Storage, the Ultimate Disruptor. Is There anything Storage cannot Do?

Keynote Session A III

Date: Friday, Dec 17, 2021 **Time: 09:00 AM-09:55 AM**

Speaker: Dr. Mani Vadari, President of Modern Grid Solutions, USA

Abstract:

Electric energy storage (EES) is a set of technologies that stores previously generated electric energy and releases that energy later. Storage uses forms of energy such as chemical, kinetic, thermal, or potential that can be converted to electricity on demand. The figure shows several commodities such as food, water, gasoline, and oil and natural gas, which have an average storage capacity of more than 10% of their daily consumption. In contrast, the electricity market in Massachusetts,for example, has a storage capacity of less than 1% of daily consumption. In addition, without storage, electricity needs to be produced, delivered, and consumed nearly instantaneously for the grid to maintain balance. This requires the entire electric value chain, including generation, transmission, and distribution systems, to be sized at yearly peak consumption, despite consumer electricity demand varying significantly throughout the day and at different seasons of the year.The need to size the entire electric value chain to peak consumption resulted in system inefficiencies, underutilization of assets, and a high cost to ratepayers.

During the Keynote Speech, Dr. Vadari will discuss the disruptive aspects of energy storage and what are the various use-cases for application from a combination of utility, customer, and investors perspective.