SPACE•TIME•INSIGHT
"Situational Intelligence for the Smarter Enterprise"

Space-Time Demand Response Composite

Space-Time Awareness Suite:
Industry's leading suite of geospatial analytics composite applications.

Space-Time Demand Response Composite:

Features:

- Real-time visualization of emergency based DR events
- Integration with ISOs or demand aggregators for consolidated demand drop request
- Integration with customer relationship systems
- Visual simulation of 'load shave' potential through demand response
- Selection of DR customers with multiple selection criteria
- Price-Demand Elasticity visualization
- Visualization of the demand curve as a function of renewable generation
- Analysis and visual simulation of placements of DER on the grid
- HAN visualization

Benefits:

- Higher profit through improved forecasting of emergency and condition based Demand Response requirements
- Price -Elasticity modeling ensures optimum revenue / energy efficiency targeting
- Targeted demand response ensures energy efficiency improvements without sacrificing service level agreements (SLAs)
- Enhanced ROI through better utilization of home area energy improvement devices such as smart thermostats and remote shutdown devices

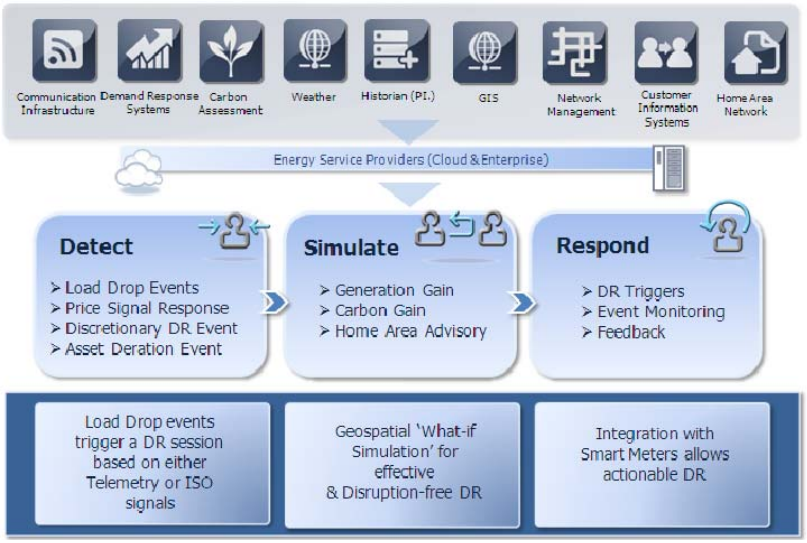
Customers Say:

- *"Space-Time Insight improves our overall ability to respond to, and even avert, potential system emergencies."*

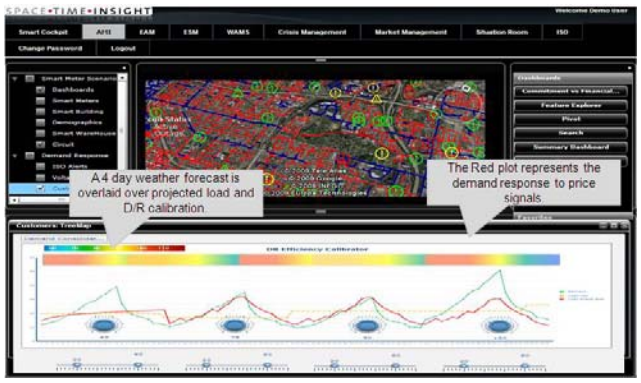
Managing energy consumption in response to ever changing supply conditions is a priority for utility companies. Supply constraints can be caused by transmission congestion, unexpected load increases or critical component failures.

Space Time Insight's Demand Response Composite helps in forecasting and simulating demand response to various supply conditions. Configurable dashboards alert operators of emergency demand response conditions, while dynamic pricing capability helps to simulate and assess consumer demand in response to various pricing signals. Using price schedules like Time of Use (TOU), Critical Pricing (CPP), and Real Time Pricing (RTP) operators can simulate and apply best-fit pricing. Similarly, Home Area, Community or Network Operating Center (NOC)- based Energy Efficiency programs can be analyzed or monitored using the Demand Response Simulation Cockpit. Finally, both renewable generation and distributed energy resources (DERs) can be visually aligned to fit load profiles, allowing maximization of carbon-neutral generation assets and use of DERs to fit load shape models.

Users click the Space-Time Demand Response Composite screen to rubberband an area for demand response participant selection. Expected load savings can be simulated for the rubberbanded selection.



The diagram shows space-, time-, and context-aware processes enabled by Space-Time Demand Response Composite.



The screenshot shows a 4-day weather forecast overlaid on projected load & DR calibration, demand response to price signals, and DR participants in the context of grid congestion.

Demand response for various price signals can be modeled and and analyzed with full-context situational awareness.

Space-Time Demand Response Composite – Key Features

- Real-time visualization of emergency Demand Response events, such as congestion or load pocket formations
- Integration with ISOs or demand aggregators for consolidated demand drop request
- Integration with customer relationship systems for visualization of demand response contracts
- Visual simulation of load shave potential through demand response
- Selection of demand response customers with selection criteria such as past interruption duration, financial impact, priority and others
- Price-Demand Elasticity visualization for various price signals and consumer types
- Visualization of the demand curve as a function of renewable generation
- Analysis and visual simulation of placements of DER (distributed Energy resources) on the grid
- Home Area Network visualization, with thermostat readings and consumption profiles overlaid geographically

Space-Time Demand Response Composite – Customer Benefits

- Higher profit through improved forecasting of emergency and condition based Demand Response requirements
- Price -Elasticity modeling ensures optimum revenue / energy efficiency targeting
- Targeted demand response ensures energy efficiency improvements without sacrificing service level agreements (SLAs)
- Enhanced ROI through better utilization of home area energy improvement devices such as smart thermostats and remote shutdown devices