



# LED GREEN LIGHT INTERNATIONAL

Million LED Challenge, phase 2 Overview

June 22, 2021



# WEBINAR HOUSEKEEPING



All attendees are in listen only mode



Recording...

This presentation is being recorded and a copy will be sent out to all attendees after the live session.



Q&A

Please enter questions for the presenters in the chat box and we will do our best to answer them.

**Michael Siminovitch, Executive Director  
California Lighting Technology Center  
(MLC2 Introduction)**



## **Featured Presenters**

**James Duggan, Director Sales and Support  
LED Green Light International, LLC**

**Jim Sekinger, Head of Sales - North America  
Silvair, Inc**

**Don McDougall, Principal  
McConsulting Services**

# Million LED Challenge – Phase 2

Providing high-quality LED lights with informed product selection, great price & ease of purchase

# Colleges, Universities, State buildings DGS



California Community Colleges  
Chancellor's Office



# Million LED Challenge

*Linear LED Retrofit Solutions*



# Million LED Challenge Overview

What exactly are the Phase 2 products?



Linear LEDs



Troffer Retrofit Kits



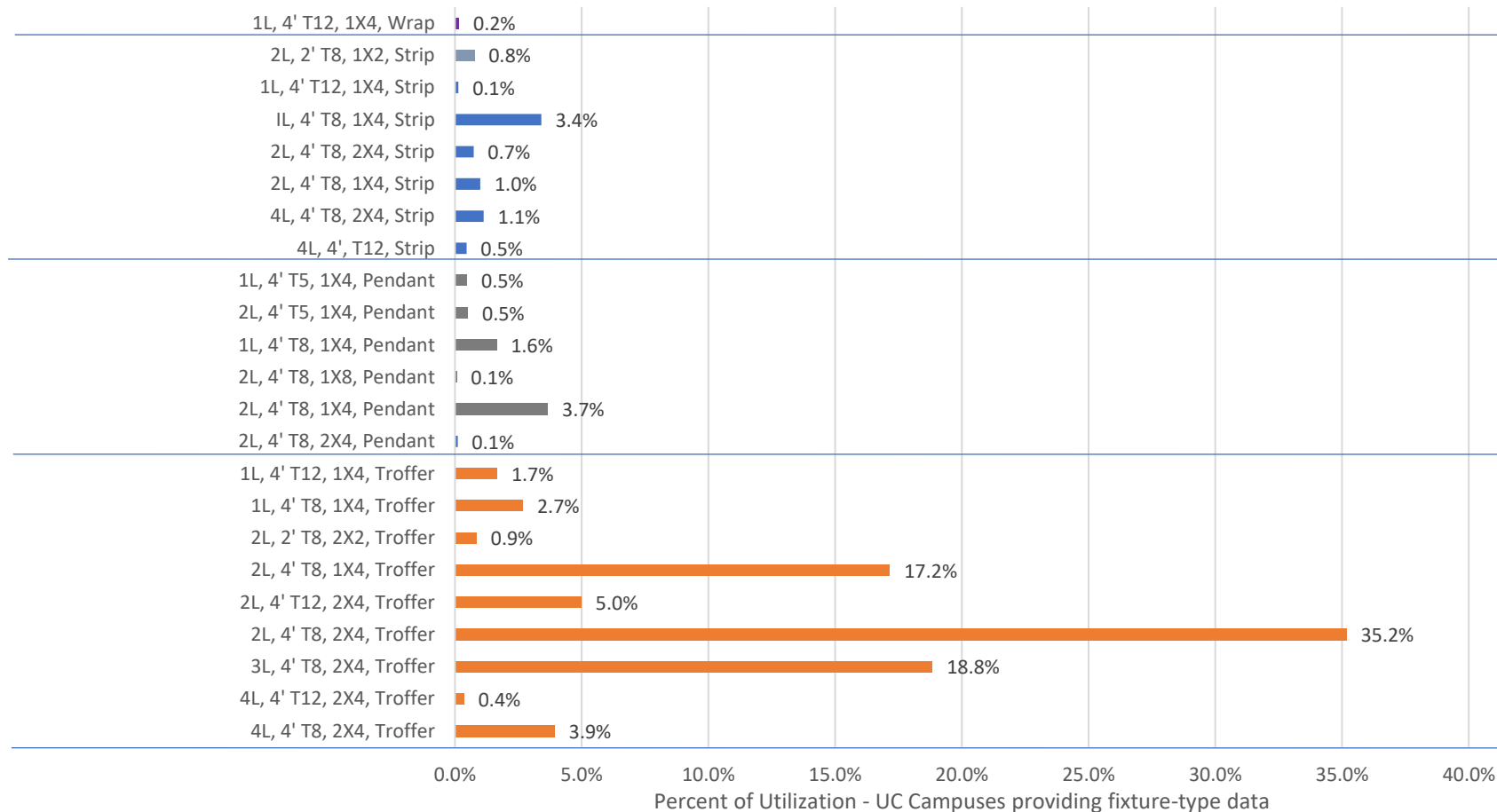
New Luminaires

# MLC - What We Did

- CLTC audited the UC system to identify main fixture types used throughout the system
- CLTC developed a quality specification for LED retrofit solutions (Funded by CEC/EPIC)
- RFP for Phase 2 will require LED retrofit solutions for the key fixture types



# Fixture and lamp type distribution based on MLC survey data collected





## What's the quality specification for Phase 2 products?

### Linear LED Lamps (TLEDs)

- Electrical architecture, UL Type C
- Light output, bare single lamp light output of 2,250 lumens for 4' lamps and 1,125 lumens for 2' lamps
- System efficacy, at least 120 lumens per Watt (system includes lamp and driver)
- Dimming, dimming level to at least 10 percent of maximum power
- Controllability, be able to pair with lighting control devices (**control-ready**)
- Flicker, produces no greater than 30 percent flicker at 200 Hz or below when paired with control devices
- Color, R<sub>r</sub> value greater than or equal to 90 measured by IES TM-30-18
- Distribution, beam angle of at least 220 degrees with no less than 20 percent of total flux emitted in the 100–180 degree zone
- Driver physical dimensions, provide physical dimensions of driver to allow consumers to compare to space in fixture before purchasing.
- All else, meet **DLC Standard minimum criteria**

### LED Retrofit Kits & Fixtures

- System efficacy, at least 120 lumens per Watt (system includes light source, driver and lens)
- Dimming, dimming level to at least 10 percent of maximum power
- Controllability, be able to pair with lighting control devices (**control-ready**)
- Flicker, produces no greater than 30 percent flicker at 200 Hz or below when paired with control devices
- Color, R<sub>r</sub> value greater than or equal to 90 measured by IES TM-30-18
- Distribution, provide photometric distribution file in IES LM-63 format
- All else, meet **DLC Standard minimum criteria**

### What is control-ready?

Control-ready LED retrofit solutions are able to be paired with lighting controls that will allow for control strategies including personal tuning, occupancy sensing, daylight harvesting and automated demand response, where appropriate.

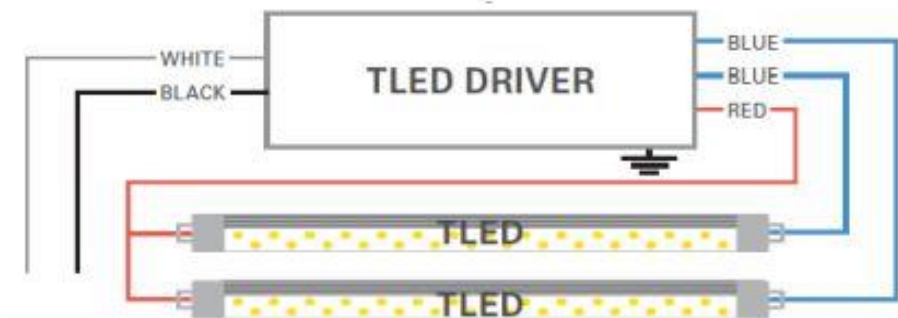
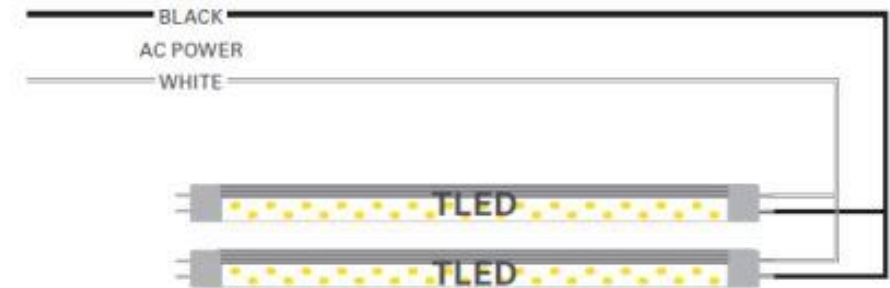
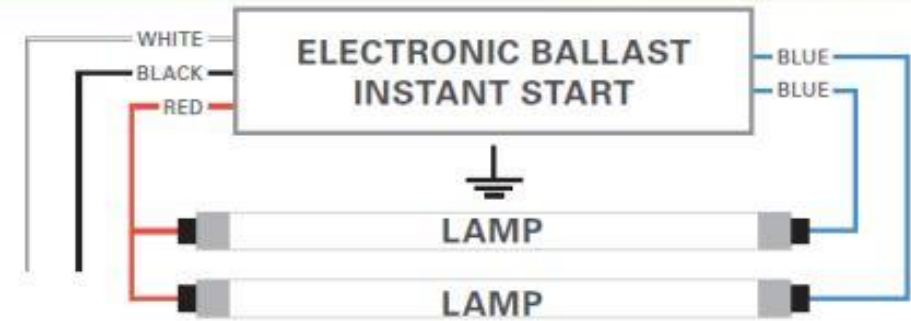
# Million LED Challenge Overview

## Electrical architecture – why Type C?

**Type A:** Internal driver that is designed to operate on a linear fluorescent lamp ballast.

**Type B:** Internal driver that must be connected directly to line voltage for power.

**Type C:** External driver that is designed to replace both the linear fluorescent lamp and fluorescent lamp ballast.



# Million LED Challenge Overview

What's the difference between 90 and 80 ratings for color fidelity? Why 90 Rf?



90 Rf

80 Rf



# Million LED Challenge Phase 2 Overview

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**LED GREEN LIGHT INTERNATIONAL**

June 22, 2021

# LEDGLI - Company Overview



## Company History

- Started LED R&D in 2006
- 1<sup>st</sup> Legal DLC Certified T8 Tube
- Completed one of the first LED retrofit projects in PG&E Territory
- Focused on high quality, full spectrum color, 94+ CRI since 2013
- General Motors - Paint Inspection Booth Lighting Project

## Custom LEDs

High efficacy 160 lumens per watt and High 97 CRI is not easy to do !

## Custom Drivers

Integrated drivers with Bluetooth Network Lighting Controls to reduce cost of materials and labor

# LEDGLI – MLC2 Approved Product Solutions



Bringing Innovation to Light



## T8 LED Replacement Lamps

### 2ft - 8W Lamps



### 4ft - 14.75W Lamps



### 0-10v Dim



### BTM



## Retrofit Linear Troffers (20W, 24W, 30W, 40W)

### 1X4



### 2X2



### 2X4



### 0-10v Dim



### BTM



## Recessed Linear Troffers (20W, 24W, 30W, 40W)

### 1X4



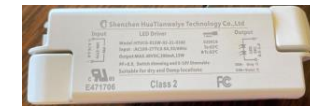
### 2X2



### 2X4



### 0-10v Dim



### BTM



**Full 10-Year, Non-Prorated Warranty, with rated life of 100,000+ hours !**



# LEDGLI Exceeds MLC2 Specifications

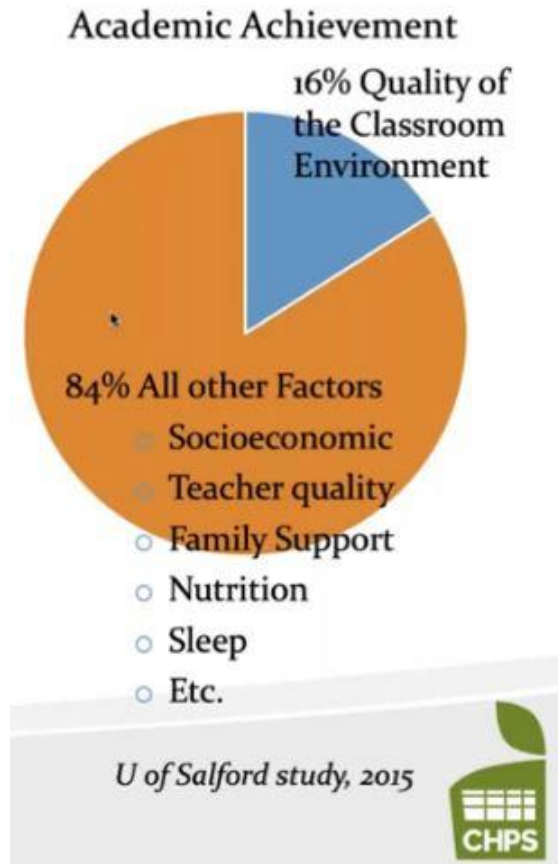


Bringing Innovation to Light



Specifications	MLC2	LEDGLI	Improvement
Lumens per watt	120	<b>160</b>	<b>+34%</b>
Rf Color (100 colors)	90	<b>91</b>	<b>+1</b>
CRI (15 colors)	NA	<b>97</b>	<b>NA</b>
Total Lumens	2,250	<b>2,345</b>	<b>+5%</b>
Wattage	18.75W	<b>14.75W</b>	<b>+22%</b>
Lighting Controls	0-10v capable	<b>Bluetooth Integrated</b>	<b>+35%</b>
Warranty in years	5	<b>10</b>	<b>+100%</b>
Life Span in hours	50,000	<b>100,000+</b>	<b>+100%</b>

# Benefits of LEDGLI LED Lighting



## Benefits

1. **SAVING MONEY AND THE PLANET WITH LED**
2. **PROTECTING STUDENTS' HEALTH AND WELLBEING**
3. **Improved Light Quality**
4. **Avoid Discomfort and Disability Glare**
5. **Providing Psychological Stability For Students**
6. **Creating a More Productive Learning Environment**
7. **ELIMINATE HARMFUL CONTAMINANTS SUCH AS POLYCHLORINATED BIPHENYLS (PCBS) IN MAGNETIC FLUORESCENT BALLASTS**

# A Few Exemptions from Title 24



## Title 24 Requirement

### Requirement 1

“Lighting control system” means a lighting control in which two or more components are required to be installed in the field to provide all of the functionality required to make a fully functional and compliant lighting control. Lighting control systems are regulated under Sections 119 and 134 of the Title 24 of the California Code of Regulations.

### Requirement 2

Buildings larger than 10,000 square feet, excluding spaces with a lighting power density of 0.5 watts per square foot or less, shall be capable of automatically reducing lighting power in response to a Demand Response Signal; so that the total lighting power of non-excluded spaces can be lowered by a minimum of 15 percent below the total installed lighting power when a Demand Response Signal is received. Lighting shall be reduced in a manner consistent with uniform level of illumination requirements in [TABLE 130.1-A](#).

## LEDGLI – BTM Controls

### Compliance

Demand responsive controls and equipment shall be capable of receiving and automatically responding to at least one standards-based messaging protocol by enabling demand response after receiving a demand response signal.

### Most LEDGLI lighting retrofits projects qualify

#### Exemption 1

Excluding spaces with a lighting power density of 0.5 watts per square foot or less.

#### Exemption 2

Per Table 141.0-E, alterations with over 85% of the lighting power allowance given in §140.6(c)2 must meet most control requirements in §130.1, **but those with 85% or less are exempt from daylighting** and demand response control requirements.

# LEDGLI - Value Added



## Features

1. Tubes, Retrofit Kits and New Troffers
2. BTM Network Lighting Controls
3. **Integrated BTM controls with the fixture**
4. Increased LED Energy Efficiency above MLC2
5. Improved Full Spectrum Color
6. More Lighting Control Options
7. **LEDGLI provides the project funding**
8. **Include 2 EV Chargers for each location at no additional cost**

## Benefits

1. More lighting design choices
2. More granular control of lights
3. **No additional cost to install Bluetooth controls**
4. Reduced Costs & Increased Cost Avoidance
5. **Improved occupant health and wellness**
6. **Customized lighting experience**
7. **Eliminates capital budget process**
8. Provides public service for electric vehicles

# LEDGLI – Strategic Partners



## Turnkey - Supply Chain Companies

1. University of California Office of the President (UCOP) – Awarded Statewide Lighting Contract
2. Silvair (<https://silvair.com>) – Global Bluetooth Mesh Network Lighting Controls
3. Applied Energy Solutions (<https://www.appliedenergysolutions.com>) – National Lighting Installations
4. ABM Industries (<https://www.abm.com>) – National Lighting Installations
5. Terra Cycle (<https://www.terracecycle.com>) – National Environmental Waste Disposal
6. InCharge Energy (<https://inchargeus.com>) – National EV Charging Manufacturer
7. TEQlease (<https://www.teqlease.com>) – National Equipment Leasing Company
8. McConsulting Services (<https://mcconsulting.services>) – National 'EPA Act' Tax Services

# LEDGLI Partner Highlight



- \$6.4 Billion Annual Revenue
- 140,000+ Trained Employees
- 350 Offices (17 in California)
- 110 Years of experience in building maintenance
- 4 Billion square feet of buildings serviced every day

Questions about installations can be directed to Thomas Wray at [thomas.wray@abm.com](mailto:thomas.wray@abm.com)

ABM is a source of reliable people and services that improve the spaces and places that matter most.

**A service partner that builds value through dedication, experience, and innovation.**

Building value. It's your focus for your business. And it's ABM's priority for your facility. When everything is clean and comfortable – and your critical infrastructure runs smoothly – your business and everyone involved can thrive.

There's a reason why more than half of the Fortune 500 companies rely on ABM. They have the experience, technology, capabilities, and dedication to care for the people, places, and spaces that matter to you.

# LEDGLI Production Capabilities



*Bringing Innovation to Light*



## Current Inventory

20,000 4ft T8 Tubes in  
Fresno, California

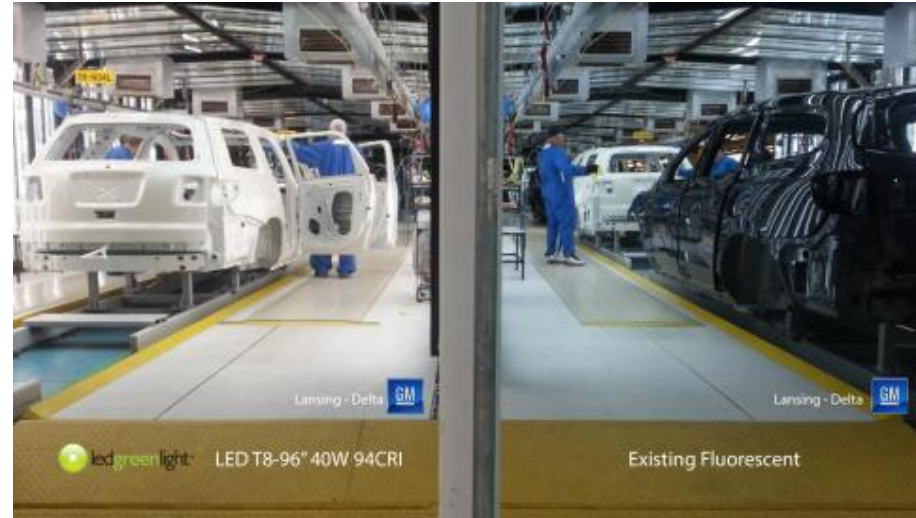
## Current Monthly Production

100,000 2ft T8 Tubes  
400,000 4ft T8 Tubes  
20,000 Linear Recessed Troffers  
20,000 Linear Retrofit Troffers

# LEDGLI – General Motors Case Study



Bringing Innovation to Light



## *Challenge:*

In 2013, General Motors was in the process of retrofitting 110 W HO fluorescent lamps to 40W LED in order to provide better quality light and lower operating costs within their automotive assembly Inspection Bays. GM requested a solution that had highest lumens-per-watt, 94CRI (color rendering index), 5000K in order to maximize energy savings and ensure true color fidelity. Such a lamp did not exist in the market.

## *Solution:*

LED Green Light International accepted the challenge and produced the world's first 8' 40W 5000K lamp with a 94CRI rating. The net result of this solution was a dramatic reduction in their lighting operating costs and significant increase in the number of manufacturing blemishes identified and repaired prior to shipping.



# SILVAIR

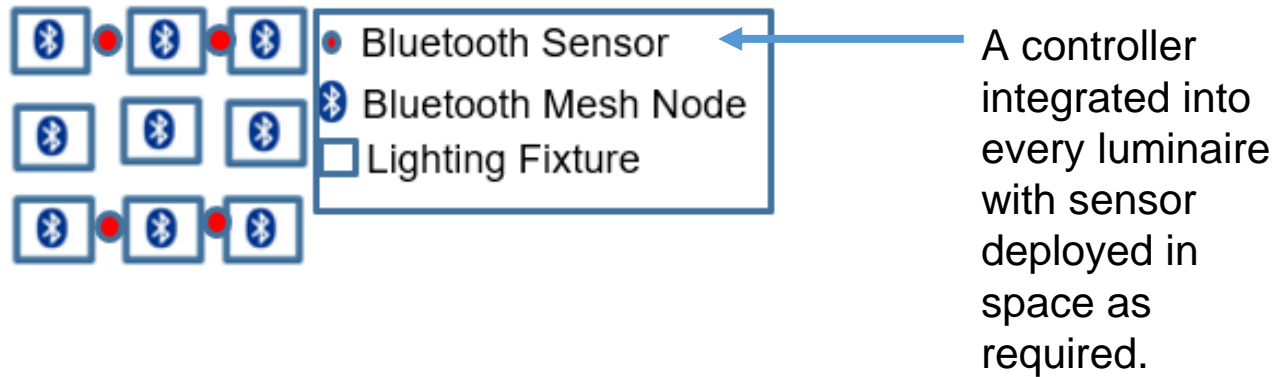
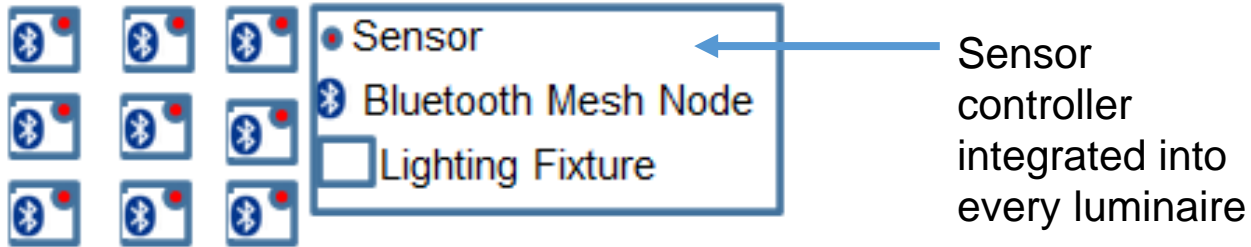
## LEDGLI - MLC2 Webinar

June 22, 2021

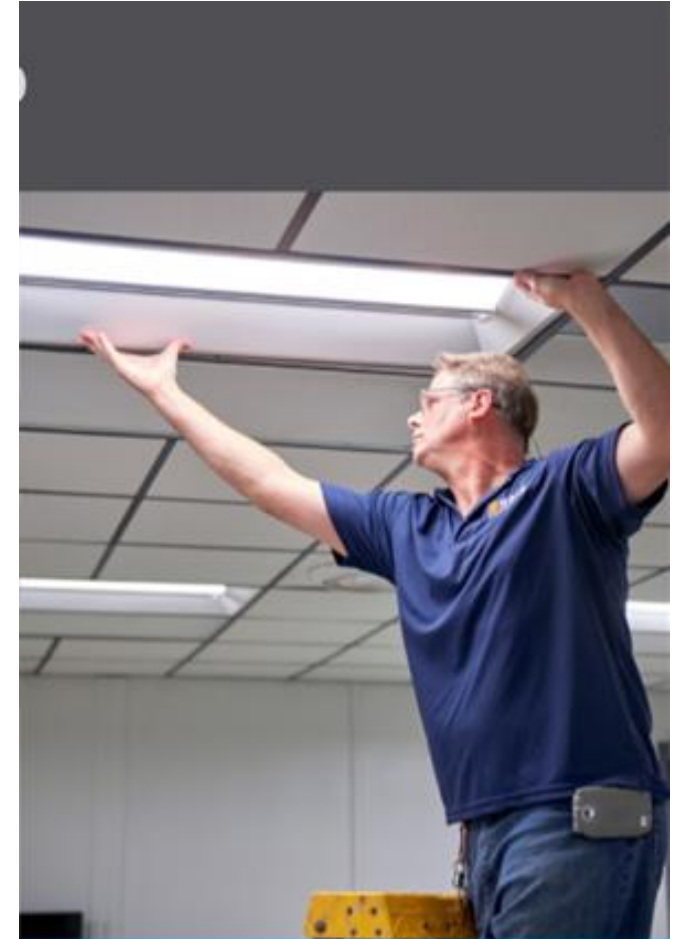


# How do I add lighting controls to a project?

## Design your solution



## Install Retrofit Luminaire or kit



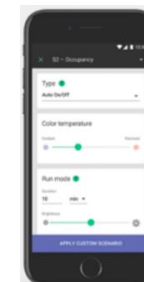
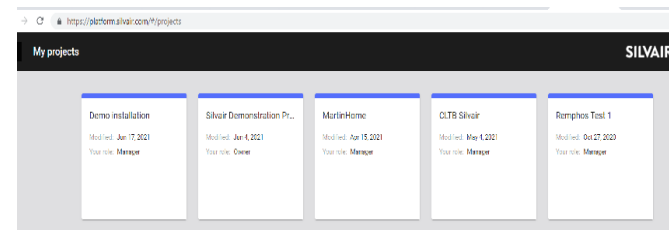
# Silvair “At-a-Glance”



Silvair is a software company who provides a complete firmware and software solution through a partner network, enabling them to create lighting control components based on the open and interoperable Bluetooth Mesh standard - and their users to design, configure, commission, troubleshoot lighting control projects.

Our products consist of firmware which allows OEM’s to create Bluetooth mesh components and Software tools utilizing the latest in cloud technology provided in two easy-to-use apps that we call the Silvair Platform:

- **Silvair Firmware** - Complete solution allows manufacturers to incorporate BTM into their lighting devices
- **Silvair Platform**
  - **Silvair Web App** which is a cloud-based application to create, design and configure your project
  - **Silvair Mobile App** - to identify, add, test and re-configure devices in the field for a project

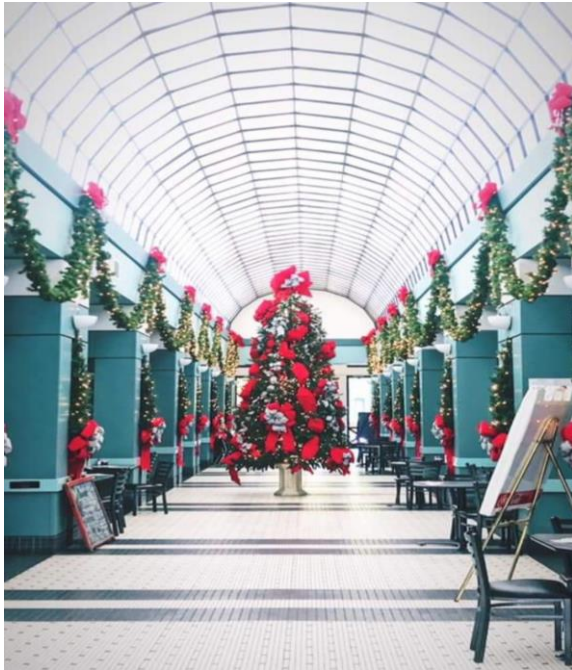


# Silvair “At-a-Glance”



The end use of the Silvair products ultimately result in well designed, highly efficient lighting projects, for any building application.

Galleria Mall – Fresno, CA  
High 95 CRI LED tubes



Type C – High 97 CRI LED tubes with  
Bluetooth Mesh enabled LED Driver



Troffer door kits with integrated  
Bluetooth mesh enabled sensor  
controller



# Scalability of Bluetooth Mesh



## **Faster messaging:**

Bluetooth® mesh relies on Bluetooth LE version 4.0 and higher for its underlying radio communications. Bluetooth LE 4.x has a symbol rate of 1 mega-symbols per second (ms/s) which is four times faster than other common mesh technologies based on IEEE 802.15.4.

## **Smaller Packets:**

With small packets, optimised for mesh networking, BTM gets many times more useful work out of the available radio spectrum, as compared to larger packets of other mesh networking solutions whose packet size can be as much as 3X larger.

## **What this really means:**

Think about scalability as the amount of “Work” that can be accomplished in a network. For us in the lighting industry, work would be the capacity to dim down a large number of lights while simultaneously aggregating sensor triggers to report on occupancy patterns. All of this accomplished across thousands of “nodes” in the blink of an eye – this is Bluetooth Mesh. Faster messaging and smaller packets are two key features that enable high scalability required for large numbers of devices commonly found in lighting control networks.

# Bluetooth Mesh Security



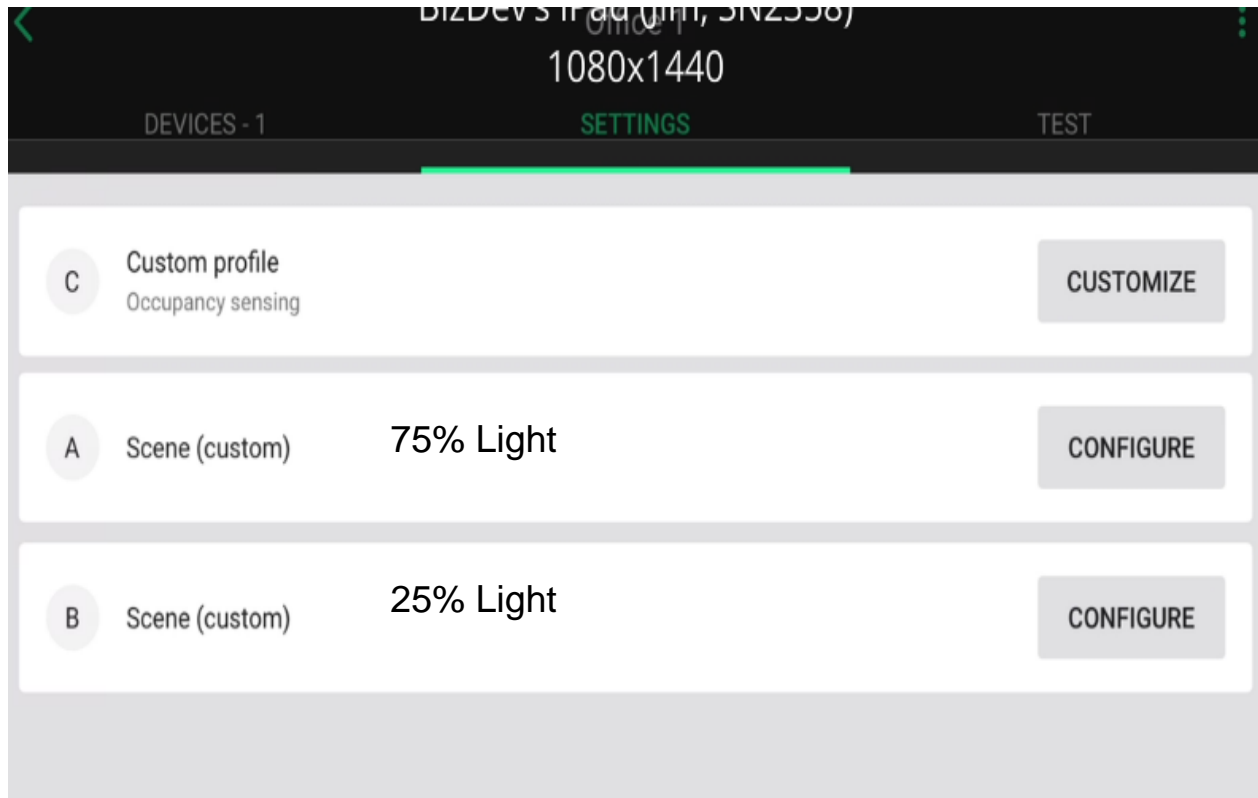
Encryption and Authentication	All Bluetooth mesh messages are encrypted and authenticated.
Separation of Concerns	Network security, application security, and device security are addressed independently. See <i>Separation of Concerns</i> below.
Area Isolation	A Bluetooth mesh network can be divided into subnets, each cryptographically distinct and secure from the others.
Key Refresh	Security keys can be changed during the life of the Bluetooth mesh network via a Key Refresh procedure.
Message Obfuscation	Message obfuscation makes it difficult to track messages sent within the network and, as such, provides a privacy mechanism to make it difficult to track nodes.
Replay Attack Protection	Bluetooth mesh security protects the network against replay attacks.
Trashcan Attack Protection	Nodes can be removed from the network securely, in a way which prevents trashcan attacks.
Secure Device Provisioning	The process by which devices are added to the Bluetooth mesh network to become nodes is a secure process.

- Bluetooth mesh networking is concerned with the security of more than individual devices or connections between peer devices; it's concerned with the security of an entire network of devices and of various groupings of devices in the network.
- Consequently, **security in Bluetooth mesh networking is mandatory.**
- Bluetooth mesh builds into their specification networking security fundamentals.
- Separately Silvair will have Cybersecurity Certificate covering both the network and the platform Q4 of this year.

# Features - Scenes



The Silvair mobile app allows two scenes to be created per control zone. These scenes will be actuated through a Bluetooth mesh wall control or an EnOcean wall control.



# Features – Scheduling



With the Silvair platform scheduling events is quick and easy. Users can define up to 4 scenes to recall by creating a time based scheduled event.

## Scenario

Multiple scenes / Scheduling

### Description:

The light can be adjusted automatically with scheduling or manually to one of the 4 definable scenes. Each scene can run different control scenario.

### Devices:

- Luminaire
- Light sensor
- Occupancy sensor

GENERAL    AUTO MODE 1 OCC OFF    **ON - 100%**    ON - 10%    OFF

## Scene details

### Scene name

ON - 100%

### Scene properties

- Automatic scene
- Daylight harvesting

## Light level ?

### Light level

100 %

My projects > Silvair Demonstration Proj... > Office Space



Commissioning



Zone linking



Scheduling

## Gateway based event

### Event name

Office Open

Scene: ON - 100%    Fade in: 15 SEC

### Select days

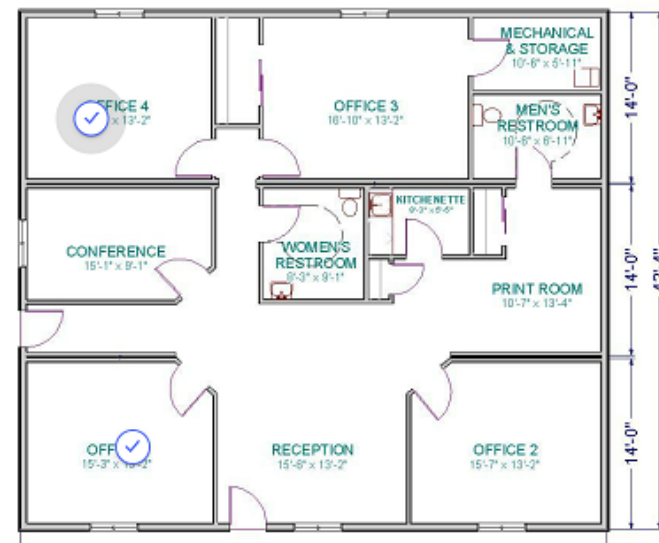
Mo    Tu    We    Th    Fr    Sa    Su

Time    Sunrise    Sunset

### Time

06:30 AM     UTC

ON - 100% will repeat every Monday, Tuesday, Wednesday, Thursday, Friday at 06:30 in: Office 4

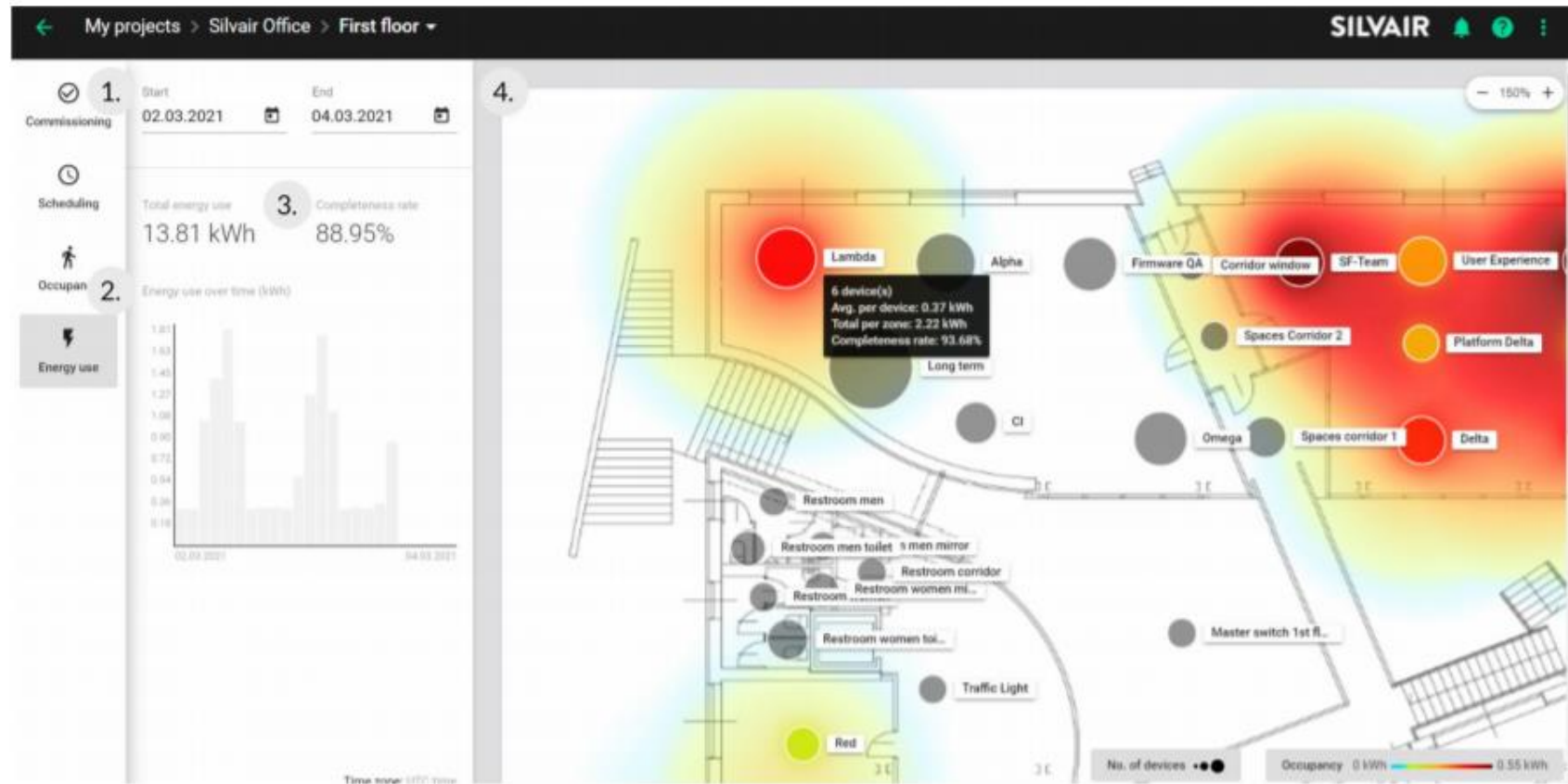




# Features – Energy Monitoring



The Calculated Energy Monitoring feature allows users to observe the energy consumption of luminaires within a control zone. The user can access the Energy Use Report for visualization of the energy use data.



# Features – ADR 2.0a certified



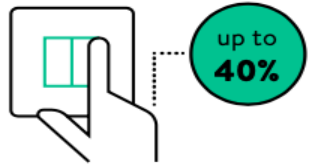
The Silvair ADR service has been certified as compliant with OpenADR 2.0a. When a DR event is received, the Silvair Gateway sends an instruction to the project to lower the energy consumption by limiting the brightness in all luminaires that report to the gateway to a level defined by the customer, e.g.:

- Level 1: 85% of full power
- Level 2: 85% of Level 1 (i.e. approx. 72% of full power)
- Level 3: 85% of Level 2 (i.e. approx. 61% of full power)



Open Automated Demand Response (OpenADR) is a research and standards development effort for energy management led by North American research labs and companies. The Silvair ADR service has been certified as compliant with the OpenADR standard.

# Multiple Control Strategies



## MANUAL CONTROL

Regardless of what strategies you deploy, you can accompany them with convenient wireless switches/dimmers. End users will be able to adjust lighting in response to visual needs, and you might save up to 40%.



## TASK TUNING

From simple high-end trim to sophisticated multi-scene scenarios, make sure your lighting is always perfectly tailored to the requirements of your employees / customers. They will feel great and you might save up to 40% of lighting energy.



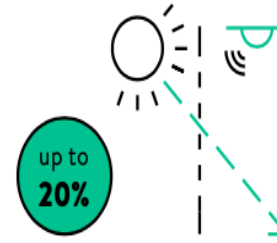
## ENERGY MANAGEMENT

From single luminaires to entire buildings, you can get detailed energy consumption data just as you need it – in the form of raw numbers or convenient visual heatmaps. Analyze that data and find the strategies that work best for you to maximize savings!



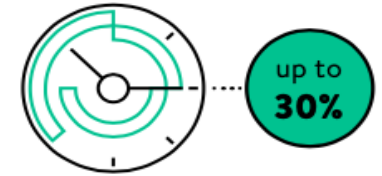
## OCCUPANCY SENSING

Never light unoccupied spaces again. Deploy sensor-driven automation to generate lighting energy savings of up to 50%.



## DAYLIGHT HARVESTING

Make sure your rooms are not overlit. Automatically adjust luminaires' output to natural light availability and save up to 20%.



## SCHEDULING

Put your luminaires on a schedule that precisely matches your business hours. Lighting energy savings can reach up to 30%.

**By configuring multiple control strategies, it is possible to save an additional 60-75% on your lighting energy cost.**



# Thank you!

[Contact: Jim.Sekinger@Silvair.com](mailto:Jim.Sekinger@Silvair.com)



# Basic Tax Related Services

LIGHTING RETROFITS

# How are you going to pay for this?

- ▶ You can use your own monies, or you can finance the project.
- ▶ We have a unique offer for you.
  - ▶ 2% financing
    - ▶ Cash Flow Positive day one.
    - ▶ No monies out of pocket.
- ▶ Let us introduce these alternative solution.

# Where does the money come from?

- ▶ Even with financing with a change from Florescent to LED the project is cash flow positive day one with ZERO out of pocket.
- ▶ We added another no cost option EV Charging

Year	KW Usage		Savings		35% Controls	Conservative Maintenance	Payment	Rebate	HVAC	Abandonment	Total Savings
	Old	New	Energy KWH	Dollars							
1	358,550	75,195	283,355	\$ 65,172	\$ 22,810.08	\$ 7,573.33	\$ 78,000.00	\$ 200,000	\$ 14,338	\$ -	\$ 231,892.85
2	376,477	78,954	297,523	\$ 66,475	\$ 23,266.29	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 14,625	\$ -	\$ 33,939.24
3	395,301	82,902	312,399	\$ 67,805	\$ 23,731.61	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 14,917	\$ -	\$ 36,026.56
4	415,066	87,047	328,019	\$ 69,161	\$ 24,206.24	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 15,215	\$ -	\$ 38,155.63
5	435,819	91,399	344,420	\$ 70,544	\$ 24,690.37	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 15,520	\$ -	\$ 40,327.27
6	457,610	95,969	361,641	\$ 71,955	\$ 25,184.18	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 15,830	\$ -	\$ 42,542.35
7	480,491	100,768	379,723	\$ 73,394	\$ 25,687.86	\$ 7,573.33	\$ 78,000.00	\$ -	\$ 16,147	\$ -	\$ 44,801.73
8	504,515	105,806	398,709	\$ 74,862	\$ 26,201.62	\$ 7,573.33	\$ -	\$ -	\$ 16,470	\$ -	\$ 125,106.30
9	529,741	111,097	418,645	\$ 76,359	\$ 26,725.65	\$ 7,573.33	\$ -	\$ -	\$ 16,799	\$ -	\$ 127,456.96
10	556,228	116,651	439,577	\$ 77,886	\$ 27,260.16	\$ 7,573.33	\$ -	\$ -	\$ 17,135	\$ -	\$ 129,854.63
TOTAL			3,564,010	\$ 713,612	\$ 249,764.06	\$ 75,733.33	\$ 546,000.00	\$ -	\$ 156,994.55	\$ -	\$ 850,103.54

# What do we provide?

- ▶ We provide consulting services that reduce the cost of LED lighting by identifying all the benefits and providing enhanced ROI calculation.
- ▶ Among the services we provide are:
  - ▶ Partial Asset Retirement (Abandonment)
  - ▶ 1245/1250 allocation
  - ▶ EPC Act 179d Tax deductions for energy savings.
  - ▶ Enhanced ROI calculation.
    - ▶ Including identifying the value of the cash flow from LED retrofits.



# EPACT- 179D TAX DEDUCTIONS

- ▶ EPAct
- ▶ • IR-2006-88, June 2, 2006 • WASHINGTON — The Internal Revenue Service today issued an advance copy of a notice on how commercial building owners or leaseholders can qualify for the tax deduction for making their building energy efficient. The notice establishes a process to certify the required energy savings in order to claim the deduction. • The commercial building deduction, which was enacted in the Energy Policy Act of 2005, allows taxpayers to deduct the cost of energy-efficient property installed in commercial buildings. • The amount deductible may be as much as \$1.80 per square foot of building floor area for buildings that achieve a 50-percent energy savings target. The notice provides that buildings below the 50-percent threshold may, nevertheless, qualify for a deduction of up to 60 cents per square foot of building floor area if they meet a 16⅔-percent energy savings target.

# Our services to you:

- ▶ Review your engineering diagrams to assure compliance with the federal guidelines.
- ▶ As required by the IRS act as your 3<sup>rd</sup> part independent provider for these services.
  - ▶ Review your project
  - ▶ Complete site verification
  - ▶ Prepare report
- ▶ Be available for any questions or concerns that may arise.

# The UC system does not pay taxes so?

- ▶ We can monetize the tax credits and reduce the balance of the lease by a portion of the tax credits.
- ▶ We can also monetize some of the EPAct tax deductions to off set the upfront costs of EV charging installations and site design.
- ▶ Your interest rate is in the 2% range.

# Financing Option

[https://www.teqlease.com/smb\\_equipment\\_financing/](https://www.teqlease.com/smb_equipment_financing/)

The screenshot displays the TEQlease website's financing calculator. The page features a navigation bar with links for 'ABOUT US', 'EQUIPMENT', 'APPLY NOW', 'BLOG', and 'RESOURCES'. The main content area is divided into two sections. On the left, a large image of a worker in a hard hat is overlaid with the text 'SMALL-MEDIUM BUSINESS EQUIPMENT FINANCING'. Below this, a paragraph explains that TEQlease offers customized equipment financing for businesses, with amounts ranging from \$10,000 to \$3,000,000. Three circular icons representing a dollar sign, a calendar, and a percentage symbol are positioned below the text. On the right, a dark blue header reads 'FINANCE THE EQUIPMENT YOUR BUSINESS NEEDS NOW' with a sub-header 'GET A QUOTE ONLINE OR CALL US FOR A CUSTOMIZED QUOTE.'. Below this, a white box titled 'START HERE' contains a form for 'Equipment Cost?' with a text input field showing '\$ 10000' and a slider. The 'Estimated Payment' is shown as '\$213 / month (for 60 months)'. A link for 'Estimate Details' and a prominent 'Apply Now' button are also visible.

We can monetize the tax credits, offer longer term deals and work with you for the best services available.

# We partner with ABM for the installation.

The screenshot shows the ABM website's 'Higher Education' page. The header includes the ABM logo (Building Value) and navigation links for Industries, Services, Resources, Careers, and About. A search icon is located in the top right. The main content area features a background image of a smiling woman with sunglasses on her head. The text 'Higher Education' is positioned above the main headline, 'What gives a college campus a competitive edge?'. To the right of the headline, there are five key service areas listed: SPOTLESS QUAD, CLEAN CLASSROOMS, EFFICIENT FACILITIES ENGINEERING, WELL-LIT GROUNDS, and ABM'S PASSION TO MAKE A DIFFERENCE. A breadcrumb trail at the bottom left reads 'Home > Industries > Education > Higher Education'. A 'NEED HELP?' button is located in the bottom right corner.

ABM Building Value

Industries Services Resources Careers About

Higher Education

What gives a college campus a competitive edge?

SPOTLESS QUAD

CLEAN CLASSROOMS

EFFICIENT FACILITIES ENGINEERING

WELL-LIT GROUNDS

ABM'S PASSION TO MAKE A DIFFERENCE

Home > Industries > Education > Higher Education

NEED HELP?

## Facility Services for Higher Education

# Recommended Units

**JB3.0 80A Level 2 Commercial Charging Station**  
PRODUCT TECHNICAL SPECIFICATIONS



DESCRIPTION	
JB3-80A	Single Connector Wall Mount
JB3-80B	Single Connector Pedestal Mount
JB3-80C	Double Connector Bracket Mount
JB3-80D	Double Connector Pedestal Mount
JB3-80E	Wall Mount Bracket
JB3-80F	Pedestal
JB3-80G	Pre-Cast Foundation (Geographical Limit)

CERTIFICATIONS	OPERATING TEMPERATURE
TUV Rheinland Certified Compliance (Pending)	-32° C to 50° C
UL 981, 2231-A, 2231-2, 2094 & NEMA 3R	-22° F to 122° F

AC INPUT	AC OUTPUT
Voltage 208/240 VAC Breaker Rating 100A	19.2 kW (240V AC @ 80A)
Single Connector 3 Wire (L1, L2 & G)	
Double Connector 5 Wire (L1, L2, L3 & G)	

COMMUNICATIONS	PROTOCOL
Cable Modem & Ethernet Standard	OCPP 1.6J Multi-Session

DIMENSIONS	CORD LENGTH
72" Total Height with Pedestal	10 feet
36.5" Total Height without Pedestal	12.3ft Depth

CONNECTORS	MATERIALS
SAE J1772 Connector	Powder Coated Aluminum Enclosure
	Powder Coated Aluminum Wall Mount Bracket
	Powder Coated Steel Over Stainless Steel Pedestal

CUSTOMIZATION	USER INTERFACE
Branded LED Backlit Door Logo	Mobile Application
Branded Door Skin	QR Code
Branded Door Decal	RFID Card Reader
Powder Coat Color Selection	LED Indicators
GPIO Outputs & E-Stop/Coaster Lock Ports	

**JUICE BAR®**  
A Division of Oasis Charger Corporation

Oasis Charger Corporation 10-12 South Main Street Norwich, CT 06854 | 860.308.2054 | www.juicebarinc.com

**AddENERGIE**

**SmartTWO™**  
Smart, level 2 EVSE for commercial and industrial applications



The SmartTWO™ Electric Vehicle Supply Equipment (EVSE) is specially designed for outdoor locations subject to harsh weather and vandalism.

Features
<ul style="list-style-type: none"> <li>Robust NEMA 3R aluminum enclosure.</li> <li>Modular design to facilitate maintenance and addition of units.</li> <li>Wall-mounted, pedestal or pole-mounted configurations.</li> <li>Certified to operate in temperatures ranging from -40°C to 60°C.</li> <li>Access provided free of charge or according to a usage fee.</li> <li>RFID card and/or mobile app based authentication and payment.</li> <li>208V or 240V / 30A.</li> <li>IEC1753 compliant standard connector.</li> <li>Maximum output current adjustable from 6A to 30A.</li> <li>LED status indicator (Green: Available, White: In Use).</li> </ul>

Benefits
<ul style="list-style-type: none"> <li>Designed to withstand harsh weather and vandalism.</li> <li>Easily installed by an electrician.</li> <li>Fully remotely manageable.</li> <li>Can generate revenue from the charging service.</li> <li>Fully controlled access to charging services.</li> <li>Simple, safe and user friendly.</li> </ul>

When it comes to smart level 2 EVSEs used outdoors in public areas subject to vandalism, robustness, durability, and access control features are of the utmost importance. This is why AddEnergie has designed and brought to market the SmartTWO™, a robust and reliable commercial/industrial grade EVSE. The SmartTWO™ is user friendly and works in networked or standalone mode. The networked mode allows for comprehensive centralized management and generates revenue through usage fees.

**SIEMENS**

**Energizing the evolution of eMobility**  
VersiCharge™ AC series

www.siemens.com/versicharge



**SIEMENS**

**Energizing the evolution of eMobility**  
VersiCharge™ AC series

www.siemens.com/versicharge

**JB3.0 40A Level 2 Commercial Charging Station**  
PRODUCT TECHNICAL SPECIFICATIONS



DESCRIPTION	
JB3-40A	Single Connector Wall Mount
JB3-40B	Single Connector Pedestal Mount
JB3-40C	Double Connector Wall Mount
JB3-40D	Double Connector Pedestal Mount
JB3-40E	Wall Mount Bracket
JB3-40F	Pedestal

CERTIFICATIONS	OPERATING TEMPERATURE
TUV Rheinland Certified Compliance (Pending)	-32° C to 50° C
UL 981, 2231-A, 2231-2, 2094 & NEMA 3R	-22° F to 122° F

AC INPUT	AC OUTPUT
Voltage 208/240 VAC Breaker Rating 100A	9.6 kW (240V AC @ 40A)
Single Connector 3 Wire (L1, L2 & G)	
Double Connector 5 Wire (L1, L2, L3 & G)	

COMMUNICATIONS	PROTOCOL
Cable Modem & Ethernet Standard	OCPP 1.6J Multi-Session

DIMENSIONS	CORD LENGTH
72" Total Height with Pedestal	10 feet
36.5" Total Height without Pedestal	12" Depth

CONNECTORS	MATERIALS
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CUSTOMIZATION	USER INTERFACE
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Rebates cover the total cost, but there can be a long wait for those monies, we can use the lighting project to cover these upfront costs. Meaning no monies out of your pocket.

# In-Charge Energy



## Company Profile

In-Charge is an energy solutions company that is accelerating electrification of the transportation industry by providing a comprehensive scalable e-fleet solution.

We tailor our solutions to private and public commercial fleets, electric vehicle OEMs, ride-share operators, municipalities and commercial/residential facilities owners.

## Solving for Inadequate EV Charging Infrastructure / In-Charge Opportunity

- Electrification is inexorable – fleet energy needs represent a 'tidal wave' of demand over the next 5 years, with \$3-\$4T in energy infrastructure investments.
- Utilities lack infrastructure to serve transient EV charging load and are ill-prepared.
- Fleets, OEMs, municipalities often lack the capital and expertise to plan, source and implement infrastructure at scale, and don't have the utility capacity or real estate available for charging infrastructure.
- Capture all Energy Conservation and efficiency measures to reduce load.

## Unparalleled Installation/O&M Services: Scaling the Model



## Strategic Partners / Customers

List available on request.

## In-Charge Solution:

Turnkey Energy + EV Charging Infrastructure as a Service



Proprietary Digital Tools to Help Fleet Managers

## In-Charge's "1 of 1" Differentiation

- Remote building and load analysis (by address)
- National delivery capabilities with cloud-based platform for digital site survey, real-time project installation tracking, and O&M support post-installation
- Strategic partnerships with major EVSE and behind the meter components suppliers
- Tax & incentives engine to "buy down" the cost of the project, maximizing all potential cost savings
- Back-end/API integration with EVSE charging software and fleet telematics to provide analytics that evidence cost savings, performance, sustainability for customers
- A leadership team that has collective unsurpassed industry experience in EV fleet and charge station deployments in North America (>20K charge ports)

**Cameron Funk, CEO | In-Charge US**  
100 Pacifica, Suite 360 | Irvine, CA 92628  
562.805.3828 (Cell)  
[Cameron.Funk@InChargeUS.com](mailto:Cameron.Funk@InChargeUS.com)

# If you have questions...

## ▶ **Contact**

▶ Don McDougall

▶ [dbm@mccconsulting.services](mailto:dbm@mccconsulting.services)

▶ 213.280.2266





# How to Get Lighting from LEDGLI



## LED Green Light International

2629 E Jensen Ave

Fresno CA 93706

559-550-1020

[mlc2@ledgreenlightint.com](mailto:mlc2@ledgreenlightint.com)

[www.ledgreenlightint.com](http://www.ledgreenlightint.com)

## Order Process

Call or email LEDGLI today and speak with a project specialist to schedule a complimentary project evaluation and work scope assessment.

## Purchase Payment Methods

LEDGLI accepts product payment in the form of purchase order, bank wire transfer or credit card.



## Commercial Leasing Program

1. Complete a project assessment
2. Review and Sign program documentation
3. Schedule Product Installation

# Let LEDGLI Help You



## Services Provided

1. Lighting audit for your facilities
2. Design innovative LED lighting solutions
3. Provide demonstration installations
4. Install the lighting products
5. Include lighting maintenance program for 10 years

## Services Provided

- Fully fund the lighting through an Equipment Leasing Program with no out-of-pocket cost and cash flow positive from day 1
1. EAct tax services
  2. Provide installed EV Chargers throughout your facilities with no additional cost





**Thank you for attending today's MLC2 webinar  
presented by LED Green Light International !!**

**Questions??**

LED Green Light International is here to help you!!



*Bringing Innovation to Light*



Contact me today, to get  
started on your lighting project!

James Duggan

949-544-9522

[james@ledgreenlightint.com](mailto:james@ledgreenlightint.com)

[www.ledgreenlightint/mlc2](http://www.ledgreenlightint/mlc2)