Operation Analyser
Network analysis right within Smallworld GIS

OVERVIEW

Benefits
- Easy network analysis directly from within the GIS
- No lengthy interface communication to external programs
- Fast checking of possible new connections and feeders
- Colour-coded visualisation in the GIS
- Detailed results of load flow
- Network analysis made easy

System requirements
Smallworld GIS, Version 4

Operation Analyser adds value to your Smallworld GIS by network calculation, supporting i.e. the electricity network design processes. Its integrated functions enable the user to analyse the structural conditions of the electricity network in terms of load flow or utilisation of substations and power lines without having to perform extensive calculations with additional software.

Especially the revolving task to evaluate whether a new connection or a new feeder may be installed in the existing electricity network can be answered with the GIS-integrated network calculation engine. Although this calculation method works without iterations, it delivers very precise results. GIS parameters like cable type, substation features and load data of metering points can be included in the calculation.

The results are processed and displayed in a traffic light view which gives the user a quick answer to the question whether the construction project may be carried out or whether further analyses have to be made using additional calculation software. The results are also displayed graphically showing the utilisation rate of each cable and consumer node.

A special Microsoft Excel export function with load flow data for all nodes and links is integrated in the interface of Operation Analyser.

Further calculations on low and medium voltage level are load flow calculation and short-circuit calculation, as well as the search for medium voltage errors in the network by determination of the measured resistance.

Smallworld Solutions by Mettenmeier
As an Authorized Partner of GE Energy, Mettenmeier has been developing Smallworld GIS applications for over 15 years. Every day, thousands of GIS users profit from enhanced functionality and mature solutions delivered by Mettenmeier.

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The results of network calculation are coloured and symbolised in the map and can be exported to Microsoft Excel.
Operation Analyser

Analysis Functions

The analysis functions of Operation Analyser add value to your digital electricity, gas and water network data.

- Identification of the plant or station, which supplies a certain service connection
- Display the next possible cut-off possibility or closed gate valve
- Listing of all service connections which are unsupplied at a cut-off

Questions like these can be answered quickly by graphical display. Beside such questions, switching circuits of a substation can be coloured by a mouse click.

The integrated user interface allows utility-specific analyses. A flag can be placed on the map to indicate the starting point of the analysis. A brief summary of the analysis and the available parameters are shown on the user interface.

Operation Analyser automatically determines the results and visualises them graphically. They may also be displayed and processed in the Smallworld Explorer. Moreover, a Microsoft Excel export function is integrated in the interface of Operation Analyser.

Due to the flexible framework, further professional analyses like buffer zones or accessible potential new customers can be implemented with little effort.

Typical applications of the Operation Analyser are network planning and design, fault finding, network operation, data check and data update. In addition, Operation Analyser allows electricity network calculations directly within Smallworld GIS.

The result of a cut-off in gas supply is presented by colours and symbols in the map and can be exported to Excel.