

# Wiley-IEEE Publish Syndem CEO's Book on Power Electronics-Enabled Autonomous Power Systems: Next Generation Smart Grids

CHICAGO, IL, USA, June 9, 2020 /EINPresswire.com/ -- SYNDEM, a global pioneer in renewable energy and smart grid, announces that Wiley-IEEE Press has published its Founder & CEO's 500-page book on Power Electronics-Enabled Autonomous Power Systems: Next Generation Smart Grids.

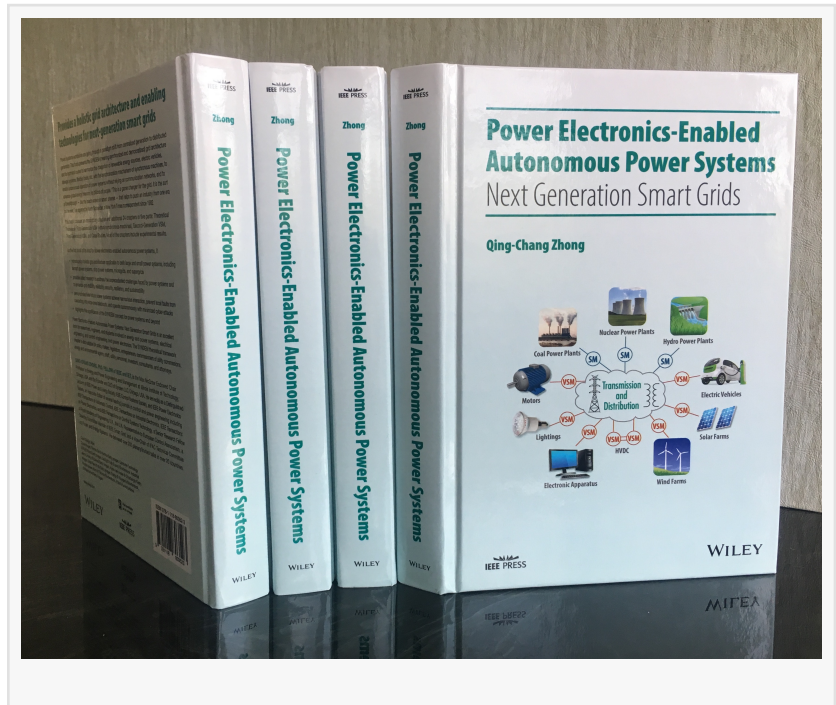
The book is available on [Amazon.com](https://www.amazon.com), [wiley.com](https://www.wiley.com) etc.

Power systems worldwide are going through a paradigm shift from centralized generation to distributed generation. This book presents the SYNDEM (i.e., synchronized and democratized) grid architecture and its technical routes to harmonize the integration of renewable energy sources, electric vehicles, storage systems, and flexible loads, with the synchronization mechanism of synchronous machines, to enable autonomous operation of power systems, and to advance energy freedom for billions of people with access to low-cost clean electricity. “This is a game changer for the grid. It is the sort of breakthrough — like the touch screen in smart phones — that helps to push an industry from one era to the next,” as reported by Keith Schneider, a New York Times correspondent since 1982. This book contains an introductory chapter and additional 24 chapters in five

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Provides a holistic grid architecture and enabling technologies for next-generation smart grids.”

*From the back cover*



parts: Theoretical Framework, First-Generation VSM (virtual synchronous machines), Second-Generation VSM, Third-Generation VSM, and Case Studies. Most of the chapters include experimental results.

As the first book of its kind for power electronics-enabled autonomous power systems, it

- Introduces a holistic architecture applicable to both large and small power systems, including aircraft power systems, ship power systems, microgrids, and supergrids
- Provides latest research to address the unprecedented challenges faced by power systems and to enhance grid stability, reliability, security, resiliency, and sustainability
- Demonstrates how future power systems achieve harmonious interaction, prevent local faults from cascading into wide-area blackouts, and operate autonomously with minimized cyber-attacks
- Highlights the significance of the SYNDEM concept for power systems and beyond



Power Electronics-Enabled Autonomous Power Systems: Next Generation Smart Grids is an excellent book for researchers, engineers, and students involved in energy and power systems, electrical and control engineering, and power electronics. The SYNDEM theoretical framework chapter is also suitable for policy makers, legislators, entrepreneurs, commissioners of utility commissions, energy and environmental agency staff, utility personnel, investors, consultants, and attorneys.

#### 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](http://www.syndem.com).

#### About IEEE

The Institute of Electrical and Electronics Engineers (IEEE) is a professional association for electronic engineering and electrical engineering. It is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

#### About Wiley

John Wiley & Sons, Inc., commonly known as Wiley, is an American multinational publishing company founded in 1807 that focuses on academic publishing and instructional materials. The company produces books, journals, and encyclopedias, in print and electronically, as well as

online products and services, training materials, and educational materials for undergraduate, graduate, and continuing education students.

#### About Wiley-IEEE Press

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