

The logo for MAXIV, featuring the word "MAXIV" in a light grey, sans-serif font. A yellow swoosh underline is positioned under the "X" and "I". The logo is set against a dark blue background with a white swoosh graphic that curves around the text.

MAXIV

SVG Synoptic Graphical User Interface

GUI workshop, ICALEPCS 2023

Vincent Hardion, 7/10/2023

Agenda

SVG

Synoptic connected with Tango

Pan

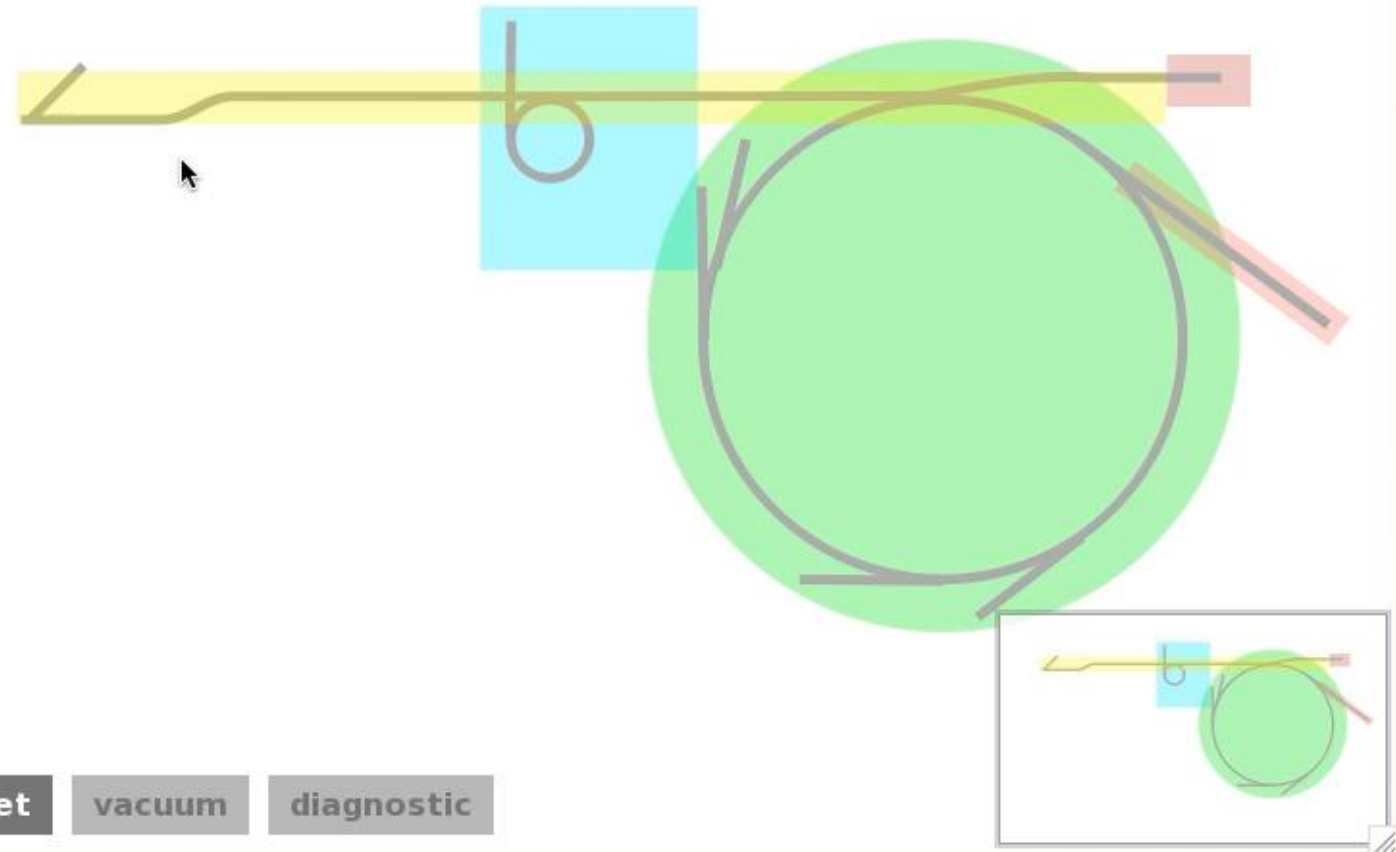
Zoom

Layers

- Advance Zoom feature
- Functional Layers

Misc

- Tooltip
- Open Specific panel
- CSS, ...



SVG

- **Web standard**
- **Markup language for describing two-dimensional graphics applications and images**
- **Inkscape, one the greatest drawing software is also fully open-source**

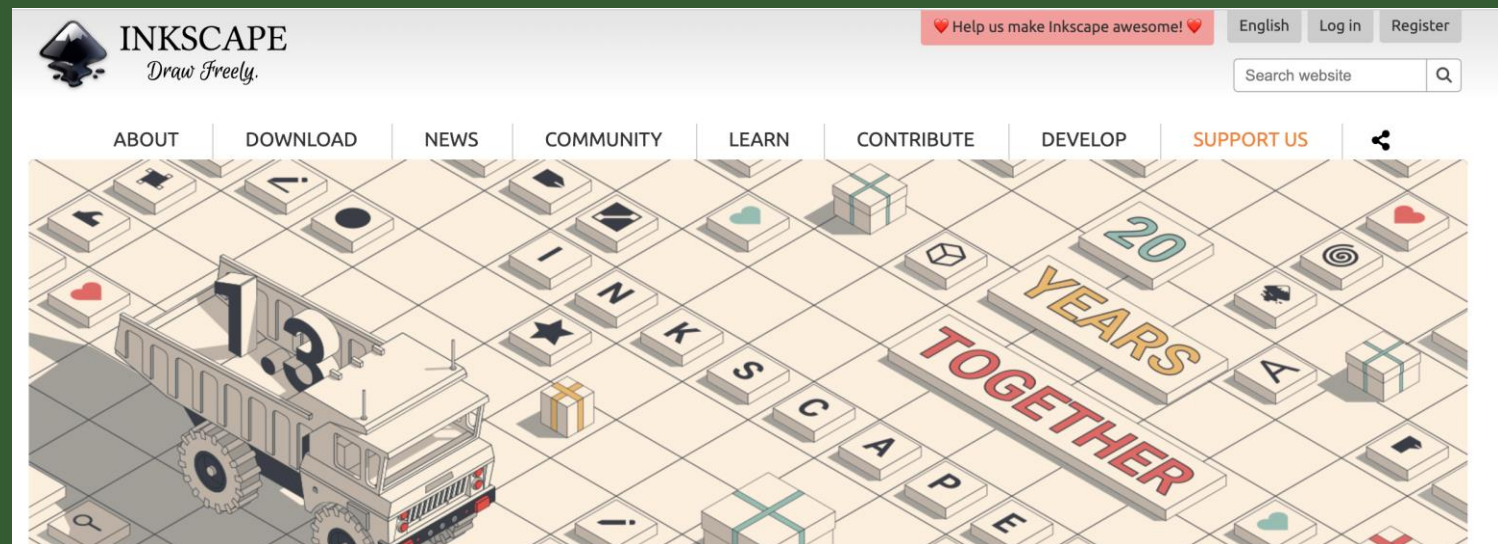


W3C Recommendation



Scalable Vector Graphics (SVG) 1.1 (Second Edition)

W3C Recommendation 16 August 2011



The screenshot shows the Inkscape website homepage. At the top left is the Inkscape logo with the tagline "Draw Freely.". To the right are links for "English", "Log in", and "Register", along with a search bar. Below the header is a navigation menu with links for "ABOUT", "DOWNLOAD", "NEWS", "COMMUNITY", "LEARN", "CONTRIBUTE", "DEVELOP", and "SUPPORT US". The main content area features a 3D isometric illustration of a truck with the number "1.3" on its side, surrounded by various icons and text elements like "20 YEARS TOGETHER" and "INKSCAPE".

SVG Synoptic

Render with
WebKit

Desktop PyQt

Control System
communication
with Taurus



```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!-- Created with Inkscape (http://www.inkscape.org/) -->
<svg
  xmlns:ns0="http://www.iki.fi/pav/software/texttext/"
  xmlns:osb="http://www.openswatchbook.org/uri/2009/"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:cc="http://creativecommons.org/ns#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:svg="http://www.w3.org/2000/svg"
  xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink"
  xmlns:sodipodi="http://sodipodi.sourceforge.net/DTD/sodipodi-0.dtd"
  xmlns:inkscape="http://www.inkscape.org/namespaces/inkscape"
  width="1530.0371"
  height="889.6319"
  id="svg2"
  version="1.1"
  inkscape:version="0.92.3 (2405546, 2018-03-11)"
  viewBox="0 0 1530.0371 889.6319"
  preserveAspectRatio="xMinYMin meet"
  sodipodi:docname="beamline.svg"
  style="text-rendering:optimizeSpeed">
```

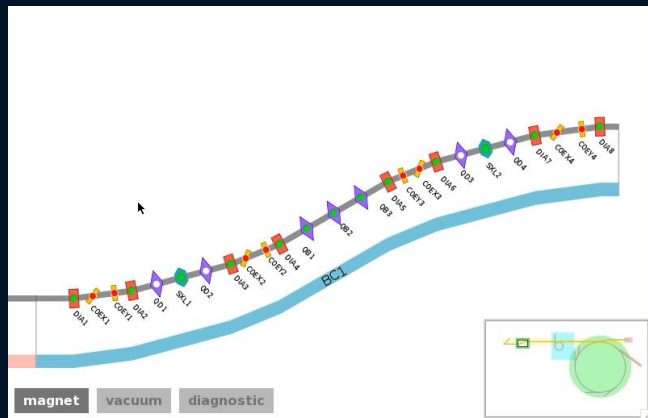
	WebKit
	Qt
	Taurus
	Tango Control System

BUILT IN FEATURE

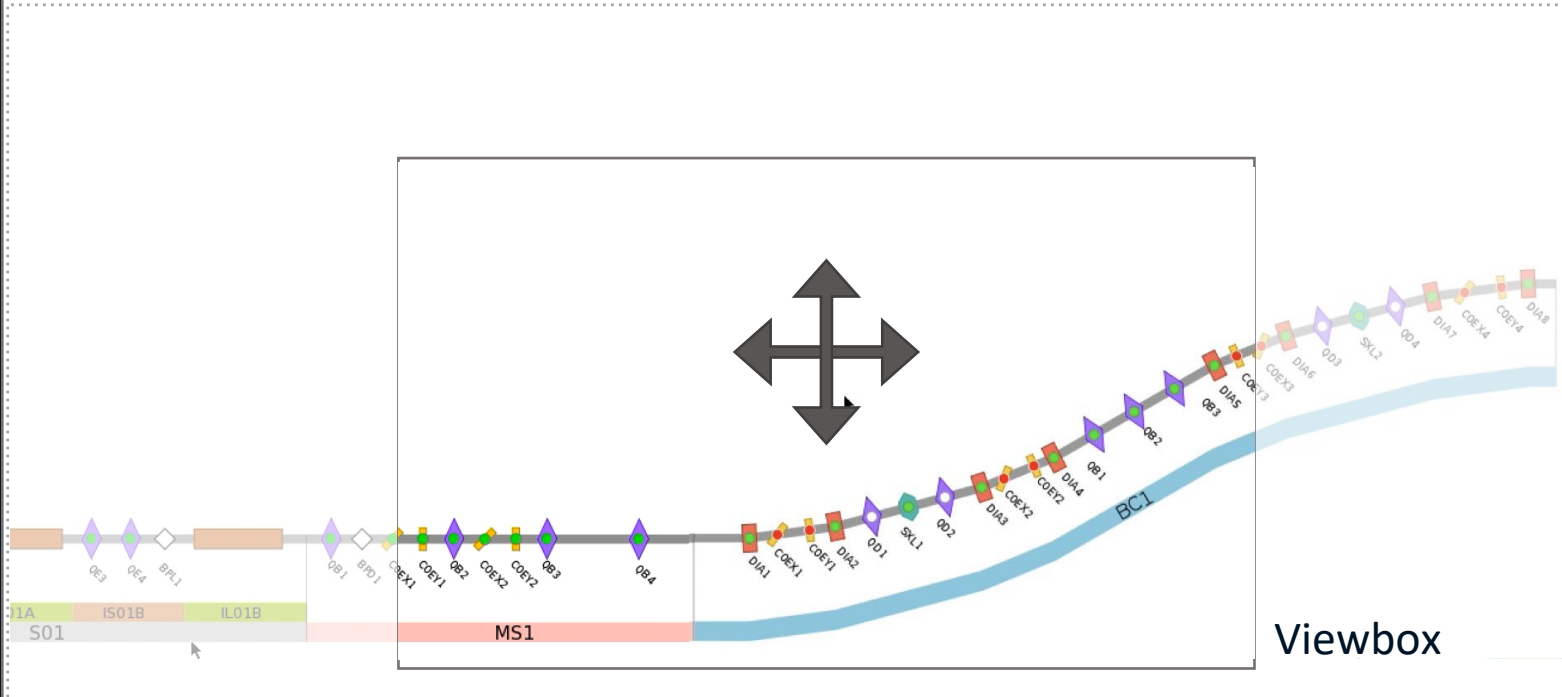
SVG is a complete set for rendering image

PAN/ZOOM

View port



PAN

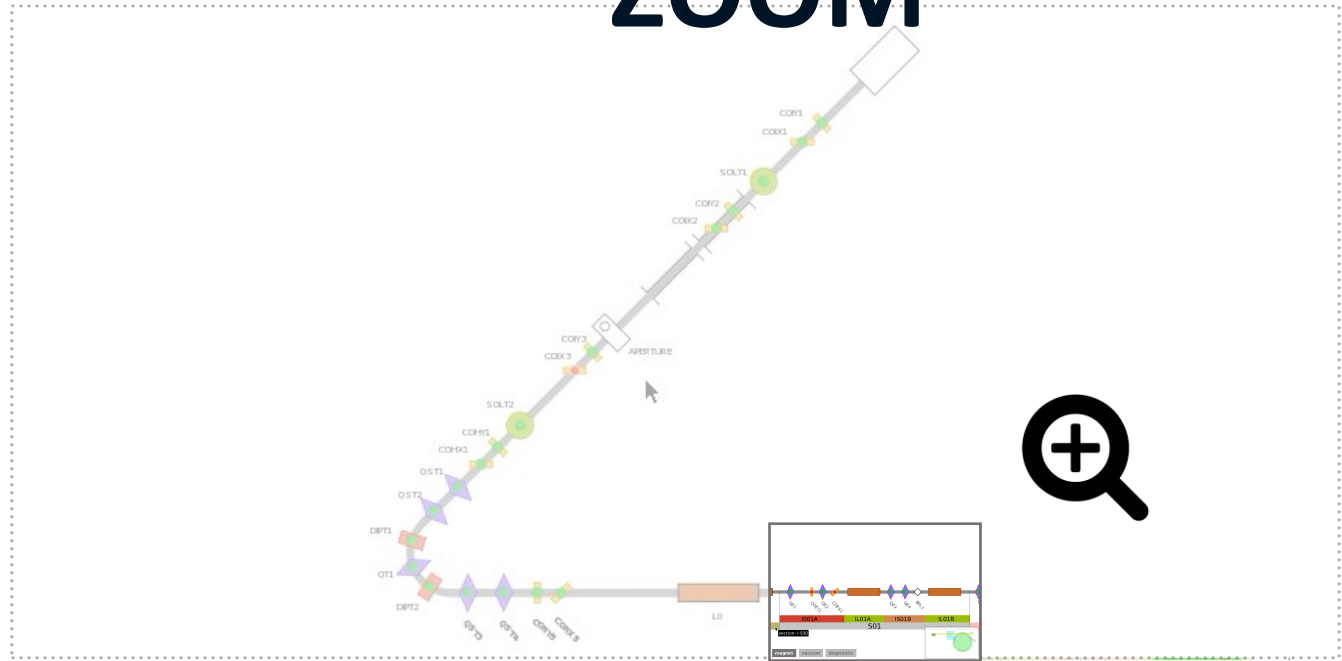


SVG is rendered as vectorial drawing

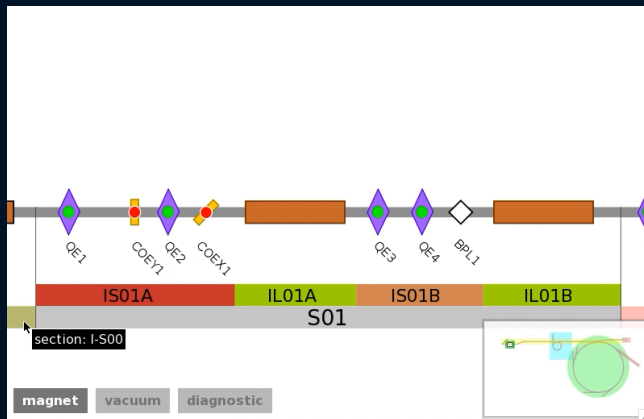
No loss of quality when Zoom

Thumbnail

ZOOM



Z factor



Thumbnail

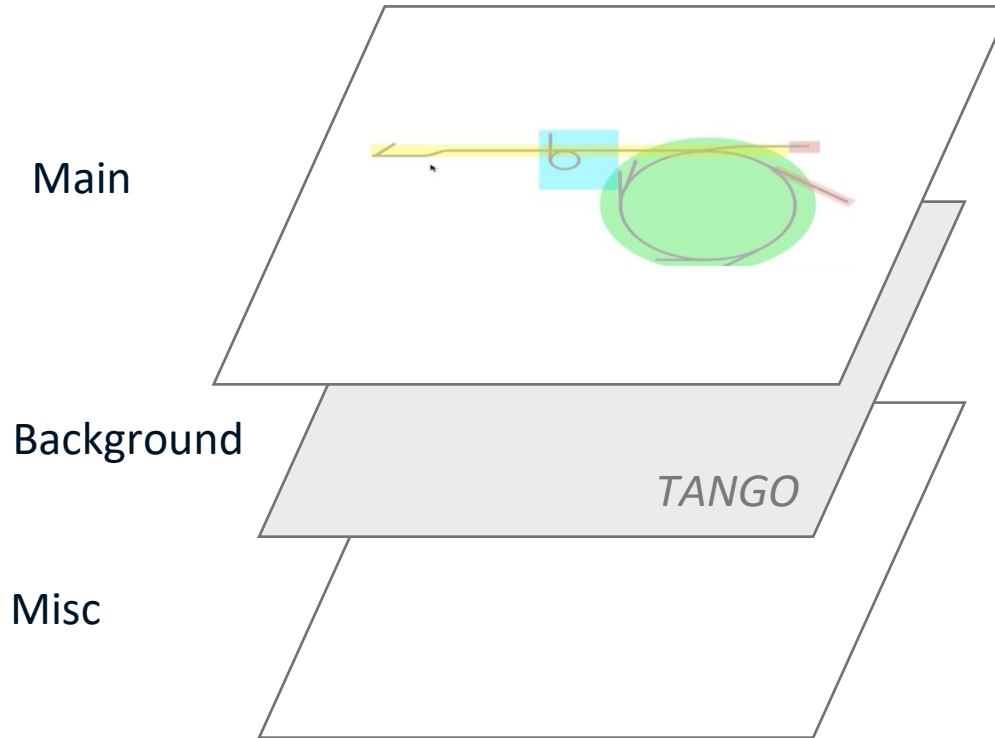


Layer

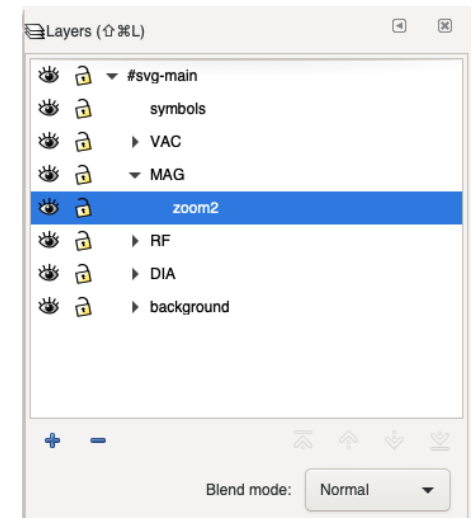
SVG Layer

Group components together

Can be define in sequence and nested



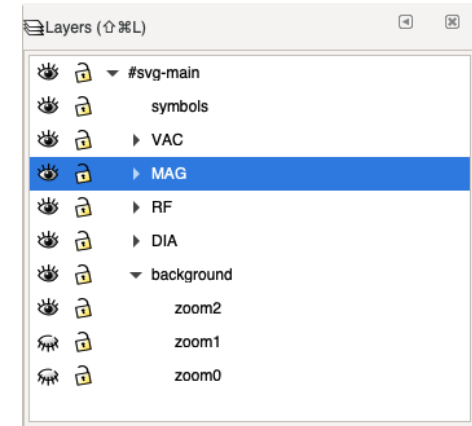
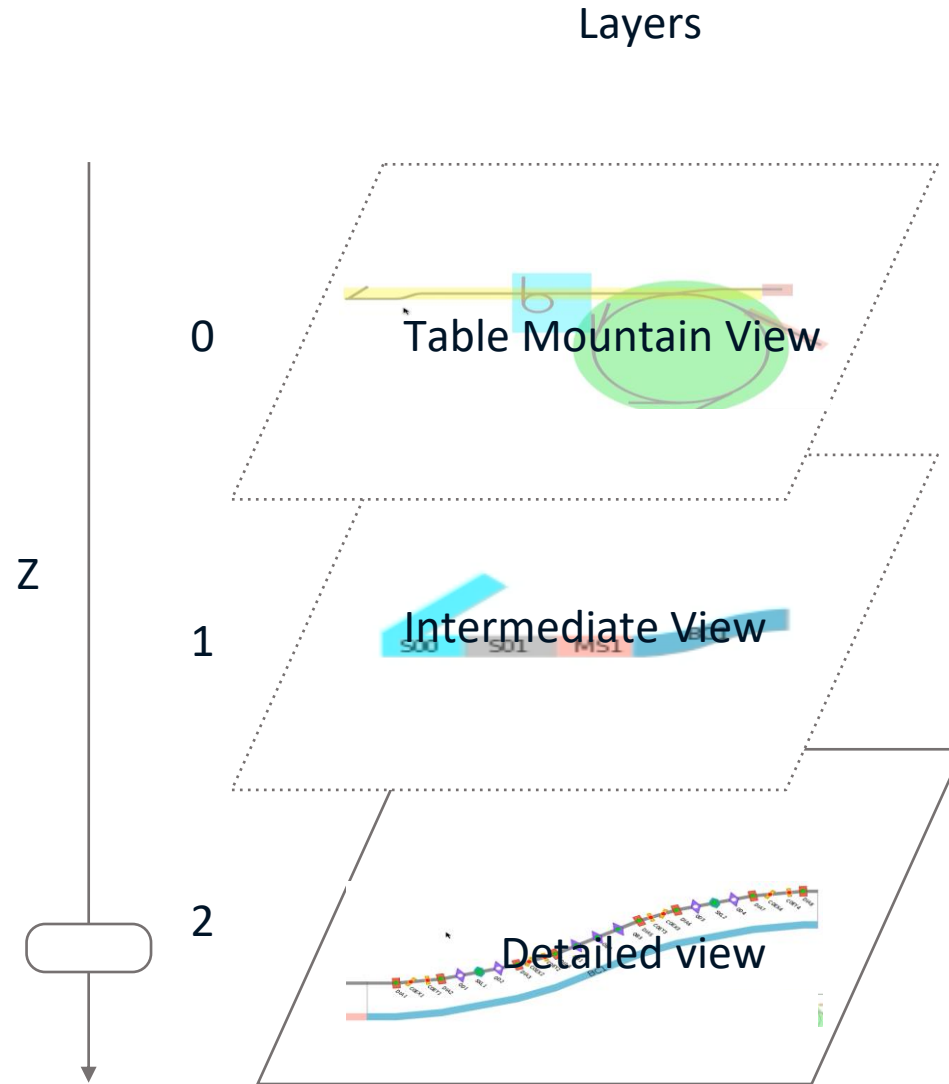
```
<svg>  
  <g id="Main">  
    <g id="Background">  
      ...  
    </g>  
    <g id="misc">... </g>  
  </g>  
</svg>
```



Zoom Layer

Hide and Show following the level of zoom

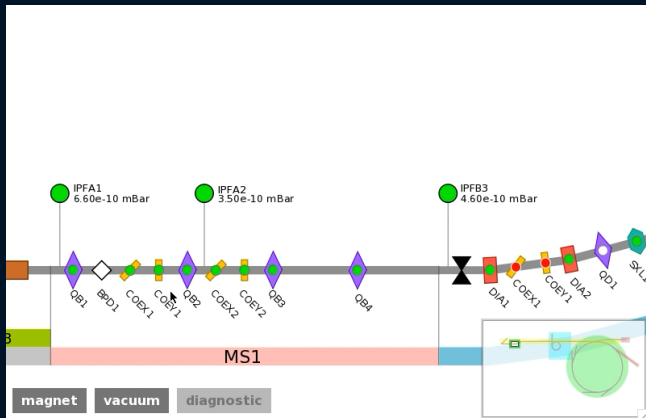
Zoom can be continuous (mouse wheel) or discrete (click)



```
<g style="display:inline;opacity:1" inkscape:label="zoom2" id="layer1" inkscape:groupmode="layer"
```

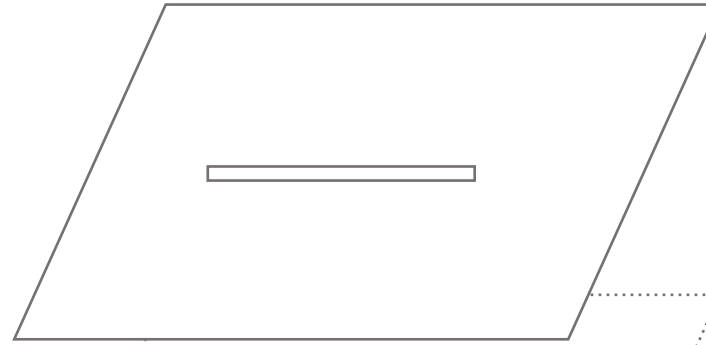

Functional Layer

Hide and Show on demand

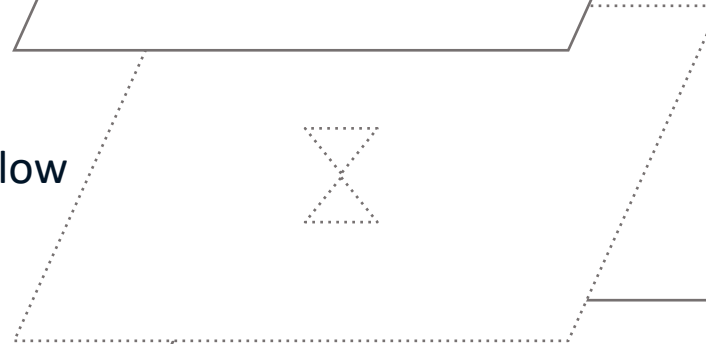


Layers

Main

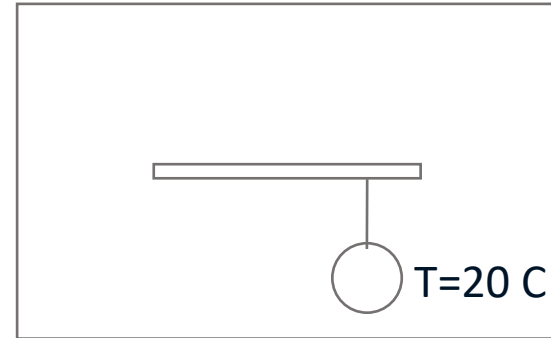
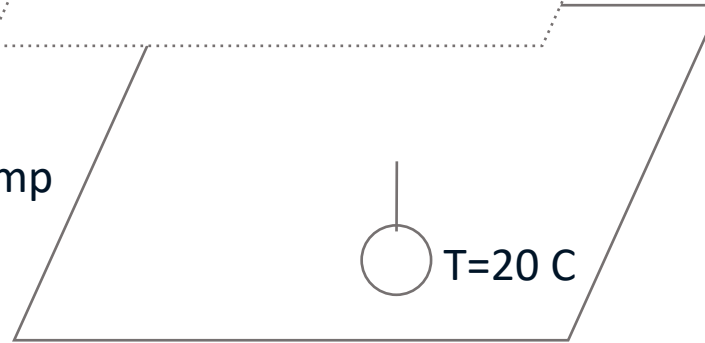


Flow



Same zoom level

Temp



```
<svg>  
<g id="Main">  
</g>
```

```
<g  
id="Flow"  
hidden=True>  
...  
</g>
```

```
<g  
id="Temp"  
hidden=False>  
</g>  
</svg>
```

Flow

Cooling



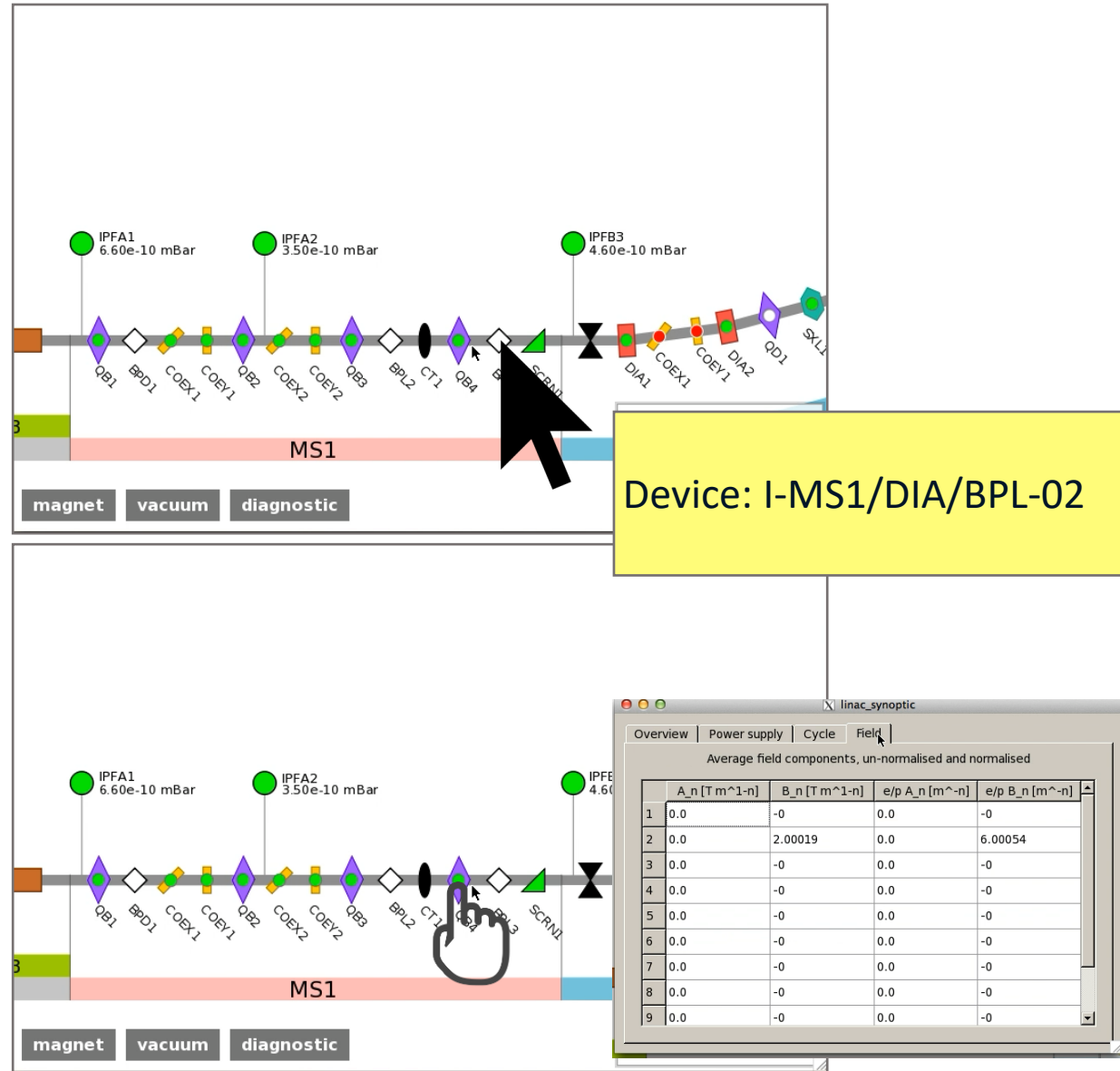
SVG is HTML

PART OF THE DOM

TOOLTIPS

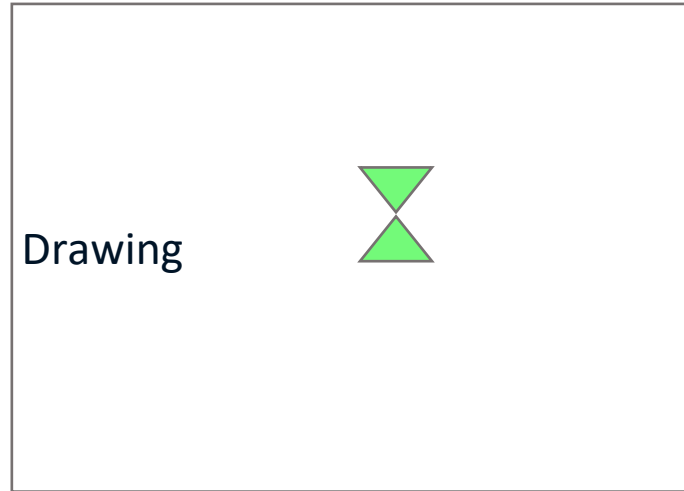
CLICK

CSS



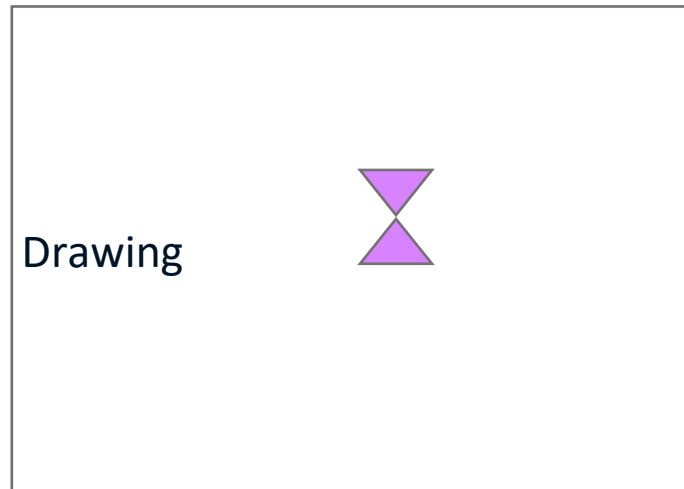
SVG is HTML

CSS powered



CSS:

```
.state[data-value="ON"]  
{fill: green !important}
```



CSS:

```
.state[data-  
value="ON"] {fill:  
purple !important}
```

Question?

