HITACHI

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The Challenge

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Utility Grid Management is the most complex problem in the world

A growing challenge:

The US electric grid is often referred to as the greatest machine in the world. But it is being stressed by:

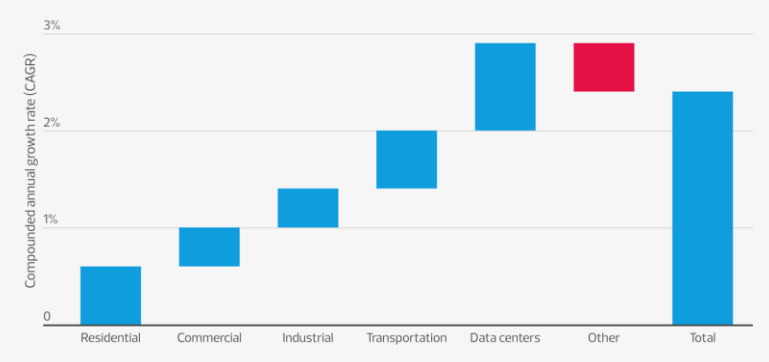
- Aging infrastructure
- Fragmentation (between the grids, utilities, etc.)
- Exponential growth for demand (large load centers, EV, etc.)
- Varying types of generation (renewables, DERs, etc.)
- Congestion along the wires
- Extreme weather events
- Rising demands from the public
- increasing regulatory complexity

Acceleration the Planning Process

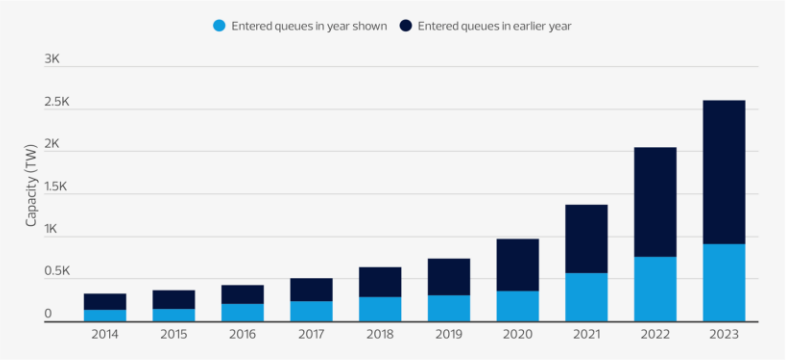
One way to address these challenges is to accelerate the planning process. The planning process is hindered with complex regulations and archaic simulations tools. Our focus is implementing technology innovation in order to:

- Develop a surrogate model that can provide 75% confidence level within 24 hours
- Expedite the simulation software itself through autonomous parallel computing
- Expedite calculations through the use of Hitachi GPUs, powered by NVIDIA technology
- Automate the manual management of data flows and software integrations, and layering on AI capabilities for additional acceleration
- Better defining data management and governance structures to reduce rework

CAGR forecast for electricity demand by sector 2022–30



Active capacity in interconnection queues for review



Source: Lawrence Berkeley National Laboratory; RSM US LLP

A comprehensive approach to accelerating value: