Now

15. ISLOPOL

The consortium

ISLOPOL

Island Loop for Polystyrene Circularity

Logimade

Coordination, sensing and AI technology

Águas e Resíduos da Madeira

EPS collection, sorting and logistics

Esferolight

Industry grade quality inspection and local EPS manufacturing

ARDITI

FIWARE data space, data integration and dashboards



The challenge

EPS Management in Island and Outermost Regions

Madeira combines bulky waste, costly shipping and variable material quality.

EPS - widely used in packaging, food transport, insulation, and other applications.

At end-of-life, it creates practical difficulties:

- Low density and high volume;
- Inefficient storage and transport;
- High transport cost;
- Variable cleanliness and contamination;
- Limited reuse potential without quality assessment.

Island and outermost regions - difficulties amplified by limited local treatment capacity and dependence on maritime logistics.



Value and circularity

A local EPS loop with traceability









Cleaner EPS collection → AI-assisted sorting → **Traceable batches** → **Local transport** → **Second inspection** → New local products

Only accepted material enters production

How the loop creates circular value

Local reuse

Keep suitable EPS in Madeira and replace virgin feedstock.

Affordable deployment

Commodity cameras and edge AI fit existing sorting lines.

Traceable operations

Connect collection, logistics and production in one data space.

Business potential

Local manufacturing is the first market

A repeatable opportunity for other islands and remote regions

Product routes

Lightweight concrete

Main route for shredded recycled EPS, with capacity to absorb recovered material.

Selected insulation boards

Blend recycled EPS with virgin material where product requirements allow.

Retain material value locally

Business potential

1. **Regional material supply**

   Connect waste operators with local manufacturers.

2. **Technology and integration**

   Replicate sensing, traceability and technical support.

3. **Replication beyond Madeira**

   Adapt the loop to other islands and remote regions.



