

3D Printing from Waste

Pellet Extruder 3D



[mahor·xyz](http://mahor.xyz)



Filosofy



Nature takes advantage

of everything



History of things

<https://www.youtube.com/watch?v=9GorqroigqM>



Do It Yourself



Cradle to cradle

William McDonough & Michael Braungart



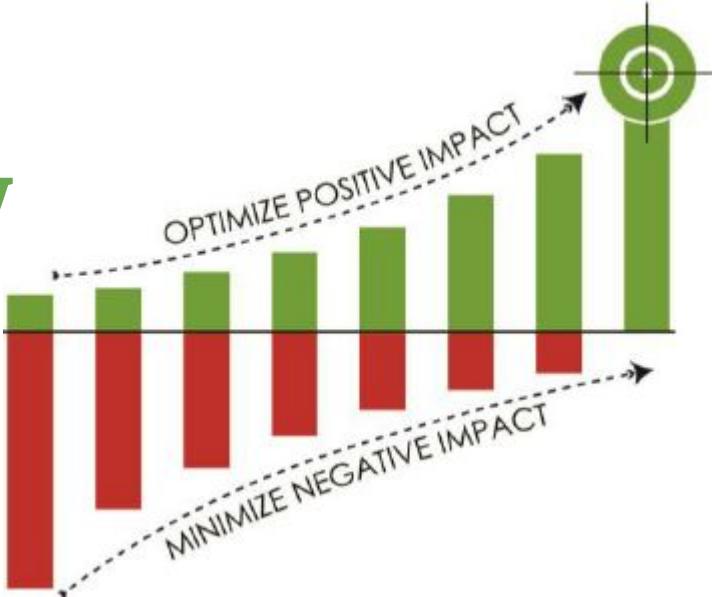
Cradle to cradle

William McDonough & Michael Braungart

Effectively

vs

Efficiently



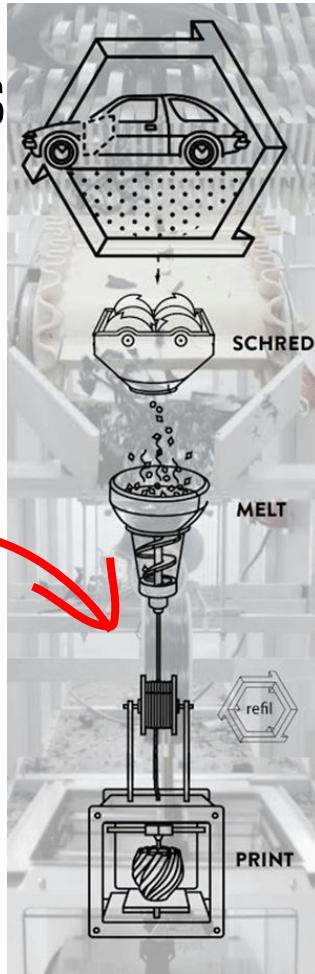
Not less bad
100% good
waste = *food*

Reduce
Reuse
Recycle



PROJECTS

Filament process



Simplify

-COLD

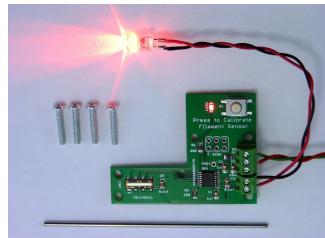
+HOT

-COLD

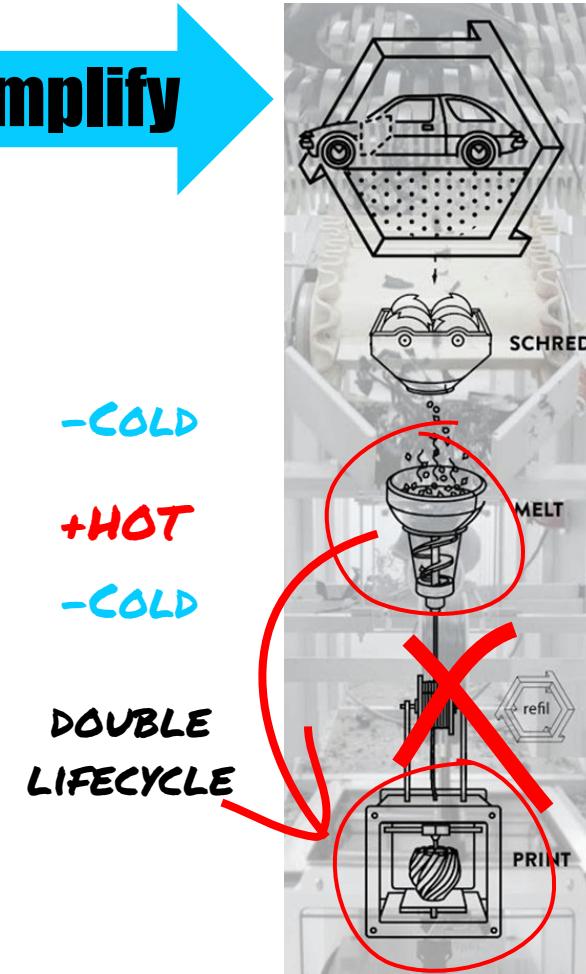
+HOT

-COLD

CONTINUITY?



filament width sensor



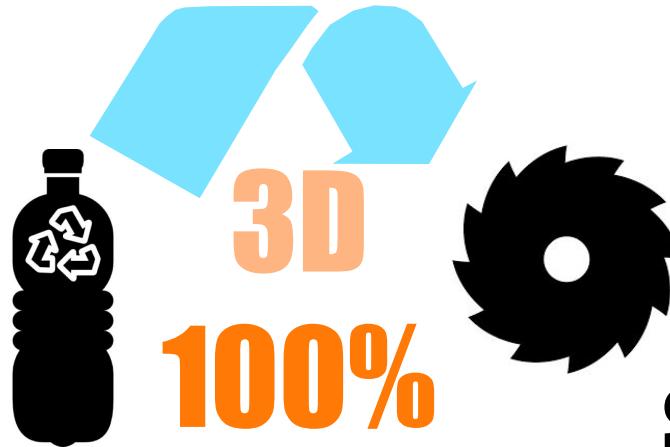
-COLD

+HOT

-COLD

DOUBLE
LIFECYCLE

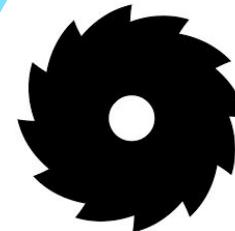
USELESS PLASTIC



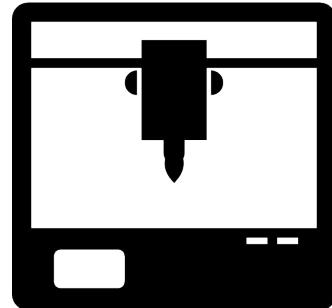
3D

100%

RECYCLED



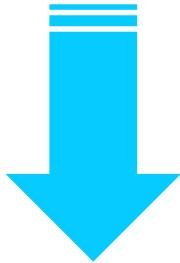
Shredder



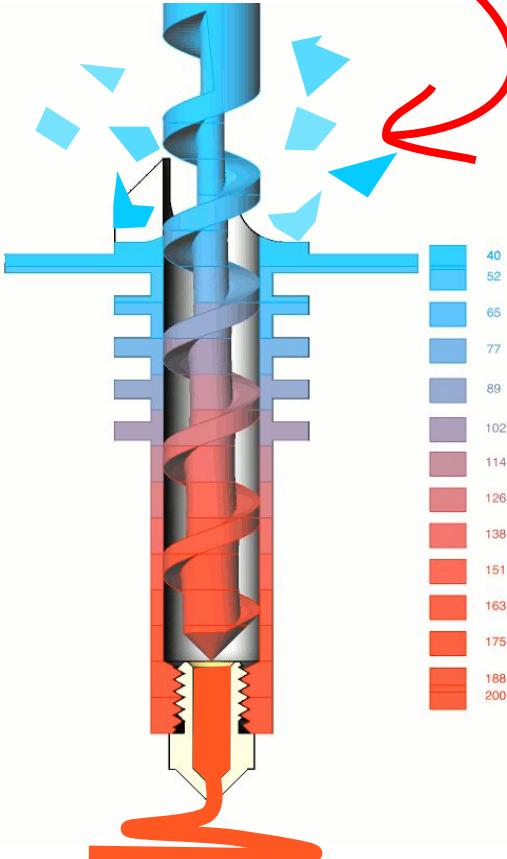
3D Printer

USELESS PLASTICS

Spin screw



*High
compression*



Glass transition
(T_g)

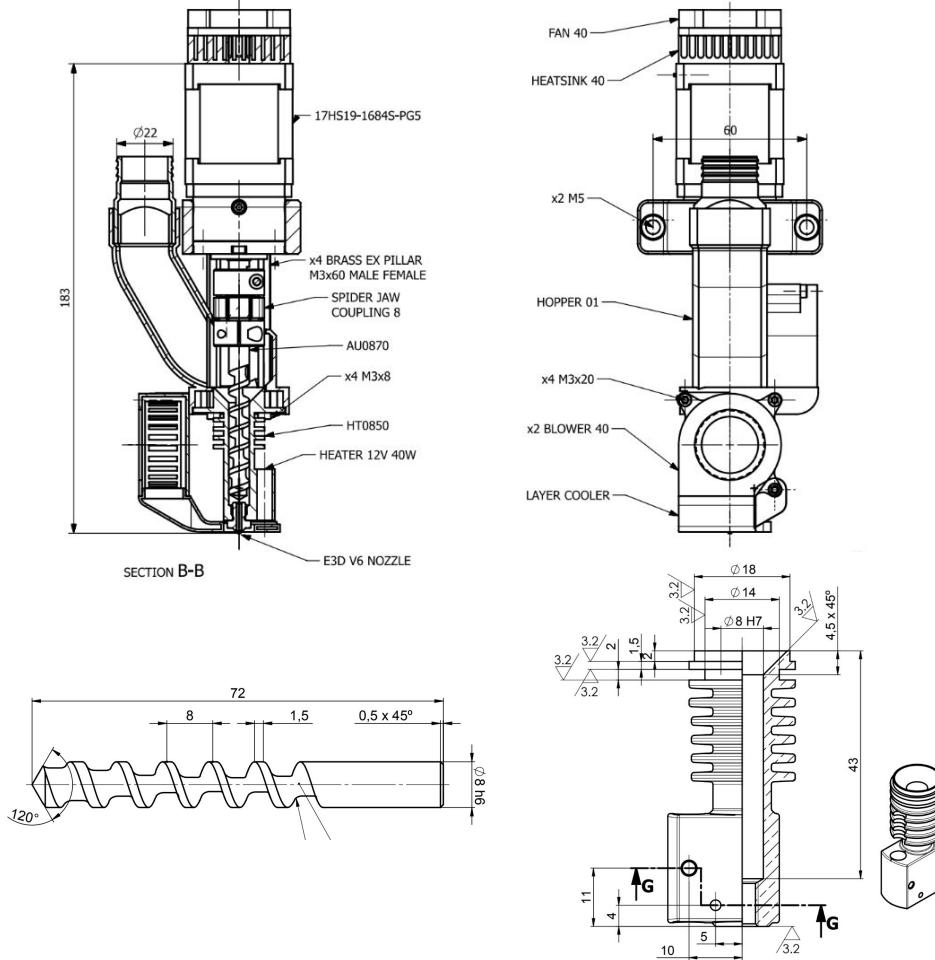
Melt
(T_m)

DIRECT 3D PRINTING

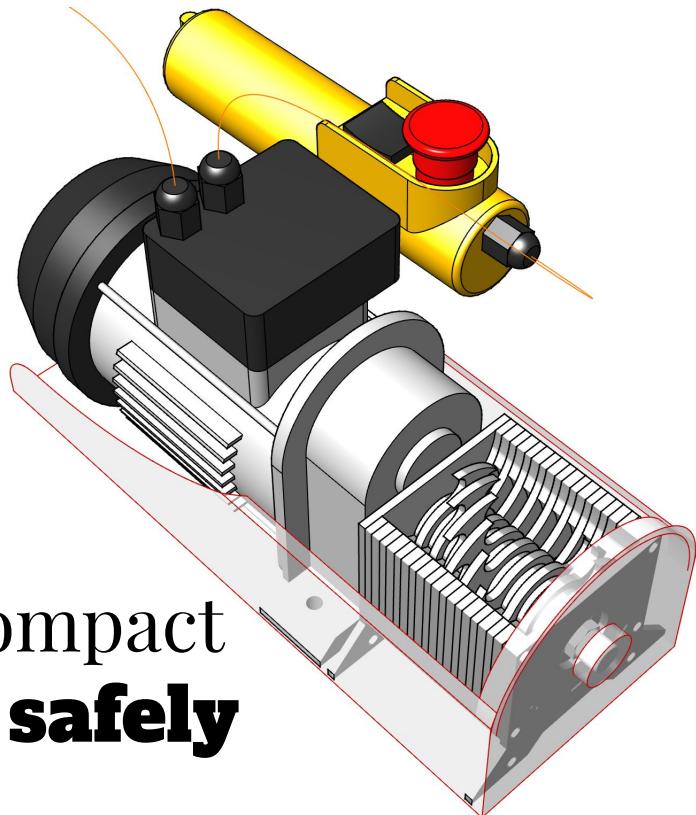
The extruder



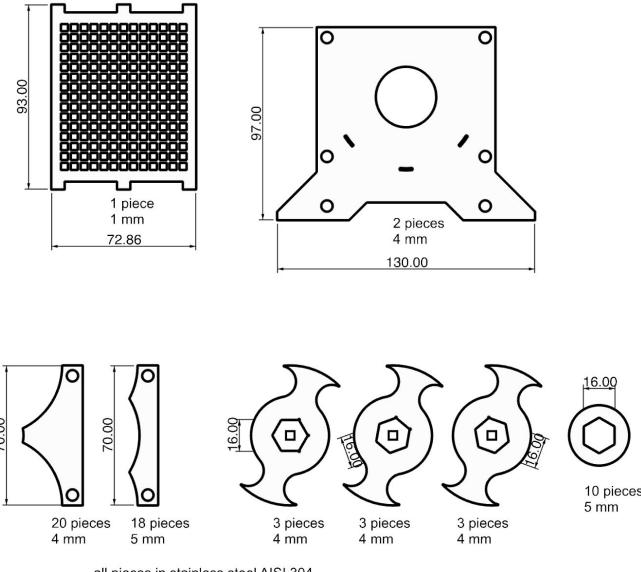
light &
powerful



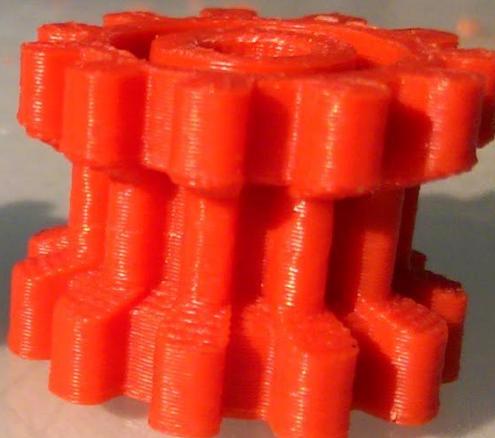
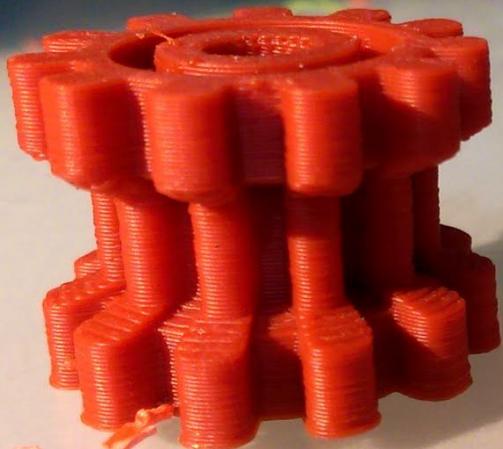
The shredder



compact
& safely



Testing

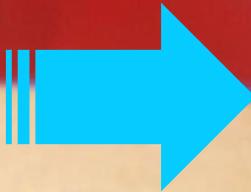


crushed vs filament

Testing



water bottle

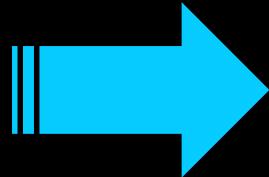


3D printed thing

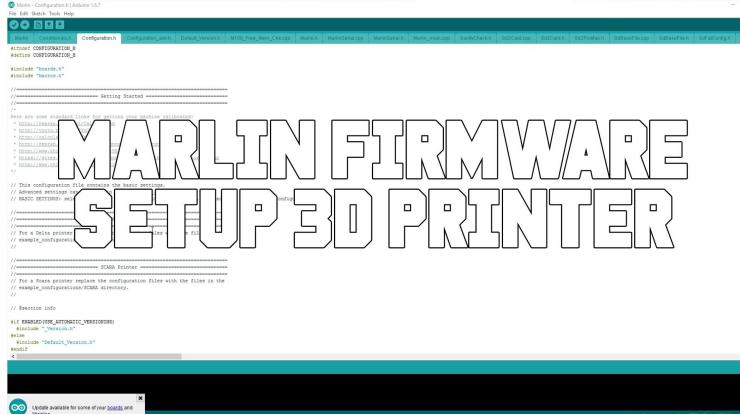
PET bottle cutter



Direct
3D printer



WHAT'S NEXT?



A screenshot of the Arduino IDE interface. The title bar says "Arduino Configuration (Arduino 1.6.7)". The menu bar includes File, Edit, Search, Tools, Help. The main window shows a code editor with the following text:

```
#include "Configuration.h"
#include "Configuration_adv.h"
#include "pins_arduino.h"
#include "Marlin.h"

//-----[Setting Started]-----
// This configuration file contains the basic messages
// Advanced messages can be found in Configuration_adv.h
// BASIC SETTINGS -----
//-----[Setting Ended]-----
// For a Delta printer
//example: #include <Configuration.h>
//-----[SCARA Printer]-----
// For a Scara printer replace the configuration file with the file in the
// example/_configuration directory
//-----[GRBL]-----
// Execution Info
#IF !defined(DRIVER_STEPPER_VENDORS)
#define "DriverStepper"
else
#define "Default_Nuvoton"
#endif
```

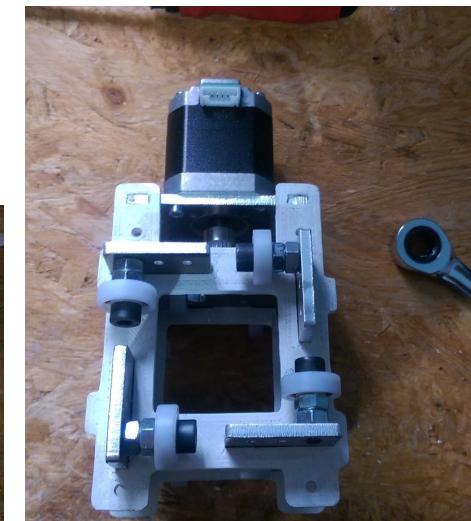
The status bar at the bottom says "Update available for some of your boards" and "100%".

Pressure sensor upgrade
automatic flow rate

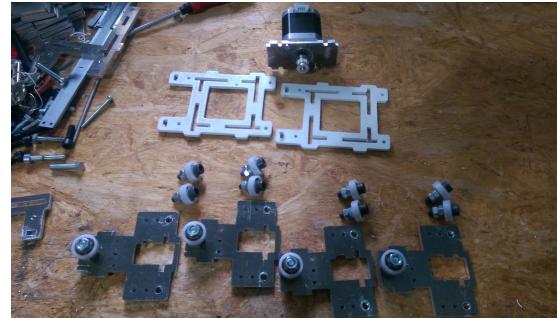


<http://robotshop.com/letsmakerobots/recycling-bin-with-rapid-prototyper>

Big format



40x40 aluminium
profile



Hybrid replication

3D printing
& milling



Molding

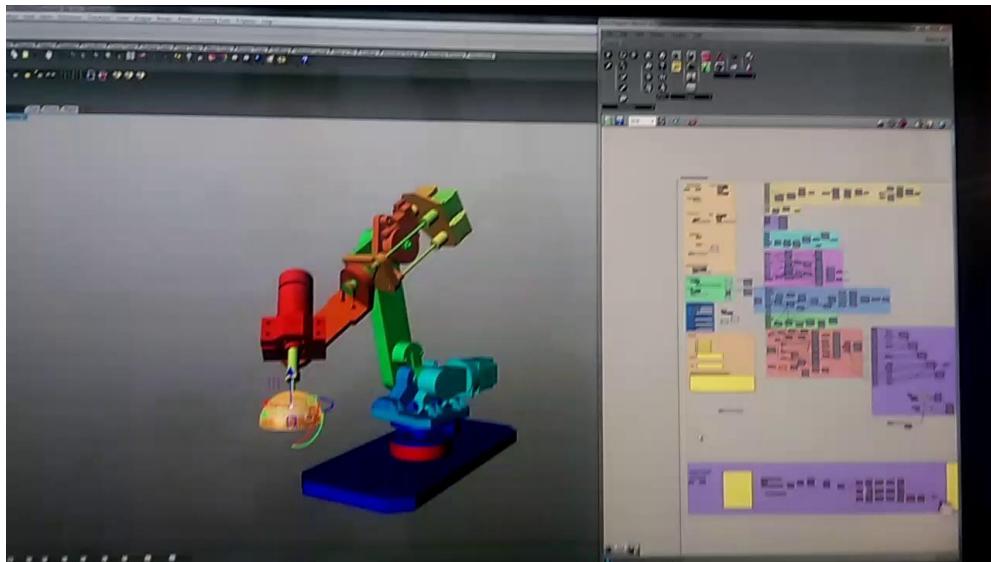


aluminium
mold



Recycled plastics

6 AXIS BOT



recycled car window
winder

