

Sistemas de Representação Digital

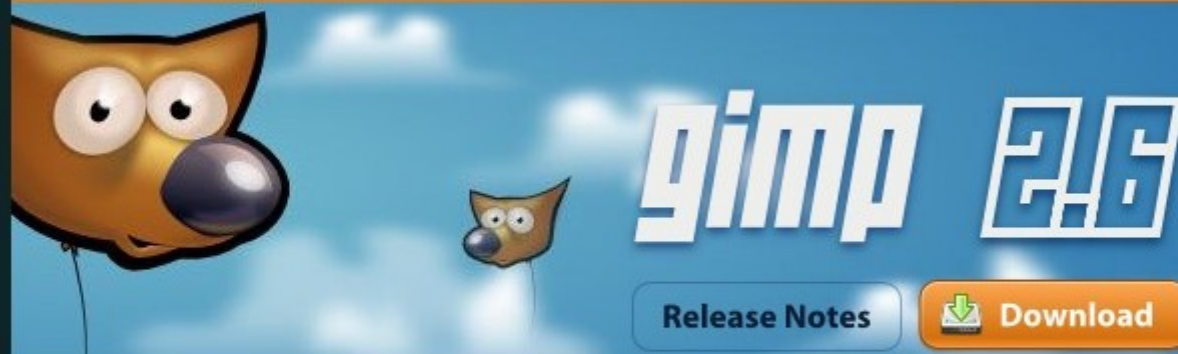
Introdução ao Software e Hardware

Arq. Victor Ferreira, Prof. Auxiliar

Edição de Imagem, Pintura e Ilustração

Pixel/Raster

- Affinity Photo <https://affinity.serif.com/en-us/photo/>
- Gimp <https://www.gimp.org/>
- Adobe Photoshop <https://www.adobe.com/br/products/photoshop.html>
- Corel Photo-Paint <https://www.coreldraw.com/en/pages/photo-paint/>



[Release Notes](#)

 [Download](#)

GIMP is the GNU Image Manipulation Program. It is a freely distributed piece of software for such tasks as [photo retouching](#), image composition and [image authoring](#). It works on many operating systems, in many languages. ([more...](#))

- [News](#)
- [Screenshots](#)
- [Features](#)
- [Downloads](#)
- [Documentation](#)
- [Get Involved](#)
- [Plug-in Registry](#)
- [GIMP Development](#)

[Make a Donation](#)

This is the official GIMP web site. It contains information about downloading, installing, using, and enhancing it. This site also serves as a distribution point for the latest releases. We try to provide as much information about the GIMP community and related projects as possible. Hopefully you will find what you need here. Grab a properly chilled beverage and enjoy.

GIMP 2.6.11 RELEASED

2010-10-04



GIMP 2.6.11 is a bug-fix release in the stable GIMP 2.6 series. Among other bug-fixes, it makes printing work with the recently released [version 1.10 of the cairo library](#). Please have a look at the [NEWS](#) file for a detailed list of changes.

The source can be downloaded from ftp.gimp.org. Binary packages for various supported platforms should become available soon; please check the [Downloads](#) section.

GIMP 2.6.10 RELEASED

2010-07-08

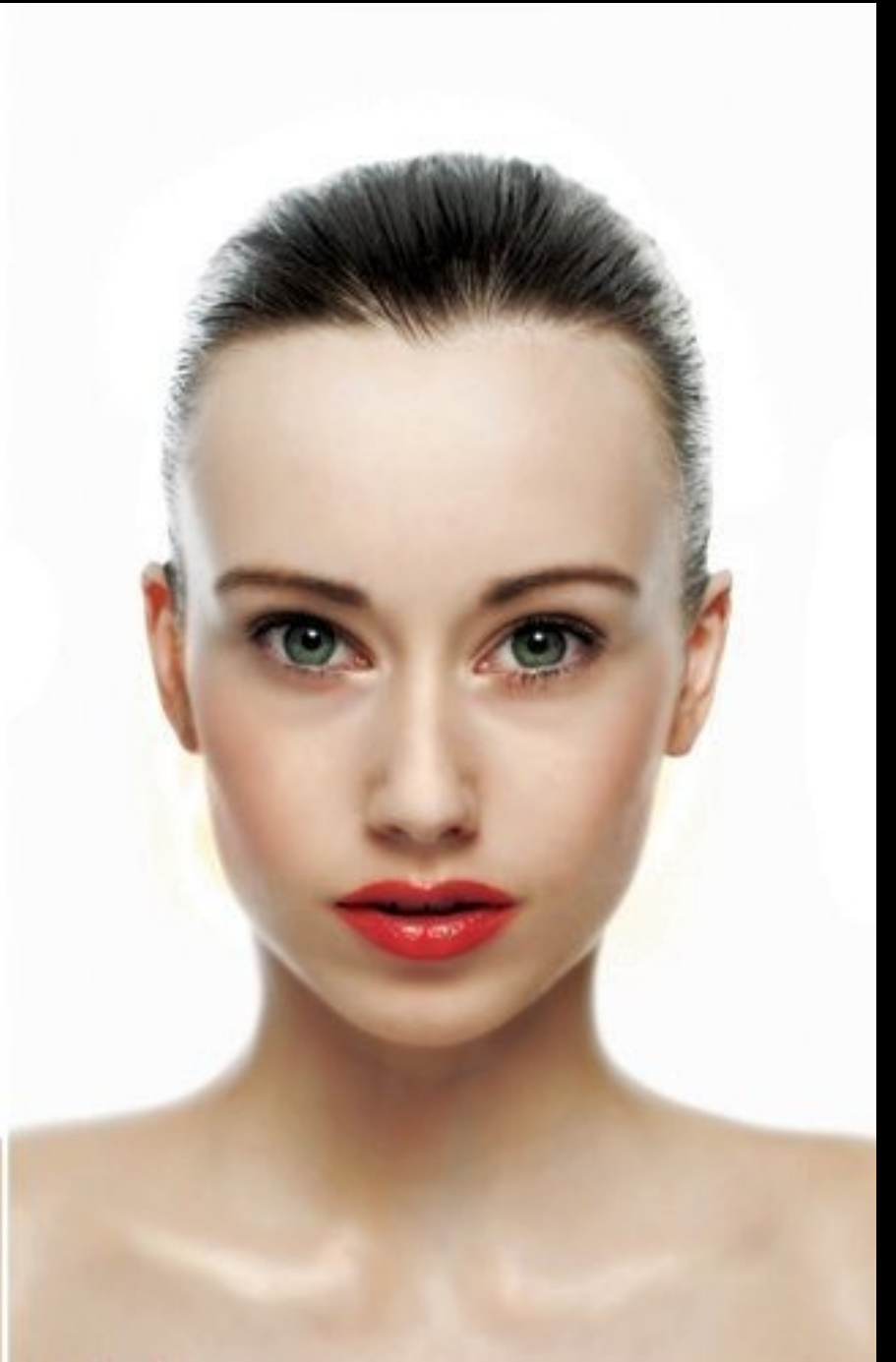












Pop.
Candy

RETRO
STYLE

Style

PSD

EARTH

"The earth is but one country, and mankind its citizens." Baha'i Writings

Vector

- **Affinity Designer** <https://affinity.serif.com/en-us/designer/>
- **Inkscape** <http://inkscape.org/en/>
- **Adobe Illustrator** <http://www.adobe.com/products/illustrator/>
- **Corel Draw** <http://www.corel.com/>

Ilustração vectorial – Adobe Illustrator



Ilustração vectorial – Inkscape (open source)

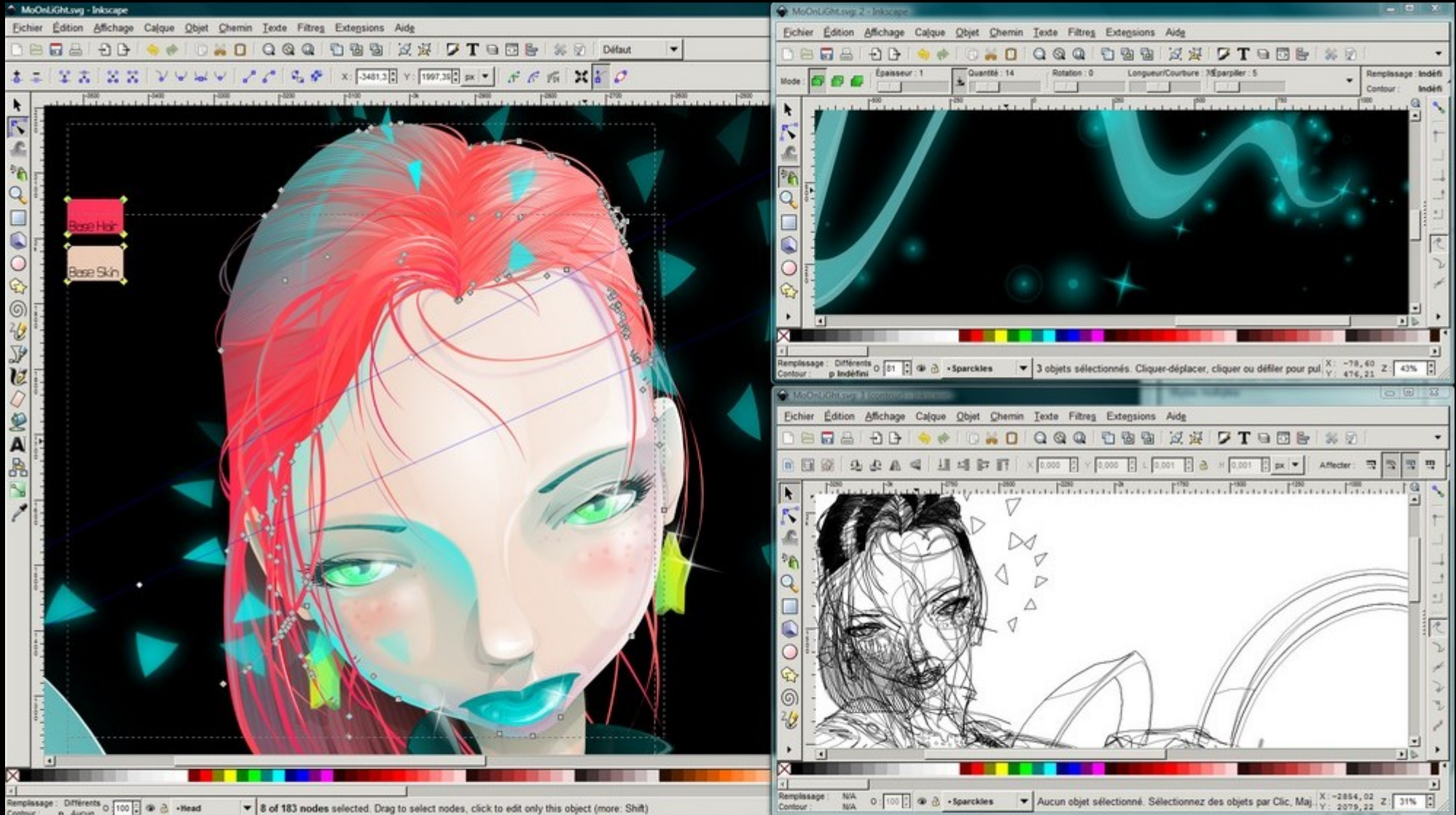


Ilustração vectorial – Inkscape (open source)

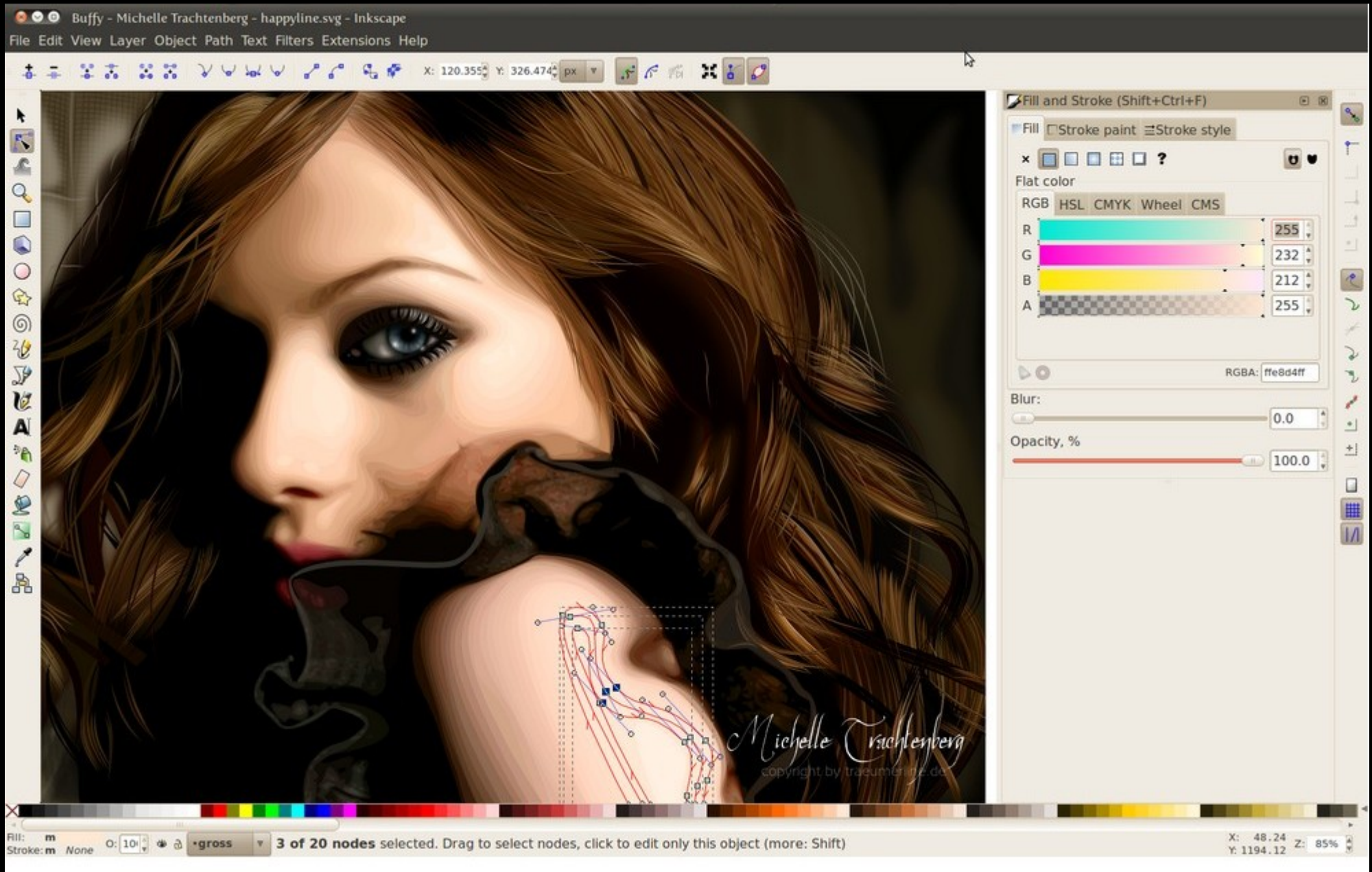


Ilustração vectorial – Inkscape (open source)

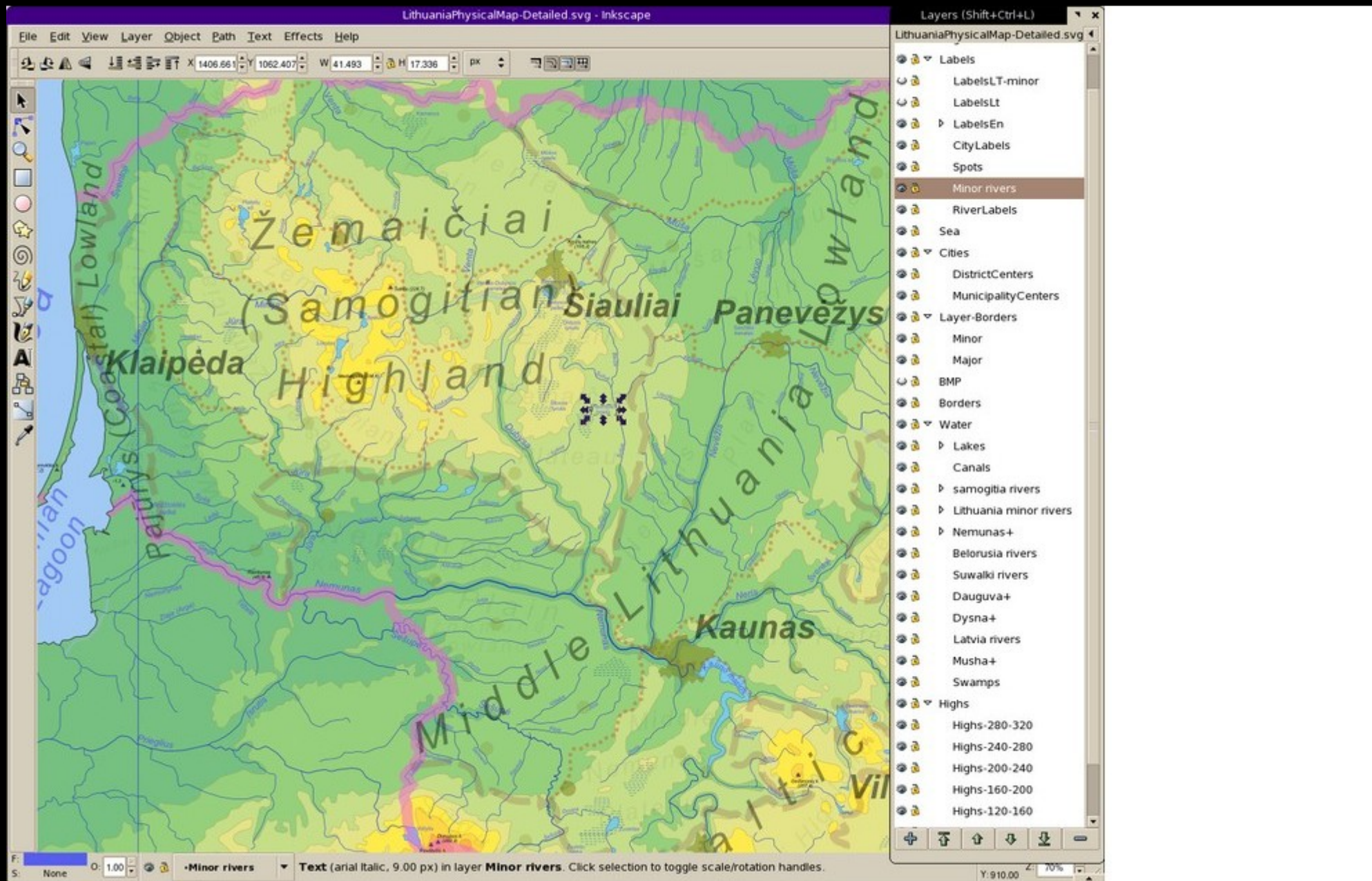


Ilustração vectorial – Inkscape (open source)

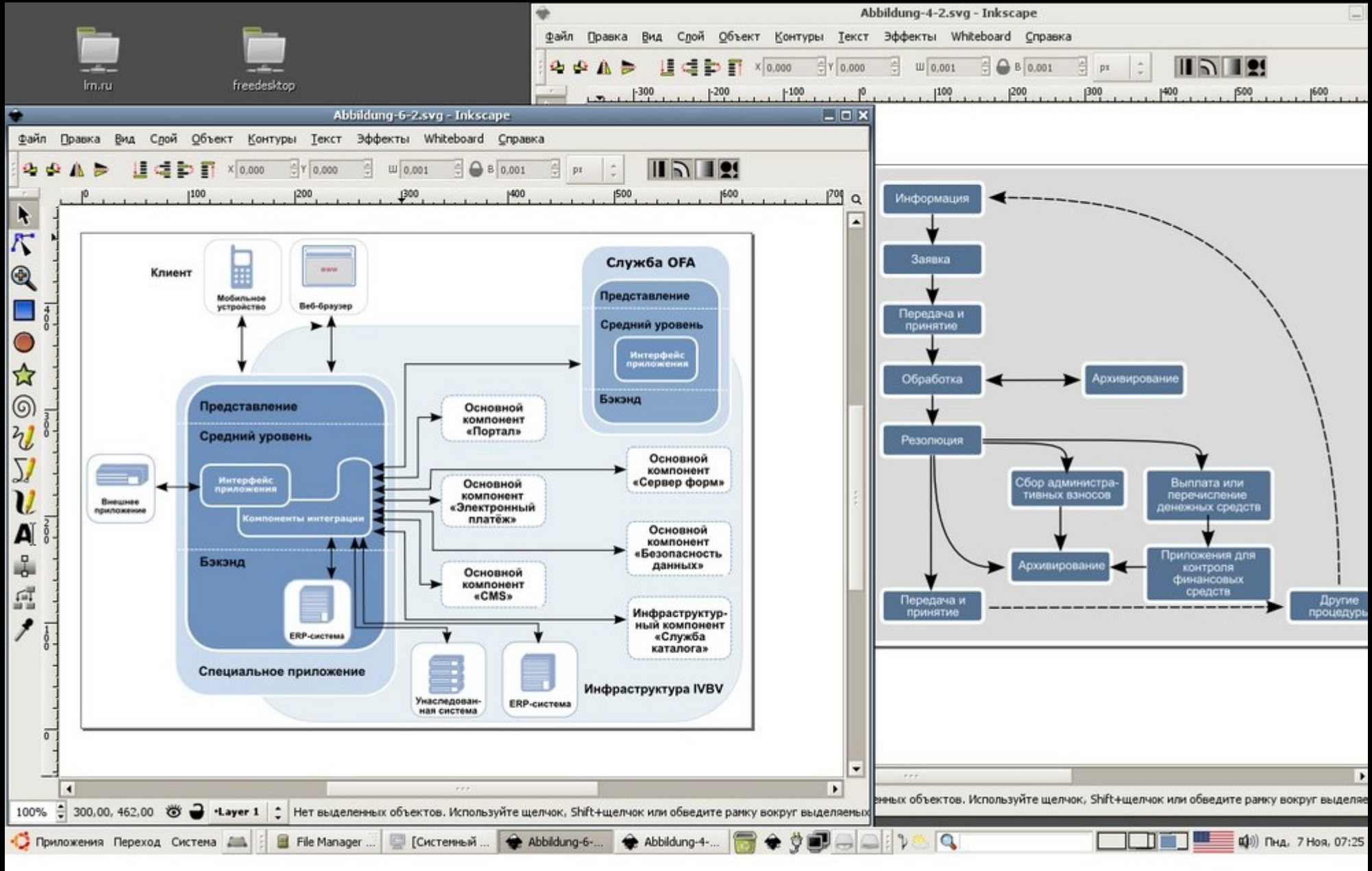
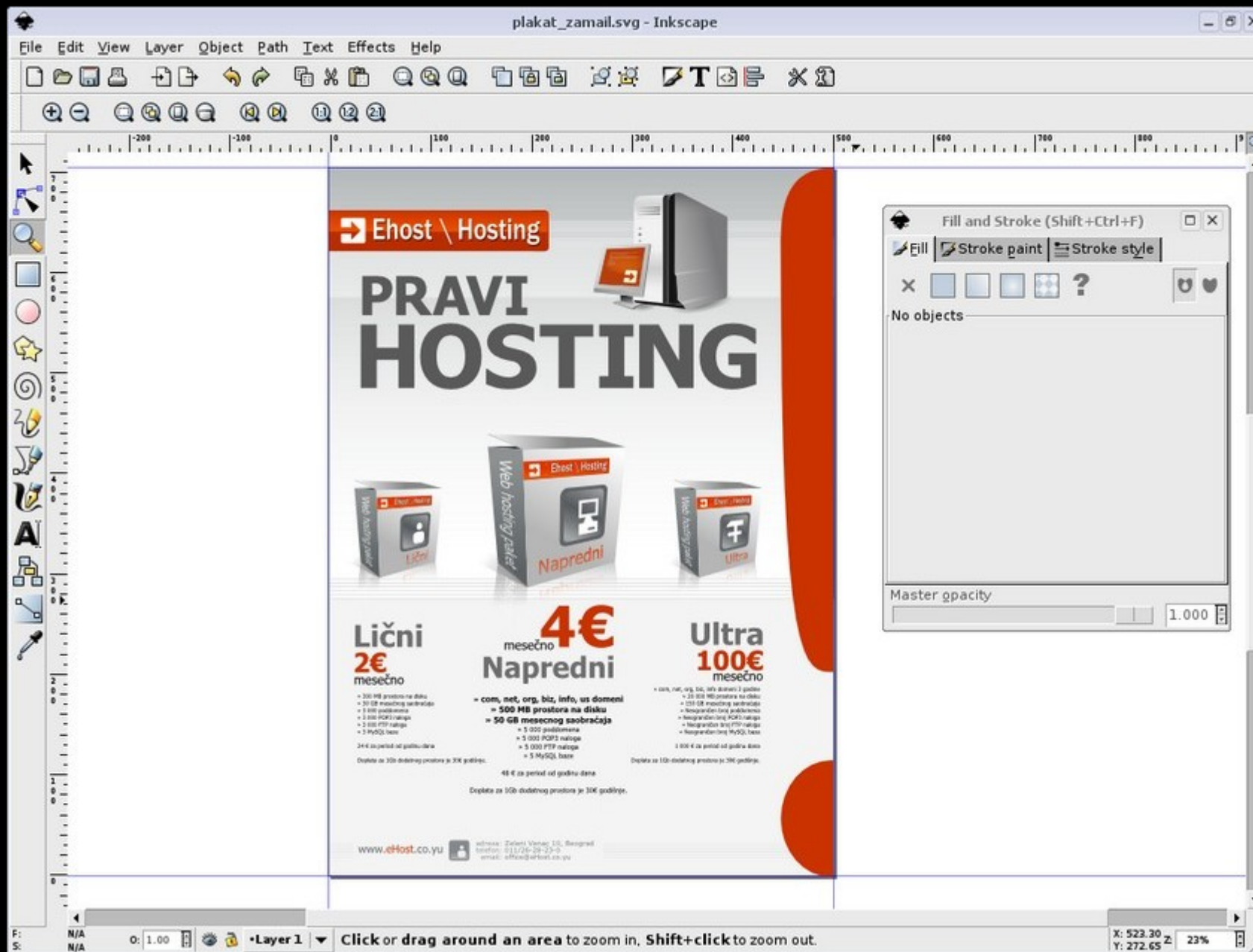
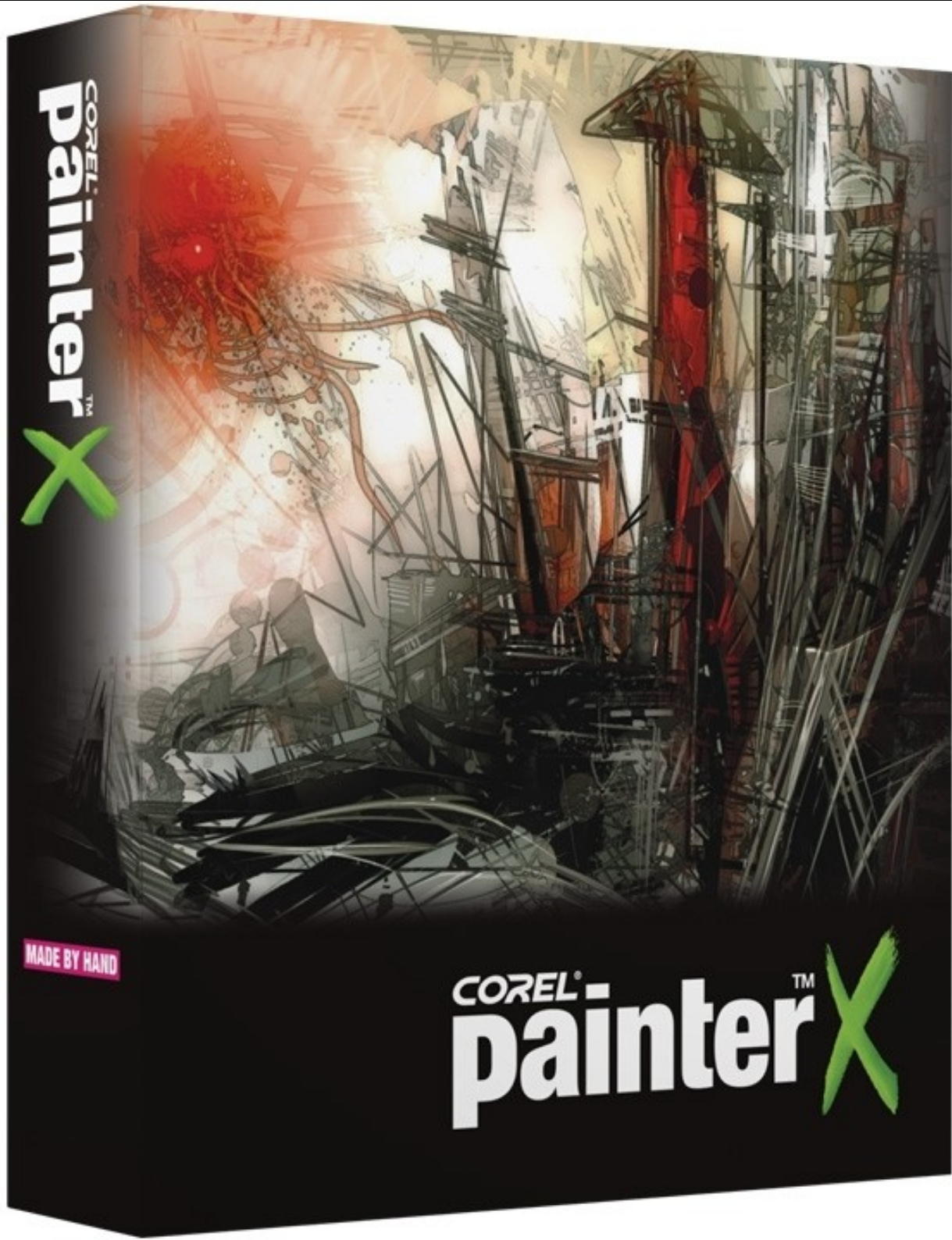


Ilustração vectorial – Inkscape (open source)



Pintura artística

- Corel Painter <http://www.painterartist.com/rw/>
- Krita <http://www.gimp.org/>
- MyPaint <http://mypaint.intilinux.com/>
- Autodesk Sketchbook <https://www.sketchbook.com>
- Artrage <http://www.artrage.com/>



COREL
painter™



MADE BY HAND

COREL
painter™



Brush selection



MyPaint
Open Source Painting



from Gradient

from Gradient

from Gradient

Current Color

in HSV

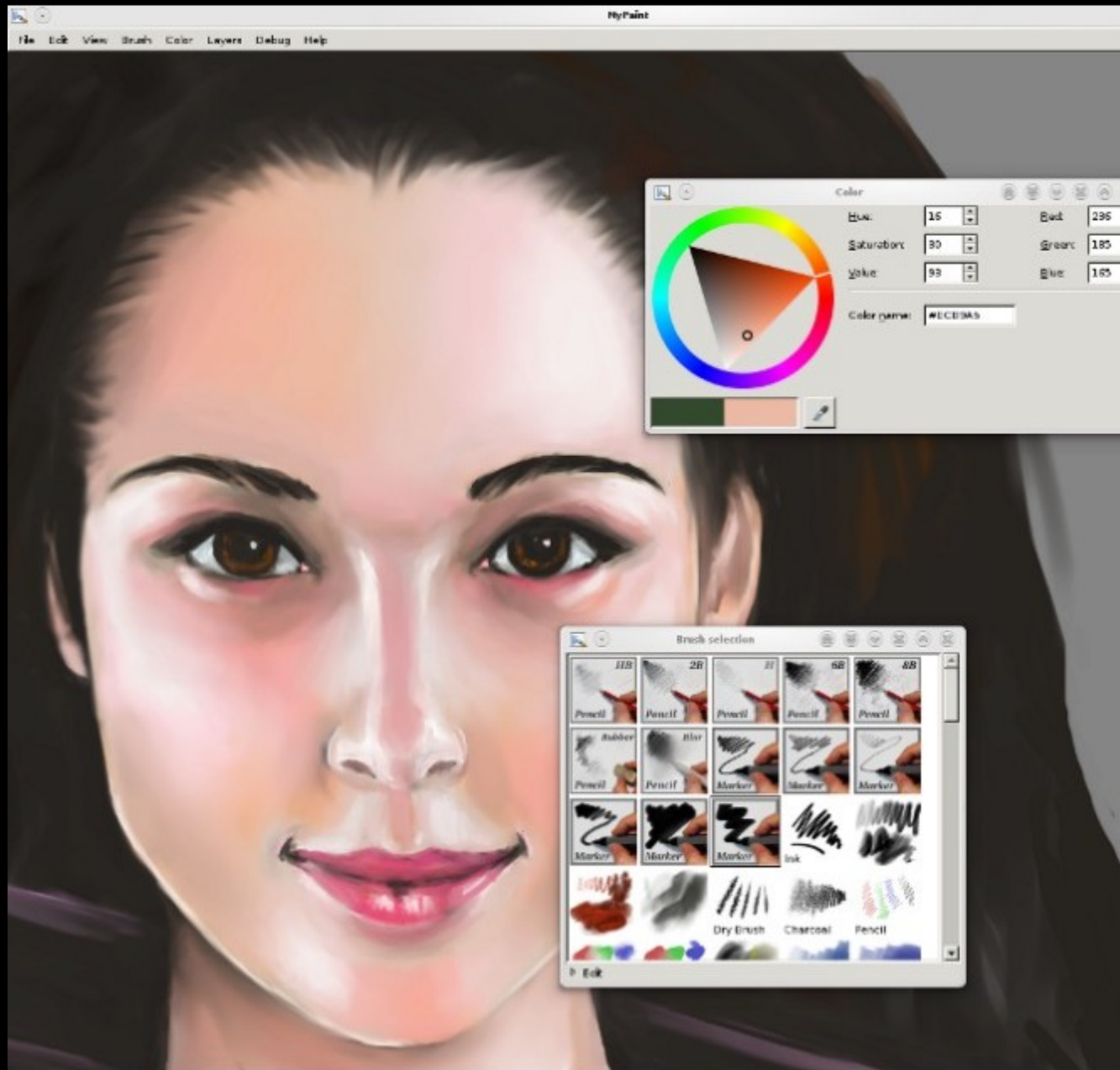


Aurth



ArtRage 3







Krita

Digital Painting. Creative Freedom.



BETA 3: 2011-05_krita-speed-character-concept-art.png [modified] - Krita

File Edit View Image Layer Select Filter Tools Settings Help

New Open Save Mode: Normal Opacity: 1.00 Flow: 1.00 Save to Palette

Advanced Color Selector Specific Color Selector

Advanced Color Selector

Preset docker Add Shape Tool Options

Preset docker

Search Preset Show all

deevad.

Layers Channels

Layers

Normal 100

Layer 1

Krita 2.4 features - 2011-10 - CC-BY-SA - www.davidrevoy.com



Krita

Digital Painting. Creative Freedom.



Ink Girl by Enrico Guarnieri



D. Guarnieri



Mesa Digitalizadora Wacom
Pen & Touch

Ecrã Digitalizador Wacom Cintiq



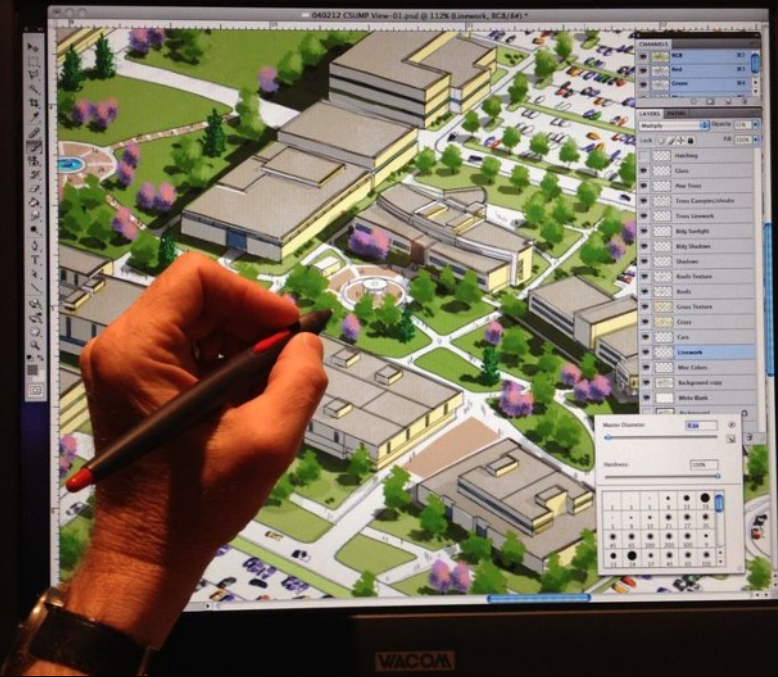


meta Digitalizadora

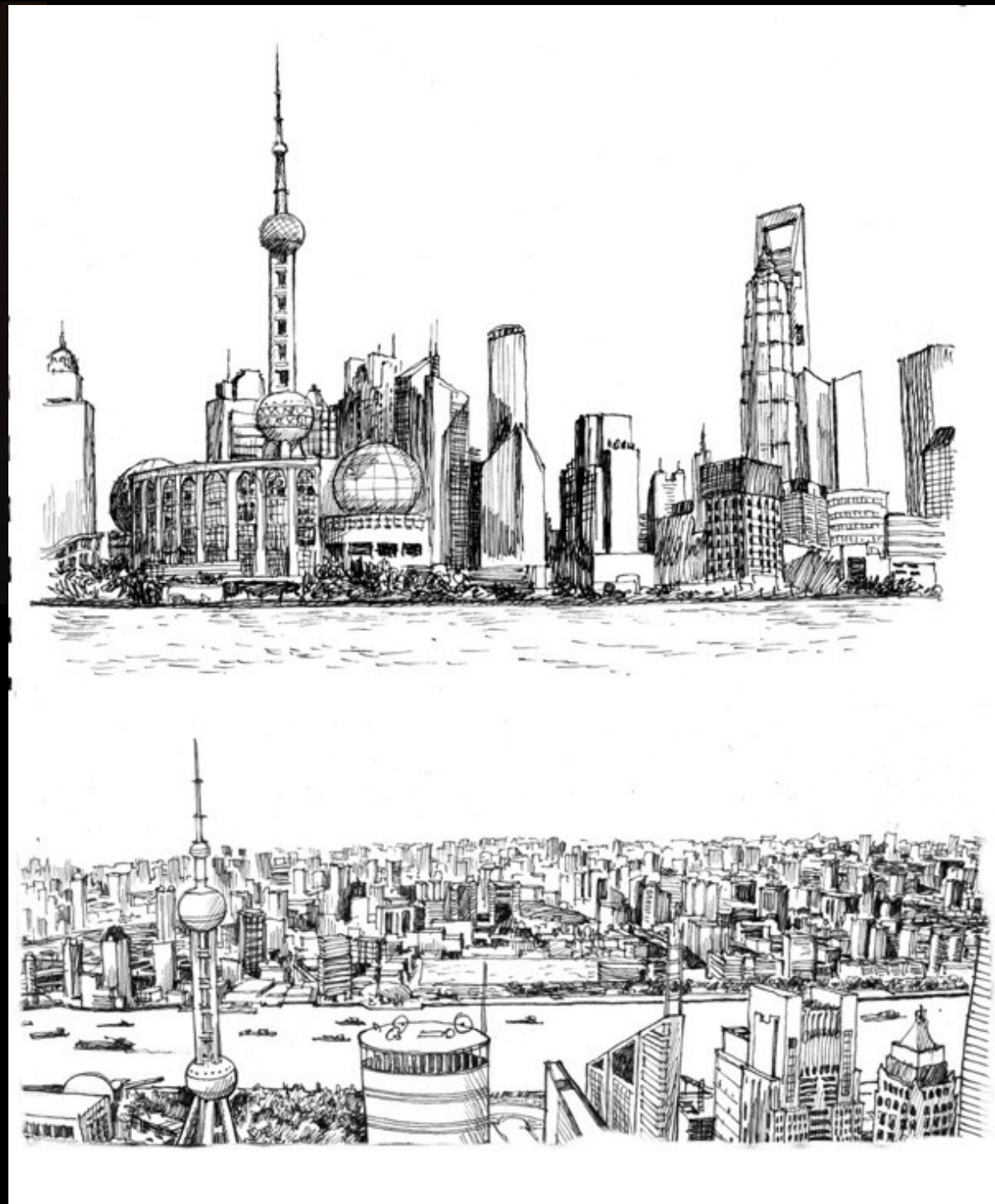
Wacom Inkling

<http://vimeo.com/28346340>





Ecrã Digitalizador Wacom Cintiq



Desenho feito com Wacom

Sites de referência de ilustração

(Arquitetura, cinema, jogos)

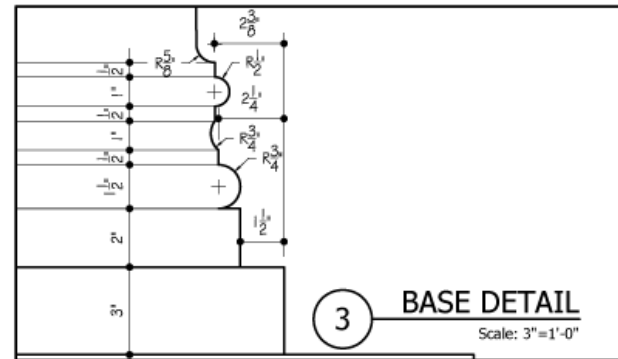
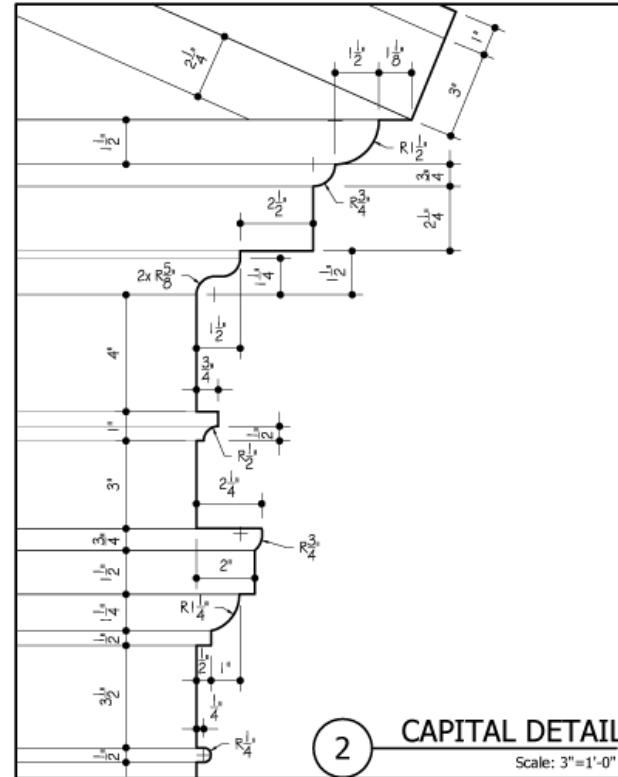
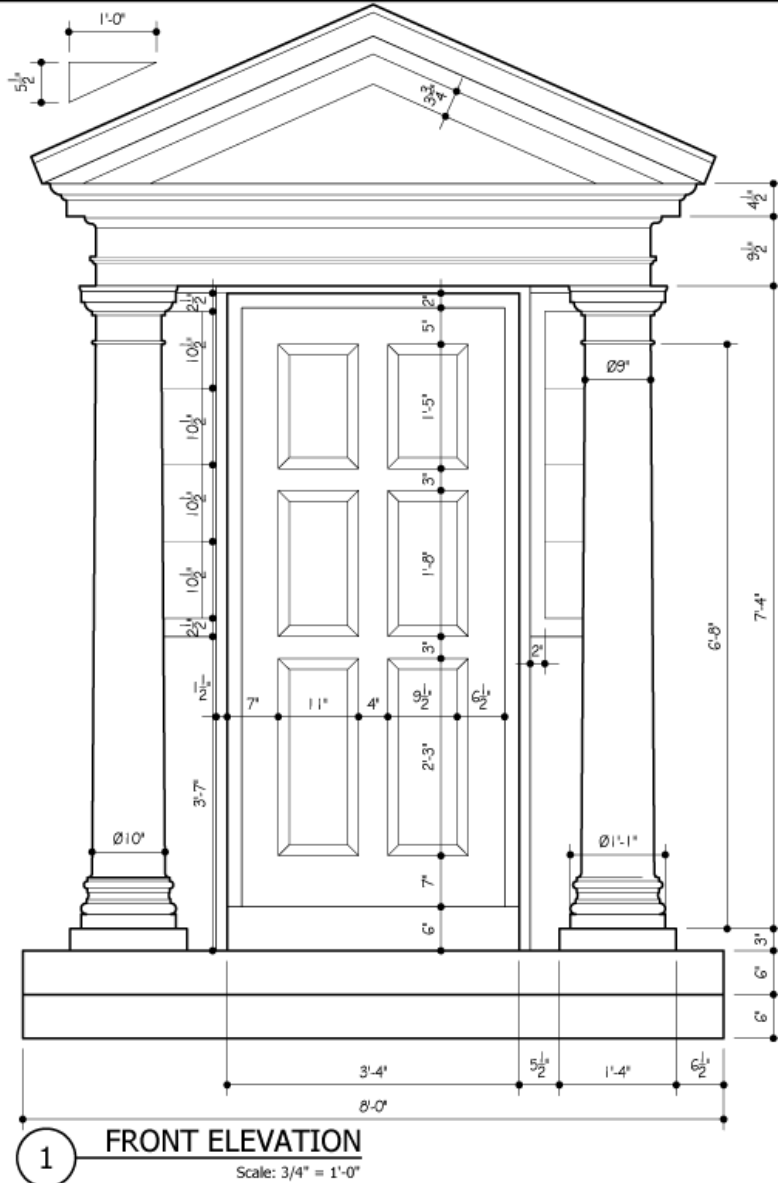
www.cgsociety.org

www.cgarchitect.com

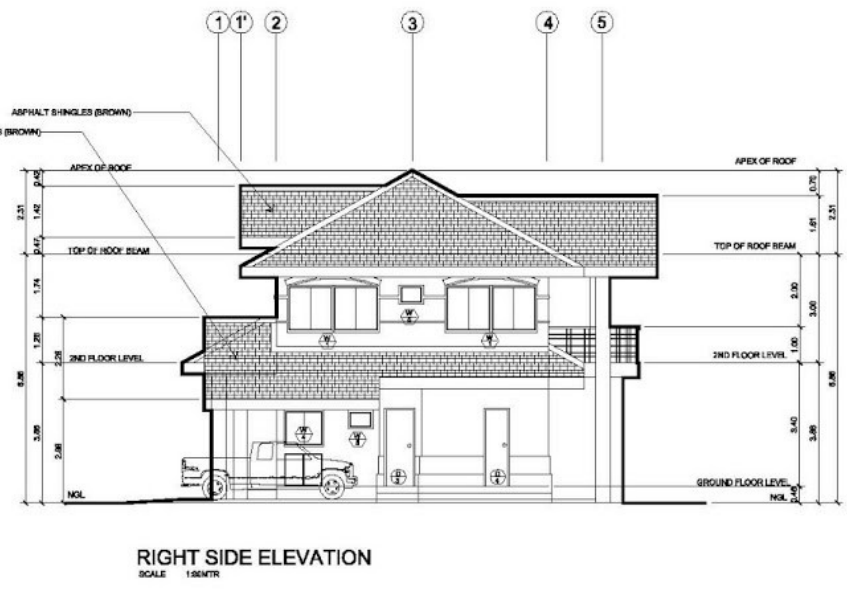
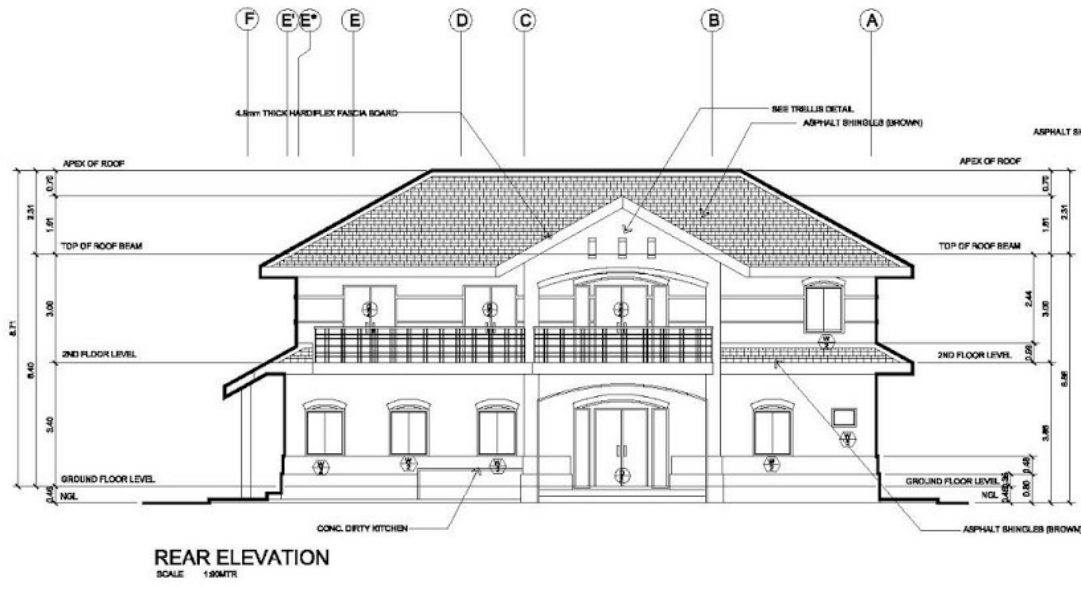
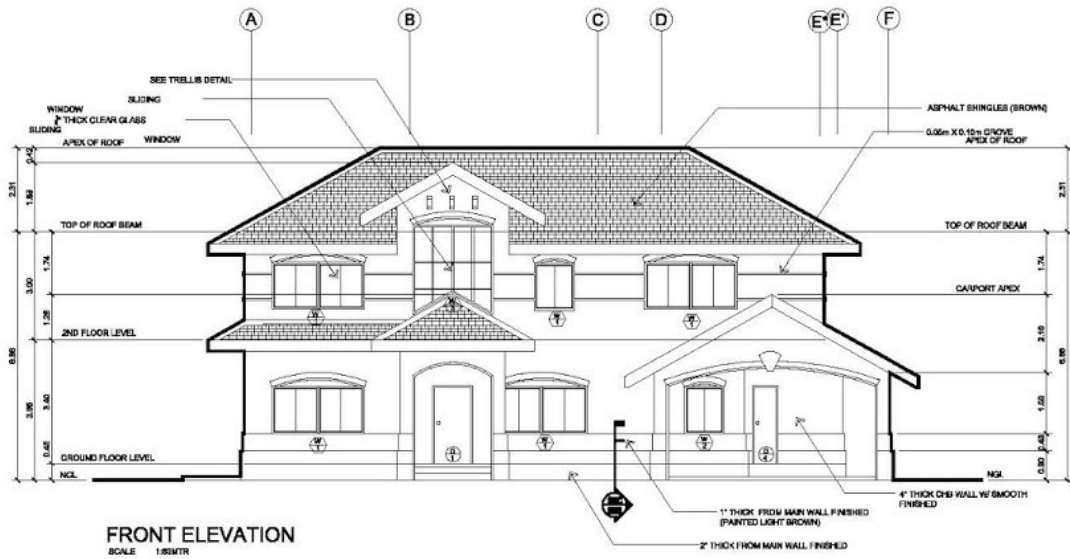
www.deviantart.com

CAD 2D – Desenho técnico vectorial

- Autocad, Autocad <https://www.autodesk.com/products/autocad/overview>
- Rhinoceros: <https://www.rhino3d.com/>
- Clones/Compatíveis com Autocad <https://www.intellicad.org/>
- Bricscad - www.bricsys.com
- Ares Cad www.graebert.com
- Draftsight
<https://www.3ds.com/products-services/draftsight-cad-software/free-download/>
- Doublecad XT <https://www.turbocad.com/content/doublecad-xt-v5>
- Cadmium – DWG e SKP – Gratuito
<http://www.ti-soft.com/en/products/software/Cadmium>
- http://en.wikipedia.org/wiki/Computer-aided_design



AutoCAD 1	
Introductory 2D	
PROJECT:	AutoCAD 1 FINAL ASSIGNMENT_A PEDIMENTED PORTICO
DRAWING TITLE:	FRONT ELEVATION CAPITAL DETAIL BASE DETAIL
DRAWN BY:	YOUR NAME
DATE:	XX/XX/200X
SCALE:	AS INDICATED
CLASS:	
CHECKED BY:	KJB
DRAWING NUMBER:	A-1

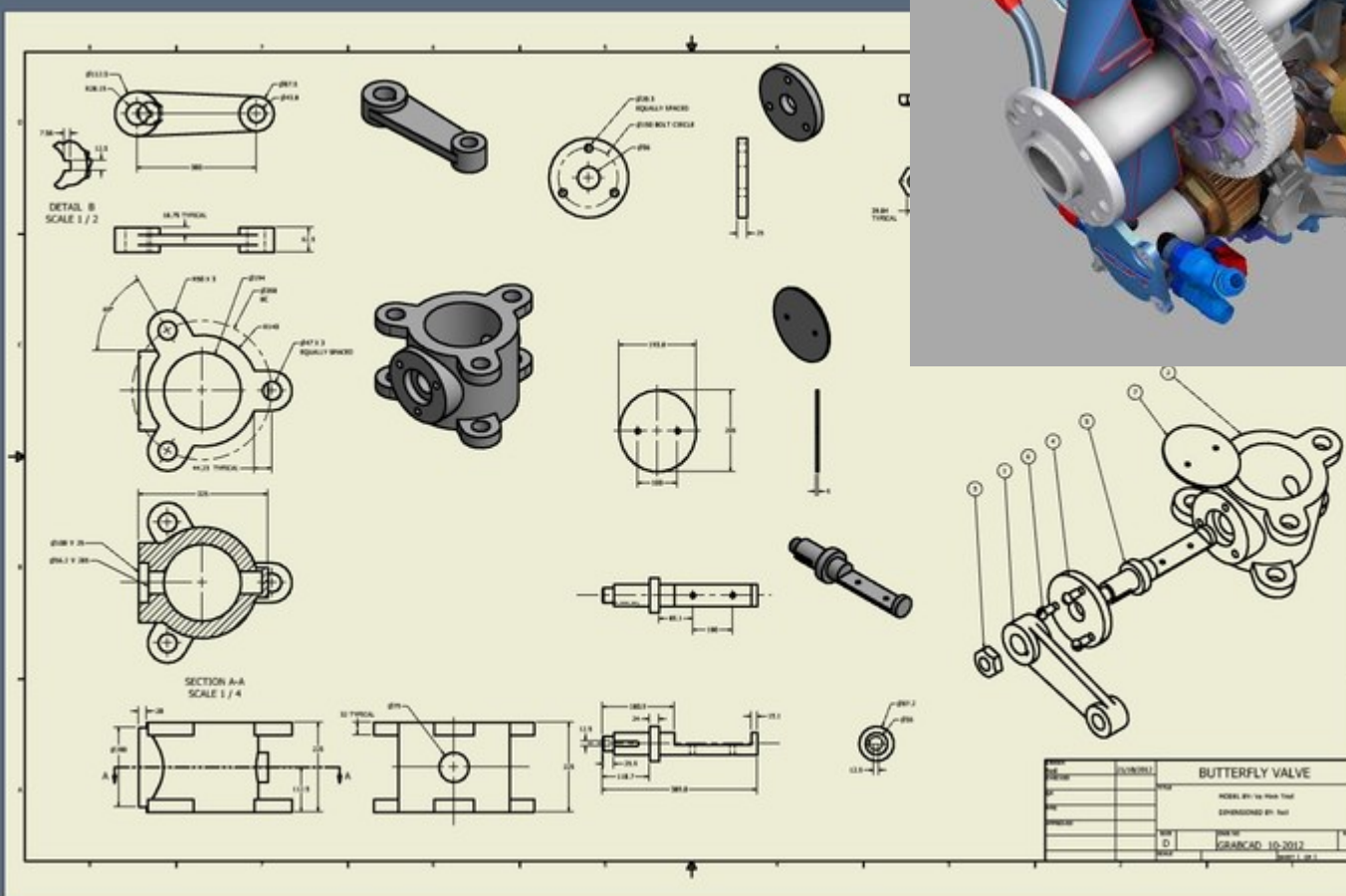
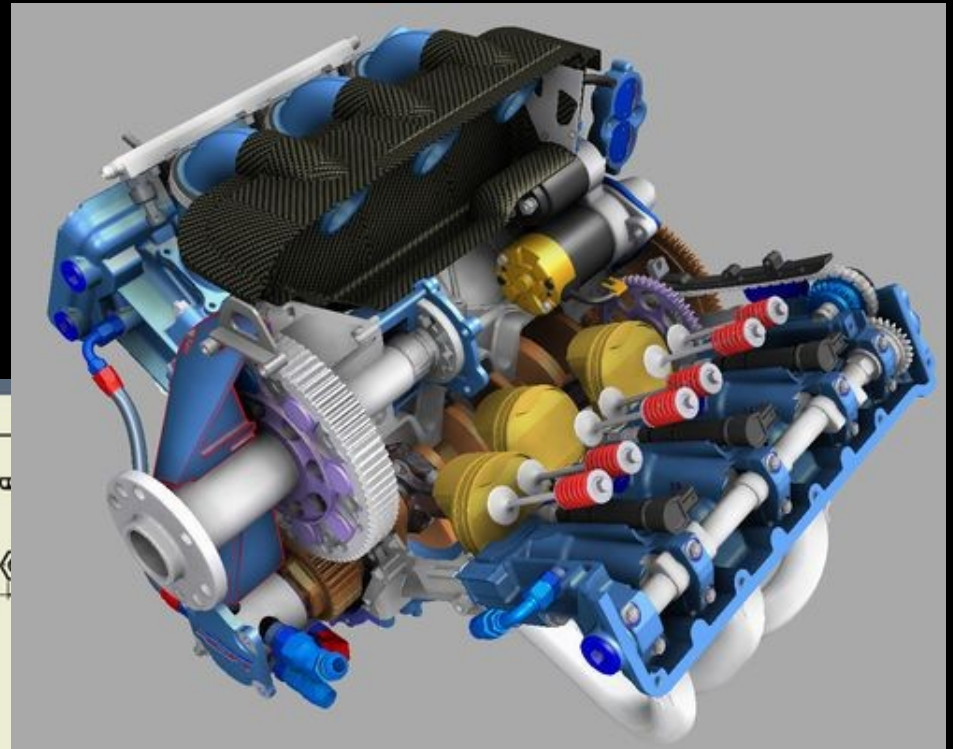


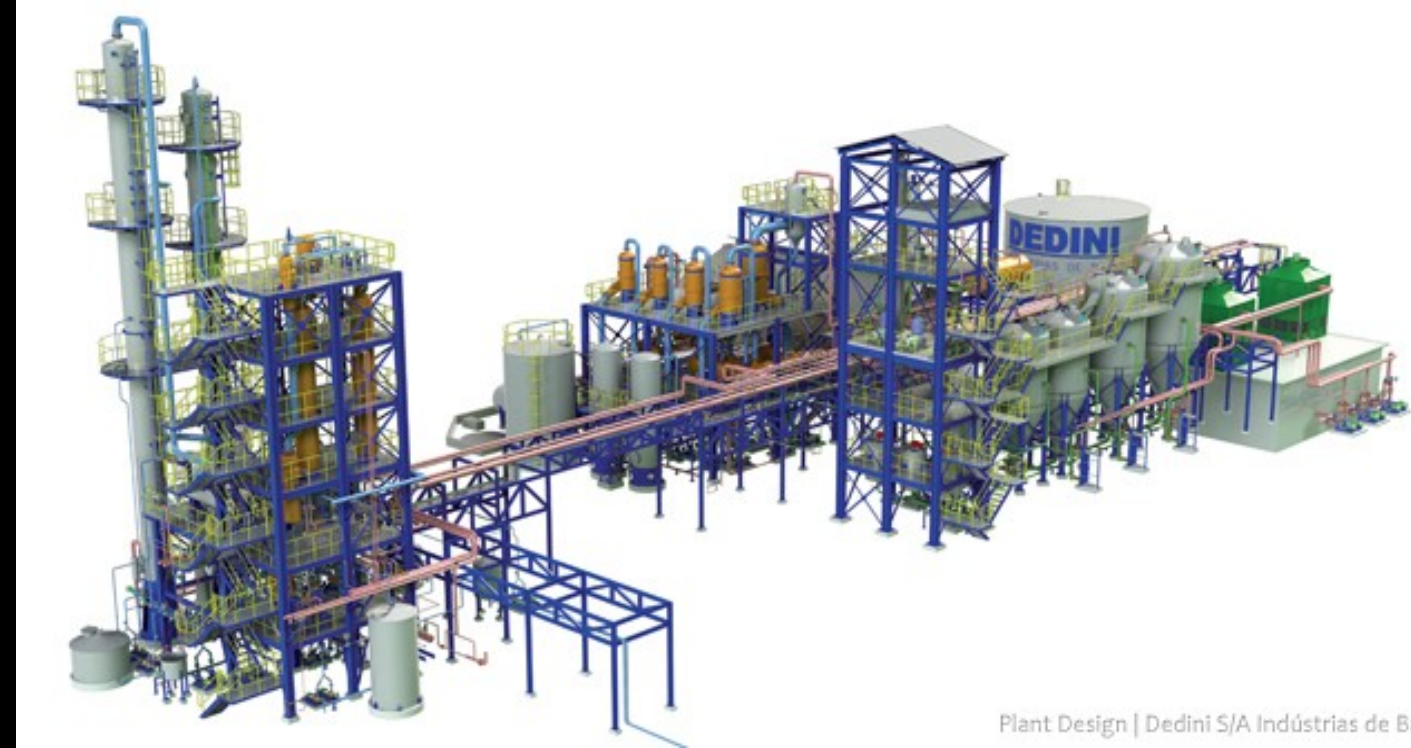
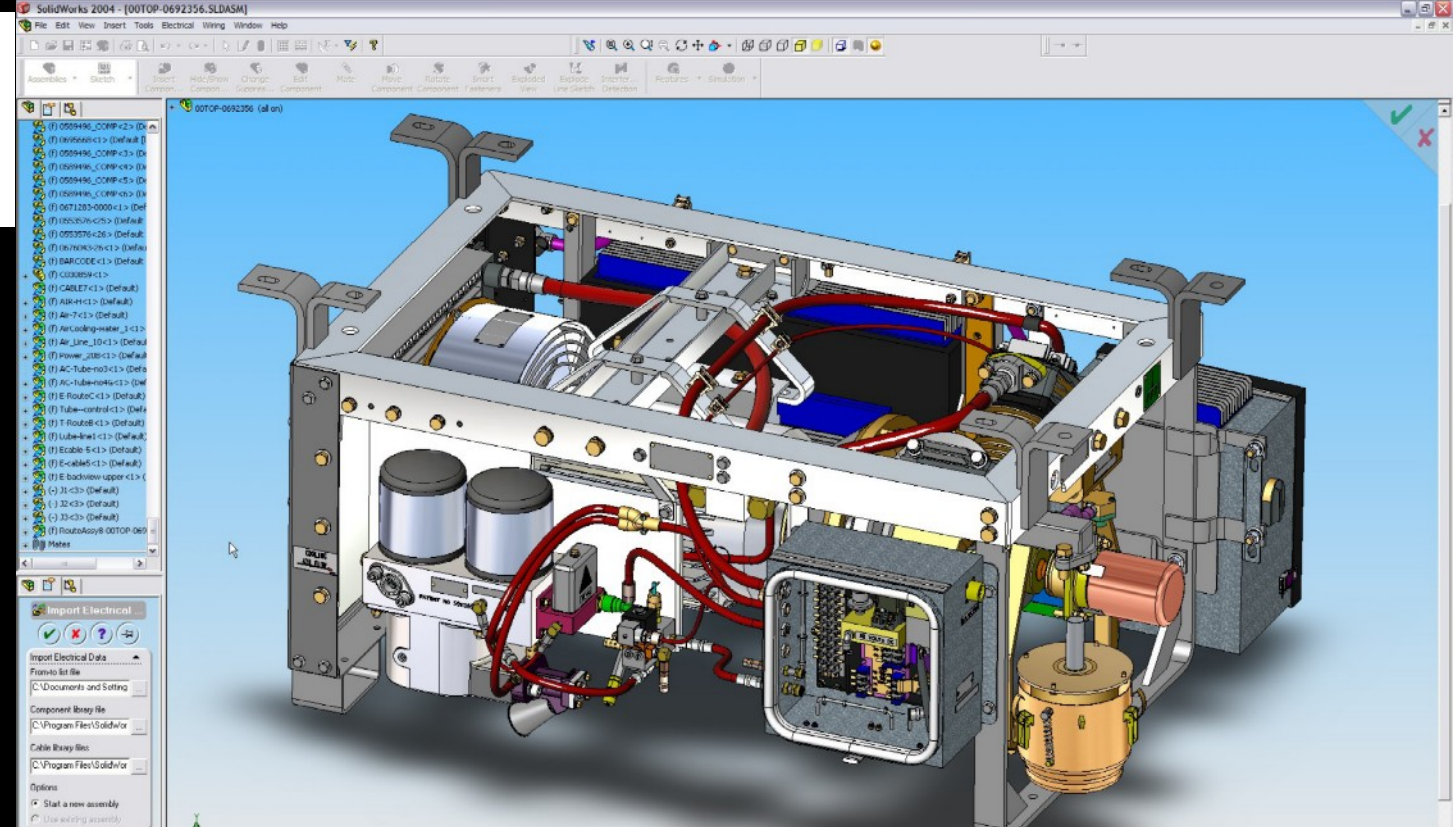
CAD/CAM/CAE

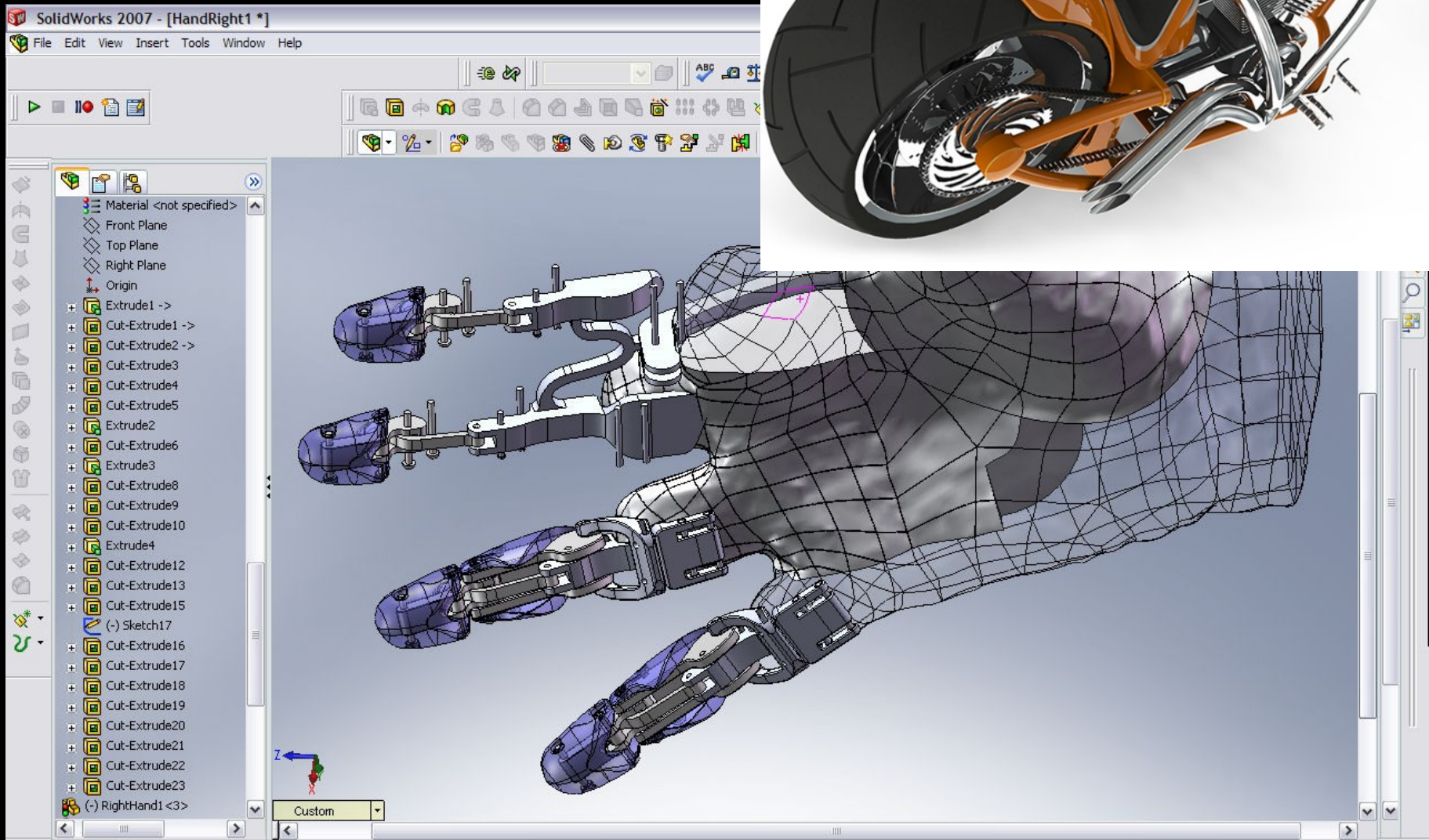
- **Autodesk Fusion360 (Cloud)**
- **Onshape (Cloud)**
- **Solidworks – Dassault Systemes**
- **Autodesk Inventor**
- **Autodesk Alias**
- **Solidthinking**
- **SolidEdge – Siemens PLM**
- **Catia – Dassault Systemes**

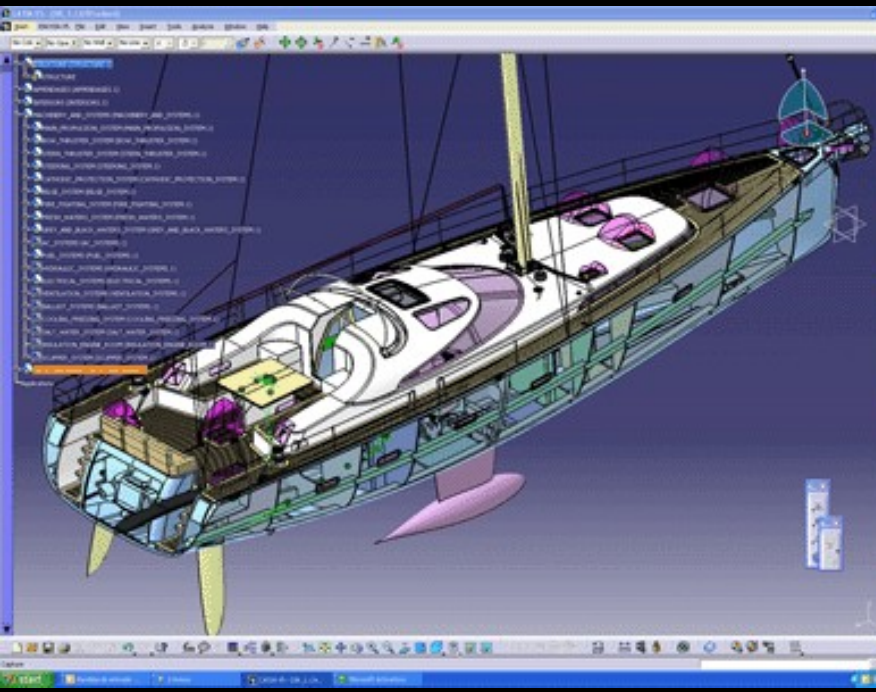
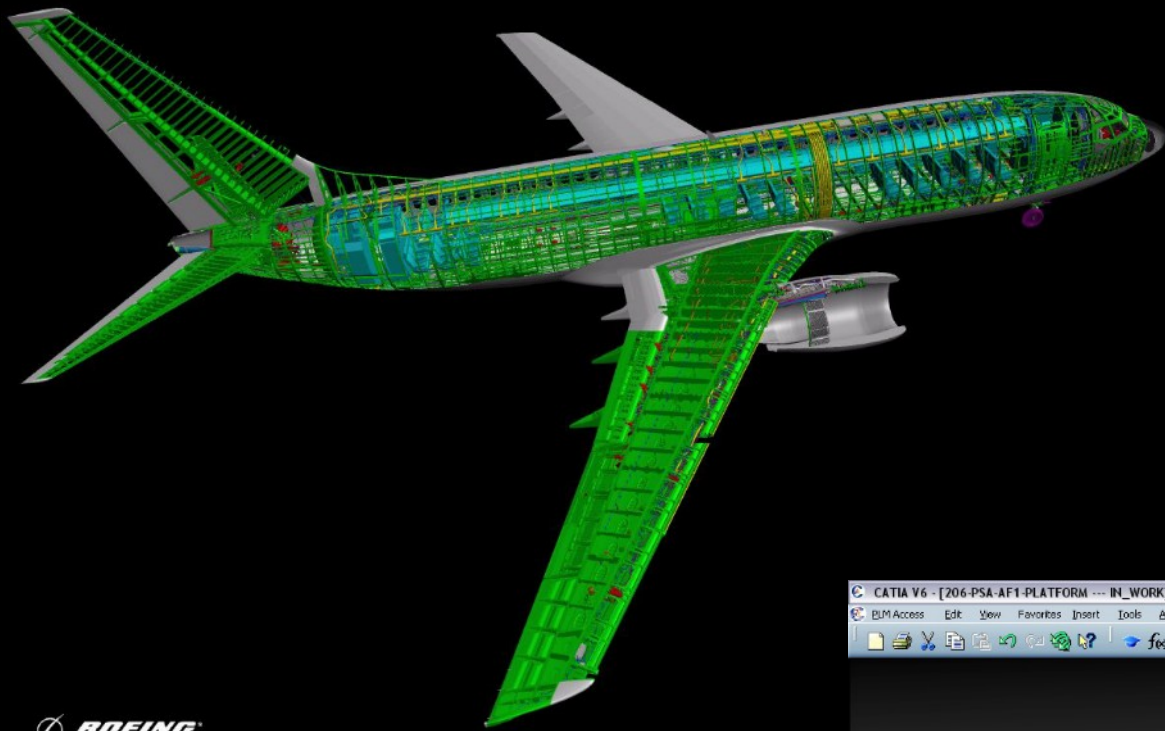


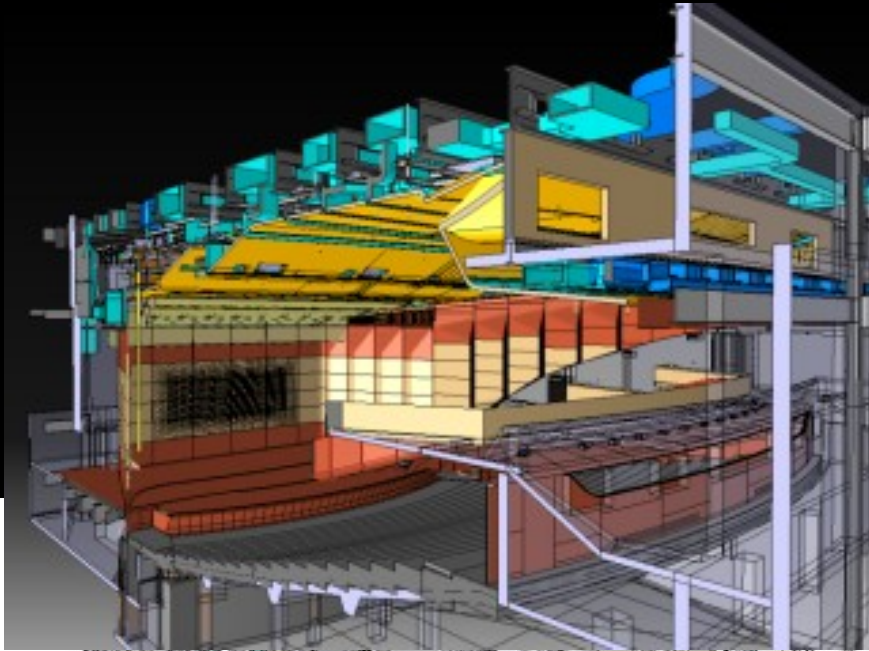
AUTODESK®
INVENTOR® 2014







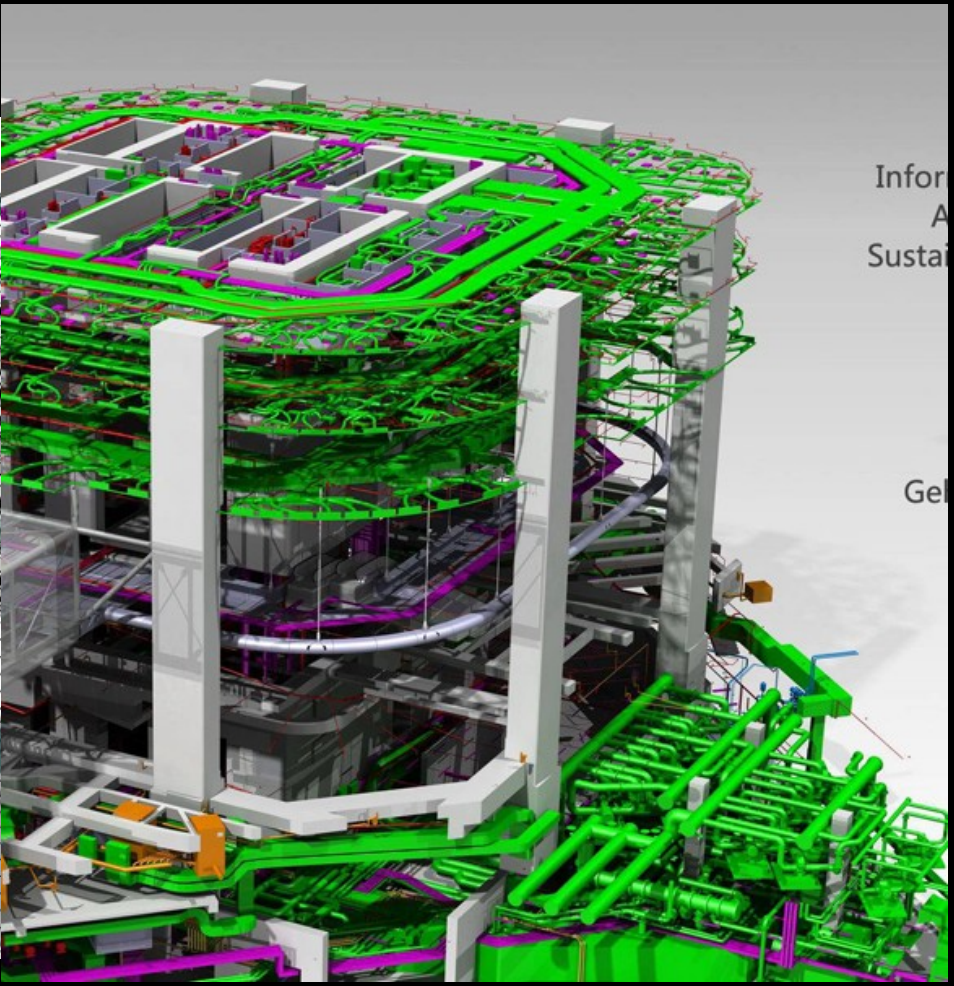
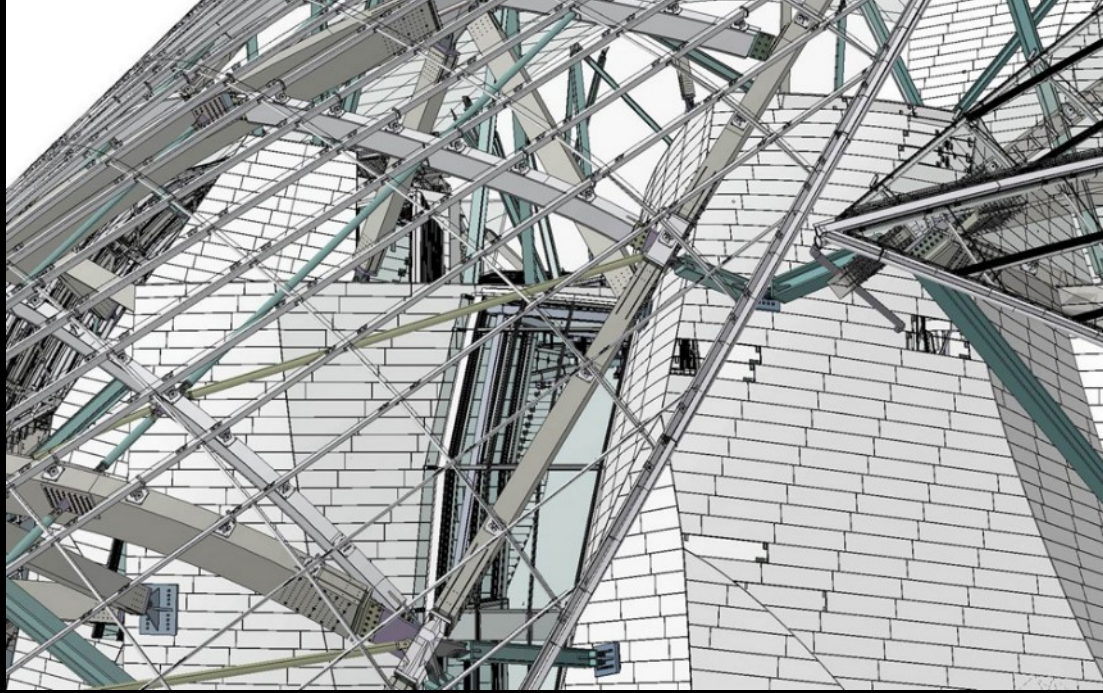




digital project™

www.gehyrtechnologies.com

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Portions Copyright © Dassault Systèmes 1994 - 2008



Inform
A
Sustai

Ge

Modelação 3D para Visualização e Animação

- Autodesk Autocad
- Rhinoceros
- Vectorworks <http://www.vectorworks.net/>
- Sketchup
- 3DStudio Max
- Maya
- Cinema 4D

- Open Source
- Blender <https://www.blender.org/>



Modelação 3D Nurbs

NURBs are the dominant mathematical technique used for designing curves and surfaces of manufactured objects.

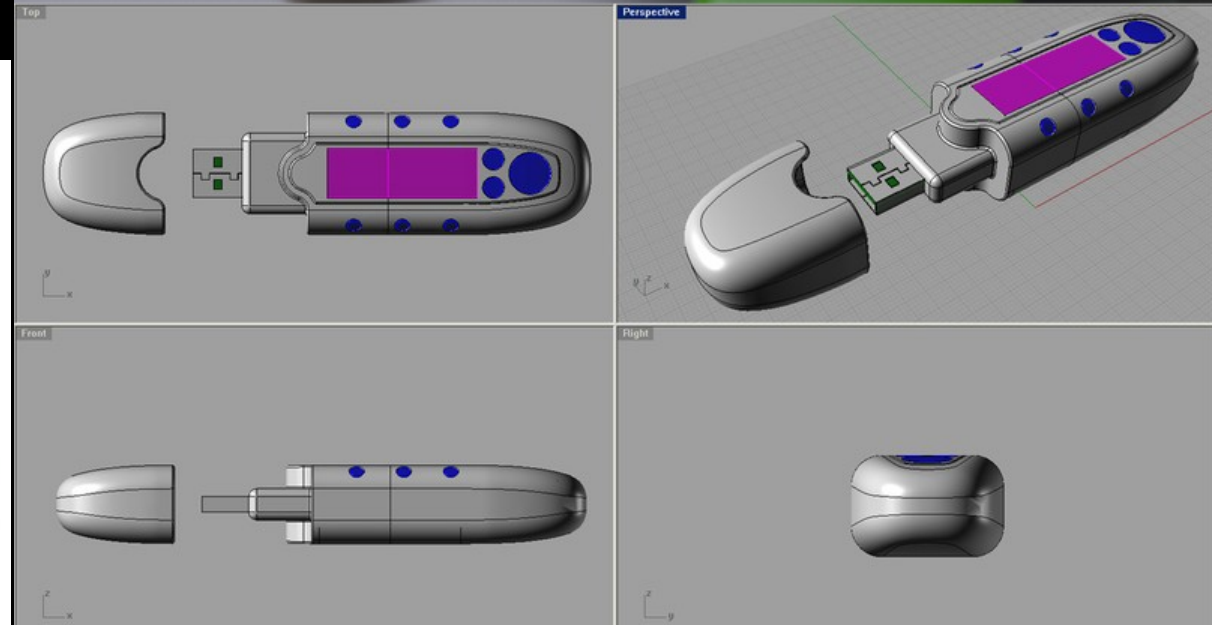
- Rhinceros <http://www.rhino3d.com/>
- Moi <http://moi3d.com/>
- Fusion360
- Solid Thinking <http://www.solidthinking.com/>
- Catia <http://www.3ds.com/products-services/catia>

Modelação 3D Nurbs . Rhinoceros



DARRIN SEEDS '05

Modelação 3D Nurbs . Rhinoceros



Modelação 3D Nurbs . Moi

The image displays the MoI (Modeling Input) software interface for creating a 3D Nurbs model. The main workspace is divided into four orthographic views: Top, 3D, Front, and Right. The 3D view shows a complex, organic object with a rounded base and a top section featuring several circular openings and protrusions. The Top view shows the object's circular footprint with internal curves. The Front and Right views show the object's profile and side details.

The right-hand side of the interface contains a toolbar with the following sections:

- Draw curve / Draw solid:** Tools for Lines, Freeform, Rect, Polygon, Circles, Arc, Ellipse, and More.
- Edit / View / Select:** Tools for Join, Separate, Trim, Extend, Show pts, Add pt, Copy, Paste, Hide, and History.
- Construct / Transform:** Tools for Boolean, Fillet, Offset, Planar, Extrude, Revolve, Loft, Sweep, Blend, Network, and Curve.

The bottom status bar includes a file menu (File, Save, Undo, Redo, Delete), a Split button, view selection buttons (3D, Top, Front, Right), coordinate fields (x: -17.6, y: 0, z: 11.09), and checkboxes for Grid Snap, Straight Snap, and Object Snap. There are also buttons for Options and Help.

Transform

Perspective

Rendered image - 1192.02:41 Draw a box to render a region. Click to reset

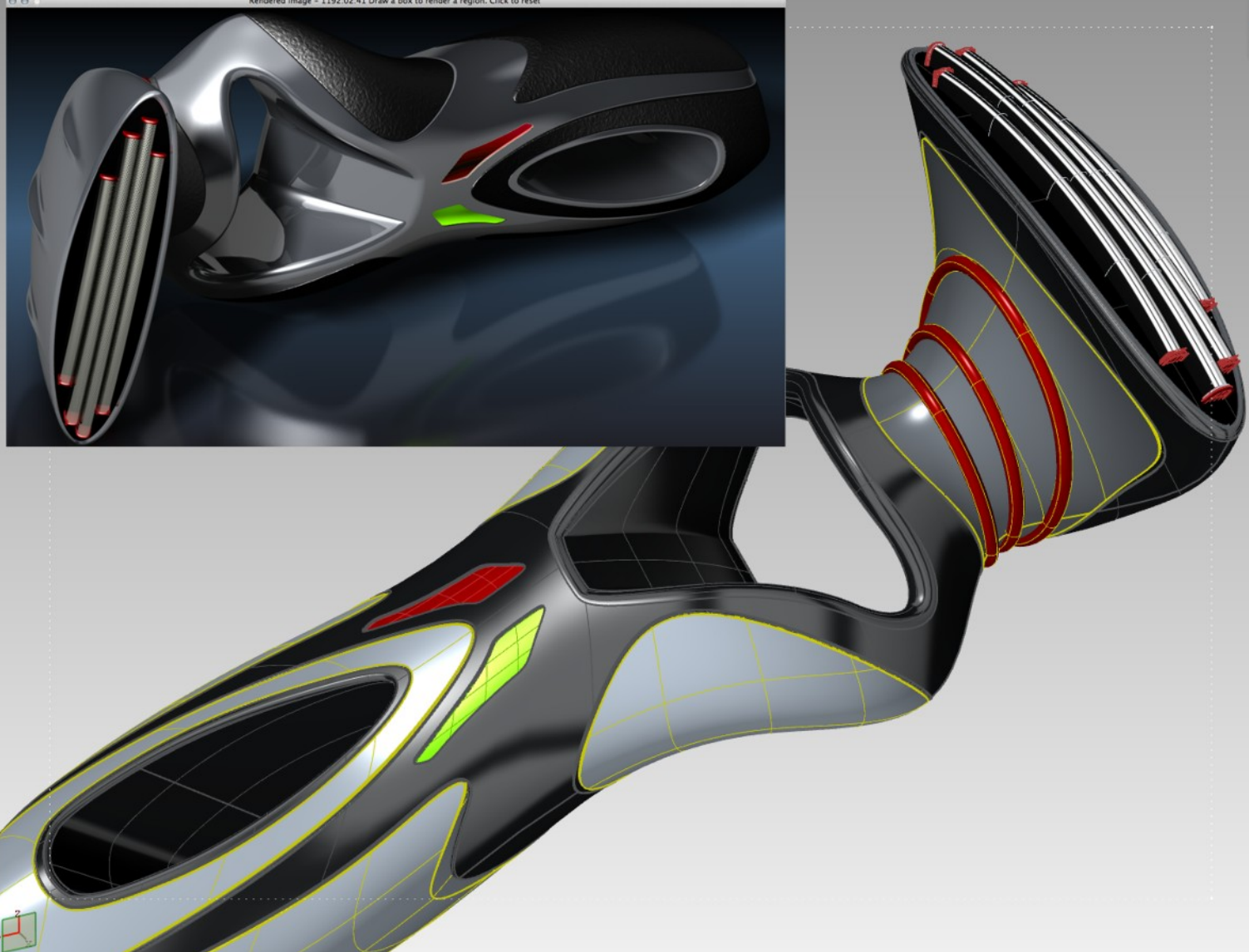
Curves

Surfaces

Generate Shape

PolyMesh

PointsCloud



NURBS curve

Point
x: -1.424 y: -3.431 z: 16.627
Remove

Insert

Order
4

New entity

Join

Un-join

Curve type
Open
Closed

Invert

Weight
0

Tolerance
0.001

Simplify

New knots
1

Refine

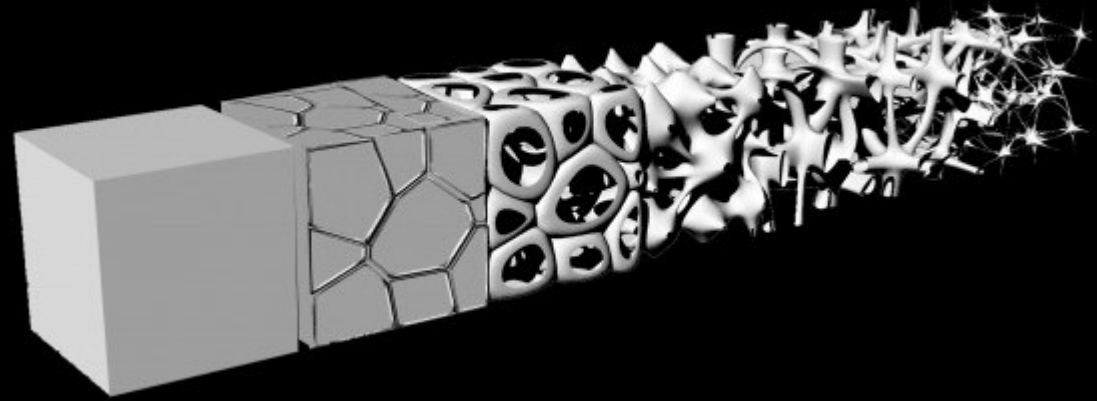
Close tool

World

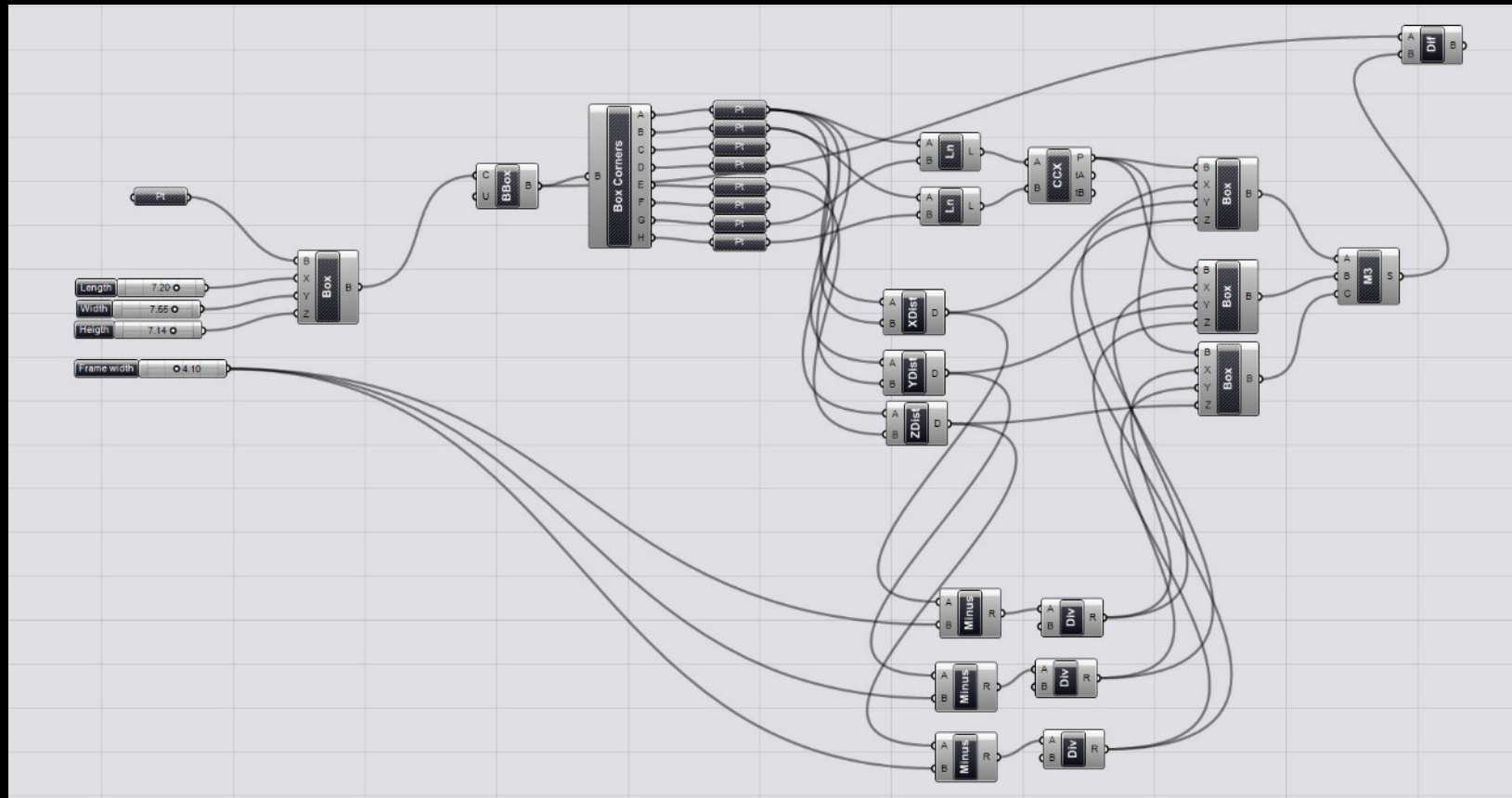
- NURBS curve #1
- NURBS curve #2
- Circle #1
- NURBS curve #3
- Mirror #1
- Skin #1
- NURBS curve #11
- Extrude #4
- NURBS curve #12
- Mirror #3
- NURBS curve #13
- Circle #5
- NURBS curve #14
- NURBS curve #15
- Circle #7
- NURBS curve #16
- Pipe #3
- NURBS curve #16/1
- Pipe #4
- NURBS curve #16/1/1
- Pipe #5
- NURBS curve #16/1
- Pipe #6
- NURBS curve #16/1/1
- Pipe #7
- NURBS curve #17
- Mirror #4
- Intersect #7
- Trim #21
- Trim #22

NURBS curve #3

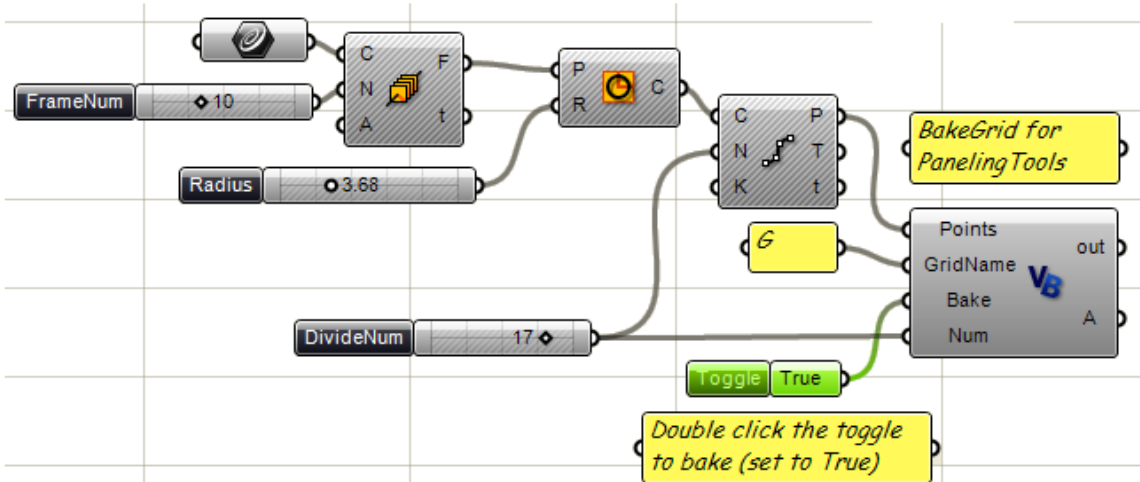
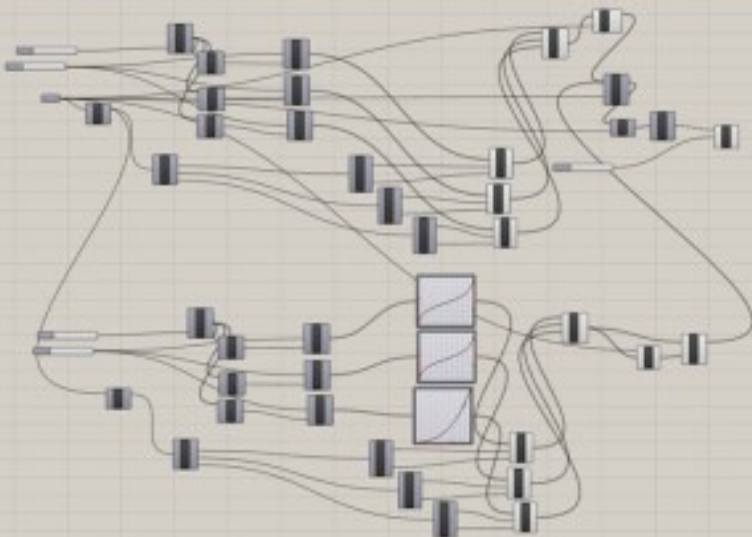
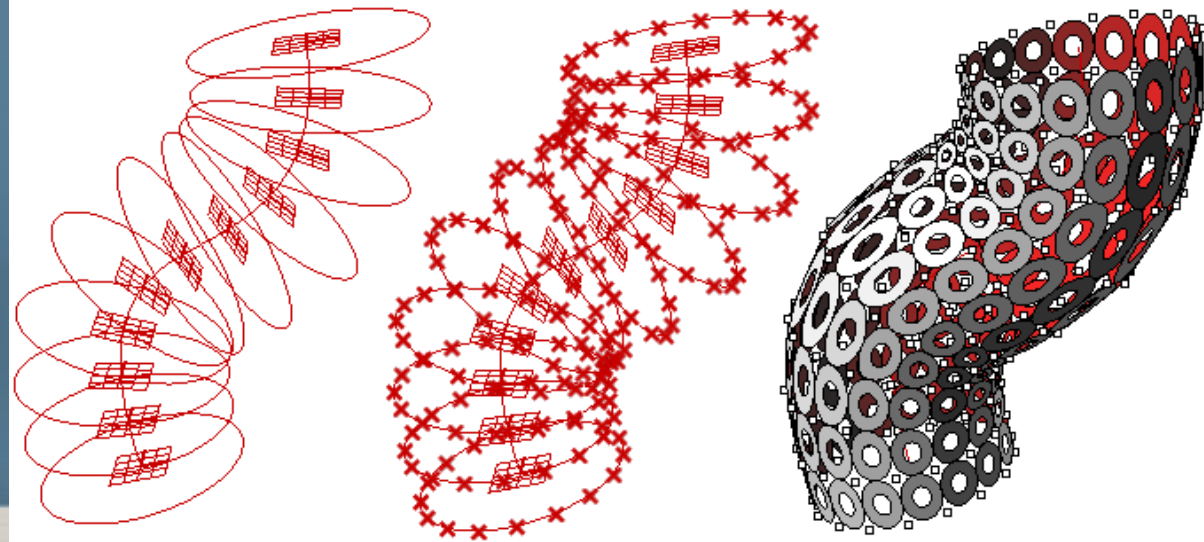
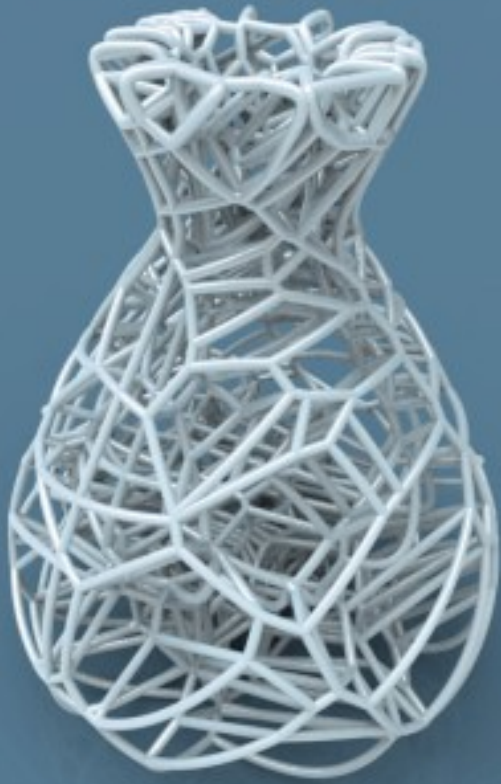
Modelação Paramétrica e Generativa



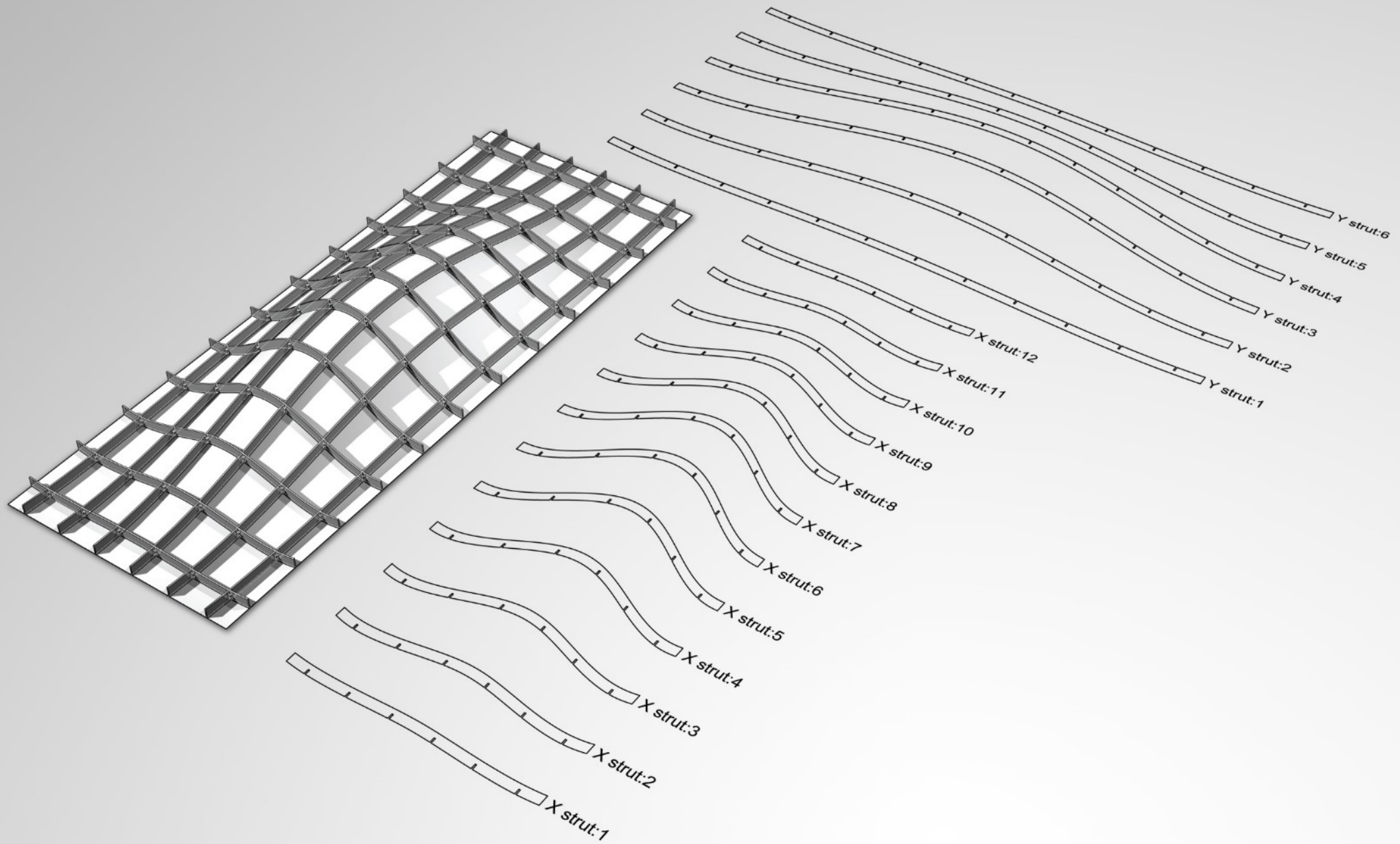
- Rhinoceros
- Grasshopper <http://www.grasshopper3d.com/>
- http://www.youtube.com/watch?v=b16AqfX_fBA



Modelação Paramétrica e Generativa



Modelação Paramétrica e Generativa




Rendering Engines

- (Modeladores c/ render) 3DS MAX, Cinema 4D, Rhinoceros
- Vray <http://www.vray.com/> <http://vray.info/>
- Arnold (Autodesk) - <https://www.solidangle.com/arnold/>
- Keyshot <https://www.keyshot.com/>
- Artlantis <http://www.artlantis.com>
- Maxwell Render <http://www.maxwellrender.com/>
- Kerkythea <http://www.kerkythea.net>

<http://vray.info/>



 lichtecht

<http://vray.info/>



Mental Ray (Autodesk) <http://www.autodesk.com/products/mental-ray-standalone/overview>



<http://www.maxwellrender.com/>

Maxwell Render - x64 - M3_1.mxs

File View Render Scripting Window Help

Render SL: 11.78 Next SL: Update: Time Passed: 2h12m17s Time Left: Complete Benchmark: 20.49 Done 100%

Render Options

Scene

Scene File: op\Projects\M3\M3_1.mxs

Camera: noname

Time: 720

Sampling Level: 25.00

Frames: []

Multilight Intensity: []

CPU Id: 6170

CPU Threads: 3

Priority: Low

Output

Resolution: 1058 x 654

Depth: RGB 8 bpc

Image: op\Projects\M3\M3_1.jpg

MXI: op\Projects\M3\M3_1.mxi

Materials

Override: []

Default: s:\database\default.mxm

Search Path: []

Channels

Render Type: Diffuse + Reflections

Alpha: PNG 16

Opaque: Embedded

Z-buffer: PNG 16

0.000 1.000

Preview



Console

```
- illumination layers:  
- direct layer: true  
- indirect layer: true  
- direct caustic reflection layer: true  
- direct caustic refraction layer: true  
- indirect caustic reflection layer: true  
- indirect caustic refraction layer: true
```

[10/July/2010 09:27:33] Start Voxelization
[10/July/2010 09:27:37] End Voxelization
[10/July/2010 09:27:38] Start Rendering

Refresh

Image saved successfully!

Options: 0

Multilight Script

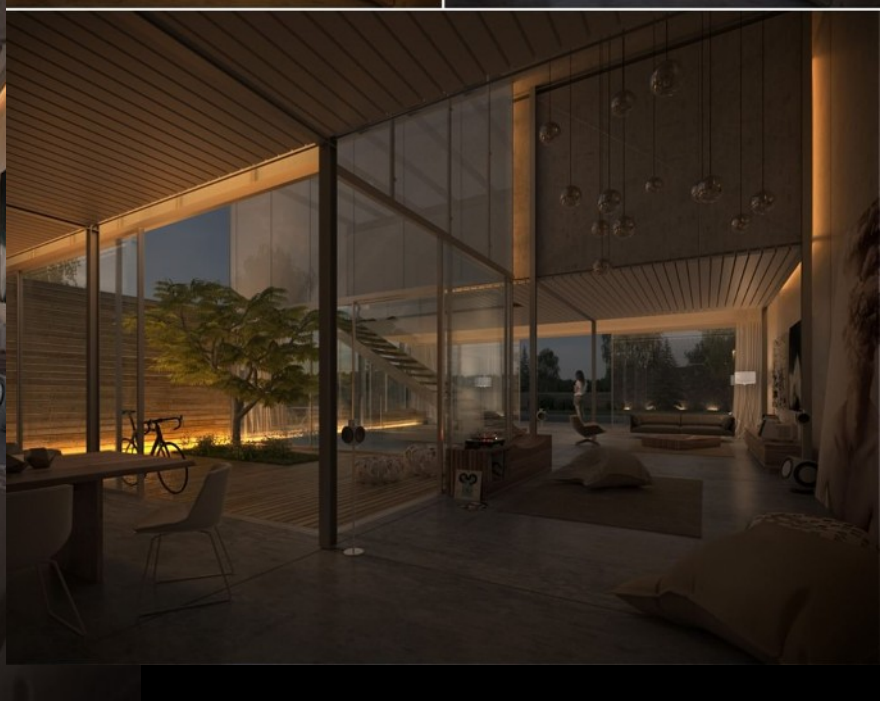
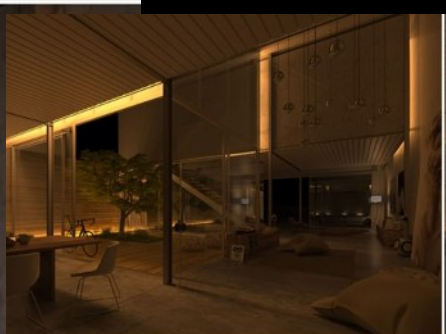
zoom: 100% RGB: 138, 114, 106 Pos: 193, 650

5:24 AM 7/14/2010

<http://www.maxwellrender.com/>



• Maxwell Render



<http://www.kerkythea.net>



<http://www.maxwellrender.com/>





Licenças para Estudantes

- Autodesk (gratuito enquanto inscrito): Autocad/3DSMAX/Revit
- <http://www.autodesk.com/education/free-software/all>
- Archicad <https://myarchicad.com/>
- Artlantis <http://www.artlantis.com/en/education/>
- Vectorworks e Cinema4D <http://www.techlimits.com/index.php/educacao>
- Sketchup Pro <http://www.sketchup.com/buy/student-licenses> (vendido em portugal pela Techlimits)
- Adobe (pagamento anual) <http://www.adobe.com/pt/education.edu.html>

Fabricação personalizada



i.materialise

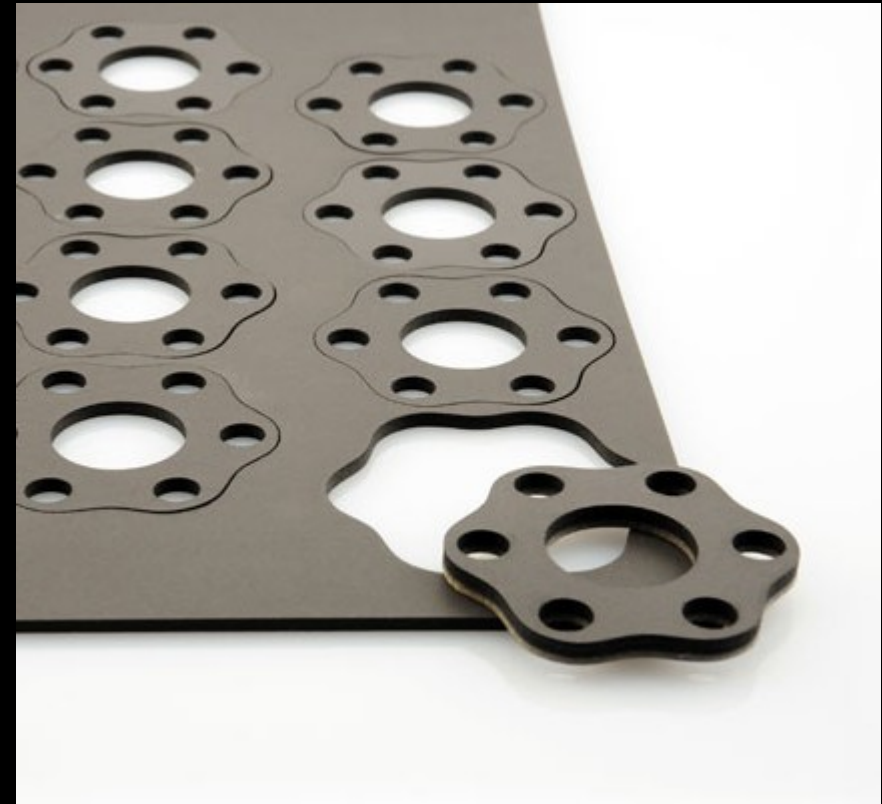
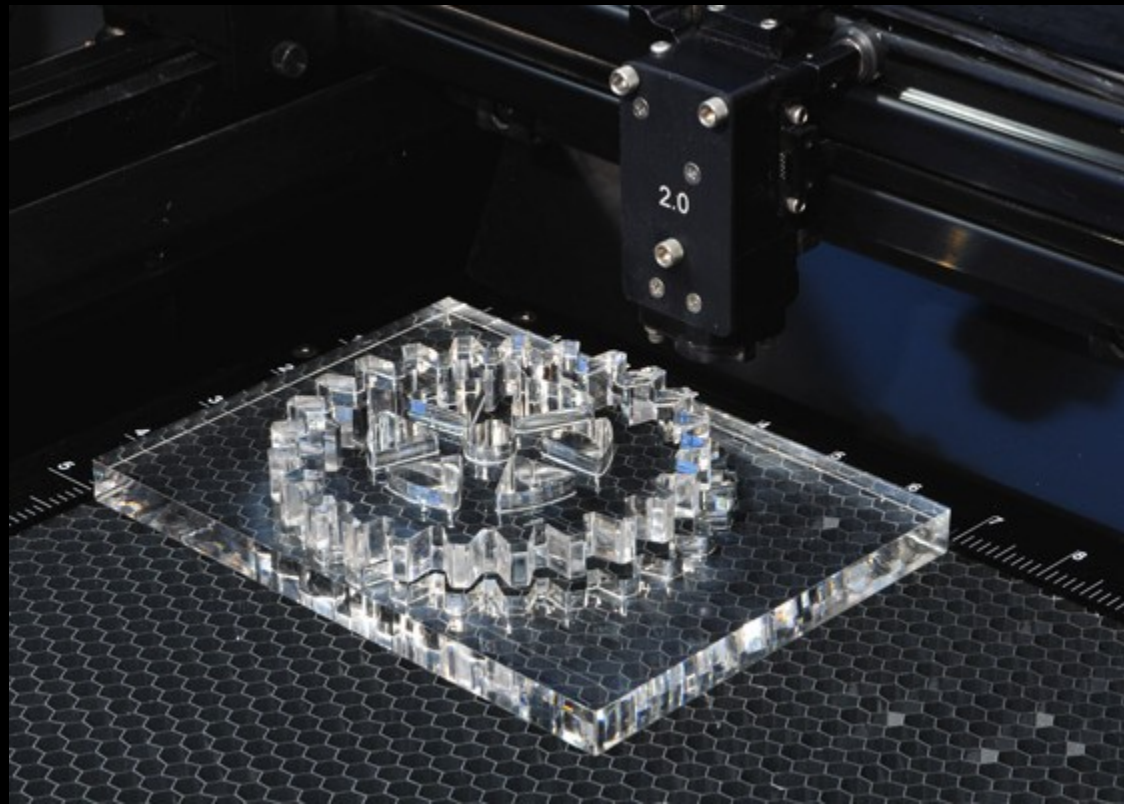


Ponoko[®]



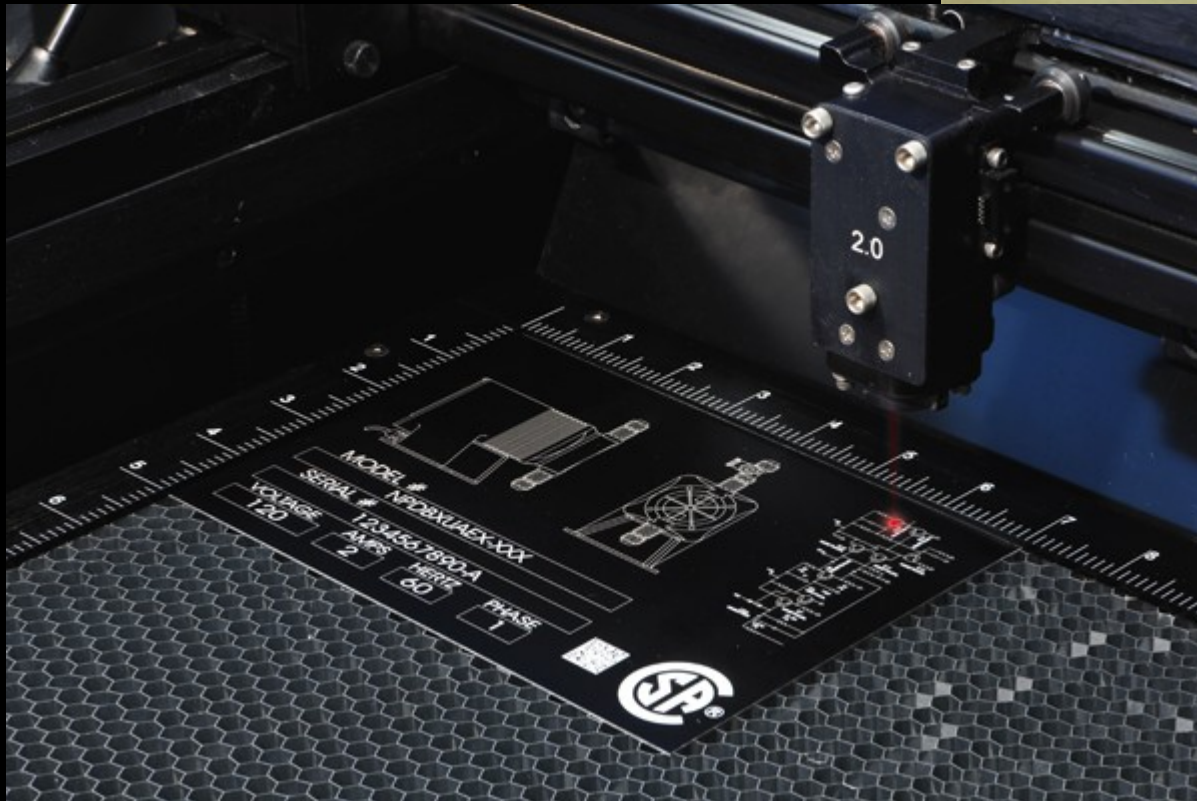
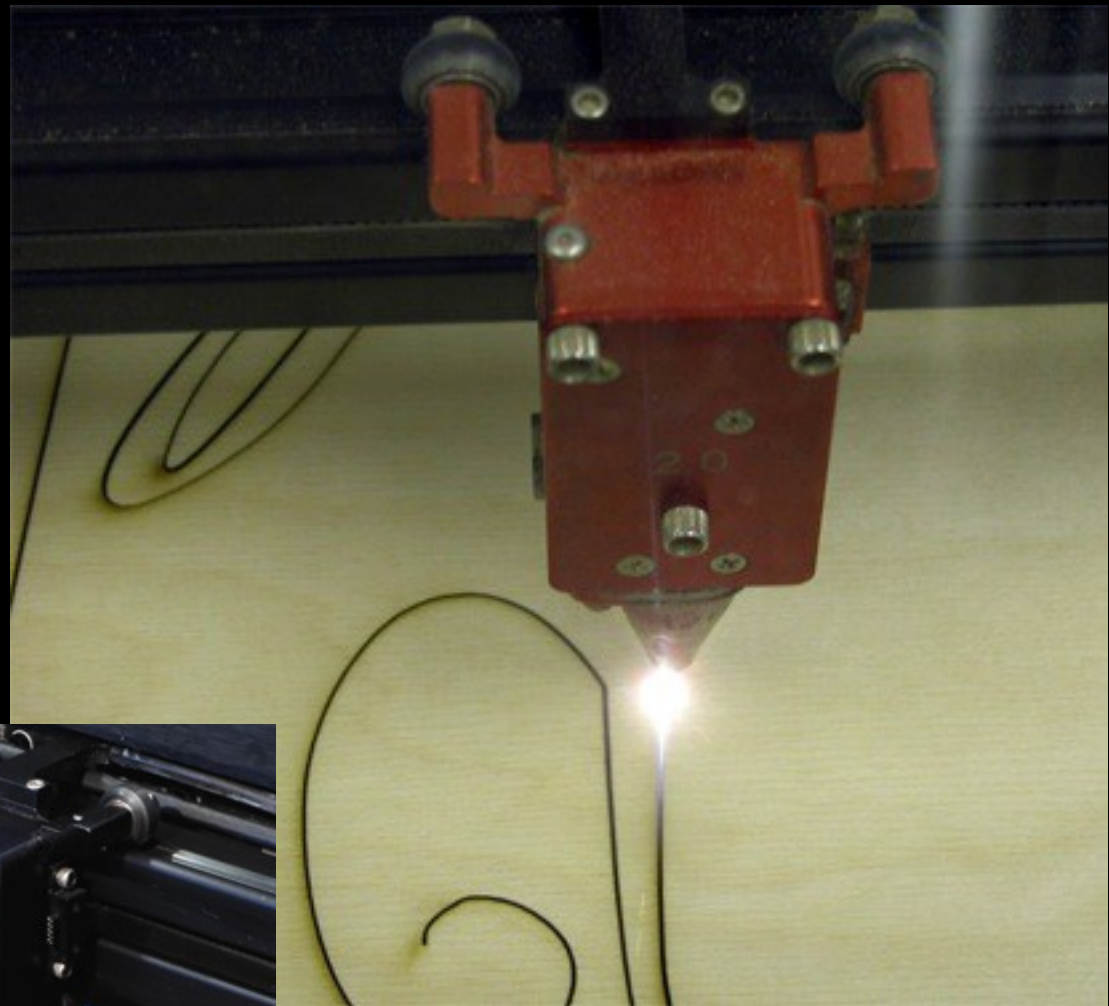
Fabricação e prototipagem

Corte e gravação Laser



Fabricação e prototipagem

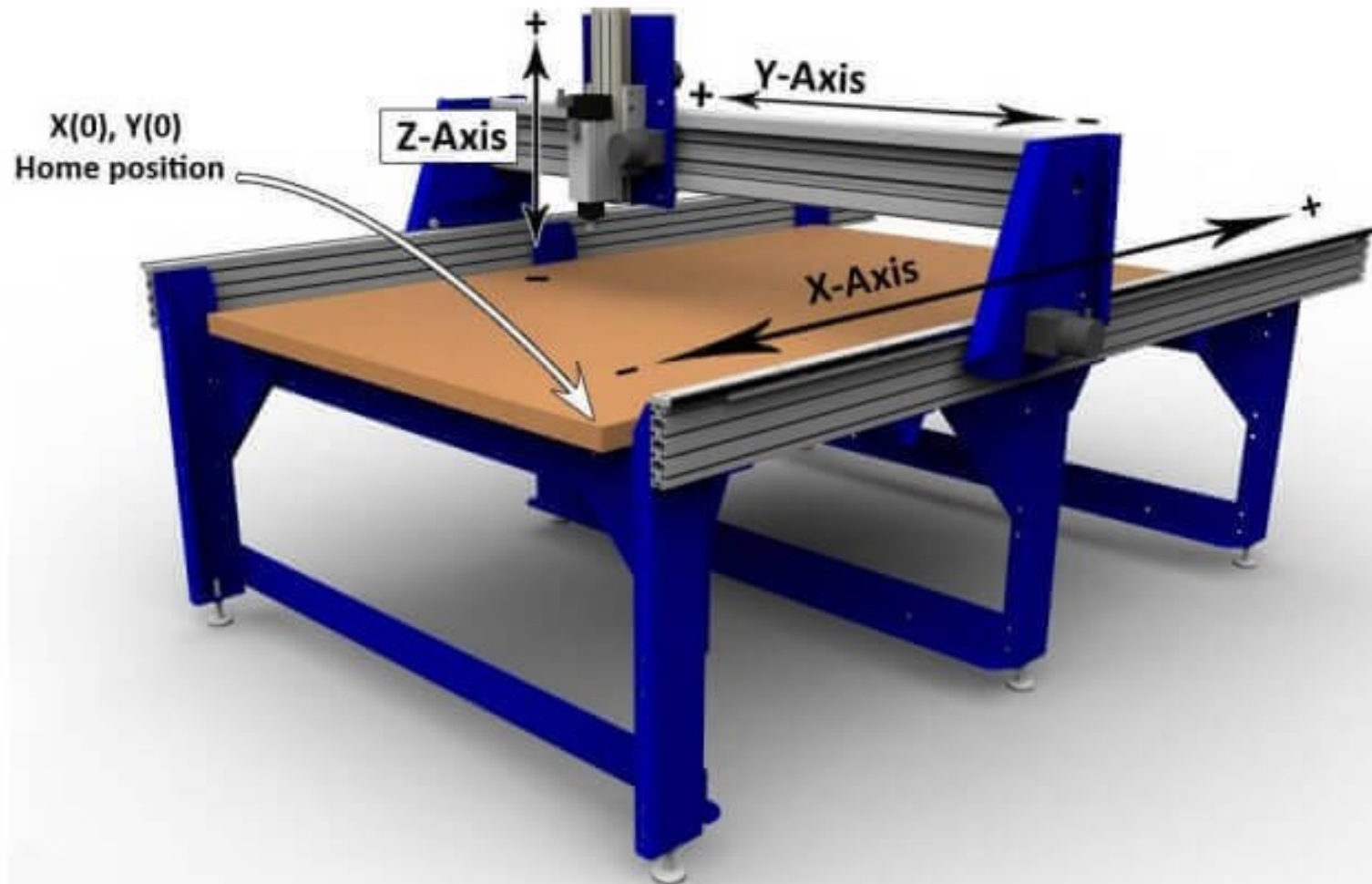
Corte e gravação Laser



Fabricação e prototipagem

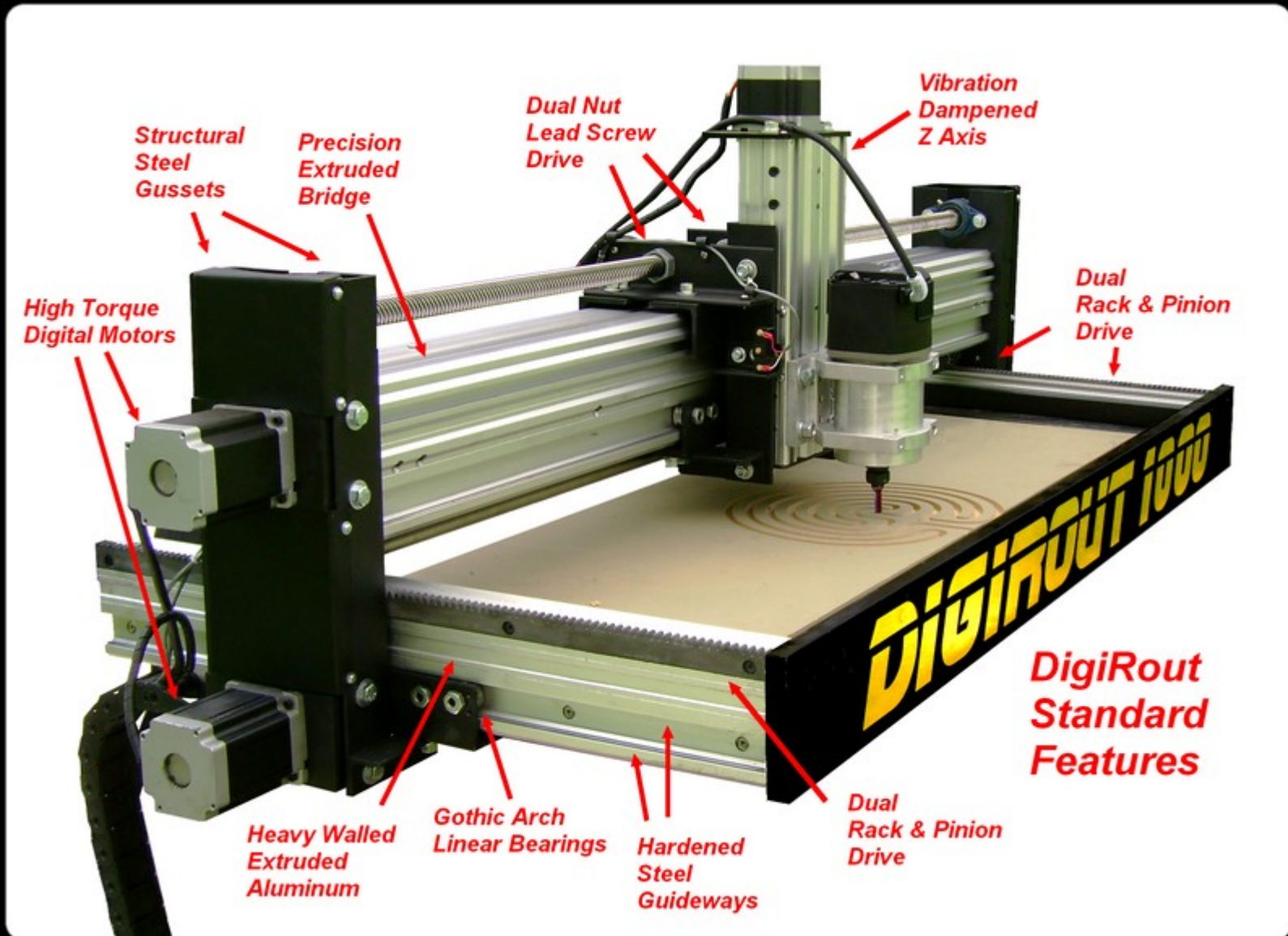
Fresa CNC (Router)

X/Y/Z axis and directions of travel



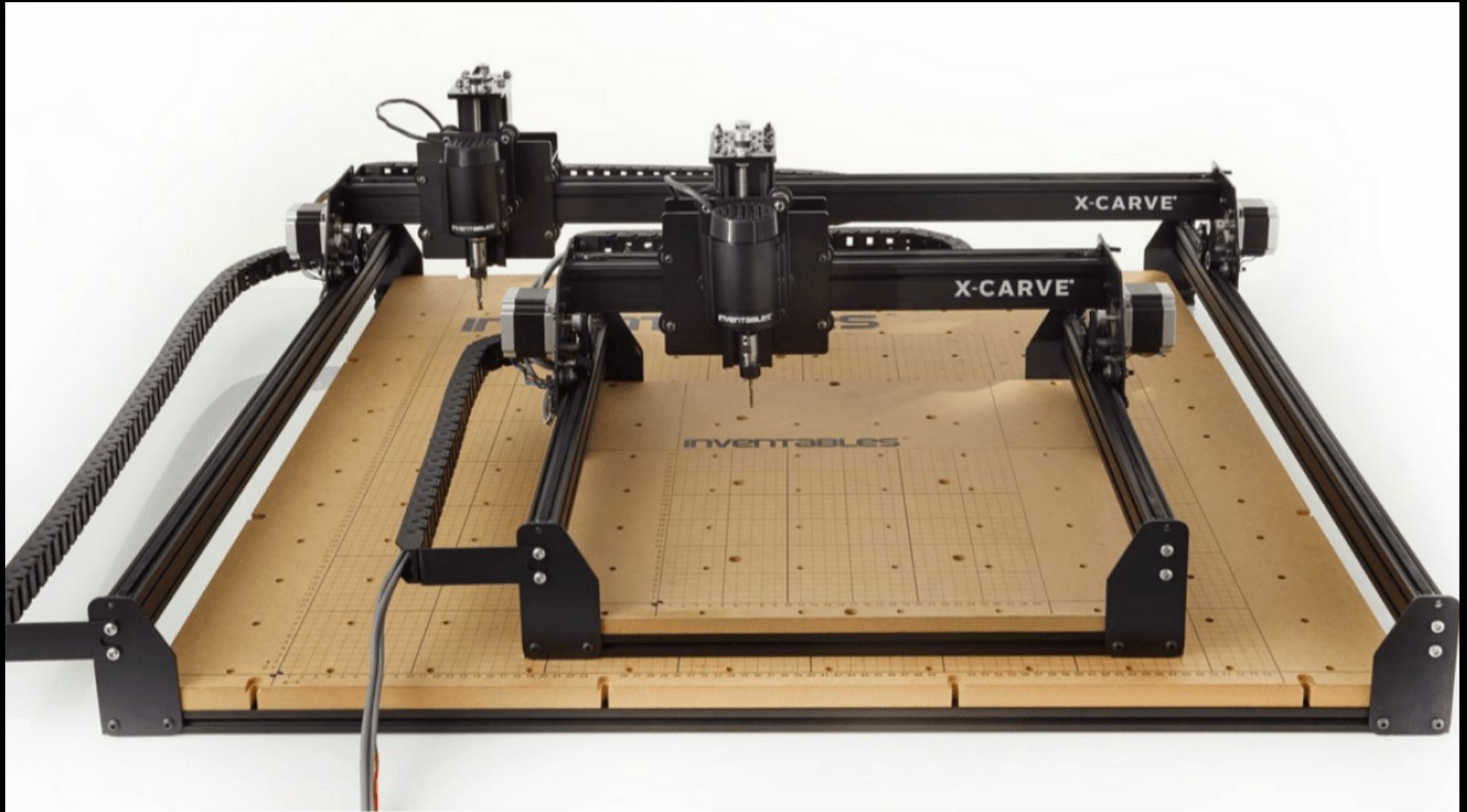
Fabricação e prototipagem

Fresagem



Fabricação e prototipagem

Fresa CNC (Router)



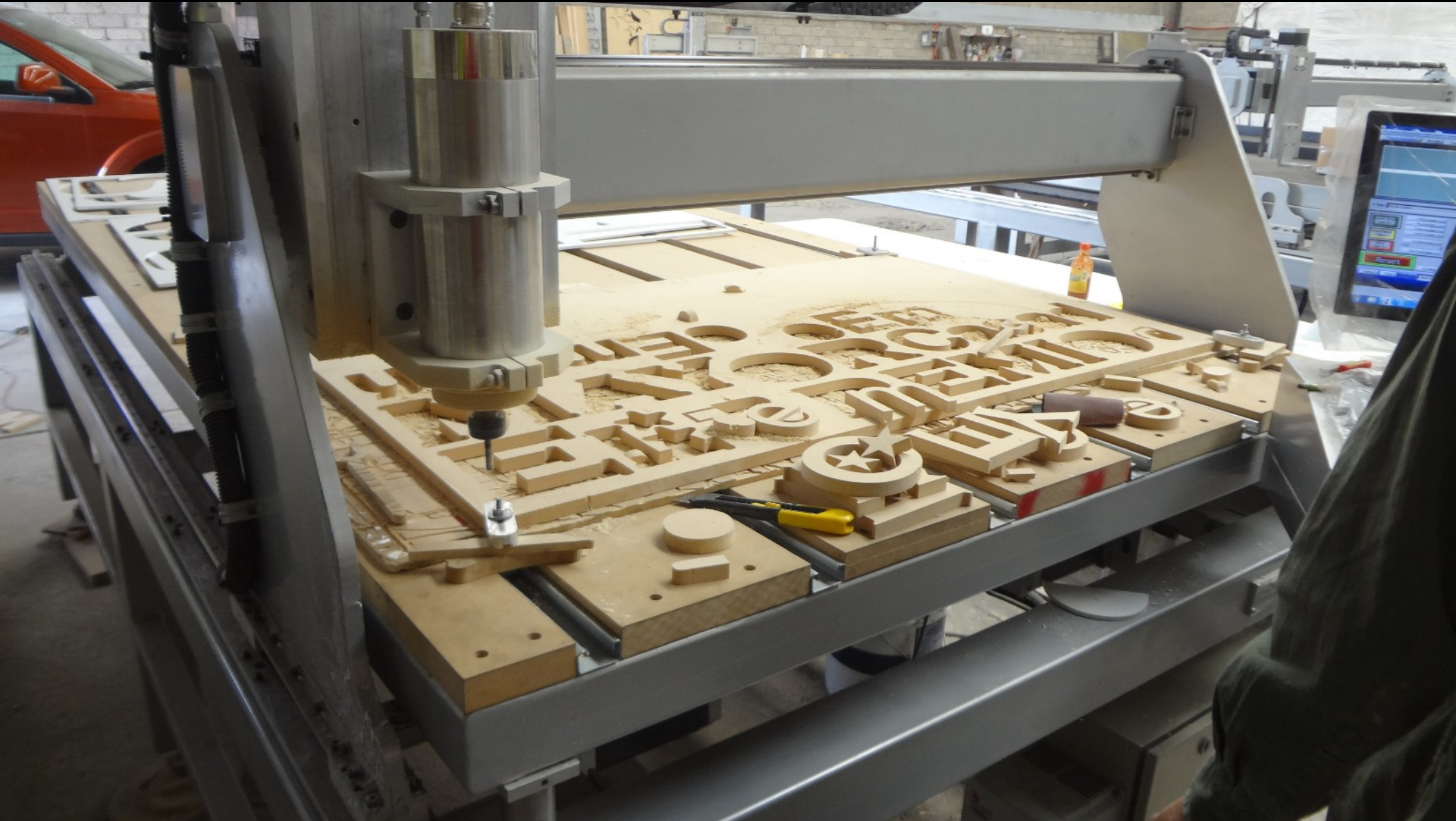
Fabricação e prototipagem

Fresa CNC (Router)



Fabricação e prototipagem

Fresagem



Fabricação e prototipagem

Fresagem



Fabricação e prototipagem

Fresagem



Fabricação e prototipagem

Fresagem



Fabricação e prototipagem

Fresagem



Fabricação e
prototipagem
Fresa CNC (Router)



Fabricação e prototipagem Fresa CNC (Router)

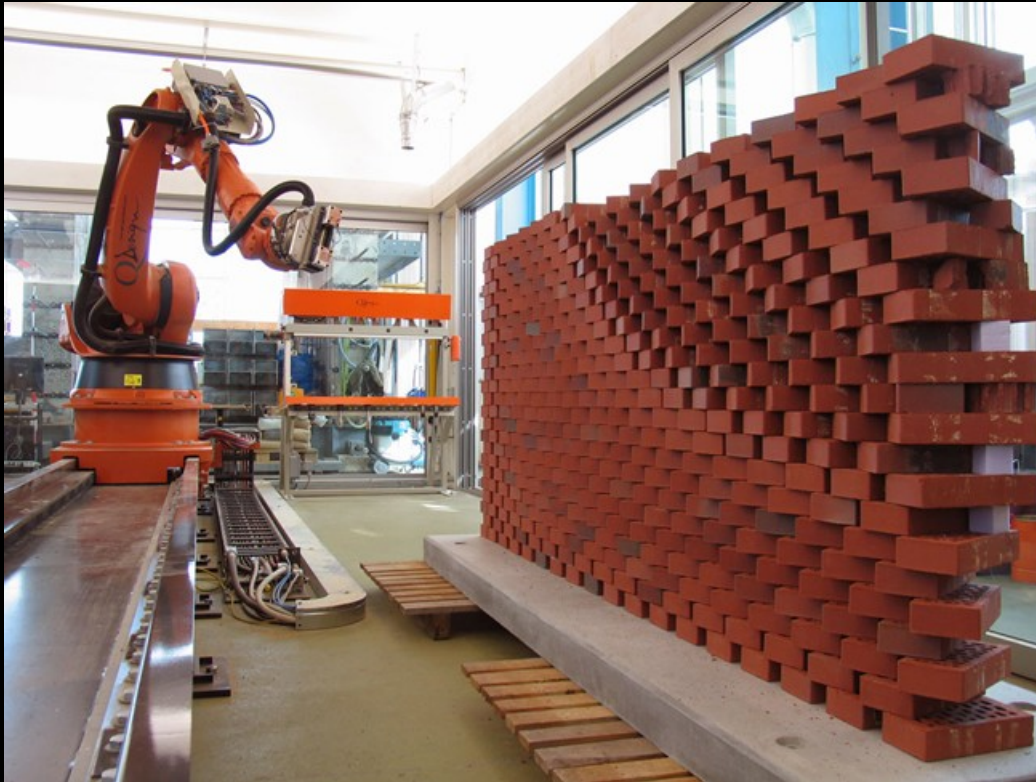


Fabricação e prototipagem Fresa CNC (Router)



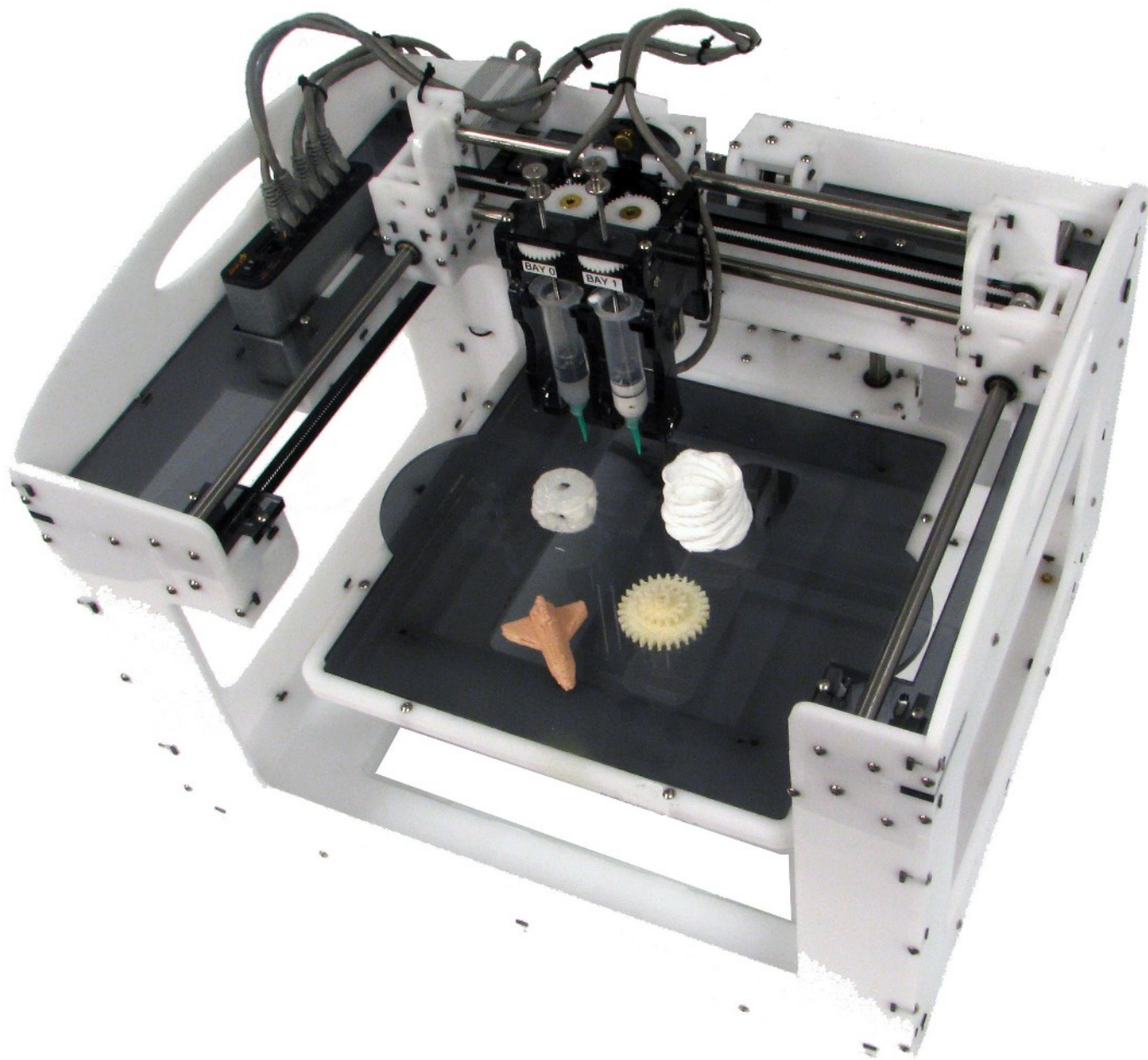
Fabricação e prototipagem Fresa CNC (Router)

Braço Robot com Fresa

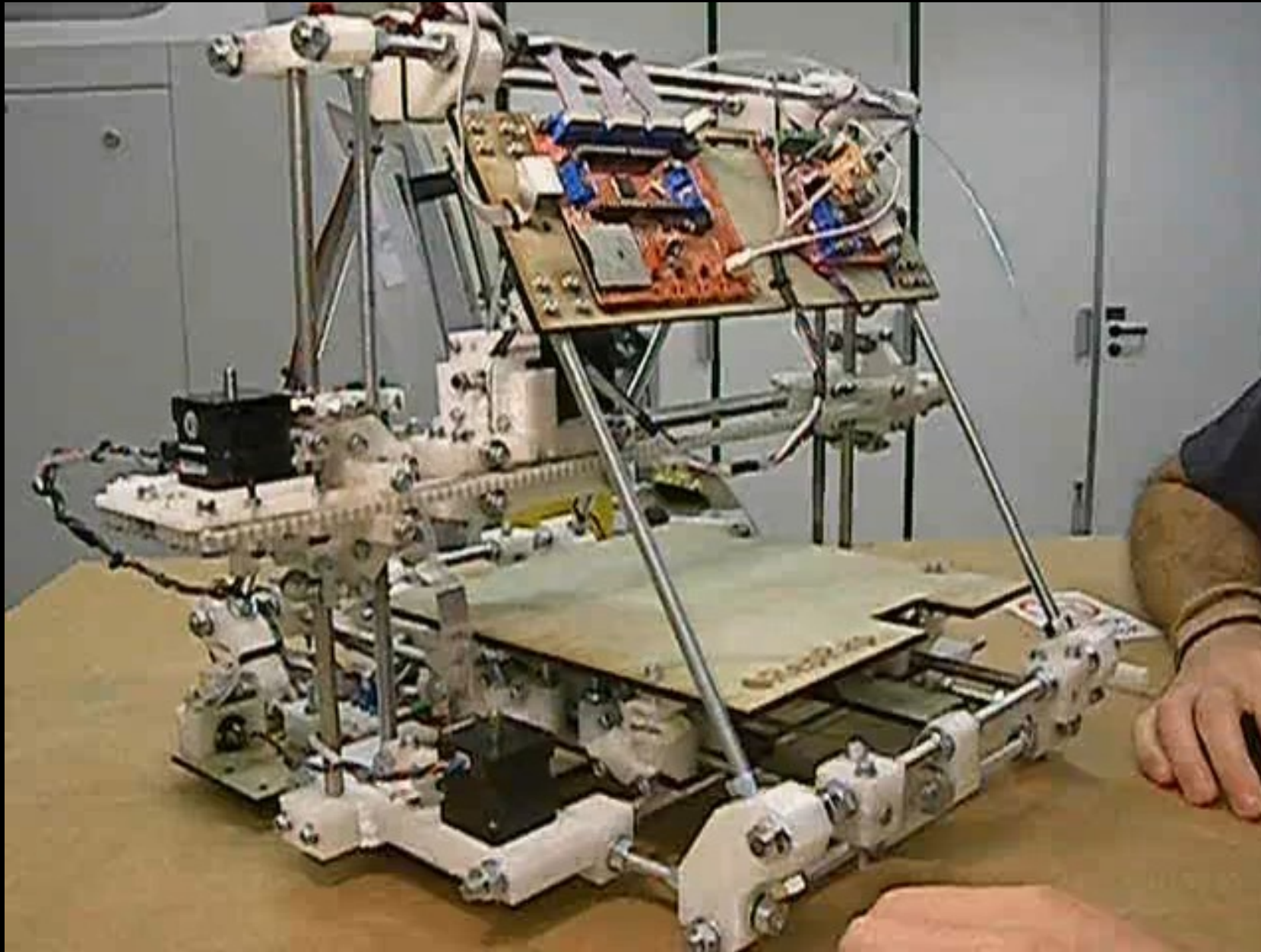


- Estereolitografia
- Sinterização
- Dimensions
- Zcorp
- Object
- Reprap, Makerbot <http://www.makerbot.com/>
-

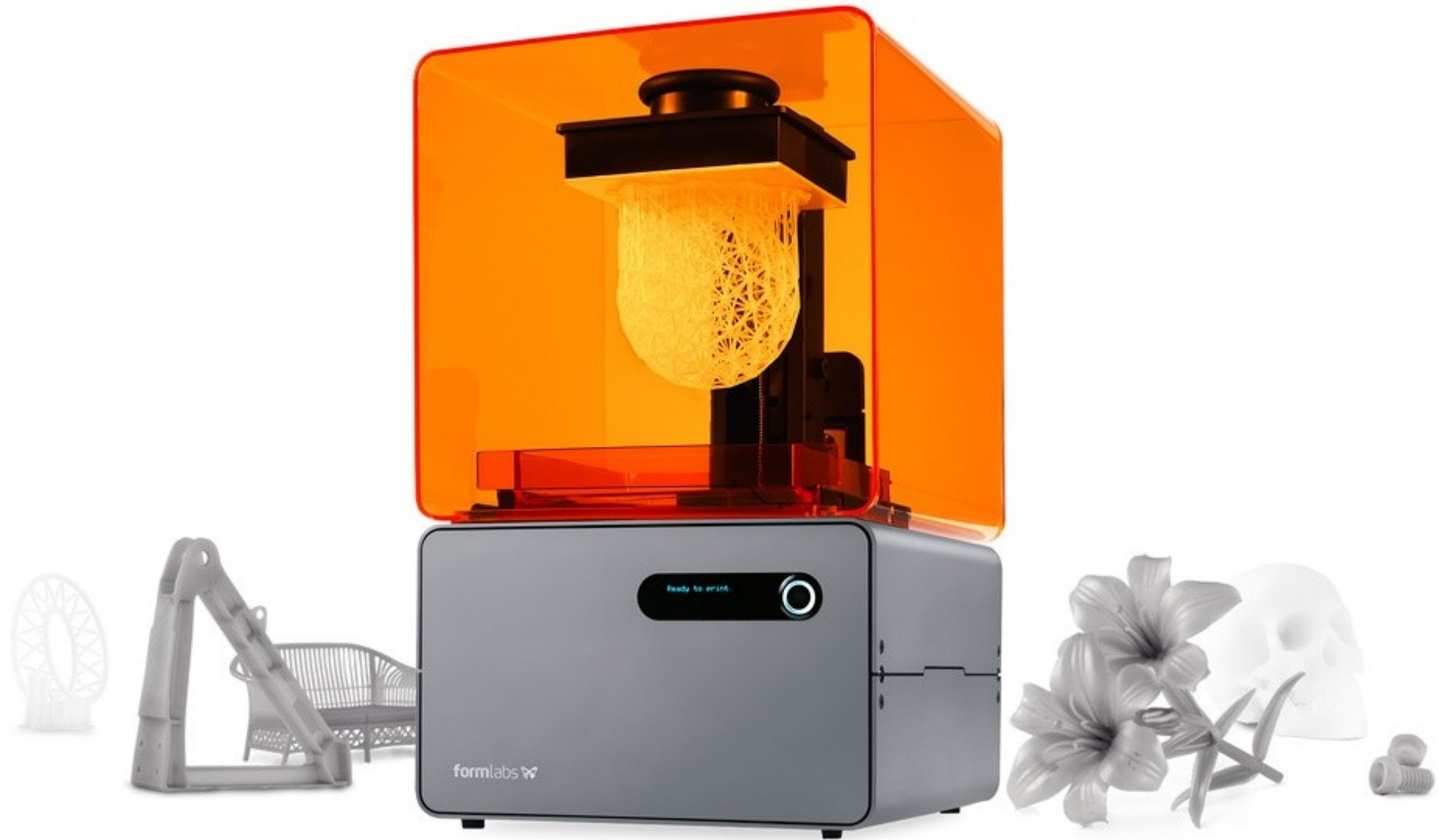
Impressão 3D



Impressão 3D – RepRap.org



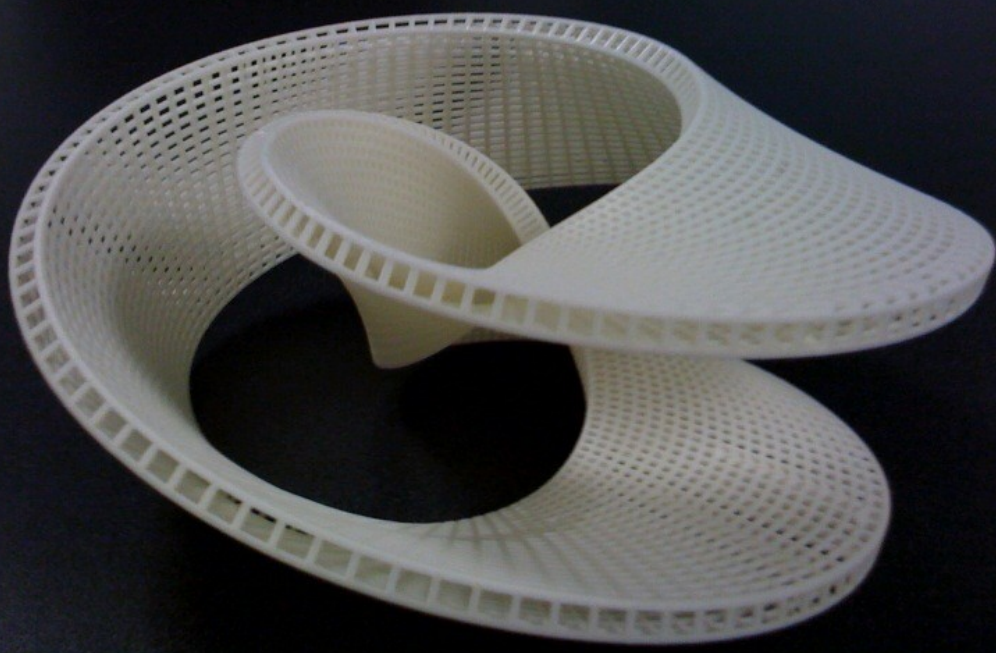
Impressão 3D - Formlabs



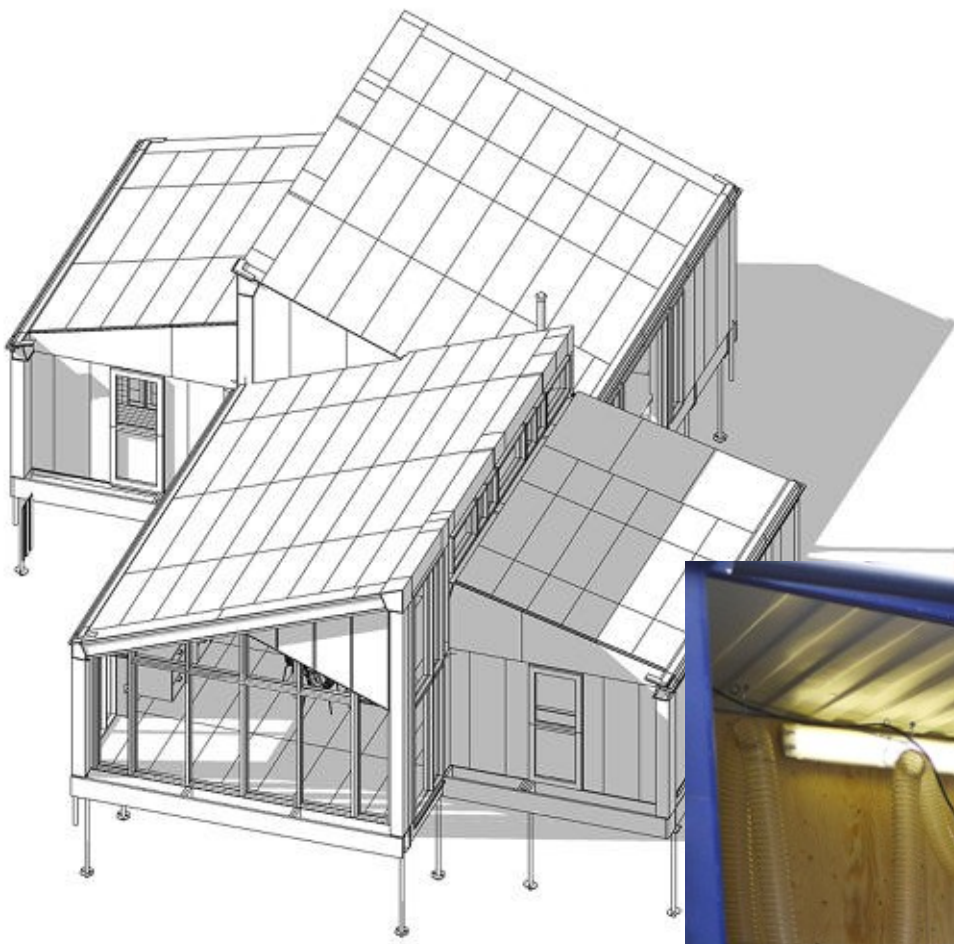
Impressão 3D



Impressão 3D



Fabricated Architecture





Fabricated Architecture

