



Single-line Module (SLM) Speeds Data Conversion Processes



## Largest Power Grid Owner in the U.K.

In 2007, a large-scale Raster to Vector (R2V) Data Conversion Project was started at EDF Energy. The scope of the project is to capture the relevant raster data from various source documents and convert this into reliable vector data that is represented in EDF Energy Networks' corporate Geographic Information System called NetMap.



The NetMap system is based on Smallworld GIS. The Mettenmeier Network Resource Manger (NRM) product provides the electricity data model used within NetMap. NRM is a commercial-off-the-shelf package, which has been modified in order to meet EDF Energy Networks' specific requirements.

The NRM application allows a single feature to have multiple representations. The most common use of this facility is to record the accurate position of an object in the detail map, and the overview position that is used to create a geo-schematic representation.

### Single-line module for NRM Electricity

On the detail map level, the underground network is currently represented as either multi-line, where each line represents the route of a single cable, or alternately as single-line, where each line represents the route of multiple cables. In order to recreate the representation shown on the raster in vector, a single-line module is provided that demonstrates an innovative approach to fulfil three main requirements:

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- A single line shown against the map background represents the routes of multiple cables.
- The single line is able to derive cable details like operating voltage and type of each cable represented by the line shown on the map.
- The facility to calculate network length by operating voltage and cable type for regulatory reporting.

In this way, the raster representation is recreated and converted into vector format true to the maxim "what you see is what you get". Overall, the single-line representation provides a cost-effective and labour-saving approach that allows quick data conversion results that can among other things be used for reporting purposes.

In the future, the NetMap data will also be employed to enable integrated network calculation, ERP integration and to offer process and decision support in asset management. This way, a sound basis is established to make the available data sources useable for a wider circle of users in the company.

## Company Profile

EDF Energy is one of the UK's largest energy companies. They provide power to a quarter of the UK's population via their electricity distribution networks in London, the South East and the East of England. They supply gas and electricity to over 5 million customers and generate about 5GW of energy from their coal and gas power stations, as well as combined heat and power plants and wind farms. The company is also a key player in national infrastructure projects, including the electrical upgrading of the London Underground, management of private electricity networks serving four London airports and the Channel Tunnel Rail Link, the country's first new railway in 100 years. They employ nearly 13,000 people at locations across the UK. EDF Energy is a core part of EDF Group, one of the world's largest power companies.



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- System administration
- Magik development
- System interoperability
- Special workshops and individual trainings

### Smallworld NRM Trainings

- NRM Electricity
- NRM Gas/Water
- NRM Wastewater



*What you see is what you get: The representation shown on the raster is recreated in vector. The single lines contain detailed attribute data of the cables inside the tray.*



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