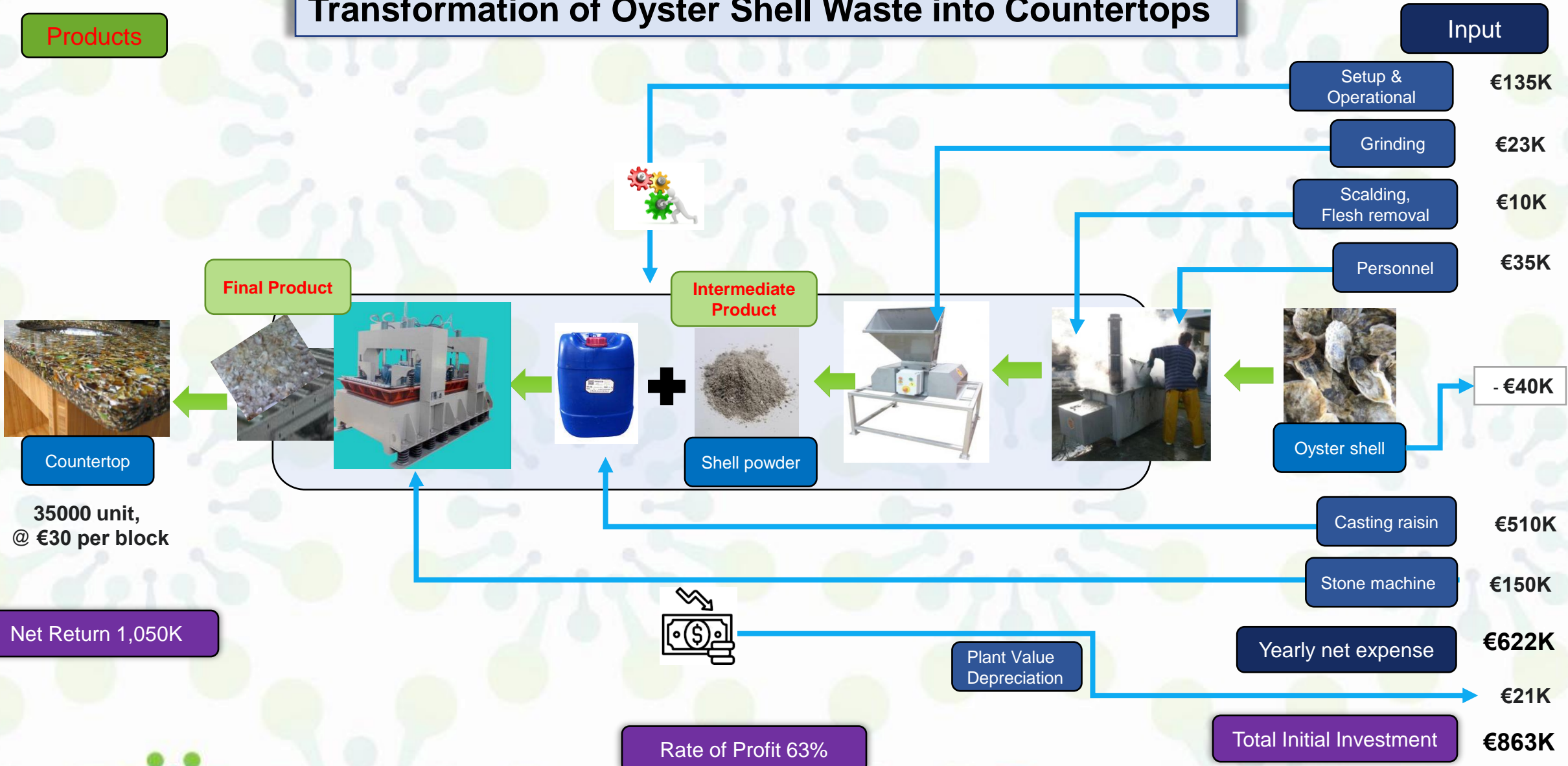


Transformation of Oyster Shell Waste into Countertops





Key partners, activities and resources

Supply

- Oyster shell waste.
- Chemicals (unsaturated polyester resin, coating and colouring agent, electricity, water, labour)

Processing

- Collection of waste and mortality of Oyster farm from Northeast region.
- Hot water washes to remove residual flesh from the oyster shell.
- Grinding of shell into >1 cm coarse powder.
- Casting of shell powder with resin into the solid surface countertop.
- Dispose of flesh material and recycle the wash water.
- Supply the shell powder and countertop to the regional market.

Value propositions



Countertop

- The semi-translucent polyester resin and oyster shell-filled countertop could bring sustainability and elegant product to home furniture, kitchen and bathroom of various sizes and shapes.
- As the coated countertop will be nonporous, it will be fungal and bacterial growth protective with a quick and easy-to-clean countertop solution with a competitive price to the locals.

Oyster shell Powder

- The oyster shell powder could be directly sold in the market as an alternative to mineral calcium oxide source for the Northeast region's farmers and relevant industry.
- Supplement of this shell powder for livestock feed would provide a bone health benefit.
- The shell powder could also be sold as a soil amendment, biofiltration media, and buffering agent for the pond and aquaria sector.

Other social benefits

- Sustainable and high-value application of local environmental nuisance.
- Local value chains boost local prosperity.

Product selling channels and customer segments



Oyster shell Powder

- Oyster shell powder end-user industries are healthcare, feed, cosmetics, and watercourse management, and various industries that use the natural oyster shell for biofiltration.
- Liming or soil amendment is the second biggest application of the shell market.
- Construction industries can also use the shell powder for other aggregates than for countertop
- The fine chemical industries and the pharmaceutical industry have a demand for natural and calcinated oyster shell powder for medical uses and catalytical works, and material synthesis.

Countertop

- The countertop has a growing market in Kitchen, bathroom, decorative furniture and in laboratory benchtop furniture market.
- Due to look, colour variation possibilities and style, the good quality artificial stone will also enter into green concrete market mineral stone applications.



Cost structure

- Chemicals (unsaturated polyester resin, coating and colouring agent, electricity, water, labour)
- Electricity, water and maintenance.
- Staff costs for operations
- Feedstock in and outbound transport to the customer

Investments → depreciations

The plant for cleaning, grinding and artificial stone moulding.



Revenue streams

Solid Surface Countertop

- Annually, 3500 units of one square foot solid surface artificial countertop could be sold into the wholesale market at an attractive price of 30 euros per piece. The annual return would be at least a million euros.

Oyster shell powder

- When market demand arises, the oyster shell powder could be sold in agriculture, animal feed market and environmental and at local industries in the region with a price of one to two euro per/kg based on selling size.

Saving on Disposal Cost

- The proposed project would save an annual seashell disposal cost of 80,000 euros for the Oyster farm SMEs in the Northeast region of Ireland.

Challenges



- High initial investment.
- Competition with similar replacement products in the market.
- Cost of research on high-quality product development.
- A thorough comparison of market product prices and production costs.
- A year-round supply of oyster shell processing waste.
- Maintaining the processing plant to guarantee a steady performance.