



New Technology in an old Culture

At 200 Lumens/Watt

What Would Edison Do?

My Agenda

Can't we all just get along?

- My background
 - Definitions
- Selling and buying LED is different than the past
 - Review Traditional channels v New Approaches
 - Cultural Chasm
- Old relationships are being challenged and changed
 - Buying relationships
 - LED challenges and strengths
- The field is crowded, but not for long
 - Future trends for LED
 - Advice



Background and definitions

Who am I?

Definitions

- LED guy
 - Solid state, semi-conductor
 - EE mindset
 - Componentry model/OEM focused
- Lighting guy
 - Finished goods model/contractor focused
 - Mechanical mindset
- Overage is the litmus test



The Traditional Lighting Market

- 12 distinct vertical markets within 'commercial lighting'
- Each with unique buying influences
- Examples:
 - Retail
 - New construction
 - Utility
 - MRO
 - OEM
- Sales channels, typically unique to each market
- Product features, often unique to markets



Cultural chasm

- Speed.

- Ltg Guys poster child is Edison: 100+ years of the same product
- LED Guys poster child is Dell: faster better cheaper

- IP.

- Ltg guys 'like patents'
- LED guys use patents as swords

- Manufacturing.

- Ltg guys make millions of SKU's with long runs of 1-5,000 pieces
- LED guys make millions of the same SKU's with 'lights out' processes



Cultural chasm

- Customers.
 - Ltg guys assume the end customer is an electrician
 - LED guys see the customer as a componentry distributor
- Lighting.
 - Ltg guys see the applied effects and affects of lighting
 - LED guys see brightness and lumens/watt
- Price.
 - Ltg guys view prices as ever increasing
 - LED guys view prices as ever decreasing



Buying influences of outdoor lighting

Customer influences

- Utilities
 - Marketing departments
 - Standards organization
 - Regulatory bodies
- Munis
 - Political influences
 - Tax oversight
- Consulting engineers
- DOT's
- Developers



Selling influences of outdoor lighting

Reps

- C&I reps
- Power/energy reps
- Direct manufacturer reps

Distributors

Emerging companies

- ESCO's
- Energy consultants



Reps SWOT analysis

- C&I Lighting reps

- Strengths: specification relationship, technical expertise
- Weaknesses: \$\$\$\$\$, and independence

- Energy reps

- Strengths: Customer relationships, technical expertise in T&D
- Weaknesses: lighting expertise, 'blanket focused'



Reps SWOT analysis

Factory direct reps

- Strengths: product knowledge
- Weaknesses: limitation to one manufacturer solution

•Emerging companies

- Strengths: varies broadly, but financial expertise is strong
- Weaknesses: understanding the customer needs and applied environment



LED and Outdoor lighting... Are we there yet?

Challenges for LED

- L/W aren't favorable vs HID currently
- ROI is questionable
 - Utility leasing, the power number isn't the major component of lease
- Reliability is confusing
 - 50,000 hrs? 100,000 hrs? who's counting?
 - Componentry life span vs LED life span
- Maintenance life cycle
 - Does dirt depreciation get factored into the ROI?
- Warranties
 - 5 year warranty from a 2-yr old company
 - What's covered, what about IP liability?



LED outdoor lighting... just a little bit farther

LED advantages

- Optical control is more precise
- Hemispheric optics render L/W moot
- Design form factor flexibility:
 - Product weight
 - EPA values
 - “Reflector” size
 - Wire sizes
 - Pole sizes, vibration issues
 - Design materials
- Controls interface... the future belongs to controls



Who's going to sell LED

Sales channels are fragmenting

- Distributors => appliances, CEDIA, alternative energies, LED
- Specifiers, who 'owns' the relationship?
 - Lighting reps?
 - End-users?
 - Manufacturers?
 - Consultants?
- Contractors
 - Training requirements
 - DC Vs AC?
 - Warranty
 - Unions, low voltage CEDIA vs NECA



Sales influences of LED

Flow of information

- Top down model has moved to end-user influenced
- Direct manufacturer/end-user is increasing

Money

- Rush to soak up TARP funds
- Private equity firms are investing heavily in LED companies
- LED companies are hiring end-user focused sales talent

Sales model is changing from 'spec and overage' to direct and ROI



Sales solutions of the future

- Multiple layers of 'reps' in the same geography
- More 'house accounts' for manufacturers with direct sales rep
- New alliances:
 - Cree and Philips
 - Molex and Bridgelux
 - LED companies with national distributors
- New channel strategies
 - WalMart signs a deal with an electronics company to relight their stores
 - Orion licenses dealers to act as sales and installers
 - Cree sells to an OEM and sells against them at the same time
 - LED 'distributors' functioning as reps, brokers, esco's
 - LED module mfrs are creating retrofit 'kits' for their OEM partners' products



New influences on LED

- Global electronics firms entering the US (Sharp, Toshiba, Mitsubishi, etc)
- IP 'trolls', including current major companies will use patent rights as competitive weapons
- Incentives:
 - PACE, bay area, requires a plan for decreased connected load prior to offering incentives to install alternative energy power supply systems
 - Demand side penalties are growing, including greater than \$1/KWH for peak demand consumption



Future is bright

Probably as bright as 250L/W

- Channel strategies will be reshuffled and flattened
 - The days of multiple layers of margin gain will end
 - Bidding and closing business will become far more ROI based
 - Sales people will become more fluent in the financial merits of LED
- New competitors will emerge to promote energy efficient lighting
- The number of LED manufacturers will decline from >400+ to less 100
- The survivors will enjoy a run of at least 5 years of very profitable growth



Advice for the next two years

LED guys

- Learn the current channel, even if you don't use it
- Pick a channel strategy and develop it
- Identify your customer BEFORE you develop the product
- Attract talent who holds the relationships with the channel customers you want to sell to. But understand the questions you have to ask to select that talent.
- Don't poke fun at the Ltg guys



Advice for the lighting guys

Lighting guys

- Embrace it. It's here.
- Figure out the problems and fix them: heat, optics, power supplies, etc
- Fix your channel
 - It's anachronistic
 - It's inefficient
 - It's abdicating control and ultimately responsibility for your company
- Change your business model
 - Warranties, Processes, channel partners
 - Learn to sell 'lighting'
- Attract LED talent to teach you the business



Change is good

“LED is the most disruptive technology to affect the lighting industry since Edison”

A White Paper examining the impacts of LED technology. Ted Konnerth, PhD 5/09

“If you’re not changing faster than the world around you, you’re backing up”

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