EMPOWERING
THE INTERNET OF ENERGY

FROM SMART GRID TO FLEXIBLE GRID

Energy systems are faced with many disrupting factors driven by decarbonization, decentralization, digitalization and democratization of energy. What’s driving the need to transition from a smart grid to a flexible grid?

- The global shift to green power driven by local regulatory changes in addition to the demand from consumers and businesses for lower-cost and cleaner energy
- The widespread proliferation of Distributed Energy Resources (DERs) like grid- and customer-scale batteries, photovoltaics (PVs), electric vehicles and supply equipment (EVSE) and smart home devices such as thermostats and water heater equipment
- Incentives created by government organizations on every level as well as local energy providers to stimulate the shift to green energy and create a net zero economy driving swift adaptation by consumers and businesses
- Rapid technological advances affecting the entire energy spectrum from generation plant to user demand, meaning shorter asset lifecycles which impact operational and financial performance

The energy grid has traditionally been operated as a one-directional energy pathway, with power generated at centralized plants and then sent through high-voltage systems to consumers. In this traditional model, consumers had minimal influence on the grid beyond managing their demand with usage behaviors like turning off lights and appliances when not in use.

However, there is a shift in this traditional operational method. Renewable technologies and DERs are becoming more economical which drives an increased demand for renewables by government agencies, businesses and individuals alike. An appetite for reduced usage costs and a preference for clean energy is driving us toward entirely new sources of energy production and delivery mechanisms.

This energy transition is also driving new opportunities and innovative business models such as third-party load aggregation and energy trading by non-utility entities for the first time in the history of many regions. These new models are a primary result of new regulations to enable a more competitive energy landscape and drastically expedite decarbonization goals across the world. The result is a power system which is cleaner, more efficient and thereby potentially more cost-effective to operate.

However, these decentralized energy sources, like DERs, add stress on traditional distribution, transmission and generation facilities, which leaves grid operators with limited visibility into loads that have potential to wreak havoc on portions of the grid. Fortunately, new technical solutions are emerging rapidly which offer grid operators and energy aggregators the ability to mitigate this risk and enable a much more flexible and dynamic grid.
ENABLING A FLEXIBLE GRID BY HARNESSING THE INTERNET OF ENERGY

At mPrest, we realize how complicated and dynamic these challenges are for organizations, which is why our platform, mDERMS, was built from the ground up to be able to support several distinct business models. Our mDERMS platform provides flexible integration mechanisms to work in concert with existing programs and systems to provide dynamic solutions to solve grid and energy management challenges. By offering three distinct and iterative deployment solutions, mDERMS can be “right sized” to your current needs and evolve with your business as you grow. The mDERMS platform features Demand Response Management Systems (DRMS), Virtual Power Plant (VPP) Platform and Distributed Energy Resource Management (DERMS) capabilities.

### ABOUT mPREST

Leveraging its unparalleled experience and expertise in real-time mission-critical command and control software, mPrest has developed world-leading orchestration and optimization software.

mPrest’s micro services-based, real-time orchestration and optimization platform brings the power of AI and IoT to the digital transformation of a host of industries, from energy and smart cities to oil & gas, connected cars, water, defense, and other industry 4.0 applications.

mPrest’s applications suites, including Distributed Energy Resource Management and Asset Performance Management, have been deployed on-site or in the cloud in record time at some of the world’s most forward-looking and efficient organizations, including leading energy companies.

mPrest’s vendor-agnostic product suite interfaces with millions of sensors, devices, machines, assets, sub-systems, IT and OT applications, creating a “System of Systems” that provides end-to-end visibility and control over complex and distributed operations.

### CONTACT DETAILS

For more information, and to learn how we can help you get started on your own path to digital transformation, visit us at [www.mprest.com](http://www.mprest.com) or email [marketing@mprest.com](mailto:marketing@mprest.com)