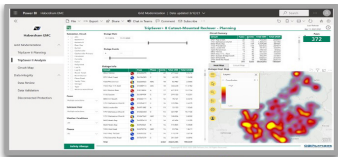


# SOUTHWIRE'S DIGITAL GRID RESILIENCY ASSESSMENT

## IN AS LITTLE AS 30 DAYS, SOUTHWIRE DIGITAL SOLUTIONS' GRID RESILIENCY ASSESSMENT:

- Identifies areas for system reliability improvements by leveraging existing outage and GIS data.
- Finds circuit reliability issues at the device level and prioritizes equipment replacement and/or maintenance actions.
- Provides prescriptive recommendations with cost justification and expected reliability improvements.
- Assets are ranked by an Overall Equipment Ranking based on the Asset's Health and Network Criticality.
- Detects data integrity and connectivity discrepancies with system correction recommendations.
- Through AI and ML techniques, confirms and refines equipment failures, causes, root causes, and remedies.

The Assessment is performed in 30 Days which includes a **Findings and Recommendations** presentation with a 30-day Subscription to our **Grid Resiliency Solution** with access to the following solutions.



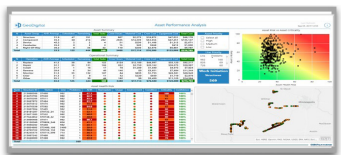
### GRID MODERNIZATION

- Recommends equipment upgrades or replacements based on cost savings, number of failures, and reliability improvements.
- Users configure how they measure replacement criteria such number of failures, minutes of interruption, and causes.
- Assets include wire, protection devices, and transformers.
- Generates a Work Plan to be executed.
- As actions are taken, results are measured.



### NETWORK RELIABILITY

- Provides IEEE 1366 reporting with advanced circuit analysis.
- Performance indices measured from the circuit to the device level.
- Analysis provided by organization, time, failure, and cause.
- SAIDI, SAIFI, and CMI calculations are embedded throughout modules.
- Extensive queries and analysis is fully supported.



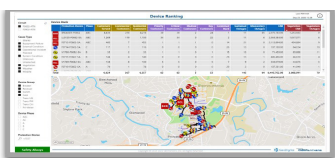
### ASSET PERFORMANCE ANALYSIS

- Asset health and ranking is established by asset risk & criticality.
- Measures the health of your network on an ongoing basis.
- System supports O&M and CAPEX budgeting with expected improvements based on actions planned.
- Generates a Work Plan for execution by WMS.
- Loaded Labor, Material, equipment costs are supported for improved Cost accuracy.



### DATA INTEGRITY & CONNECTIVITY MODEL

- Ensures data quality & completeness for accurate decision making.
- Identifies where data issues need to be corrected at the source level.
- Connectivity Model spatially constructs protection zones, and customers affected for accurate impact.
- The Model is also used for Phase Balancing, Segmentation recommendations and other analysis.



### VEGETATION OPTIMIZATION

- Identifies Asset at Risk from external factors such as vegetation and weather.
- Places a Probability of Failure based on multiple criteria.
- Establishes a priority based on probability and impact.
- Generates a Work Plan to be executed.
- Supports ongoing analysis as improvements are made.



# DIGITAL SOLUTIONS

Services

## SOUTHWIRE'S DIGITAL GRID RESILIENCY ASSESSMENT

### UNLOCKING THE POWER OF YOUR DATA

Our applications provide valuable insight to enable utilities to make strategic operational decisions for Transmission & Distribution O&M and Capital Investments. These tools have been used in determining protection device with location and cable replacement strategies, segmentation, and proactive maintenance prioritization. Recommendations are based on predicted Benefits with a Return on Investment (ROI).

GIS Shapefiles, ESRI, or other GIS database export.	OMS Database dump, CSV, xlsx, or other file format.
<p><b>NETWORK DEVICES</b> Breakers, Reclosers, Switches, Fuses, Transformers, Open Points, Open Elbows, etc.</p> <p><b>REQUIRED NETWORK DEVICE ATTRIBUTES</b></p> <ul style="list-style-type: none"> <li>• Device Name or Id (that would support linking to OMS data)</li> <li>• Device Type</li> <li>• Phase (ABC, AB, A, etc.)</li> <li>• Normal Status (Open/Closed, by Phase if appropriate)</li> <li>• Circuit Name or Id</li> <li>• Geometry</li> </ul>	<p><b>SUSTAINED OUTAGES (MULTIPLE YEARS)</b></p> <p><b>REQUIRED OUTAGE INFORMATION</b></p> <ul style="list-style-type: none"> <li>• Outage Number/ID</li> <li>• Begin Time / Restore Time</li> <li>• Number of Customers Affected</li> <li>• Interrupting Device – Name, as well as unique id that links to GIS</li> <li>• Cause (as well as sub-causes if available)</li> <li>• Comments (Operator, Crew, etc.)</li> </ul>
<p><b>OPTIONAL NETWORK DEVICE ATTRIBUTES</b></p> <ul style="list-style-type: none"> <li>• Voltage</li> <li>• Control Type (Reclosers)</li> <li>• Rating where applicable</li> <li>• Configuration where applicable (i.e., Delta, Wye, etc.)</li> </ul>	<p><b>OPTIONAL OUTAGE INFORMATION SUSTAINED OR MOMENTARY</b></p> <ul style="list-style-type: none"> <li>• Region, Substation, Circuit</li> <li>• Fault Equipment</li> <li>• Weather</li> <li>• Partial Restoration Steps <ul style="list-style-type: none"> <li>• Deenergize Time/Customer Count</li> <li>• Reenergize Time/Customer Count</li> </ul> </li> </ul>
<p><b>CONDUCTORS</b></p> <p><b>REQUIRED CONDUCTOR ATTRIBUTES</b></p> <ul style="list-style-type: none"> <li>• Overhead or Underground</li> <li>• Phase (ABC, AB, A, etc.)</li> <li>• Circuit Name or ID</li> <li>• Geometry</li> </ul> <p><b>OPTIONAL CONDUCTOR ATTRIBUTES</b></p> <ul style="list-style-type: none"> <li>• Voltage</li> <li>• Primary Wire Type (per phase if available/applicable)</li> <li>• Neutral Wire Type</li> </ul>	<p><b>OPTIONAL CUSTOMERS SERVED</b></p> <ul style="list-style-type: none"> <li>• Customer Count per Transformer</li> <li>• Customer Type (Residential, Commercial, etc.)</li> <li>• Customer Priority (Critical, Medical, Key, etc.)</li> <li>• Customer Business Name – (Non-Residential)</li> </ul> <p>This is used to create facility type groupings/priorities (i.e., schools, police &amp; fire, communications, medical, grocery, etc.) SIC or NAICS code</p>
<p><b>NOTE:</b> If GIS data is not available, we can work with the OMS data to derive an equipment hierarchy based on interrupting device and affected customers.</p>	<p><b>OPTIONAL OUTAGE CALL INFORMATION</b></p> <ul style="list-style-type: none"> <li>• Call Time</li> <li>• Outage Number/ID</li> <li>• Call Codes or Flags</li> <li>• Call Comments</li> </ul> <p><b>OPTIONAL CALL INFORMATION</b></p> <ul style="list-style-type: none"> <li>• Call Source (i.e., AMR, IVR, Web, etc.)</li> </ul>

[WWW.SOUTHWIRE.COM](http://WWW.SOUTHWIRE.COM)

