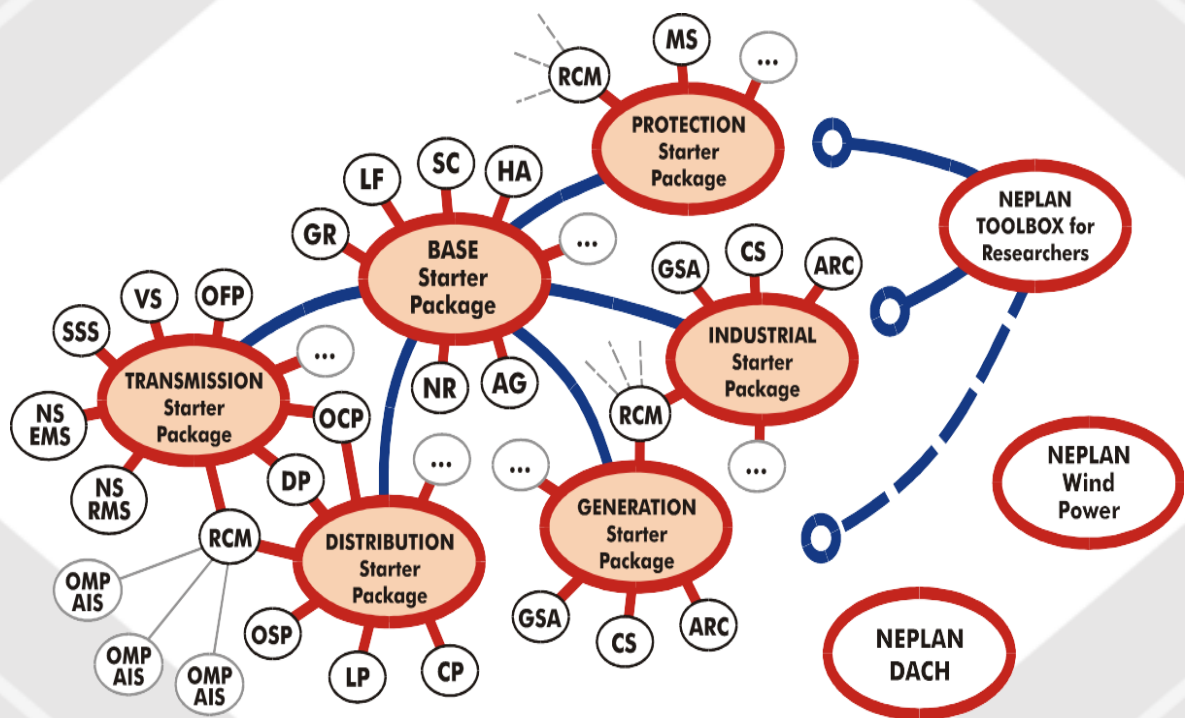


NEPLAN

Power System Analysis Software

One of the most complete planning, optimization and simulation tools for transmission, distribution, generation and industrial networks.

Reliable – Efficient – User-friendly



It is revolutionary!!
NEPLAN offers world's first
Web-based power system
Engineering Software

NEPLAN 360

The revolutionary web and browser based power system analysis tool

iEngineering Australia and BCP has launched the first full browser and web-based power system analysis tool on the market and offers therefore all advantages of cloud computing. The software does not need to be installed on a specific desktop computer or notebook but is accessible everywhere through Internet. As a result, new licensing models are available for the users.

NEPLAN® 360 has the same functionality as the desktop version, used all over the world. As this software, it can be used for the planning of Transmission and Distribution networks, Renewable Energy Systems, Smart Grids and Generation/ Industrial Plants, but now the network configuration can be laid over a geographic map improving visualization and the efficiency of planning engineers. A wide range of maps can be used for this purpose like detailed street maps, aerial and satellite images and basically any type of map data available for Geographical Information Systems (GIS).

Furthermore, the algorithms of NEPLAN® 360 can be accessed directly by any external GIS, SCADA or Smart Grid application through Web Services.

Network projects can be stored in the cloud, on the NEPLAN Internet server and locally on the desktop computer or tablet.

Geographical Maps

- Electrical Network can be laid over geographical maps.
- Street maps, aerial and satellite images and basically any type of map available for Geographical Information Systems (GIS) can be configured.
- The project can be defined in any national geographical reference system.

New Licensing

- Single-User or Multi-User in the Cloud
- Multi-User in customer's Intranet
- Software as a service

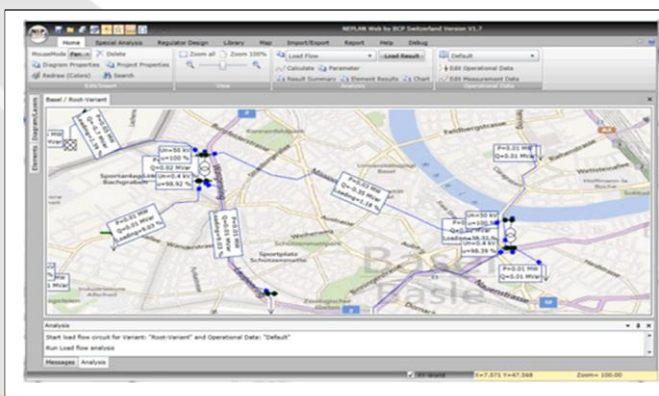
Web Services

- Creation / Modification of network
- Assigning Measurements / Switch States
- Start Calculation
- Retrieve Results
- Batch Processing

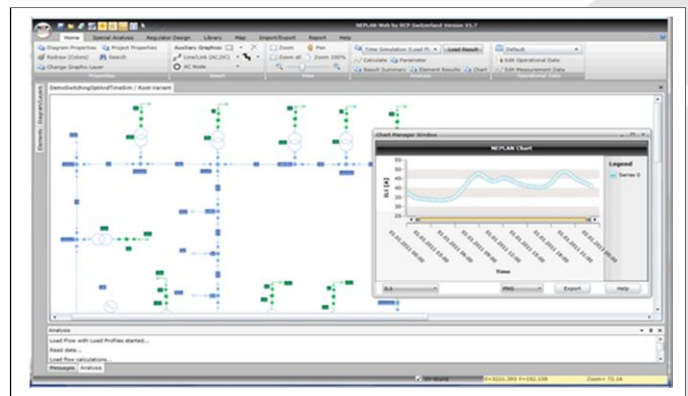
Network Data Storing

- Multi-User SQL-Database in the Cloud
- Multi-User SQL-Database in Customer's Intranet
- NEPLAN Internet server

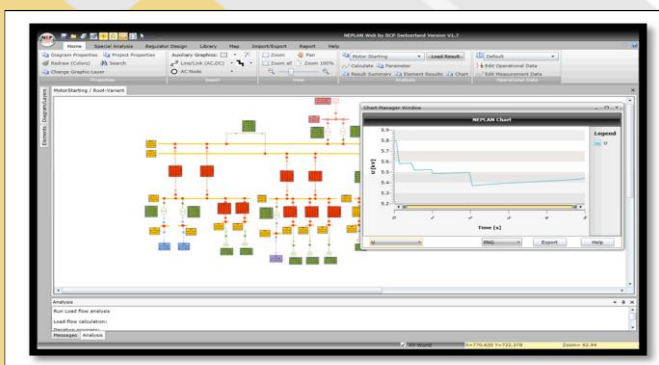
XML File locally



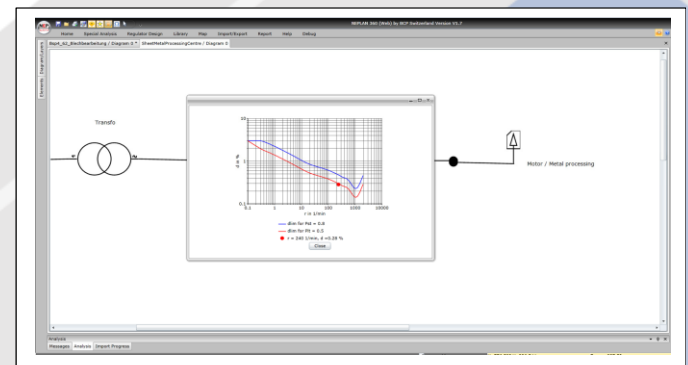
Electrical network with geographical map



Schematic network in NEPLAN 360



Voltage behaviour during start-up of a sequence of motors



Flicker calculation with Pst- and Plt-limit curves

NEPLAN Desktop

The most advanced and complete Power System Analysis Tool

Database

- Common database for all calculation modules
- Excellent variant management system
- Adding and displaying user-defined data fields
- Many import/exports facilities (MS-Access, Oracle, MS SQL, PSS/E, ENTSO-E CIM, IEEE, MS-Excel, etc.)
- Interface to GIS and SCADA/DMS systems
- Import of measurement data.
- Load profiles (daily, monthly, yearly)
- Graphical and tabular (like MS-Excel) data entry for all elements
- Integrated library manager with extensive libraries (e.g., protection library)
- For researchers: most advanced modeling tools to build user-defined models for controllers or AC/DC primary components used in Smart Grid and Wind Power applications with interfaces to MATLAB® and Simulink®
- NPL (NEPLAN Programming Library) allows to access all data and analysis functions through a C/C++ API interface

GUI, Graphic Editor

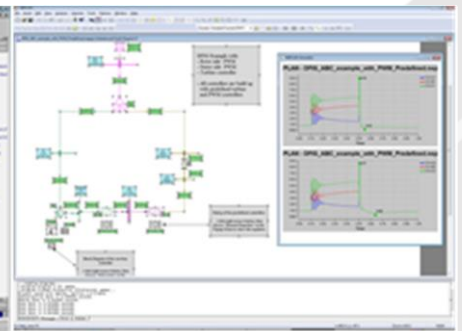
- Most user-friendly graphical database editor with powerful CAD editing facilities
- Windows 7/8, Vista, XP
- Multi-document and multi-window system
- Multi-diagram and multi-layer technique
- User interface in English, French, Italian, German, Spanish, Russian and more
- Fully graphical and object-oriented
- User-defined and nested symbols
- Copy/Paste to/from MS-Excel and MS-Word
- Import of DXF, BMP, DRW, PCX, TIFF, ...
- Data and results displayed on the diagram.
- Result comparisons of different variants
- Extensive network coloring facilities
- User defined symbols may be created.
- Graphical toolbox for auxiliary graphic
- Excellent chart manager for result evaluation
- Graphic editor for block diagrams of user defined regulators (exciters, governors, etc.)
- Visualization of the network in Google Earth



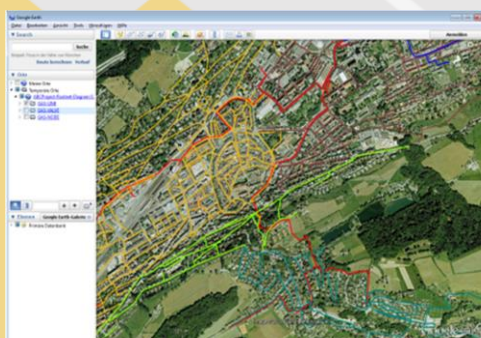
Distribution: Load Flow with Energy Loss Calculation



Voltage Stability and Sensitivity Analysis



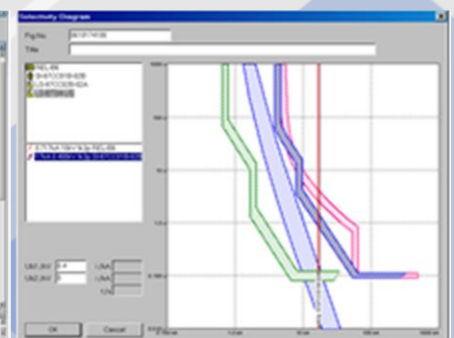
Dynamic Simulator (RMS, EMT, PHDYN)



Visualization of an electrical network with results in Google Earth based on NEPLAN project



Transmission: ENTSO-E Network 380/220 kV



Industrial: Overcurrent Relay Coordination

NEPLAN Calculation Modules

for Transmission - Distribution - Industrial Networks

Base Modules

- Load Flow/Contingency Analysis
- Short Circuit Analysis
- Harmonic Analysis
- Line Parameter Calculation
- Network Reduction
- Investment Analysis (present value)
- Assessment of Network Disturbances
- Power quality / Flicker Analysis
- Grounding / Substation Design
- Overcurrent Protection / Selectivity Analysis
- Distance Protection Setting
- Interfaces GIS/SCADA (SQL, ASCII)
- Reliability / Risk Planning
- Reliability Centered Maintenance (RCM) / AssetSimulation
- Dynamic Simulation: RMS values, instantaneous values (EMT), Phasor dynamics
- NPL Programming Library (C/C++ API)

Distribution Package

- Load Forecast
- Energy Loss Calculation
- Load Estimator based on Measurements.
- Optimal Separation Point
- Optimal Capacitor Placement
- Optimal Network Restoration Strategy
- Economic Cable Sizing and Thermal Analysis
- Express Feeder Calculation
- Phase Swapping
- Low Voltage Calculation
- Fault Finding
- Pole Strength Calculation

Industrial

- Motor Starting Analysis
- Cable and Protection sizing
- Arc Flash Calculation

NEPLAN® Toolbox for Research

- All Modules available (except RCM)
- MATLAB®/Simulink® Interface

Transmission Package

- N-1 constrained Optimal Power Flow
- Available Transfer Capability Analysis (ATC)
- Voltage Stability (P, Q curves, eigen values)
- Small Signal Stability (PSS tuning / Sensitivity)
- Day-Ahead Congestion Forecast (DACF)

The summary of power engineering

NEPLAN is one of the leading Power System Analysis software in the world. Small and large utilities, industrial organizations, engineering companies and universities in more than 100 countries around the world appreciate our high Swiss quality products since more than 24 years.

The software has the most user friendly and powerful graphical user interface. Although NEPLAN integrates all complex calculation and simulation modules needed for power system studies, it is easy to use. Project studies are done up to 40% faster with NEPLAN than with any other analysis tool that means with considerable fewer costs.

NEPLAN suits best for Smart Grid and Wind Power application because all necessary models, simulation and control methods are integrated with a very high accuracy and performance. User-defined models or methods could be achieved by using the NEPLAN Programming Library NPL, which is a full C/C++ API. This makes the software very scalable and is therefore used by many research institutes.

Risk based analysis (e.g., network reliability analysis, re-investment strategies, etc.) has become one of the most important tasks for a planning engineer. NEPLAN offers unrivaled models and algorithms and has therefore become the de facto standard for risk-based planning. It is the only tool, which includes a RCM and "Asset Simulation" module.

The NEPLAN Dynamic Simulator is the most complete tool and offers so much flexibility in handling electrical phenomena with symmetrical or asymmetrical network representation. Simulation results are RMS values, instantaneous values (EMT) or Phasor Dynamics. The sophisticated automatic initialization tool saves the user a lot of time in the initialization of controllers.