

The logo for GridOS, featuring the word "GridOS" in a bold, white, sans-serif font with a registered trademark symbol (®) to its upper right. The background of the top section of the page is a dark teal color with a white grid pattern overlaid on a blurred screenshot of a software interface showing various charts and data points.

## TRANSACTIONAL ENERGY MANAGEMENT

### What Differentiates GridOS-TEMS?

Market simulation and operation performed on GridOS native 3-phase unbalanced AC power flows

DER-agnostic platform for evaluating and enabling participation by prosumers and consumers

Model-based operation that respects system security constraints and grid requirements

Utility and prosumer-facing platform allowing cloud and on-prem deployments

DER business models configurable to the system's unique technical and economic factors

Web-based interface allows secure operation from any modern operating system

### The Need for Local Flexibility Market

Distributed Energy Resources (DERs) are fundamentally changing energy supply and demand wherever they are located. Their presence and capabilities create the opportunity for new Distribution System Operator (DSO) operational and business models based on DER flexibility to resolve constraints, and DSO evaluations to dynamically utilize flexibility to manage the grid. Connecting the DSO to DER and their flexibility is the GridOS platform, strengthening the grid by facilitating interactions between the DER-owning prosumer and the DSO.

The platform incentivizes DER participation by outputting services requests and assigning value to the various services the DER can provide. Opus One's GridOS Transactional Energy Management System (GridOS-TEMS) helps operators optimally manage these resources by providing time and location specific services schedules and prices based on each DER's total value to the grid.

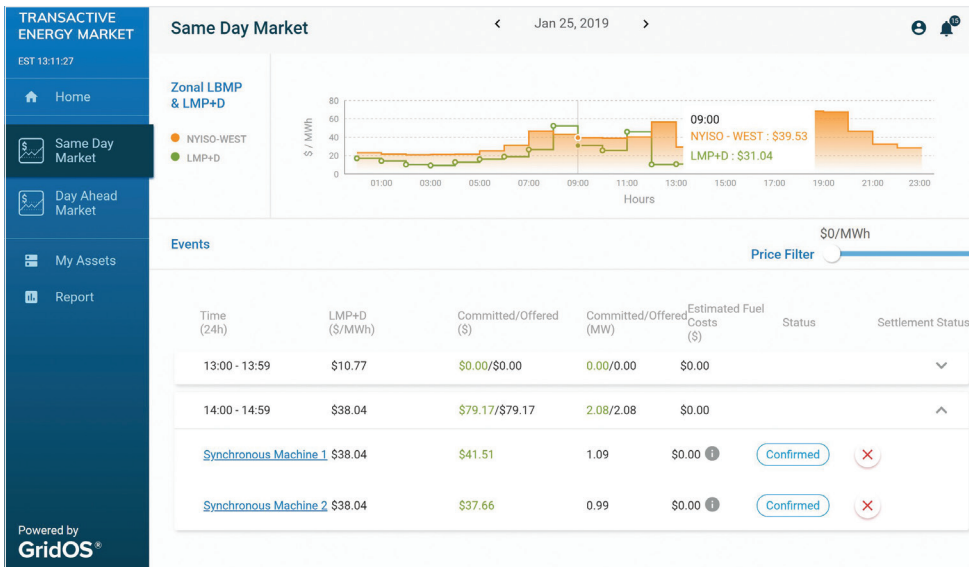
By combining communication, scheduling, and valuation capabilities with GridOS-TEMS, the platform simplifies value creation through DER - opening new business models centered around DER benefit to the consumer, prosumer, DSO and TSO. TEMS facilitates decision making processes based on DER value from planning to operations to rates to markets.

### GridOS-TEMS

The TEMS marketplace allows prosumers and the DSO to contract for services ranging from annual peak management contracts between DSO and prosumer through to daily capacity exchanges between prosumers on the DSO's network. Through use of the GridOS Optimization engine, the TEMS platform determines both optimal contract sizing as well as services utilization.

To enable end-to-end market for services contracting through utilization, the TEMS platform coordinates the various data required for flexibility markets at scale. Those data include weather historicals and forecasts, asset level load forecasts and measurements, as well as external baselines and connections to external markets.





GridOS Transactive Energy Management

## Inputs

- Utility Network Models
- Distribution Value Stack and Bulk System Pricing
- Load and weather forecasts
- DER operation parameters

## Outputs

- DER-level hourly price
- DER-level operational signals
- DER-level transactions reports
- Real-time participation and pricing updates

## Energy Services

- Energy (\$/MWh)
- Ancillary Services (\$/MVar)
- Capacity (\$/MW-Year)
- Emissions (\$/MT)

## Easy Adoption

Substation to feeder-level shadow/simulation markets

Technology agnostic DER adoption

Configurable location, time, and DER-specific price signals

Seamless integration with utility and bulk system data

Operator and market specific settlement

## Align DER Investment and Operation

DER represent an alternative to traditional investments—sometimes called a smart investment. The TEMS platform supports the operation and evaluation of non-wires solutions alongside traditional ones by assessing their total value to the grid based on location and utilization. By providing the same analytics for planning as for operations, TEMS allows DSOs to operate their grid as planned.

By facilitating the Flexibility procurement, valuation, and utilization process, TEMS provides a strong foundation for DSOs to launch DER programs, evaluate rate and tariff design, and manage the grid of the future—making use of DER to achieve net zero goals while respecting regulatory requirements for system safety and cost consciousness.

## DER Engagement

DER ownership and operatorship models vary by region, but GridOS-TEMS allows grid operators to create price signals for optimal DER response, regardless of technology owner or legislative landscape. In this way, the platform allows for DER from rooftop solar to EV chargers to utility batteries to be simultaneously considered in distribution system operation, meeting utility goals and regulatory requirements.

## Contact Us

te@opusonesolutions.com

