

“Control and Power Management Approaches in LVDC Systems”



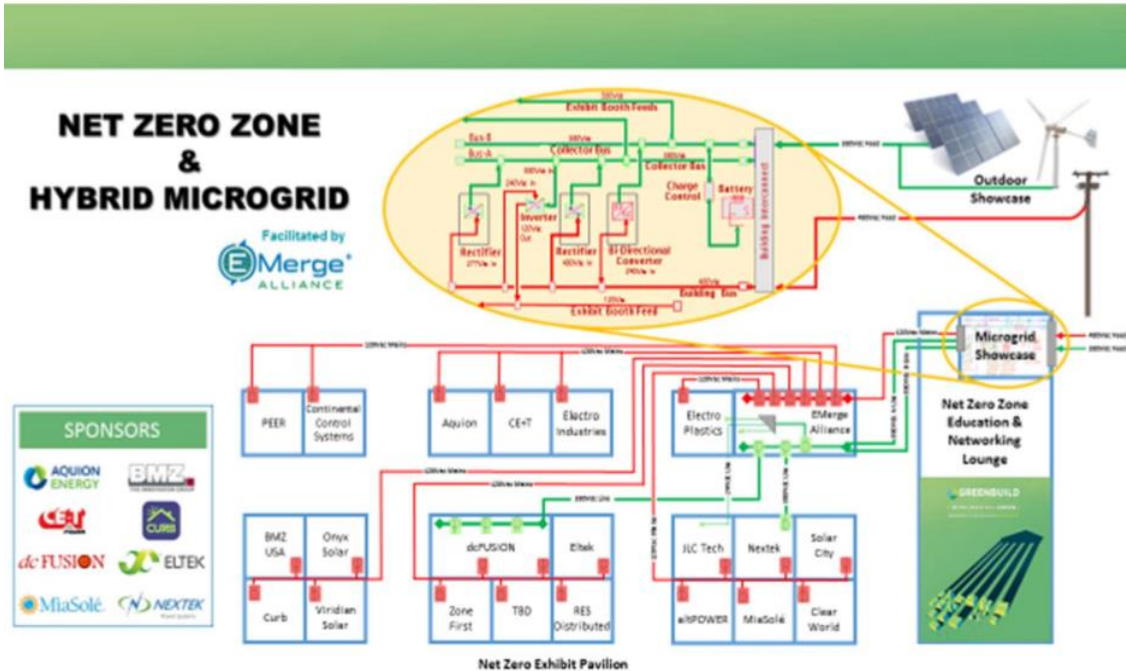
Brian T. Patterson, IEEE
President
EMerge Alliance
B. L. Coliker Associates
Governing & Founding Member - EMerge Alliance



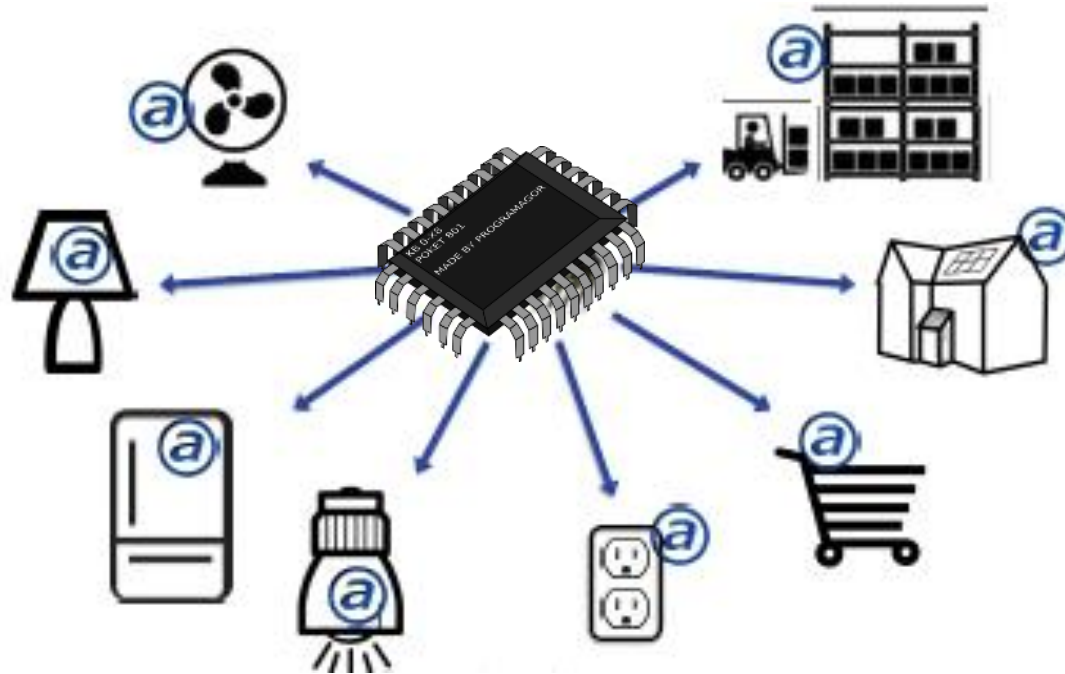
See our hybrid dc microgrid demonstrations at:

Solar Power International 2016

Greenbuild 2016



Scope of the discussion: Buildings as distributed power domains




The Internet of Things meets
the Enernet of Energy

Control Approaches for LVDC Systems

LVDC: Power Systems based on the primary collection and distribution of dc power - 5 to 1500Vdc.

Primary Application: Premise and Campus Microgrids – Desktop to Point of Common Connection

Control & Management Functions: Power and device control, monitoring, transact (ideally analyze & optimize)



	Wired Combined Power & Comm.	Wired Indep. Power & Comm.	Wireless Indep. Comm.
Platform Type	<ul style="list-style-type: none"> • USB-PD • PoE • PLC • Others? • Various Proprietary 	<ul style="list-style-type: none"> • Various Open & Proprietary Standards (BACnet to Dali) 	<ul style="list-style-type: none"> • Zigbee • IPv6-6LowPan • Bluetooth • WiFi • Various Proprietary

IPv6-6LowPan – A Brief Explanation

IEEE 802.15.4

