

## Fault Circuit Indicator (FCI) Optimization



### *Optimize Planning for FCI Placement to Improve Outage Restoration Process*

#### Overview

Landis+Gyr's Advanced Grid Analytics Fault Circuit Indicator (FCI) Optimization application provides rapid, accurate and cost-effective determination of FCI investments in any given distribution network for improved network reliability.

The application applies algorithms developed and field tested by utility engineers for determining the optimum number and placement of FCIs in a feeder network for required improvement in CAIDI, with maximum cost-benefit. Planning time is significantly reduced, process efficiency is increased and results are more accurate. Detailed financial analysis for FCI quantity and location optimization, includes NPV, IRR, MIRR, pay back calculations and cash flow analysis. The utility can evaluate alternative scenarios by adjusting the fault related parameters or FCI related costs.

When coupled with Landis+Gyr's S610 RF Line Sensor, the utility has an end-to-end solution for planning and placement of sensors to detect faults and improve grid resiliency.

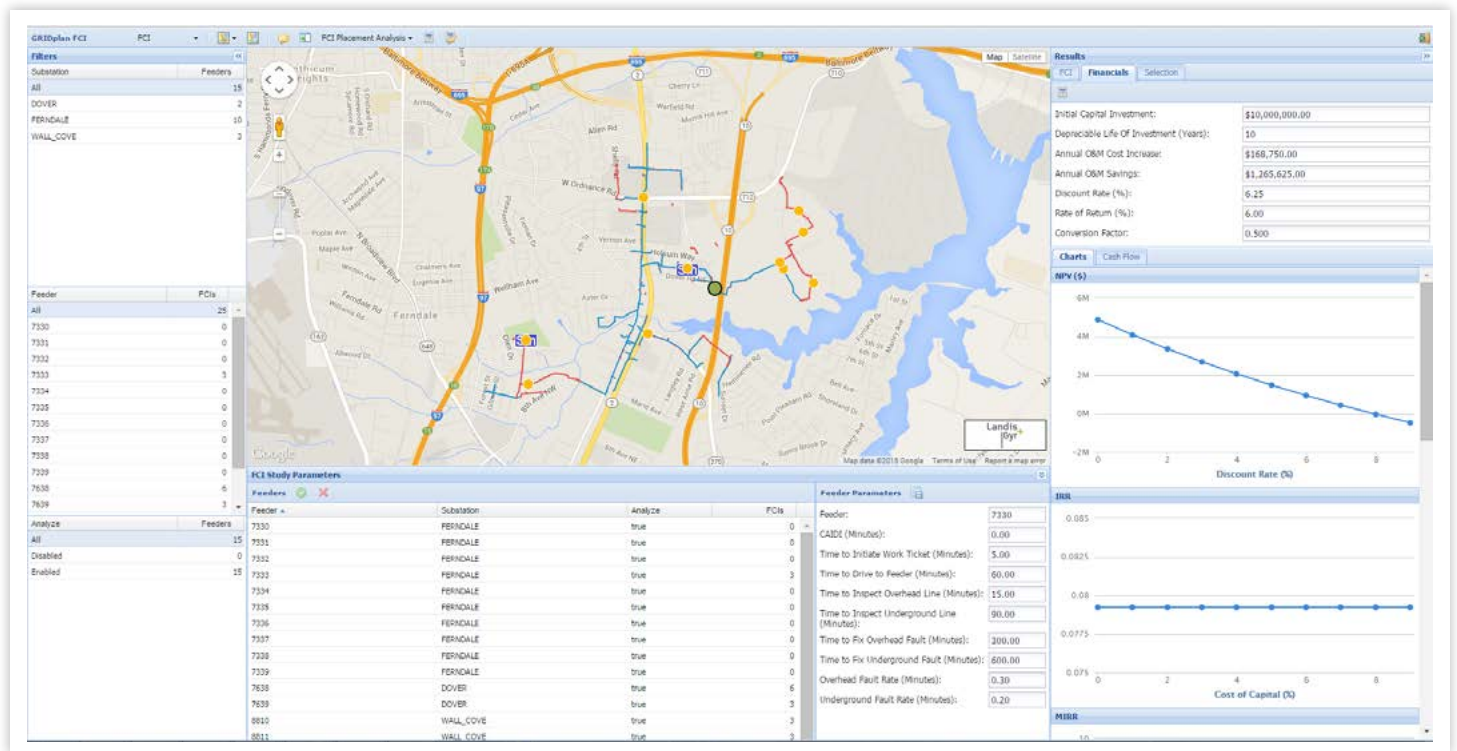
The browser-based, dynamic user interface offers exportable reports and geospatial visualization of full distribution connectivity model and grid assets by utilizing Google Maps™ mapping service. The database and analytical capabilities allow interactive, color-coded, geographic display of proposed FCI locations and associated cost/benefit financial calculations.

#### FEATURES & BENEFITS:

*Why Landis+Gyr makes a difference.*

- Identify optimal number and location of FCIs for maximum reliability improvement
- Accurate and very quick feeder analysis compared to manual effort
- Increase customer satisfaction due to reduction in CAIDI
- Optimize CapEx and OpEx spending for FCI procurement and deployment

## Advanced Grid Analytics: Fault Circuit Indicator (FCI) Optimization



Sample Screenshot: FCI Optimization Application – cost/benefit analysis

### Platform

The grid analytics solution consists of a powerful enterprise platform and modular, web-based, user friendly applications. The platform enables utilities to leverage data integration, visualization and advanced algorithms for multiple analyses and benefits. Given the modular nature of the applications, as needs change or grow, the same platform and data can be utilized, leveraging economies of scale and eliminating data silos and the need to manage multiple vendor systems.

### People

Landis+Gyr's professional services team offers a unique combination of power system engineers, subject matter

experts, software and technology architects and integration specialists. By leveraging Landis+Gyr's proven and best in class implementation methodology and standard-based adapters, utilities can start realizing benefits quickly.

### Pathway

Landis+Gyr provides various deployment options that are cost-effective, robust, scalable and meet service levels now and in the future. The solution can either be deployed at the utility's data-center or hosted at Landis+Gyr's cloud-based, secure and SSAE-16 compliant Network Operations Center.

### Specifications

Supported Operating Systems	Windows or Linux
Recommended Memory	32GB RAM
Required Third Party Licensing	Google Maps API Corporate License and Optional Mongo DB Enterprise License
Interface Standards Supported	CIM, MultiSpeak, DNP3/ICCP, GIS Shape files and other file based formats
Pre-built Adapters	Landis+Gyr Command Center, USC and MDMS; CYME, ESRI GIS
Data Types Required	Connectivity model, Historical CAIDI and Faults information (if available)