Case Study

Blackburns Farm, Lancashire

SDS smart rainwater management system provides a lifeline to farm's food bank supplies

SDS Systems
SDS Intellistorm® Smart Rainwater Management System.

SDS Customer
United Utilities.

Client
Blackburns Farm, Fylde.

Project
Smart rainwater harvesting and reuse system.

Purpose
To deliver a practical demonstration of how smart water management technology can be used to support climate resilience and community food production.

The project aims to showcase the potential of intelligent rainwater reuse systems in rural and community-led settings, enabling greater self-sufficiency, reduced pressure on mains infrastructure, and enhanced environmental stewardship.

Brief to SDS
To design and deliver a sustainable rainwater management solution that supports irrigation needs while reducing reliance on mains water and limiting surface water discharge.

Timing
The project was completed in Spring 2025.

Project Background Information
Blackburns Farm, Nurseries & Wildlife Centre is a 30-hectare (75 acre) site, located in the heart of the Fylde, Lancashire, that supports areas of broadleaved woodland, 3.5 km of hedgerows, 13 ponds and 3.8 km of arable field margins. Growing crops, in particular wheat, rapeseed, oat and barley, has been the core activity at the farm for decades and it is planned to maintain this valued contribution to the local economy.

Blackburns is the first farm, from circa 50 diverse organisations, to have been awarded The Wildlife Trust's Biodiversity Benchmark. This is the only standard that tests a business's capacity to achieve continual biodiversity enhancement and protection on its

landholdings, and which requires partner organisations, such as SDS, to directly contribute to the continual conservation and enhancement of biodiversity.

Blackburns also operates as a charitable wildlife centre and nursery which provides locally grown produce to food banks and serves as an educational and volunteer hub for the community. Facing rising operational costs and increasing rainfall variability due to climate change, the farm required a cost-effective and sustainable irrigation source primarily for use in its polytunnels.

In partnership with United Utilities and Lancashire County Council, SDS was commissioned to install an intelligent rainwater harvesting system that could enhance the farm's resilience, reduce costs, and support its community-focused mission.

Project Objectives

To reduce the Farm's dependence on potable water for irrigation, maximise the reuse of captured rainwater, support year-round food production for food banks, and enhance resilience to variable rainfall and climate impacts.

The solution also aimed to lower operational costs and improve overall irrigation efficiency across the site.

Project Requirements

To identify roof areas suitable for effective rainwater capture, install sufficient storage to meet seasonal irrigation demand, and ensure the system is low-maintenance, robust, and scalable for long-term use.

Integration with the Farm's existing polytunnel operations and minimal disruption during installation were also essential.

SDS Product Features

The SDS Intellistorm® system was deployed to support automated rainwater harvesting and reuse. Two large roof areas, totalling nearly 1,500m^2, were connected to four high-capacity storage tanks capable of holding up to a total of 17,500 litres. The system uses intelligent control technology to direct harvested rainwater to the Farm's polytunnel and other planting areas, reducing reliance on mains water and enabling consistent irrigation for crops, saplings and lavender plants.

Issues Overcome

Financial constraints associated with rising water costs were a key challenge. The Farm also needed to adapt to unpredictable rainfall patterns, which made consistent irrigation difficult. SDS worked closely with stakeholders to ensure that the system could be installed cost-effectively and perform reliably in all conditions, supporting the Farm's critical role in food production and community outreach.

Results

Since installation, the smart system has collected and reused nearly 62,000 litres of water, with over 33,800 litres used in a recent 55-day period alone, equating to an average of more than 600 litres per day. The Farm is now on track to save more than 100,000 litres of mains water over the course of a year, enabling it to significantly expand production, supplying fresh produce to food banks year-round, including during the winter months. The use of naturally soft rainwater has also improved plant health and crop quality.

The project has opened new opportunities for volunteering and education, extending its impact beyond food security to environmental awareness and community wellbeing.

Kirsty Cropper, Farm Manager, Blackburns Farm, said: *"The smart rainwater system has been a real game-changer, providing a sustainable water source for our polytunnel and allowing us to grow even more plants and vegetables. Beyond the polytunnel, it has also been instrumental in watering our sapling trees and lavender plants. Thanks to this system, we are now able to support our local food bank throughout the year, including during the winter months. This expansion is also opening up more opportunities for volunteers and educational groups, creating an even bigger impact on both the farm and our community."*

Rainwater harvesting tanks are positioned at key downpipe interception points around the farm buildings.

In addition to the polytunnel, harvested rainwater is also used for maintaining flower beds and saplings.