

# D4i – Data and Power to Connect!

DALI Alliance seminar at Lightfair 2021



# D4i – Data and Power to Connect!

## Sree Venkit

- System Architect for Connected Lighting, **Signify**

## Kevin Fitzmaurice, LC

- Principal Engineer,  
Lighting and Smart Services, **Georgia Power**

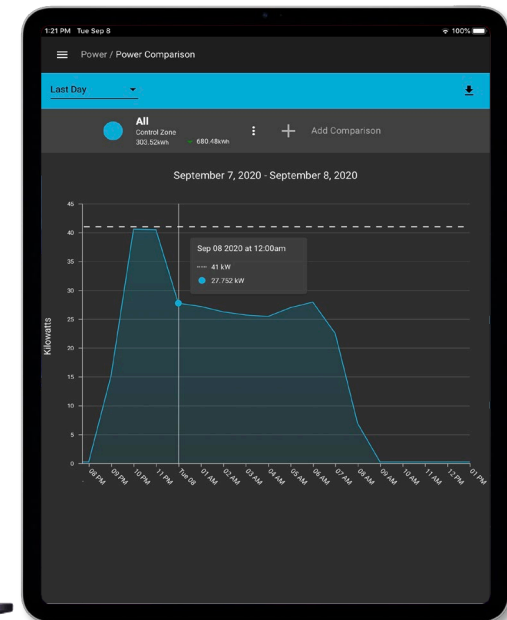
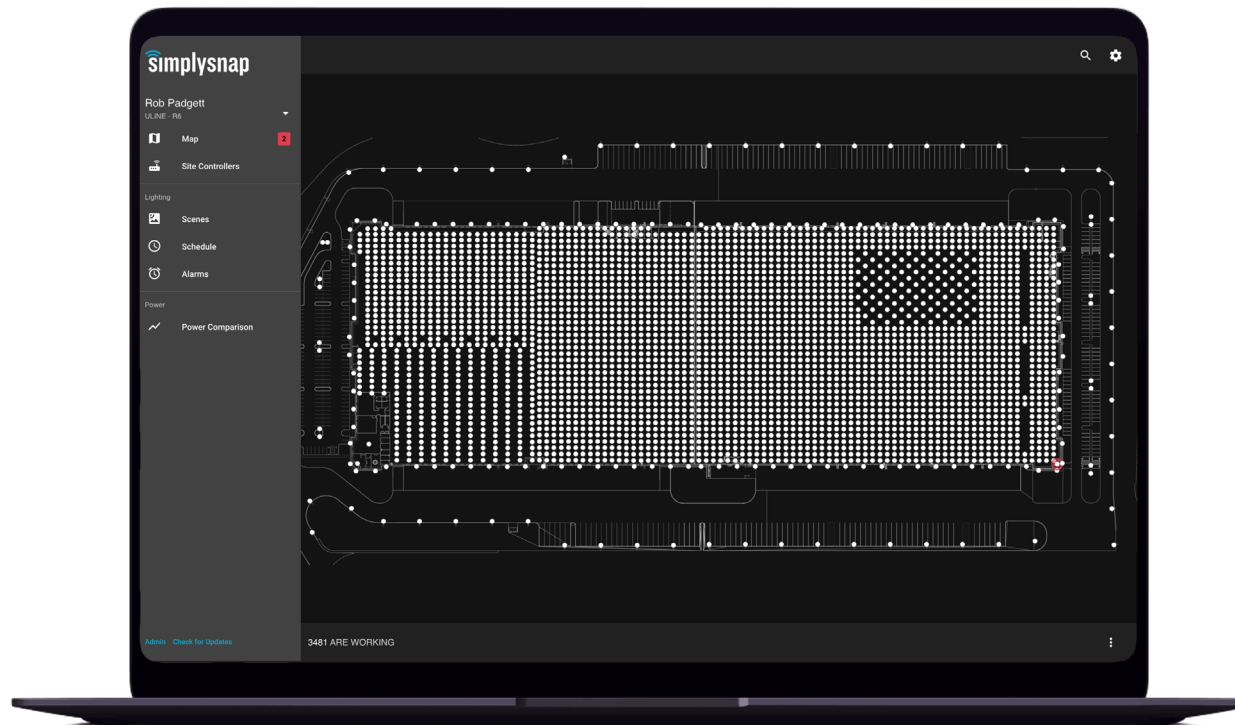
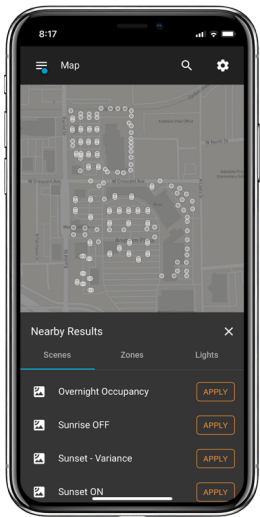
## Michael Davidson

- System Architect, **Synapse Wireless**

All presentations  
from the DALI  
Alliance seminar at  
Lightfair 2021 are  
[available here](#)

- **What else can DALI-2 and D4i Provide?**
- **What applications can we Specify for D4i?**
- **Does D4i Help with Energy Audits?**
- **Can D4i Help save Energy?**

# D4i Brings the Information that lives on the DALI-2/D4i LED Driver Front and Center – Asset Info, Power Info, Power Saving Strategies, Temperature, Voltage Spikes, and Diagnostics



# COMPLETE CONTROL

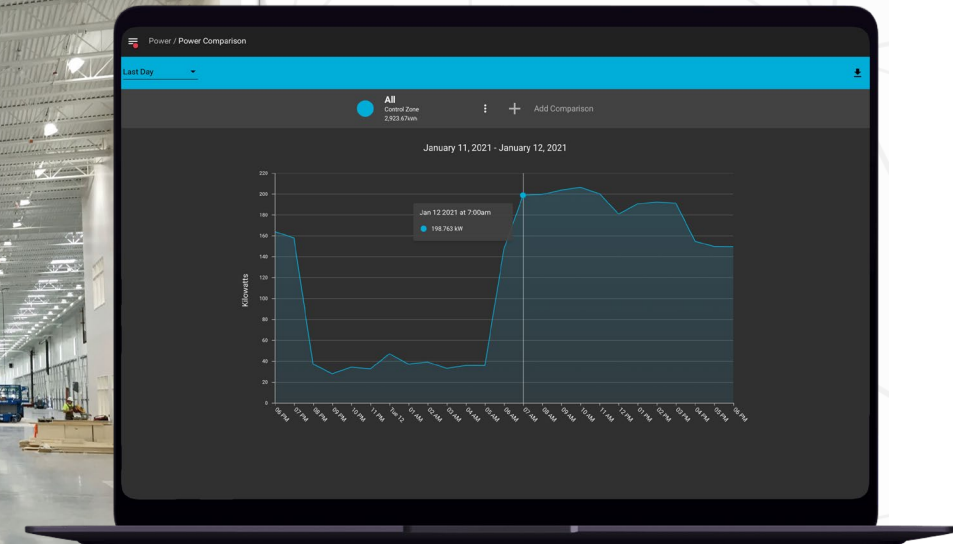
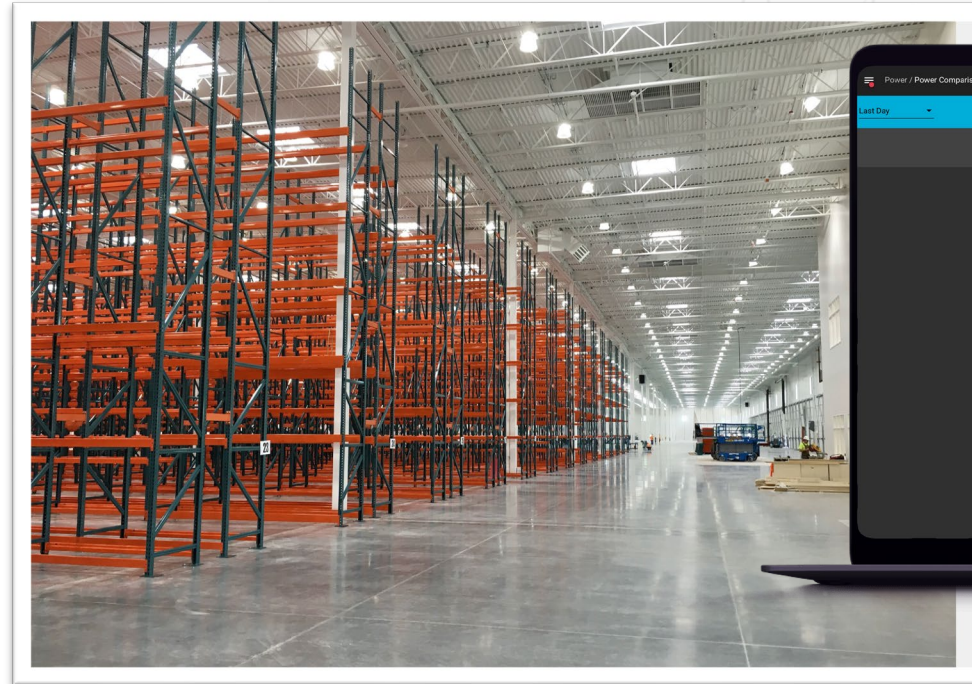
- ❖ Zoning
- ❖ Task Tuning
- ❖ Flexible Schedules

# ENERGY SAVINGS

- ❖ Daylight Harvesting
- ❖ High-end Trim
- ❖ Scenes and Lighting Behaviors

# MONITORING

- ❖ Fault Detection
- ❖ Notifications
- ❖ Power and Cost
- ❖ Power Saving Strategies





## D4i AVAILABLE WITH OVER 70 LUMINAIRE MANUFACTURERS

D4i comes in Different Shapes & Sizes



Plug  
&  
Play



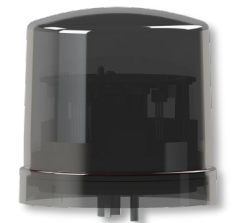
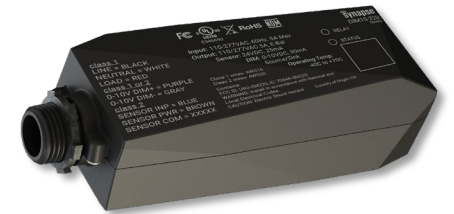
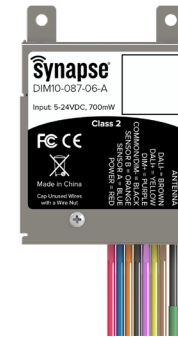


**D4i AVAILABLE WITH OVER 70 LUMINAIRE MANUFACTURERS**

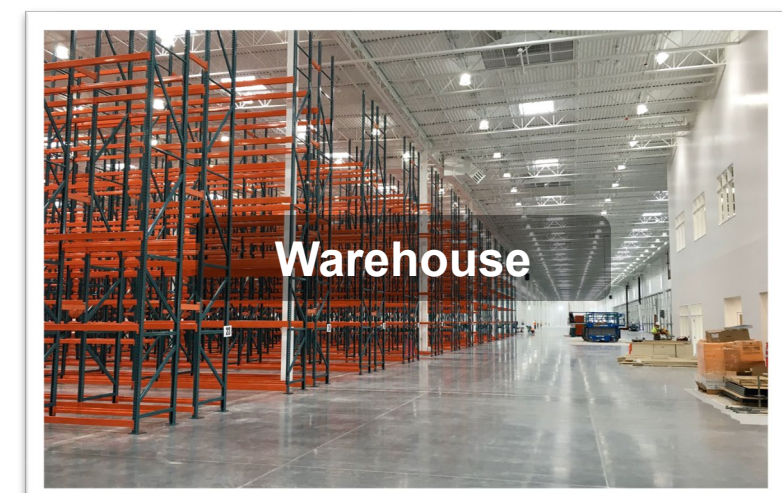
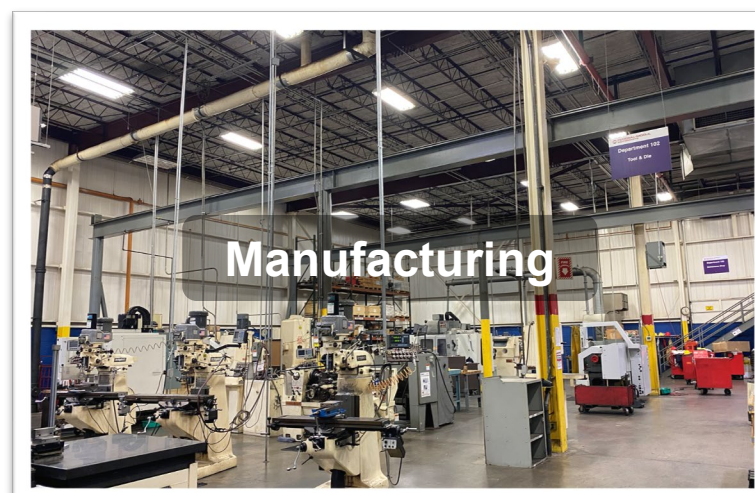
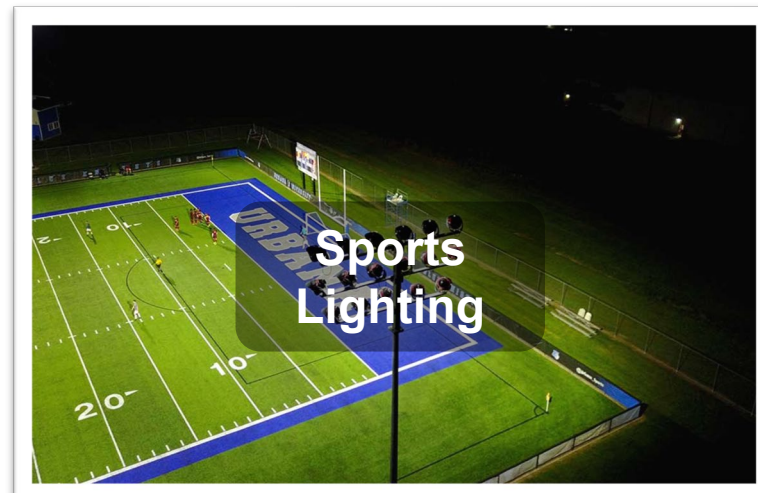
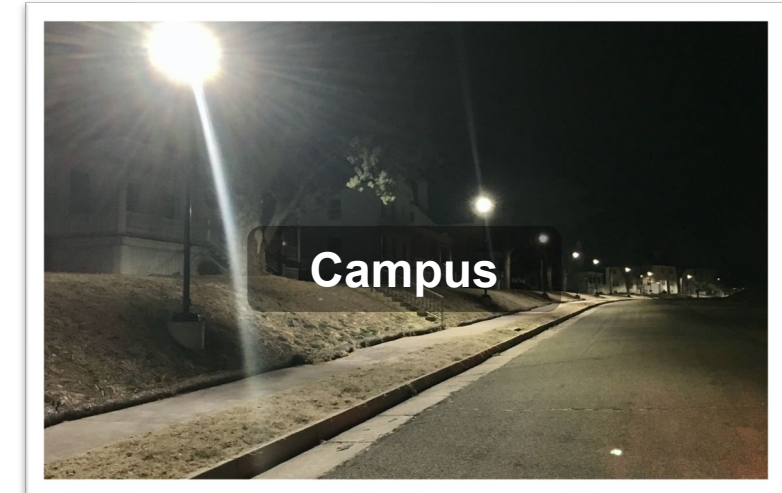
**D4i comes in Different Shapes & Sizes**



**Plug  
&  
Play**



# APPLICATIONS





# INTEROPERABILITY

- ❖ Standard interface at the lighting layer (DALI2/D4i, AC/DC Power, Sensor input)
- ❖ Connect to existing IT infrastructure
- ❖ BACNET or Modbus
- ❖ Standard interfaces at Cloud layer (GraphQL API)

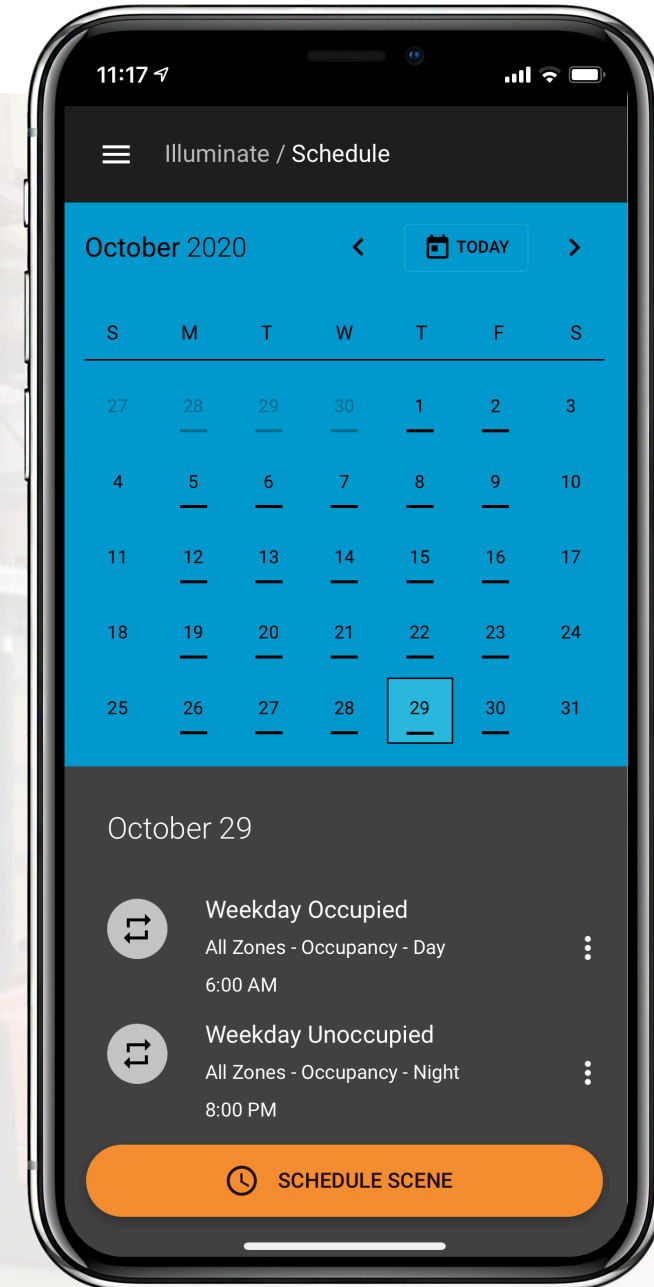
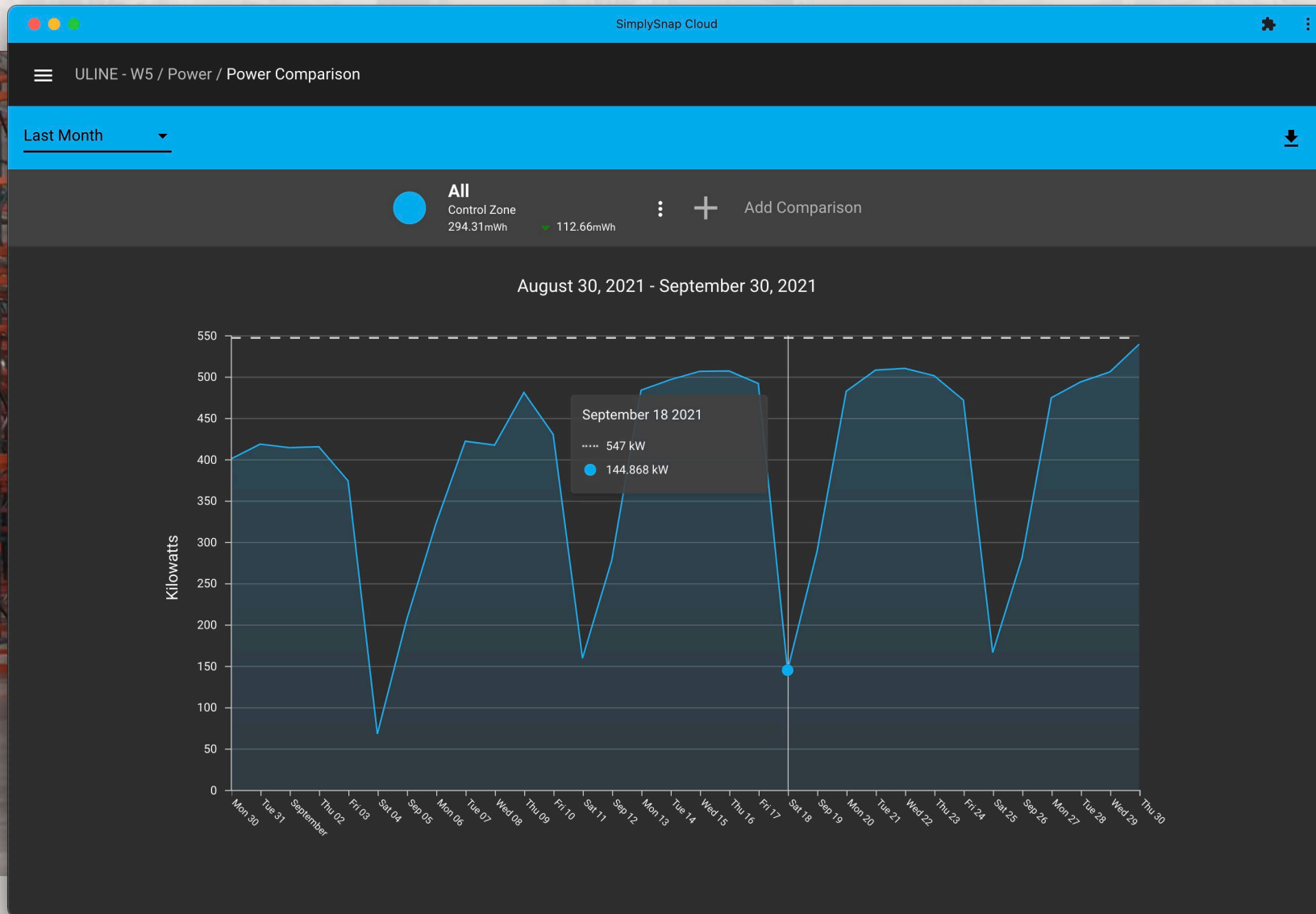
The screenshot displays the NetSense Management interface. The top navigation bar includes 'Dashboard' and 'Map' buttons, along with the date 'Thursday, April 9th 2020' and time '12:01 pm'. A sidebar on the left lists 'SITES' and 'ZONES' such as Aisle 3, Aisle 4, Aisle 5, Aisle 6, Lusso, PG Sconce, Roadways, Vision Center, RPL White, RPL Green, and RPG. The main dashboard features an 'ALERTS' section with 4 ONLINE and 0 OFFLINE alerts, and a 'CRITICAL ALERT' section showing 'None'. Below this, there are sections for 'Total Energy Savings (kWh)' with 197.4 Savings and -56.53 Sensor Savings, and 'Average Actual Daily Energy Usage (kWh)' with 94.75 Actual Usage. A 'Total Energy Usage' bar chart is also visible. At the bottom, there is a map of the United States with state abbreviations, and a list of webctrl devices with their IP addresses and a 'General Notes' section mentioning a 'WebCTRL Patch applied 8/27/20 7:30 AM CST\_E.H'.

# FLEXIBLE ZONING

- ❖ Motion sensor settings managed in the Networked Lighting Control and not on the sensor
- ❖ Flexible dimming and hold times to follow facility schedule
- ❖ Fewer number of sensors needed
- ❖ Up to 60% energy savings
- ❖ DALI-2 Motion with FDP-301
  - ❖ D4i driver, Programmable settings
  - ❖ DALI-2 Sensor Programmable settings



# ENERGY SAVINGS VERIFIED



# D4I ENERGY REPORTING



- ❖ Compare zone power against baseline
- ❖ Generate reports in real-time
- ❖ Use data for rebates and controls optimization

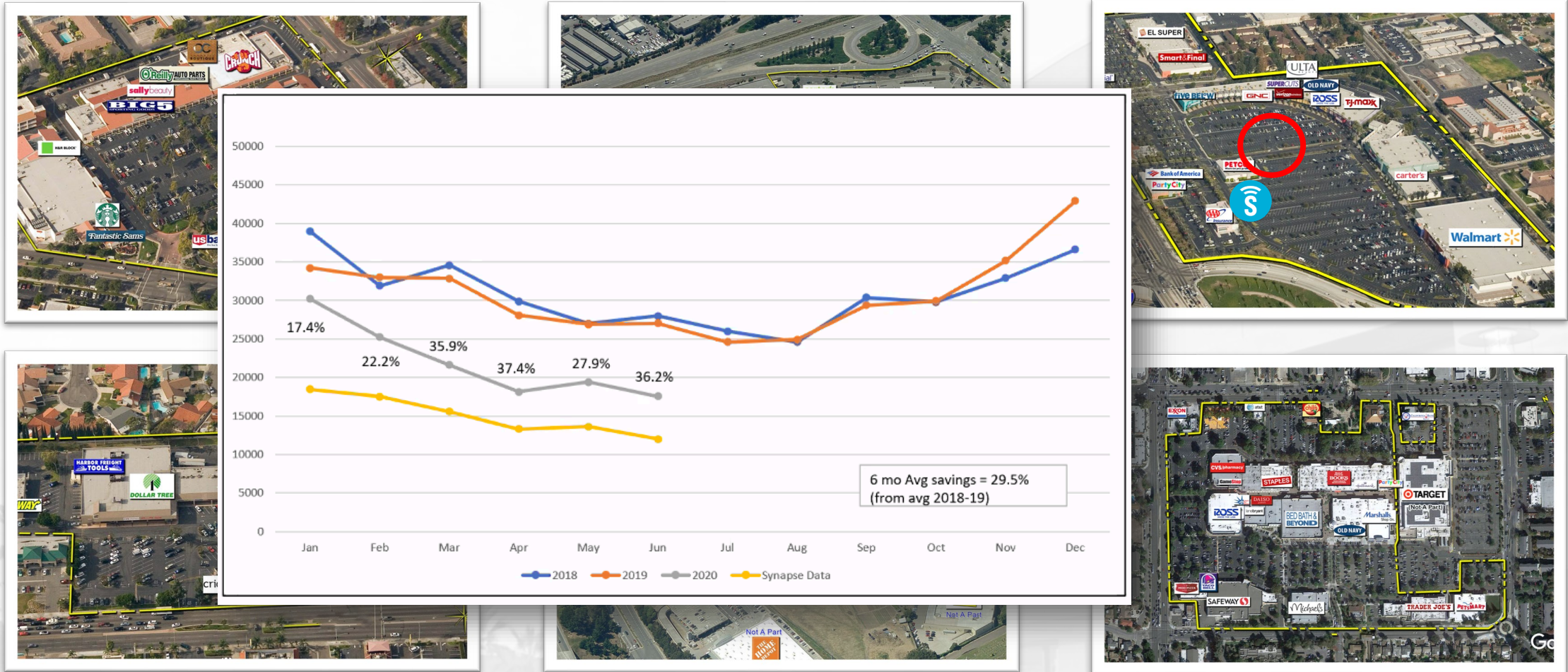
Untitled 9:36 AM Thu Oct 29 62%

Spreadsheets export EDIT

Sheet 1

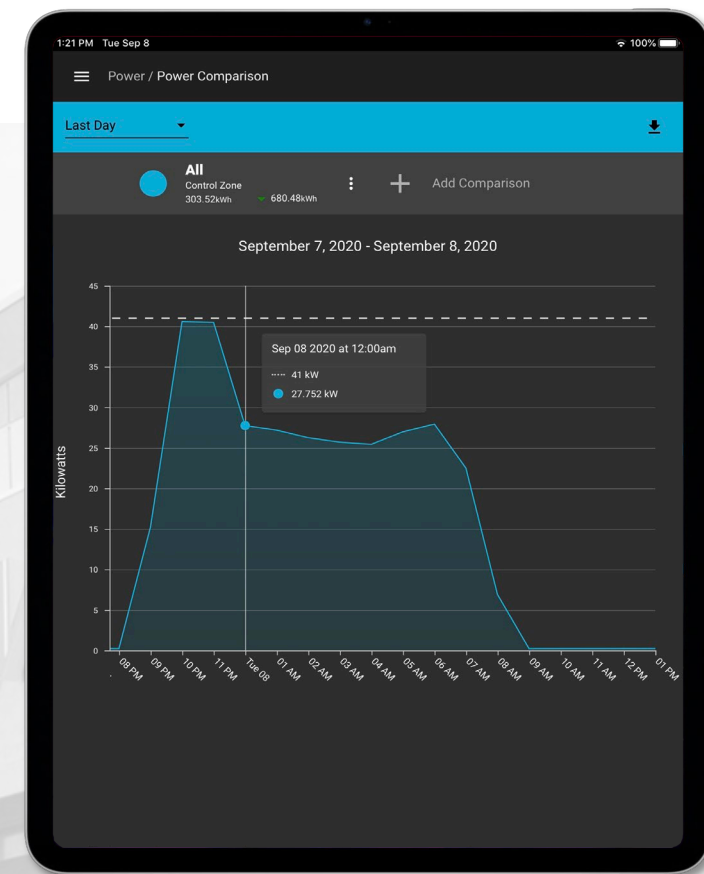
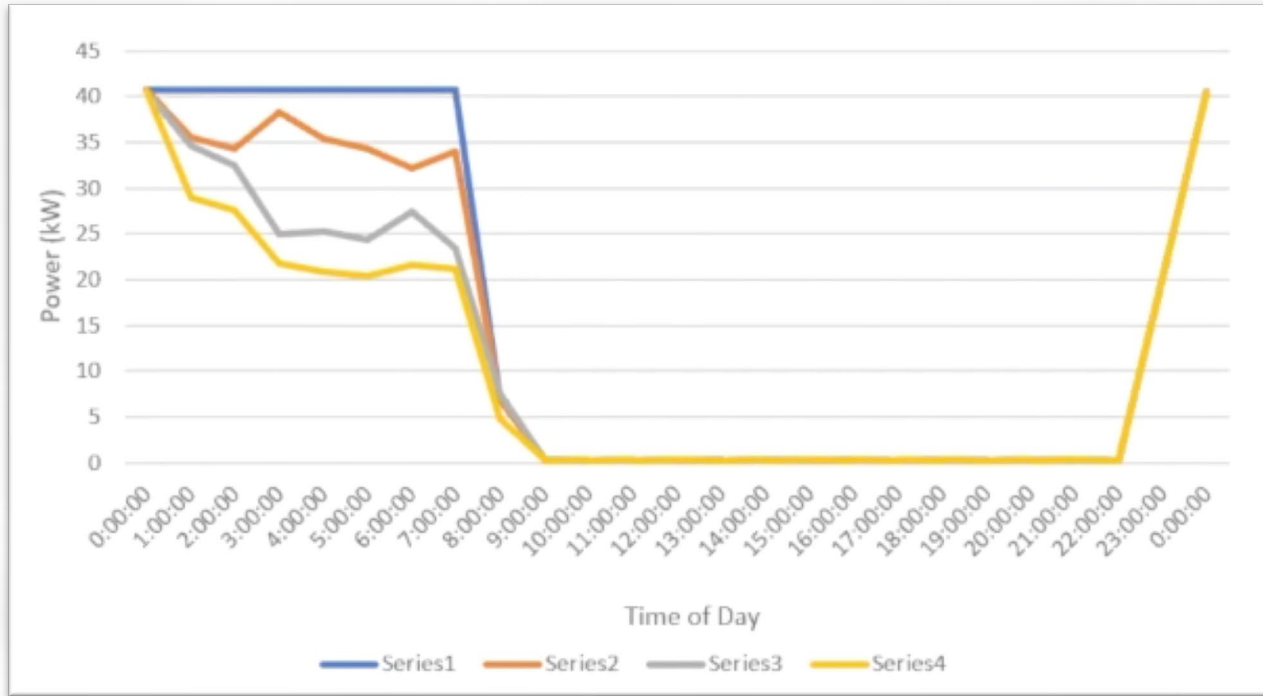
	A	B	C	D	E
	Power Source Name	Power Source Type	Date	Time	Power
1					
2	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	00:00:00	0.003
3	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	01:00:00	0.003
4	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	02:00:00	0.003
5	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	03:00:00	0.003
6	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	04:00:00	0.22175
7	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	05:00:00	0.003
8	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	06:00:00	1.54475
9	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	07:00:00	2.04625
10	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	08:00:00	2.59825
11	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	09:00:00	1.40325
12	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	10:00:00	1.22625
13	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	11:00:00	1.2065
14	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	12:00:00	0.33525
15	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	13:00:00	0.3365
16	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	14:00:00	0.75875
17	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	15:00:00	0.75925
18	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	16:00:00	2.1475
19	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	17:00:00	1.766
20	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	18:00:00	1.539
21	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	19:00:00	1.543
22	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	20:00:00	0.003
23	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	21:00:00	0.003
24	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	22:00:00	0.003
25	Daylight Harvesting	Daylight Harvesting Zone	2020-10-14	23:00:00	0.003
26	Daylight Harvesting	Daylight Harvesting Zone	2020-10-15	00:00:00	0.6705
27	Standard Motion	Control Zone	2020-10-14	00:00:00	0.187
28	Standard Motion	Control Zone	2020-10-14	01:00:00	0.187
29	Standard Motion	Control Zone	2020-10-14	02:00:00	0.187
30	Standard Motion	Control Zone	2020-10-14	03:00:00	0.187
31	Standard Motion	Control Zone	2020-10-14	04:00:00	0.4135
32	Standard Motion	Control Zone	2020-10-14	05:00:00	0.18625
33	Standard Motion	Control Zone	2020-10-14	06:00:00	1.723
34	Standard Motion	Control Zone	2020-10-14	07:00:00	2.191

# ENERGY OPTIMIZATION



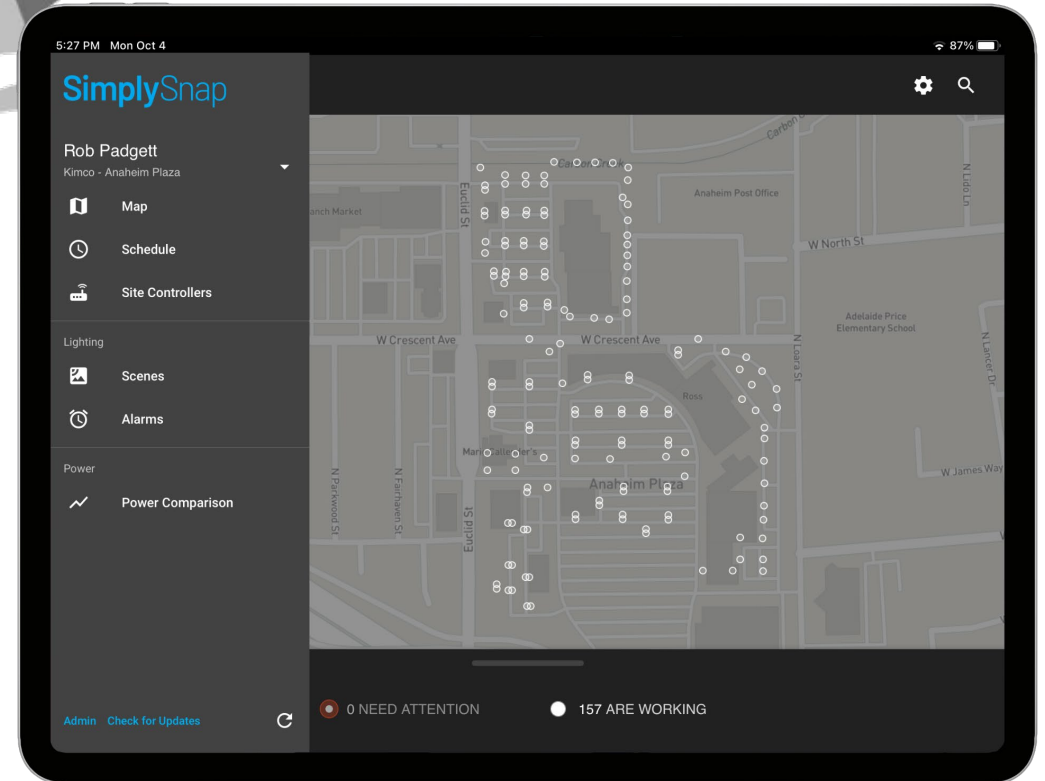
Site A	Site B	Site C	Site D	Site E	Site E
30%	34%	29%	36%	27%	24%

# ENERGY OPTIMIZATION

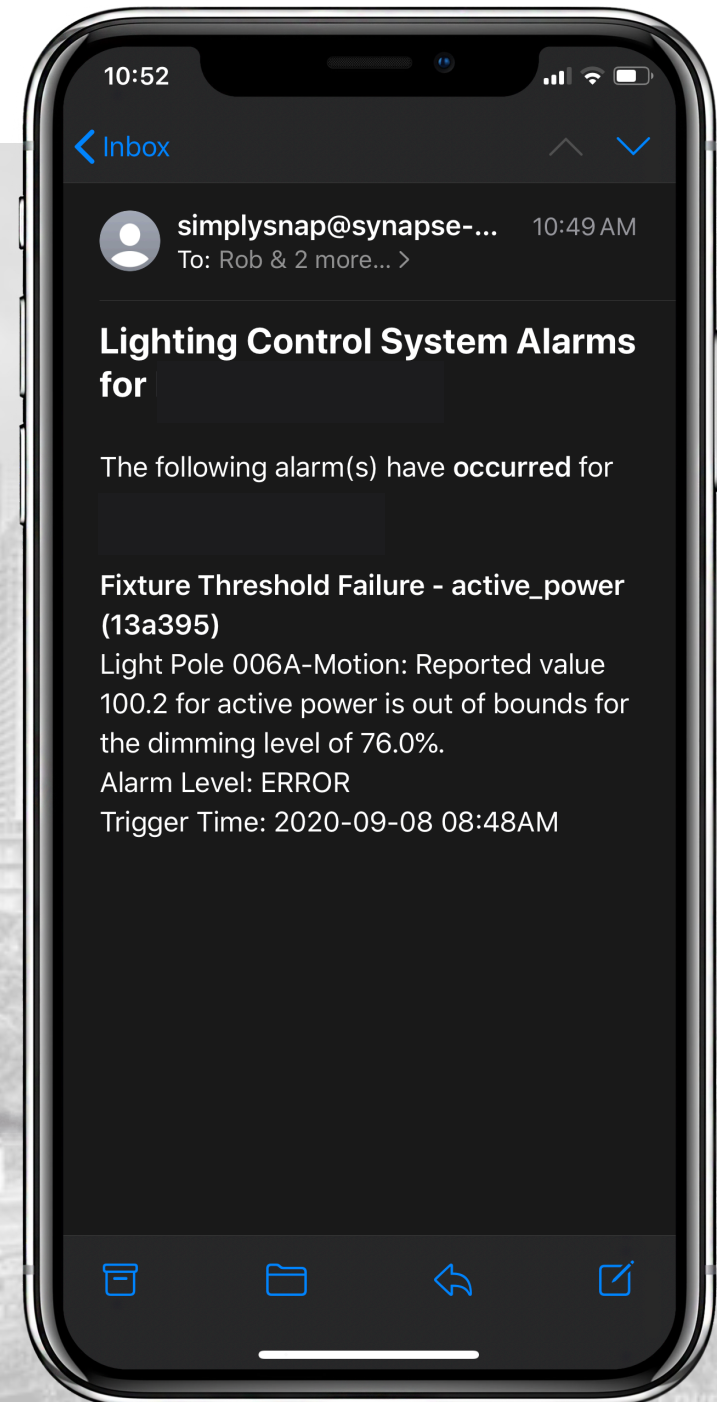
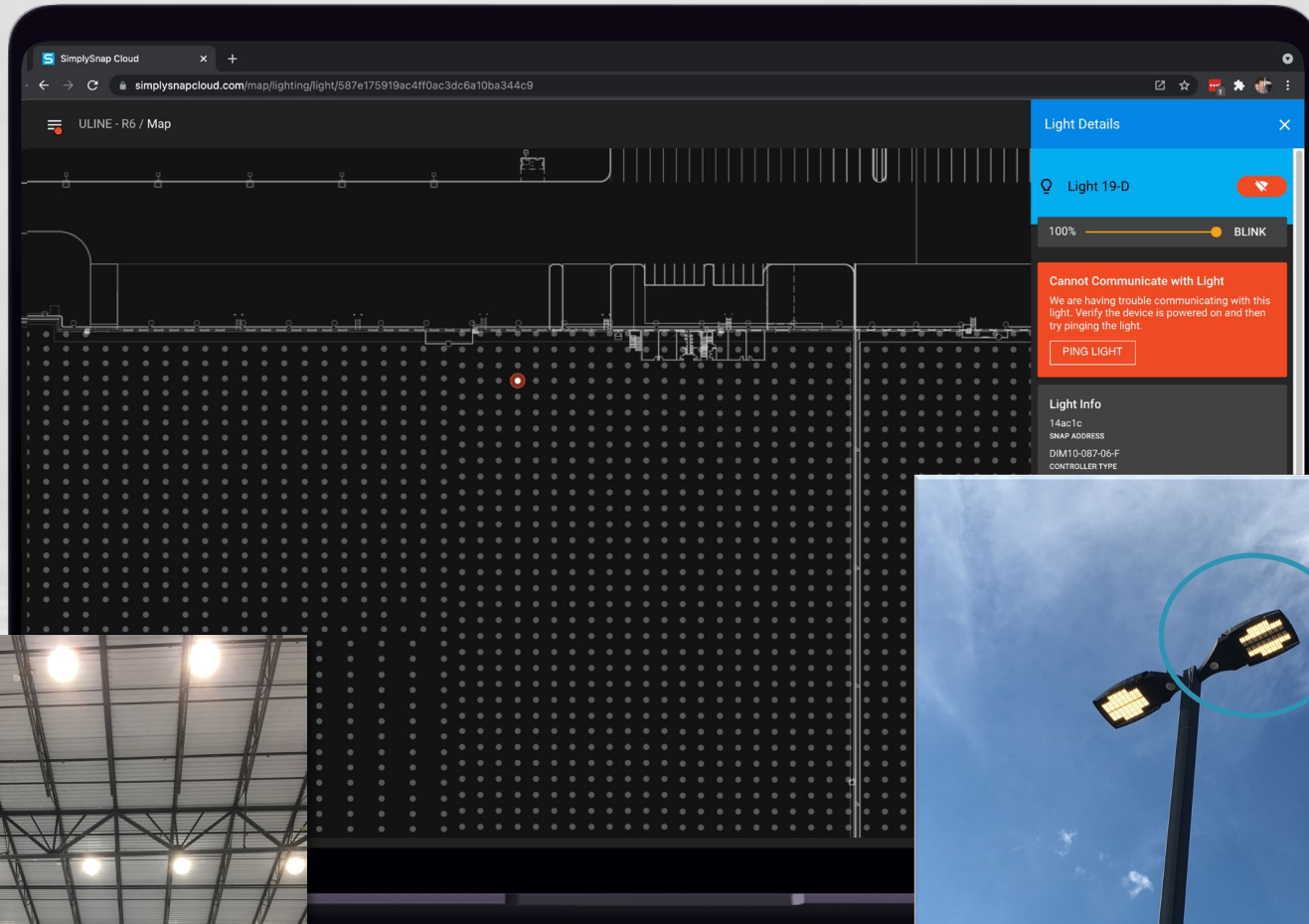


Site A	Usage (kWh)	Usage (kWh)
1. Baseline with No Occupancy Detection	397	0%
2. Initial Synapse Deployment	356	10%
3. Improved Occupancy Detection Zone	305	23%
4. Optimized Setback	273	31%

# MANAGE MULTIPLE LOCATIONS USING DALI-2/D4I LUMINAIRES AND A NETWORKED LIGHTING CONTROL SYSTEM



# PROACTIVE MONITORING

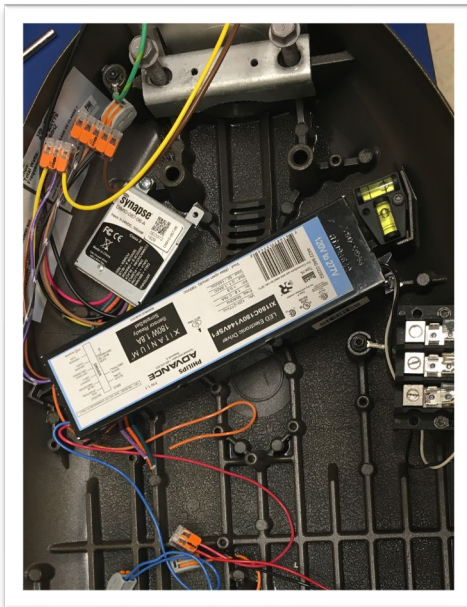




# DALI-2 / D4i Brings **Plug and Play** to the Lighting Market

Mix and Match Luminaires from any OEM with D4i Ready Luminaire.

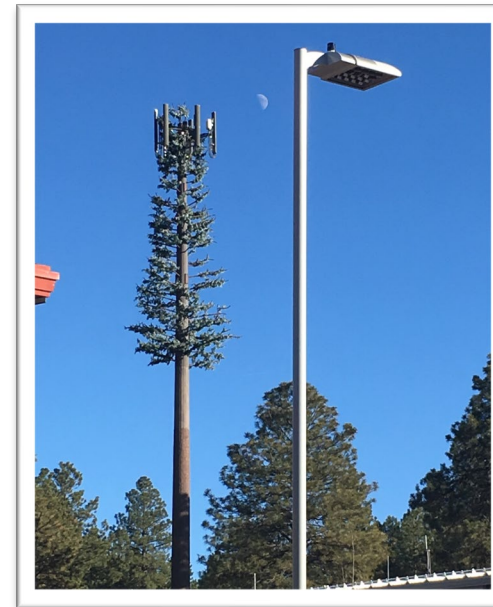
1. Specify DALI-2 / D4i Luminaires
2. Pick Controls: Zigbee – Bluetooth – SNAP – Thread
3. Mix and Match Luminaires for OEMs



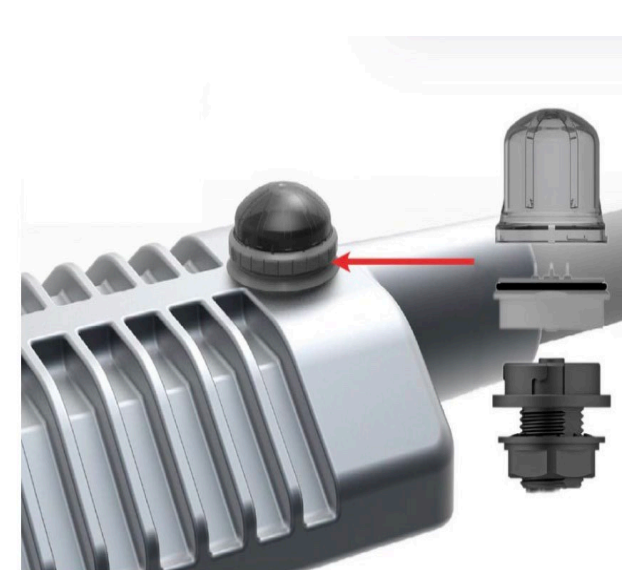
Embedded D4i



Bolt-on 0-10V Retrofit



Twist Lock 0-10V



Zhaga D4i Controller

# Questions?

