# Selling Advanced Controls for Retrofits in Todays Market

## Seizing the Opportunity!

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# Key Learnings

- Understanding the Value of NLC/LLLC (Advanced Controls)
- Embedded Luminaire Level Lighting Controls (LLLC) and their place in the market
- Providing you with “The Value Proposition” information to present LLLC as a retrofit option

My presentation today is going to show you all the value LLLC provides your customer but what I want you to walk away with from today, is how much they will lose without it.

# Changing The Way We Look At Fixtures

# LLLC (Luminaire Level Lighting Controls)

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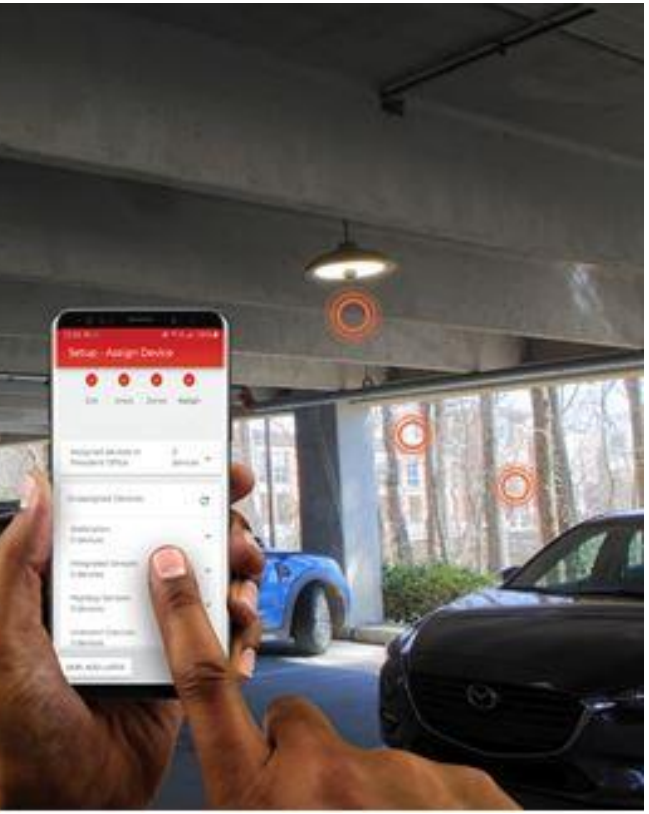
# Market Context: Why LLLC is Vital for Retrofits

# The Growing Demand For LLLC

The Department of Energy estimated the installed base of networked luminaires will grow from less than 1% currently to nearly a third of all lighting in commercial buildings by 2035

# The Growing Demand For LLLC



Previous research finds that including NLC/LLLC when installing LED fixtures can increase the potential energy savings by 50 percent – and nearly 70% in some building types

DOE estimate that up to 88% of all commercial buildings will have LED lighting by 2030. **Future energy savings may be lost without LLLC, missing a huge opportunity**

Without LLLC, these energy savings stay locked up forever (essentially) as it's unlikely the LED fixtures will be replaced and adding LLLC after installation is not always cost effective.

# Customers Need To Know

**Impact on customer decisions for energy-efficient upgrades**

Customers should be considering lighting controls at the time of retrofitting their old fluorescents or first Gen LED's. Retrofitting LLLC after the LED's have been installed is not as cost effective and a harder sell.

**Higher upfront costs vs. long-term value**

Without LLLC the customer is unable to "unlock future controls savings". Missing out on higher energy savings and business benefits.

# Communicating the Value Proposition of LLLC

# Yes, It Saves Energy…….We Expect That

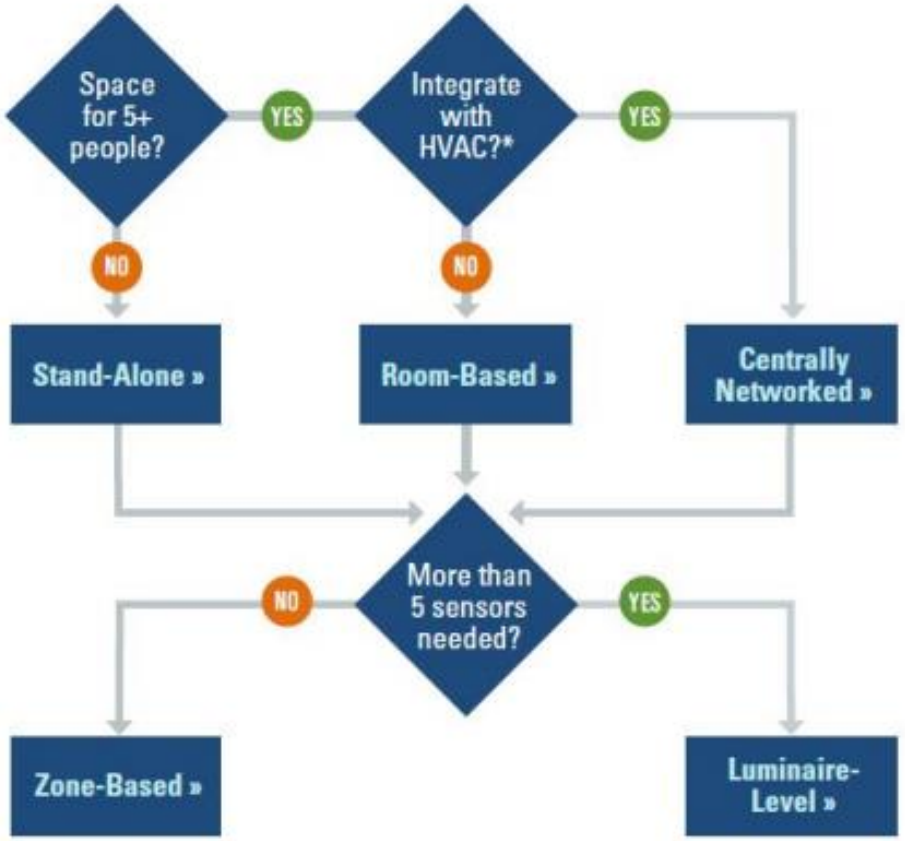
| Individual Savings | | | | Combined Savings | | |
|---|---|---|---|---|---|---|
| LED (ES1) | Tuning (ES2) | Occupancy (ES3) | Daylighting (ES4) | LED + Tuning | LED + Tuning + Occupancy | LED + Tuning + Occupancy + Daylighting |
| 10% | 20% | 24% | 28% | 28% | 45% | 61% |
| 20% | 20% | 24% | 28% | 36% | 51% | 65% |
| 30% | 20% | 24% | 28% | 44% | 57% | 69% |
| 40% | 20% | 24% | 28% | 52% | 64% | 74% |
| 50% | 20% | 24% | 28% | 60% | 70% | 78% |
| 60% | 20% | 24% | 28% | 68% | 76% | 82% |
| 70% | 20% | 24% | 28% | 76% | 82% | 87% |
| 80% | 20% | 24% | 28% | 84% | 88% | 91% |

Source: GSA

Column #1 (LED (ES1) is energy savings from a fluorescent to LED conversion

# GSA LED Lighting And Controls Guidance For Federal Buildings

## Decision Flowchart for Lighting Controls




* Heating, ventilation, and air conditioning (HVAC) integration is recommended for buildings over 50k $ft^2$; consider for buildings over 25k $ft^2$

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# Remember the Capabilities

- Occupancy sensing
- Daylight harvesting
- Continuous dimming
- High-end trim/Task Tuning
- Zoning
- Simplified Path to Energy Code
- Color Tuning
- Scheduling (Time of Day)

# LLLC Benefits for Retrofit Projects

**Ease of Installation and Commissioning**

- Retrofit kits for easy upgrades(Luminaire Level Lighting devices installed at factory)
- Bluetooth and handheld device technologies for simple setup
  - Factory assistance, video’s, YouTube.
  - Factory updates to software at no-charge

**Customer Flexibility and Control**

- Seamless upgrades (e.g., daylight harvesting)(Luminaire Level Lighting, photocells, code compliance if needed)
- Color tuning and control settings such as tuning, scheduling, occ sensor time outs, etc.

# Benefits Beyond Energy Savings

**Today's market challenges:** Inflation, rising costs, and supply chain issues. It now more important than ever to *sell the overall value!*

- With LLLC you add value beyond energy savings
- Lower operational costs through energy savings
- Utility incentives and ROI

***Business Benefits***

*Impact on building value, occupant safety, and comfort*

*Long-term system flexibility and scalability*

*Tailoring benefits to customer-specific needs*

# Pacific Power Incentives For LLLC (ANLC)

# Advanced Networked Lighting Controls (LLLC) Eligibility

| TABLE 1. RETROFIT LIGHTING EFFICIENCY REQUIREMENTS & INCENTIVE LEVELS | | | | |
|---|---|---|---|---|
| **Measure** | **Category** | **Eligibility Requirements** | | **Customer Incentive** |
| **Lighting System Retrofits** | Interior Lighting | Full Fixture Replacement | With upgrade to Advanced Controls | $0.46/kWh |
| | | | With upgrade to Basic Controls | $0.38/kWh |
| | | | Without controls upgrade | $0.35/kWh |
| | | Fixture Retrofit Kits | With controls upgrade to Basic or Advanced Networked Lighting Controls | $0.35/kWh |
| | | | Without controls upgrade | $0.28/kWh |
| | | Lamp Replacement | TLED Lamp | $0.10/kWh |
| | | | Other Lamp-only Replacements | See Table 2 |
| | | Controls-only Retrofit | Controls-only upgrade to Advanced Networked Lighting Controls | $0.46/kWh |
| | | | Controls-only upgrade to Basic Controls | $0.35/kWh |
| | Exterior Lighting | Full Fixture Replacement (except Street Lighting) | With upgrade to Advanced Dimming Controls | $0.22/kWh |
| | | | Without Controls | $0.12/kWh |
| | | Fixture Retrofit Kits (except Street Lighting) | With upgrade to Advanced Dimming Controls | $0.14/kWh |
| | | | Without Controls | $0.11/kWh |
| | | Lamp Replacement (except Street Lighting) | Lamp-only Replacements | See Table 2 |
| | | Street Lighting | With upgrade to Advanced Dimming Controls | $0.12/kWh |
| | | | Without controls upgrade | $0.09/kWh |
| | | Controls-only Retrofit | Controls-only upgrade to Advanced Dimming Controls | $0.14/kWh |

# Benefits to Installers and End Users

# Industry Voices: Ryan Herron

**What is a key benefit of LLLC that helps inform your customers?**
The futureproofing element with customers because it's important to have a long-lasting lighting source (LEDs) paired with flexible controls that allow customers to make adjustments easily over the lifetime of the system.

**What are your customers looking for when upgrading their lighting system?**
Customers first think about cost, which may result in a more basic lighting solution. This is why utility rebates are such an important tool for removing barriers when considering an LLLC system.


Traditional Sensor Placement

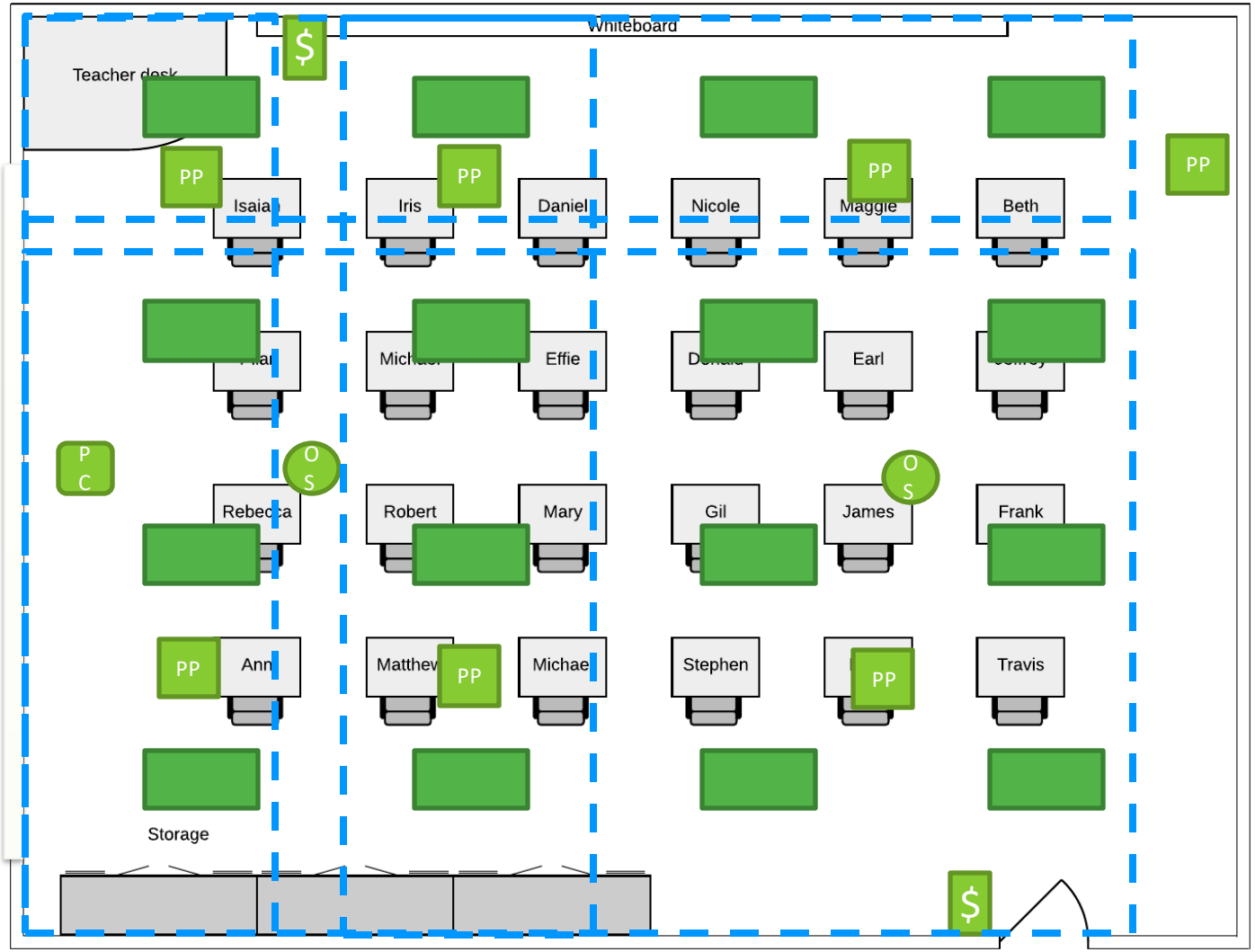

Fixtures with Embedded Controls

# Traditional Lighting Control System

- Switches on the wall
  - On/Off at entrance and scene selector at teacher station
- Occupancy sensors
- Photocell
- Power packs (relays) for each zone of lighting and plug load

- (16) fixtures to install
- (12) control devices to install
- (6) pairs of 0-10V wires to install
- CAT5 cabling between devices

Source: Acuity



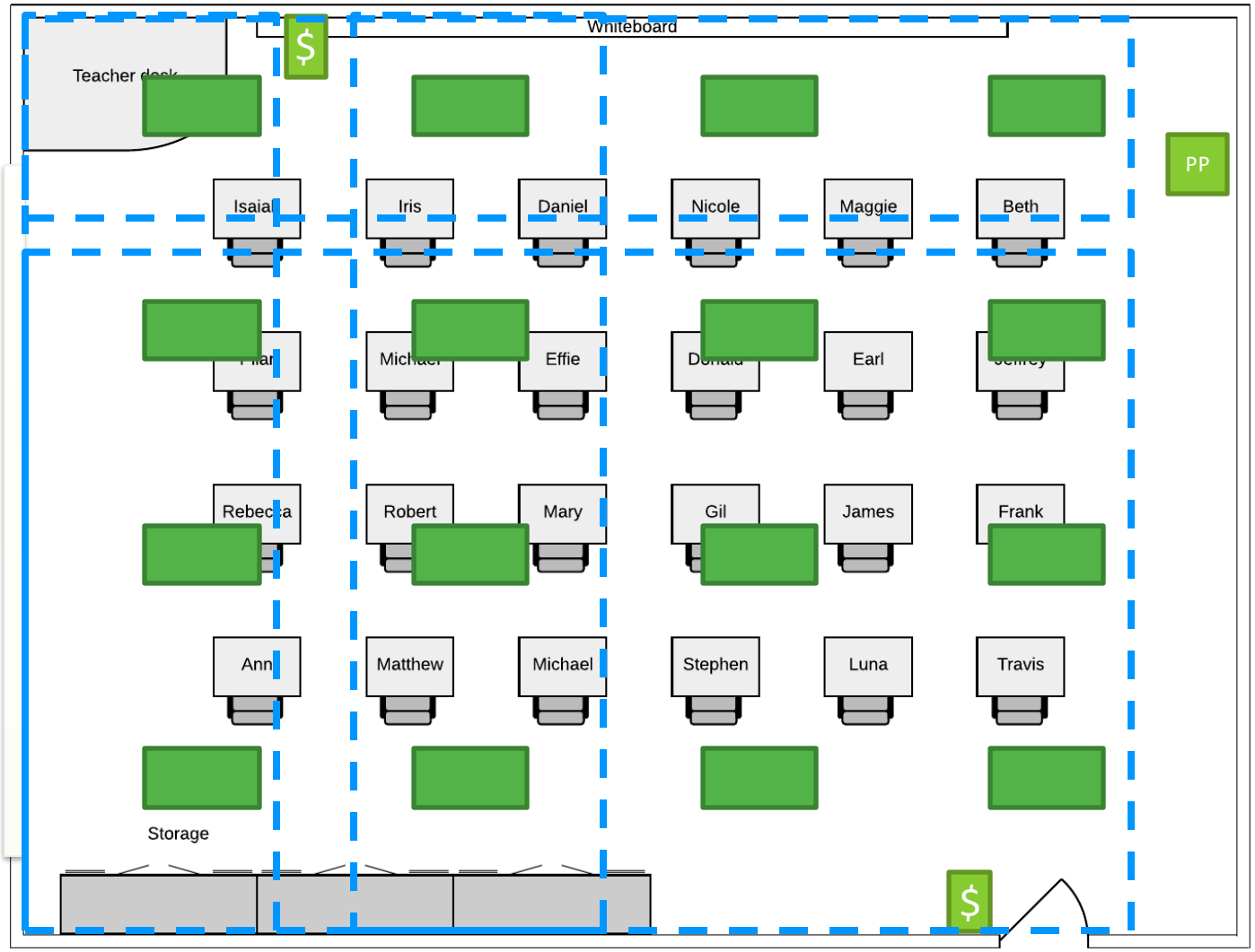
# Embedded Lighting Controls

- Switches on the wall
  - On/Off at entrance and scene selector at teacher station
- No occupancy sensors required
- No photocell required
- (1) Plug Load power pack required. All other zoning created through programming

- (16) LLLC fixtures to install (wireless )
- (2) control devices to install
- Zero (0) pairs of 0-10V wires to install
- Line voltage for power (doesn't need to be designated)

Code Compliance through configuration!

Source: Acuity



# Installation Advantages

- Sensors Installed at Factory
- Any Power Connection
- Relieved Wiring Frustration
- Faster Project Completion
- Simple Configuration
- Future Expandability
- Reconfigurable
- Less wiring

# Lowering Project Costs with Advanced Controls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# Selling Advanced Control Projects

Use the resources available to you to promote the benefits of LLLC:

- Case studies, DOE, ILC, BetterBricks, Pacific Power Incentives
- Manufactures available to assist you
- Ask for help from your Pacific Power team
- Install samples in customers building (low cost to do)
- Order fixtures with sensors already installed
- Always give your customer options for comparisons
- Show project with and without LLLC Incentives

# LLLC Owner/Occupant Advantages

## Business Benefits

- Asset Tracking
- Space Utilization
- Indoor Positioning/Wayfinding
- Room Scheduling
- Remote Diagnostics
- External Systems Integration
- Security
- Flexibility to make changes!


# BetterBricks Industry Voices

Novanta | Mukilteo, WA

# Selling LLLC for Long Term Success

# Strategies For Each Project

**Occupant Sensing**
- Lights turn off after 10 minutes of non-occupancy
- Configure occupancy sensors to manual "ON" mode

**Daylighting**
- Identify daylit areas within the building
- Fine-tune light levels to optimize daylight integration

**Task Tuning**
- Adjust light levels based on the specific task in each space (per IES recommendations)
- Implement scheduling for different areas:
    - Time of day
    - Day of the week
    - Monthly adjustments

**High-End Trim**
- Set light output to 80% (minimum 90% where applicable)

# Remember the Benefits

- Increased Energy savings: up to 50% more than just a LED retrofit
- Flexibility: make changes after the install
- Business benefits: (Light levels, dimming, color tuning, future changes, better environment for occupants)
- Higher Incentives: Local incentives for LLLC are up to $0.46 kWh saved- plus don’t forget Vendor Incentive!
- Better long-term ROI!

*Better value for your customer, they receive so much more for incremental added cost*

# Final Thoughts

- Consider enrolling in NXT-Level training: https://nxtleveltraining.com/
- BetterBricks has LLLC resources: https://betterbricks.com/solutions/luminaire-level-lighting-controls
- Lighting Controls Association: www.lightingcontrollsassociation.org
- ***Lastly, just talk to your customer about LLLC…..***

# Questions

# Thank you!

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