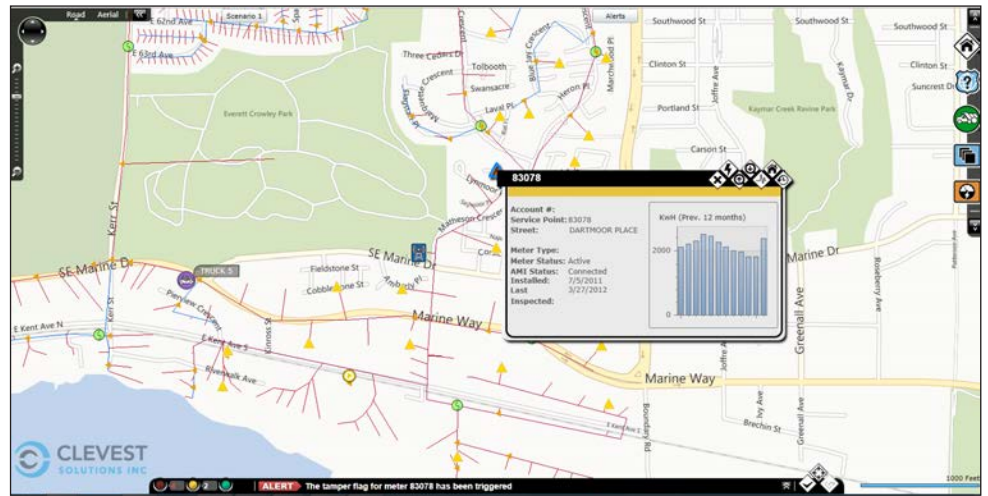# Clevest Smart Grid Visualization
Improve grid reliability with faster field response

Clevest Smart Grid Visualization is an advanced trouble event alert and field response application that enables utilities to visualize, assess and respond to events in their power distribution system to improve grid resiliency and service reliability.

After deploying smart meters and AMI communications networks, utilities face a substantial increase in meter data. This data provides little value unless it can be turned into useful and relevant information that supports decision-making and action. In order to effectively leverage this data, utilities must integrate AMI systems to legacy software applications such as customer information systems and outage management systems. Yet this remains one of the greatest and most pervasive challenges to utilities that have installed smart meters (according to 2013 GTM Research, 2013). Without the ability to present timely and relevant information, there remains a great opportunity for utilities to enhance visibility into the distribution system and take fast action to resolve issues, restore power and improve reliability.

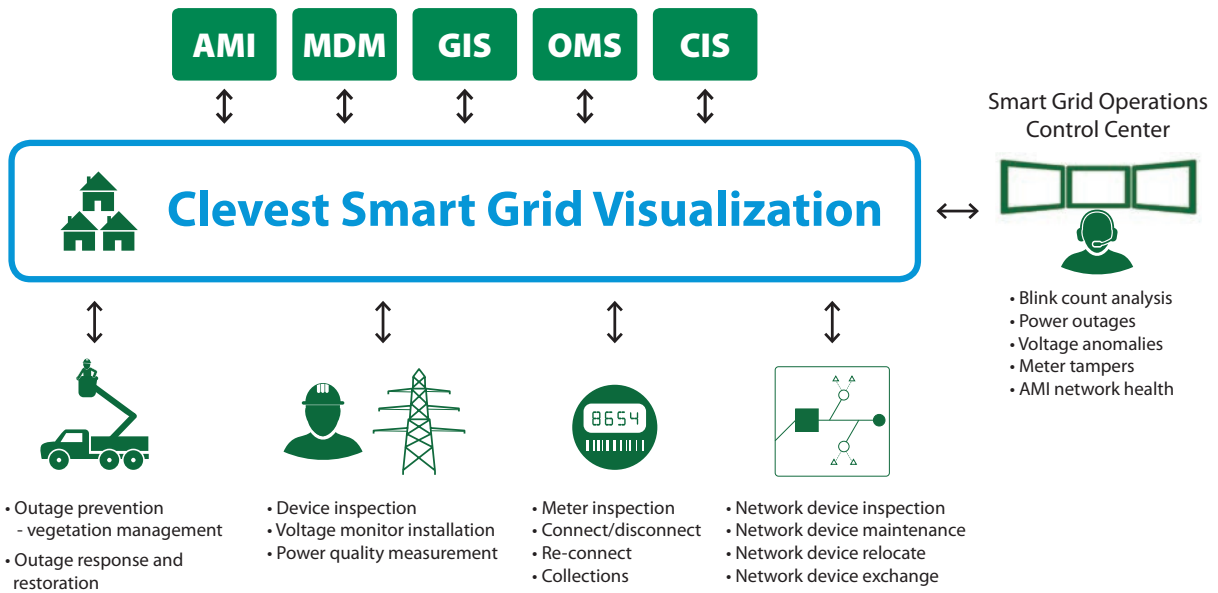## Leverage existing data for fast action to improve reliability

Clevest Smart Grid Visualization offers utility system operators an advanced software technology that harnesses data from AMI and other systems to present relevant, timely alerts to trouble events within the visual context of their distribution system assets. Users are visually alerted to power outage, tamper and voltage anomalies and can correlate events with meter and customer information to pinpoint the root cause and exact location of issues.

With complete integration to Clevest Mobile Workforce Management (MWFM) and Automatic Vehicle Location (AVL) software solutions, operators can easily create, dispatch and manage field work orders to completion in order to optimize field response, improve service reliability, and realize the expected benefits of their smart grid investments.

Why Clevest Smart Grid Visualization?
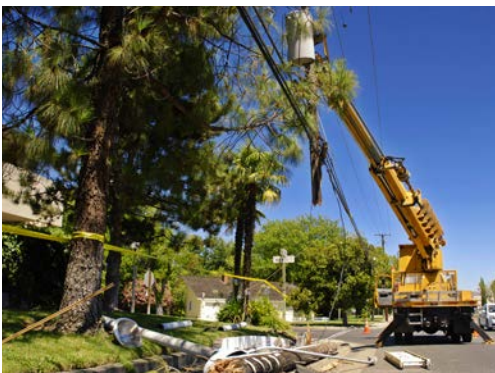
- Improved reliability performance in SAIDI/CAIDI metrics to reduce regulatory penalties
- Reduced lost revenue from faster outage restoration and theft detection
- Demonstrated ROI on AMI business case benefits (e.g., outage response, theft detection)
- Increased customer satisfaction due to reduced outage duration and improved service reliability
- Increased safety of utility workforce and public from increased information and awareness of workers in the field
- Lower operating costs due to optimized crew dispatch; faster, more efficient, more effective response and restoration; the right truck rolls at the right time with the right tools

| AMI | MDM | GIS | OMS | CIS |

Clevest Smart Grid Visualization

Smart Grid Operations
Control Center

- Blink count analysis
- Power outages
- Voltage anomalies
- Meter tampers
- AMI network health

- Outage prevention
  - vegetation management
- Outage response and
  restoration

- Device inspection
- Voltage monitor installation
- Power quality measurement

- Meter inspection
- Connect/disconnect
- Re-connect
- Collections

- Network device inspection
- Network device maintenance
- Network device relocate
- Network device exchange

Seamless integration to AMI head-end systems

Turn AMI data into actionable information: Clevest has preconfigured interfaces available for a wide range of utility billing, CIS, OMS and AMI systems. Integrating Clevest Smart Grid Visualization to your AMI head-end or MDM system enables you to leverage timely data to enhance system operator awareness, decision-making, and the ability to take corrective action to resolve issues in the field. Our MultiSpeak®-compliant interfaces and Esri-based GIS tools ensure our solutions communicate with and add value to your existing IT capabilities.

Real-time alerts

Know as soon as a trouble event occurs: Actionable data from the AMI or MDM system alerts utility workers to trouble events such as power outages, momentary outages (blinks), meter tampering and voltage anomalies. With timely alerts, you don't have to wait for a customer to call in an outage or voltage issue.

Map-based visual display

Enhance the ability to pinpoint trouble location and cause: Clevest Smart Grid Visualization presents relevant information within a rich map-based interface. This provides utility system operators and field workers with improved awareness by visualizing field operations workers and vehicles in relation to distribution system assets. Users can view meter status, make on-demand reads and correlate events with customer consumption and billing data to better determine the root cause of a problem and the exact location to dispatch a crew.

Fully-integrated with MWFM and AVL

Increase the speed and effectiveness of restoration efforts: When system operators determine that field operations staff must be deployed, Clevest's solution enables them to quickly create a work order, schedule and dispatch the crew best suited to the task, and efficiently manage the work order through to completion, all using simple drag-and-drop actions within the map-based interface. Clevest work order assignments, updates, and vehicle location information moves between dispatchers and mobile workers in real-time to increase the speed and efficiency of work completion, improve grid reliability and enhance customer satisfaction.

Smart Grid Operations & Maintenance

Mobile Workforce Management

Automatic Vehicle Location

Meter Reading

Asset Investment Planning

CLEVEST

Transforming Utility Field Operations