GISELEC

Design and optimisation of distribution networks

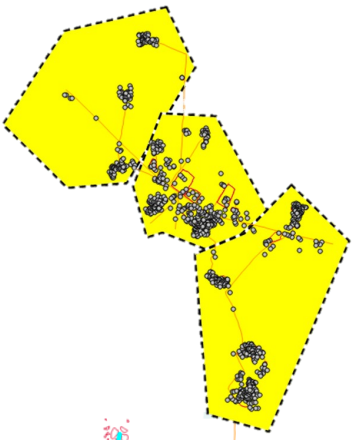
In the actual environment where companies and institutions in charge of electrification are looking to cut costs, it has become essential to identify low cost solutions in terms of technology but also to optimize the design of power lines for distribution energy especially in rural and remote areas where electrification remains a loss making activity. It is therefore necessary to first optimize the medium and low voltage networks starting from feasibility studies, avoiding additional costs due to oversizing of equipment to be installed. GISELEC© is a **user-friendly software accessible to all**, built on the **Geographic Information Systems** (GIS) technology which has the objective of streamlining the design of electrical lines by:

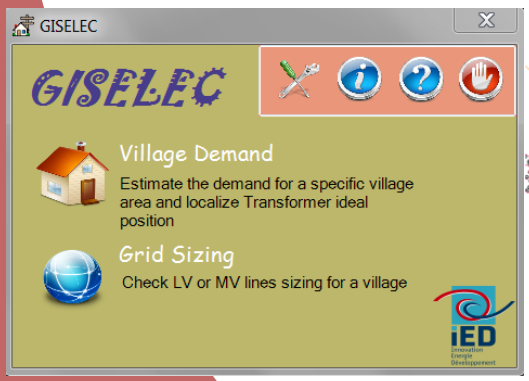
- Helping to **optimize sizing and location of transformers** within villages by mapping and forecasting load points previously identified during the village mapping steps
- **Optimization of cable cross sections for medium and low voltage lines** according to load forecast criteria in rural electrification projects (network expansion or decentralized networks projects)
- Supporting electrical engineers for technical decisions during electrical network studies...

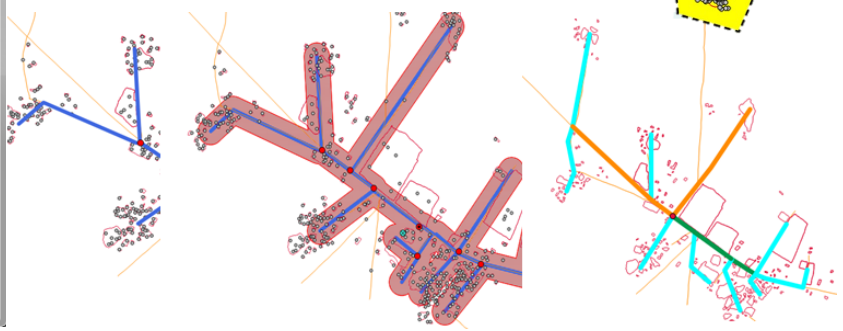
Optimize distribution networks sizing so as to reduce Infrastructures investment thanks to Geographic Information Systems

GISELEC© software main features :

- **Analysis of energy demand** (consumption and peak energy demand) for a specific village in short, medium and long terms according to the load forecast module previously customized, in order to estimate the number and capacity of each planned transformers.
- **Placement of transformers optimisation** near the energy loads centroid so as to reduce energy losses and voltage drops.
- **Calculation of energy losses and voltage drops** and identification of critical cables cross section for planned networks.
- **Optimisation of cable cross sections** based on the power supplied by the network and according to the list of cables available in the study area.
- Editing **reports and maps** related to the grid sizing mapping and calculation of **coverage ratio** within the studied area.







Minimal Configuration :

- GIS software Manifold© compatible MAPINFO, ESRI, AUTOCAD…
- Windows XP, 7
- Compatible with Geosim© and Demand Analyst©

Tool deployed already in various countries such as: *Benin*, Senegal, Burkina Faso, Cameroon...

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