

# Creating value in plastics through digital technology

## Factsheet

Project period:	01.2021 – 09.2022
Country:	Indonesia
Project partners:	<a href="#">cirplus</a> <a href="#">German Institute of Development and Sustainability (IDOS)</a> <a href="#">Plastic Bank</a>
Local partners:	<a href="#">Waste for Change</a>
Contact:	<a href="mailto:contact@prevent-waste.net">contact@prevent-waste.net</a>
More details:	<a href="https://prevent-waste.net/en/pilotprojects/indonesia/">https://prevent-waste.net/en/pilotprojects/indonesia/</a>

The aim of the project “Creating value in plastics through digital technology” was to establish a digital recycling value chain for plastics – from local households to the global market. For this, digital technologies, including a blockchain platform for collection and a global marketplace for marketing the recycled plastics, were adapted to the Indonesian context.

### Project target group:

- Households
- Local waste collectors and waste banks
- Local recycling facilities
- Converters, manufacturers and brand owners interested in recycled materials.

### Solution:

This project addressed the inefficiencies of the Indonesian waste management system caused by its complex and disconnected network of stakeholders. To tackle these challenges, the project applied a systems-thinking approach that helped to enhance the amount of plastic waste segregated, collected and recycled, and to

increase the uptake of recyclates in plastic production.

The project considered the importance of all players in the plastic recycling value chain – from local households to global plastic producers – by providing them with the necessary tools and capacities:



**Digital technologies** – a blockchain app and a global online marketplace – were the glue which connected the different stakeholders and enabled the tracing of material and financial flows by using the Plastic Bank blockchain platform. The project markets the recovered plastic waste on the cirplus global marketplace while introducing a recycling standard and a new plastic category for 100% traceability.

Waste for Change, an Indonesian social enterprise, and the German Institute of Development and Sustainability applied a

**behaviour-centred approach** to design their interventions to promote waste segregation at source, thus contributing to a higher quality of the recyclates at the end of the value chain.

In addition, stable quality of recyclates is ensured by introducing certification of recyclers and **setting standards** for recyclates.

#### Results:

- Development of a quality standard for recyclates (DIN Spec 19446)
- Approx. 900 households received bins and information on waste segregation. 25% of these households started segregating their waste.
- 900 households, 22 waste banks and 2 recyclers were trained on the use of digital tools, which led to an increased use of the app (250 new users) and the introduction of the digital marketplace in Indonesia.

These interventions led to an improved traceability of both material and financial flows.

About 10,000 kg of plastic were collected, treated and are now offered on the marketplace. Additionally, the working conditions of the waste workers were improved by providing insurances, higher salaries and safety equipment.

#### PREVENT Waste Alliance

The PREVENT Waste Alliance serves as a platform for exchange and international cooperation. Organisations from the private sector, academia, civil society and public institutions jointly engage for a circular economy. The PREVENT members contribute to minimising waste, eliminating pollutants and maximising the reutilisation of resources in the economy worldwide. They strive to reduce waste pollution in low- and middle-income countries and work together for the prevention, collection, and recycling of waste, as well as the increased uptake of secondary resources.

This project was selected in a call for innovative and scalable solutions to build a circular economy.

The PREVENT Waste Alliance was launched in 2019 by the German Federal Ministry for Economic Cooperation and Development.



#### Imprint

##### Published by

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH  
PREVENT Waste Alliance  
Friedrich-Ebert-Allee 32 + 36  
53113 Bonn  
Germany

T +49 61 96 79-0  
F +49 61 96 79-11 15

E [info@giz.de](mailto:info@giz.de)  
[contact@prevent-waste.net](mailto:contact@prevent-waste.net)  
I [www.giz.de](http://www.giz.de)

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##### On behalf of

German Federal Ministry for Economic Cooperation and Development (BMZ)  
Environmental policy, urban development, mobility, circular economy, marine conservation  
Bonn, Germany

This project is funded by the PREVENT Waste Alliance, an initiative of the German Federal Government.

More information: [www.prevent-waste.net/en/](http://www.prevent-waste.net/en/)

August 2022