
CATALOGUE OF THE SOLUTIONS

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COOL NOONS

Interreg
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LISBON



MARSEILLE



IMOLA



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BUDVA



INDEX

Catalogue of the solutions	4
Category	5
Nature based solutions	6
Water Based solutions	8
City furniture and Mediterranean architectural features	10
Multimedia and technology	13
Behavioral solutions + Cross-project solutions	15

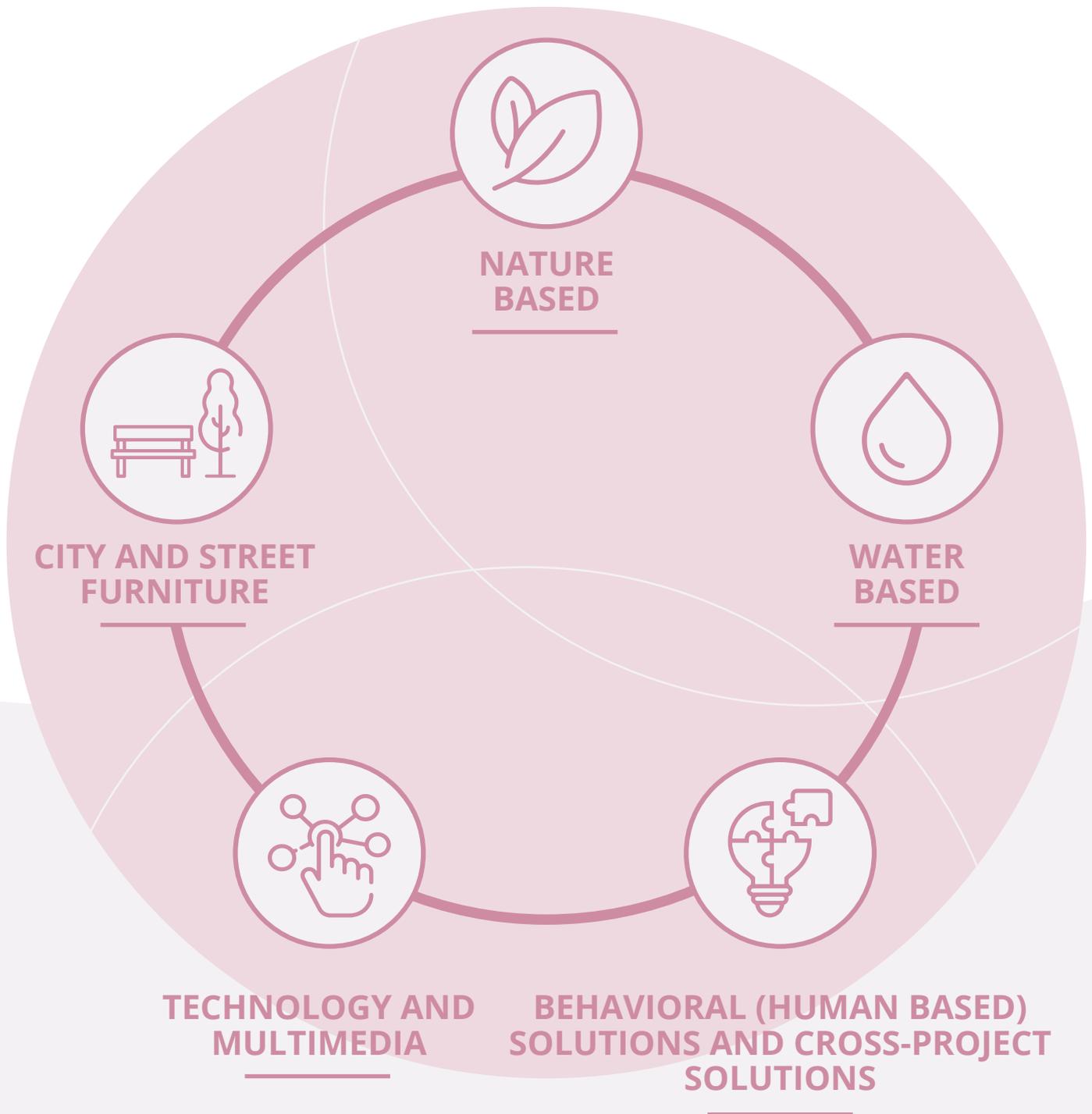
COOL NOONS CATALOGUE OF THE SOLUTIONS

The solutions presented in this evolving catalogue have been identified during meetings and workshops organized within Cool Noons project in the 5 pilot cities of Marseille, Lisbon, Imola, Budva and Dubrovnik.

The catalogue sums up all the solutions identified through the participatory process of Cool Noons: the selected ones, implemented before summer 2025, are monitored in order to test their impact and collect the data necessary to measure the benefits of Cool Noons.



CATEGORY



NATURE BASED SOLUTIONS

Nature-based solutions often involve the restoration or conservation of ecosystems. Instead of exploiting natural resources in an unsustainable way, NbS seeks to work with nature in a way that preserves and enhances ecological health and resilience.

It usually provides several benefits simultaneously, like climate mitigation (e.g., carbon storage), climate adaptation (e.g., reducing the risk of flooding), and ecosystem services (e.g., pollination and water filtration).

Nature-based solutions are easy-to-implement thanks to their popular use: many cities in the last few years have been committed to a greener approach to urbanisation, resulting in a wide presence of trees and gardens even in town centers.



BENEFITS OF NATURE BASED SOLUTIONS

Resilient and healthy urban planning, that provides spaces for recreation and well-being. Locals and visitors are provided with new spaces, available for use in all conditions, impacting physical and mental health.

NbS also maintain and increase biodiversity: the presence of different plant species impacts and attracts a wide range of local urban fauna, including the pollinators.

Increased air quality: NbS can help reduce greenhouse gas emissions and improve air quality.



CHALLENGES OF THE NATURE BASED SOLUTIONS

Investment: Some NbS may require significant initial investment, even though they may pay off in the long term.

Long-term planning: the effectiveness of NbS depends on proper planning, implementation, and long-term maintenance (pruning, cleaning, watering all year round).

Complexity of urban environment: NbS need to be adapted to local ecological, social, and economic conditions to be successful, and scaling them may be challenging in certain areas.



BETTER IF

Better if combined with water based solutions.

TREE PLANTING AND REPLACING OLD PLANTS

Why?

New trees provide additional shaded areas and cool down the streets and squares.

Replace old plants with species more fit for the goal of shading and cooling: prefer species with wide canopies, fast growing species and plants which need less water.



VERTICAL GREENERY AND GREEN PERGOLA

Why?

Climbing plant species allow a wise use of space in the streets of Mediterranean cities: walls, columns and pergolas covered by growing greeneries provide shade, contribute to the reduction of CO2 emissions and decorate the streets.



CITY ORCHARDS

Why?

City orchards and gardens contribute to lowering the temperatures by providing shade and creating green oasis in the cities. Orange and Lemon trees were selected as highly decorative plants, with the right dimensions and growing rate for urban scenarios.



WATER BASED SOLUTIONS

Water-based solutions involve using water or **water-related processes**. It can refer to maintaining or improving the quality, availability, and management of water resources while also ensuring long-term availability of water resources for people and ecosystems. It could include fountains, ponds, or canals, that enhance cooling effects and improve humidity levels.

For Cool Noons project, water-based solutions are very popular solutions that contribute in a very direct way to enhancing the urban experience in hot summers. Water-based solutions include **drinking fountains and water sprays**: when selecting the solutions, it is important to consider the benefits and drawbacks of water use.



BENEFITS OF WATER-BASED SOLUTIONS

Increased water availability: residents and visitors can directly benefit from water fountains, providing a free-of-charge access to a water source.

Better visiting experience: visitors will feel welcomed by a city that cares for the well-being and health of its residents and tourists, providing tourist services as well as thermal comfort.

Maintenance of green spaces: water sprays, if combined with nature based solutions, build a self-supporting system, able to water the plants during the hotter periods of the year, creating a cool and refreshed area.

Refreshment: the water sprayed gives a cooling effect to people who walk through the cloud of droplets.



CHALLENGES OF WATER BASED SOLUTIONS

Investment and complexity: infrastructure for water-based solutions can face high costs and complexity in the involvement of cities' water system.

Balance and cooperation: Managing water resources requires balancing the needs of different sectors and stakeholders and can be implemented only through cooperative governance.

Risk of waste: implementation of water-based solutions requires well thought planning to reduce the waste of water – managing the water flow / spray, finding the right location, recycling the water.



BETTER IF

Better if combined with nature based solutions, installed in green areas for a doubled benefit of the water used (refreshment + watering the plants).

WATER FOUNTAINS

Why?

Running waters contribute to a better thermal comfort, by providing drinking water and refreshing passers by.



BOTTLE RE-FILLING SPOTS

Why?

A service for citizens and visitors, provides water re-filling systems to be located within the local shops and activities. Raises awareness on climate changes themes such as thermal comfort, water use and waste reduction.



WATER SPRAYS

Why?

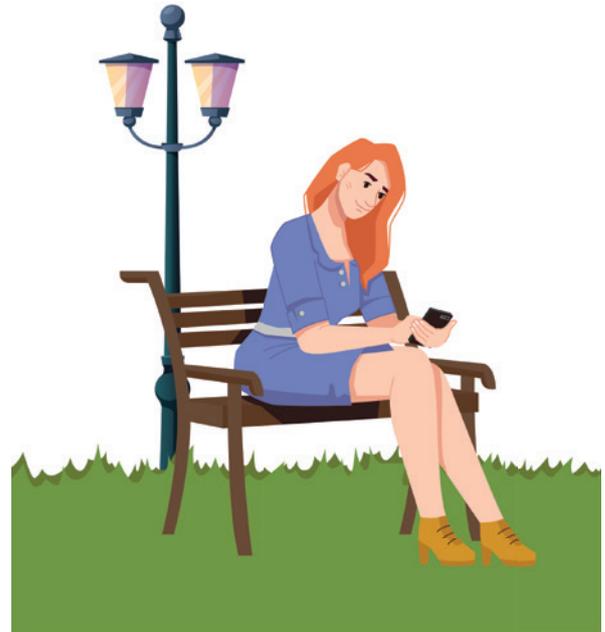
Big contribution in lowering the temperatures, immediate refreshment to the passers-by, help maintaining nature-based solutions.



CITY FURNITURE AND MEDITERRANEAN ARCHITECTURAL FEATURES

Urban furniture or street furniture, refers to various types of objects and installations designed to enhance qualitative public spaces. It serves both functional and aesthetic purposes. City furniture is surely a key element to improve the visiting experience in Mediterranean cities: the presence of **benches and tables** in shaded areas and gardens offers the possibility of finding shelter from the heat and encourages the use of new areas of the city. Tourist Information is also one of the solutions in this category: city signage will invite visitors to explore new and cooler areas of the city.

Mediterranean cities also share a partially common background in history and culture: this shared heritage can be found in reiterated **urban elements**, such as porticoes (covered streets with arches), narrow streets that channel wind and provide shade, and thick outer walls in older buildings. These elements, if wisely combined in attractive itineraries, all contribute to the goal of providing a better thermal comfort.



BENEFITS OF CITY FURNITURE

City furniture addresses practical needs for all. It promotes inclusive public space and also fosters social interactions. Finally, it enhances the visual appeal of cities.

Clever combination with local architectural features: integrating furniture installation with pre-existing architectural and urban features can increase the benefits created by one single solution.



BETTER IF

Better if combined with the Mediterranean architectural features, nature based solutions, water based solutions, wind based solutions, Multimedia solutions.



CHALLENGES OF CITY FURNITURE

Installation permits: it is necessary to find cooperation by the Municipalities.

Maintenance: usage wears out the furniture, which requires planned maintenance.

BENCHES AND TABLES IN GREEN AREAS

Why?

Improve comfort: furnishing the urban spaces with resting areas enhances the living experience of the city.

Shelter from heatwaves: benches and tables in shaded and cooler areas invite visitors and locals to take shelter from the heatwaves while resting.

A wider visiting experience: benches near green areas encourage people to be more active, to leave the main tourist paths to explore new areas of the city, as well as encouraging social interaction.



SIGNAGE AND TOURIST INFORMATION

Why?

Signage informs the passers-by on where they can find shaded and cooler areas, raise awareness on the climate changes and talk about the actions undertaken by the Municipalities to approach the heatwave issue.

Tourist Information offices also have a key role in spreading awareness about heatwaves: best practices and behaviors, where to find cooler spots and Cool Paths that offer a shelter.



SHADING SAILS AND PENNANTS

Why?

Shading systems such as sails or pennants are easy to install, provide a good amount of shade.



USE OF WHITE AND LIGHT COLORS

Why?

Light colors enhance the albedo effect and do not absorb and release the heat.



ARCHITECTURAL FEATURES

Why?

Mediterranean architecture blends functionality with aesthetic appeal, creating inviting and comfortable living spaces, appropriate to the warm, sunny climates typical of the Mediterranean region. Narrow streets that channel wind and provide shade, streets covered by arches (porticoes), naturally cool buildings with thick outer walls (historical buildings such as forts, churches, libraries), central courtyards or outdoor patios also provide private outdoor spaces for relaxation and social gatherings.

Architecture of the Mediterranean cities reflect a common heritage in urban planning, with narrow streets especially in the old towns / town centers.



AIR CORRIDORS

Why?

Air corridor refers to designated areas within urban environments that prioritize the movement of air. Integrating natural ventilation helps to mitigate urban heat islands and improves air quality by allowing for the flow of fresh air, reducing the concentration of pollutants.



MULTIMEDIA AND TECHNOLOGY

Multimedia and technological solutions, in a climate adaptation strategy, constitute an innovative way of addressing the issue of climate change and fight against the heatwaves.

In Cool Noons, these solutions include **videos, images, and other digital tools** that provide a tourist experience while giving shelter during the heatwaves and in the hotter hours of the day.



BENEFITS OF THE MULTIMEDIA SOLUTIONS

Easy access: every personal device can be a means of information

Tourist information: contributes to the creation of a wider “online tourist information ecosystem” with the goal of enhancing the visiting experience to the cities, as well as raising awareness about climate change.

Low or zero physical investments: exploiting the online space, to reduce the necessity of physical investments, only required in case of special devices or equipment.



CHALLENGES OF THE MULTIMEDIA SOLUTIONS

Development: the development of software, AR or interactive tools might be time consuming.

Energy dependance: any online technology or electric device fully requires and relies on energy.



BETTER IF

Better if offered in indoor facilities with air conditioning or integrated cooling systems (thick walls of churches, libraries, museums, tourist information offices).

AUGMENTED REALITY

Why?

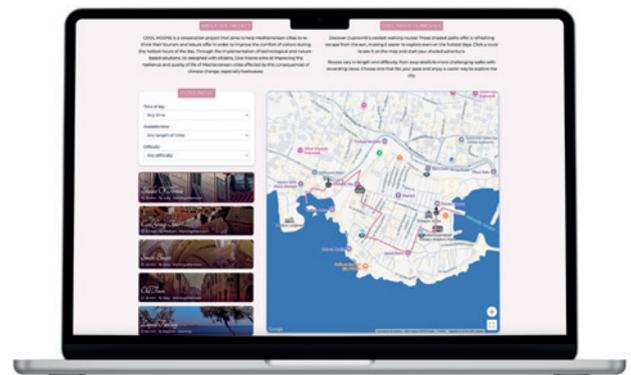
Digital and multimedia guide for the Points of Interest (i.e. Museums, monuments, squares, etc), provide a complete and immersive tourist experience, **accessible everywhere**, including in indoor cool spaces (naturally cool buildings, air-conditioned spaces). Can be declined in an access available on all personal devices or with specific devices such as visors.



ONLINE INTERACTIVE TOOLS

Why?

The Internet is today's most popular source of information: interactive and georeferenced online tools will promote a virtuous approach to the theme of sustainability and tourism. The promotion of the Cool Paths with this kind of tools contributes to a better understanding of the urban environment related to climate change, offers an alternative way of exploring the cities and contributes to the dissemination of the project results.



BEHAVIORAL SOLUTIONS + CROSS-PROJECT SOLUTIONS

Cool Noons project includes behavioral solutions to climate change in the adaptation strategy. This set of solutions includes best practices and suggestions, with the aim of inviting the residents towards a more virtuous behavior.

These actions can help reduce greenhouse gas emissions and anxiety about climate change.



CHALLENGES OF THE BEHAVIORAL SOLUTIONS

Depend directly on the active participation of citizens and tourist.

Complexity of Municipality Administration: cross-department communication and cooperation.



BETTER IF

Better if combined with other projects with similar goals; the citizen participation is high and active; communication from the Administration is strong.

“GREEN YOUR BALCONY” CONTEST

Why?

A contest to promote virtuous habits among the locals. Contributes to the atmosphere of the Mediterranean cities, influencing the experience for the visitors. Green balconies provide green city decorations while lowering the CO2 emissions, highering the pollinator insect populations as well as all the benefits of the Nature based solutions.



TRAFFIC-FREE ZONES

Why?

Restricting road traffic is an effective solution in the Mediterranean cities: areas reserved to pedestrians in the cities centers enhance the visiting experience; reduce traffic-derived pollution and lower the temperature of the street pavements.



CROSS-PROJECT SOLUTIONS

Why?

Consider other projects focusing on climate changes. The wider strategy within the Municipalities and territories provides a number of opportunities and resources that can be transferred and adapted to Cool Noons without further investments. Promoting the value of cross-project solutions contributes to the success of the wider plan.





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