instrumentation (2) developments in conjunction with the analysis of the phenomena/deteriorations at stake, especially the hydrological forcing. (3) optimization between costs and benefit brought by the information for managers and public authorities.

3) **Expertise offerte (mots clés) : Gustave Eiffel University -**

- **GERS:** geotechnical tests, soil mechanic tests, erosion tests, earth structure monitoring, numerical modelling, foundation design, embankment design, soil-atmosphere interaction, geophysical investigation and monitoring, etc.
- **MAST :** civil engineering, bridge and road design, concrete, bituminous, gravels, LCA, etc.
- **COSYS :** sensors, machine learning monitoring



**4) Partenaires identifiés :** all suggestion accepted - Contacts already existing with INRAE, Université de Tours, Osmos, Ubertone, EDF, SNCF, Vinci, DREAL Centre-Val de Loire

**5) Expertise recherchée (mots clés) :** *health monitoring, big-data / IA management, numerical modeling, sensors, bathymetry and water or hydrodynamic monitoring, meteorology, early-warning system, accessible site to monitor*

**6) Types de partenaires recherchés :** research organizations, sensor designers, suppliers / stakeholders, private companies

## Informations de contact

**Nom de l'organisation** (éventuellement le site web) : Université Gustave Eiffel

**Type d'organisation** : research and continuing education institute, support for public policies

**Nom de la personne de contact** : Yasmina Boussafir, Christophe Chevalier

**Département et expertise de ce dernier** : Géotechnique, Environnement, Risques naturels et Sciences de la terre

**Adresse email** : [yasmina.boussafir@univ-eiffel.fr](mailto:yasmina.boussafir@univ-eiffel.fr) – [christophe.chevalier@univ-eiffel.fr](mailto:christophe.chevalier@univ-eiffel.fr)

**Téléphone (facultatif)** : 06.18.75.56.96

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**Angers Loire Métropole**  
*Olivier Sorin & Irene Gutiérrez*

**TOPIC: HORIZON-MISS-2023-CLIMA-01-02 Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions**

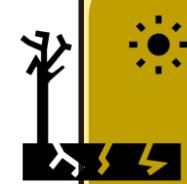
**Increasing the resilience of urban networks, transport infrastructure and mobility services**

**Angers Loire Métropole: DEMO Territory, with 3 main challenges:**



## Increasing temperatures over a long period of time

- Vulnerable public transport users
- Deteriorated working conditions for staff
- Failure of infrastructure
- Parking areas that contribute to warming (heat island effect)



Created by remmachenas from the Noun Project

## Increasingly long periods of drought and dependence on the Loire

- Transport less prioritised than other uses and necessary adaptation (tram, lawn...)
- Professional practices to review
- Reduce waterproofing and artificialization of land



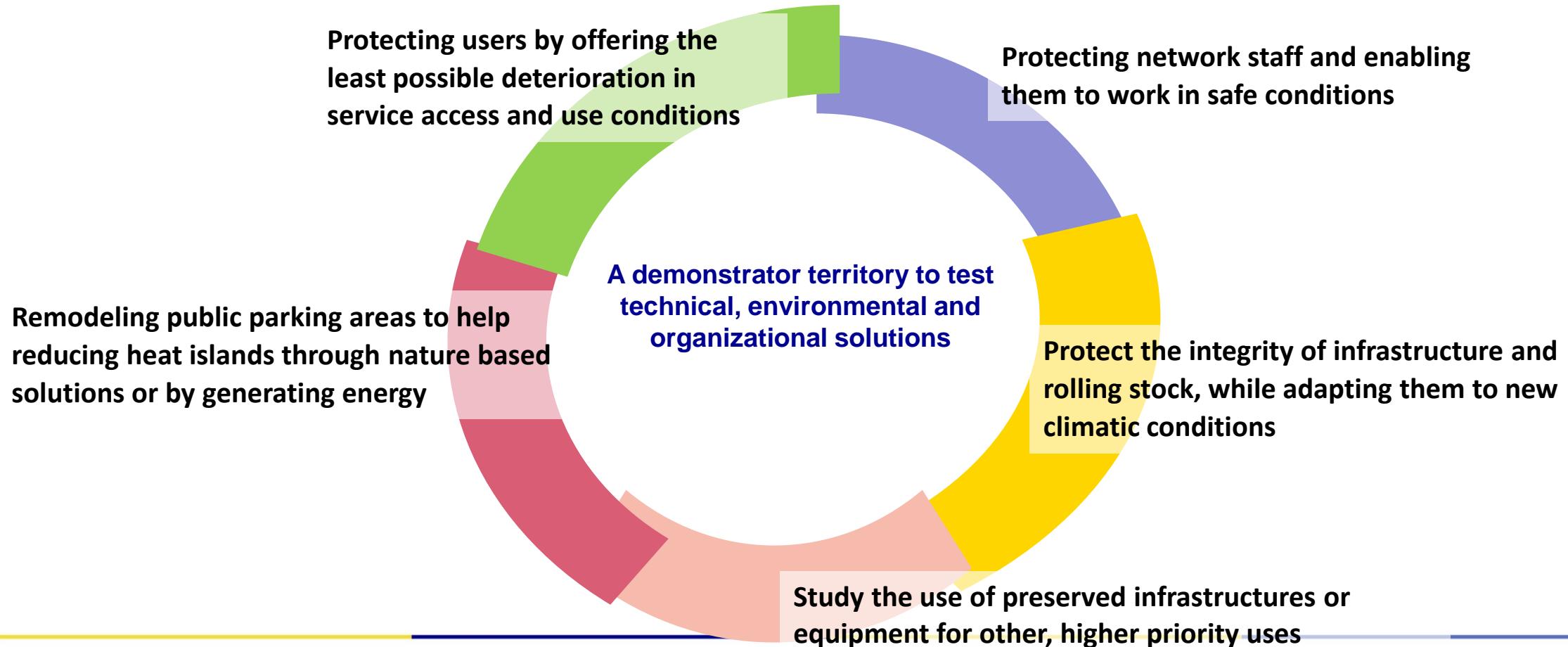
Created by lucas frizza from the Noun Project

## More intense rainfall/flooding events

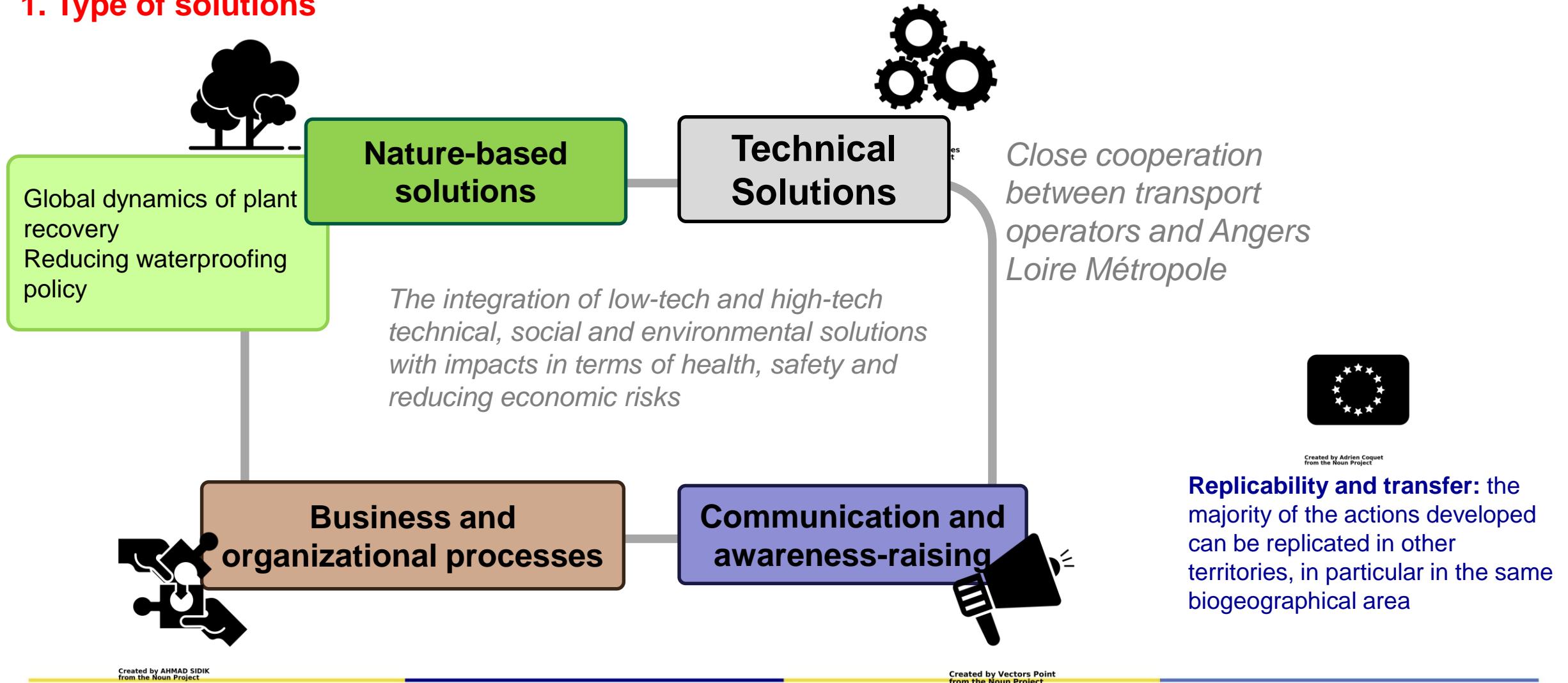
- Achievements: good water management in the territory
- Improving soil permeability
- Update prevention processes with the new transport network

## 1. Project and objectives

- ALM recognizes the climate emergency/ signatory of climate mission charter /engaged in the cities mission*
- Adoption of a climate change adaptation plan early 2023*



## 1. Type of solutions



## 2. Planned actions:



- Photovoltaic shading of bus and tram depots and car parks
- Testing the replacement of glass roofs on bus shelters with opaque dibon and generalisation in 2028-2029
- Adjustment of the air conditioning system of tram trains
- Improving the thermal comfort of buses
- Protect the bus depot administration building from summer heat build-up (over-ventilation at night, etc.)
- Integrating the use of the Digital Twin to predict and track the evolution of heat islands



- Tree planting program at bus stops
- Vegetation of bus and tram depots

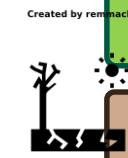
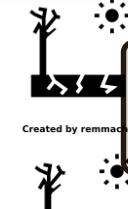


Revision of tree size at tram stations to provide more shade



### Out-of-the-box campaigns:

- Use of the Irigo display network (bus, tram, bus shelters) to prevent water restrictions
- Access via the transport network promotion to cool areas during heatwaves



Optimizing water consumption on tram lines or even stopping

Testing of alternative plant varieties at the Roseraie tram terminus

Evolution of maintenance practices on the lawn of tram lines



Dewaterproofing/desimpermeabilization of parking areas in bus and tram depots and elsewhere



Updating of the Irigo network flooding prevention plan with the commissioning of the ABC tramway network

### 3. Expertise proposed

- Transport and mobility policies
- Urban green transition strategy (Climate change adaptation plan, biodiversity plan, working on a Climate City Contract: carbon neutral ambition)
- Digital Twin/Smart Territory

### 4. Local partners identified

- Ratp Dev
- Alter Services
- Nature-based solutions and building Experts

### 5. Expertise requested

- proven experience in coordinating EU projects (Horizon 2020/Horizon Europe)
- Public Policies and good practices on transformative solutions to protect infrastructure from climate change

### 6. Type of partners requested

- Consortium Coordinator
- Regions/Southern European agglomeration (for heat and drought related topics)
- European R&I experts on transport infrastructures

## Contact Information

**Name of the organization:** Angers Loire Métropole



**Type of organization:** Territorial community

**Contact person:** Olivier Sorin / Irene Gutiérrez

**Department and expertise of the latter:** Head of the urban public transport Department.  
Transport Service / Direction Europe et International

**Email:** [olivier.sorin@angersloiremetropole.fr](mailto:olivier.sorin@angersloiremetropole.fr) / [irene.gutierrez@ville.angers.fr](mailto:irene.gutierrez@ville.angers.fr)





# Province of Liege

## *Gilles Huaux*



# The Province of Liege (BE)

## Pitching session

1) **Topic HORIZON-MISS-2023-CLIMA-01-02:** Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions

### 2) Project description

As a result of the disastrous flood event in July 2021, the Province of Liege is currently involved in the Interreg Euregio Meuse Rhine project "**EMfloodResilience**", **11 partners, 3 cross-border countries, 35 sub-projects**. The goal is to provide water management public authorities with relevant data on rivers behavior and concrete recommendations (including NBS) to **better protect citizens and prevent future socio-economic damage**. Based on this project outcomes, the Province of Liege, extensively the EUREGIO Meuse Rhine, could be one of the **4 demonstration territories in EU with a focus on flood risk (Balanced portfolio required)**. As a matter of fact, the regional (Wallonia) and local levels (e.g. the most impacted municipalities) would be involved too.

**Collaboration at EU level** is necessary to go one step further. **Actions** should be implemented **to answer the following needs:**

- Interlinkages between critical infrastructure based on the identified weaknesses + interlinkages with other demo territories (partners) covering different climate risks
- Implementation and testing of the potential solutions and recommendations identified, including NBS (e.g. river banks renaturation, retention zones)
- Innovative solutions / technologies answering the specific need of intervention on channelled rivers (obsolete dimensioning, uncertain roadmaps, high risk of collapsing )
- New training needs (e.g. workers on the second line intervention > psychological and technical support)
- Digital common tools to improve prediction, monitoring and quicker reaction
- Analysis of the replication potential to other regions in EU
- Innovative collaboration schemes in terms of governance of the public authorities in charge of water management



# The Province of Liege (BE)

## Session de Pitches

### 3) Expertise offered :

❖ Internal expertise in various fields :

- Water management of the second category rivers : *more than 1.000 km with many different characteristics. Its missions consist in maintenance, cleaning, biological cleaning and repair works that all contribute to reduce flood damage. Moreover, environmental aspects are also taken into account (e.g. invasive plants, fish ladders). Engaged in 6 Wallonia rivers contracts working groups gathering all the stakeholders in this field to define common actions.*
- Public Training Institute, EU fundings Unit, strong link with the Police and Security zones
- Partner Region of EGCT EUREGIO MEUSE RHINE
- Member of European and regional networks: Energy Cities, EFUS, cluster TWEED, Wallonia's Green Deal « Sustainable canteens » + « Sustainable public tenders »

❖ Coordinator of the Covenant of Mayors for Climate and Energy

*Active support to more than 60 municipalities in relation with design and implementation of their local climate plans*

❖ Existing knowledge and adaptation solutions from ongoing EU projects:

- **INTERREG VA EMR - EMfloodResilience** outcomes (*in the Province of Liege, 4 topographic surveys and hydraulic modelling studies on rivers*)  
<https://emfloodresilience.eu/>
- **Life « Vallées ardennaises »**: *restoration of minor and major river beds with wooded slopes of the Ardenne in deep forest valleys. In this project, working on headwaters of the river basins will improve the quality of water and restore an ecological continuum of habitats and species of community interest. This is also the first Walloon LIFE project addressing the overall ecological restoration of valleys.* <http://biodiversite.wallonie.be/fr/life-vallees-ardennaises.html?IDC=6290>

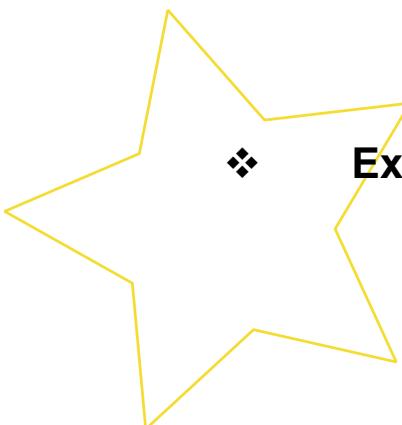


# The Province of Liege (BE)

## Session de Pitches

### ❖ Partners identified

- SPW Wallonia
- EMfloodResilience consortium including the University of Liège



### ❖ Expertise needed - Types of partners

- EU regions with similar biogeographical areas ( Replication ) to test flood prevention solutions
- EU test bed territories covering different climate risks
- Private sector > innovative solutions, technologies (e.g. channelled rivers), digital tools



# The Province of Liege (BE)

## Session de Pitches

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### Contact details

**Province of Liege (Intermediate public authority)**

**EU fundings Unit**

**Mrs Catherine PINET, Director**

**Catherine.pinet@provincedeliege.be**

**Mr. Gilles HUAUX, Project officer**

**Gilles.huaux@provincedeliege.be**

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**Aarhus Municipality**  
***Thomas Kirk Skov & Søren Winther Lundby***

# Central Denmark Region

**HORIZON-MISS-2023-CLIMA-01-02: Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions**



## 1) Topic(s) (Code(s) et titre(s)):

**Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions (HORIZON-MISS-2023-CLIMA-01-02)**

## 2) Description du projet (si applicable : objectifs, activités, impacts visés...)

Aarhus City: 350.000 citizens

Description of Egå as a demonstration site: Complex challenges **including rising sea level**: the elevation of groundwater, high risk of **floods**, neighbourhood and **critical infrastructure** such as main roads, heating lines, a vital wastewater plant and a recycling station. Furthermore, an old lock in the area causes issues regarding salt water and its effects on the freshwater aquatic ecosystem.

Possibility to build on H2020 RECONCT-project results -

Aarhus Municipality and the Central Denmark Region have both signed the Mission Charter.

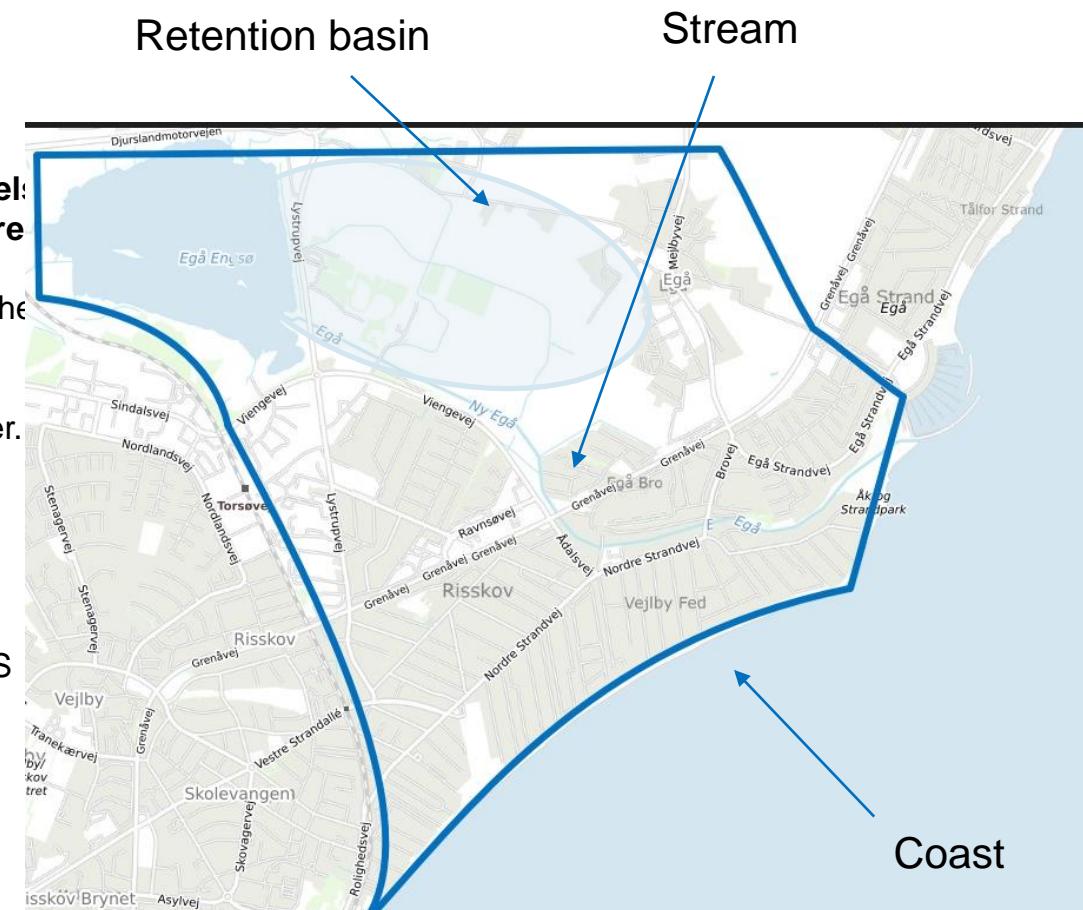
**3) Expertise offerte (mots clés):** Research, regional & local, landscape, nature-based solutions, water management.

## 4) Partenaires identifiés:

Central Denmark Region // VIA University College // Aarhus Municipality // OK Nygaard A/S

**5) Expertise recherchée (mots clés):** European counterparts; other regions that facees similar challenges in similar bio-biographical regions, namely related to salt vs. freshwater challenges.

**6) Types de partenaires recherchés:** Research, regions, etc.





## Central Denmark Region

**HORIZON-MISS-2023-CLIMA-01-02: Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions**



Central  
Denmark  
EU Office

## Informations de contact

**Nom de l'organisation** (éventuellement le site web): Aarhus Municipality (& Central Denmark EU Office)

**Type d'organisation** Local public authotithy

**Nom de la personne de contact** Thomas Kirk Skov or Mathilde Dam

**Département et expertise de ce dernier** Technology & Environment, Aarhus Municipality, Climate Secretariat

**Adresse email** Thomas Kirk Skov [thkis@aarhus.dk](mailto:thkis@aarhus.dk) or Mathilde Dam [md@centraldenmark.eu](mailto:md@centraldenmark.eu)

**Téléphone (facultatif)** + 32 493 12 33 12

**Colas**  
**Cédric Leroux**

### 1) Topics

HORIZON MISS 2023 CLIMA CITIES 01 01: *Urban greening and renaturing for urban regeneration, resilience and climate neutrality*

HORIZON MISS 2023 CLIMA 01 02: *Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature-based solutions*

### 2) Description of the project

*To help urban areas adapt to climate change, Colas is developing an approach combining its wide-ranging fields of expertise (road engineering, urban climatology, hydrology, ecological engineering, plant engineering, micro-climate modelling, etc.).*

*The aim is to offer urban development solutions for a variety of uses (soft mobility, urban roads, parking, etc.), while ensuring maximum co-benefits.*

### 3) Expertise provided

- *improving the thermal comfort of users to ensure the most acceptable living conditions possible during heat waves;*
- *managing rainwater at source to limit the impact of heavy rainfall, which is becoming increasingly frequent with climate change*
- *improving biodiversity in the urban environment and making for better city living;*

### 4) Identified partners

### 5) Expertise sought for

*Consortium coordination*

### 6) Types of partners sought for

*University - City*

## Contact information

Name of organization COLAS - [www.colas.com](http://www.colas.com)

### Type of organization

Colas, a subsidiary of the Bouygues Group, designs, builds and maintains transport infrastructure. Present in more than 50 countries on five continents, with a network of 800 construction units and 3,000 materials production units, Colas employs 57,000 people who are committed to connecting people and facilitating exchanges in the world of today and tomorrow. The Group's ambition is to be the world leader in innovative and sustainable mobility solutions. In 2022, Colas generated consolidated revenue of 15.5 billion euros, 60% of which was generated internationally.

The Colas Group has a very tight network of companies throughout Europe.

### Contact

CAROLINE MILLAN

### Department and field of expertise of Contact

Head of Institutional Relations

Innovation & Sustainability Department

### E-mail

[caroline.millan@colas.com](mailto:caroline.millan@colas.com)



**ESTP - IRC**  
*Gilles BETIS*

## 1) Topics

HORIZON-MISS-2023-CLIMA-01-02 : *Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature-based solutions*

HORIZON-MISS-2023-CLIMA-01-03 : *Testing and demonstrating transformative solutions to build resilience towards health risks caused by the effects of climate change*

HORIZON-MISS-2023-CLIMA-CITIES-01-01: *Urban greening and renaturing for urban regeneration, resilience and climate neutrality*

## 2) Description du projet (*si applicable : objectifs, activités, impacts visés...*)

## 3) Expertise offerte (*mots clés*)

*Bio and geo-sourced materials, decarbonated materials, sustainable buildings, geo-engineering, digital modelling (3D, thermal, aeraulic, hydraulic), digital twins, energy management systems, risk management, circular urbanism, urban resilience (heat island, rainwater management, air pollution)*

## 4) Partenaires identifiés

## 5) Expertise recherchée (*mots clés*)

## 6) Types de partenaires recherchés

Industries, academic partners, cities and regions

## Informations de contact

Nom de l'organisation :

**ESTP – IRC**

Ecole Spéciale des Travaux Publics, du Bâtiment  
et de l'Industrie / Institut de Recherche en Constructibilité  
<https://www.estp.fr/> - Flyer : [French](#) / [English](#)

Type d'organisation :

**Etablissement d'enseignement supérieur et  
laboratoire de recherche**

Nom de la personne de contact

**Gilles BETIS**

Département et expertise de ce dernier

**Institut de Recherche en Constructibilité  
Responsable Développement et Innovation**  
<https://www.linkedin.com/in/gbetis/>

Adresse email

**gbetis@estp-paris.eu**

Téléphone (facultatif)

**+33 6 85 19 64 83**





# ARIA Technologies

## *Fanny Velay & Joséphine Hébert*

# NOM ORGANISATION

## Session de Pitches

### 1) Topics et description

Ref	Titre
HORIZON-MISS-2023-CLIMA-CITIES-01-01	Urban greening and re-naturing for urban regeneration, resilience and climate neutrality
HORIZON-MISS-2023-CLIMA-01-02	Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions
HORIZON-MISS-2023-CLIMA-01-03	Testing and demonstrating transformative solutions to build resilience towards health risks caused by the effects of climate change

**3) Expertise offerte :** Inventaire d'émissions, modélisation atmosphérique, early warning system, solutions digitales pour l'environnement et les impacts du changement climatique, évaluation des risques climatiques

**4) Partenaires identifiés : SUEZ Groupe, 3DS**

**5) Expertise recherchée :** Governance and public authorities training & engagement experts, alternative fuels technology providers, health experts, nature-based solutions experts

**6) Types de partenaires recherchés :** local & regional authorities, companies, research institution,

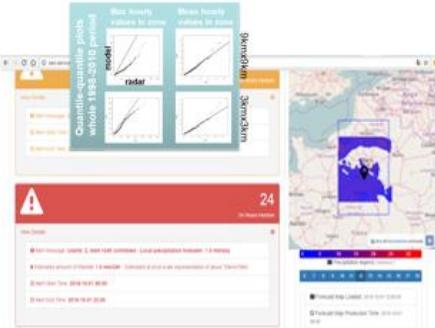
### Autres sujets d'intérêt

HORIZON-CL5-2024-D5-01-18	Assessment of air pollutant emissions from low-carbon fuels in the heavy-duty, aviation, and maritime sectors
HORIZON-CL6-2024-ZEROPOLLUTION-02-2-two-stage	Innovative technologies for zero pollution, zero-waste biorefineries
HORIZON-CL5-2023-D1-01-11	Needs-based adaptation to climate change in Africa

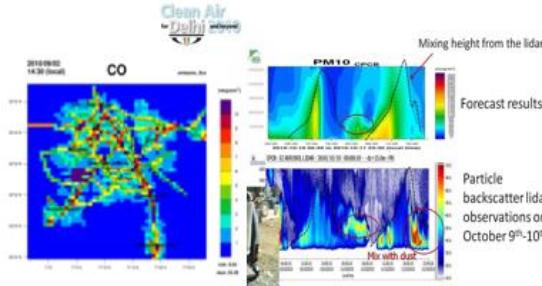
# NOM ORGANISATION

## Session de Pitches

### ARIA's DSS tools



Anticipate extreme weather and disasters  
Downscaling IPCC data to anticipate CC impact locally



Monitor and model emissions to anticipate pollution peaks

Health impact assessment



Model potential impact to allow quick response

If a disaster occurs  
Anticipating hazardous situation / event

Study and anticipate technological risks (chemical, biological, radiological, nuclear...)

Climate risks

Air pollution risks

Urban & Industrial risks

## Informations de contact

**Nom de l'organisation** ARIA Technologies (<https://www.aria.fr/>)

**Type d'organisation** Entreprise

**Nom de la personne de contact** Fanny Velay / Joséphine Hébert

**Département et expertise de ce dernier** Modélisation qualité de l'air grande et moyenne échelle / Responsable offres internationales

**Adresse email** [fanny.velay@suez.com](mailto:fanny.velay@suez.com) / [josephine.hebert@suez.com](mailto:josephine.hebert@suez.com)



**Reveleo**  
*Aurélien Alfaré*



### 1) Topic(s) (Code(s) et titre(s))

HORIZON-MISS-2023-CLIMA-01-03 : Testing and demonstrating transformative solutions to build resilience towards health risks caused by the effects of climate change

### 2) Reveleo

Reveleo provides an assessment of the environmental and health performance of dwellings and their neighborhood.

It allows general public to choose a new home (flat or house) that is better for his health and better for the environment.

Reveleo asses four main characteristics of the territory: 1) living environment (eg air quality and noise) 2) mobility (eg bicycle lanes) 3) day to day services (eg schools, doctors...) 4) ecological and social services (eg repair cafés).

We provide a smartphone app and tailor made evaluations

### 3) Expertise :

Data science, Machine learning, Environmental health, Environment

The collage includes:

- A top-level navigation bar with "Open data" and "Questionnaire" sections.
- A "Open data" section showing various maps and charts related to environmental and health data.
- A "Questionnaire" section with a survey form for apartment or house selection.
- A smartphone displaying the Reveleo app's main screen with a large 'R' icon and instructions to touch to reveal the environment around a location.
- A detailed view of the app's results for a specific address: 5 Allée du Mail, 17000 La Rochelle. It shows a circular progress bar (39/60), a map, and scores for Commune (11/20), Quartier (28/40), and Services essentiels (6.3/10).
- Aerial satellite imagery of a residential area with a red outline.
- Environmental maps showing air quality, noise levels, and other spatial data.
- Close-up views of the app's user interface showing service scores and community details.



## Contact

**Name :** Reveleo ([www.reveleo.io](http://www.reveleo.io))

**Type :** Start up

**Contact person :** Aurélien Alfaré

**Expertise :** Chief Scientific Officer

**Email :** [aurelien.alfare@reveleo.io](mailto:aurelien.alfare@reveleo.io)

**Phone :** (+33) 06 86 73 09 46



# Luxembourg Institute of Science and Technology

*Elie Dagher*

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HORIZON-MISS-2023-CLIMA-CITIES-01-01—

Urban greening and re-naturing for urban regeneration, resilience and climate neutrality

### Description du projet :

The Luxembourg Institute of Science and Technology (LIST) is a research and technology organization.

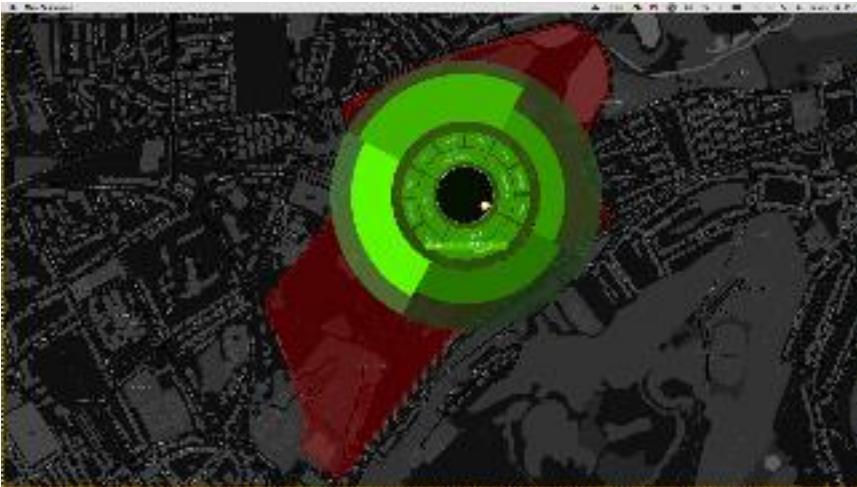
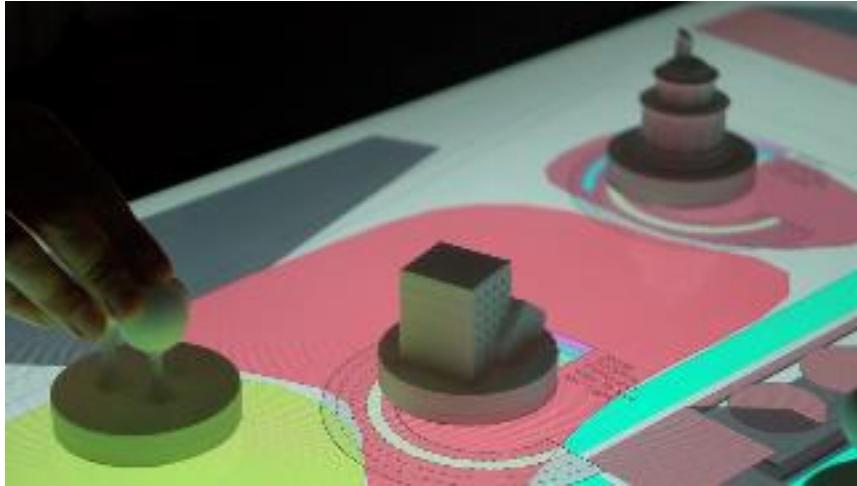
LIST can contribute to this topic by offering **innovative** software for **citizen engagement** in urban planning, **software for predicting the financial costs and environmental benefits** of implementing NBS, **training modules (urban living labs)** to increase social awareness about urban climate-related vulnerabilities and establishing a Luxembourgish city pilot use case or follower.



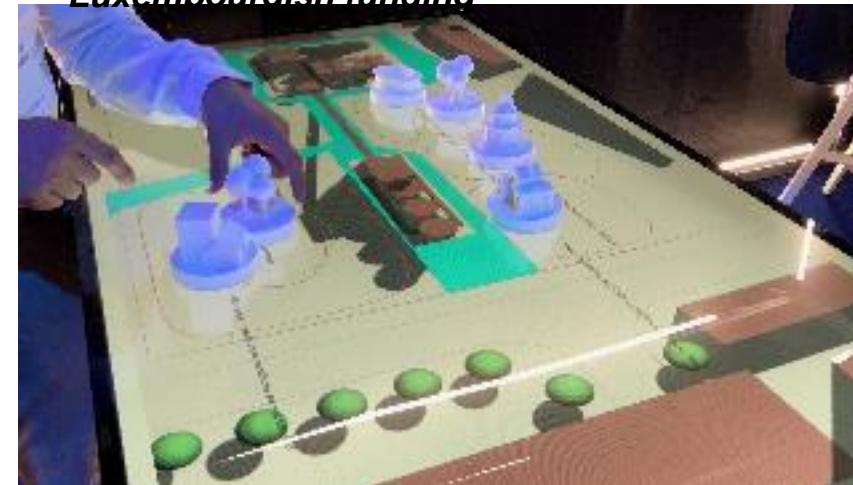
Main objectives of the project and activities to undertake:

- Incorporate sustainable solutions with community involvement → *Guidelines with local governments*
- Develop inclusive urban planning tool software to create the Regreening platform (LIST assets TRL 5/6: MUST and NBenefit\$) → *Closely work with stakeholders, market experts and community*
- Assess Regreening platform on sustainability, equity, and citizen → *Provide training and effective use of the Regreening platform, conduct user testing and gather feedback to refine and improve the Regreening platform*
- Establish Luxembourg as a model for decarbonization and re-greening framework → *Possible use case with Prosud Luxembourg to showcase the circular, participative and resilient environmental framework's effectiveness*
- Increase social awareness and promote sustainable urban living labs → *Dissemination findings to encourage wider adoption*

**MUST : Manage Urban Spaces Together**



- *Configure your urban area with different types of trees*
- *Evaluate the CO2 potential absorption for the trees implemented*
- *Evaluate the maintenance for the urban parks*
- *Predict the attractivity of the urban space with the regreening strategies.*
- *TRL: 5/6*
- *Market study and business model on going through a national Luxembourgish funding*



## Parametric tool for re-greening



Parametric approach to evaluate the potential of regreening (roof / façades and urban spaces)

- *GIS connection to extract the spatial data*
- *Evaluate the potential of CO2 absorption for the existing green spaces*
- *Evaluate the CO2 emission*
- *Estimate the needed regreening interventions (garden, façades, roof) to decrease the CO2 emission of a given district*
- *Evaluate the CO2 emissions resulting from these interventions*
- *Optimize the process and the solutions*
- *Iterate different solutions*

### Use Case – Prosud region

Particularity:

- 11 Municipalities 200km<sup>2</sup>
- Interregional communes
- Cross border region
- Post-industrial
- Pop. 180 000
- 150 nationalities

Climate risk:

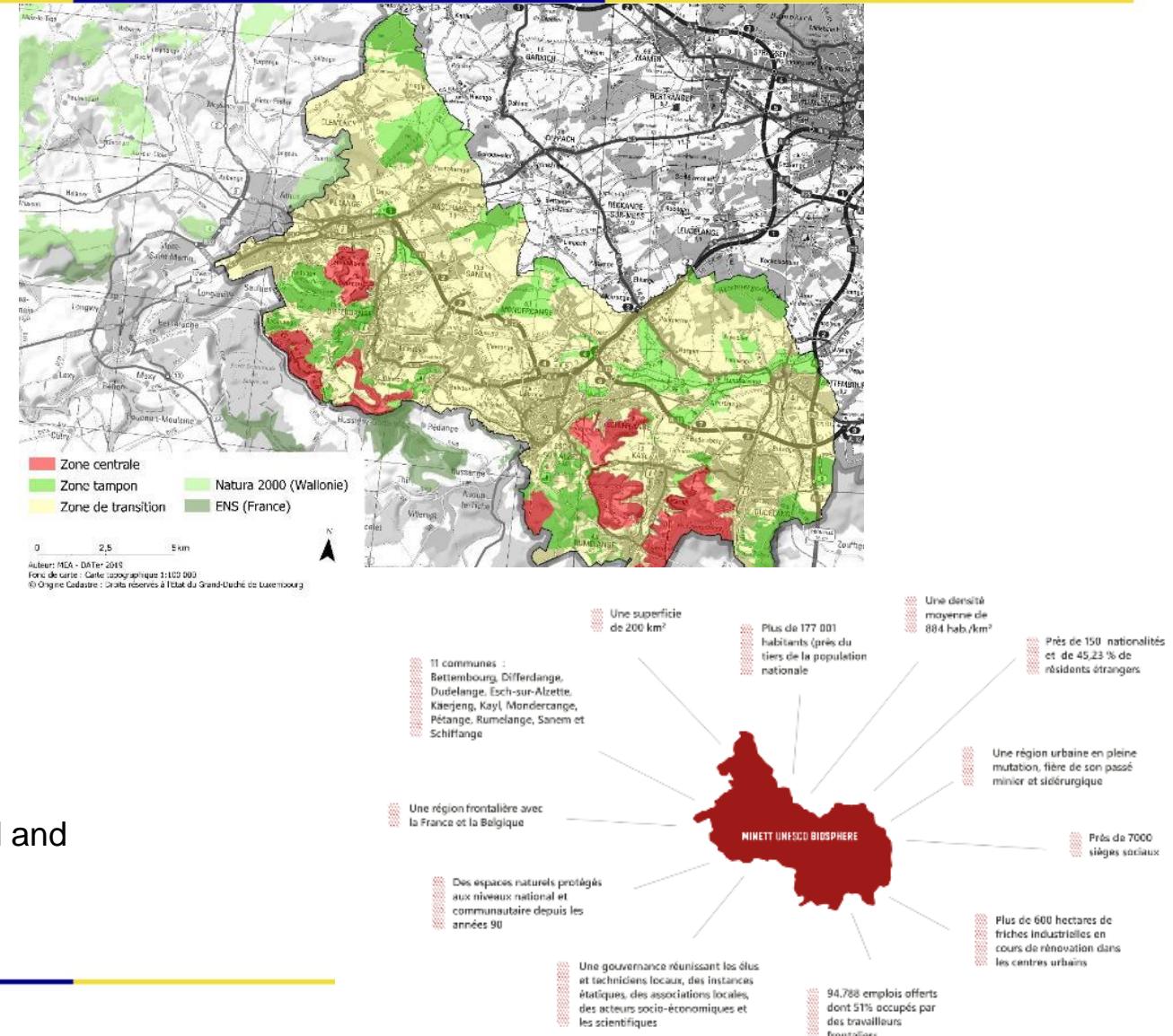
- Heat island, Flooding, Air pollution

Objective:

To develop an **ecological corridor** in urban and peri-urban setting

Key community system:

- Satisfaction → MUST
- Biodiversity, Health & Wellbeing → MUST + other platforms
- Ecosystem services: analyse cost/benefit (environmental, social and well-being) → Nbenefit\$



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**3) Expertise offerte:** Urban planning, Smart cities, Architecture, Green space evaluation, participation, Nature-based benefits, Optimization

**4) Partenaires identifiés:** Prosud, SensBOX, The Foundry (others might be also interested in this proposal)

**5) Expertise recherchée:** Performance and social indicator evaluation, Quantification of the performance, regreening strategies,

**6) Types de partenaires recherchés:** Software companies, municipalities and govermental agencies, urban planning consultants,

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## Informations de contact

**Nom de l'organisation:**

Luxembourg Institute of Science and Technology : [www.list.lu](http://www.list.lu)

**Type d'organisation:**

RTO research center

**Nom de la personne de contact:**

Elie Daher

**Département et expertise de ce dernier:**

SUBE / ERIN – Architecture, Urban planning, Computational designer

**Adresse email:**

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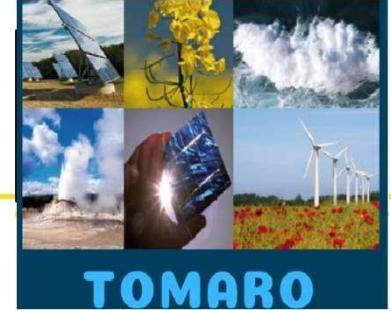




**TOMARO**  
*Jacques NOEL*

# Tomaro

## Session de Pitches



TOMARO

### 1) Topic(s) (Code(s) et titre(s))

- 1) HORIZON-MISS-2023-CLIMA-CITIES-01-01: *Urban greening and re-naturing for urban regeneration, resilience and climate neutrality*
- 2) HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01: *Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale*

### 2) Description du projet (si applicable : objectifs, activités, impacts visés...)

*To support territorial projects at early stage with a digital base revealing the different dimensions of analysis of the territory, highlighting the factors influencing the biocapacity of the territory and the local ecological footprint. In addition to the vertical and horizontal dimensions, illuminating the bio-geophysical and spatial cycles, the temporal dimension is underlined by stocks and flows of material and energy. A 3D model of the territory with a predictive model of the evolution of living conditions at the territorial level would make it possible to diagnose the current state of health and to predict its future state, to simulate the potential impacts of the envisaged transformations. This base would be enriched according to the subjects to be developed*

### 5) Expertise recherchée (mots clés)

*Geo Data scientists, integrated modelling, 3D designer,*

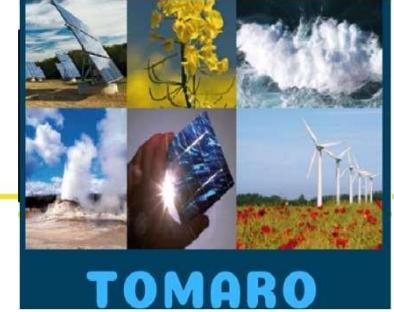
### 6) Types de partenaires recherchés

Local authorities



# Tomaro

## Session de Pitches



TOMARO

## Informations de contact

**Nom de l'organisation** TOMARO SAS

**Type d'organisation** start-up

**Nom de la personne de contact** Jacques NOEL

**Département et expertise de ce dernier** territorial engineering and change management

**Adresse email** [contact@tomaro.fr](mailto:contact@tomaro.fr)

**Téléphone (facultatif)**

# **Association marocaine pour la protection du littoral et Développement durables**

## ***Benmohammadi Aicha***

1) Topic(s) (Code(s) et titre(s)) :

**HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01: Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale**

2) Description du projet (si applicable : objectifs, activités, impacts visés...) :

**Evaluation de la vulnérabilité des côtes marocaines et tunisiennes aux risques côtiers : perception des populations et des élus et augmentation de la résilience**

**Objectifs**

- Analyser la vulnérabilité côtière aux effets du changement climatique et quantification des effets biophysiques et socio-économiques;
- Proposer les mesures d'adaptation possibles aux répercussions possibles du changement climatique;
- Protection du littoral et conservation de sa biodiversité et de son patrimoine naturel, son histoire et sa culture.
- L'identification de leviers pour une amélioration durable de la perception du littoral et son exploitation durable :granulat et pêche en période d'ENM;
- Promotion de la formation de nouveaux profils type cadres moyens et techniciens spécialistes de la GIZC et de l'impact des CC sur le littoral
- La création de liens entre chercheurs, mais aussi entre ONG, organismes gouvernementaux et utilisateurs des ressources du littoral;
- L'identification de l'interconnectivité de la lutte contre la dégradation des littoraux face aux actions anthropiques et au changement climatique;;
- L'information et la sensibilisation du public face à la vulnérabilité des littoraux
- Le développement de l'identité régionale et de l'arrière-pays des zones littorales.
- La sensibilisation des communes et communautés littorales sur les risques encourus suite à l'élévation du niveau marin ainsi que l'aide à leur engagement dans la planification en vue de l'adaptation aux submersions et recul du trait de côte liés au changement climatique.
- Sensibiliser les communes littorales sur la nécessité de disposer en leur sein de compétences marocaines (cadres moyens et supérieurs) spécialistes de la question du Changement climatique, de la GIZC et de l'adaptation.

Ce travail permettra d'évaluer l'exposition du littoral marocain et tunisien aux submersions à une échelle régionale. L'aléa sera croisé avec des indices de vulnérabilité déterminés à partir de critères morphologiques, économiques ou encore sociaux, afin d'identifier les zones où le risque est le plus élevé. Des études plus fines seront réalisées sur des sites d'études spécifiques,



# NOM ORGANISATION

## Session de Pitches

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### Activités :

- L'objectif principal est d'assurer un transfert de compétences qui permettra au partenaire marocain et Tunisiens de disposer de modèles numériques, d'un « état-de-l'art » pour la caractérisation de l'aléa submersion marine (qu'il s'agisse de tempêtes ou de tsunamis) et le transport sédimentaire. Des modèles traitant l'ensemble de ces processus seront implémentés et testés sur plusieurs sites d'étude.
- Rassembler la communauté scientifique qui étudie le changement climatique du bassin méditerranéen Depuis quelques temps, les changements
  - Le renforcement des capacités des partenaires au travers de ces recherches doctorales qui portent sur des problématiques
  - La mise en œuvre et la diffusion des mesures innovantes pour la réduction des risques côtiers dans des zones pilotes, Eclairer les choix stratégiques de gouvernance et accompagner les transitions nécessaires.
  - La mise en place d'instruments économiques novateurs et durables qui seront intégrés dans les politiques nationales afin d'encourager un changement d'échelle au niveau des mesures d'adaptations côtières
- Etude de la perception des risques côtiers par les populations littorales, les pêcheurs et les élus locaux
- Elaboration de contenus divers audio, flyer, ...etc. pour la sensibilisation sur les risques côtiers et l'importance de préservation des dunes littorales pour une meilleure résilience aux Changements climatiques



# NOM ORGANISATION

## Session de Pitches

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**3) Expertise offerte (mots clés)** : *littoral, risques côtiers, gestion intégrée, adaptation, augmentation résilience, impacts surexploitation.*

**4) Partenaires identifiés ou classique:** Les équipes de Montpellier, Kenitra et de Tunis partagent des problématiques analogues sur la vulnérabilité des systèmes côtiers face aux aléas côtiers. Les relations jusqu'ici étaient bilatérales puisqu'elles se faisaient entre l'équipe Tunisienne et l'équipe de Montpellier. Mais aussi entre l'équipe marocaine et l'équipe de Montpellier. Ce projet permettra d'assoir une collaboration plus amples. Les liens entre les équipes sont forts et historiques, qu'ils s'agissent des co-tutelles de thèse, des mobilités étudiantes et enseignantes et les voyages d'étude. Le projet permettra d'assoir les liens entre les équipes universitaires et conforter leur place dans les problématiques de gestion des risques littoraux liés à l'ENM..

**5) Expertise recherchée (mots clés)** : *Submersion, Erosion, adaptation, Résilience, sensibilisation population et élus communes littorales*

**6) Types de partenaires recherchés :** Académique ou autre. Les membres de ce projet sont aussi membre de l'ONG : Association marocaine pour la protection du littoral et développement durable, qui focalise ses actions sur la sensibilisation, l'adaptation et l'étude des risques de submersion.



# NOM ORGANISATION

## Session de Pitches

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### Informations de contact

**Nom de l'organisation** (éventuellement le site web) : Association marocaine pour la protection du littoral et Développement durables

**Type d'organisation** : ONG

**Nom de la personne de contact** : Benmohammadi Aicha

**Département et expertise de ce dernier** : Recherche scientifique

**Adresse email** : aicha.benmohammadi@uit.ac.ma

**Téléphone (facultatif)** : 00212666899001

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**Higher Education Ministry, Bizerte Sciences College**  
***Hatem BELGUITH***



Topic(s)

**HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01: Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale**

**2) Description du projet**

The project aims at determining the impact of climate change on water availability, pastoral plants, desertification, and the fluctuation in temperature in the countries participating in this project during the period from 1960 to 2020. In addition, our project will outline the historical changes in the livestock population, reproduction, distribution, investment, milk and meat production and composition, market integration products and livestock emerging diseases during the period from 1960 to 2020. The project will also illustrate the policies taken by the participating countries to mitigate the impact of the climate change on the livestock farming systems and rangeland resources in the Mediterranean region. Moreover, our project aims at identifying how resilient is the livestock and the pastoral plants in the Mediterranean region to the current and future Mediterranean climate conditions.

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**Methodology:** Our research is a three-year project that revolves around six tasks including management, knowledge and research-oriented tasks to achieve innovation and sustainable development. The pooling of the research results will be carried out at four levels concerning alterations in the climate, livestock (camels, cattle, sheep, goats and buffalo), rangeland resources and the policies taken by the targeted countries during 1960-2020. The project methodology will include the collection and reviewing of the data for climate change impacts and alterations induced in the livestock farming system in the participating countries during the past 60 years. The methodology will also estimate the current adaptive capacity of livestock species and pastoral plants in the current climate conditions to simulate future expectations in livestock performance and rangeland resources status up to 2060. Consequently, the results will be analyzed statistically and economically to announce how climate change will influence the production and costs of livestock in the future. Naturally, the data will be disseminated in conferences, publications and documents.

### 3) Expertise offerte

***Climate change Impacts – water availability – pastoral plant - desertification***

### 4) Partenaires identifiés

Tunisian Higher Education Ministry, Agriculture Ministry

### 5) Expertise recherchée

***Biochemistry, Plant Metabolomic, Bioinformatics, Plant antimicrobial valorisation***



## Ambition and Expectations:

- ✓ The current project aspires to improve the resilience and adaptation of livestock in the Mediterranean area to climate change by providing farming system management solutions based on their local adaptive capabilities.
- ✓ In addition, the results of the project will enhance sustainability of the livestock production and the preservation of rangeland resources in the Mediterranean region and the globe.
- ✓ Moreover, present project will provide tools to improve future innovation, including data collection and organization protocol to characterize proper tackling of the climate change impacts on the livestock and rangeland resources.

## **6) Types de partenaires recherchés**

- Agriculture Ministry**
- Higher Education Ministry**



## Informations de contact

**Nom de l'organisation:**

**Higher Education Ministry, Bizerte Sciences College**

**Type d'organisation**

**Public Organization**

**Nom de la personne de contact**

**Pr. Hatem BELGUITH**

**Département et expertise de ce dernier**

Laboratoire de Recherche "Bioressources, Environnement et Biotechnologie (BeB)" LR22ES04. ISSBAT

**Adresse email**

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**Téléphone (facultatif) : +21650850819**



## LIMBHA ESB's laboratory *Jérôme Moreau*

**1) Topic(s) (Code(s) et titre(s)) : HORIZON-MISS-2023-CLIMA-01**

**2) Description du projet (si applicable : objectifs, activités, impacts visés...):**

There is a lot of data and knowledge on the **adaptation of forest management to climate change**. All this knowledge is not necessarily easy to mobilize by professionals.

We thus wish to participate in this call to bring our skills in **knowledge engineering** and **decision support tools** to allow to better respond to the challenge of climate change by mobilizing knowledge. Such methods were used in other projects :

- Optimization of the performance of composite materials based on wood fibers for thermal insulation (ECOMATFIB, funding by Ademe)
- Matching the needs of a territory with its local wood resources (preliminary study in Pays de la Loire region, SysExpert, funding by ADEME)
- Study of the potential of a new local bioeconomy in French Guiana, based on the production of high-performance bio-insulation from the recovery of residual wood resources (PANTHER, funding by ANR)

**3) Expertise offerte (mots clés) : Knowledge engineering, decision support tools**

## Informations de contact

Nom de l'organisation :

**LIMBHA (Laboratory of ESB Engineering school)**

**ESB** : Higher education institution in wood science and technology, Missions: training, research and engineering

**LIMBHA** : LIMBHA, ESB's laboratory, is made up of around 15 teachers-researchers and PhD students who undertake roughly a dozen research projects per year.

**Areas of expertise** : Circular economy research

Research work dealing with the circular economy focuses on the efficient use of wood and more particularly on the cascading use of wood products: optimisation, reuse, processing, recycling, etc.

The goal is also to work on new materials derived from renewable resources, capable of replacing materials derived from fossil resources and meeting industrial performance requirements.

Nom de la personne de contact :

**J. Moreau**

Département et expertise de ce dernier :

**Circular economy → Decision support tools, wood primary processing**

Adresse email :

**[jerome.moreau@esb-campus.fr](mailto:jerome.moreau@esb-campus.fr)**

Téléphone (facultatif) :

**07.86.94.36.26**

# CIL4Sys Engineering

## *Esther Slamitz*

### Topics:

- All the topics

Here is what we do:

- Clarify all functionalities of the system with customer
- Build the functionalities model using UML/SysML diagrams
- Visualize and optimize the functionalities in a virtual environment through a program generated from diagrams
- Then, generate and deliver all the detailed specifications after final approval from customer

Here are the main advantages of this solution:

- Agile method allows more regular and efficient communication between players.
- System can be developed and optimized very quickly as it exists in a virtual world.
- Visualization allows all players to interact (even non engineers).
- The generated specifications are created automatically and result from models' diagrams approved during the process. It assures accuracy of the system's expected behavior.
- It has been proven that the number of bugs before prototype phase is reduced by half. Considerable impact on development cost and timing.
- The final advantage is the opportunity to get a more robust system, as the system's specifications directly come out of the diagrams.

## Informations de contact

**CIL4Sys Engineering**

<https://www.cil4sys.com/fr/>

**SME**

**Esther Slamitz**

**Business Development**

[esther.slamitz@cil4sys.com](mailto:esther.slamitz@cil4sys.com)



# AFNOR Standardization

## *Lina ISMAIL*

**Association under the law of 1901 recognized as  
being of public utility**

### Main missions:

- ⦿ Advising and developing standardization strategies for our clients at national, European and international scale
- ⦿ Leading and coordinating national standardization and represent France at the European and international levels in standardization
- ⦿ Developing voluntary standards on products, services or practices, by consensus with the concerned actors



**34 525**

voluntary standards exist.  
They concern all sectors of  
the world economy.

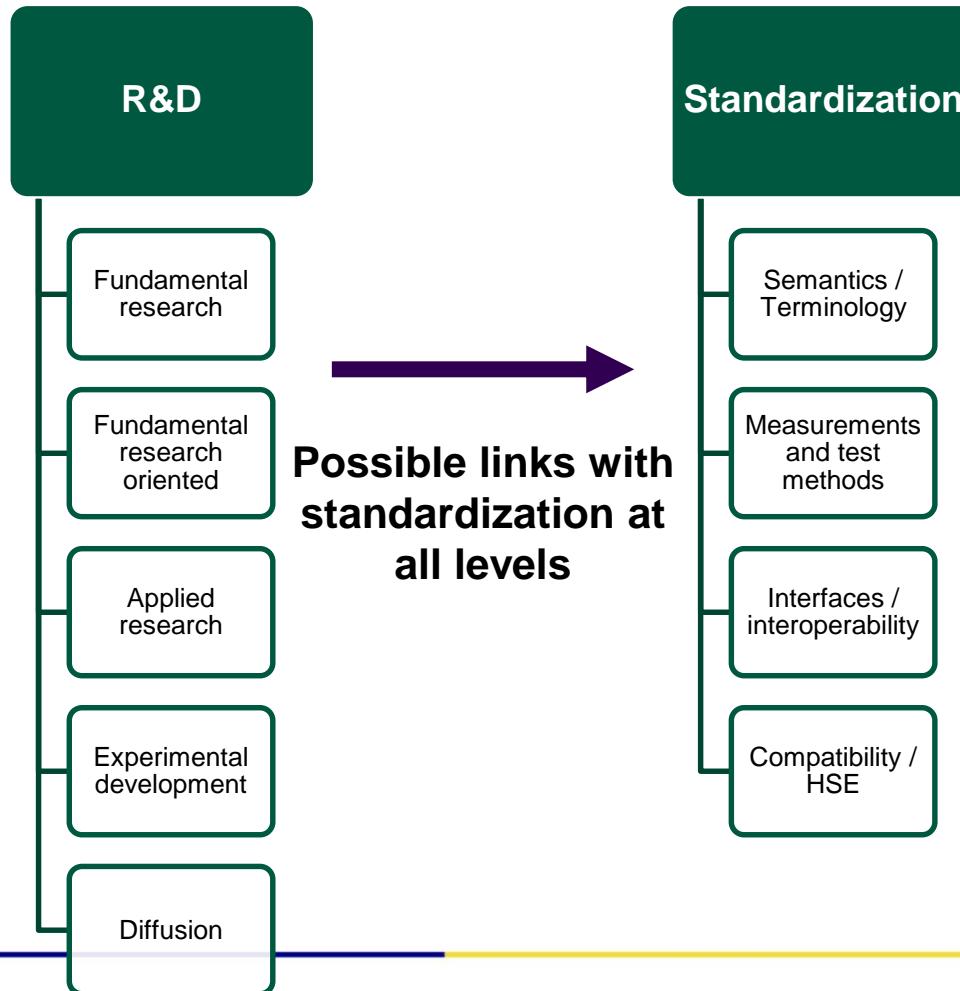
### Contact Information:

AFNOR Standardization  
<https://normalisation.afnor.org/>  
Lina ISMAIL –  
[lina.ismail@afnor.org](mailto:lina.ismail@afnor.org)  
Development and Innovation -  
Environment and Climate  
Telephone : +33 6 47 43 35 55

# A place for standardization throughout the research and development (R&D) process



TRL Scale: Technology readiness level



- ✓ HORIZON-MISS-2023-CLIMA-01-01
- ✓ HORIZON-MISS-2023-CLIMA-01-02
- ✓ HORIZON-MISS-2023-CLIMA-01-03
- ✓ HORIZON-MISS-2023-CLIMA-CITIES-01-01
- ✓ HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01

## Our services for research projects

- Raising awareness and support for consortium members in standardization throughout the research project
- A state of the art and best practices at the beginning of the project
- Liaison with the relevant European technical standardization committee(s)
- Analysis of the standardization potential of the research project's output data
- Assistance in the drafting of reference documents (upstream of standardization)
- Communication and valorization of the project results

### A base of fundamental standards

- **NF EN ISO 14090** « Adaptation to climate change — Principles, requirements and guidelines »
- **NF EN ISO 14091** « Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment »
- **ISO/TS 14092** « Adaptation to climate change — Requirements and guidance on adaptation planning for local governments and communities »

### Prospects for new standards projects

- Monitoring and evaluation of climate change adaptation
- Flood protection
- Nature-based adaptation solutions
- Climate resilience solutions for buildings