The Urban Lab of Europe!

CASE STUDY

REPORT

How are UIA projects contributing to building resilient cities, adapting to the climate emergency?

PROJECT

CartujaQanat - Recovering the street life in a climate changing world

Sevilla, Spain

TOPIC

Climate adaptation

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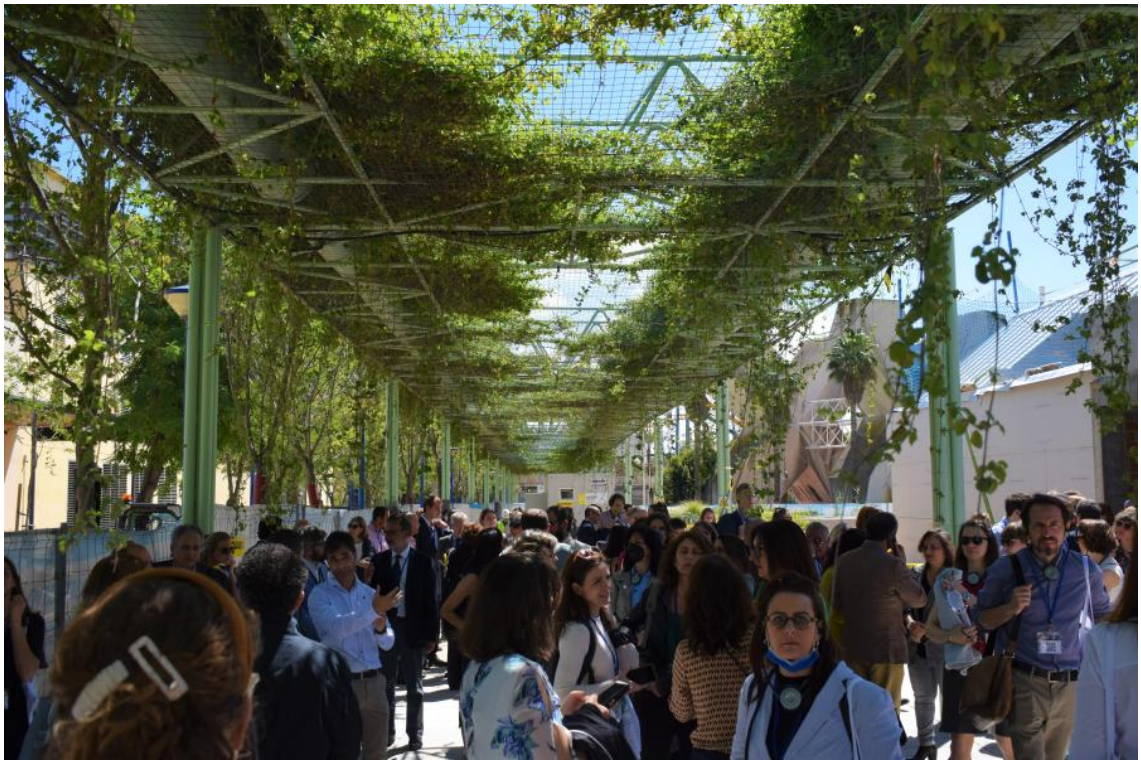
Cartuja Qanat - Seville

See on UIA website

Recovering life on the street in a climatologically changing word



The site visit of the CARTUJA QANAT during the 2-days event organised by UIA and the city of Seville

Seville is the largest city in southern Spain and a center of cultural, industrial, tourist and political development. In summer, the air temperature may even exceed 50ºC, whereas climate predictions for the next 30 years refer to overall high temperatures, reduced precipitation, and higher frequency and strength of heatwaves.

The CARTUJA QANAT project is led by the Municipality of Seville and EMASESA, Seville's metropolitan water management company. It links to the Seville 2030 Strategic Plan that gives emphasis on the revitalization of public spaces. The project is practically an urban transformation project in support of the city's resilience to climate

change and the resulting climate extremes.

The project refers to the implementation of a series of technological and traditional practices, the latter stemming from the cultural heritage of the city, in order to reduce the air temperature in external public spaces and improve the city's resilience to climate extremes associated with excess heat.

In particular, the project promotes a hybrid air cooling/heating system for conditioning an underground gallery (souk), exploits photovoltaic systems for energy production, and foresees increased urban greenery and shading. In particular, an over the ground-underground water cycle is developed by combining the centuries-old Arab technique of the qanat and solar energy for the elevation of water to the ground and its subsequent evaporation (acting as a cooling mechanism).

The project experienced difficulties with its procurement processes, considering the need to define in detail the materials to be used in support of the technological and traditional practices.

The intervention area of the project is at the Cartuja Technological Park, where a Citizen Laboratory is developed; a meeting place for citizens and other social groups for experience sharing and knowledge transfer. The project tests a model of public-private collaboration that is critical for its upscaling potential; it also foresees the integration of an entrepreneurship incubator.

Finally, the project has a strong socio-economic dimension as it focuses on the revitalization of the traditional ceramics industry, as ceramics can be used as cooling construction materials.

Partnership

- Seville City Council (and its Planning Department)
- EMASESA - public service provider for the Integral Water Cycle in Seville
- A higher education and research institute: University of Seville (USE)
- Spanish National Research Council (CSIC) - national public authority
- PCT Cartuja - managing company of the Science and Technology Park Cartuja
- Innovarcill - non-profit foundation specializing in R&D&I for ceramic industries

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