The Project Vision, Challenges and Perspectives

Post-Oil City / Planning for Urban Green Deals - Virtual Congress

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Bergen Pliot City | Illustration from White Arkitekter

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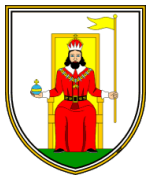

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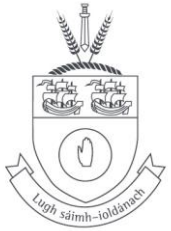

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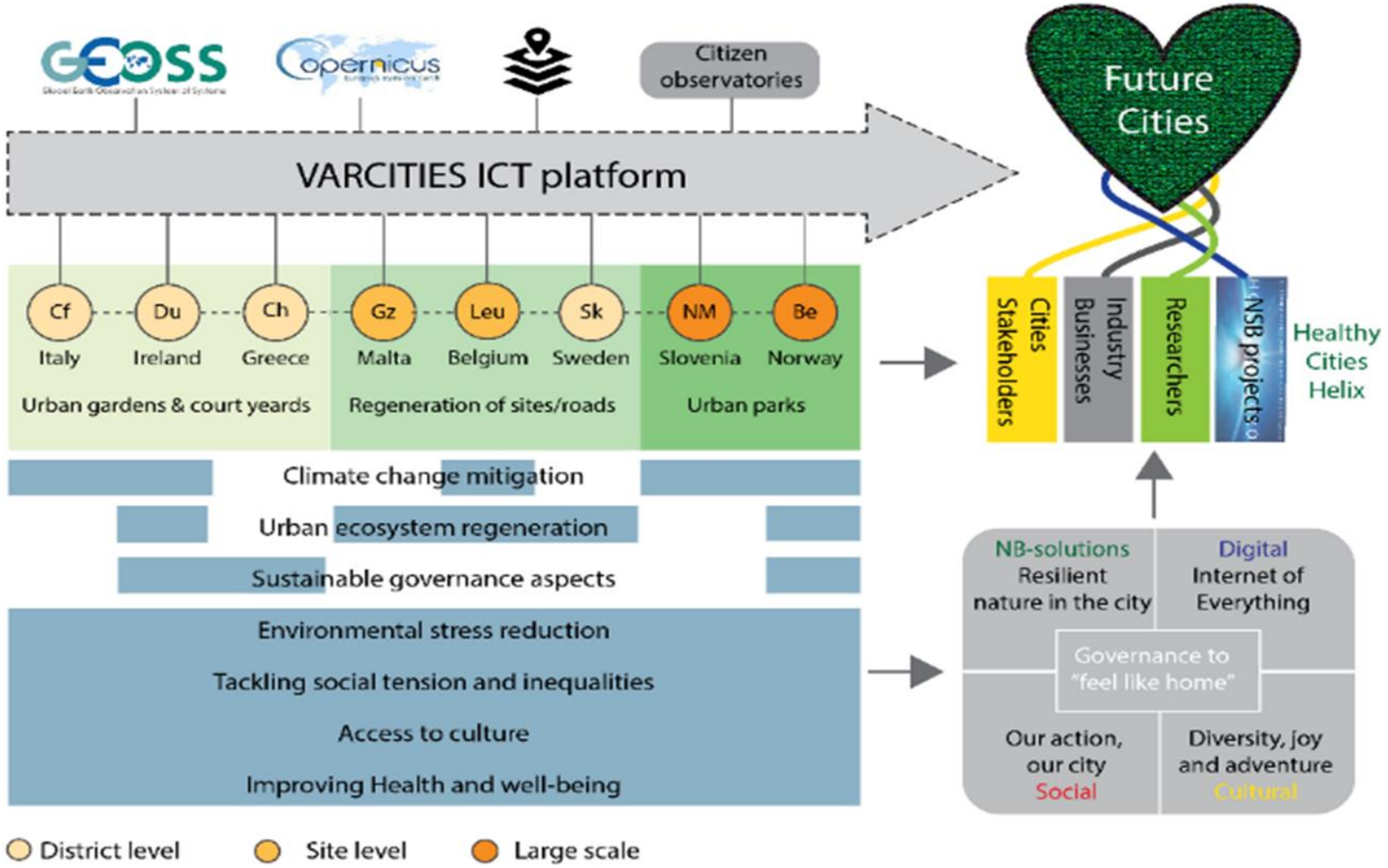
The vision

The vision of VARCITIES is to implement real, visionary ideas using Nature Based Solutions and add value by establishing sustainable models for increasing Health & Well Being of citizens (children, young people, middle age, elderly) that are exposed to diverse climatic conditions and challenges around Europe.

What we want to achieve at a glance

- Shaping of future cities by developing nature-based (NBS) solutions to tackle cities challenges.
- Create innovative solutions that integrate Digital-Social and Cultural aspects in eight cities.
- Support co-design and co-creation process for the development of the visionary solutions.
- Development a monitoring framework through the H&WB VARCITIES platform.
- Assess the sustainability and impact of interventions through developing new and advancing existing H&WB KPIs based on inputs received from the municipalities, satellite data, citizens, etc.)
- Support innovation for Governance Business and Finance models.
- Provide new business opportunities for Europe and create a network of STKs.

The VARCITIES concept



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How: The VARCITIES methodology

- A bottom-up methodology that targets visionary City projects in tackling different H&WB, climate related risks and environmental stress problems under different climatic conditions is followed.
- 8 local cities projects are identified. A group of experts, STKs and SMEs is formulated around each project.
- A set of visionary solutions per pilot is identified.
- A set of innovative ICT products and services are integrated to support the transformation of various wearables to integrated telehealth devices that can be used in the future in open spaces or indoors.
- Data collection and integration of local databases and Citizen observatories for creation of a Knowledge Base is initiated while connectivity with global databases (GEOSS etc.) is planned.
- Data from the Pilots will be projected to dashboards and displays for awareness raising and understanding the horizontal SDC+NBS co-benefits.
- Behavioral and Psychology aspects are addressed by customised apps with different outreach programs for different people in each pilot.

A preliminary list of KPIs are already identified.

THE VARCITIES PRODUCTS AND SERVICES 1/2

- IoT multi-sensors. Customised wearable devices for data gathering and users' interaction TRL5→ TRL9
- Design and manufacturing of IoT convertible pocket parks and mobile urban living rooms TRL5 → TRL8
- Software for digitising furniture/Smart lighting and sound systems/ Illuminated aquarium for water flow measurement/energy/ TRL5 → TR7
- 1 Mobile app for H&WB assessment, display and questionnaires for citizens' interaction TRL6 → TRL9
- 1 Mobile app for cultural/social activities engagement in the pilots and floor playground TRL6→ TRL9

THE VARCITIES PRODUCTS AND SERVICES 2/2

- 1 Behavioural game with Augmented Reality: From “Go Pokemon” to “Go Nature” TRL5→ TRL8
- Customised software for gesture capturing and game tasks TRL6→ TRL9
- 1 Sensor kit on public bikes TRL4→ TRL8 Smart bike handle-grips TRL4→ TRL8
- Financing mechanisms and business models for H&WB in cities with NBS and DSC dimension TRL6→ TRL9
- VARCITIES ICT cloud platform for data analytics and KPIs (real time data, 3D models, digital twins, open GIS-mapping). Links with GEOSS, Copernicus and Pilots Citizens’ Observatories TRL6→ TRL9
- Cities H&WB toolkit and EU H&WB dashboard TRL4→TRL8

VARCITIES Pilots

1. Skelleftea (SE) Transforming old land fill area into a residential and educational area using green/blue solutions (SKN)
2. Bergen (NO) Sustainable re-establishment of an urban water park (BERGEN)
3. Dundalk (IE) Dundalk Library and Museum Quarte (LCC)
4. Castelfranco (IT) A “Healing Garden” for elderly and people suffering from Alzheimer (CCV)
5. Novo mesto (SI) Sports and recreational park Češča vas (MONM)
6. Gzira (MT) Regeneration of a high traffic road in the Gzira locality in Malta (UM)
7. Chania (GR) Creation of a Mobile Urban Living Room in open public spaces (CHANIA)
8. Leuven (BE) Hertogensite- Regeneration of former hospital site (LEUVEN)

Skelleftea Pilot: Transforming old land fill area into a residential and educational area using green/blue solutions

Objectives

- Develop a residential area by using an old land fill area .
- Creating urban resilience by natural infrastructure (wetland buffer that reduce pollutants and reduce stormwater floods).
- Increase biodiversity by creating wetland bed.
- Creating an inviting meeting point in the nature for residents.
- Initializing “Class-room in the nature” for pre-school and school children.
- Level up citizens awareness of climate change as in increasing rain- and snowfall and the importance of biodiversity by creating wetlands.

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Skelleftea Pilot

1. Build natural infrastructure to create urban resilience

2. Wetland bed to increase biodiversity

3. Installation of smart lighting

4. Educating and engaging citizens

5. Classroom in the Nature

VS

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Bergen Pilot: Sustainable re-establishment of an urban water park

Objectives

- Develop governance models for green urban spaces the supports sustainable, democratic and inclusive densification
- Interact with and educate citizens, students, schools and stakeholders to co-create public green space concepts
- Integrate geography, green mobility and nature-based solutions to promote health and wellbeing of park users while preserving biodiversity in green park zones
- Measure wide health and environmental effects using innovative technology, epidemiological studies and citizens observatories
- Promote technological solutions that improve the local carbon footprint and showcase them.

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Bergen Pilot

VS1: A digitalized urban water park including city beach

VS2: AR applications for inspiring more physical activities and area exploration

VS3: Optimized urban park biodiversity

VS4: Bergen City Beach Health Effects Assessment

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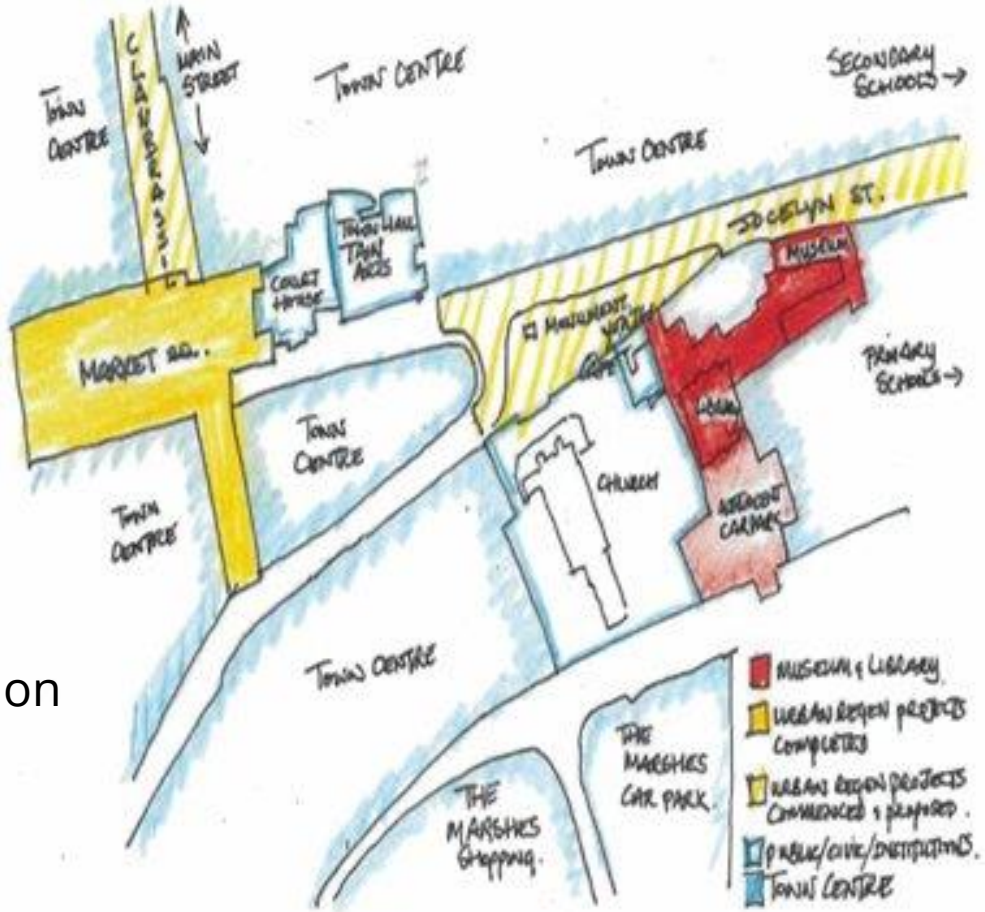
Dundalk Pilot: Dundalk Library and Museum Quarter

Objectives

•To form a new identity for the Library / Museum HQ of the town to ensure inclusivity for all members of the community
•Creation of a quality public realm space for all
•Improving the connectivity and legibility of the streets to the surrounding context for all members of the community and for visitors/ tourists to the town.
• Re-balancing the priority between vehicles and pedestrians within the courtyard area.
• Enhancing the heritage assets.
•Operate, employ and promote sustainable development principles through minimising energy consumption and maximising the use of renewable energy technology
•Ensuring the scheme is maintainable and responds to today's needs as well as those of the future.



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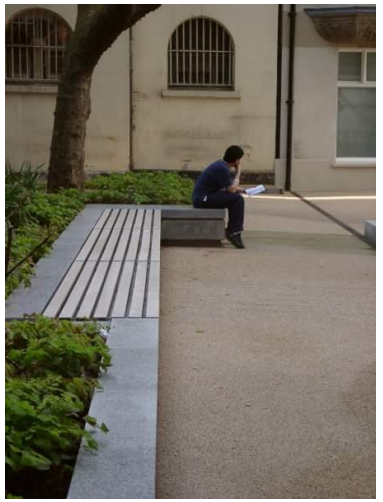
Dundalk Pilot

VS1: Creation of Outdoor Learning Pod between Dundalk Library & Museum Quarter to showcase the newest technologies and host shared functions

VS2: Outdoor Urban Green Learning and Sensory Garden for H&WB

VS3: Sensors on Bikes and Bike-stations



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Castelfranco Pilot: A “Healing Garden” for elderly and people suffering from Alzheimer

Objectives

•To contribute to the shaping of future cities by developing NBS integrating Digital, Social and Cultural innovation with high application potential in the municipality of Castelfranco Veneto

•To design visionary NBS to address Health and Well Being (H&WB) of elder citizens (mainly guests of retirement home and patients affected by Alzheimer’s disease) by co-creating forward-planning solutions with the local authorities

•To assess the sustainability and impact of interventions through developing new and advancing existing H&WB Key Performance Indicators based on inputs acquired from interdisciplinary research

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Castelfranco Pilot

1 Creation of access routes

2 Analysis and monitoring of psychological and physiological well-being for elderly people

3 Monitoring of microclimatic conditions

Development of a green public spaces design toolbox and establishment of Local Observatory on therapeutic effects of the landscape

5 Implementation of virtual and ICT tools to ensure a rewarding experience of historic garden

6 Adaptive and intelligent lighting systems/energy data management

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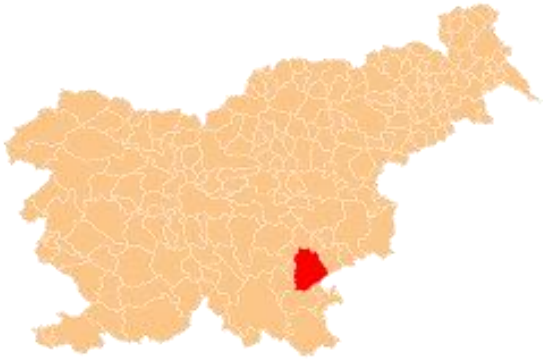
Novo mesto Pilot: Sports and recreational park Češča vas



Objectives

- Regeneration of a military brownfield
- Development of high-quality recreational facilities
- Provide access to nature based therapeutic activates to people with special needs
- Decrease obesity and improve motor skills
- Facilitate healthy ageing
- Raise environmental awareness
- Improve intergenerationally and acceptance of diversity
- Facilitate development of new recreation and therapeutic services

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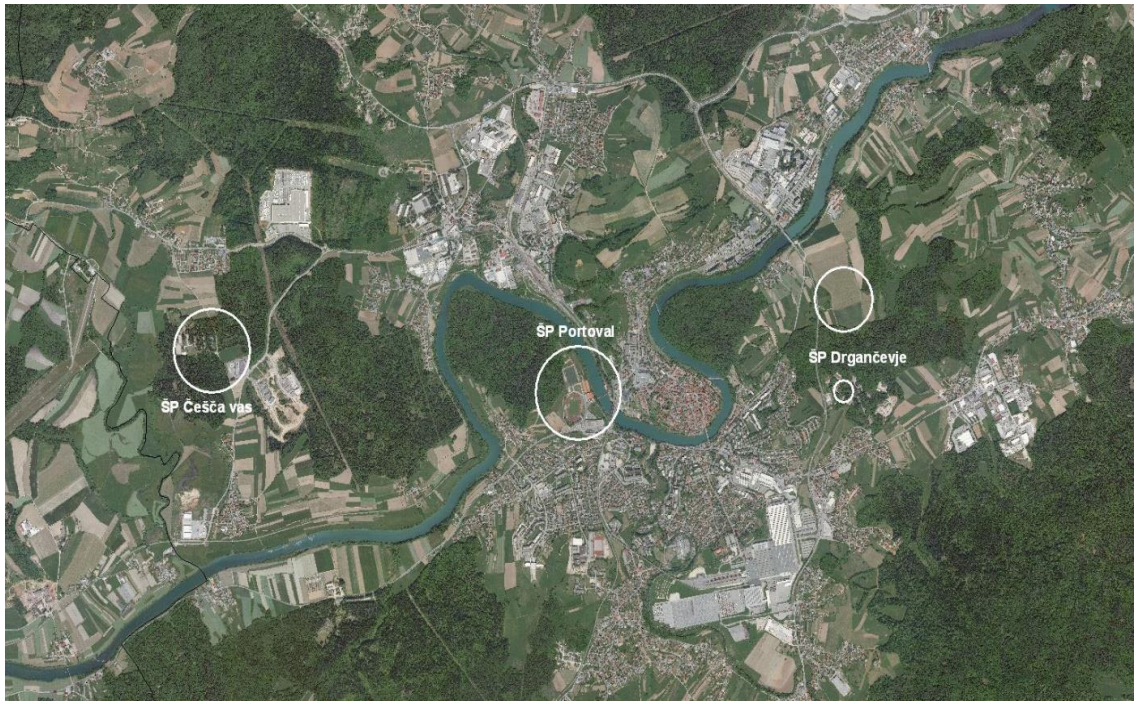
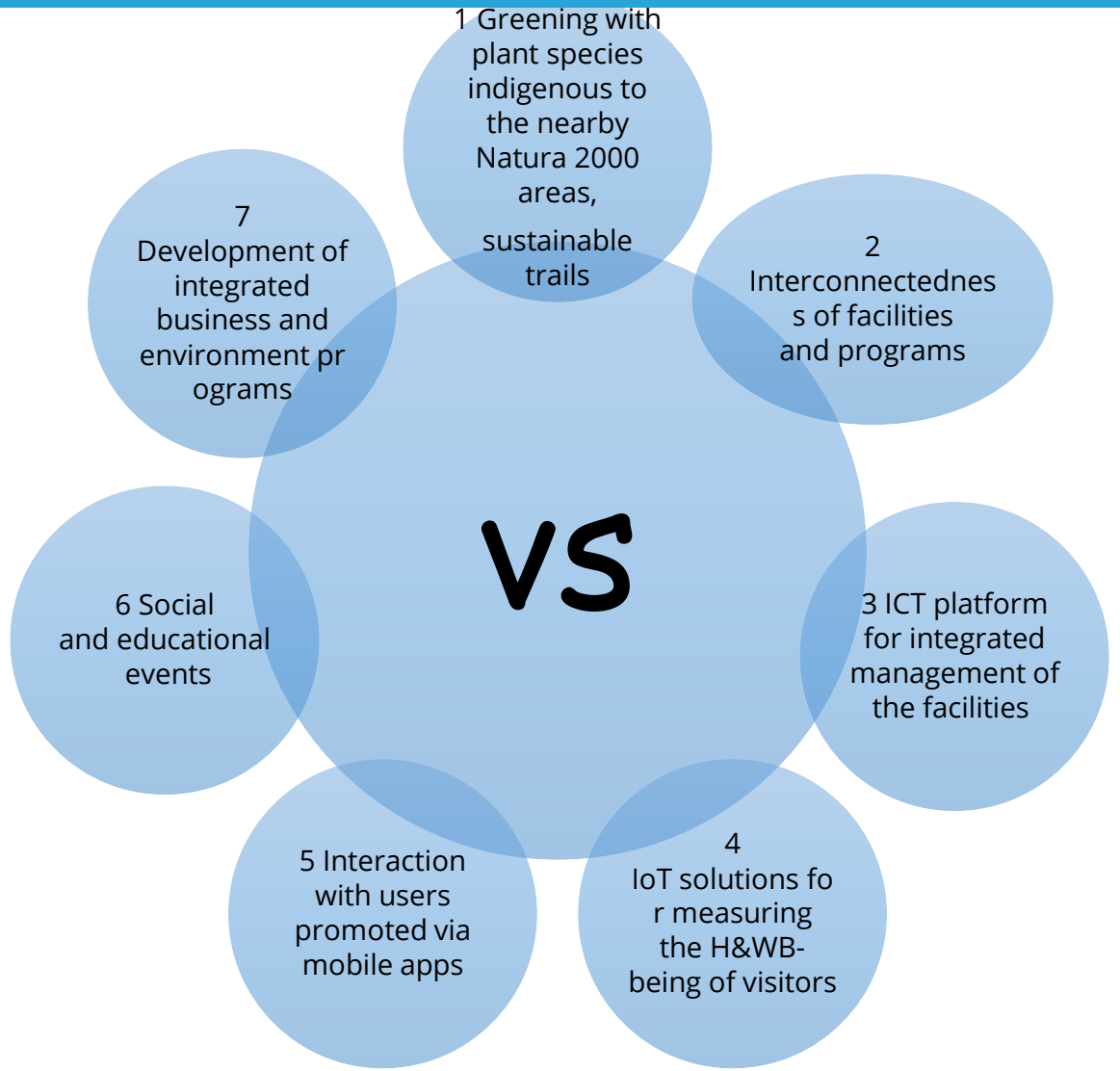
Novo mesto Pilot





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Gzira Pilot: Regeneration of a high traffic road in the Gzira locality in Malta

Objectives

Through 3 carefully planned solutions financed by VARCITIES, participatory processes for NBS are followed and innovative measurement of air pollutants is performed to:

- Increase vegetation in the Gzira locality,
- reduce air and noise pollution, improve walkability and general H&WB of the neighbourhood,
- Boost civic participation, social responsibility, environmental and sustainability awareness,
- Develop innovative sensors,
- Boost community building, sense of belonging and mitigate negative effects ogentrification,
- reduce car use and facilitate a cultural shift towards green transport,
- Boost sports and healthy lifestyle of citizens.

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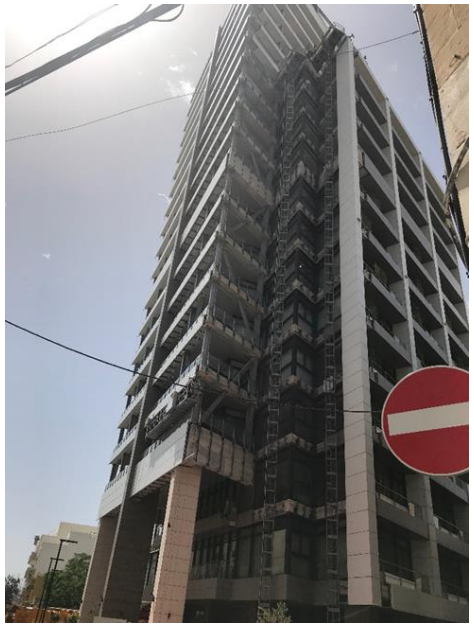
Gzira Pilot



VS1: Rue D'Argens: From busy to green using a participatory design process

VS2: Empowerment for green travel - Promote alternative means of transport

VS3: Green balconies, roofing and community garden place-making

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Chania Pilot: Creation of a Mobile Urban Living Room in open public spaces

Objectives

Two innovative interventions will be financed by VARCITIES with the following objectives:

- To increase environmental awareness of citizens
- To integrate green spaces into the
- everyday life of citizens
- To increase the sense of respect for public spaces
- To develop a healthy green mindset
- for children
- To improve economic opportunities through green-digital strategies learning
- To increase urban interaction.

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Chania Pilot

VS2: Sensors on Bikes and Bike-stations

VS1: Mobile urban living rooms

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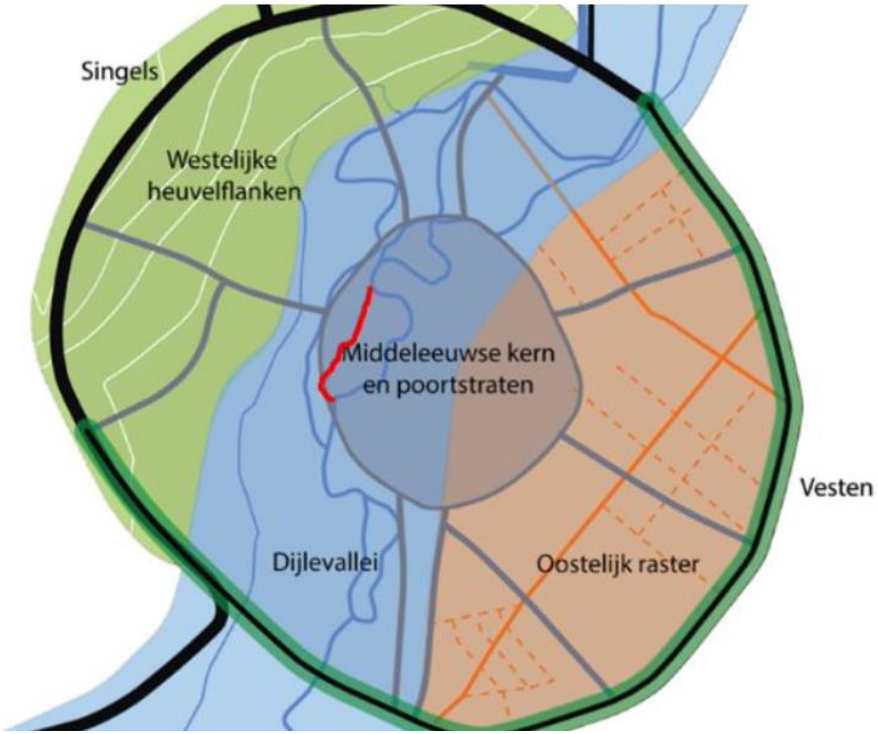
Leuven Pilot: Hertogensite- Regeneration of former hospital site

Objectives

Five solutions will be financed by VARCITIES with the objectives of

- implementing Nature-based Solutions integrated with Digital, Social and Cultural innovation with a high replication potential,
- Co-creating the solutions with the public, the local authorities and industry,
- Developing new and advancing existing H&WB KPIs.



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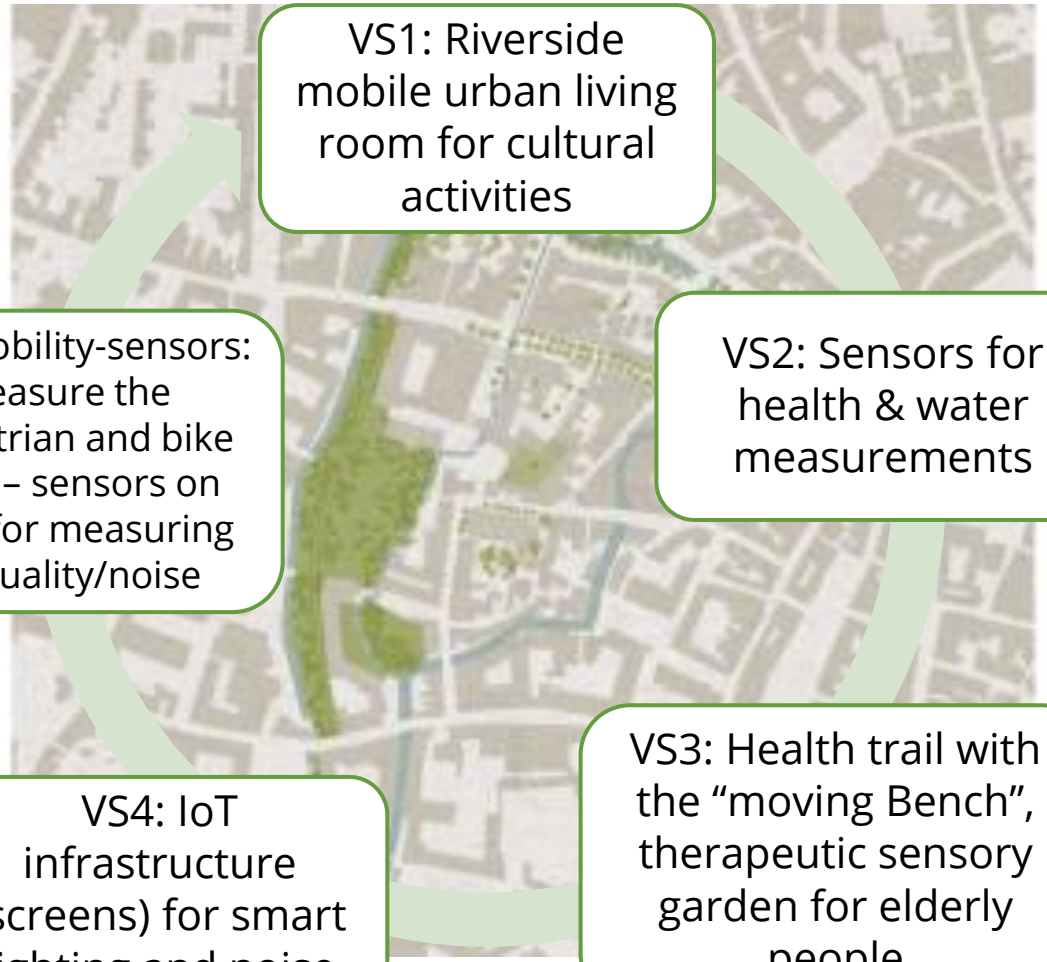
Leuven Pilot



VS1: Riverside mobile urban living room for cultural activities

VS2: Sensors for health & water measurements

VS3: Health trail with the “moving Bench”, therapeutic sensory garden for elderly people

VS4: IoT infrastructure (screens) for smart lighting and noise

VS5: Mobility-sensors: measure the pedestrian and bike flows – sensors on bikes for measuring air quality/noise

Our impact on cities and EU

- High quality and **multifunctional public spaces**, as well as converting them in to safe, inclusive and accessible places to ensure the improvement of Citizens' H&WB.
- Co-design and participatory planning and governance in 8 Pilots and follower cities with digital, social and cultural dimension.
- Network with the **Healthy Cities Helix** and Ambassadors for gender dimensions.
- **Innovative monitoring and KPIs.**
- **Our SMEs will support the "capitalization of over 30 years of investment in transnational EU research and innovation on sustainable urban development".**
- **New business opportunities!**

Thank you for your attention!

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