Rural microgrids sri lanka

Rural microgrids sri lanka

Access to reliable and affordable electricity is crucial for economic growth and social progress. Yet, in many rural areas of Sri Lanka, the challenge of energy poverty persists, with remote regions remaining disconnected from the national grid. This lack of reliable energy stifles education, healthcare, and economic development opportunities. To address this, the AR-Mini project offers a transformative solution: AI-powered renewable mini-grids.

A joint initiative by Alta Vision (Pvt) Ltd of Sri Lanka and Robert Gordon University (RGU) in the UK, and funded by "Innovate UK", AR-Mini aims to provide a sustainable, scalable solution for rural electrification. This innovative project demonstrates how renewable energy, enhanced by artificial intelligence (AI), can democratise electricity access, reduce reliance on fossil fuels, and improve the lives of those in remote regions.

Mini-grids, sometimes called microgrids, are localised power networks that can operate independently from the primary electricity grid. They generate power from renewable sources such as solar, wind, and hydro and often incorporate energy storage systems like batteries to ensure consistent supply, even in off-grid areas.

The AR-Mini project stands out as it integrates renewable energy generation with AI technologies, creating an intelligent mini-grid capable of optimising energy distribution in real-time. This ensures that energy supply is reliable and affordable, catering to the specific needs of rural households, small and medium-sized enterprises (SMEs), and social institutions in isolated regions of Sri Lanka.

The AR-Mini project has outlined several critical objectives:

AI-Optimized Renewable Energy: To develop a hybrid mini-grid powered by solar and wind energy, complemented by AI for efficient management.

Reducing Fossil Fuel Reliance: To minimise diesel generator usage and lower carbon emissions.

Affordable and Reliable Power: To improve the reliability and affordability of electricity for underserved communities.

Scalability: To create a commercially viable, scalable model that can be replicated in other regions worldwide.

By combining renewable energy with AI, AR-Mini addresses critical challenges, such as the unpredictability of renewable energy generation and fluctuating demand, making it an effective solution for energy-deprived rural areas.

At its core, AR-Mini integrates renewable energy sources like a solar PV system and a wind turbine with a

battery storage system and a diesel generator as backup. What sets AR-Mini apart from other mini-grid solutions is the inclusion of a cloud-based AI system that optimises the entire operation.

AI-Based Forecasting and Control:

Contact us for free full report

Web: https://www.kary.com.pl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346