# MLA150 – convert

*Version of 09.07.2019.* Get the latest one at cmi.epfl.ch/photo/files/mla150/mla150.convert.php

## 1. Introduction

This manual explains how to use the MLA150 convert utility. It converts your layout into HIMT proprietary *.lic files, laser intermediate code, used to expose the substrates. NB: on MLA150 conversion is done online, i.e. during exposure.
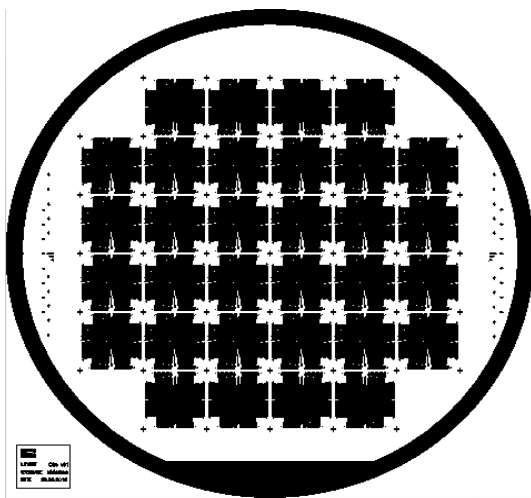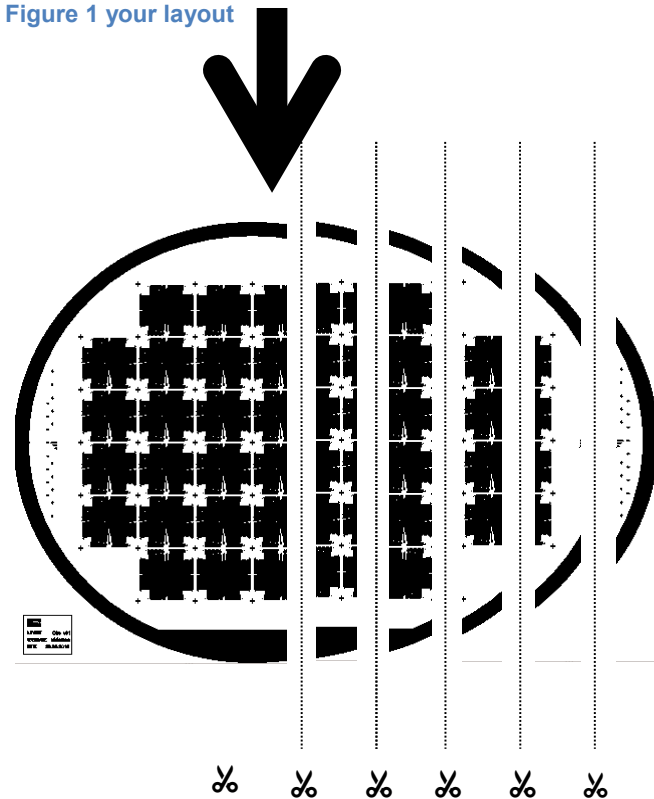


**Figure 1 your layout**



**Figure 2 convert cuts your layout into stripes: lic files**

## 2. Retrieve your design

You must move your design onto the computer attached to the MLA150. You can do that by using

- cmi/epfl **network drive**:

        \\sti1files\cmi-transfert\{cmi_username}

- **web browser** as a window to the world

        Retrieve an **email attachment**

                webmail.epfl.ch
                imp.epfl.ch
                ewa.epfl.ch
                gmail.com
                live.com

        retrieve form **online storage**:

                my.epfl.ch
                drive.switch.ch
                dropbox.com
                drive.google.com

**Prefix your design with your initials,** i.e. John Doe's design becomes  ->  **JDo_**channel13.gds

| characters for filename | |
|---|---|
| ok | not ok |
| a..z A..Z 0..9 _ <br><br>[alpha numeric underscore] | - . , ; : < > ? * ( ) @ ! <br><br>space, dash, dot, period, comma, semicolon, colon, special characters |

| filename extensions | |
|---|---|
| ok | not ok |
| gds<br>cif<br>dxf<br>gbr, *.g* | GDS,gds2,gdsii,sf<br>CIF<br>DXF<br>GBR, Gerber |

Save your design to one of the directories:

> /home/convert/gdsii
> /home/convert/cif
> /home/convert/dxf

Do not create your own directories, such as

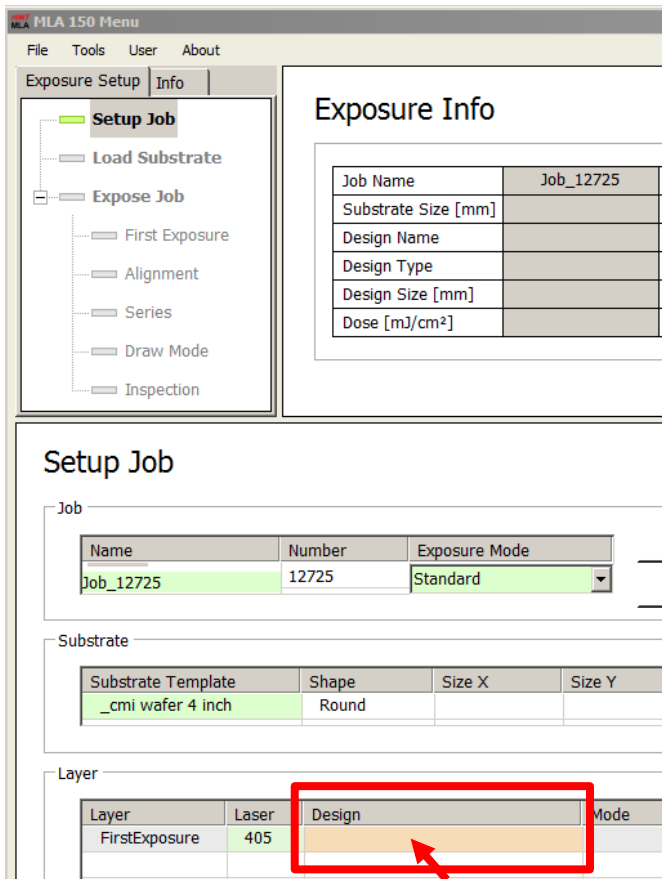> /home/convert/{myDirName}/{myGdsii.gds}

**WARNING:** data / jobs are archived / deleted after 30 days, with the only exception: design data that is currently referenced in job younger than 30 days
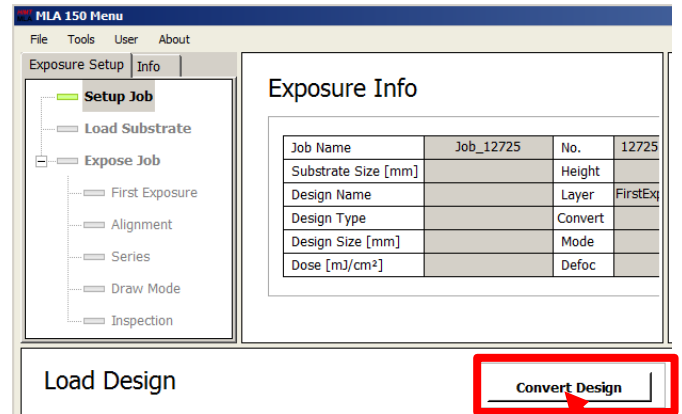
### No-go / forbidden:

> USB flash drives
> memory cards (SD-cards, etc. )

> Rename design to be recognized:

## 3. Invocation

You do not invoke the convert utility directly. When you "Setup Job", and define the "Layer" to be direct-written, you double click on the "DesignEntry" or the "empty orange box":



This opens the "Load Design" dialog, with the appealing "Convert Design" button
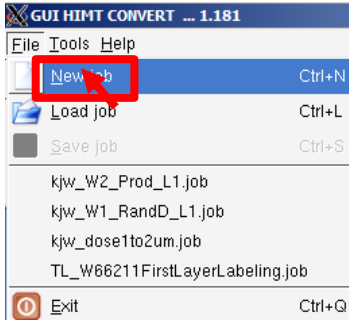


Clicking on "Convert Design" opens up the "GUI HIMT CONVERT" interface.

Under the covers, the Windows part of the software connects to a virtual machine that runs a SuSE linux, and starts the conversion software, which is then displaying on the windows part through an Xming X11-server. This is why the look and feel is "X11-ish" and no longer Windows-whatever-version-ish.
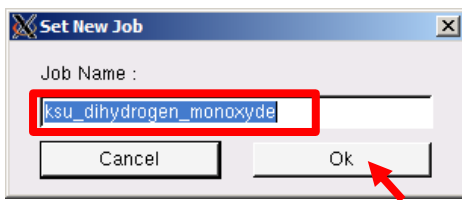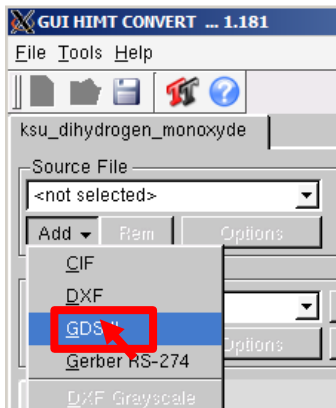
## 4. How to convert

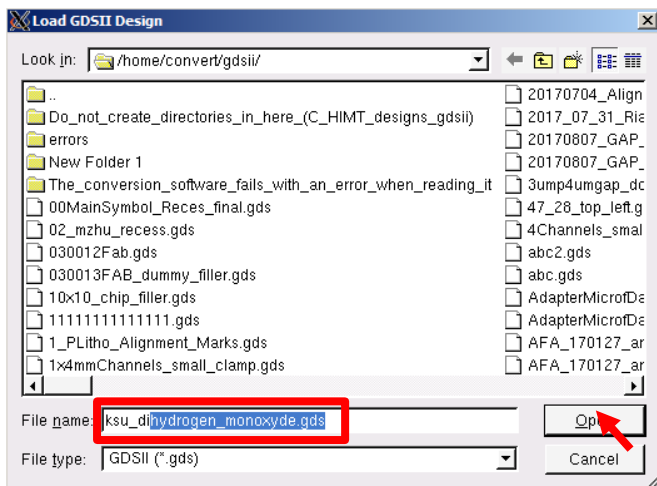Start a new job: File->NewJob (or "blank page").



Give a job name



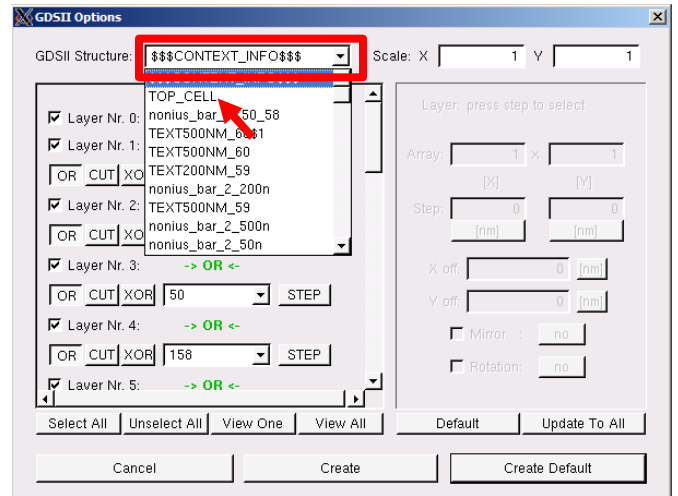Declare with "**Add**" what design format it is



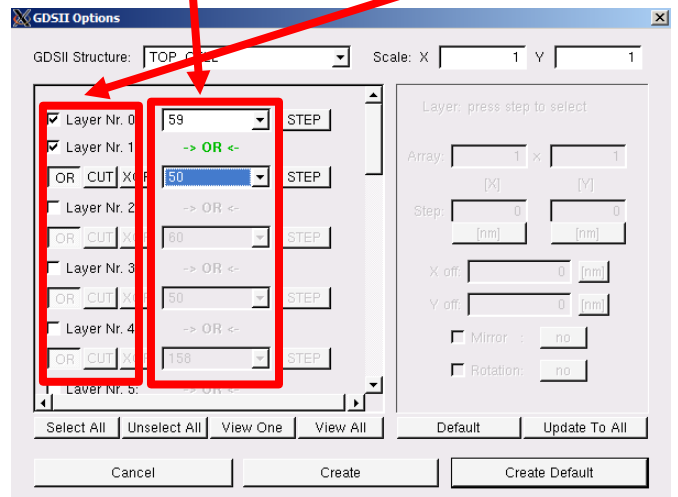This opens the select file dialog, do, then "**Open**"



Convert immediately reads the design and populates the "GDSII Options" interface.

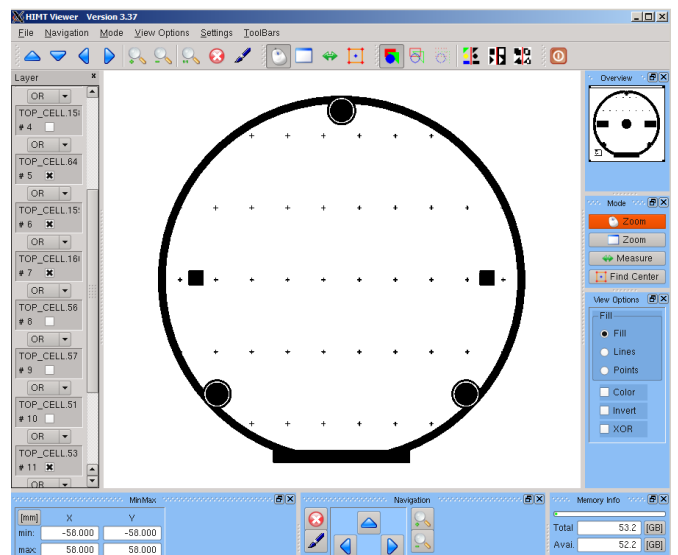Correct the **top structure** name.



Select the gdsii layer you want to expose.

NB: They are different from the HIMT Layers



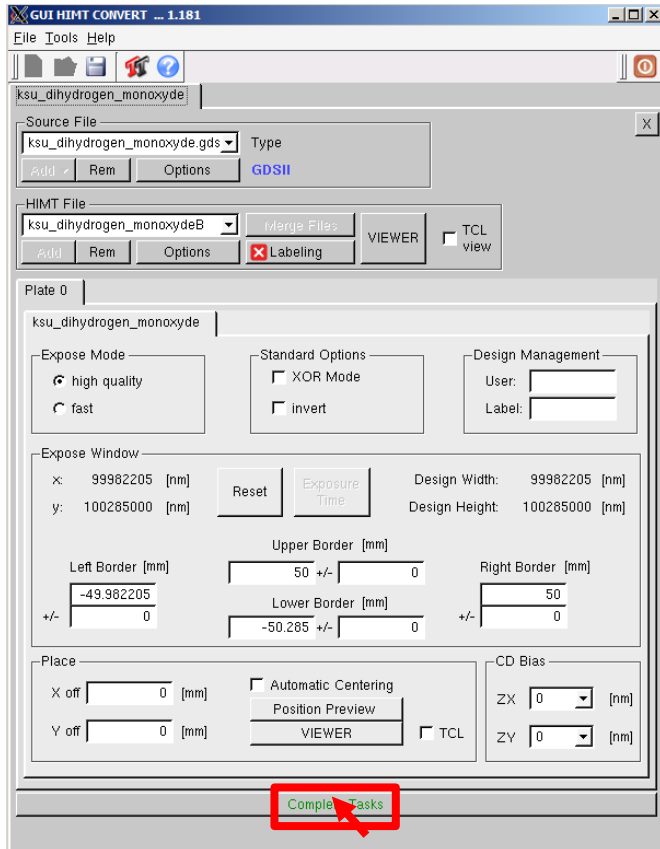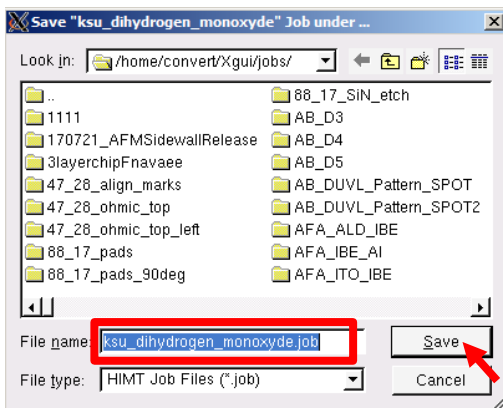Check with preview that you have made the correct selection

Check :

Exposure Mode: "**high quality**" or "fast"

Standard Options: "invert" (or default **non-invert**)

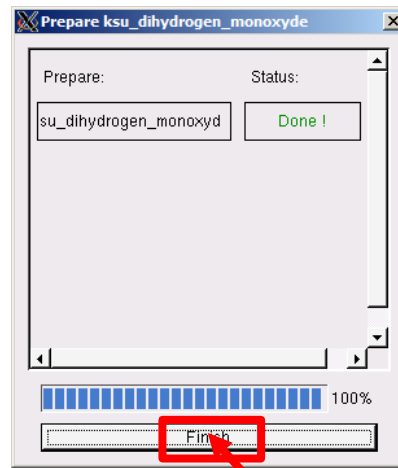Make sure the design is centred by comparing Upper/Lower Border, and "Left/Right Border".



When sure, click "**Complete Task**". The tool asks you to confirm a filename, which is the name that the job will have when you are back in the Windows interface. Click **Save**.
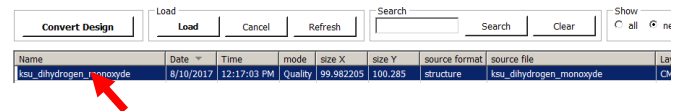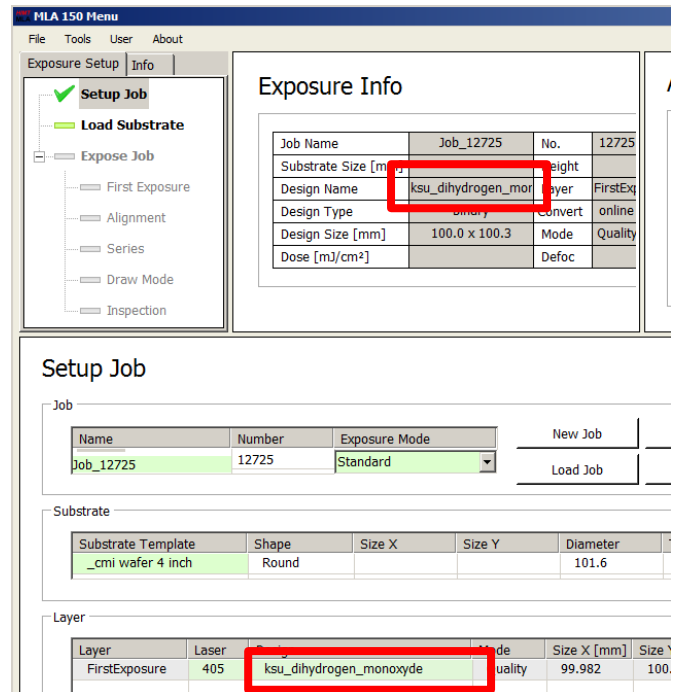


Conversion preparation will start and end.



Click "**Finish**" and the tool returns to Windows.

In the "load design" part of the interface, you will find most of the time as the topmost entry your jobname. Click-select it and load it with "Load".



Now you will find the jobname in the "Design" tab of the layer that is prepared to be exposed.



Continue with the "Exposure manual".

Bye.