

# CEILING SYSTEMS

Between us, ideas become reality™

## Today's digital world relies on DC power, but gets it in inefficient ways...

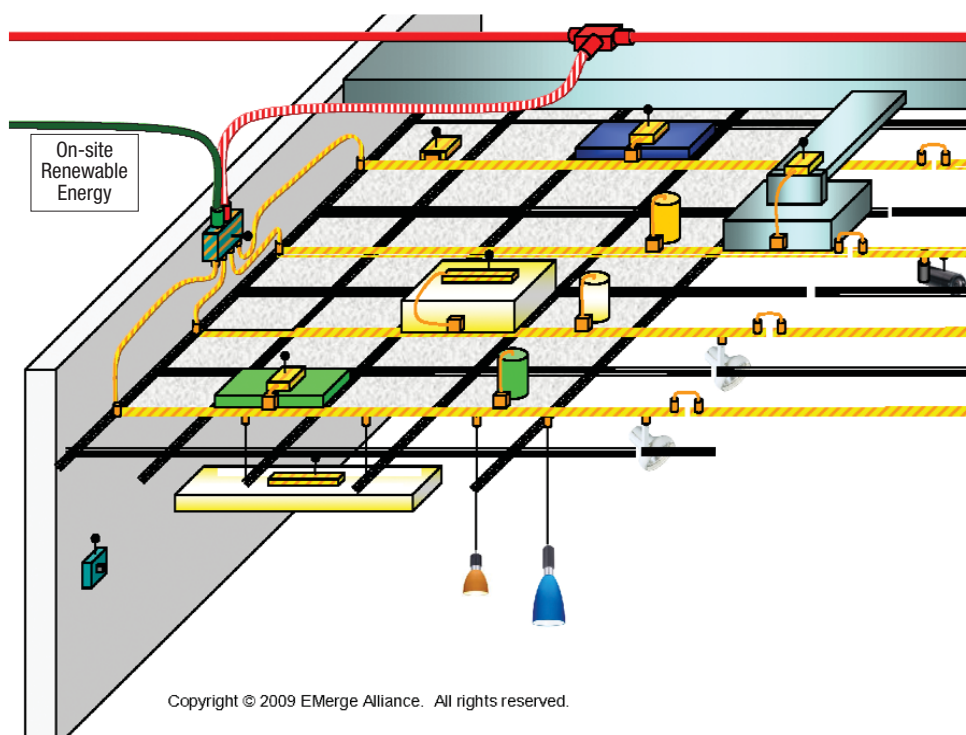
In a typical commercial building, the majority of end-user equipment relies on conversion between a building's AC infrastructure and DC device power, including:

- Electronic ballasts for lighting
- Energy management & control systems
- Actuators for HVAC systems
- IT equipment
- Portable equipment



...a new standard will address this and generate unprecedented design and space flexibility, reduced energy usage and improved sustainability for commercial interiors.

A typical ceiling-based EMerge™ system schematic



### Key Elements of EMerge Standard:

- Power Components
  - DC Power Servers
  - Structured Cables & Connectors
  - DC Ballasts & Drivers
- Interior Infrastructure
  - Such as Ceilings, Walls, Furniture Systems
  - Active Bus structure
  - Passive Support structure
- Plug and Play Electrical Devices
  - Sensors
  - Light Fixtures
  - HVAC Actuators
  - A/V & Other Devices
- Controls
  - Wired System Gateways
  - Wireless or PLC Control Modules



An open industry association promoting the rapid adoption of safe, low voltage DC power distribution and use in commercial building interiors.

### Mission

The EMerge Alliance was established to promote the rapid adoption of safe, low-voltage DC power distribution and use in commercial building interiors. EMerge is focused on developing a global standard that integrates interior infrastructures, power, controls and a wide variety of peripheral devices, such as lighting, in a common platform.

EMerge will offer unprecedented design and space flexibility, enabling reduced energy usage and improved sustainability in buildings.

The Alliance will simplify and accelerate market adoption of the EMerge Standard. The Alliance will ensure that EMerge delivers:

- Required solutions based on market requirements and ecosystem approval
- Buyer assurance with products base-lined to the standard
- Increased supply choices in the value chain that span the needs of different commercial interiors

### Members – As of June 2009

#### Founding Governing Members



#### Participating Members



#### Liaison Members



#### General Members



#### Supporting Members



## Join EMerge Alliance

The EMerge Alliance is an open, not-for-profit industry association. The EMerge Alliance is representative of the many organizations impacting the commercial building arena, including:

- Architecture/Design
- Electrical and Mechanical Engineering
- Sustainability Consultants
- Energy Providers
- Building Owners/Developers
- Government
- Academic, Code and Industry Groups
- Product Manufacturers in:
  - Lighting
  - Power Supplies
  - Electrical Systems
  - Connectors and Cabling
  - HVAC
  - Sensors and Controls
  - A/V and Security
  - Building Automation
  - Interior Systems (ceilings, walls, furniture)

The EMerge Alliance is open to all, with tiered rights and privileges. Representation is given at the organization level, with one vote per organization, depending upon membership type.

## Organizations Join the EMerge Alliance to:

- Influence the development of the standard for scalable use of safe, low-voltage DC power in commercial buildings
- Gain early access to the standard and its specifications for faster registration of products and services
- Be a part of a diverse and robust network that creates new business opportunities for everyone involved
- Improve and promote the environmental benefits of products and services by increasing flexibility and sustainability and reducing energy use
- Gain access to many other membership benefits (see Membership Tiers and list of latest members online)

More info at: [EMergeAlliance.org](http://EMergeAlliance.org)

The screenshot shows the EMerge Alliance website homepage. At the top left is the EMerge Alliance logo. To the right are navigation links: ABOUT | JOIN | NEWS & EVENTS | RESOURCES | CONTACT. A 'Members Area' link is in the top right corner. The main content area features a large image of solar panels and a sunflower. Text reads: 'An open industry association promoting the rapid adoption of safe, low voltage DC power distribution and use in commercial building interiors.' Below this are three columns: 'Flexibility: Do More with Unimaginable Ease...', 'Sustainability: Meet Needs for Today and Tomorrow...', and 'Savings: Reap Rewards for Decades to Come...'. The 'Latest News' section includes a headline 'EMerge Alliance Gains Momentum, Adds New Members' and a sub-headline 'Working toward a standard, organization to conduct dissemination at LIGHTFAIR'. The 'Upcoming Events' section lists 'May 5-7, 2013 - New York, New York: LIGHTFAIR INTERNATIONAL' and 'June 1-5, 2013 - Anaheim, California: Green Building Power Forum'. A 'Members' section features the Armstrong logo and a 'View all members' link. The footer contains a navigation menu and copyright information: 'Copyright © 2013 Emerge Alliance. All rights reserved.'

Armstrong Ceiling Systems, founding member of the EMerge Alliance, is pleased to present:

## DC FlexZone™ from Armstrong Ceiling Systems

Distributing safe, low voltage DC power to lighting fixtures, sensors and other electrical devices in a space.

Our new suspension system, DC FlexZone, offers the ability to distribute safe, low voltage direct current (DC) power that can significantly improve the flexibility and reuse of interior spaces by enabling easier repurposing and reconfigurations without the need to re-wire. It can also contribute to more energy-efficient buildings by encouraging the use of advanced control systems and LED lighting.

The distribution of DC power directly through interior infrastructures like ceilings can also be a key component in systems that make more efficient use of on-site renewable energy sources, like solar.

Available in two popular Armstrong grid designs – 9/16" Suprafine® T-bar and 9/16" Slotted Silhouette® – the new system's DC main beams with integrated electrical conductors will be used with Tegular ceiling panels. DC FlexZone grid will be available this fall in four different lengths.

### Benefits

- Low voltage DC power distributed through the ceiling grid
- Repurpose and reconfigure without rewiring
- Simple, flexible plug and play modularity
- Customize your space – move or add devices where you need them
- Help accelerate use of DC-based LED lighting
- Enable direct use of on-site renewable energy (also DC-based), like wind and solar



Suprafine DC Main Beam (left); Silhouette DC Main Beam (right)  
Electrical conductors are embedded on the top of each type of grid main. Silhouette has conductors embedded in the bottom slot also.



Ultima® 2' x 2' ceiling panels on Silhouette DC Grid  
Indirect lights can be powered directly from the ceiling grid, with no hard wiring, and can be quickly and easily moved when needed.



2' x 2' ceiling panels on Suprafine DC Grid  
Lay-in light fixtures can be powered directly from the ceiling grid, with no hard wiring, and can be quickly and easily moved when needed.

Armstrong is a founding member of the EMerge Alliance, an open, not-for-profit industry association launched in 2008 to create a new standard for the rapid adoption of safe, low-voltage DC power distribution and use in commercial building interiors. The EMerge standard will integrate interior infrastructures (like ceilings, furniture or walls), power, controls and peripheral devices, such as lighting, in a common platform. The standard will be released this summer, with EMerge-registered products from member companies expected to be available later this year.