

# From Fishing Nets to Filament: Chula Innovation Turns Marine Waste into 3D Printing Material

BANGKOK, THAILAND, April 7, 2026 /EINPresswire.com/ -- [Chulalongkorn University](#) researchers have developed a breakthrough recycling technology that transforms discarded fishing nets into [high-value filament](#) for 3D printing, offering a practical solution to marine waste while supporting a circular economy and coastal livelihoods.

The project is led by Dr. Nuttapol Risangud of [the Petroleum and Petrochemical College](#), who was inspired by the growing volume of plastic waste along Thailand's coastlines—particularly abandoned fishing nets, or “ghost nets.” These nets continue to trap marine life long after being discarded and eventually degrade into microplastics that enter the food chain, posing risks to ecosystems and human health.

In Thailand, discarded fishing nets are recycled but rarely turned into high-value products. This innovation converts them into usable engineering material. The research team launched a project to recycle nylon from fishing nets into filament suitable for Fused Deposition Modeling (FDM) 3D printing.

The production process involves several stages: collecting and cleaning the nets, shredding them into flakes, melting and compounding with additives, and finally extruding them into filament with a standard diameter of 1.75 mm. Converting the material into pellets before extrusion allows researchers to better control quality and consistency, addressing the variability of waste sources. The resulting filament can be used in a wide range of applications, from consumer goods to industrial prototyping. The team is particularly exploring its use in automotive components, such as motorcycle parts, which require materials that are both lightweight and durable. Beyond its technical potential, the innovation delivers environmental and socio-economic benefits.



The innovation creates demand for recycled nets, encouraging their collection and reducing marine pollution, while enabling fishing communities to increase their income through value-added processing. However, challenges remain, including maintaining consistent material quality, reducing the water demands of cleaning, and building confidence in recycled materials. The team is addressing these through improved formulations, more efficient processes, and close industry collaboration.

Currently in its early stages, the initiative aims to scale production, test the market, and eventually transfer knowledge to local communities. If successful, it could serve as a model for sustainable innovation—turning ocean waste into economic opportunity while helping restore marine ecosystems.

Read the full article at <https://www.chula.ac.th/en/highlight/291271/>

Chula Communication Center ☐☐☐  
Chulalongkorn University  
[email us here](#)

---

This press release can be viewed online at: <https://www.einpresswire.com/article/904216217>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.