LIVABLE BUILDINGS
Designing for comfort and productivity
What is a livable building?
Factors Affecting Thermal Comfort

Environmental Factors
- Air Temperature
- Radiant Heat
- Air Circulation
- Humidity Levels

Personal Factors
- Metabolic Rate
- Clothing
Designing for comfort
Building Performance
The HELIX: Bringing ideas to life

Broad and blank slate thinking. Solutions ahead of the pace of change. Fueled by new kinds of collaboration and conversation.
Commercial Building Module

The entire facility is a playground for building controls and HVAC technology

Featuring Emerson controls for all building automation systems
Kitchen Module

Functioning, licensed commercial kitchen

- 1,500 sq. ft.
- Service up to 150 diners

Fully controllable ambient air for comfort and quality
Supermarket Module

Retail experience designed to simulate supermarket and convenience store

• 2,500 sq. ft.
• Includes refrigeration, dry goods, lighting, HVAC, heat reclamation and point of sale
Indoor air quality
Design tips
The future of livable buildings
HOW BIG IS THIS?

According to the Department of Energy (DOE), over half of the commercial real estate space in the U.S. is cooled by packaged HVAC equipment.
NEW REGULATIONS WILL BE IN TWO PHASES
REGULATIONS ARE DRIVING SYSTEM REDESIGN

System manufacturers have redesigned air conditioning equipment to meet 2018 minimums, as well as product portfolios to include new mid- and premium tiers above the minimum levels.

MEETING REGULATIONS WITH MODULATION SOLUTIONS

A cost effective way to meet efficiency standards is by installing tandems. In fact, 11% of contractors expect an increase in sales of tandems and trios as a result of new efficiency standards.
### CEE commercial specification for air cooled packaged/split systems (with electric heat)

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ESTIMATED SAVINGS

Over the lifetime of the products, businesses will save $167 billion on their utility bills, and carbon pollution will be reduced by 885 million metric tons.

REPLACING/RETROFITTING RTUs WITH HIGHER EFFICIENCY UNITS

A building owner can save on average $3,700 per RTU by replacing aging equipment with high-efficiency units or retrofitting with advanced controls. Now consider a typical big box retailer may have more than 20 units.

For more information go to dsire.org
What you need to keep in mind
Stay tuned for upcoming webinars and check out AC-HeatingConnect.com to stay up-to-date on the latest industry information and tools.