Vulcanus MAX - CoreXY Aluminum Frame 3D Printer Scale UP

by **aldricnegrier** on September 21, 2015

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Intro: Vulcanus MAX - CoreXY Aluminum Frame 3D Printer Scale UP

On May 11, 2015 **vulaman** published the **Vulcanus V1** 3D printer on his instructables channel. Coincidentally reprapalgarve was working on a coreXY project and when we saw Vulcanus V1 we immediately jumped on to the wagon.

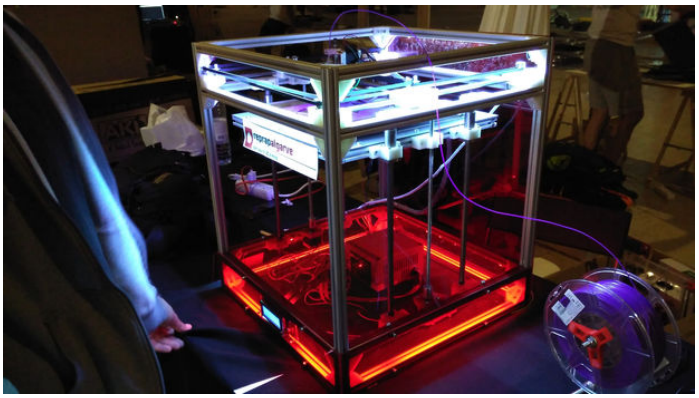
With the experience we had scaling up the Prusa i3 (called Mega Prusa i3) we redesigned the Vulcanus V1 parts in order to allow 32x32x32, 42x42x42 and 52x52x52 (this last version still untested).

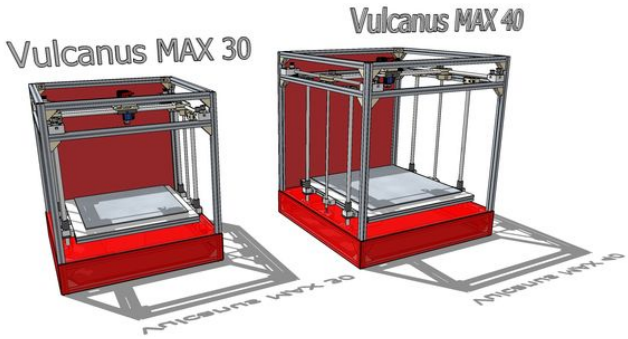
The **Vulcanus Max 30** has a 32x32x32 build volume, E3D V6 lite extruder, auto bed leveling and MK8 Direct Drive system.

The Vulcanus Max 40 has a 42x42x42 build volume, E3D V6 lite extruder, auto bed leveling and MK8 Direct Drive system.

In summary, **Vulcanus Max** is a scaled up version of **Vulcanus V1** with some upgrades, all metal direct drive, auto-bed leveling, LM10UU bearings and LMH12UU Z bearings and colorful acrylic panels.

Have a look at the video of the V MAX in action at the **Maker Faire Lisbon 2015**:





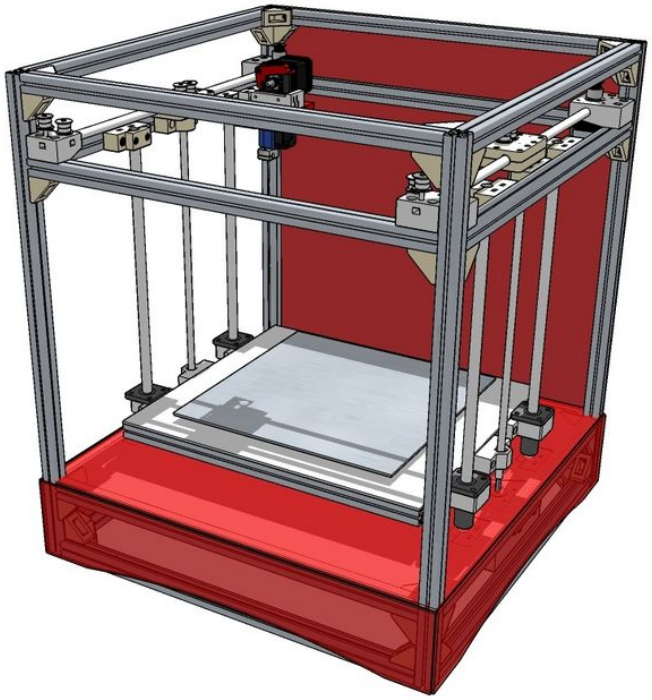
Step 1: Open Design - Vulcanus Max 30 and Vulcanus Max 40

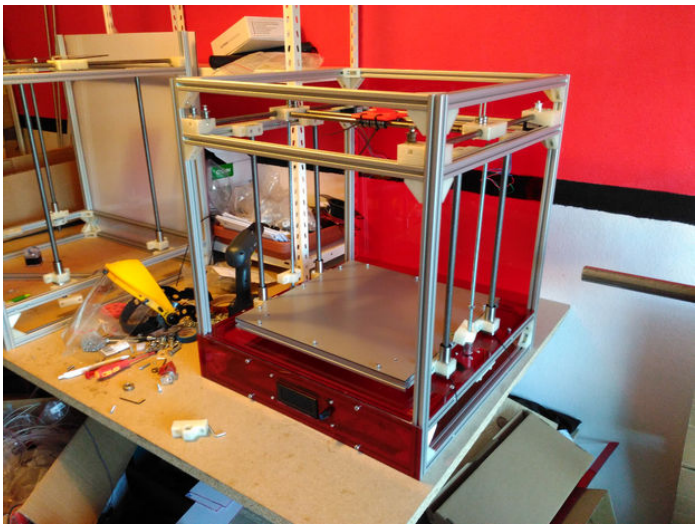
A RepRap 3D printer is always open design so please feel free to download the sketchup file. All dimensions are in 1 to 1 scale.

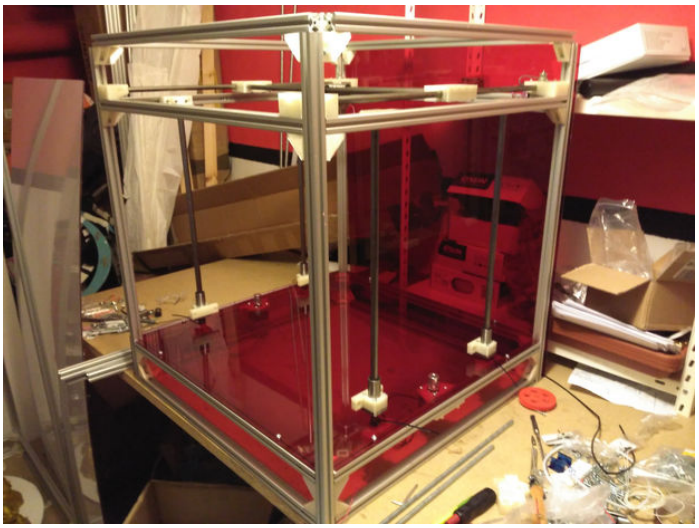
There are 2 versions we have tested, and are working 100%. Vulcanus MAX 30 and Vulcanus MAX 40, we am still working on the Vulcanus MEGA MAX (52x52x150) so keep tuned in.

Use the sketchup for dimensions, and the Vulcanus V1 instructions to guide our way through the build process.

http://www.instructables.com/id/Vulcanus-V1-3D-Printer/







File Downloads

vulcanus_max.skp (25 MB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'vulcanus_max.skp']

Step 2: List of Diferent Parts from Vulcanus V1

Vulcanus Max 30 and 40 are upscale from Vulcanus V1 3D printer, so most of the parts are different:

- Z smooth rods are 12mm instead of 8mm (for rigidity).

- XY smooth rods are 10mm instead of 8mm (for rigidity).

- XY bearings are LM10UU instead of LM8UU.

- Z bearings are LMH12UU instead of LM8UU.

- Extruder is MK8 Direct Drive instead of original Vulcanus V1 extruder.

- All parts where redesigned to allow bigger bearings and bigger rods, with the exception of the corners and the Z motor holders.

- The aluminum print plate is 5mm thick.

- Red acrylic panels instead of metal ones.

- LED strip on top and in the bottom of the second base.

- The V MAX's use inductive sensors for autobed leveling.

- Using repetier firmware instead of Marlin firmware (because i am more used to repetier).

Step 3: XY Axis Parts - CORE XY

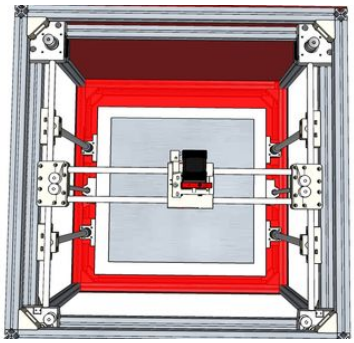
The original parts where redesigned to fit 10mm smooth rods and LM10UU bearings.

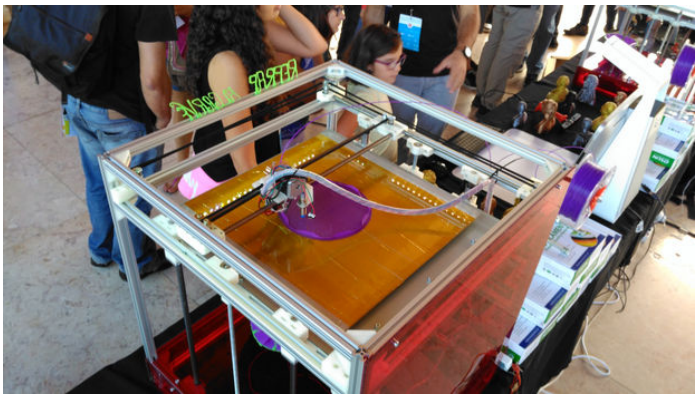
You will need 2 Yidlers parts, 1 normal 1 mirrored:

You will need 2 Ymotors parts, 1 normal 1 mirrored:

You will need 2 Xdown parts, 1 normal 1 mirrored:

You will need 2 Xup parts, 1 normal 1 mirrored:





Step 4: Z Axis Parts

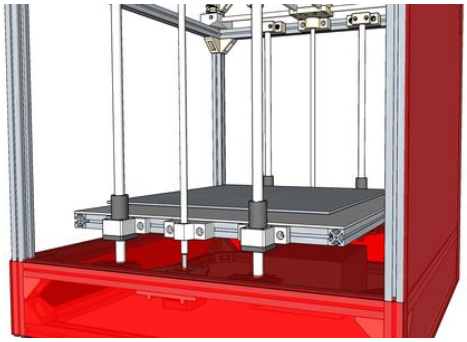
The original parts where redesigned to fit 12mm smooth rods and LMH12UU bearings.

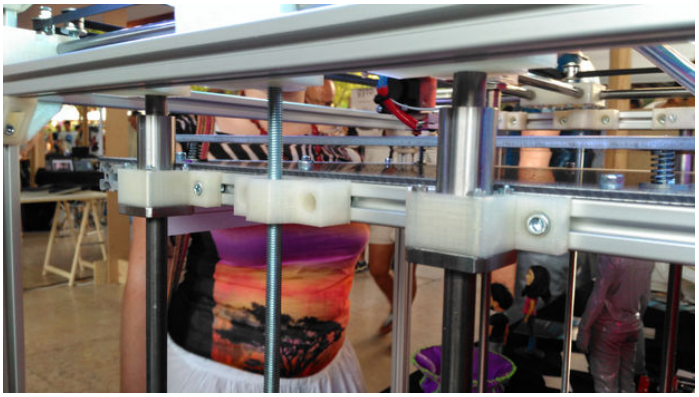
You will need 4 Z Axis Bearing holders parts:

You will need 2 Z bearing holders parts:

You will need 2 Z M8 Nuts parts:

You will need 2 Z motor parts:





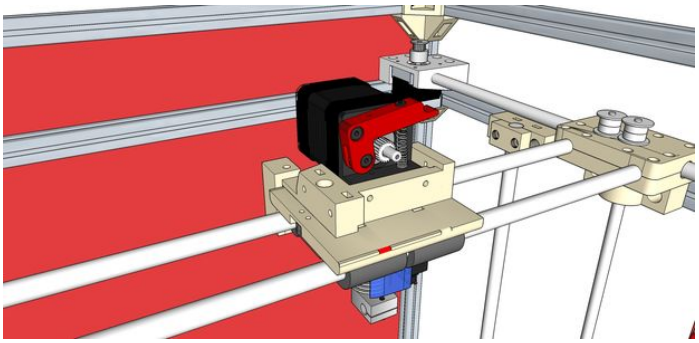
Step 5: XY Carridge and MK8 Extruder Mount

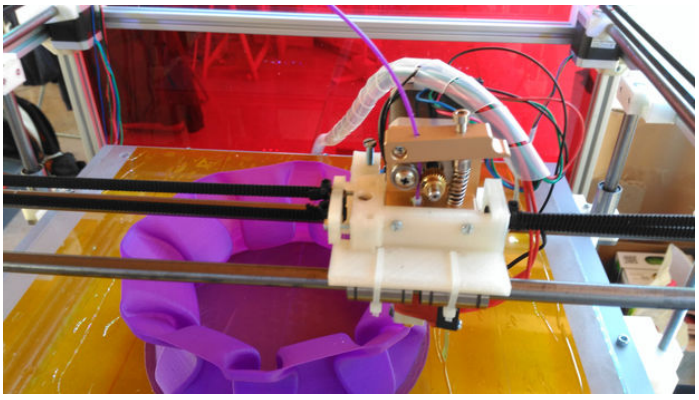
The XY Carridge was redesigned to allow the fitting of an MK8 direct drive extruder and an E3D V6 lite extruder. In addition it can fit a inductive sensor for auto bed leveling.

You will need 1 XY Carridge:

You will need 1 VulcanusDirectDriveMk8:

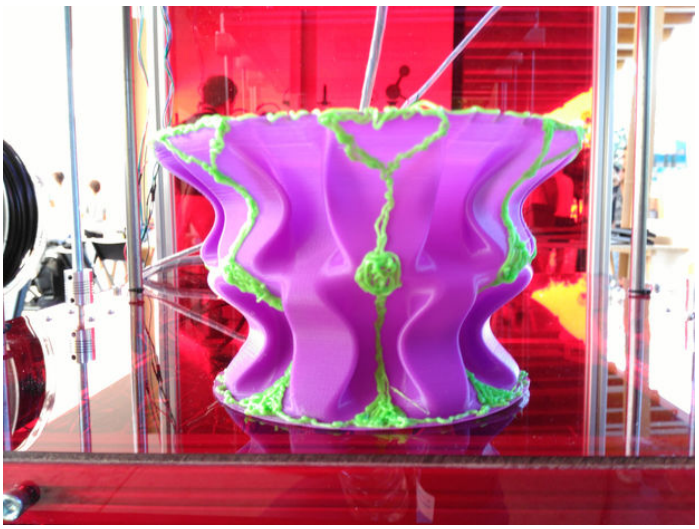
You will need 1 Inductive sensor holder:

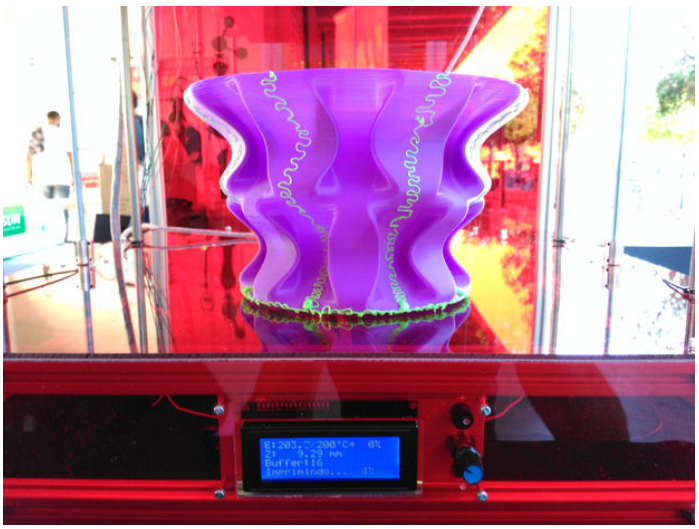


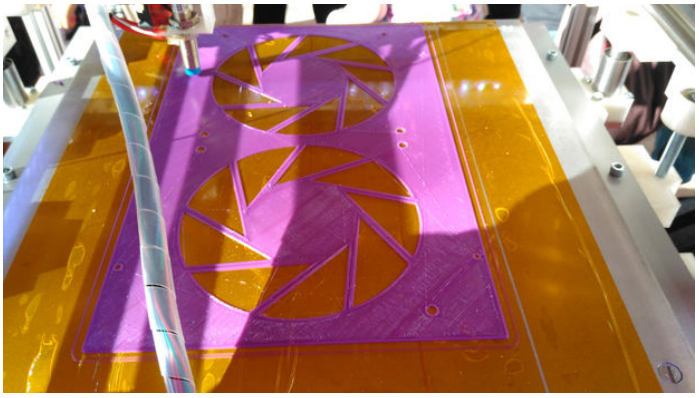


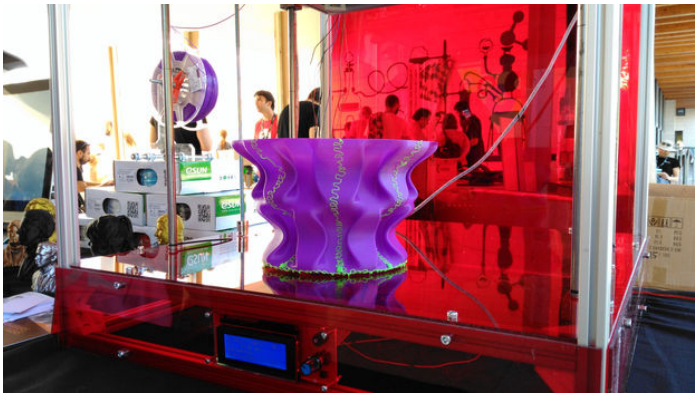
Step 6: Some 3d Printed parts

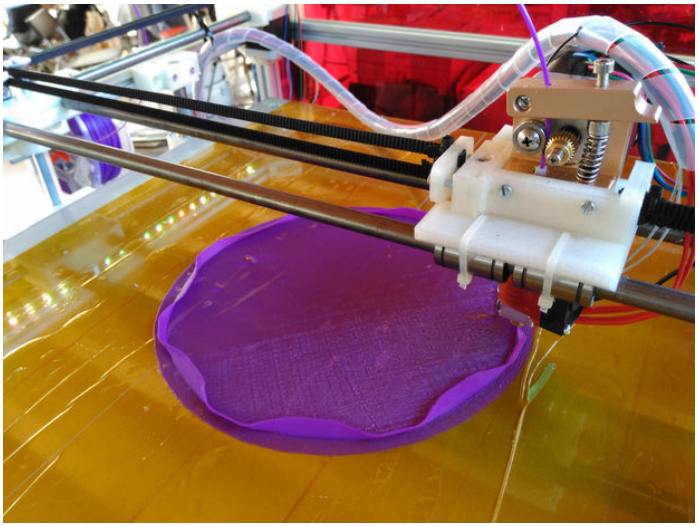
Here are some photos of the first prints. More to come soon.

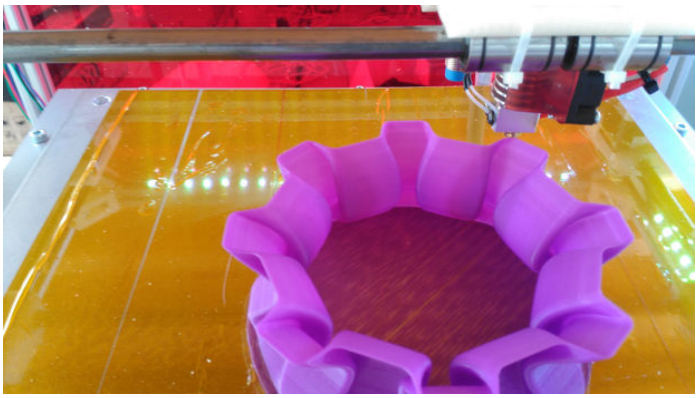


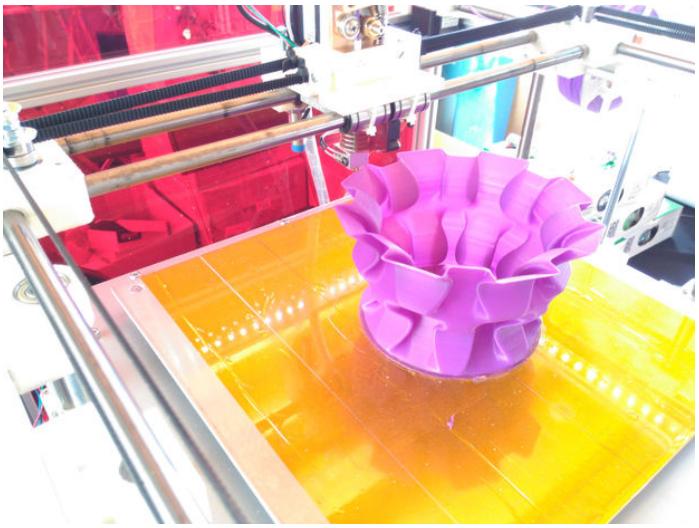










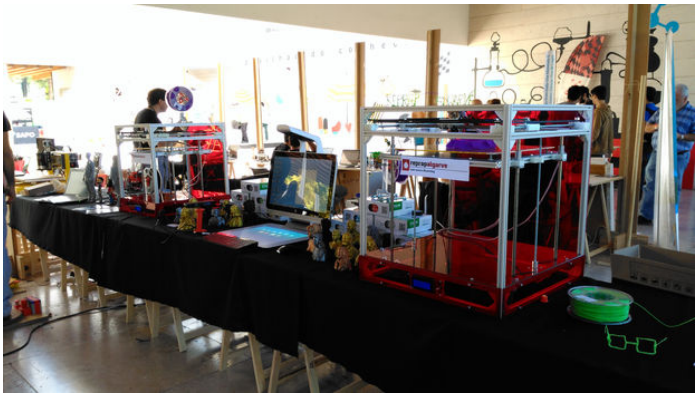


Step 7: Vulcanus Max 30 and MAX40 at the Lisbon Maker Faire 2015

The Vulanus Max 30 and 40 where at the Lisbon Maker Faire 2015, the feedback was very positive, at the evening the LED's where a jaw dropper.

We finish off this instructable thanking all reprap community and a special thanks to vulcaman for publishing the Vulcanus V1.


reprapalgarve

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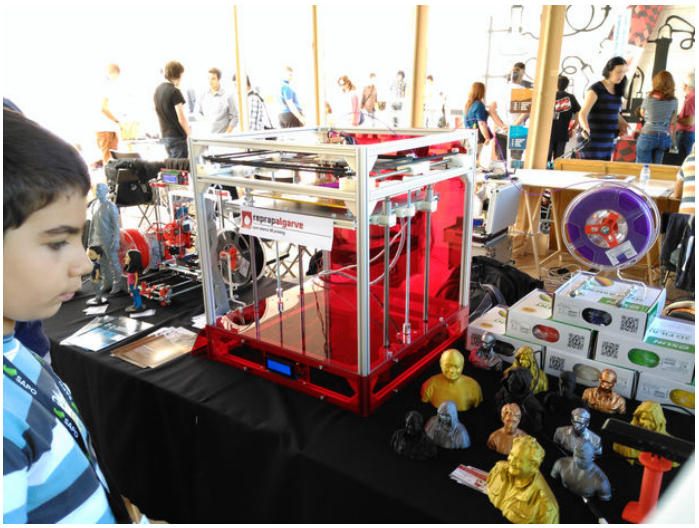
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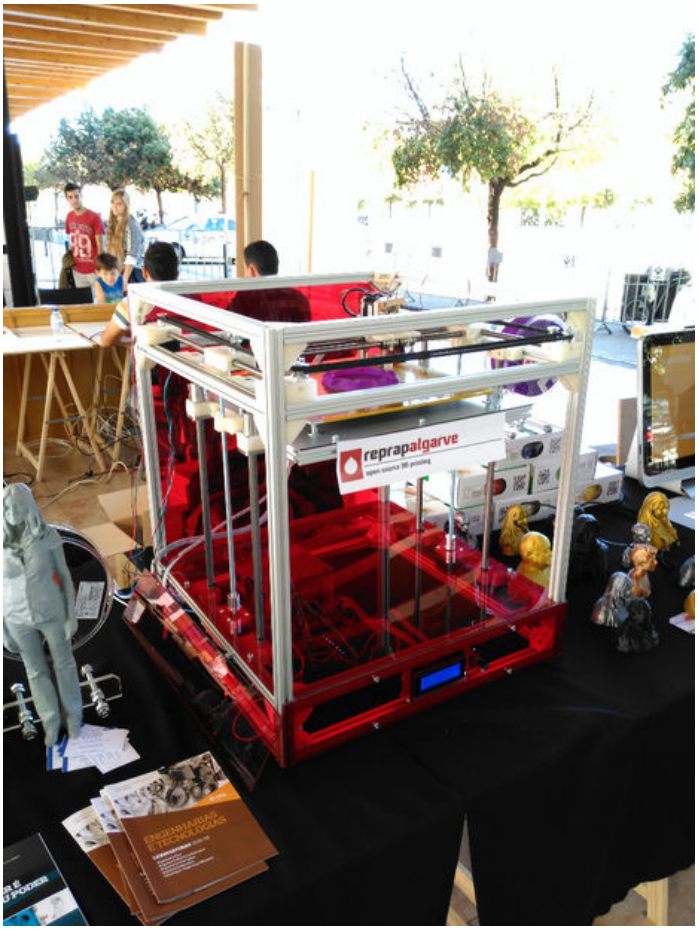
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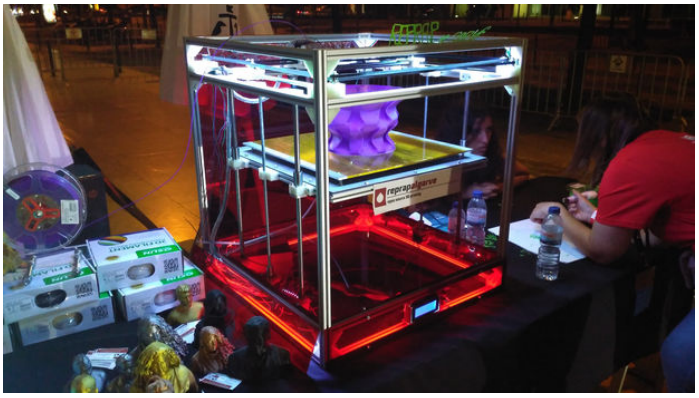

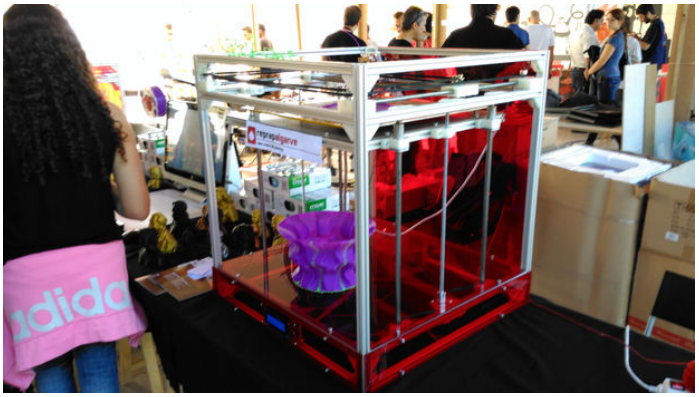

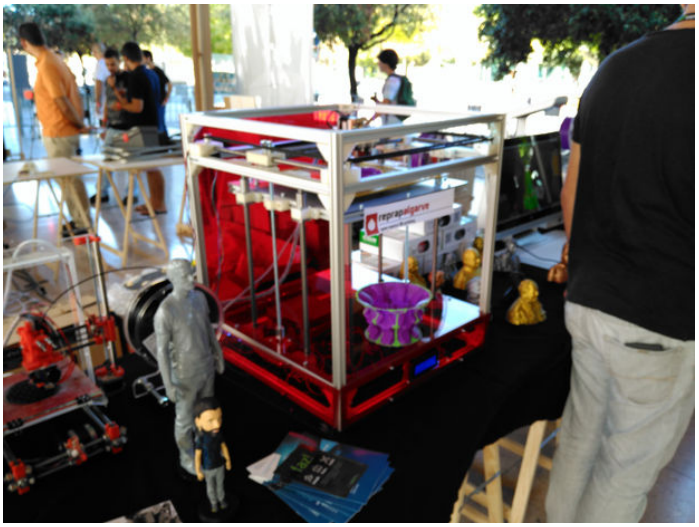


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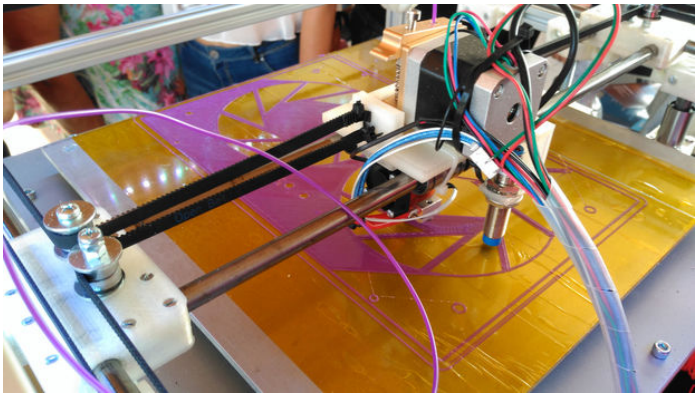

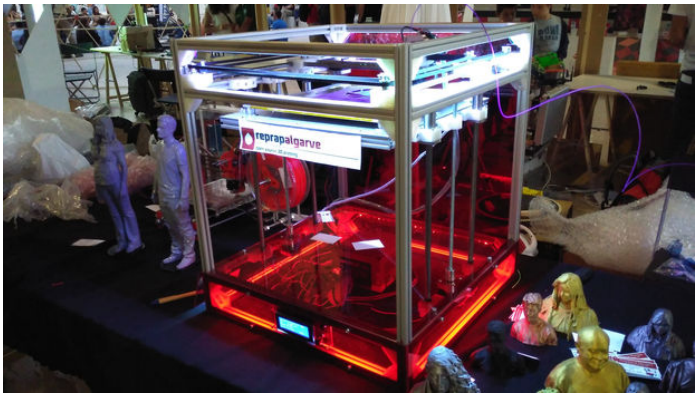
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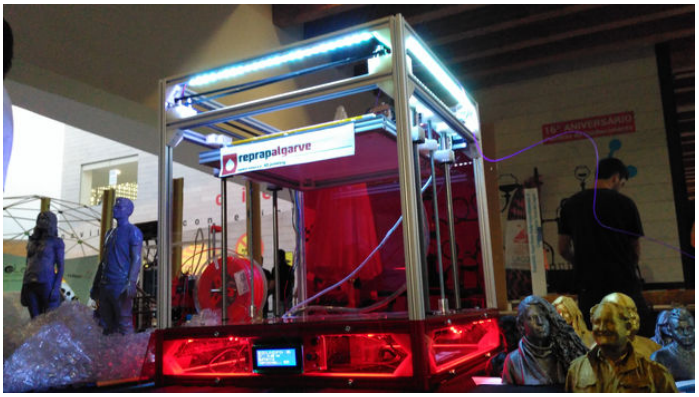
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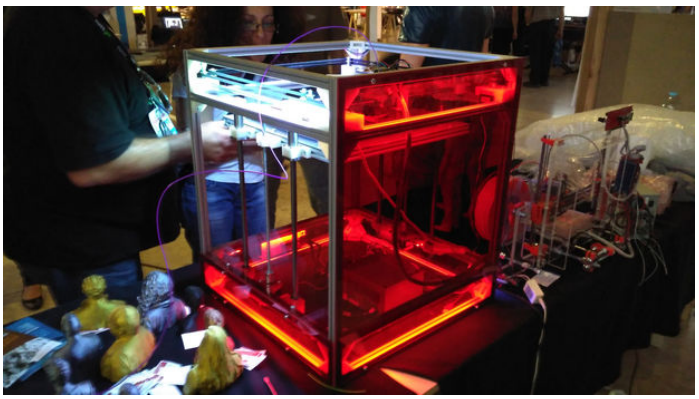
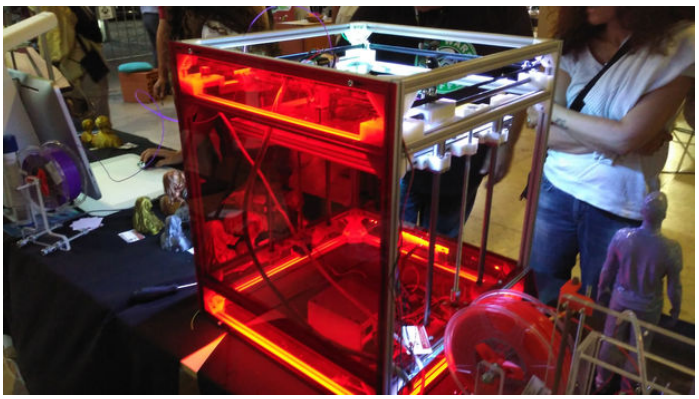
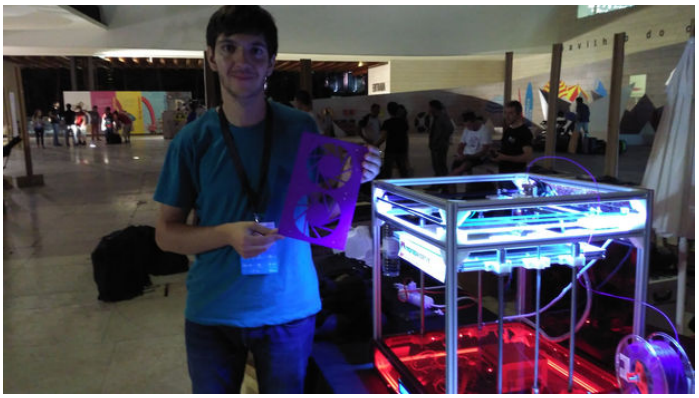




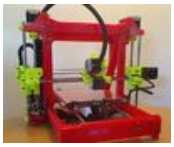


Related Instructables

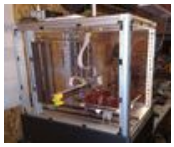
Vulcanus V1 Reprap 3D-Printer 300€ by Vulcaman

A Simple CoreXY by Ufactory

How to Create a Large 3D Printer using a Smaller 3D Printer - "Project Locus" by redhatman



Long Bed Printed 3d Printer by dmserve



An Almost Reliable, High Precision, 3D Printer: Son of MegaMax (SoM) by Mark Rehorst

3D Printed Bobblehead - High Resolution Full Body Scanned and Hand Painted by luiscarlosrsousa

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