# A NEW WAVE OF LIGHT

## IntelliMax®

2018

1993

### MaxLite

## **QUESTIONS DURING THE WEBINAR**

#### **QUESTIONS/ANSWERS**

Please feel free to type your questions into the chat box at any time during the webinar. If we aren't able to answer them immediately we will be sure to get the answer to you shortly after the webinar concludes.

FOR MORE INFORMATION ABOUT OTHER MAXLITE PRODUCTS, OR FOR LIGHTING QUESTIONS IN GENERAL; PLEASE CONTACT:

info@maxlite.com http://www.maxlite.com 1-800-555-5629





## MaxLite

## **INTELLIMAX WEBINAR AGENDA**

#### **Learning Objectives:**

- Market Drivers
- IntelliMAX Overview
- Applications
- Marketing Tools





## Why Lighting Controls?

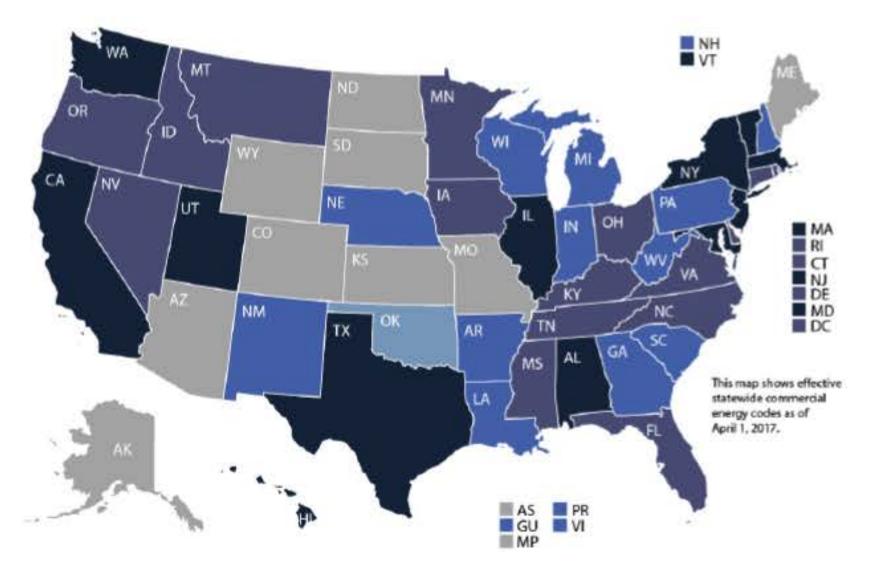
## **Code Compliance**

## **Utility Rebates/Incentives**

## **High Performance Buildings**

**Energy Savings** 

## Lighting Controls are mandated by Energy Codes

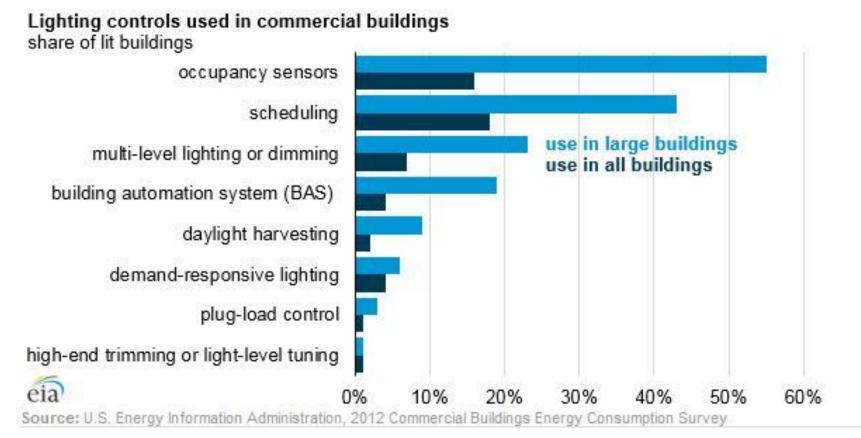


Highest ASHRAE/IECC Standards

Lowest ASHRAE/IECC Standards



## Lighting Accounts for 38% of Commercial Electricity Consumption & Controls can save up to 60% energy





## Two thirds of US buildings have no Lighting Controls

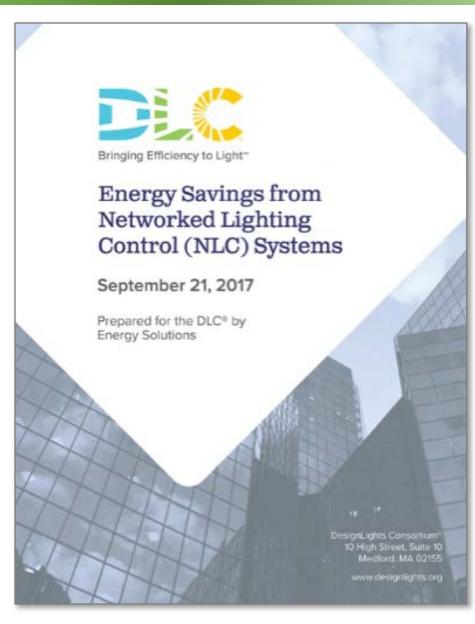
**Table 3**. US installed stock penetration of lighting controls, 2015 (DOE 2016).

INSTALLED STOCK PENETRATION (%)	COMMERCIAL
None	68%
Dimmer	3%
Daylighting	< 1%
Occupancy Sensor	6%
Timer	4%
Energy Management Systems	15%
Multiple Strategies	4%
Connected	< 1%



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### **Utility Rebates/Incentives**

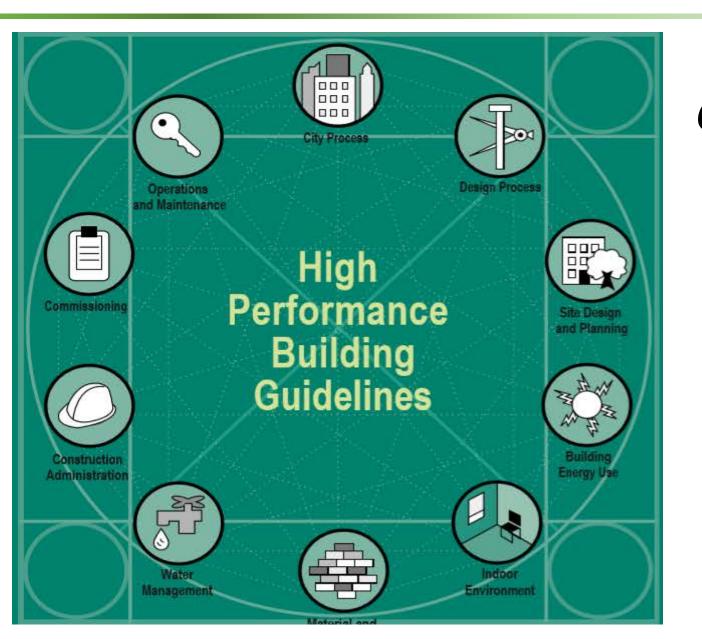


- Few programs nationwide and growing
- Rebates can absorb as much as 70% of the Lighting Control cost
- Payback improvement by 20-25%





#### **Go Green or Go Home!**



"World Energy Consumption is projected to increase by 44% from 2006 to 2030"

Source: US Department of Energy

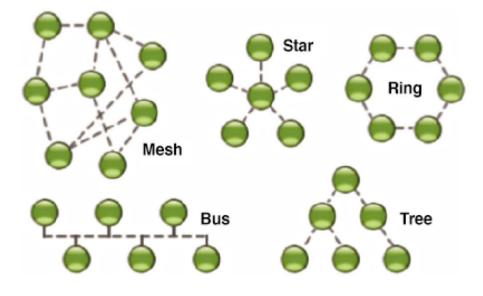


#### What is IntelliMax?

## Wireless Networked Lighting Control System

#### Zigbee... a mesh Network Protocol

- Reliable...more than 2,200 products certified, over 150 manufacturers and nearly 30% of smart lighting use cases
- Robust...network still work even if one of the devices fail





ZigBee

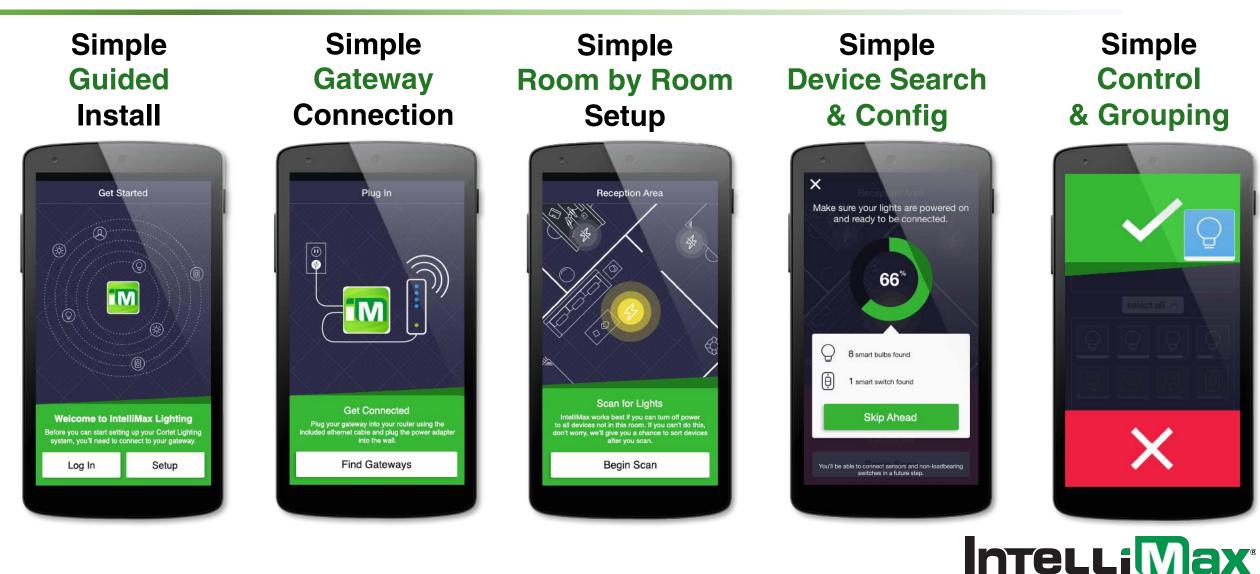
#### IntelliMax... Simplicity

- Meet Energy Codes & Save Most Energy Out-of-the-Box
- Installation flexibility
- Hardware...less is more!
- Factory Support for Project Planning &

Commissioning



### **Easy & Guided Setup**



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**BYMaxLite** 

#### IntelliMax... Performance & Reliability

- Proven & Robust Wireless Technology
- Full Scale Testing & Certification
- Secure

Fast

## Rigorous, 24/7/365 testing to ensure ongoing performance



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### IntelliMax Security – 4 Levels

#### **Physical Security**

- IntelliMax Gateway is installed in protected and private location
- Gateway access requires physical access to commissioning button on the device



New security threats are detected and overcome with Over-the-Air firmware updates to installed devices

#### **Device Security**

- Features Zigbee AES 128-bit encryption
- Gateway is not Linux based, making unfamiliar to others

#### **Network Security**

- Secure HTTPS TLS protocols and standard WiFi Network Security
- Operates on Zigbee HA1.2-Joining is an "open join" process only during commissioning

#### **Over the Air Security and Updates**

• Operates on Transport Layer Security (TLS)



#### **CEL/Cortet** Partner

## Maxlite is partnered with CEL which provides:

- Firmware for all IntelliMax components
- App design for both iOS and Android devices
- Long and short term strategy planning for features and improvements to the system
- Layout support (initially)
- Design assistance and product integration with 3<sup>rd</sup> party vendors and CMs





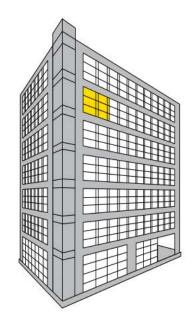
#### IntelliMax... Options & Scalability

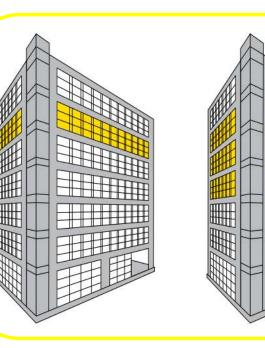
- Application-based Project Design
- Flexible
- Choice

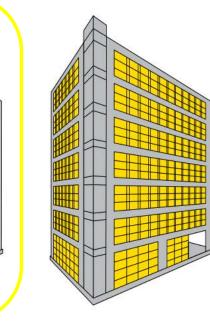


#### Where does IntelliMax fit?

#### Designed and Ideal for Small to Medium Scale Commercial Spaces.







#### Single-space Solution

Combine wireless occupancy sensors, daylight sensors, and dimming controls for a simple lighting system that saves energy ad improves productivity

#### **Small Area Solution**

Combine IntelliMax devices with light to build wireless mini-systems that improve the usability of a multi-purpose space and save more energy

#### Multiple Room/Entire Floor Solutions

Expand the IntelliMax System with multiple Gateways and other devices for significant yearly savings from reduced energy costs, increased luminaire life, and lower maintenance costs

#### **Entire Building/Campus Solution**

Manage, monitor, and report on all lighting energy usage in a building for optimal energy performance



#### IntelliMax equipment at a glance...



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### IntelliMax Mini Hub

- "Brain" of IntelliMax Network
- Zigbee + Ethernet
- Stores Up to 120 IntelliMax Devices
- Over-the-air software updates



p/n: IM-HUB



### IntelliMax Node

- On/Off/0-10V Dim
- 120-277V Universal Input
- <sup>1</sup>/<sub>2</sub>" K.O. for J-box or in-fixture mount



### **IntelliMax Switches & Dimmers**

- Provide Manual Override
- Designed and Manufactured by Leviton
- Replace Standard line voltage Switches
- 3-way and multi-way applications without wiring





## IntelliMax Occupancy Sensors

- Turn lights on/off automatically based on Motion Detection
- Battery-powered, 7-10yrs life
- PIR Sensing Technology
- Ceiling mount 360° field of view
- 450 & 1,500sqft coverage area models





## IntelliMax Daylight Harvesting

- Softly adjust electrical light level based on natural light contribution
- Battery-powered, 7-10yrs life
- Closed-loop Technology
- Easy mounting on Ceiling, Wall or Desktop





### IntelliMax App

- Provide intuitive devices/network configuration
- Mobile App supported for IOS and Android
- Up to 4 Daily Schedules
- Integrate and Control up to 6 Mini Hubs





#### **Role of Devices**

**Relay Node**: need one per fixture, or can group multiple fixtures

Mini Hub: need one per installation

**Switch**: need one per zone that you want to manually control

**Sensors**: need one per zone that needs occupancy/daylight

App: needed to install system

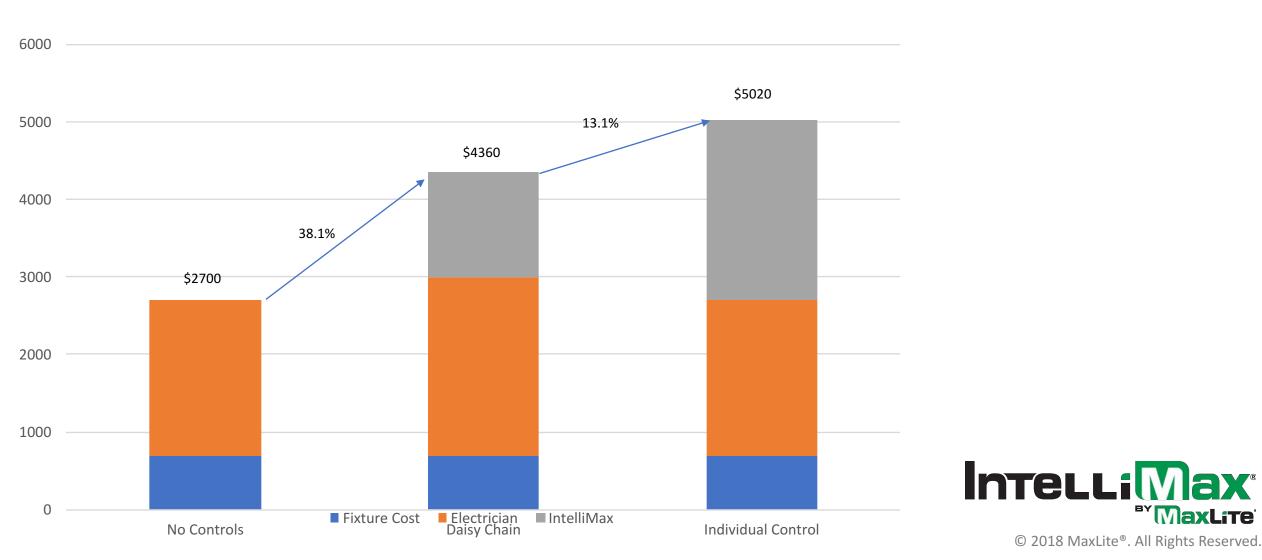
**WiFi Router**: needed to allow mobile App to talk to system





### IntelliMax Cost Analysis





### IntelliMax Compatible

#### Which products are compatible with IntelliMax?

Wherever you see this logo (product webpages, brochures, data sheets, etc..)
 you'll immediately know the product will work with the IntelliMax
 Wireless Lighting Control System.





#### IntelliMax Design Guide

#### DESIGN GUIDE FOR COMMERCIAL SPACES ASHRAE 90.1 (2016)

#### CONTENTS

ENERGY CODES AND STANDARDS PATHWAYS TO CODE COMPLIANCE ENERGY SAVINGS JTILITY REBATES CONFERENCE ROOM OPEN OFFICE PRIVATE OFFICE NTELLIMAX FAMILY Lighting control design specification is driven by commercial energy codes. Every three years, the ASHRAE Sol energy code is updated, and those changes become the new minimum compliance for design. IntelliMax is the simple way to meet current building code and save energy using lighting controls such as occupancy sensing, dimming and daylight harvesting.

Intelli Max<sup>®</sup>

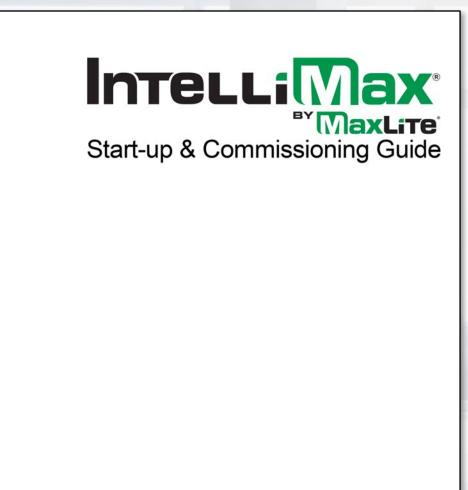
> The IntelliMax Design Guide provides tools and design recommendations for compliance with ASHRAE 90.1 in common commercial spaces. Considerations for advanced lighting control design are also provided. MaxLite offers education and support to simplify code compliant lighting solutions. To learn more, go to maxLites.com/intellimax.

IntelliMax Design Guide For Commercial Spaces

 The IntelliMax Design Guide provides tools and design recommendations for compliance with ASHRAE 90.1 in common commercial spaces. Considerations for advanced lighting control design are also provided. MaxLite offers education and support to simplify code compliant lighting solutions.



#### IntelliMax Start-up & Commissioning Guide



#### IntelliMax Start-up & Commissioning Guide

 This guide is meant to serve as a comprehensive reference for start-up, programming, and commissioning the IntelliMax E100 Gateway.



#### IntelliMax Microsite



#### Simple to Setup

- Wireless for easy installation
- · Luminaire integrated controls
- Fast, easy setup and commissioning using IntelliMax software

#### Supported by MaxLite

- Complimentary lighting layouts and commissioning
- Lifetime technical support
- Warranty assurance

#### Easy to Commission and Use

- Scalable from single-rooms to full-building lighting installations
- Operate independently, or connect to the cloud for robust data collection and reporting
- ZigBee<sup>®</sup> protocol enables expansion with IntelliMax certified components from other manufacturers
- Low-latency response time



#### IntelliMax Microsite

 Visit <u>http://www.maxlite.com/intellimax</u> for our dedicated website on IntelliMax. Get easy access to commissioning guide, brochure, specs and other resources.



## **MAXLITE UNIVERSITY**

The MaxLite University Lighting Degree program offers three comprehensive courses in lighting fundamentals, ranging from beginner to advanced learning. It's free and eligible for the following continuing education units from the American Lighting Association:

- Lighting Fundamentals ALA: 4 CLC Credit Hours
- Lighting Fundamentals (Intermediate) ALA: 2 CLC Credit Hours
- Lighting Fundamentals (Advanced) ALA: 3 CLC Credit Hours

UNIVERSIT





The department function is to train and provide product training material for all MaxLite representatives, customers and employees. The goal of the department is to educate the staff and rep network to a full and complete understanding of our products, technologies, marketplace, and business environments. We endeavor to educate how and why lighting functions, repair and replacement, as well as compare to competitors or listing requirements. We will accomplish this by providing the tools and services proactively and as needed to supplement.

#### **MAXLITE WEBINARS:**

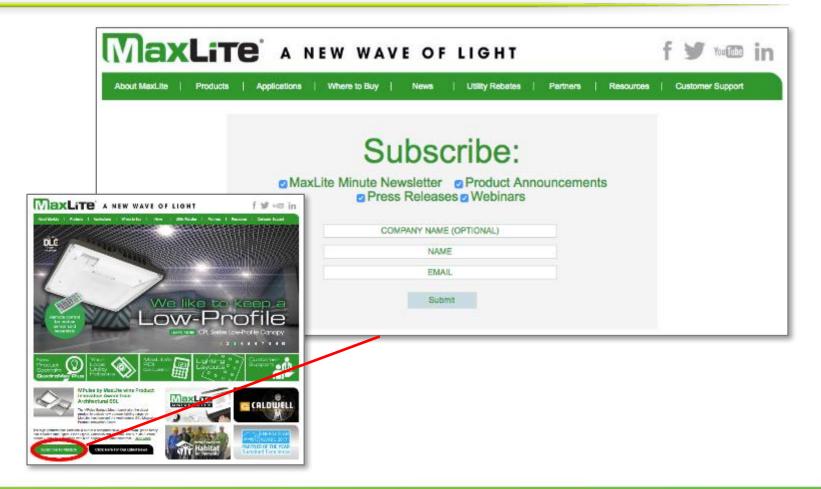


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#### **MAXLITE WEBINARS:**



## **THANKS FOR ATTENDING!**

**QUESTIONS/ANSWERS** 

Thank you everyone for your attention! Please feel free to use this opportunity to ask any questions you may have about MaxLite or the products shown in this presentation.

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