

# Arbor Capital Markets

## M & A Market Update

November 2017

### Arbor Capital Markets Focus on the LED Lighting Industry



Arbor Capital Markets is pleased to announce that LED-industry expert Keith T.S. Ward has joined ACM as an Industry Affiliate. Keith brings nearly 40 years of industry experience and leadership in the lighting and LED industry where he has served as a CEO and advised numerous companies on acquisitions and product development. Keith strengthens ACM's presence and expertise in this transformative industry as he joins John Palffy who served as a founding investor and Board Member of Relume, a pioneer in the industry (since sold to Revolution Lighting Technologies.)

Pursuant to ACM's developing expertise in the LED industry we have accepted as our most recent client, Arborlight, Inc., an Ann Arbor, Michigan company focused on developing and selling patented, proprietary Daylight Emulation® LED Emulation® LED lighting products. ACM is providing managerial and financial leadership and assisting the company with its plans for growth, strategic partnerships and ultimate exit.

As part of our focus on the lighting and LED industry we will be providing our readers with a series of reports in the coming months:

- In this Newsletter ACM addresses the transition from conventional lighting to LED's and reviews the consolidation of lighting and fixture companies; noting recent transaction metrics.
- In subsequent reports we will review the transition to Human Centric lighting and Smart LED's and their effect on industry consolidation and explore the nexus between Health and Light and will focus on Circadian Rhythm and the companies involved in this dynamic space.

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## The Transformative Nature of the LED Lighting Industry

The LED industry is truly transforming the lighting industry, setting off a consolidation frenzy as companies confront the numerous technological and market challenges over the next decade.

After initial slow commercialization in the 1980s and '90s the LED industry took off in the early 2000's and is approaching 50 percent penetration in new commercial applications throughout the developed world. Initial adaption has been based mostly on the primary economic benefits of the technology; energy efficiency, compact size, long life and ease of maintenance, resistance to breakage and vibration, good performance in cold temperatures, lack of infrared or ultraviolet emissions, instant-on performance, color control, reduced flicker, and the ability to be dimmed.

Adaption was initially constrained, however, due to high up-front costs and concerns about "blue light". More recently, however, due to manufacturing improvements to larger wafers, the acceleration of efficacy in mid-power LED designs and an influx of Asian producers that have gained global scale, the cost of LED's has dropped dramatically, spurring more aggressive pricing and unit demand. Demand has also been bolstered by transformative technology (IoT and Human Centric lighting), emerging markets, and global political mandates driven by environmental concerns (numerous countries have banned or moved away from environmentally negative traditional lighting technologies lighting and providing subsidies and innovations for LED adoption.)

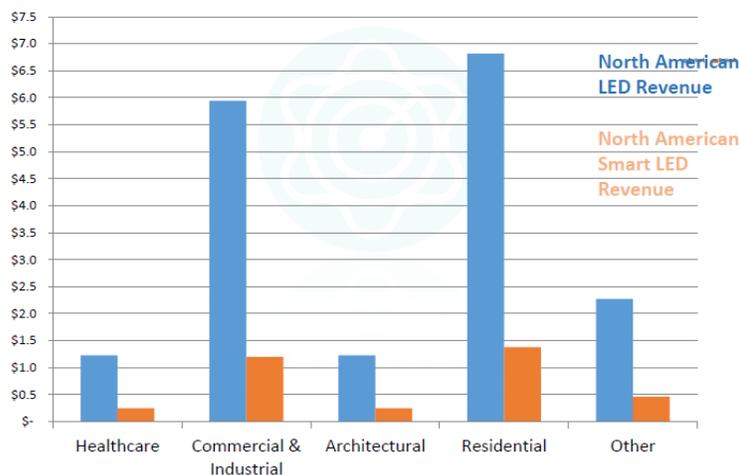
### Median Pricing Ratios, Lighting Industry Public Companies

	Market Capitalization/Revenues x				
	Latest	2016	2015	2014	2013
< \$ 20 m Rev	1.4	0.9	1.0	0.9	0.9
\$20 to \$50 m Rev	1.6	1.2	1.9	1.4	0.9
> \$50 m	1.5	1.1	0.7	0.8	0.9
All	1.5	1.1	0.9	1.0	0.9
	Market Capitalization/EBIT x				
	Latest	2016	2015	2014	2013
< \$ 20 m Rev	19.2	14.2	24.1	42.8	13.6
\$20 to \$50 m Rev	22.8	14.7	18.7	21.8	9.6
> \$50 m	15.6	11.2	11.2	12.7	13.7
All	17.2	12.3	15.0	12.7	12.8

Source: S & P Global: Market Intelligence

### North American LED Lighting Market

By Application Segment, Projected to 2022(\$b)



Source: S & P Global: Market Intelligence

These political and economic forces drive rosy 3 to 7 year industry unit sales projections. Various industry experts project the total global LED market, currently estimated at \$33 billion will grow at a 23 percent rate to over \$92 billion by 2022. The North American share of that market, roughly 20% is over \$17 billion in 2022 and roughly 20% of that market is projected to be Smart LED technology. However, despite rosy intermediate term unit growth there is considerable uncertainty and volatility in the industry. Plummeting lower material costs are shaking up supply chains, squeezing margins and moderating revenue growth (relative to unit growth). Moreover, the irony is that the rapid penetration of LEDs with their long product life, will cannibalize the lighting replacement market, long a key source of industry revenue; leading to greater long-term demand risk as the replacement market virtually disappears.



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## Moving to the Digital Future



The industry is a result of, and engine for, further technological change. While early adaptation was based on the primary economic benefits of energy efficient lighting, new technologies are expanding the market case for LEDs. Also, the industry has integrated digital technology, developing smart LED lights with internet connectivity, positioning the industry as the backbone to IoT platforms throughout the building industry.

In daily trading of public companies, middle market companies (\$20 to \$50m of revenue) are getting significant premiums over the industry average. These companies are selling at 1.63X revenue, an 8% premium over the industry and at 22.8x EBIT, 32% over the industry average.

The current lighting industry, while dominated by large players Acuity, Eaton/Cooper, GE, and Phillips is still quite fragmented, with thousands of producers globally. The LED is more fragmented with newer more technologically-oriented players sharing the spotlight, but there are still hundreds of LED producers each in America, Europe and Asia. Smaller companies faced critical challenges to their margins in light of depressed prices, technological challenges, and scale. The need for these smaller companies to find niches or scale is a key driver to industry consolidation.

ACM's survey of the lighting industry market over the past 23 months counts 107 transactions; 68 of them involving companies with LED focus and 39 with targets in the more traditional lighting sector.

While average transaction size is small across the industry, representative of smaller companies seeking scale and larger companies seeking technology or

Industry Sector	Deal Count	Total Transaction	Implied	
		Value (m) (median)	Enterprise Value/EBITDA (x) (median)	Implied Enterprise Value/Revenues (x) (median)
<b>LED Driven</b>	68	\$ 11.8	10.0	1.8
<b>Traditional</b>	39	\$ 4.1	6.5	2.3
<b>Combined</b>	107	\$ 11.1	8.6	1.8

market segment niches, the average deal size is nearly 3X larger in LED driven deals. The significant earnings premium paid to LED targets reflects industry confidence in increasing earnings and margins relative to the traditional lighting industry. Traditional lighting companies are harvesting margins from current niches, but future margins and growth are imperiled by demand for increased technology in their sales channels and aggressive competition from consolidation.

There is clearly room for and premiums to be offered to smaller more traditional light fixture companies, but the focus is shifting towards LED,

connected lighting and IoT players. The new construction and retrofit obviously will be dominated by LED players as their market penetration rates pass 50% and head to 80% in the next decade. There will be a continued need to service and replace the traditional market, but smaller companies will be forced to adopt technology or consolidate in order to maintain demand and/or achieve scale to maintain margins. Fortunately, larger players are seeking to smaller deals in niche markets to expand their own scale, product portfolios, and geographic reach.



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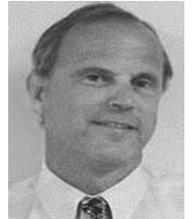


**Greg Buck**  
Managing Director

## About Us

Greg has over 30 years of finance and investment banking experience as a senior executive and investor in early and mid-stage growth companies. He has served as a Partner in the Ernst & Young, Corporate Finance Consulting Group, as Managing Director of Alternative Investments for Telemus Capital Partners, and as Credit Officer for Citibank. He co-founded Leonard Capital Markets and prior to that served as a partner of M Group, Inc., an investment firm based in Birmingham, MI, where he focused on technology investments and diversified manufacturing and service company acquisitions. He graduated from the University of Michigan with a B.A. degree and holds a M.B.A. degree from Western Michigan University.

John has over 30 years experience as an investment banker and business consultant. He was a lead investor and served on the Board of Relume, Inc (an LED pioneer). He began his private sector career as an investment banker, specializing in public offering and consolidation in the financial sector, first with Johnston, Lemon & Co. and then First of Michigan Corporation. In 1991 he formed JMP Financial, Inc. He began his professional career in Economic Policy with The Heritage Foundation, as Chief Economist to Dan Quayle and senior political appointee of President Reagan. He has an MBA from the University of Michigan and post graduate economics studies at George Mason University.



**John Palffy**  
Affiliate



**Keith T.S. Ward**  
Affiliate

Keith has nearly 40 years of lighting industry experience, including two decades of senior business leadership at Future Electronics, Luminus Devices, Inc., GE and Iwasaki Electric driving profitable growth companies, transforming traditional lighting companies while driving adaption of LED and the eco-system of supporting technologies. He was responsible for the successful restructuring and sale of Luminus Devices and is currently serving advisory/board director roles in for MLS, LEDvance, Forest Lighting, Alternative Lighting Technology, Global Value Lighting, Arborlight, Inc. and Standard Products. Keith has a BSBA from Clarion University of Pennsylvania.

## A Note to our Readers,

We are looking forward to a very active 2018 across all industries as family-held and entrepreneurs await the impact of tax reform on capital gains, corporate and pass through taxes, and expensing.

Offsetting the positive economic conditions and tax reform on merger and acquisition activity will be mitigated by large corporations' renewed interest in infrastructure development which will deplete capital available for acquisitions. As always, we encourage you to call and ask questions about the value of your company and the Markets interest in acquiring. Have a safe holiday season and we welcome you into 2018.

Greg Buck  
Managing Director

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