RURACTIVE Open Call - Challenge 18

Title of the challenge	**Smart streetlights for increased safety of inhabitants and tourists**
Dynamo (pilot location)	Zakarpattya, Ukraine
RDD (Rural Development Driver) *addressed by the challenge*	Local services, health and wellbeing
Overall context description and specific context to be addressed by the challenge	The Synevyr community is one of several communities in the region, which faces difficulties with public transport, connections, and other services connected to mobility such as road lights (streetlights). The distance from the edge hamlets (Bukovynka, Perenyz and Zaverkhnia Kychera) to the nearest settlement of the community is +/- 4 km; the distance between two main villages of the community Synevyr and Synevyrska Poliana is 14 km, total distance from one edge of the village by road to the opposite one is 25 km. There is no public transport between the villages of the community and most of the commuting happens either with private cars or walking. This creates a situation of danger and insecurity on roads that are not adequately equipped with illumination. We want to change the situation by offering the local community and individual inhabitants solutions which ensure adequate need-based operated streetlights in dark parts of the day both on the main street and at the roads to the hamlets. These are: • Road between Synevyr and Synevyr Polyana villages, 14 km • Road from Synevyr Polyana to Zahorb hamlet (Perenyz'), 4 km • Road from Svoboda village to Bukovynka hamlet, 4.5 km Intelligent lighting systems better the quality of life of the local community, while minimising energy waste and emissions, contributing to climate mitigation.
Scope of the Challenge	We are looking for energy-efficient, smart lighting solutions to improve safety and wellbeing along the roads between villages and hamlets in the Synevyr community. The system should be cost-effective, responsive to real-time needs (e.g.,

	motion-activated, time-sensitive), sustainable and resilient to weather and power outages. It should minimise light pollution and protect local biodiversity, contributing to energy savings and climate mitigation.
Solution requirements	• Low-cost streetlights units/tools (e.g. low cost in production, installation and maintenance), consisting of energy-saving technologies (e.g. movement sensor, solar panels, batteries) connected to a community software/app/tool to that allows to operate their functioning and alternate regimes. • Solutions need to be resilient to disruptions (also weather), operative also during power shortages and blackouts. • The solution should be easy to use, scalable and low-cost.
Specific objectives and expected outcomes	• To ensure low-cost needs-driven energy efficient and energy-saving streetlights systems in the community. • To improve safety and comfort of community visitors and inhabitants also during energy blackouts. • To increase the community awareness in regard to energy consumption and protection of biodiversity.
Available resources	• Information and data gathering support. • Synevyr rural municipality staff technical support. • Possible usage of community infrastructures.