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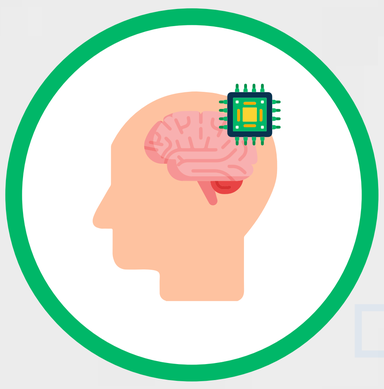
Building the Next Terawatt: Why Distributed Energy Is the Future of Grid Capacity

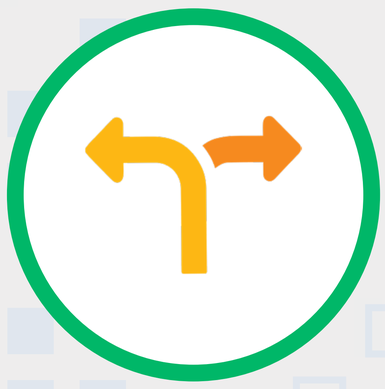
For over a century, the utility grid has stood as one of the greatest engineering achievements in human history—a vast, interconnected network delivering power to nearly every corner of society. But as electrification and digitalization surge ahead, we're entering a new phase—one where **the opportunity isn't just to expand the grid, but to transform how we think about building capacity.**

The next terawatt of grid capacity will not come solely from centralized infrastructure. It will come from distributed, intelligent, and modular systems located at the edge — **where demand is highest, and where the opportunity is greatest.**

DERs
Integration



Intelligent
Design



Modular
System

A Terawatt of Demand—Faster Than Ever Before

From AI datacenters requesting gigawatts of capacity to the electrification of fleets, factories, and buildings, the pace and scale of new demand are unprecedented. Utilities are stepping up—but timelines for major infrastructure projects are often measured in years, sometimes even decades.

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Meanwhile, developers, operators, and communities are looking to energize sites quickly. The opportunity lies in complementing existing utility infrastructure with **modular, distributed capacity that can be deployed rapidly and scaled dynamically.**

This isn't about replacing the grid—it's about unlocking new ways to deliver value **alongside it.**

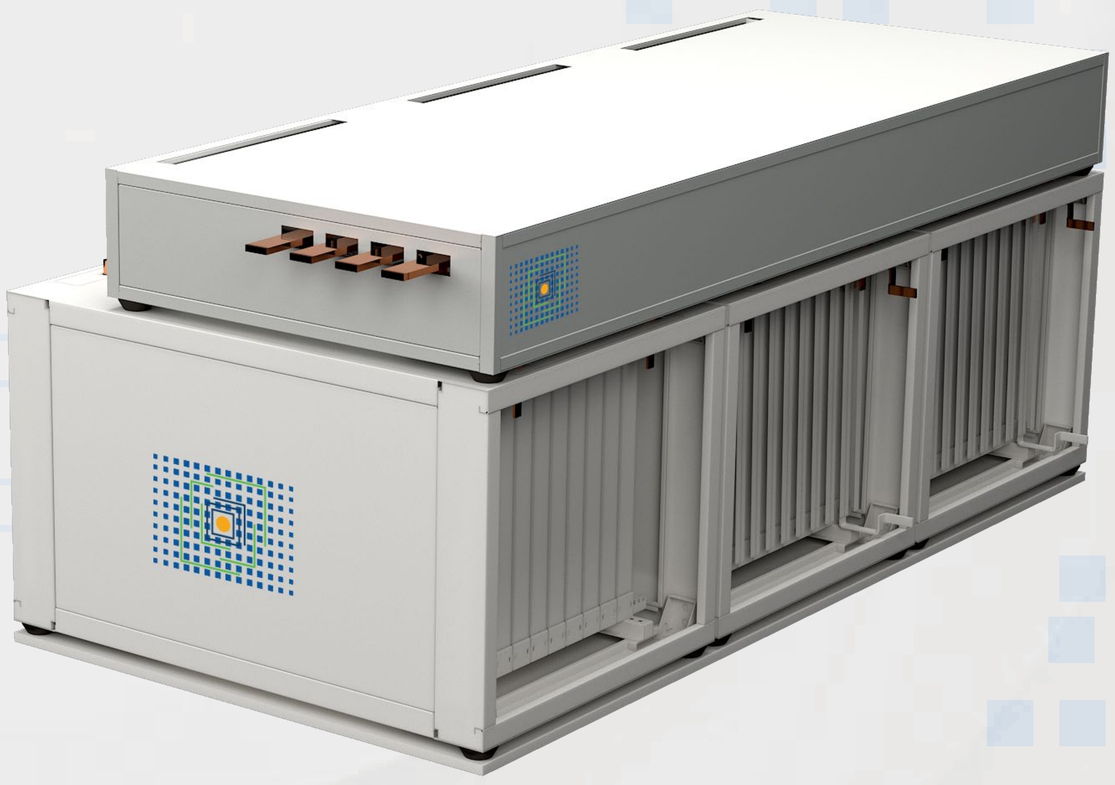
Distributed Energy at the Edge: Capacity Where It Counts

The power grid of the future will not be defined solely by central plants and transmission lines—it will be increasingly defined by what happens at the edge.

By co-locating generation, storage, and advanced power control technologies like solid-state transformers **closer to load centers,** we can:

- Alleviate upstream transmission constraints
- Accelerate time-to-power for new loads
- Provide site-level flexibility to balance energy needs in real time

Power Router



Power Bridge

Edge-based capacity reduces pressure on the backbone of the grid while creating faster pathways to energize the projects driving economic growth.

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Capital Efficiency Through Modularity

In today's capital-constrained environment, **speed, flexibility, and capital efficiency** matter more than ever.

Instead of investing in one $1B centralized project that takes 8 years, we can unlock the same—or more—capacity with **a thousand $1M projects** spread across key locations, deployed in months.

This modular approach offers multiple benefits:

Reduced risk: Each deployment is smaller and more manageable

Geographic diversification: Sites can be prioritized where demand is growing fastest

Scalable returns: Capital is aligned more closely with revenue generation timelines

It's a shift from long-term infrastructure bets to agile infrastructure investments that deliver faster returns and adapt with market needs.

Resilience as a Strategic Asset

We are in an era where resilience is not a nice-to-have—it's a strategic differentiator.

AI workloads, life-critical facilities, and logistics operations all rely on uninterrupted power. Distributed energy resources and programmable power platforms allow these operations to:

- Maintain uptime during grid disruptions
- Support black-start and islanded operation
- Operate with autonomy in the event of emergency or cybersecurity risk

This is not about undermining the grid—it's about **fortifying it** through complementary, edge-level capacity that enhances the whole system's reliability and responsiveness.

Flexibility for a Dynamic Energy Landscape

Energy needs are evolving faster than ever. Static infrastructure, while essential, must be augmented by systems that can adapt on the fly.

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Distributed platforms, like the DG Matrix Power Router, provide **software-defined flexibility** that can be updated, reconfigured, and optimized in real time. That means infrastructure can:

- Switch use cases (e.g. from EV charging to refrigeration to grid support)
- Participate in VPPs and grid services
- Integrate new technologies without reengineering the system

This kind of dynamic adaptability ensures that every asset continues to deliver value—not just today, but far into the future.

Conclusion: A New Model for a New Era

The world doesn't need to build the grid all over again. We need to build smarter and faster.
The next terawatt of grid capacity will be:

- **Distributed** across load centers
- **Modular** and easy to deploy
- **Programmable** and adaptable over time
- **Resilient** in the face of disruption
- **Collaborative** between utilities, innovators, and customers

At DG Matrix, we believe this is the greatest infrastructure opportunity of our time. Our Power Router platform enables customers to deploy advanced energy systems with **speed, scale, and intelligence**—complementing the grid and accelerating the transition to a more electrified world.

The terawatt challenge isn't a bottleneck.

It's a blueprint for the future.

And we're building it—one site at a time.