



# Green Infrastructures to mitigate Flood risks in Urban and suburban areas and to Improve the quality of rainwater Discharges

NEWSLETTER ABOUT THE PROJECT, CURRENT INFORMATION,  
PROGRESS AND UPCOMING ACTIVITIES.

**GiFluid Newsletter**

November | 2023 | Vol. 04

## About the project

The GiFluid project commenced in 2021 and will see the construction of two Green Roofs, at the GHAJN National Water Conservation Centre in Rabat, Malta and at the Di3A headquarters, University of Catania, Sicily.

The implementation of the Green Roof holds significant importance for the Energy and Water Agency (EWA) and the University of Catania, as it will generate crucial data to inform future policy frameworks pertaining to stormwater management and flood risk mitigation. Through this installation, various aspects of the Green Roof's functionality will be measured, including the correlation between rainfall and runoff discharge, water retention capacity, runoff water quality, and the water required for plant irrigation.

Moreover, the Green Roof will facilitate the assessment of its cooling effects on the building and evaluate the positive influence of the micro-climate on the photovoltaic (PV) system's electricity generation capacity, which will be integrated with the Green Roof.

The experimental Green Roof is a key milestone achieved through the GIFLUID Project, which received funding from the Interreg V-A Italy – Malta Programme.



## GreenLab Training: Bridging Theory and Practice in the Exploration of Green Infrastructure

Following the successful GreenLab training held earlier this year at the University of Catania in relation to the GiFluid project, the second edition took place at the Ghajn Centre, this time focusing more on the work being carried out in Malta. Organized by the Energy and Water Agency in collaboration with the University of Catania, this training aimed to bring together technicians and professionals under the age of 35 from both Malta and Sicily.

Over fifty researchers and professionals from Malta and Sicily participated, with backgrounds ranging from engineers, architects, earth sciences, and agronomists. This event served as an opportunity for open discussion to promote the work being done to advance Green Infrastructure, aiming to reduce the effects of flooding and combat climate change.







To put theory into practice, participants had the opportunity to visit the green roof at Ghajn Centre and learn about the process of its development and the plants used. The green roof boasts a diverse array of vegetation tailored to thrive in Malta's unique climate. In addition, it incorporates photovoltaic (PV) panels to generate clean energy, making it quite unique.



Over 3,000 carefully selected plants were introduced to the roof, chosen for their ability to withstand Malta's arid conditions. Following the visit, various experts presented their research findings and shared their insights. The second day also featured representatives from the Energy and Water Agency, the University of Catania, the University of Malta, the American University of Beirut, and Nature Trust Malta to further discuss the ongoing research in this field.







## Minister Visitor to the Green Roof at Għajn Centre, Malta

EU-funded project showcases Malta's dedication to climate innovation with a cutting-edge green roof experiment at the Għajn Water Conservation Centre in Rabat. This initiative aims to collect vital scientific data to uncover the potential of green infrastructure in flood prevention, while simultaneously enhancing the sustainability and energy efficiency of buildings.

Minister Miriam Dalli, responsible for the Environment, Energy, and Enterprise, met with the Energy and Water Agency (EWA) team behind this innovative green roof project. It's part of the GiFluid Project, a collaborative effort with the University of Catania, co-funded by the European Union under the Interreg Italia-Malta Programme. During the meeting, Minister Dalli announced that after a two-year data collection phase, the green roof will be open to the public.





## Minister Visitor to the Green Roof at Ghajn Centre, Malta

This multi-faceted green roof boasts a diverse array of vegetation tailored to thrive in Malta's unique climate. In addition, it incorporates photovoltaic (PV) panels to generate clean energy. Over 3,000 carefully selected plants were introduced to the roof, chosen for their ability to withstand Malta's arid conditions.



Over the next two years, this project will serve as a prototype for EWA to gather data on the impact of green roofs on rainwater flow, retention rates by vegetation, and release times. The Agency will also assess the quality of rainwater runoff from the green roof, particularly focusing on nutrient levels, such as nitrates. This evaluation will shed light on any potential effects related to the adoption of green roofs.

EWA CEO Manuel Sapiano expressed that through the GiFluid project, the Agency will assess the myriad benefits of green roofs, including increased PV panel productivity. It's also a pioneering effort to explore the role of green roofs in mitigating flood risks in Malta.

Minister Miriam Dalli hailed this project as a significant stride in Malta's pursuit of climate innovation. She stated, "These projects have the potential to regulate building temperatures, enhance energy efficiency, and promote water conservation. The data collected by EWA in the coming years will guide the implementation of similar projects throughout the country." This visit included representatives from the Rabat Local Council and the University of Catania.