

# 2021 VIRTUAL ANNUAL CONFERENCE

AUGUST 9-13

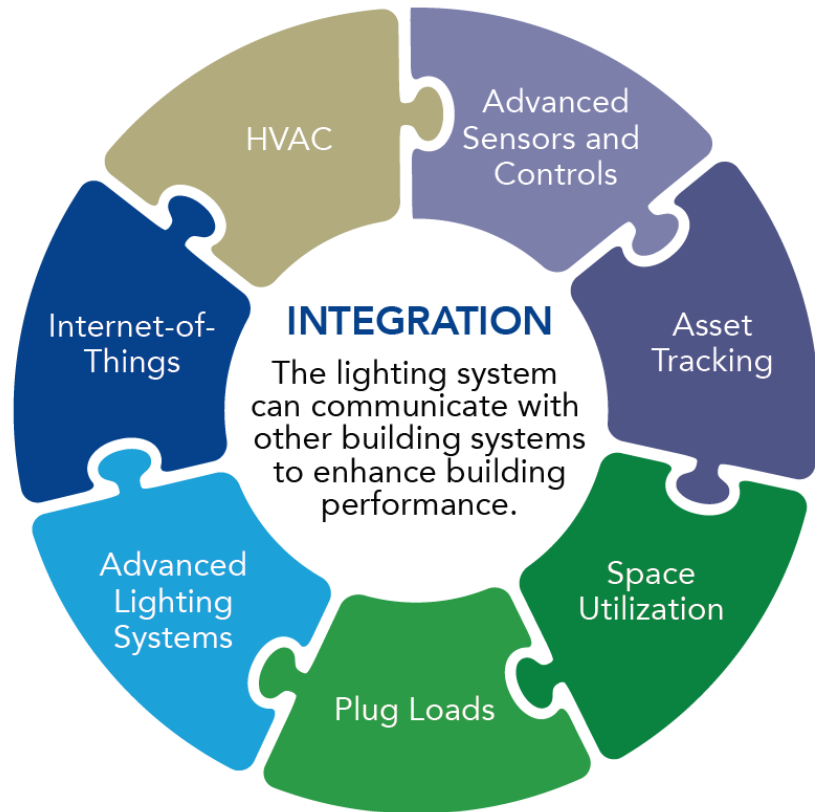
## Integrated Lighting Campaign – 2021 Recognized Participants and Supporters

Felipe Leon

Pacific Northwest National Laboratory



# About the Integrated Lighting Campaign



Provide relevant resources to inform projects



Promote use of innovative lighting sensors



Encourage integration with other building systems such as HVAC and plug loads



Document and recognize innovative integration projects

## BENEFITS OF JOINING

Leadership

Recognition

Resources

Technical Assistance

BECOME INVOLVED TODAY AT [INTEGRATEDLIGHTINGCAMPAIGN.ENERGY.GOV](https://integratedlightingcampaign.energy.gov)



# ILC Organizers



# 2021 Recognition Categories



- Advanced Use of Sensors and Controls for Lighting
- Integrated Controls for Plug Loads and Lighting Systems
- Integrated Controls for HVAC and Lighting Systems
- Other Integrated Systems and Lighting
- Exemplary Supporter

# IMEG Corp.

Recognized for:

✓ Advanced Use of Sensors and Controls for Lighting



- Biophilic and circadian design strategies support a human-centric approach
- Wireless sensors and fine-tuned zoning
- Energy use 37% below IECC 2018 baseline



Photo Credit: Andrew Bruah and Perkins Eastman



# Westover Air Reserve Base

Recognized for:

✓ Advanced Use of Sensors and Controls for Lighting

- High-bay and troffer upgrade includes integrated sensors with wireless controls
- Lighting application provides:
  - Occupancy (heat mapping)
  - Lighting activity/energy use
  - Data visualization
- Estimated annual savings of 460,000 kWh and simple energy payback of 2-7 years



Photo Credit: William C. Pope





# Massachusetts Port Authority

Recognized for:

✓ Advanced Use of Sensors and Controls for Lighting



- Replaced 23 High Pressure Sodium high-mast lights with LED (55% savings)
- Co-located Wi-Fi and security components during installation
- New Terminal Operating System allows real-time monitoring which allows for dimming



Photo Credit: Massachusetts Port Authority

# City of Wilmington



Recognized for:

## ✓ Advanced Use of Sensors and Controls for Lighting

- 1,732 street lights upgraded to LED with cellular communications
- Program in place to account for lumen depreciation which further extends improved luminaire maintenance
- 999,730 kWh annual savings (69%)



Photo Credit: City of Wilmington





# Minnesota Department of Transportation



Recognized for:

- ✓ Integrated Controls for Plug Loads and Lighting Systems
- ✓ Integrated Controls for HVAC and Lighting Systems
  - Occupancy data from lighting system controls plug-load and HVAC system shut-off
  - Plug load reduction of 71%\*
  - HVAC reduction of 82%\*



Photo Credit: Minnesota Department of Transportation



\* COVID affected results

# Johnson Controls



Recognized for:

- ✓ Integrated Controls for Plug Loads and Lighting Systems
- ✓ Other Integrated Systems and Lighting
  - Wireless controls network leverages occupancy sensors to inform building operation
    - HVAC
    - Plug load management
    - Automated shades
    - Faucets, flush valves, and disinfectant lighting
    - Visual guidance and geofencing



Photo Credit: Johnson Controls

# California State University – Dominguez Hills



Recognized for:

- ✓ Advanced use of Sensors and Controls for Lighting
- ✓ Integrated Controls for HVAC and Lighting Systems
  - Advanced sensors/controls
    - Occupancy
    - Photo-sensing
    - Temperature
    - Bluetooth
  - Personalized control of environment
  - Over 3.5 million annual kWh savings



Photo Credit: California State University – Dominguez Hills

# University of Minnesota

Recognized for:

✓ Integrated Controls for HVAC and Lighting Systems

- Networked lighting controls integrated with HVAC and plug loads
- 46% reduction of HVAC energy use (from integration)



Photo Credit: University of Minnesota





# State of Vermont – Portfolio

Recognized for:

✓ Integrated Controls for HVAC and Lighting Systems

- High-efficiency LED upgrade with HVAC integration via BACnet
- 114,000 kWh annual savings from integration alone (an office building and a courthouse)



Photo Credit: State of Vermont

[www.ies.org/ac](http://www.ies.org/ac)



# Denver Water



Recognized for:

✓ Integrated Controls for HVAC and Lighting Systems

- LEED platinum building with networked lighting controls
- BACnet integrated with HVAC system
- Estimated annual savings of up to 50,000 kWh (from integration)

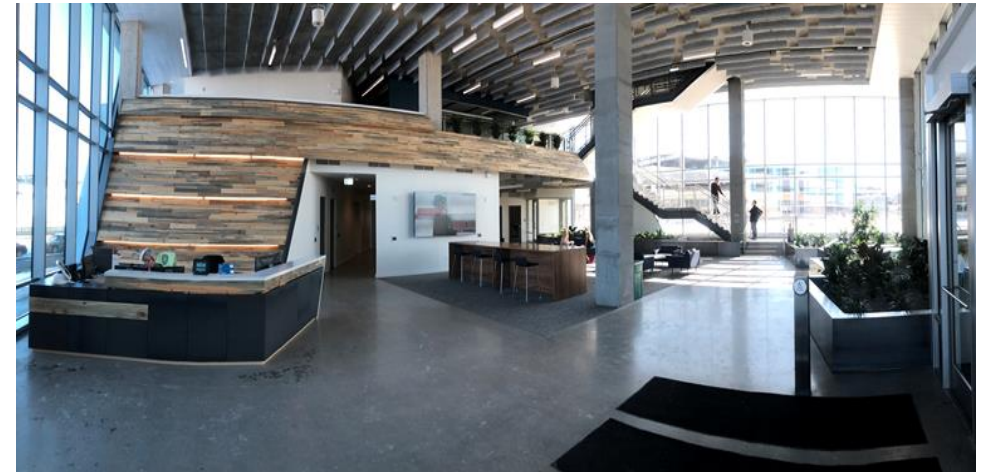


Photo Credit: Denver Water

# U.S. Office of Personnel Management



Recognized for:

✓ Integrated Controls for HVAC and Lighting Systems

- Incorporated occupancy zones for automated set-backs
- Integrated with HVAC controls using BACnet
- Over 1 million kWh saved (annually)



Photo Credit: U.S. Office of Personnel Management



# Bryan Health System

Recognized for:

- ✓ Advanced use of Sensors and Controls for Lighting
- ✓ Other Integrated Systems and Lighting
  - Programmed scenes with foot pedal access (physicians) and remote control (heliport and ambulance garage)
  - Lighting scene integration with meeting space calendar
  - 57% lighting energy reduction



Photo Credit: Bryan Health System

# Walgreen Company



Recognized for:

- ✓ Other Integrated Systems and Lighting
  - Wireless luminaire-level control with zoning and programmable light levels
  - Equipped carts with Bluetooth asset tags to learn about traffic patterns
  - Piloted new life safety program to automate identification and reporting of failed components



Photo Credit: Walgreen Company



# Recognized Supporters



## Aggregate Highlights

- ✓ Nearly 145,000 luminaires incentivized
- ✓ Over 300 buildings/projects supported
- ✓ Almost \$14 million in incentives
- ✓ About 100 training courses given
- ✓ Nearly 100 tours given



# [IntegratedLightingCampaign.energy.gov](https://IntegratedLightingCampaign.energy.gov)

**Join us for a recognition and informational webinar:**

September 2, 10:00 AM PT (1:00 PM ET)

To register visit our website above or from the Better Buildings Events Calendar:

[betterbuildingssolutioncenter.energy.gov/events](https://betterbuildingssolutioncenter.energy.gov/events)



# L•PRIZE<sup>®</sup>

U.S. Department of Energy

**\$12M**  
Prize Pool

## 3 PHASES:

- Concept
- Prototype
- Manufacturing & Installation
- + Teaming Opportunities

✉ [LPrize@nrel.gov](mailto:LPrize@nrel.gov)  
[americanmadechallenges.org/lprize](http://americanmadechallenges.org/lprize)





# Thank you

**Felipe Leon**

INTEGRATED LIGHTING CAMPAIGN

Phone: 509-372-6516

[Felipe.Leon@PNNL.GOV](mailto:Felipe.Leon@PNNL.GOV)

902 Battelle Boulevard

P.O. Box 999

Richland, WA 99352

[www.pnnl.gov](http://www.pnnl.gov)

