

REPORTER 10.1 – Getting started



- Running REPORTER.
- A 1 minute introduction to REPORTER.
- Basic menu layout.
- Opening and closing templates and reports.
- Inserting and editing pages.
- Simple example:
 - Adding a D3PLOT image.
 - Adding a T/HIS image.
 - Variables.
 - Inserting text.
 - Page master.
 - Output files.
- This presentation is released together with example files, BLOCK_1 to BLOCK_4 and a REPORTER template, '*Reporter_example_March2012.ort*'.
- Note: Requires access to valid license of Oasys D3PLOT, T/HIS and REPORTER.



- REPORTER is designed to help you post-process analyses automatically. The idea is that you create a template which contains the instructions, or 'recipe', for how to post-process an analysis. When you run REPORTER on an analysis, it takes this template, applies it to the analysis and creates a report, which you can save in various formats (for example, HTML, PDF, PowerPoint)..
- For example you may want to run a set of standard checks on a series of analyses after they have completed, to check that the analyses terminated normally, there was not too much added mass, the energy balance is OK, etc. You would create a checking template in REPORTER and then this would be applied to each analysis you want to check.

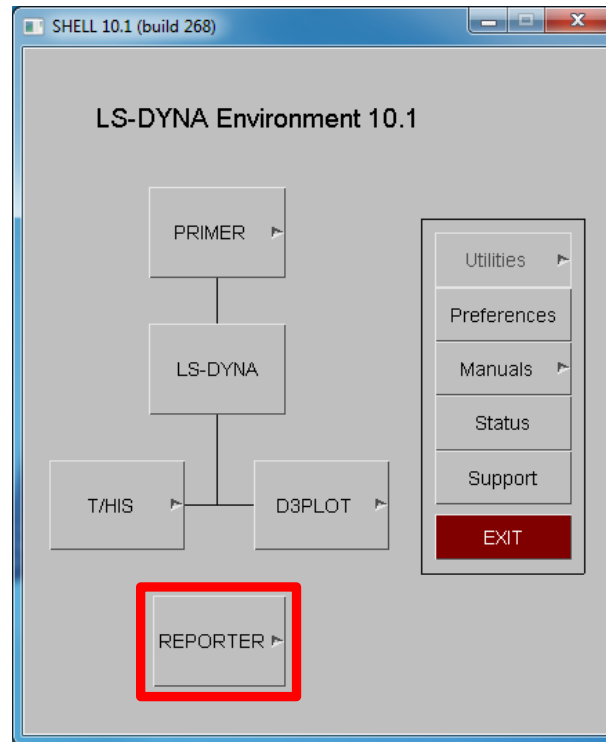


- A summary of the steps required to make a template is:
 1. Start REPORTER.
 2. Create a new empty template.
 3. Create pages (and/or a master page if required).
 4. Add objects on to pages. These can be simple things such as lines, text etc or advanced things like D3PLOT or T/HIS objects.
 5. Use variables to make the template generic.
 6. Save the template.



- Once you have created a template you can apply it to analyses as many times as you want:
 1. Start REPORTER .
 2. Open the template.
 3. Set the current analysis variable(s).
 4. Generate the report.
 5. Create output such as HTML, pdf, PowerPoint etc.

- REPORTER is run by selecting the REPORTER button menu on the Oasys Ltd shell.

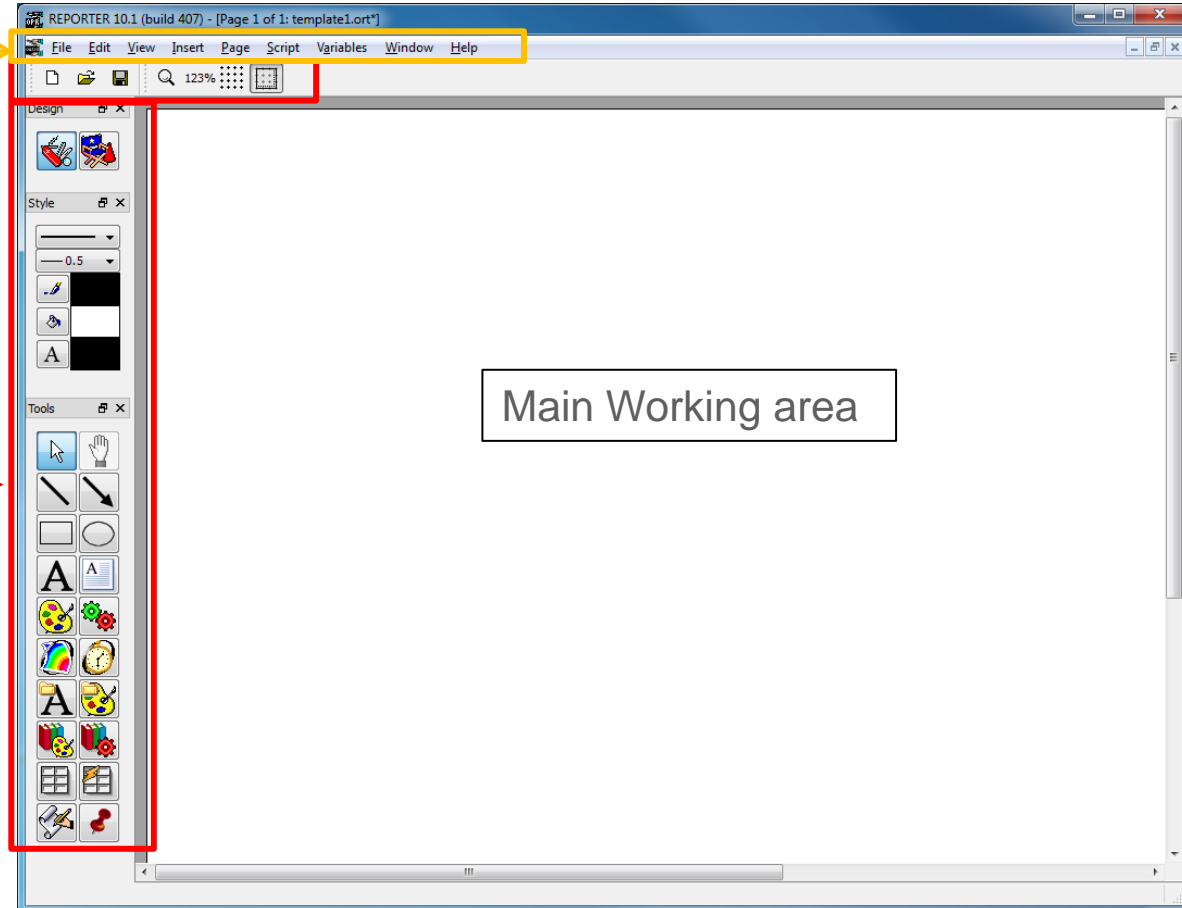


- Alternatively, you can right click on the button to give starting options for REPORTER.

- REPORTER runs within a single window. A typical REPORTER session will look like this:

Within this main window there are a number of sections:

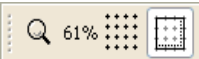
- Menu Bar** - Access to the main pull down menus.
- Toolbars** – explained on the next slide.





File toolbar

The file toolbar allows you to create a new template, open a template or save a template.



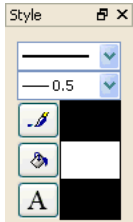
View toolbar

The view toolbar allows zooming in and out. This is the same as using the Zoom submenu from the View menu. You can also control the grid and snap tools.



Design toolbar

The design toolbar buttons allow you to swap between the "design" view and the "presentation" view. This is explained later.



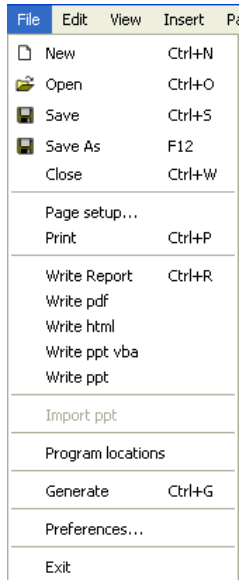
Style toolbar

The style toolbar allows you to change the line width, line style, line colour, fill colour and text colour for REPORTER objects.



Tools toolbar

The tools toolbar contains the various REPORTER objects which you can place on the page. These may be simple objects such as lines, rectangles, text etc. or more advanced objects such as a D3PLOT or T/HIS object or a library program object. If you hover the mouse over the buttons, a brief text description will temporarily be shown over the button and a longer text description will be shown in the status bar.



- Templates can be created, opened, or saved by either using the File menu or the File Buttons:



- **Creating a new template:** A new template can be created from either the New file option in the File menu or by using the New file button.



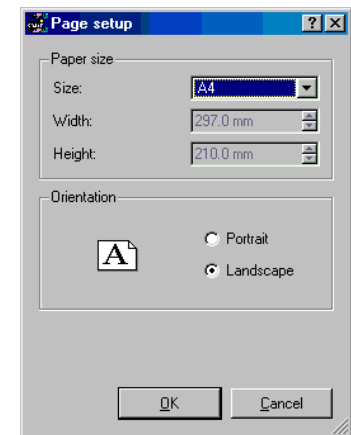
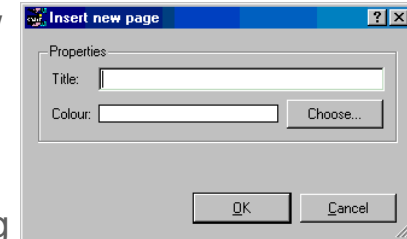
- **Reading an existing template or report:** An existing report template can be opened from either the Open file option in the File menu or by using the open file button.



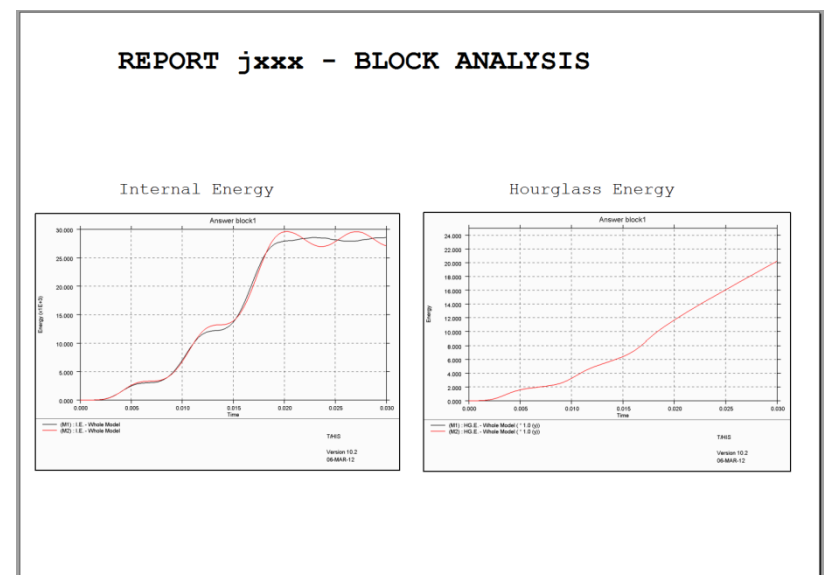
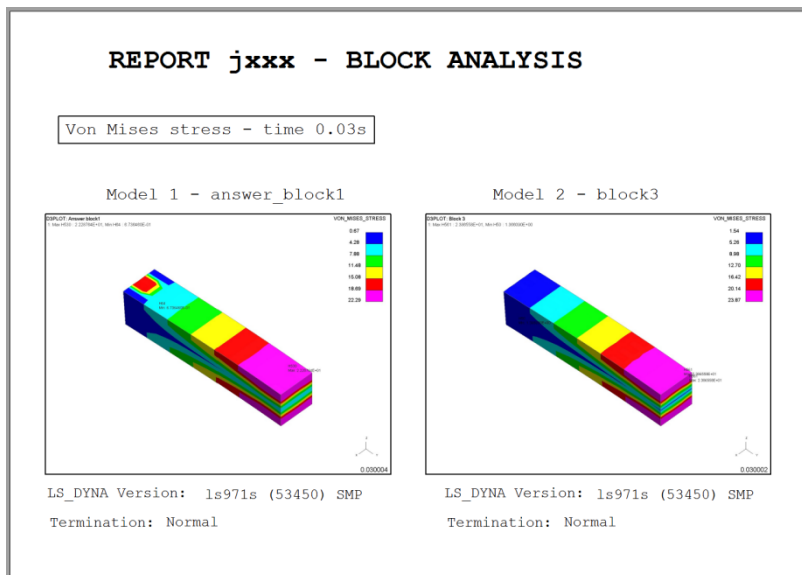
- **Saving a template (.ort):** A template can be saved by choosing the Save as option in the File menu and then changing the file type to template.
- **Saving a report (.orr):** A report can be saved by using the Write report option in the File menu. The difference between a report (.orr) and a template (.ort) is that a template just contains the instructions or recipe of how to construct the report, a report contains the **generated** objects as well.
- **Generating a Report:** To actually create the report you have to generate it. This could mean running D3PLOT objects, programs, FAST-TCF scripts etc. By saving the report (.orr) this also saves the output of programs, command files etc. with the template, so when you next read the file, the results are already available (the report does not need to be regenerated).
- **Saving a html, ppt or pdf version of the report:** File -> Write html or Write ppt or Write pdf.



Page	Script	Variables
New page...		
Reorder pages...		
Next		
Previous		
Properties...		
Reorder items...		
Insert...		
Insert from library...		
Export...		
Delete		
Duplicate		
Delete all pages		
Page master		
Generate page		

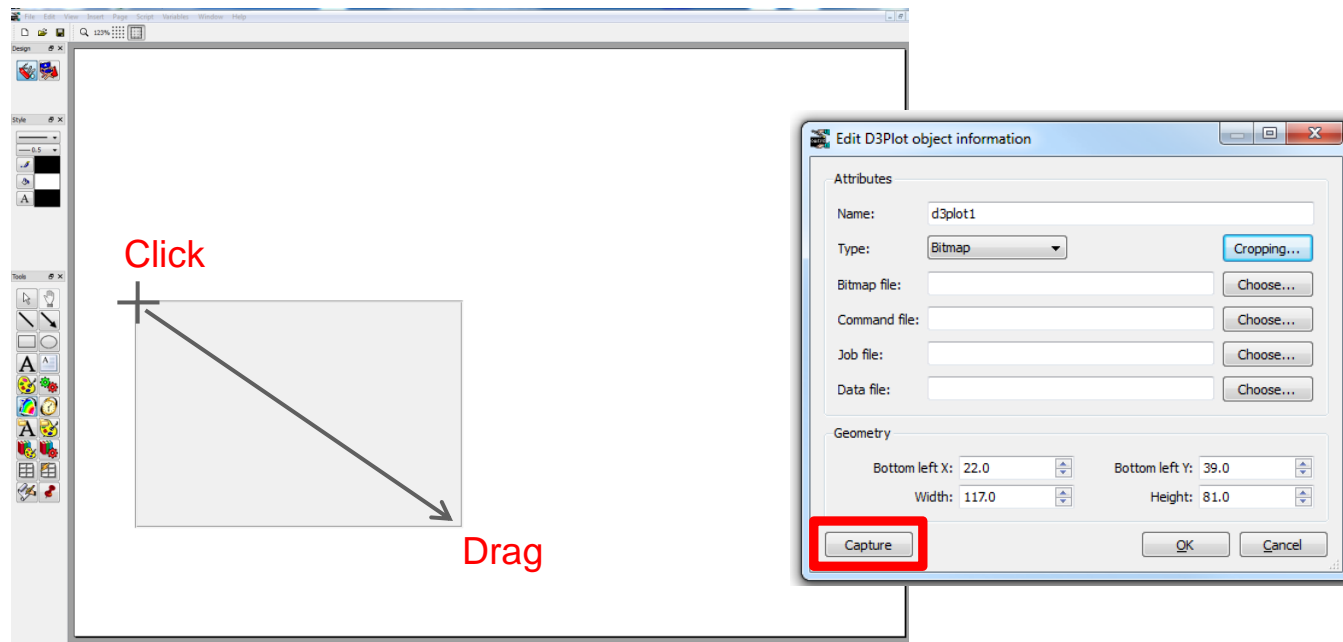
- A report is generally made up of a number of different pages. Only one page is shown on the screen at any one time. Moving through the pages of the report, adding, deleting, and reordering pages are all controlled from the Page menu.
- **Adding a new page:** A new page can be added by using the New page option in the Page menu. This will bring up a Page layout window from which you can give the new page a title and set the background colour.
- **Deleting pages:** You can delete the present page you are working on by using the Delete page option in the Page menu.
- **Duplicating pages:** You can copy the current page by using the Duplicate page option in the Page menu.
- **Reordering pages:** You can change the order of the pages in the report by using the Reorder pages option in the Page menu.
- **Page Setup:** To set up the page settings choose the Page setup option from the File menu:
- **Generating a single page:** Instead of generating the entire report you can generate a single page by using the Generate page option in the Page menu. However, note that if some of the objects on the page require data that would be generated on previous pages and those pages have not yet been generated, the page generation will not work.



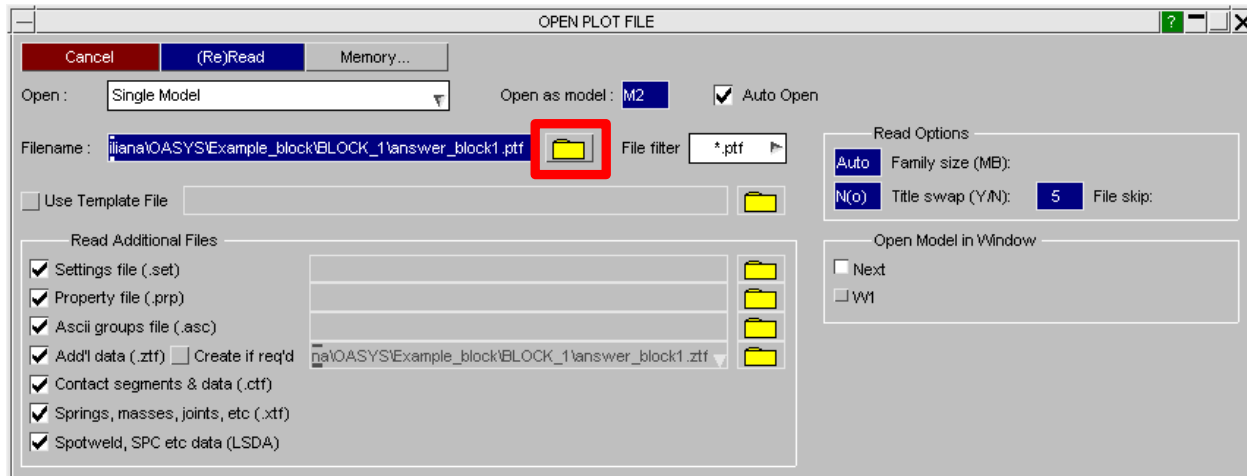
- The following slides will show how to build a REPORTER template and generate a final pdf report containing analysis results.
- The example will compare two runs: *answer_block1* and *block2*.
- The final report will contain two pages:
 - The first page will show stress results using D3PLOT (below left).
 - The second report page will show a comparison of the internal energy and the hourglass energy for the two analyses using T/HIS (below right).



- First open a REPORTER session from the Oasys shell.
- Create a new template:  By default the pages are set up as portrait. To change to landscape, go to File-> Page Setup -> Landscape-> OK.
- To add a picture showing model stresses click on the D3PLOT object button , click and drag on the report page to create a box that will contain the image. In the window that appears, click 'Capture' and this will open a session of D3PLOT.



- Inside the D3PLOT session, open the example model /Example_block/BLOCK_1 /answer_block1.ptf.

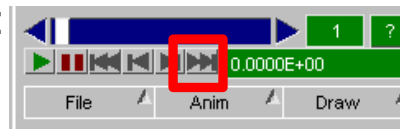


- Choose the view, plot state and type of results to show, for example:

- Choose an ISO view +ISO:



- Go to last plot state:

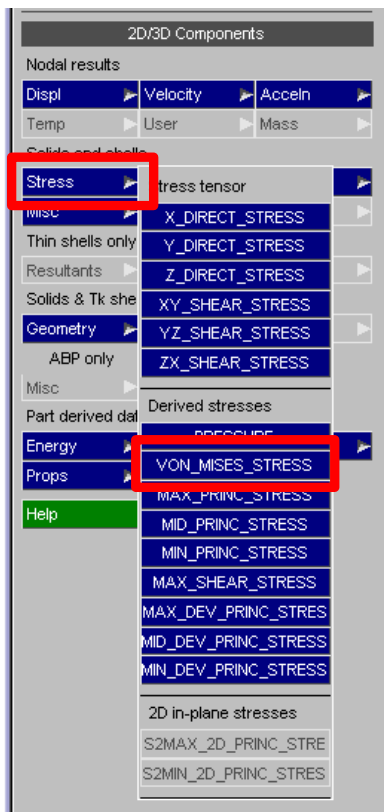


Simple example – D3PLOT image

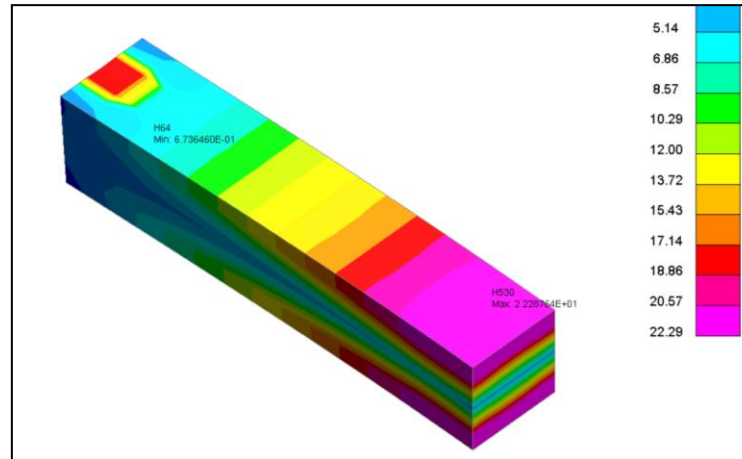
REPORTER

- Still inside the D3PLOT session:

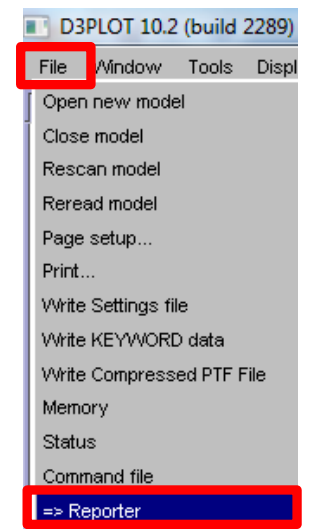
- Plot von Mises stress: Stress-> VON_MISES_STRESS



- Plot stresses by clicking on SI:

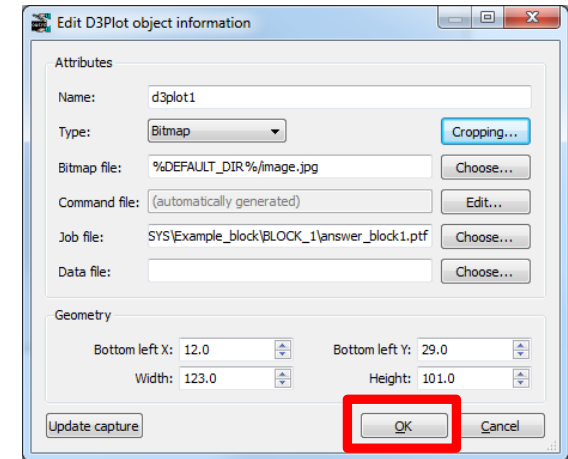
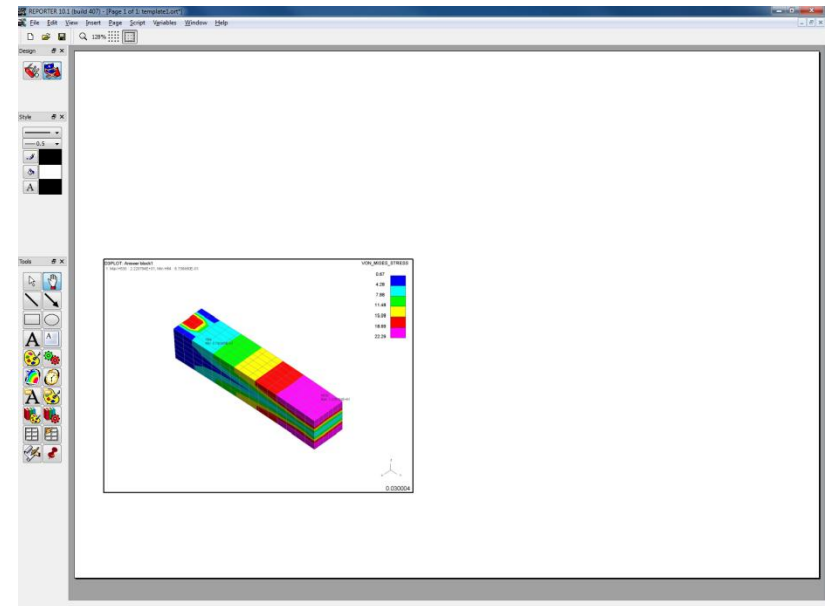
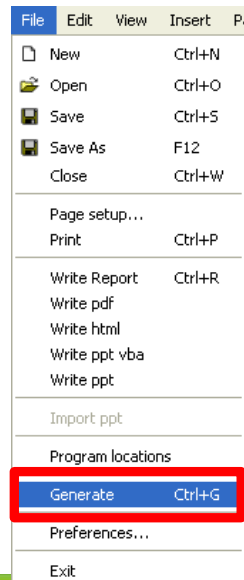


- Return to REPORTER by clicking on File->Reporter – this will close the D3PLOT session and take you back to REPORTER:



Simple example – D3PLOT image

- Once back into REPORTER, the Bitmap file and the Job file entries have been filled in, since D3PLOT has automatically created a settings file, a properties file and a command file and returned them to REPORTER. If you want to change the image, you can press Update capture again at any time. For now, accept the object by clicking OK.
- You can now look at the results, as they will appear in the final report, by generating the page: at the top menu -> click Page and choose Generate page, or you can generate the whole report by clicking on File-> Generate:



Simple example – D3PLOT image



- Note that when the report was generated, the view was automatically switched from the Design view to Presentation view. To continue working on the template, click on the Design view button:
- We now want to add a second picture on the same page, showing the same type of results/view for the second model. This can be done by repeating the steps above. Alternatively, we can just Copy and Paste the existing D3Plot object. Then right click on the new object and choose Edit. Now, simply pick the second model *Block2* in the “Job file” input line:



Program: D3Plot
Filetype: Bitmap
Filename: %DEFAULT_DIR%/image.jpg
Job file: Y:\support\Liliana\OASYS\Example_block\BLOCK_1\answer_block1.ptf

Edit Ctrl+E
Delete Del
Copy Ctrl+C
Save Ctrl+S
Generate
Send to back
Send back one
Bring forward one
Bring to front
Align Page Left
Align Page Centre
Align Page Right
Align Page Top
Align Page Middle
Align Page Bottom

Paste & Edit

answer_block1.ptf

Program: D3Plot
Filetype: Bitmap
Filename: %DEFAULT_DIR%/image.jpg
Job file: Y:\support\Liliana\OASYS\Example_block\BLOCK_1\answer_block1.ptf

Edit D3Plot object information

Attributes

Name: d3plot1_1
Type: Bitmap
Bitmap file: %DEFAULT_DIR%/image.jpg
Command file: (automatically generated)
Job file: iana/OASYS/Example_block/BLOCK_2/block2.ptf
Data file:

Geometry

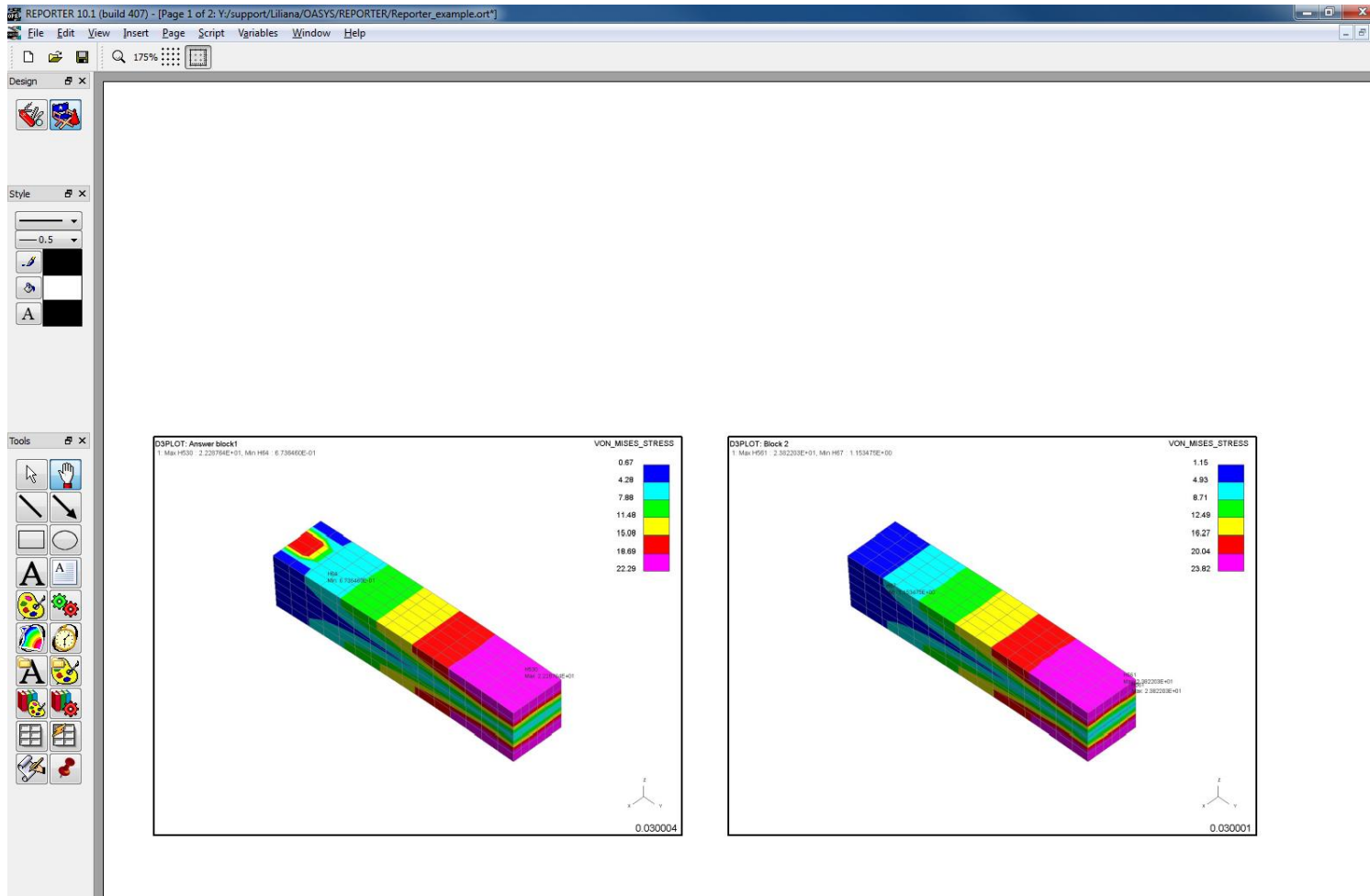
Bottom left X: 146.0
Width: 123.0
Bottom left Y: 30.0
Height: 101.0

Update capture OK Cancel

Simple example – D3PLOT image


REPORTER

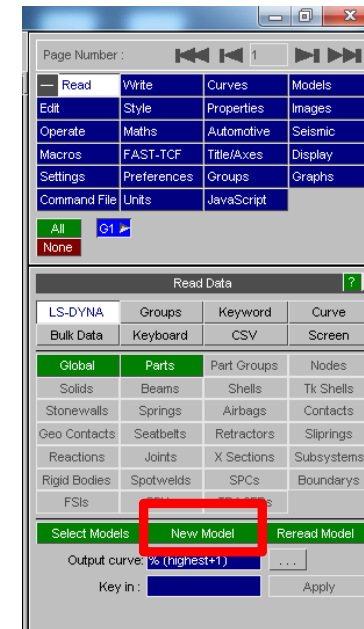
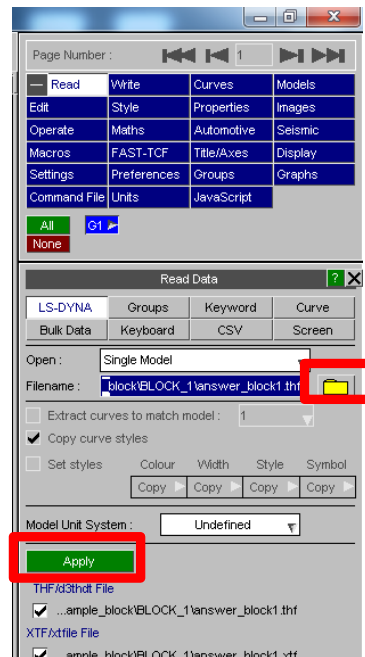
- The page can now be generated again, to view the final report (Page-> Generate page):



Simple example – T/HIS image



- We now want to create a second page for the time-history results.
Using T/HIS: Select Page-> New page...-> OK. The new page will become the current page.
- To add a picture of energy curves from T/HIS, click on the T/HIS tool button , then click and drag on the report page to create a box that will contain the image. In the window that appears, click 'Capture' and this will open a session of T/HIS and generate a FAST-TCF script automatically.
- Inside the T/HIS session -> Open the example model /Example_block/BLOCK_1/answer_block1.thf.

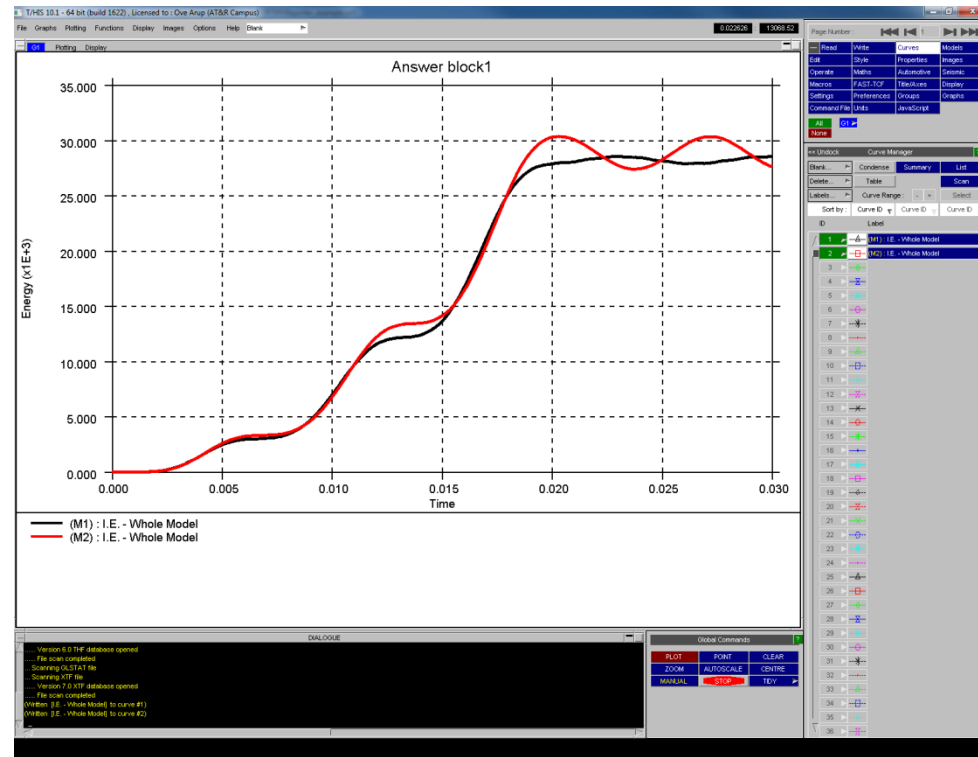
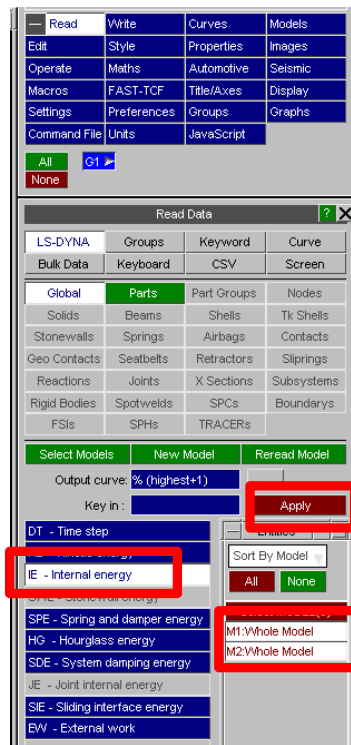
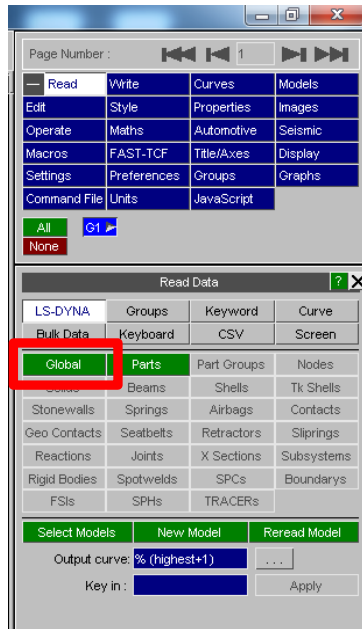


Press Apply

Simple example – T/HIS image



- Still inside the T/HIS session, with both analyses results open:
- To plot the Internal Energy for both models *answer_block1* and *block2*, click on Global:
- From the list of energies, choose Internal energy, click on both models M1 and M2 and click Apply:
- This shows now the two IE curves. To return to REPORTER go to File-> Return to Reporter.



REPORTER

- You can now look at the results by generating the page: at the top menu click Page and choose Generate page, or you can generate the whole report by clicking on File-> Generate:



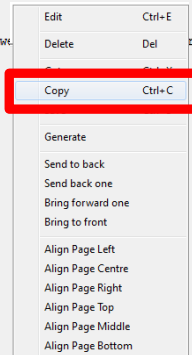
Simple example – T/HIS image

REPORTER

- Please note that when the report page was generated, the view was automatically switched from the Design view to Presentation view. To continue working on the report, click on the Design view button:
- We now want to add a second picture on the same page, this time showing the Hourglass energy for both models. We can do this by repeating the steps above. Alternatively, we can just Copy and Paste the existing T/HIS object. Then right click on the new object and choose Edit.
- To change the output from IE to HE, first select Update capture, which will open T/HIS and execute the original FAST-TCF script:



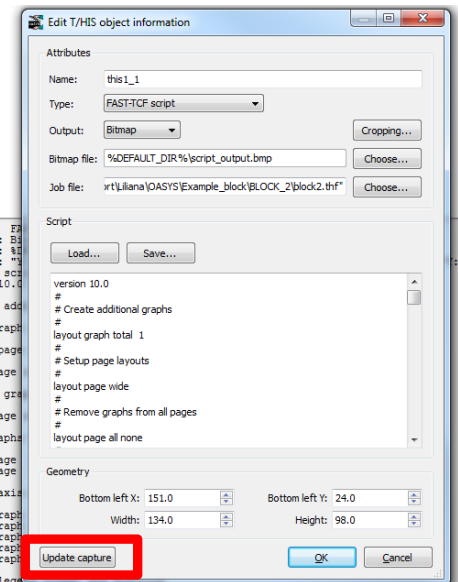
```
Program: FAST-TCF
Filetype: Bitmap
Filename: %DEFAULT_DIR%\script_output.bmp
Job file: "Y:\support\Liliana\OASYS\Example_block\BLOCK_1\answer_block1.thf"
FAST-TCF script:
version 10.0
#
# Create additional graphs
#
layout graph total 1
#
# Setup page layouts
#
layout page wide
#
# Remove graphs from all pages
#
layout page all none
#
# Add graphs to page 1 and position them
#
layout page 1 add graph 1
layout page 1 graph 1 position 0.00,0.00 1.00,1.00
#
# Setup axis positions and properties
#
layout graph 1 axis position auto auto auto auto
layout graph 1 x-axis format automatic
layout graph 1 x-axis precision 3
layout graph 1 y-axis format automatic
layout graph 1 y-axis precision 3
#
# Setup legend format and position
#
layout graph 1 legend format default
layout graph 1 legend columns 2
#
# Read data from models and files
#
model none
```



Paste & Edit



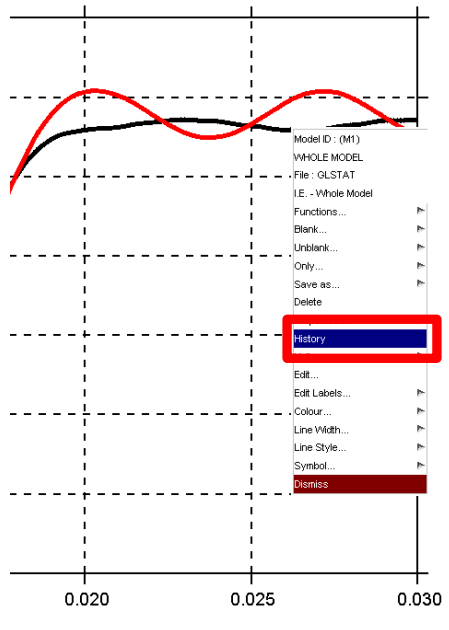
```
ock\BLOCK_1\answer_block1.thf" "Y:\support\Liliana\
0,1.00
to
```



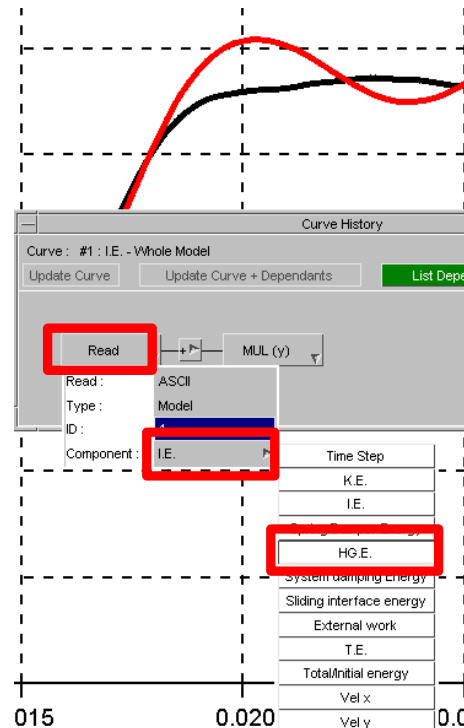
Simple example – T/HIS image



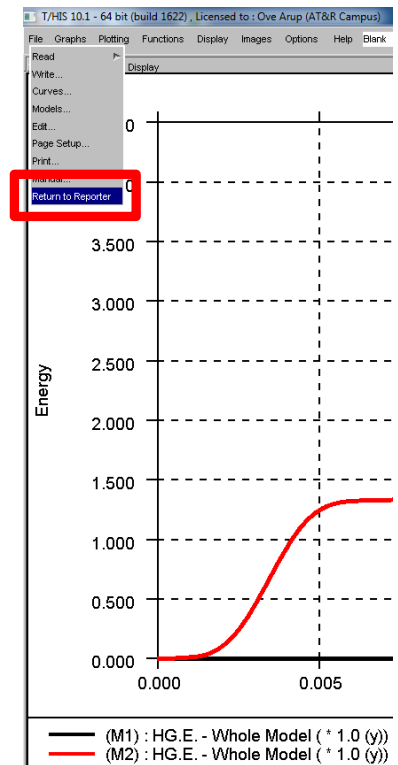
- In the T/HIS session, right click on the M1 curve and select History in the drop-down menu.



- In the window that pops up, right click on Read, hover over I.E. and choose HG.E. Click Update curve (note that the HG.E. for the first model is 0). Close the Curve History panel. Repeat this process for the second curve.



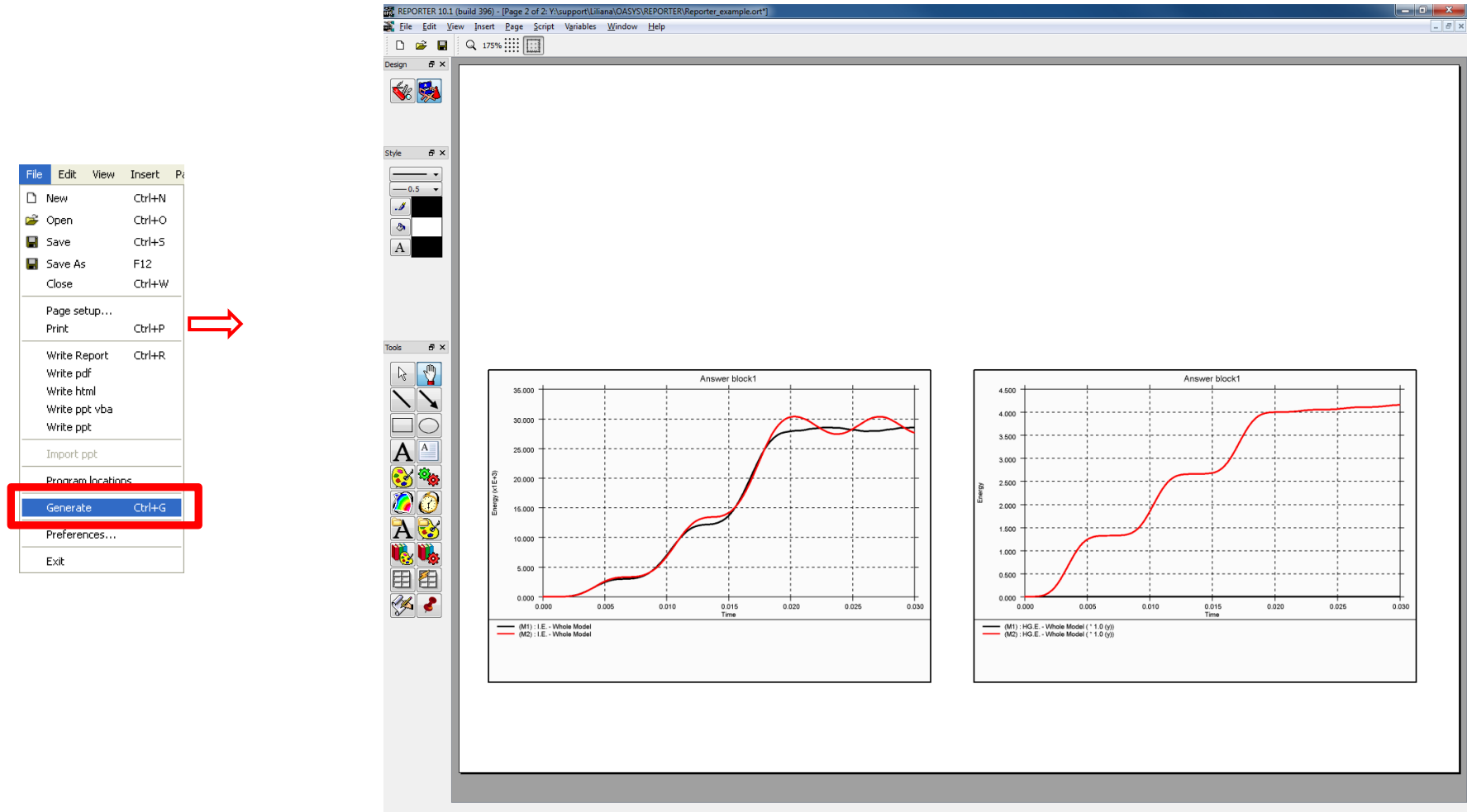
- To return to REPORTER go to File-> Return to Reporter. You may get a question about replacing text with variables – click Yes and OK. Click OK for the 'Edit T/HIS object info'.



Simple example – T/HIS image



- Review the results by generating the report: File-> Generate:



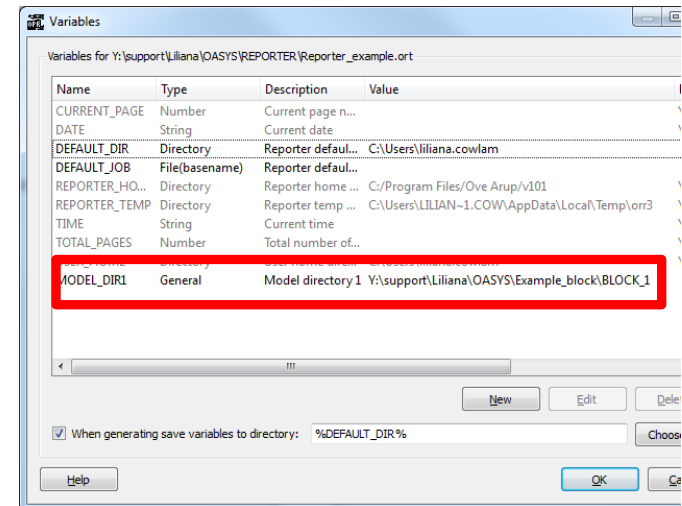
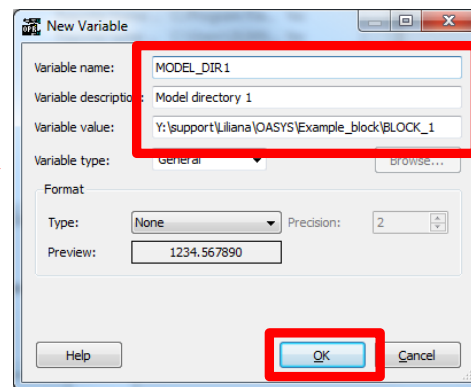
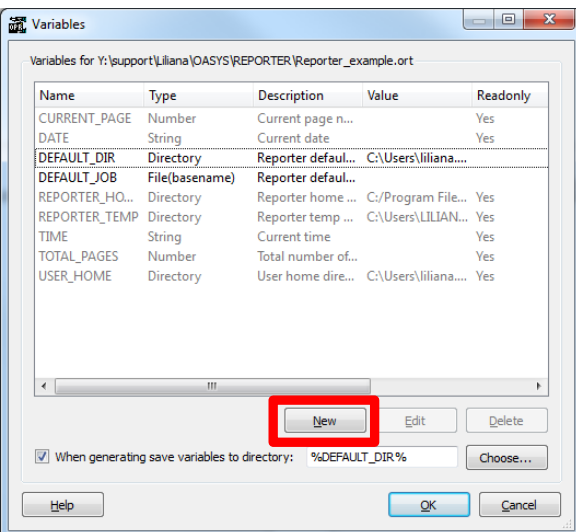


- A main feature of REPORTER is that it allows you to create a standard template for one specific model, or a set of models, and then use that template to automatically create a report for a different set of models. This is mainly achieved through the use of variables.
- Each of the objects that we have created (i.e. the D3PLOT and T/HIS images) refer to some particular models, using their actual name and path. If we want to use this template to post-process a different set of runs, we would have to change the names and the paths on each of the objects D3PLOT and T/HIS objects.
- Instead, we can define variables for each analysis and name them, for example:
 - MODEL_DIR1 - the directory path of analysis 1.
 - JOB_NAME_1 - the job name of analysis 1.
 - MODEL_DIR2 - the directory path of analysis 2.
 - JOB_NAME_2 - the job name of analysis 2.
- In each of the D3PLOT and T/HIS objects, replace the actual model names with the variables. Then, when you want to use the template on different model, only the variables need to be updated, as shown in the next slides.
- Note that when referred to, the variables need to be enclosed by % signs to distinguish them from the rest of the text string.

Simple example – Variables



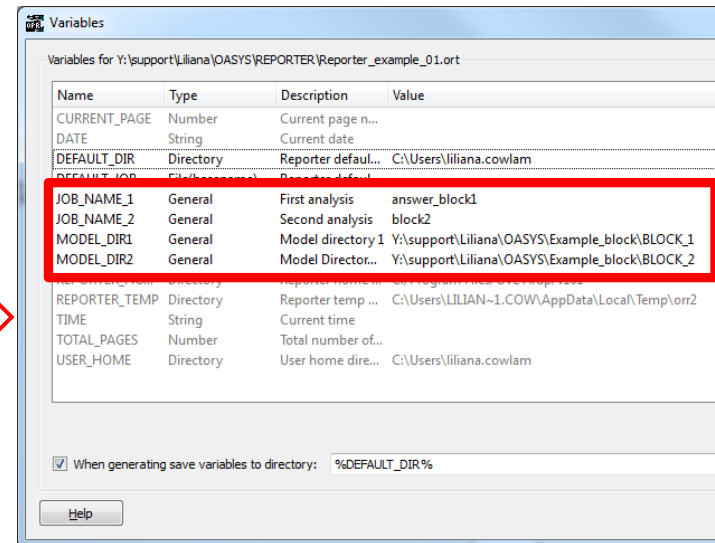
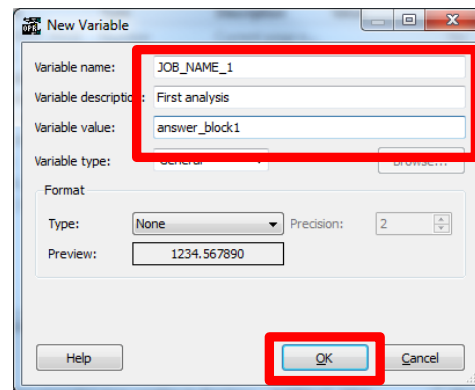
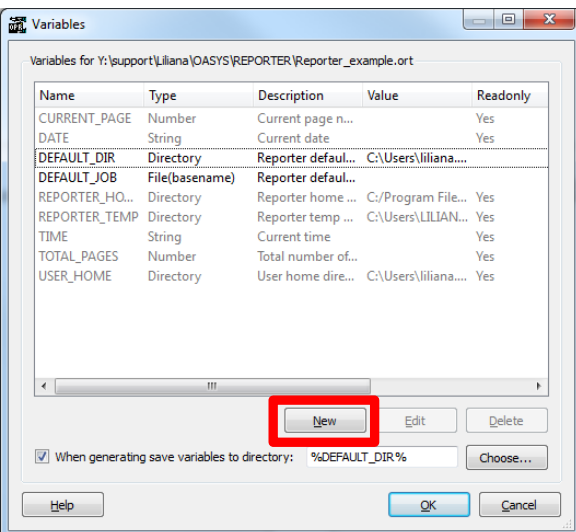
- For the next few slides, in your REPORTER template make sure you have the first page active, with the two D3PLOT objects.
- When we created the D3PLOT objects, the Job file was filled in automatically with the absolute path of the job and the actual name of the job. We want to replace these absolute values with variables. We need to create 4 new variables, 2 for each job: one to store the Job directory and the second to store the Job name.
- Click on Variables at the top menu-> Edit. This will open the window shown below, which contains all the pre-defined variables.
- To create new variables, click New (the window shown here in the centre will open); for **Variable name** type in *MODEL_DIR1*, for **Variable description** 'Model 1 directory', for **Variable value** type in the whole path to the job, for example:
C:\...\Example_block\BLOCK_1 and OK.
- The new variable MODEL_DIR1 should now be visible, as shown in the left window below.
- We will now repeat the process, to create a variable for the job name, see next slide.



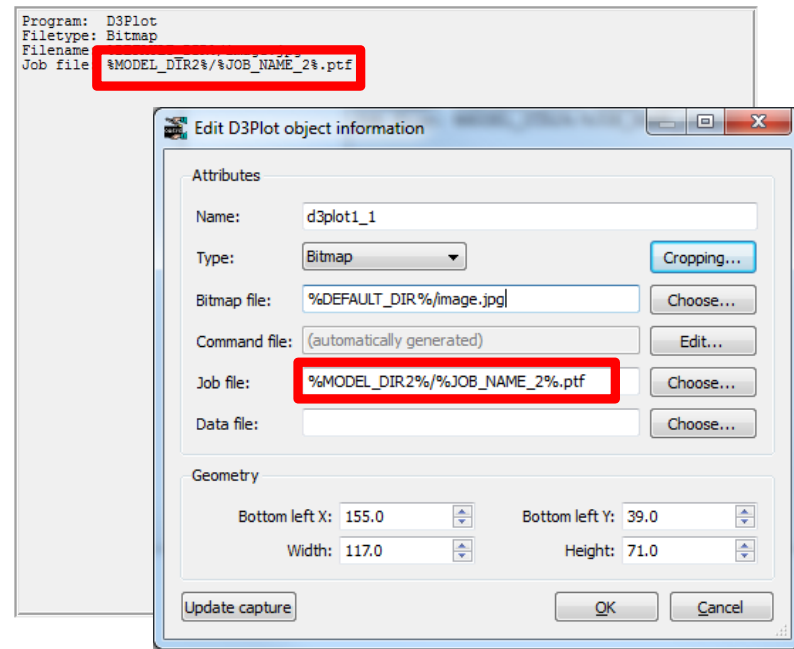
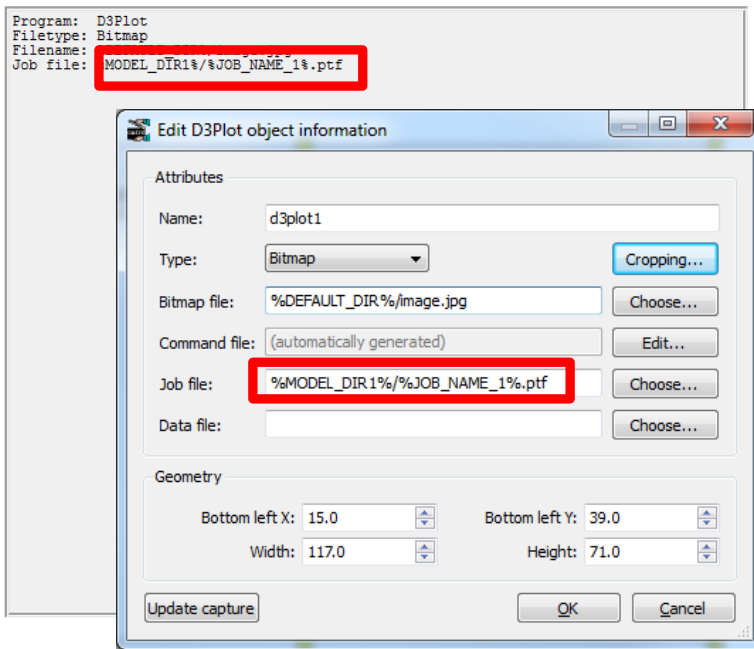
Simple example – Variables



- Creating the second variable for the Job name JOB_NAME_1, and then the remainder two variables for the second D3PLOT object, MODEL_DIR2 and JOB_NAME_2:
- Click on Variables at the top menu-> Edit. This will open the window shown below, which contains all the pre-defined variables.
- To create a new variable, click New (the window shown here in the centre will open); for **Variable name** type in JOB_NAME_1, for **Variable description** 'First analysis', for **Variable value** type in the job name answer_block1 and OK.
- The variable JOB_NAME_1 should now be visible, as shown in the window below.
- Repeat the process and define variables MODEL_DIR2 and JOB_NAME_2" for model block2. The list of variables should look similar to below:



- The D3PLOT objects now need to be edited and the absolute values replaced with the variables defined above. So, for the first object you would have: %MODEL_DIR1%/ %JOB_NAME_1%.ptf. To do this, right click on the D3PLOT objects -> Edit -> modify the 'Job file':



- Note: the variables can also be accessed by right clicking while in the Job file field, select 'Insert variable' and chose the variable form the list.
- The variables should now appear on the D3PLOT objects, as shown above.
- Generate the page and check it works ok.

- The second page, containing the T/HIS energy curves, will also have to be updated to use the variables created previously, rather than the absolute path and job name.
- Right click on the first T/HIS object and select Edit. Extend the window that opens so that all of the 'Job file' text is visible. The two jobs are listed here, so this needs to be replaced with the variables, as shown below. Both T/HIS objects will use this string, as they both read the same two jobs.

Attributes

Name: this1

Type: FAST-TCF script

Output: Bitmap

Bitmap file: %DEFAULT_DIR%\script_output.bmp

Job file: Y:\support\Juliana\OASYS\Example_block\BLOCK_1\answer_block1.thf support\Juliana\OASYS\Example_block\BLOCK_2\block2.thf

Script

Load... Save...

Name: this1

Type: FAST-TCF script

Output: Bitmap

Bitmap file: %DEFAULT_DIR%\script_output.bmp

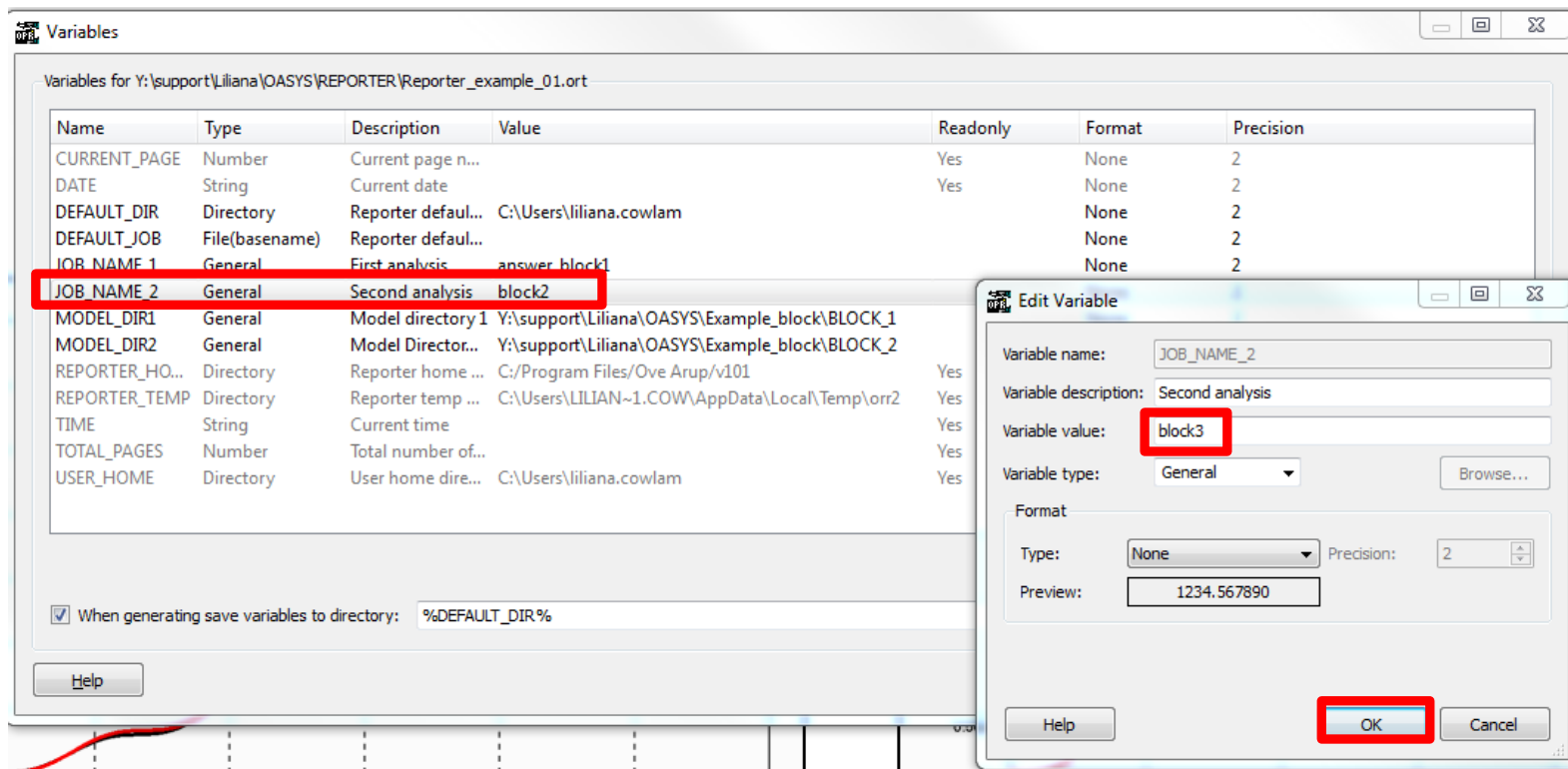
Job file: "%MODEL_DIR1%\%JOB_NAME_1%.thf" "%MODEL_DIR2%\%JOB_NAME_2%.thf"

- Should be: "%MODEL_DIR1%\%JOB_NAME_1%.thf" "%MODEL_DIR2%\%JOB_NAME_2%.thf" (including the quotation marks and the space)

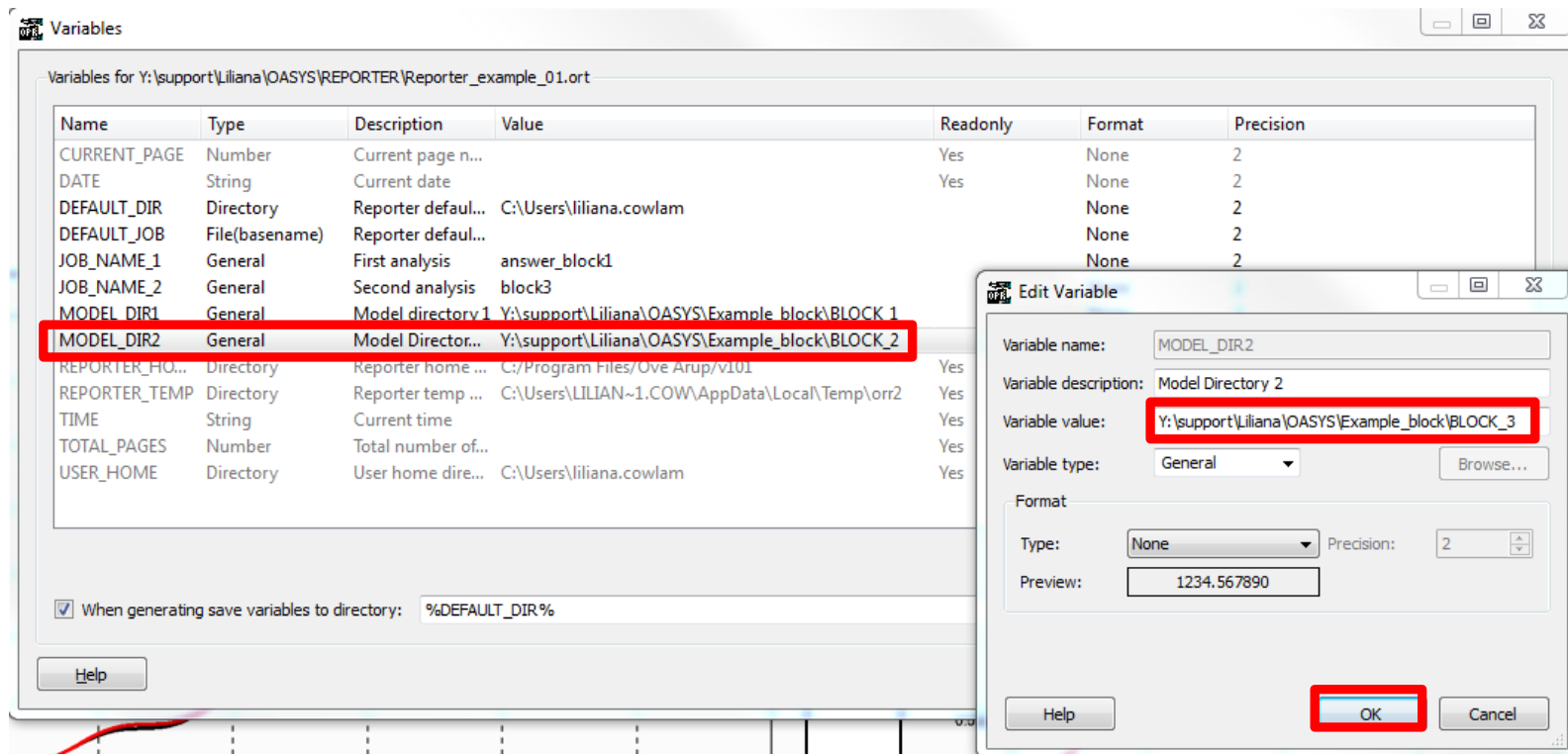


- Generate the whole report now: File->Generate. You can save the template: File->Save as-> Template.ort.
- The report can also saved as a pdf, for example.
- This REPORTER template can now be used to post-process different runs, as explained on the next two slides.

- Using the existing template to post-process new runs:
 - Top menu, Variables-> Edit-> select JOB_NAME_2-> Edit-> change Variable value to block3-> OK

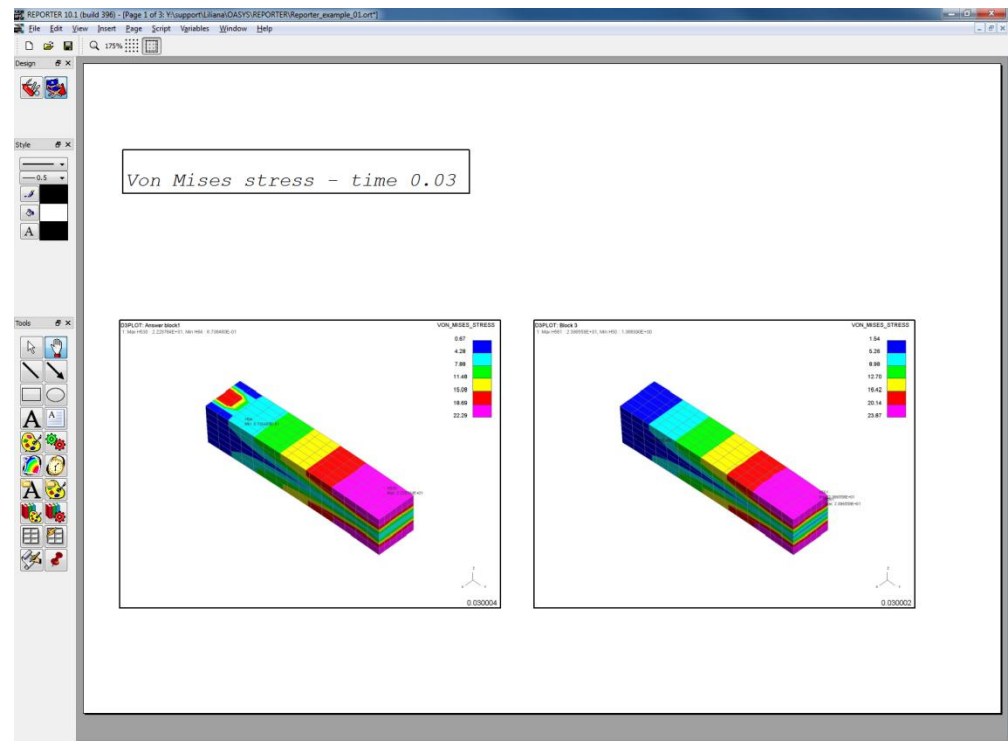
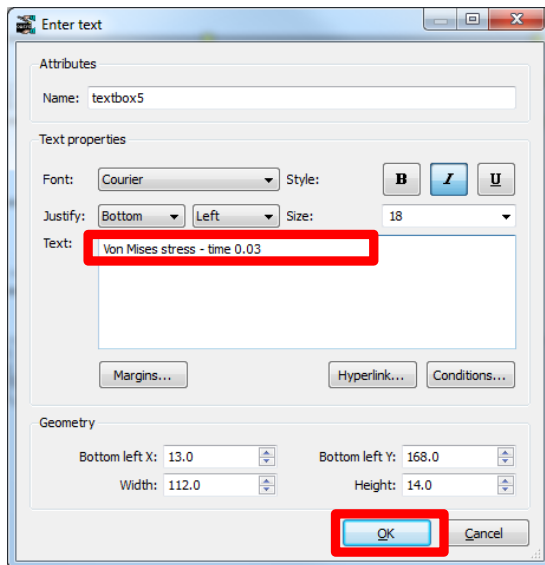


- Using the existing template to post-process new runs:
 2. Top menu, Variables-> Edit-> select MODEL_DIR2-> Edit-> change Variable value to point to the directory BLOCK_3 -> OK



- Generate the report: File->Generate. This will now compare *answer_block1* and *block3*.

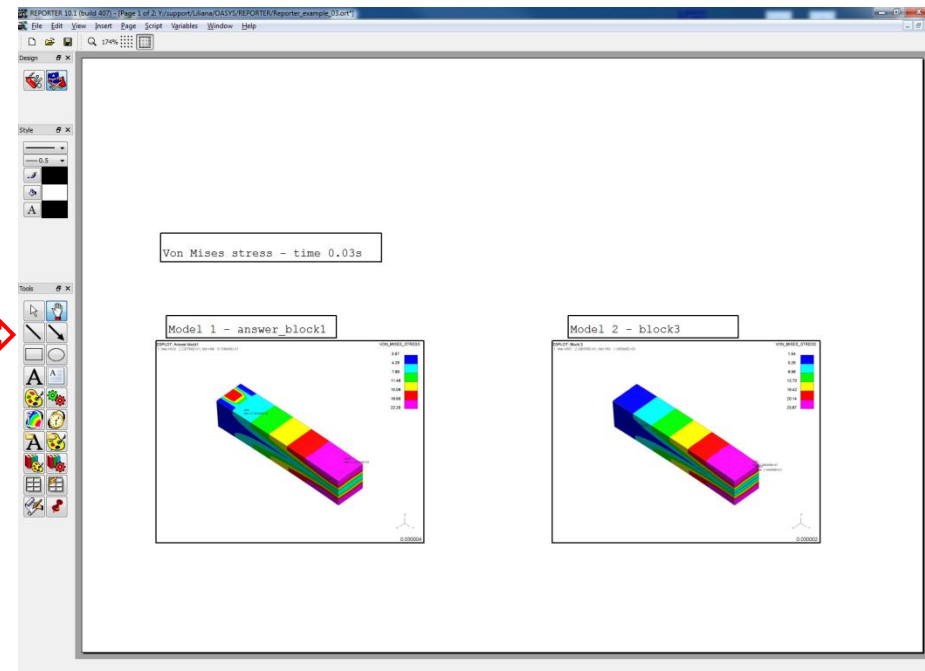
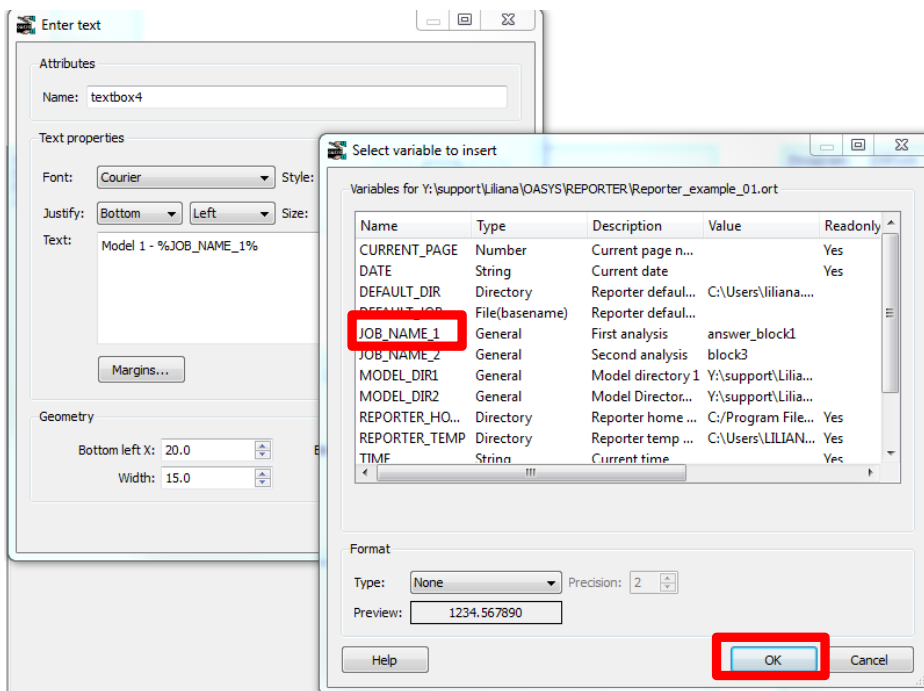
- Each page also needs a description. This tutorial contains a short overview. For more advanced features, such as tables, changing fonts and colours, drawing simple shapes etc, see the REPORTER manual, section 5. 'Inserting and editing simple objects'.
- Click on Insert at the top menu-> Textbox..., click on the screen where you want the text; this will open the Enter text window, where you can enter, for example 'Von Mises stress – time 0.03s'; click-> OK. To modify the text, double click on the text and the Enter text window will open again.
- Generate the page and you should see something similar to below:



Simple example – Insert text

REPORTER

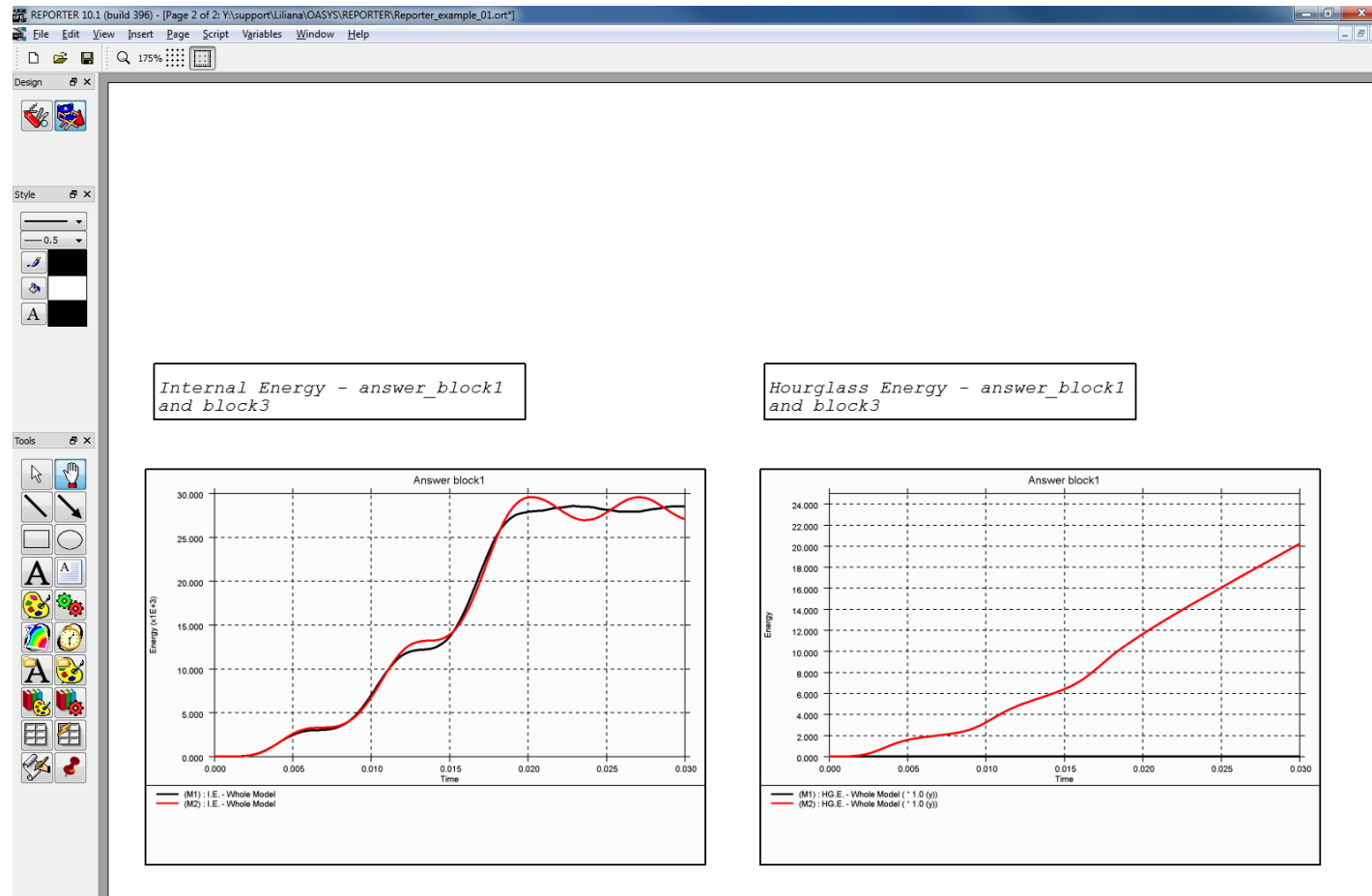
- It would also be useful to have a title at top of each picture, to state which model it is showing. The text will update according to the current variable value.
- Switch back to Design view; click on Insert at the top menu-> Textbox..., click on the screen above the first D3PLOT object and drag to create a box; in the Enter text window type 'Model 1 - ' and right click, select 'Insert variable' and chose JOB_NAME_1, as shown below-> do OK.
- Repeat the process for the second object (can right click on the Model 1 box, copy and paste and edit). Generate the page and you should see something similar to below:



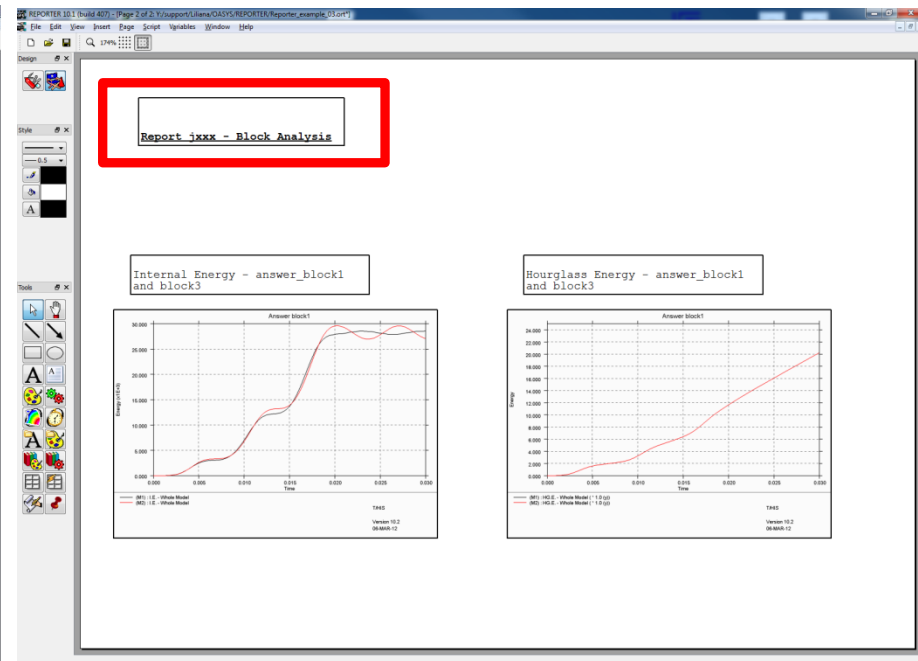
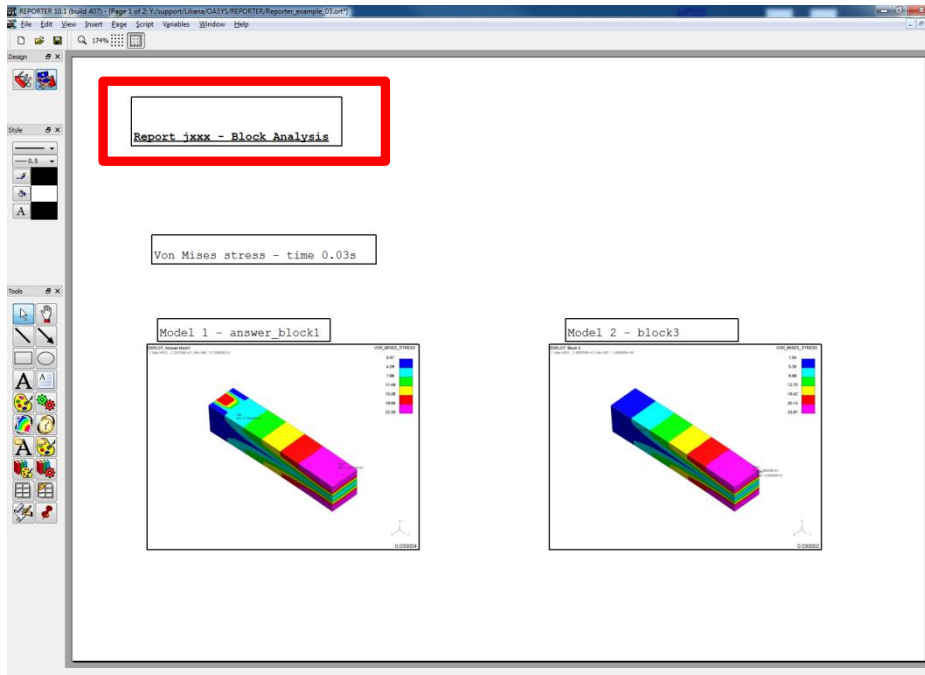
Simple example – Insert text



- In a similar way, text can be added to the second page:



- A master page can be added. To create a new master page use -> Page ... -> Page master.
- Anything added to the page master will appear on all pages in the report . A normal blank page is created on which you can place objects as required. An extra toolbar called Master appears. To close the master page and return to a normal page select Close master. The result can be seen in the Presentation view:



Simple example – Library programs

REPORTER

- REPORTER can extract some other useful information about the runs, for example from the .otf file (or d3hsp) we can get the version of LS-DYNA used, analysis date, precision, termination status, etc.
- This can be done using the Library Program tools, as explained below.

The image shows a 'Choose Library Program' dialog box with the following components and annotations:

- 1**: Points to the 'Library Program' icon in the left-hand toolbar.
- 2**: Points to a 'Click' action on a gray rectangular area.
- 3**: Points to the 'OTF file' folder in the 'Program' list.
- 4**: Points to the 'LS-Dyna Version and Revision' item in the 'OTF file' list.
- 5**: Points to the 'Value' column in the 'Arguments' table, specifically to the text '%MODEL_DIR1 %/ %JOB_NAME_1%'.
- 6**: Points to the 'OK' button at the bottom right of the dialog box.

Additional annotations include:

- A 'Drag' arrow pointing from the gray area towards the dialog box.
- A text box with the instruction: 'Left mouse double click, then enter the variable name for model 1 / job1. *Tip: instead of typing this in, right click and select the variable from the list.*'
- A 'Generate Page' button with a red arrow pointing to the right.

Arguments:	Description	Value
1	OTF file name	%MODEL_DIR1 %/ %JOB_NAME_1%

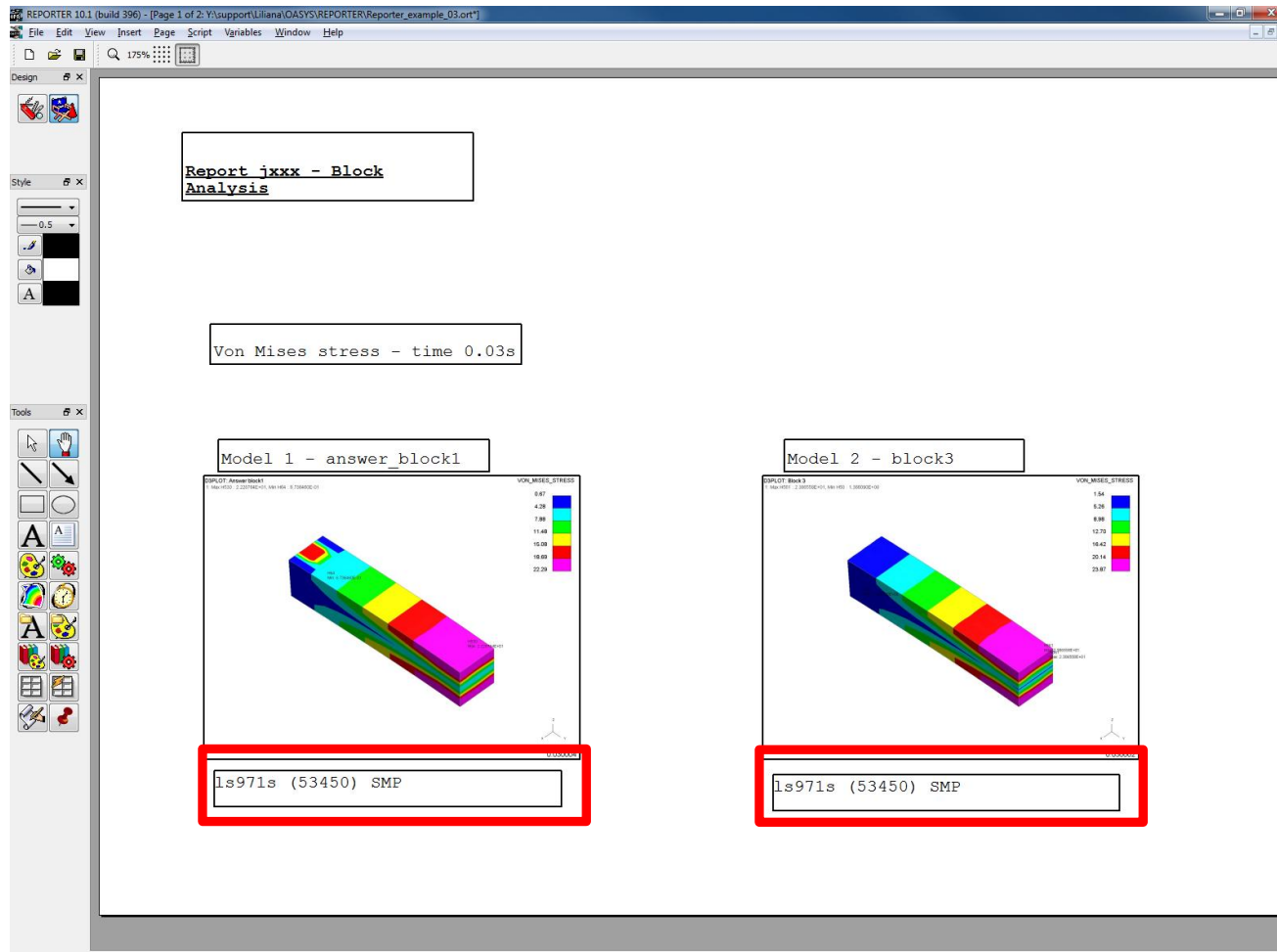
Geometry

Bottom left X:	138.0	Bottom left Y:	153.0
Width:	87.0	Height:	36.0

Simple example – Library programs

REPORTER

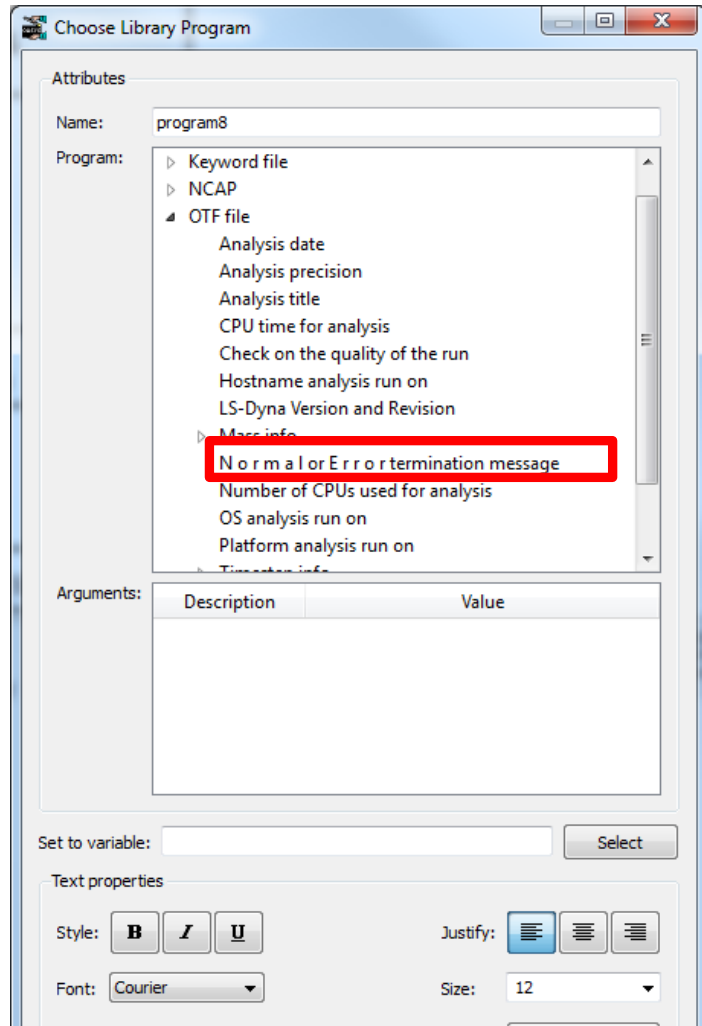
- After generating the page, the information is now shown in the box below the first model. Repeat the process and create a box under the second model:



Simple example – Library programs

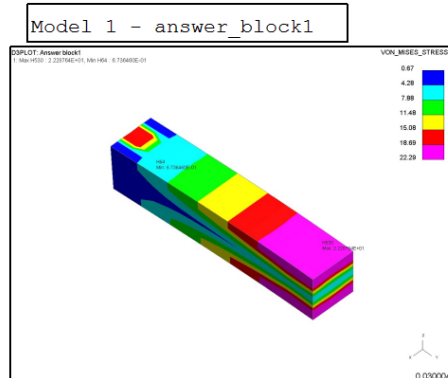


- Other information can be extracted from the .otf file, such as termination status:



Report jxxx - Block Analysis

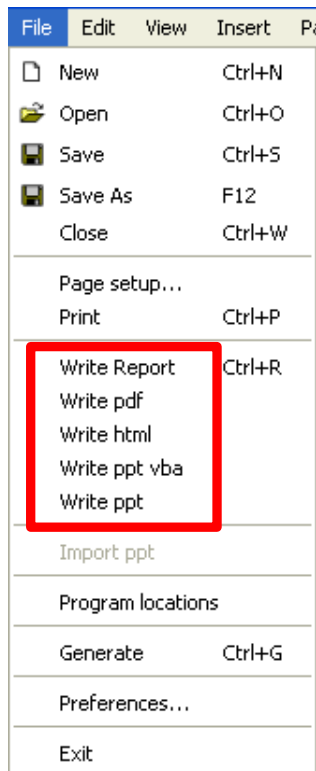
Von Mises stress - time 0.03s



1s971s (53450) SMP

Normal

- Once we are happy with the template/report, we can save the template (.ort) and the report (.orr) as explained on slide 9.
- To save a ppt or a pdf copy of the report ->File -> Write pdf or Write ppt.





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