

Company

Uluu is replacing plastic with materials that are good for the world. Their products (technically called 'PHAs') act like plastic but are made from seaweed, not fossil fuels. They're strong, lightweight and waterproof, while being truly biodegradable and biocompatible.

Properties

- Scalable, economic, regenerative
- Natural: biodegradable & biocompatible
- Plastic-like: lightweight, excellent barrier properties, durable & recyclable
- Climate positive: decreases organisations' plastic & carbon footprints
- Made with a renewable feedstock: farmed seaweed
- Plug and play with existing plastic manufacturing equipment
- Tunable properties

Applications

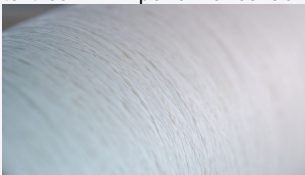
Rigid products

Uluu's injection moulding pellets can be used for rigid products such as packaging, consumer electronics, furniture and car interiors. Their properties can be fine-tuned for customers, and they're easily integrated into existing manufacturing infrastructure.



Fabrics

Uluu's fibre-grade pellets are in development and showing great potential for yarn production via melt spinning. This will provide a ground-breaking alternative to polyester textiles. Think performance fabric, without the microplastics.



Future developments

In addition to rigid products and fabrics, Uluu's materials can also be used to produce films, foams, coatings, 3D printing filaments and much more. The company is open to explore development in these areas with the right partners.



Foundation

- 2021

Turnover

- < US\$1 million/year

Employees

- ~ 15

Key topics

- Innovative materials
- Plastic alternative
- PHAs
- Seaweed feedstock

Key products

- Injection moulding pellets
- Fibre-grade pellets

Feedstock

Uluu materials are naturally produced using saltwater microbes fed with farmed seaweed; a regeneratively-grown feedstock that can be scaled to decouple our materials economy from fossil fuels, all while sequestering carbon and bioremediating our oceans.

Production

Origin

Uluu is made with farmed seaweed and naturally-occurring saltwater microbes. They can be produced with any kind of seaweed, including the handful of species already farmed at scale around the world.

Preparation

First, the seaweed is hydrolysed, a process in which special enzymes are used to break down the seaweed carbohydrates into fermentable sugars. Then the seaweed sugars are fermented with special microbes capable of producing PHAs intra-cellularly.

Extraction and purification

Uluu extracts and purifies PHAs from saltwater microbes using osmotic shock and green chemistry. The method does not need solvents, which often create toxic waste streams and can be very expensive.

Additives

Uluu fine-tunes the properties of its PHA-based materials via modifications during fermentation and compounding. During compounding, Uluu uses mineral or plant-based ingredients such fillers and pigments.

End-of-life

Uluu is currently running the required tests for obtaining TUV Austria certifications for home compostability and marine biodegradability.



CONTACT

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