



# Experimental Prototypes for Waste Transformation

DEVELOPMENT OF MATERIALS FROM RECYCLED PLA,  
MDF AND CARDBOARD

## KEY WORDS

PROTOTYPING,  
CIRCULAR ECONOMY,  
RECYCLING

## DESCRIPTION

Valparaíso Makerspace develops experimental prototypes to transform waste from prototyping processes into new reusable materials, including:

- Reusing PLA by transforming it into new shapes using molds or additives
- Designing and building an extruder for the production of recycled filament
- Repurposing MDF and cardboard to manufacture new reusable sheets

## POTENTIAL BENEFITS OR IMPACTS

Promotes circular economy in prototyping processes, reducing waste and enabling technical validation of new sustainable solutions for creative, educational and industrial sectors.

## TECHNOLOGY MATURITY LEVEL (TRL)

TRL 3: experimental proof of concept

## AREA OF APPLICATION

Plastics

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