FICHTNER DIGITAL GRID - OPTNET

The innovative solution package for smart grids

FICHTNER
IT CONSULTING

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Sustainable, cost-effective utility networks for public services have to meet a wide variety of requirements. Among those facing the optimization of aging grids are many, sometimes contradictory factors such as demographic change and climate change, changing consumption patterns and increasing demands on quality in drinking water grids, as well as new business models and possibilities resulting from innovative technologies and ever greater digitization. Fichtner Digital Grid makes sure that all the information relevant for decision-making is consolidated and available to you at all times.

Integrated Grid Management

Ensuring the availability of reliable facility data generally presents major challenges for grid operators. Until now, data have been acquired using various systems and formats for a variety of purposes.
Inconsistencies and omissions frequently arise in their technical attributes and network topology. If this is the case, the data are inadequate for efficient, integrated and transparent grid management. Fichtner Digital Grid lays the foundation for smart grid management. It ensures a reliable data basis and enables integrated grid management, comprising target network planning as well as regulatory and asset management based on a transparent and integrated approach.
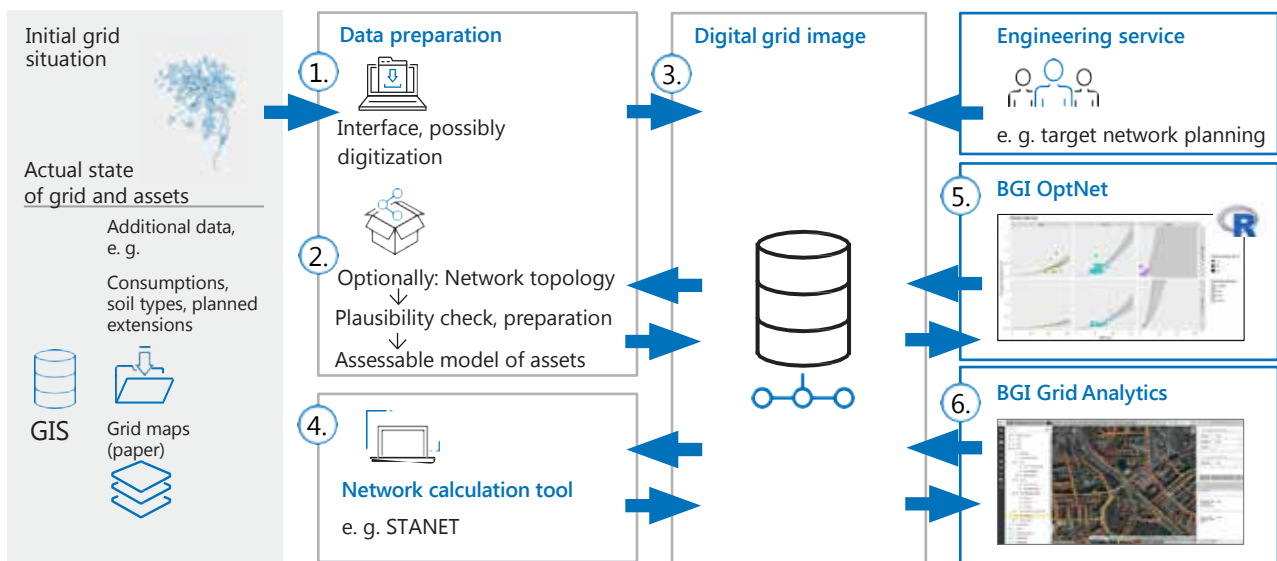
1. Smart Integration

Data from various base systems (GIS, ERP, BIS, technical databases, etc.) are integrated, while any available analog grid maps are digitized and incorporated by our experts. Consumption and flow data are supplemented by means of smart data integration. This results in an initial digital image of the grid.

2. Daten Consolidation

In many cases, the available data are not yet suitable for the subsequent processes. GIS data, for example, usually contain excellent geographic information, but often do not have complete and consistent attribution, which makes it impossible to evaluate them. It is at this point that we apply our smart algorithms, which perform a technical and topographic plausibility check on the data. Gaps in the data are detected by our self-learning algorithms and documented, with the data quality being enhanced. Digital Grid assists the engineer in plausibility checking and preparing data that automated algorithms do not provide reliable results for. This produces a consistent, complete and high-quality digital grid image.

3. Digital Grid Image

The original state as well as any changes and supplements (e. g. data consolidation) are documented in the digital grid image and can be reported back to the source systems. The adjustments made can also be used for further update sequences, enabling a data update to be performed as needed at any time. Alternatively, it is possible to directly link the base systems via a data server.

4. Risk Assessment with OPTNET

OPTNET facilitates the assessment of asset risks to the corporate objectives – posed primarily by aging. Transparently blending your data with statistical evaluations and empirical values from over 40 years of experience in grid analysis enables comprehensive risk assessment models to be devised for any size of grid. Since local conditions are taken into consideration, the individual risks of each grid section are also identified.

The availability for each consumer in the grid can be derived from these using n-1 analyses. The results of the assessment are fed back into the digital grid image together with corresponding labels and are instantly visible in the geo visualization tool 'BGI Grid Analytics'.

5. BGI Grid Analytics

The browser-based BGI Grid Analytics enables convenient visualization and analysis of data in geographic or schematic displays. Input data as well as supply areas, grid and assets are presented on various layers. The intuitive graphic representation and the link-up between map view and results chart enable even complex relationships to be displayed in a way which facilitates decision-making.

Fichtner's-Engineering-Services

We offer you our consulting and engineering services either in a supporting role or as a complete business process outsourcing service. Such services include grid assessment, target network planning, action planning, protection concepts, and the development of I&C concepts for forecast-based grid control. In addition to this, we can assist you in specific issues such as the integration of e-mobility.

Fichtner Digital Grid supports distribution system operators in meeting current challenges with a unique, flexibly scalable solution package. In doing so, we focus on company-wide use with functions that are specially designed for different work processes. We offer a customized set of services and integrative software modules that can be individually adapted to the business objectives, from the provision of a reliable, equipment-oriented database to cloud-based BPO (Business Process Outsourcing).

FICHTNER
IT CONSULTING

Fichtner IT Consulting (FIT for short) is the IT competence center of the Fichtner Group, which has been an owner-managed company since its foundation in 1922 and has some 1,500 employees in over 60 countries. We design and implement information logistics for technical networks, plants and infrastructure. We combine our knowledge of the industry and process know-how with the latest technological expertise to deliver innovative and cost-effective solutions for your success. The gleaning, structuring, linking, preparation and presentation of information – including the spatial context – are the key to efficient and effective solutions.

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