



# ENERGY CORK –BREAKFAST BRIEFING: SMART BUILDING INNOVATION @ JCI

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May 3<sup>rd</sup>, 2017



# AGENDA

- JCI / Tyco Merger
- One Albert Quay
- Distributed Energy Storage (DES)



- JCI / Tyco Merger
  - One Albert Quay
  - DES





JOHNSON CONTROLS  
**Overview**



# CREATING A GLOBAL INDUSTRIAL LEADER

## Through a Merger of Complementary Businesses

Uniting global leaders uniquely positioned in buildings and energy markets



### DISTINCT INDUSTRY EXPERTISE

- Leader in **building technology** and **energy storage**

- Leader in **fire protection, security** and **life safety**



### EXPANDS BUILDINGS PORTFOLIO & UNITES INNOVATION PIPELINES

- World-class buildings and automation control technology
- Integrated solutions for smart buildings, campuses and cities
- Value-added services driven by advanced data, analytics and connectivity

- Unique offerings in asset tracking and protection
- Leading innovations in sensing and video technologies
- Advanced analytics-based retail solutions



### LINKS COMPLEMENTARY GEOGRAPHIC FOOTPRINTS & OPERATIONAL CAPABILITIES

- Strong presence in North America and Asia
- Unique application knowledge and expertise
- World-class engineering, installation and service capabilities

- Strong presence in North America and Europe
- Distinct design, engineering, installation and service capabilities in fire protection and security



### STRONG LEADERSHIP & BALANCED OWNERSHIP

- Johnson Controls shareholders will own 56% of combined company
- Alex Molinaroli will serve as Chairman and CEO
- 6 current directors from Johnson Controls

- Tyco shareholders will own 44% of combined company
- George R. Oliver will serve as President and COO and become the next CEO
- 5 current directors from Tyco



**\$30 BILLION IN REVENUE WITH STRONG GROWTH POTENTIAL**

The combined company will pair leading businesses with best-in-class product, technology and service capabilities to deliver greater value to customers, shareholders and employees. The company will continue its commitment to innovation and growth in the United States and globally.



**117,000**  
GLOBAL EMPLOYEES



# Leading Brands Across a Comprehensive Portfolio of Products and Services

## HVAC Equipment



## Building Controls



## Energy & Power



+

=

**\$30 Billion Global Leader**

**#1 in HVAC, Controls, Fire, Security and Power Solutions**



Security  
Products



Integrated Solutions &  
Service



Fire Products



## Who we are Together





# Safer, Smarter Buildings

Integrated Insights  
for Smarter, Safer,  
and More Efficient  
Building Operations



## Security



Video Security



Intrusion Detection



Security Access Control



Asset Tracking



24/7 Monitoring



Traffic Intelligence

## Fire & Life Safety



Fire Detection & Alarm



Fire Suppression



Building Inspection Services & Parts



Smoke Control

## Comfort & Controls



Controls



HVAC Services



Smart Lift Integration



Lighting Control



Indoor Air Quality



Energy Storage



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## One Albert Quay – 'Before' (Sept 2014)





# 'After': Global HQ - Smartest Building In Ireland

## Fire



Fire Detection & Alarm



Smoke Control

## Security



Intrusion Detection



Digital Video & Analytics



Security Access Control

## Efficiency



Lighting Control



Smart Lift Integration  
– Energy Harvesting



BIM Modelling



Visual  
Communication

## Comfort



HVAC Maintenance  
Services



Indoor Air Quality

## Convenience



Smart  
Parking/Cycling



Cashless Building





# onealbertquay



- 170,000 FT<sup>2</sup> OF HIGH QUALITY SUSTAINABLE 'GRADE A' OFFICE SPACE
- 7 STOREYS OVER DOUBLE LEVEL BASEMENT CAR PARK
- OCCUPANTS INCLUDE
  - JCI (75,000 FT<sup>2</sup>)
  - PWC (15,000 FT<sup>2</sup>)
  - ARUP (20,000 FT<sup>2</sup>)
  - INVESTEC (3,500 FT<sup>2</sup>)
  - ARDMORE SHIPPING (8,000 FT<sup>2</sup>)
  - MALWAREBYTES (10,000 FT<sup>2</sup>)
  - HORTONWORKS (12,000 FT<sup>2</sup>)
  - STARBUCKS (2,500 FT<sup>2</sup>)
- IRISH *CONSTRUCTION* INDUSTRY, COMMERCIAL BUILDING OF THE YEAR 2016
- LEED GOLD ACCREDITED





Highly efficient  
renewable  
heat pump technology

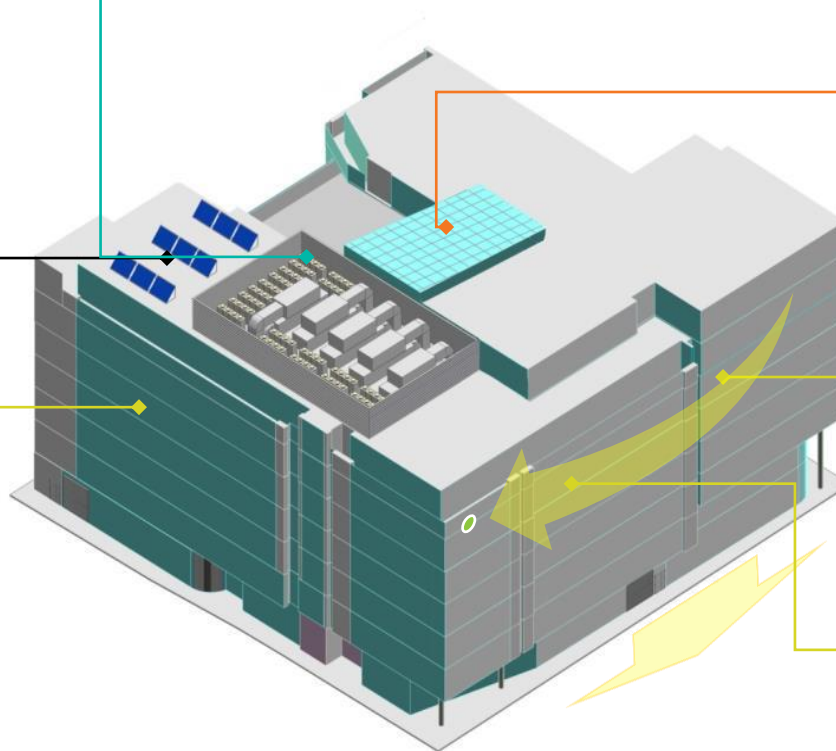
Solar thermal  
collectors

Solar reflective energy  
efficient glazing

Glazed atrium roof  
bringing source of  
natural light to the  
heart of the building

High level of daylight  
penetration into office  
spaces

90% of the buildings  
Upper  
Storey Occupants  
have an  
outdoor view



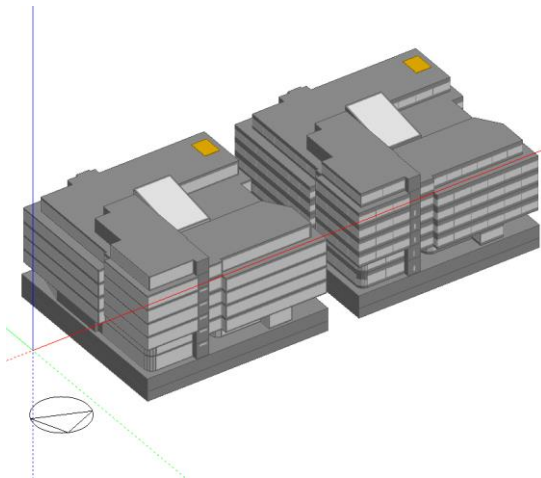


# LEED CERTIFICATION

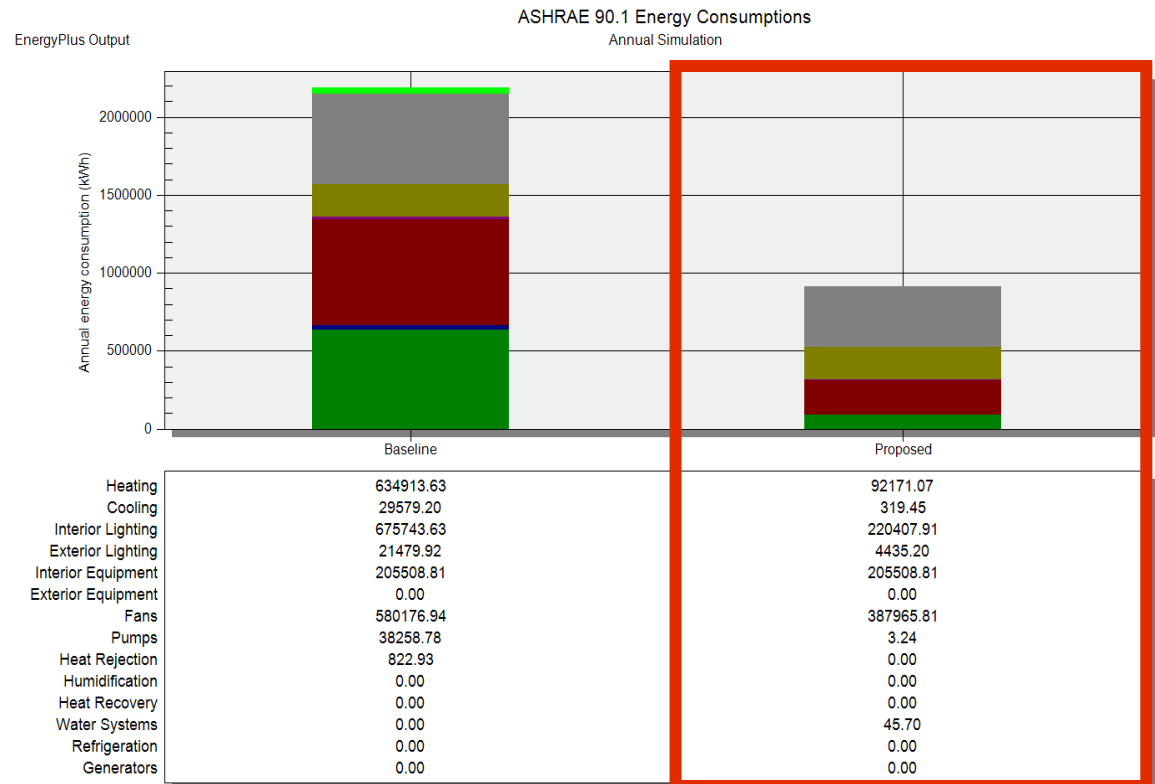
## DYNAMIC SIMULATION MODEL

onealbertquay

### -PROPOSED Vs BASELINE ENERGY PERFORMANCE

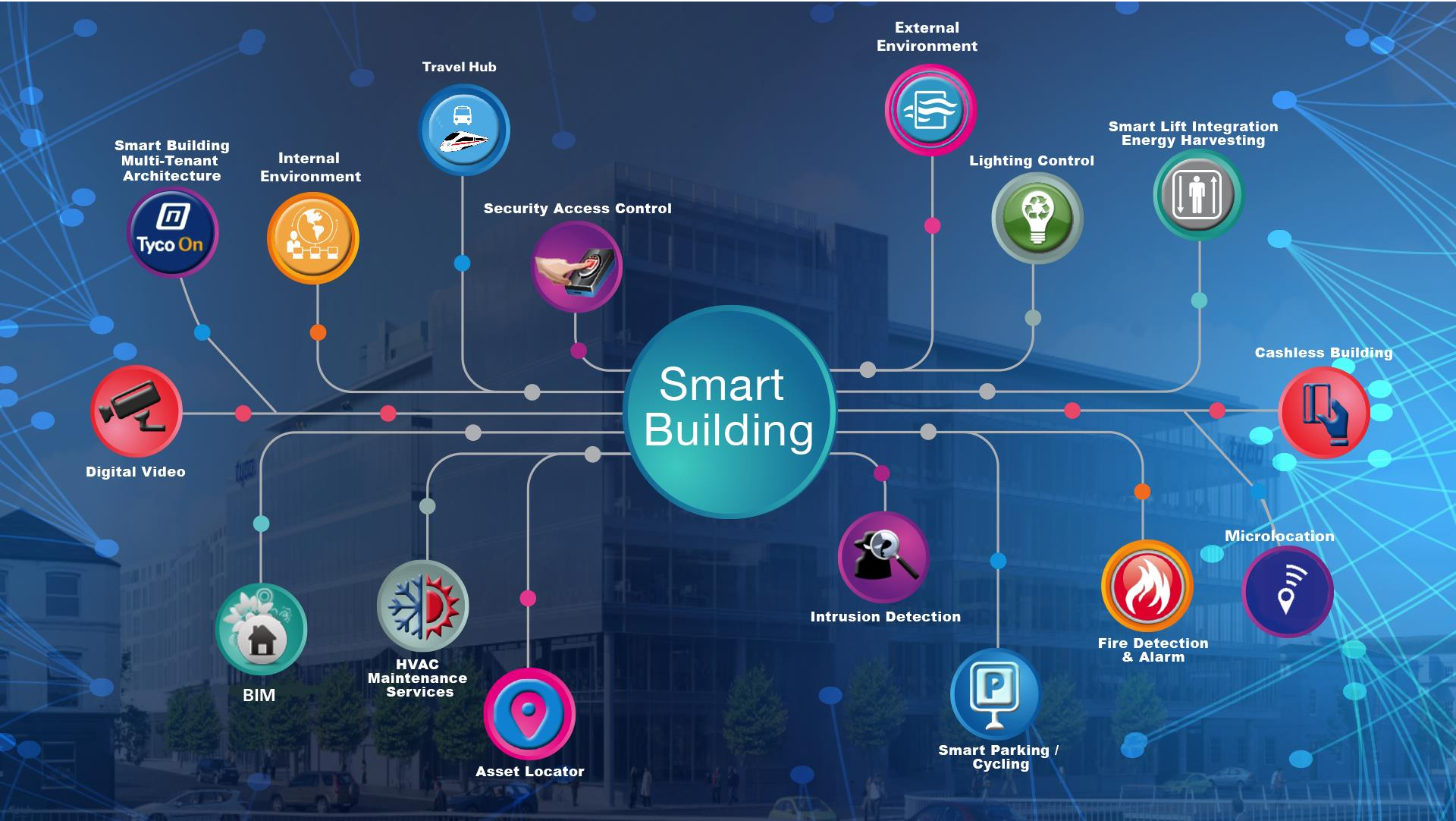


- Heating
- Cooling
- Interior Lighting
- Exterior Lighting
- Interior Equipment
- Exterior Equipment
- Fans
- Pumps
- Heat Rejection
- Humidification
- Heat Recovery
- Water Systems
- Refrigeration
- Generators





# Themes





# Travel Hub

## Bus Stops

14:21:37

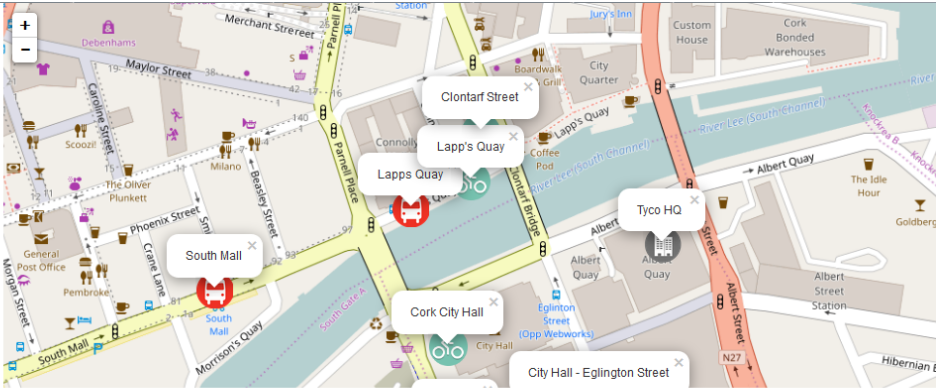
Route	Due (Mins)	Origin	Departure Time	Destination	Direction	Stop
216	9	CUH	14:29	Mount Oval	Inbound	South Mall
216	9	CUH	14:29	Mount Oval	Inbound	South Mall
216	11	CUH	14:31	Mount Oval	Inbound	City Hall
215	16	Cloghroe	14:36	Mahon Pt.	Inbound	City Hall
215A	26	South Mall	14:46	Mahon Pt.	Inbound	City Hall
206	26	South Mall	14:46	Grange	Inbound	City Hall
226A	26	Kent Station	14:46	Airport	Outbound	City Hall
220	30	Ballincollig	14:50	Carrigaline	Outbound	South Mall
220	30	Ballincollig	14:50	Carrigaline	Outbound	South Mall
220X	31		14:51	Crosshaven		South Mall

## Train Times

Origin	Departure Time	Destination	Arrival Time	Direction	Status
Cork	15:00	Cobh	15:24	To Cobh	No Information
Dublin Heuston	12:00	Cork	14:35	To Cork	En Route
Cobh	14:30	Cork	14:54	To Cork	No Information
Midleton	14:45	Cork	15:08	To Cork	No Information
Dublin Heuston	13:00	Cork	15:35	To Cork	En Route
Cork	15:20	Dublin Heuston	17:55	To Dublin Heuston	No Information
Cork	15:15	Midleton	15:38	To Midleton	No Information

## Bicycles

Station Name	Bikes Available	Docks Available
Lapp's Quay	13	18
Cork City Hall	9	5
Clontarf Street	5	4



## Parking Spaces

Name	Free	Total	Open
Saint Finbarr's	67	350	24/7
Grand Parade	122	352	24/7
Carrolls Quay	157	376	24/7
City Hall - Eglington Street	40	436	24/7
Black Ash Park & Ride	532	935	Monday - Saturday 07:30AM - 7:30PM
North Main Street	270	410	Monday - Saturday 08:30 - 18:30
Paul Street	358	749	Monday - Saturday 07:30 - 00:00, Sunday 11:30 - 00:00
Tyco HQ	16	60	24/7



# JCI Global HQ – Intro Video





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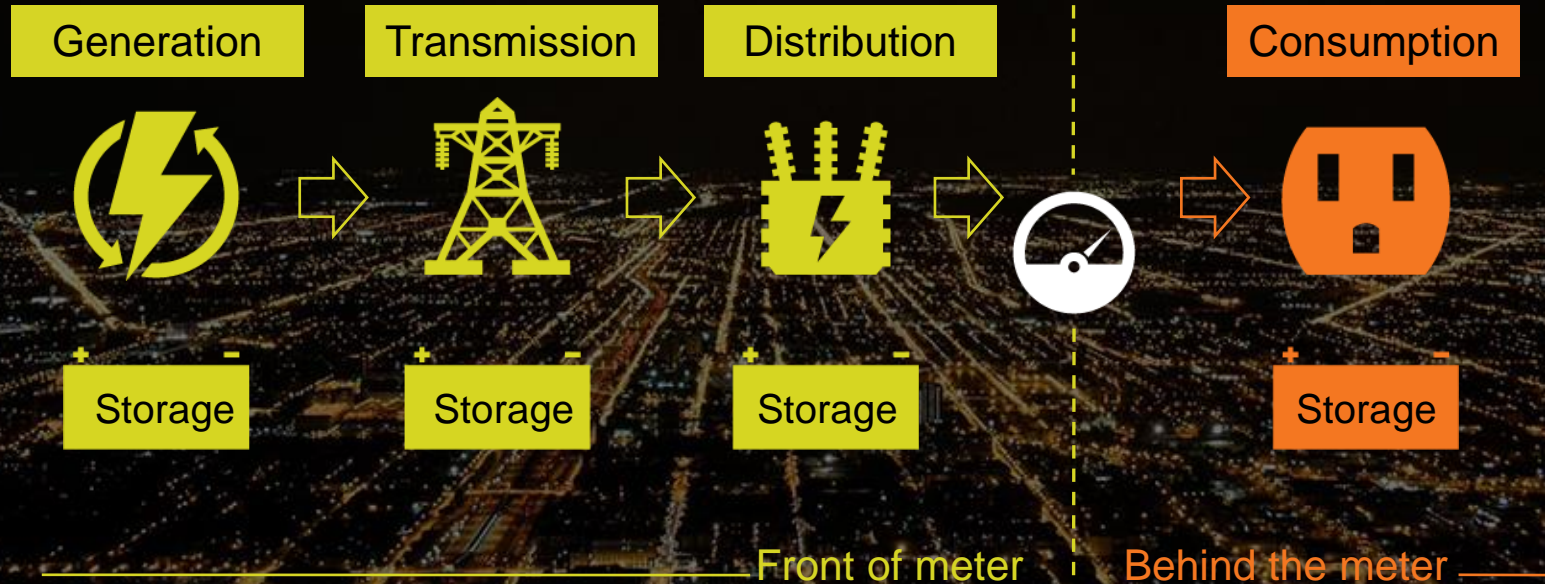
Johnson  
Controls

Scalable Solution and Building  
Integrated Controls



# It's real: Energy storage opportunities are emerging across the grid.

Evolving technology can add value at every point in front of and behind the meter.





# In-building and Containerized systems reduce costs for a building, campus or enterprise

## L1000 In-Building Distributed Energy Storage System

- Output from 50kW to 250kW
- Modular capacity increments of 85 kWh
- Remote and local real-time monitoring and control
- Life up to 20 years, based on application
- *Metasys*® compatible

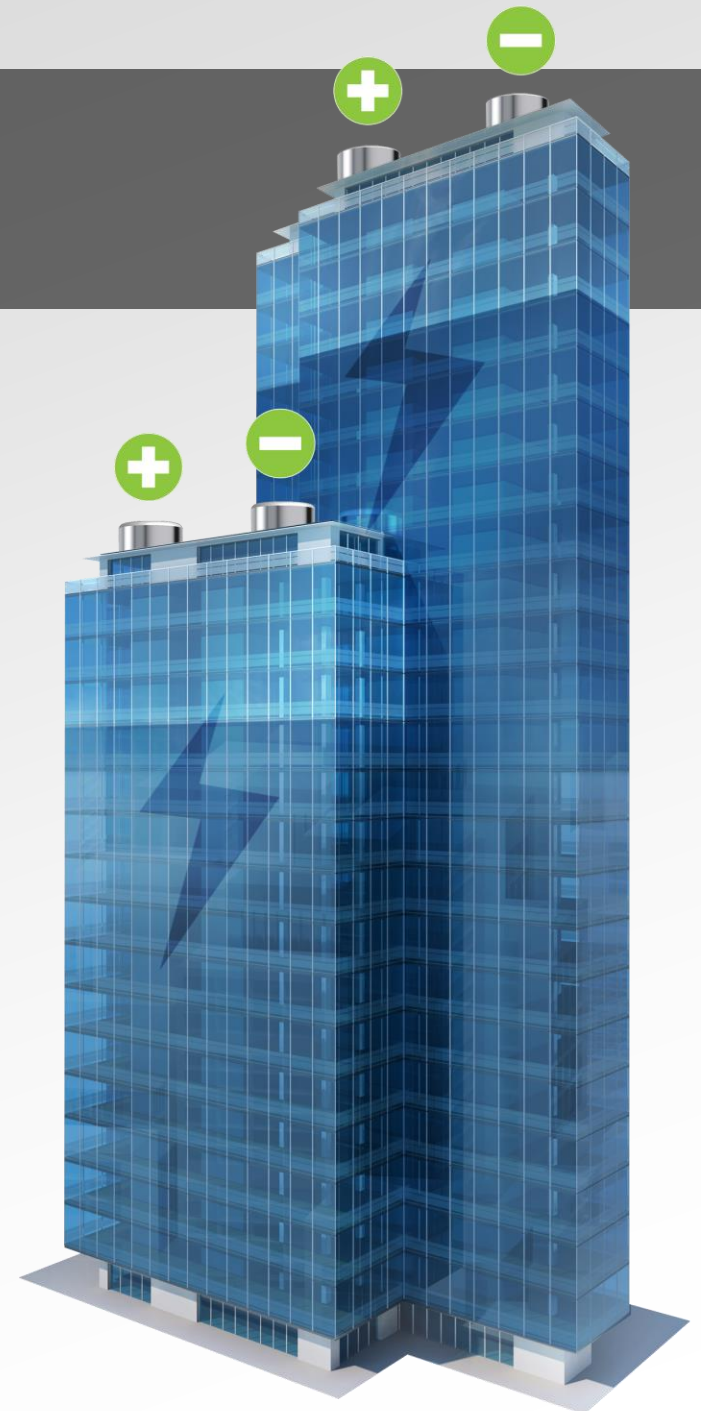
## L2000 Modular Distributed Energy Storage System

- Output from 500kW to 2MW
- Modular capacity in 500kWh increments
- Remote and local real-time monitoring and control
- Life up to 20 years, based on application
- Utility and building compatible



We help you use your building more efficiently, every day

- Anticipate the building's load profile.
- Determine how to use the battery for top savings.
- Magnify those savings using the battery and building together.





THANK YOU