*PRECIOUS PLASTIC, DAVE HAKKENS, EINDHOVEN, NETHERLANDS*



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| *Picture source http://preciousplastic.com/*  ***GENERAL INFORMATION*** | |  |
| **Project name** | Precious Plastic | |
| **DE type** | Production (DP)  Design (DD) | |
| **Producer/provider** | Dave Hakkens | |
| **Designer** | Dave Hakkens | |
| **Start (year)** | 2013 | |
| **State** | On-going  Concluded | |
| **Project location** | Eindhoven, Netherlands | |
| **Source of information** |  | |
| **Link to videos** | https://www.youtube.com/watch?v=8J7JZcsoHyA | |
| **Main contact** | Dave Hakkens | |
| **E-mail** | hello@preciousplastic.com | |
| **Website** | http://preciousplastic.com/ | |

***SYSTEM CHARACTERISTICS***

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| **SYSTEM CONFIGURATION:** |  |
| **Provider/s (role)** | Dave Hakkens provide the blueprints of the machines and information. He also provide the website for the community to share and exchange ideas. |
| **Customer/s (type)** | Makers |
| **S.PSS CHARACTERISTICS:** |  |
| **Unit of satisfaction** | Free access to blueprint of recycling and manufacturing hardware |
| **Type of S.PSS** | Type I: Product-oriented PSS: adding value to product life cycle |
| **Offered product/s (related producer/s)** | The products are produced in a DIY fashion by the makers |
| **Offered service/s** | Develop the design of the machines, provide information to recycle plastic. Provide design and information to produce various end products |
| **Ownership of the offered product/s** | Open-source |
| **DE access payment** | In-kind contribution |
| **DE system configuration** | Distributed |

***DESCRIPTION***

Precious Plastic is an open-source project which shares the blueprint of developed machines to recycle plastic waste to produce new products. The machines include a plastic shredder, extruder, injection molder and rotation molder. The processes are grinding plastic waste into small plastic chips, melting the plastic and manufacturing new products with it.

There is also an online platform (davehakkens.nl/community/forums) for the community to share and exchange ideas. It is explained in the website as “See it as an online makerspace, an open innovation think tank, a place where you can brainstorm, share suggestions, try out solutions and help innovate.” So everyone can contribute to the design of the recycling machine and designs for producing various final products.

They accept donations as in-kind contribution.

***SUSTAINABLE BENEFITS***

**Environmental Benefits**

*System life optimization: The project recycles the plastic and turn it into new product meaning the produced products can be recycled again at the end of their use/life cycle to produce new products.*

*Transportation/distribution reduction: the project allows local production reducint the transportation and distribution of the products.*

*Resource reduction: The project allows use the plastic waste as resource so it makes a big impact on resource reduction*

*Waste minimization/valorization: The project use plastic waste, recycling them to produce new products.*

*Toxicity reduction: Since the project uses the plastic waste, it helps reducing the plastic waste in the environment as well as reduces the necessity of producing new plastic from fossil fuels reducing toxics in the environment and new toxic production.*

**Socio-ethical Benefits**

*Favor/integrate the weaker and marginalized: The project helps favor the weaker and marginalized enabling them to produce products out of plastic without paying for the resources and making their own DIY recycling and production machines.*

*Empower/enhance local resources: The project helps enabling local distributed production using local waste.*

**Economic Benefits**

*The makers who implements the project can create revenue without a low cost, open-source DIY machine and without paying for the plastic resource. It creates a financial value out of plastic waste.*