Assumptions and notes – MATLAB script ‘**CheckConsistency\_v8.m**’

* Please place the script somewhere into the project directory.
* It is assumed that project directory contains the following subdirectories:
  + **‘\Architecture**’ directory which contains **BASELINE** of \*.arxml files (even in some subdirectory). The script will only take account those files which pass the following filter: **SWC\_\*.arxml**
  + **‘\Utilities\MATLAB**’ which contains the conversion function ‘**createSwCFromARXML**’ and the other necessary files.
  + **‘\MBD\Main**’ where necessary data dictionaries are saved.
  + ‘**\MBD**’ containing all **DEVELOPMENT** models to be compared. The script will only take account those models which pass the following filter: **SWC\_\*.slx**

After the script has started you are asked for project’s root directory selection.

The script then searches for **SWC\_\*.arxml** files, converts them to the Simulink models by function ‘**createSwCFromARXML**’ and save them into the separate directory **‘\ARxmlModels’**. These files serve as **BASELINE** for comparison.

The script compares the number of BASELINE models with DEVELOPMENT ones and write results into the report’s first chapter. Full names of all MISSING and NEW files are written there. The comparison is based on model’s names.

Note that if any of files or blocks are identified as **MISSING** they are not presented in the BASELINE. And accordingly, if some files/blocks are marked as **NEW** they are in BASELINE but have not been found in model DEVELOPMENT version.

Due to fact that the Simulink cannot handle files with the same names all new Simulink models which have been just converted are renamed and saved into the temporary folder ‘**\Reports\Temporary’**. The final report will be saved in the directory ‘**\Reports’** just after the script finish.

Then the script starts to compare individual models. The comparison is based on block’s names. Root model goes first and if there is a block which name contains ‘sys’ identified in the root model the script includes content of this block into the comparison as well.

All results are then written in report’s chapter 2. First there is a name of the model which is examined followed by the list of the MISSING or the NEW blocks identified in the root model. Please note that all blocks of the type ‘Ground’ and ‘Terminator’ are filtered out due to readability.

In case that some changes were identified inside the main ‘sys’ block during comparison its name is written into the report immediately after the list of changes in the root model. (i.e. you can see there: **There are differences inside the main block: RE\_InvtrDer\_001\_TEV\_sys** ). The list of changes identified inside ‘sys’ block follows immediately.

If there are no changes identified in the model ‘OK’ is reported next to the model’s name.

The searching inside the main ‘sys’ block might seem to be unnecessary and the report can be a little bit confused because of that however, in that case this feature can be switched off.

Because the comparison is based on the model names you can notice, in case you rename for example one outport, that script identified one missing and one addition block as an effect of the renaming.

Please note that according to suggestion the results can be provided in more readable or more suitable format for successive processing.