

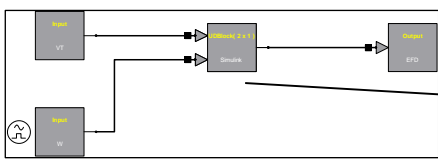
# NEPLAN<sup>®</sup> Toolbox for Power Systems

The NEPLAN<sup>®</sup> Toolbox has been especially designed for **researchers and developers** which need to develop new power system models (e.g. control strategies) and new algorithm (e.g. SmartGrid applications). The Toolbox includes:

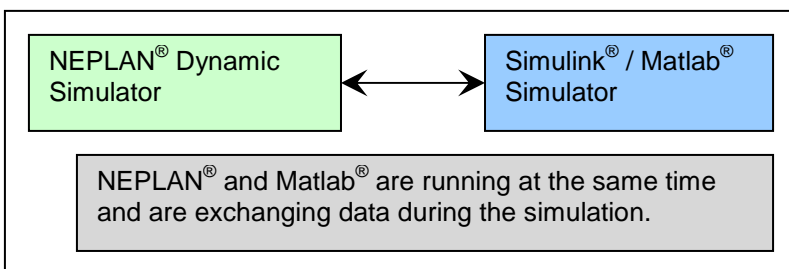
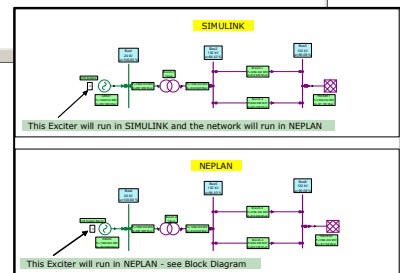
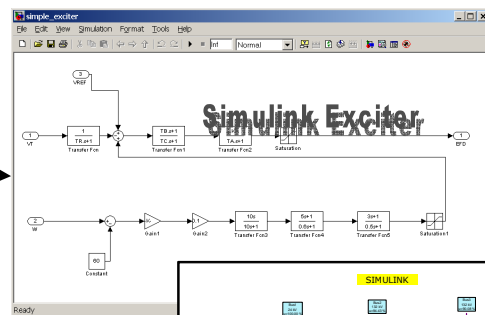
1. The **NPL NEPLAN Programming Library**, which is a C/C++ API that allows to access NEPLAN data and calculation algorithms through a C/C++ written program API functions included are amongst others:
  - execute any NEPLAN calculation engine
  - read/write access to all variables of all components
  - add / change /delete components and graphical data
  - retrieve the results from the NEPLAN analysis
2. An easy to use C/C++ API that allows developing user defined **models for load flow** calculations
3. A function block drawing editor, which allows to develop user defined models for controllers and primary components with function blocks
4. A **Matlab<sup>®</sup> interface**, which allows developing dynamic user defined models (controllers and primary components). The models may also be developed through the NEPLAN block diagram editor
5. A **Simulink<sup>®</sup> interface**, that allows to execute simultaneously the NEPLAN dynamic simulator and the Simulink<sup>®</sup> simulator. That means the controllers and/or primary components developed in Simulink<sup>®</sup> may be directly connected to a NEPLAN user defined model. When running the dynamic simulation in NEPLAN, then NEPLAN connects automatically to Matlab<sup>®</sup> and executes the Simulink<sup>®</sup> model in Matlab<sup>®</sup>. The rest of the network model will still be calculated in NEPLAN

**NEPLAN<sup>®</sup> Toolbox for Researchers**

- NPL - NEPLAN<sup>®</sup> Programming Library, a C/ C++ API to develop user defined algorithms
- C/ C++ API for user defined Loadflow models
- Function block diagram editor to defined dynamic models for controllers and primary components
- Matlab<sup>®</sup> interface for user defined dynamic modelling of components and controllers
- Simulink<sup>®</sup> interface for running dynamic models/controllers in Simulink<sup>®</sup> together with NEPLAN<sup>®</sup>



This NEPLAN function block uses the Simulink<sup>®</sup> controller.



More information and free DEMO at [www.neplan.ch](http://www.neplan.ch)