

Syndem Founder and CEO Dr. Zhong to lead IEEE Standards Working Group on Virtual Synchronous Machines (VSM)

This standard is expected to be the world's first standard on grid-forming inverters.

CHICAGO, IL, USA, April 6, 2021 /EINPresswire.com/ -- SYNDEM, a global pioneer in renewable energy and smart grid, announces that IEEE Standards Association has recently approved



Qing-Chang's invention is a game changer for the grid."

Keith Schneider, Energy Journalist

Syndem Founder and CEO, Dr. Qing-Chang Zhong, to lead an IEEE Standards Working Group on Virtual Synchronous Machines.

A Virtual Synchronous Machine (VSM) is a power electronic converter that is operated to behave like conventional synchronous machines. It is able to start from the black

and form a grid. It is also able to regulate the frequency and the voltage without the need of a synchronous generator. It can be operated in an islanded mode or a grid-tied mode. It can be operated individually or collectively. This technology can make distributed energy resources compatible with power systems, which helps smooth the transition of power systems from centralized generation to distributed generation. It will play a vital role in the large-scale adoption of distributed energy resources, the advancement of sustainability, and the development of a low-carbon economy.

This IEEE Standard will define the fundamental principles, mandatory functions, and optional functions of a Virtual Synchronous Machine. It will not describe or specify power semiconductor devices, hardware topologies, or micro-controllers that are used to build a VSM.

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For technical details about VSM, read Dr. Zhong's new book, [Power Electronics-Enabled Autonomous Power Systems: Next Generation Smart Grids](#) (Wiley - IEEE, 2020).

About Syndem

Syndem is leading the global development of next-generation smart grids based on the synchronization-and-democratization mechanism to harmonize the integration of renewable energy sources (such as wind and solar), electric vehicles, storage, flexible loads etc. This will

enable autonomous operation of power systems without relying on communication networks, improving grid stability, reliability, security, and sustainability, and advance global energy freedom for billions of people with access to low-cost clean electricity. Learn more at www.syndem.com.

About IEEE

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