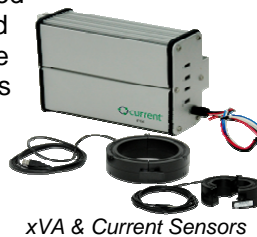


## CURRENT® Smart Transformer Station Sensing & Analytics

The *CURRENT* Smart Transformer Station (STS) includes secondary and primary sensing and analytics solutions that offer best-in-class capabilities in the distribution grid environment. However, simply providing sensor data from millions of points can overwhelm any utility's ability to process and make sense of the information. True situational awareness does not come from simply collecting sensor data, but by analyzing it to extract meaningful information. Through a combination of sophisticated sensing solutions, edge based software analytics and enterprise analysis, the *CURRENT* STS – Sensing and Analytics portfolio handles the scale of the task. This solution allows analysis to be located both centrally and in many places at the point of sensing to allow distributed control and automation of present and future network activity, such as re-closer operation, distributed generation control, and demand response.

The *CURRENT* Sensing & Analytics solution includes the following components:

- Low & Medium Voltage Analytics Appliance / Module (LVA/MVA)**  
 The LVA/MVA and integrated sensors provide current, voltage, power (real, reactive and apparent), and energy measurements as well as advanced power quality measurements such as THD and harmonic analysis. The LVA/MVA, containing an advanced microprocessor, enables sophisticated edge-based analytics, such as early transformer failure detection, while reducing the data traffic demands on the WAN.



The system is based on Digital Signal Processing (DSP) and sensor technologies, providing better than 1% measurement accuracy of full scale for the entire system, including both the analytics and sensors. All of the sensing solutions support Internet Protocol (IP)-based communications, and can be completely managed and upgraded remotely. They also include the ability to perform complex edge analytics and threshold alarming on a wide variety of parameters.

The LVA/MVA are available as expansion modules that can be field-installed in the Communications and Connectivity Engine (CCE) chassis and as standalone Low and Medium Voltage appliances.

- CURRENT OpenGrid™ Distribution (OGD)** is the enterprise software platform that enables collection, visualization and analysis of the sensor data, creating *Actionable Intelligence™* – identification of specific and definable actions that respond to live problems, improve operating efficiency, help mitigate aging workforce issues, lower energy losses, and even avoid failures before they occur. *Actionable Intelligence* defines the time, place, and specific action that should occur, thereby allowing either automated responses or the dispatch of crews directly to specific problems without a lengthy search and ensuring a speedy response directed at the problem. This approach can even identify problems before a customer may notice any change in their service.

CURRENT's *OpenGrid* Distribution incorporates remote configuration of CURRENT sensing and analytics devices to set threshold detection, alarming, and data variance detection. It also integrates with other utility databases to provide normalized access to data to facilitate the development of advanced analytics. This analytics platform provides linkages to every other system within the utility through application programming interfaces (APIs) and with information flow that ensures that existing systems benefit from the enhanced view of the state of the network.

## Key Features and Benefits

- Actionable Intelligence™.**  
 Provides the utility specific information to both prevent outages and restore service faster—reducing customer outage frequency and duration.
- Optimized Power Delivery.**  
 Provides the visibility required to optimize grid operation and support the distributed energy resources (DER) and other advanced generation technologies coming into the network.
- Fault Prevention & Detection.**  
 Greatly reduces service restoral time since the utility can quickly locate, isolate, and repair faults.
- Restoration reporting.**  
 Real-time, automated restoration messages from network elements connected to the Smart Grid enable efficiencies in a utility's outage restoration process and labor related storm reserve.
- Cost effective solution.**  
 The solution can be cost justified for deployment throughout the distribution grid, ensuring complete system visibility.
- Remote Grid Control.**  
 Reduction in field service support, as well as reduced trouble calls, due to improved system management and remote trouble shooting capabilities.



OpenGrid Distribution Overview Screen