Interreg
EUROPEAN UNION
North-West Europe
REAMIT
European Regional Development Fund

Ulster University
Pilot Tests

Pilot Test 1
Clostridium Estertheticum

What is it
Anaerobic spoilage-causing bacteria

Origin
Farmyard / Animal hide

Areas of prevalence
Abattoirs

Spoilage
Produces non-toxic gases which spoil products early

Problems
Can spread easily
Only grows once packaged
Current detection is slow

Pilot Test 1
Clostridium Estertheticum

Trial introduction
Investigate methods of detecting the bacteria

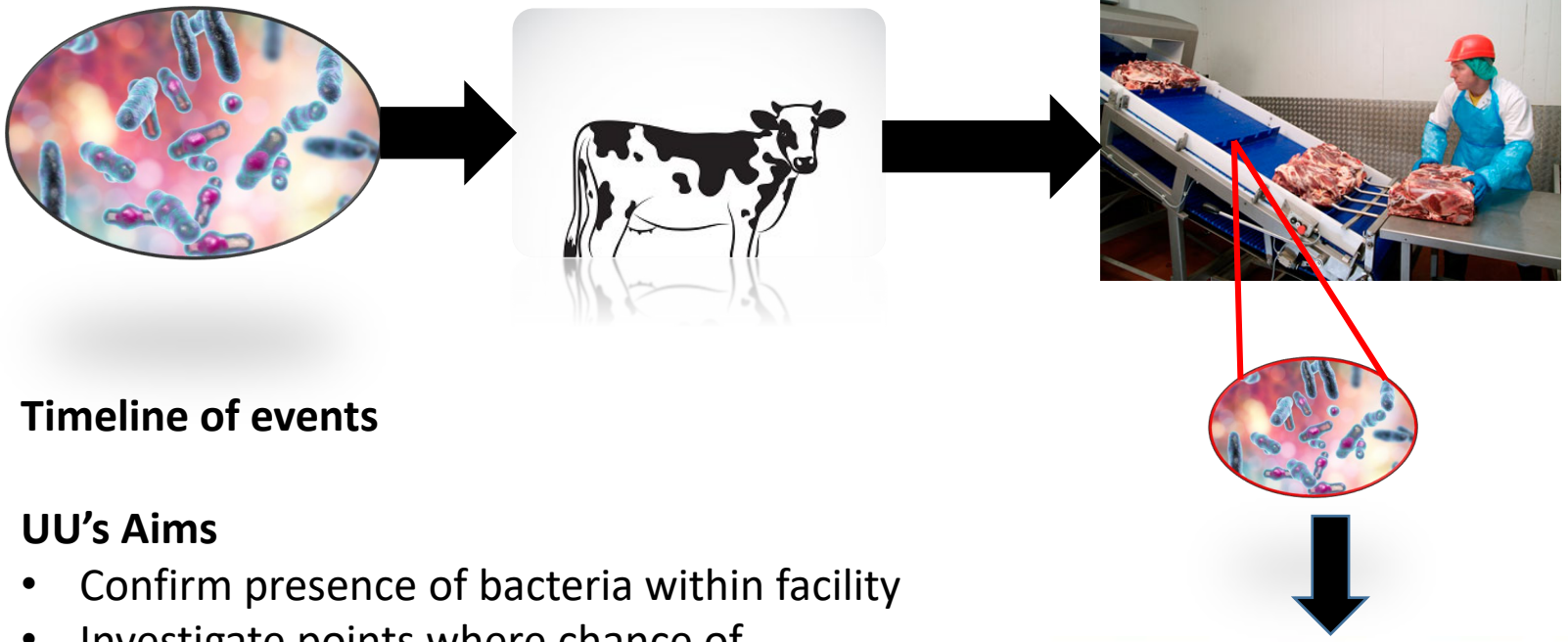
Rationale
This bacteria results in significant amounts of wasted beef globally

Location
Northern Irish abattoir

Metrics to detect
Currently unknown, but PCR will be used initially

Expected outcomes
Faster method of detection allowing for immediate clean up of surfaces when detected
Reduced beef waste in abattoirs, retailers and homes
Increased profit for businesses

Pilot Test 1
Clostridium Estertheticum



Timeline of events

UU's Aims

- Confirm presence of bacteria within facility
- Investigate points where chance of infection is highest
- Investigate a scalable, faster solution of detection

Pilot Test 2
Dry-ageing

Trial introduction
Track quality and weight loss of beef products in dry-ageing chambers

Rationale
Configuration and proximity of beef to fans can result in differences weight and overall quality

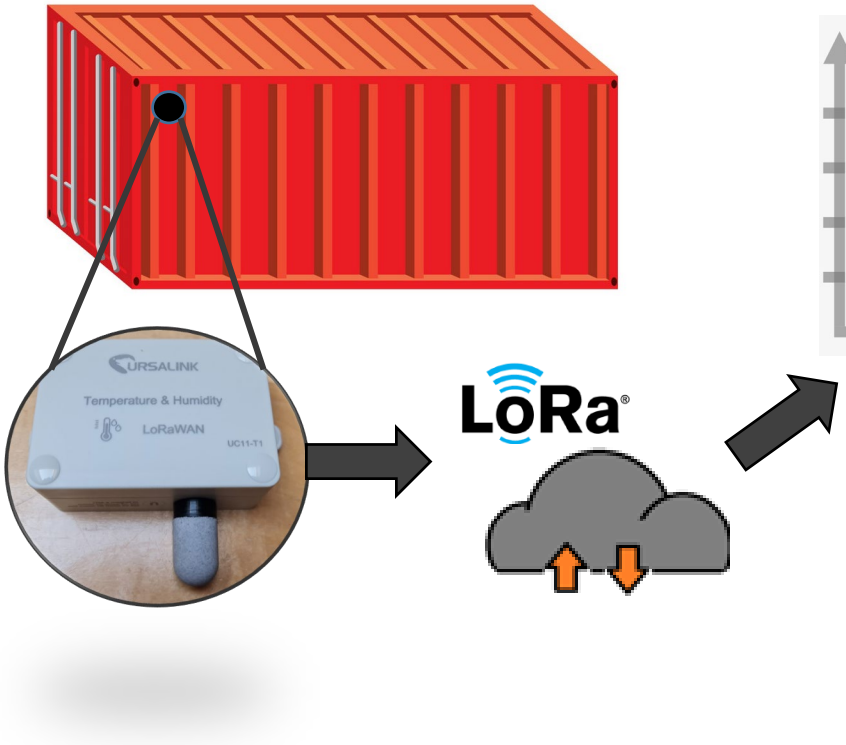
Location
Northern Irish abattoir

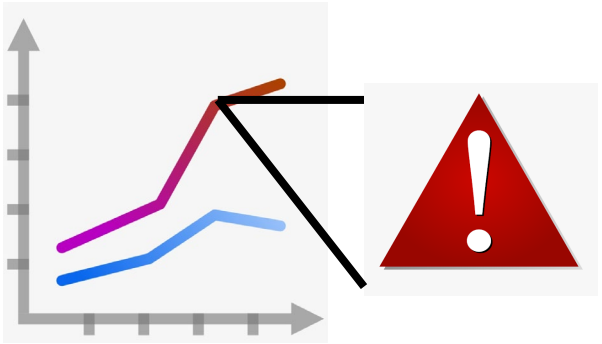
Metrics to detect
- Temperature
- Humidity
- Bacterial count

Expected outcomes
Enhanced configuration of dry-ageing chambers for maximised quality and minimised weight loss

Pilot Test 2
Dry-ageing

Timeline of events





On Alerting

Take intervention to reduce food loss
E.g. moving carcass or restructuring the chamber in future.

Pilot Test 3
3D Fluorescence (3DF)

Trial introduction
Use 3DF technology to reduce food waste

Rationale
3DF sensors can be used to make determinations of total bacterial count on products or liquids

Current progress
Conducting interviews of sensing companies to find an appropriate device