

The Human Milk Foundation and the REAMIT Project

Pilot-test start date: September-2021

REAMIT will adapt and apply existing innovative technology to reduce food waste in the supply chains of North West Europe



RESOURCE & MATERIALS EFFICIENCY

We are REAMIT

REAMIT is a transnational territorial cooperation project funded by Interreg North-West Europe (NWE) Programme. The main aim of the project is to help reduce food waste. The project focuses on fruits, vegetables, meat and fish supply chains as these are wasted in large quantities. It is carried out in Ireland, Germany, France, UK and the Netherlands due to the amount of interconnected food supply chains and huge food waste in these countries. The REAMIT project is using existing Internet of Things and Big Data technologies to best fit the needs of the food supply chain management system in the NWE region. Through testing and adaptation, these technologies are being enabled to continuously monitor and record food quality and signal potential food quality issues. Through analytics, owners of 'food to be at risk of becoming waste' are provided with decision support options to minimise food waste including redistribution to nearby customers. As part of the technology demonstrations, the REAMIT project team is working with The Human Milk Foundation (HMF), helping to optimise the quality of donor human milk and maintain cold chain logistics.



Who are the Human Milk Foundation (HMF)?

The HMF is a UK charity (est. 2018) working to create an equitable national service that can support all families facing feeding challenges. The HMF operates the Hearts Milk Bank, which provides 1000s litres of screened donor human milk (DHM) to vulnerable babies in over 50 neonatal intensive care units, as well as where a bridge to a full milk supply is needed or the mother is receiving cancer treatment. REAMIT will improve logistics and produce first-in-world data on donor milk transportation.

REAMIT-HMF collaboration with the University of Bedfordshire (UoB)

REAMIT Lead partner, the University of Bedfordshire, UK is leading on a technology demonstration pilot test with the HMF

The aim of the REAMIT pilot test with the HMF is to develop a system that monitors the temperature at which human milk is transported from a milk donor to human milk bank and then to the hospital or home where a baby that needs the milk is located. The system will generate alerts if these conditions change to save precious human milk from being wasted and to ensure temperature stability.

Challenges of DHM storage and transportation

- The main factor related to human milk wastage are **microbiological contamination**, which means around 10% of donated milk must be discarded currently. Fluctuating or high temperature and humidity levels can impact quality.
- The HMF is keen to accurately **monitor the temperature** during the transportation as they want to ensure that the milk has remained in optimal conditions from the point of expression until fed to a vulnerable infant.
- Unexpected problem with the freezers delay or skip alerts when the temperature raises. This could result in discarding more than 1000 L of human milk.

REAMIT's Solution

- Monitoring services and
- Optimizing the quality control services of human milk banks during transportation, processing and storage.

This REAMIT Pilot test with HMF aims to -

- Monitor temperatures in individual transport boxes when milk is transported between a donor to the Hearts Milk Bank and from the milk bank to hospitals, hubs or recipient homes.
- To send alerts if these conditions change.
- Maintain transportation temperatures at less than -18°C, according to the national NICE guideline for Human Milk Bank Operations
- Reducing the milk transportation costs by optimizing logistics operations.
- Achieve capacity to support 500 journeys per month



The REAMIT and HMF teams come together at the Hearts Milk Bank, Hertfordshire, UK

