

# Revolutionizing Microgrids Operation.

## The Next-Gen, Ultra-Fast Electric Grid Distributed Management System (UF-GDMS)

Microgrids play a pivotal role in advancing electrification efforts, especially in remote and underserved regions. By providing localized and reliable power generation and distribution, microgrids bridge the gap in areas where extending traditional grid infrastructure is economically and logistically challenging.

With this pivotal role, the North American Microgrid sector is projected to surge to \$11.5 billion by 2030<sup>^</sup> USD, growing at a CAGR of 19.9% .

Storage systems are pivotal for ensuring the reliable, stable, and optimal operation of microgrid systems. Yet, these systems, while essential, lack inherent intelligence and rely on grid management systems for optimal utilization within microgrids.



### Limitations of Existing Grid Management Systems for Operation of Microgrids

Operating in minutes and above and not being capable of responding to fast events such as frequency and voltage excursion



Operating based on historical data and unable to respond to non-deterministic events such as unintentional islanding



Off-site and centralized architecture making microgrid operation highly reliant on communication infrastructure



These limitations, are hindering existing management systems from full utilization of storage technologies and are resulting in the lack of resilient, reliable and optimal operation of microgrid systems.

### The Consequences of Unreliable and Vulnerable Microgrid Management Systems



#### Limited Capacity for DERs

Microgrids without a proper management system cannot host high depth-of-penetration of renewable resources and EV-charging stations and still remain reliant on polluting energy resources.



#### Lack of Operation Resiliency

Given the slow performance of existing management systems, microgrids cannot operate fast enough to reduce grid outages and enhance the grid's resiliency. In the US, there is over \$ 150 B of yearly business profit loss due to power outages!\*



#### Prone to Communication Failure

Existing microgrid management systems are highly centralized and dependent on communication mediums and can put the microgrid operation in jeopardy in the case of cyberattacks and communication failures.

**Is there an available, reliable, and cost-effective distributed grid management system that can proactively maximize the usage of storage technologies and the operational benefits that microgrids can bring for the electric grid?**

<sup>^</sup> <https://www.gminsights.com/industry-analysis/north-america-microgrid-market>  
\* Source: Department of Energy

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Empowering Your Business At the Edge

The answer is **Yes!**

ETP's cutting-edge grid management solution can help you fully utilize energy storage technologies to maximize reliability, resiliency, and efficiency in the operation of your microgrid systems.

### Key Technical Features of Our Patented Grid Management System



**In-millisecond Operation Speed**

Detecting accidental events on the microgrid system, enabling remedial actions, and enforcing those actions using storage technologies, all within millisecond timeframe (including communication latency) of the microgrid operation.



**Proactive Decision-making Algorithm**

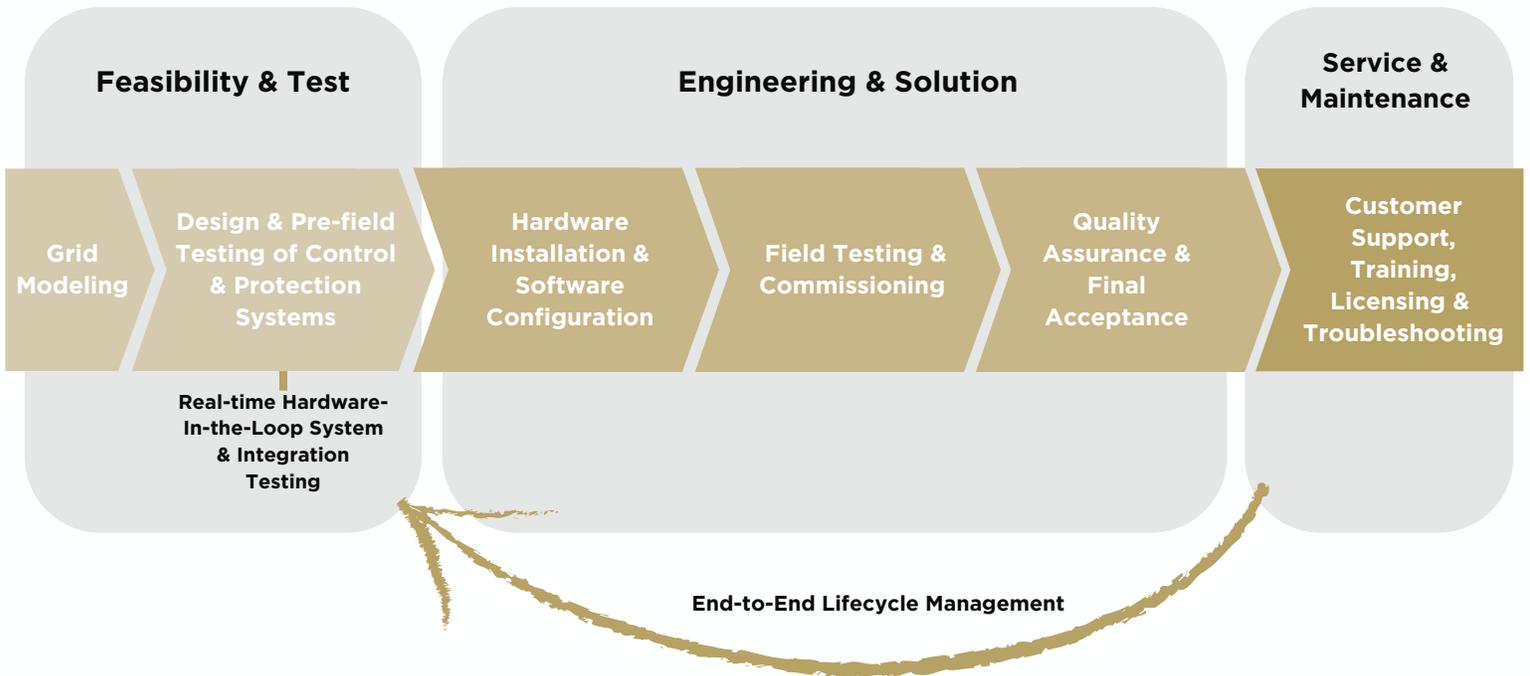
Computationally powerful to proactively handle millions of accidental events and maximizing continuity of operation of microgrid systems.



**Distributed Management for a Distributed Grid**

The embedded management system can be deployed in a hierarchical manner over the grid, effectively overcoming communication obstacles and maximizing the grid's resiliency in the event of complete or partial communication disruptions.

## Solution & Services Roadmap



Contact us today to learn more about how we can help you join the transition towards a cleaner, more reliable, and sustainable energy future.

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