

# Markets for Smart Lighting Driver, Controller and Sensor Chips

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## Abstracts

The objective of this report is to identify and quantify the opportunities for electronics in smart lighting systems over the next eight years.

It is designed to become required reading for firms in the semiconductor industry that want to better understand the opportunities in smart lighting electronics.

It is also intended to provides guidance to firms in the LED and smart lighting systems sectors who need to better understand where smart-lighting electronics trends will take their businesses.

With this in mind, the focus of the analysis in this report is on the newer kinds of smart lighting – meaning those that are specifically designed for energy efficiency, color tuning or VLC.

We do not concern ourselves with the standard lighting management systems that have been around for years.

These systems do consume chips, but almost exclusively commoditized electronics that does not represent an opportunity in any meaningful sense.

Instead, most of the focus of this report is on where we think such profits might be made.

In the immediate future, this would seem to be in the form of chips that provide better control over the energy efficiency of lighting systems.

This is to say that one focus of the report is on the high end of the LED driver business and we are specifically concerned with how this might change in the near term to better match lighting requirements for energy efficiency and to gradually pick up on emerging needs for color tuning. The report also looks at chips that are primarily involved with communications.

These include VLC chips, of course, but also ZigBee and Wi-Fi chips. MPUs for smart lighting gateways and controllers also fit into this definition and are also covered here; smart lighting control systems will become increasingly networked. Finally, we note that the “smart lighting” definition doesn’t specify the type of bulb and might be taken to include fluorescent lighting (or even incandescent lighting).

However, we are in this report focusing entirely on the LED segment. The motivation for this – as we have noted before – is that the electronics for non-LED lighting systems is completely commoditized and the interesting sector of the smart lighting market (that is the one where there are the greatest opportunities) is associated with LED systems.

In this context we note that while CFLs are now in the ascendant they are likely to be replaced by high-performance LEDs within a relatively short space of time. Also excluded from this report is any discussion of the evolution of LEDs themselves, except where this has some relevance to the main argument.

The reason for this is that although LEDs are certainly chips, they are associated with an entirely different group of suppliers than the electronic chips that go into smart lighting systems. In addition, although LED development will certainly involve more development work to make them more energy efficient, LEDs cannot themselves be said to be “smart” in any interesting sense. In addition to a broad coverage of technologies and functionality related to smart lighting, this report also covers the needs of all the major end-user segments of the market.

We take these to be commercial and industrial, residential, government and public buildings. We have also discussed the available markets for smart lighting in transportation and outdoor lighting. This report includes a granular eight-year forecast of smart-lighting electronics with breakouts by application and type of chip.

It also includes a full critical appraisal of all the available product and market strategies in this interesting emerging segment of the smart lighting industry. Finally, this report—and the forecasts in Chapter Three—is intended to be international in scope, although we do comment at various points in the report on which countries and regions

are most likely to be open to the penetration of smart lighting technology.

## Contents

### EXECUTIVE SUMMARY

#### E.1 Summary of Key Opportunities from Smart Lighting Electronics

##### E.1.1 LED Drivers for Smart Lighting: Waiting for Next-Generation Smart Lighting

##### E.1.2 MCUs for Smart Lighting: Critical for Smart Lighting Until the Internet-of-Things Catches On?

##### E.1.3 Sensor Opportunities in the Smart Lighting Space

##### E.1.4 Color Tuning Chips: Opportunities for the Semiconductor Industry in Second Generation Smart Lighting Systems

##### E.1.5 Chips and Li-Fi

#### E.2 Ten Firms to Watch in the Smart Lighting System Electronics Space

##### E.2.1 ARM

##### E.2.2 Broadcom

##### E.2.3 Freescale

##### E.2.4 Infineon

##### E.2.5 Intel

##### E.2.6 Marvell

##### E.2.7 Microchip Technology

##### E.2.8 NXP Semiconductor

##### E.2.9 STMicroelectronics

##### E.2.10 Texas Instruments

#### E.4 Summary of Eight-Year Market Forecast of Smart Lighting Chips

### CHAPTER ONE: INTRODUCTION

#### 1.1 Background to this Report

##### 1.1.1 Current MCU and LED Driver Requirements for Smart Lighting

##### 1.1.2 Chip Opportunities for a Light-Tuned World

##### 1.1.3 Sensing Opportunities: New Materials, ZigBee and EnOcean

#### 1.2 Objective and Scope of this Report 1.3 Methodology of this Report

#### 1.4 Plan of this Report

### CHAPTER TWO: SMART LIGHTING EVOLUTION AND CHIP REQUIREMENTS

#### 2.1 The Smart Lighting Opportunity for Chip Makers: Some Definitions

#### 2.2 Opportunities for LED Drivers in the Smart Lighting Systems

##### 2.2.1 Driver Supplier and the Potential for New Entrants: From BLUs to Smart Lighting

- 2.2.2 Improve Binning: A Unintended Opportunity for Smart Lighting Driver Makers
- 2.2.3 AC LEDs in Smart Lighting and Future of Driver Chips: A Possible Negative for the Smart Lighting Driver Market
- 2.2.4 Voltage and Current Control and Power Load Design as Central Competitive Issues for LED Drivers in the Smart Lighting Space
- 2.2.5 Dimming and LED Drivers
- 2.2.6 IC Requirements for Smart LED Drivers
- 2.3 Pricing of LED Drivers in the Smart Lighting Systems Market
  - 2.3.1 Smart Lighting as a Pioneer Market for High-Performance LED Drivers
  - 2.3.2 Impact of Declining Chip Prices and Costs: The Smart Lighting Systems Perspective
- 2.4 Other Factors Impacting the Smart Lighting LED Driver Sector: Standards
- 2.5 MCUs for Gateways and Controller Boxes in Smart Lighting
  - 2.5.1 The Rise of Central Controllers in the Smart Lighting Systems Market: Their Use of MCUs
  - 2.5.2 Generation 1 Smart Lighting Systems: Central Controllers as Early Competitive Battlefield for Smart Lighting
  - 2.5.3 A Note on the Possible Disappearance of Gateways: A Threat to MCU Makers
  - 2.5.4 MCUs for Smart Lighting 2.5.5 Some Notes on Smart Ballasts
- 2.6 Smart Lighting Sensors
  - 2.6.1 Occupancy Sensing
  - 2.6.2 Daylight Sensing
  - 2.6.3 Creating Value-Added Sensing Devices for Smart Lighting Applications: Further Integration and New Materials
  - 2.6.4 Smart Lighting Sensor Innovations from the Systems Perspective
  - 2.6.5 ZigBee and Smart Lighting: Growing Interest from the LED Lighting Community
  - 2.6.6 EnOcean and Smart Lighting: Energy Harvesting for Smart Lighting?
- 2.7 Impact of the “Internet-of-Things” on Smart Lighting Electronics
- 2.8 Other Protocols that May Create Opportunities for Smart Lighting Makers
  - 2.8.1 Demand Response and DALI
  - 2.8.2 Standards for Integration of Smart Lighting with Building Automation: BACnet, LonWorks, DMX512, ASHRAE 90.1 and the Others
  - 2.8.3 Thoughts on IPv6 and Smart Lighting 2.8.3 MiWi 2.9 Chip Requirements for Smart Mood, Health and Performance Lighting
- 2.9 Color Tuning and the Need for Dynamic Mood and Health Lighting
  - 2.9.1 Color Tuning and the Need for Dynamic Mood and Health Lighting
  - 2.9.2 Opportunities for the Semiconductor Industry in Color-Tuning (Generation 2) Lighting Systems
- 2.10 Chip Requirements for Visible Light Communications
  - 2.10.1 Evolution of Li-Fi Technology and its Markets

- 2.10.2 The Downside of VLC/Li-Fi
- 2.10.3 VLC/Li-Fi Players and Silicon Requirements
- 2.11 Impact of OLED Lighting Trends on Smart Lighting Electronics
  - 2.11.1 OLED Drivers in the IMOLA Project
- 2.12 Key Points Made in this Chapter

## **CHAPTER THREE: SMART LIGHTING ELECTRONICS: MARKET ANALYSIS AND EIGHT-YEAR FORECAST**

- 3.1 Methodology of this Forecast
  - 3.1.1 Addressable Markets
  - 3.1.2 Assumptions about Market Size and Penetration
  - 3.1.3 Forecasting Methodology and Scope
  - 3.1.4 Other Market and Technology Scenarios and their Impact on the Smart Lighting Electronics
- 3.2 Eight-Year Forecast of Smart Lighting Electronics by End User Type
  - 3.2.2 Eight-Year Forecasts of Electronics For Residential Smart Lighting Systems
  - 3.2.3 Eight-Year Forecasts of Electronics for Commercial and Industrial Buildings Smart Lighting Systems
  - 3.2.4 Eight-Year Forecasts of Electronics for Smart Lighting Systems for Government and Public Buildings
  - 3.2.5 Eight-Year Forecasts of Electronics for Smart Lighting Systems for Outdoor/Streetlighting
  - 3.2.6 Eight-Year Forecast of Electronics for Smart Lighting Systems in Automobiles and Other Forms of Transportation
  - 3.2.7 Eight-Year Forecasts of Electronics in Smart Lighting Systems for Other Applications: Urban Farming and Hospitals
  - 3.2.8 Summary of Eight-Year Forecasts of Electronics in Smart Lighting Systems
- 3.3 Eight-Year Forecasts of Smart Lighting Electronics by Type of Chip Product
  - 3.3.1 Forecasts of Smart Lighting LED Driver Opportunities
  - 3.3.2 Forecasts of Smart Lighting MCU and Control Chip Opportunities
  - 3.3.3 Forecasts of Smart Lighting Sensor Opportunities
  - 3.3.4 Summary of Forecasts by Type of Chip Products
- 3.4 Eight-Year Forecasts of Smart Lighting Electronics by Type of Systems Component in Which They Are Used
  - 3.4.1 Forecast of Smart Lighting Electronics Used in “Smart Lamps”
  - 3.4.2 Forecast of Smart Lighting Electronics Used in Smart Switches and Dimmers
  - 3.4.3 Forecast of Smart Lighting Electronics Used in Central Controllers/Gateways
  - 3.4.4 Summary of Smart Lighting Electronics Forecast by System Component

### 3.7 Key Points Made in this Chapter

## About

### ABOUT THE AUTHOR



## List Of Figures

### LIST OF FIGURES:

Exhibit E-1: Summary of Eight-Year Forecasts of Smart Lighting Electronics by Functionality (\$ Millions)

Exhibit 2-1: Smart Lighting Systems Generations

Exhibit 2-2: Two Scenarios for Smart Lighting Connectivity to the Internet

Exhibit 2-3: Design/Technology for Automation Controllers

Exhibit 2-4: Possible Markets for Dynamic Mood and Health Lighting Systems

Exhibit 3-1: Eight-Year Forecasts of Smart Lighting Electronics for Residential Building Markets

Exhibit 3-2: Eight-Year Forecasts of Smart Lighting Electronics for Residential Building Markets: By Generations of System

Exhibit 3-3: Eight-Year Forecasts of Smart Lighting Electronics for Commercial and Industrial Building Markets

Exhibit 3-4: Eight-Year Forecasts of Smart Lighting Electronics for Commercial and Industrial Building Markets: By Generations of System

Exhibit 3-5: Eight-Year Forecasts of Smart Lighting Electronics for Public and Government Building Markets

Exhibit 3-6: Eight-Year Forecasts of Smart Lighting Electronics for Public and Government Building Markets: By Generations of System

Exhibit 3-7: Eight-Year Forecasts of Smart Lighting Electronics for Outdoor/Street Lighting Markets

Exhibit 3-8: Eight-Year Forecasts of Smart Lighting Electronics for Outdoor/Street Lighting: By Generations of System

Exhibit 3-9: Eight-Year Forecasts of Smart Lighting Electronics for Automobile/Transportation Markets

Exhibit 3-10: Eight-Year Forecasts of Smart Lighting Electronics for Transportation Lighting: By Generations of System (\$ Millions)

Exhibit 3-11: Eight-Year Forecasts of Smart Lighting Electronics for Other Smart Lighting Markets (\$ Millions)

Exhibit 3-12: Summary of Eight-Year Forecasts of Smart Lighting Electronics by End User (\$ Millions)

Exhibit 3-13: Summary of Eight-Year Forecasts of Smart Lighting Electronics by Generation (\$ Millions)

Exhibit 3-14: Summary of Eight-Year Forecasts of Smart Lighting LED Drivers by Functionality (\$ Millions)

Exhibit 3-15: Summary of Eight-Year Forecasts of Smart Lighting MCUs and Control

Chips by Functionality (\$ Millions)

Exhibit 3-16: Summary of Eight-Year Forecasts of Smart Lighting Sensors by Functionality (\$ Millions)

Exhibit 3-17: Summary of Eight-Year Forecasts of Smart Lighting Electronics by Functionality (\$ Millions)

Exhibit 3-18: Summary of Eight-Year Forecasts of Smart Lighting Electronics Used in Smart Lamps (\$ Millions)

Exhibit 3-19: Summary of Eight-Year Forecasts of Smart Lighting Electronics Used in Smart Switches and Dimmers (\$ Millions)

Exhibit 3-20: Summary of Eight-Year Forecasts of Smart Lighting Electronics Used in Central Controllers (\$ Millions)

Exhibit 3-21: Summary of Eight-Year Forecasts of Smart Lighting Electronics Used by System Component (\$ Millions)

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