



APOLLO

2017

- First illumination-grade LEDs with quantum dots
- First H7 LED with SafeBeam and AirCool technology
- Lumileds officially an independent company

2015

LUMILEDS



- The Philips Lumileds LED business and the Philips Automotive lighting business are combined into a standalone operating entity: Lumileds
- New state-of-the-art 2-filament Halogen (H18 & H19)
- Introduced nitride red phosphor with record-low FWHM: SLA

2016



- RacingVision: most powerful Halogen ever

2013

- World's first Chip Scale Package LED
- First combined LED lightguide, daytime running light and front turn signal (Audi A5)
- First color tunable phone flash

Global Lighting Solutions that Push the Boundaries of Light

For automotive, mobile, IoT and illumination companies who require innovative lighting solutions, Lumileds is a global leader employing more than 9,000 team members operating in over 30 countries. Lumileds partners with its customers to push the boundaries of light.

1990s

Pioneering AlInGaP LED innovation

- First publication and commercial introduction of red and yellow AlInGaP LEDs
- Continual performance breakthroughs

1970-1972 HP LEDs used in HP-35 calculator and first digital watch (Hamilton Pulsar)

1970 First H4 Halogen bulb

1968 Commercialization of LEDs by HP optoelectronics division

1966 First to introduce Halogen headlighting technology in the market (H1 bulb type)

1957 Car lamp with asymmetrical passing beam: launch of Philips Duplo-d

1950 Introduction of bicycle lighting sets: Philips Philidyne

1936 Introduction of modern motor-car lighting: Philips Duplolux Selectiva

1924 First dual filament car lamp (Philips Duplo) laid the foundations of car lighting, enabling public use of electric headlamps

1914 Introduction of the Philips "Half Watt" bulb for car headlamps



1991 First Xenon HID bulb

1992 First LED rear applique (Ford Thunderbird)

1993 First H7 Halogen bulb

1994 Introduced LED package designed specifically for automotive lighting: SuperFlux

1996 First cost-effective LED solution for automotive lighting: SnapLED

1998
• First 0.5W high power LED

1999
• First automotive LED front turn signal lamp (Hyundai Equus)
• First 100 lm/W LED: Record efficiency for AlInGaP LEDs
• Lumileds became a joint venture between Philips and Agilent

2000
• First full automotive LED rear combination lamp (Cadillac DeVille)
• First aftermarket Halogen automotive headlight bulb: BlueVision

2001
• First introduction of high power AlGaInN FlipChip light-emitting diodes
• Philips introduced high-performance signaling lamps: HiPerVision

2001-2003
• First 1W power LED: LUXEON I
• First 3W and 5W LUXEON power LED families
• Industry's first warm white LED

2010

- World's first to ship 1 billion high power LEDs
- First to mass produce power LEDs on 150mm wafers
- First to introduce *Freedom from Binning* products: LUXEON A and LUXEON S

2009

- First to develop and manufacture ceramic phosphor for high-performance amber applications, enabling industry first PC Amber product: LUXEON Rebel PC Amber
- Launch of automotive accessory business

2008

- First Xenon upgrades: Xenon UltraBlue

2007

- First full LED headlamp (Audi R8) enabled by first generation of LUXEON Altilon
- World's smallest, lowest cost power LED introduced: LUXEON Rebel, redefining power LED packaging
- First to publish evidence of Auger recombination as the cause for epi droop

2006

- Philips acquired Agilent Technologies' interest in Lumileds
- Lumileds introduced Thin Film FlipChip architecture (TFFC): High efficiency, highest "punch" LED architecture for lighting

2004

- First TV backlit with LEDs (Sony Qualia)
- First LED for functional phone camera flash used in the Sony Ericsson: LUXEON PWF1
- First LED daytime running lamp (Audi A8 W12)

2011

- Enabled first true replacement for 60 Watt bulb, 90 lm/W, 900 lm, 90CRI DOE L-prize bulb
- First fully integrated HID system (D5S)

2012

- First Chip-in-Frame LED product based on 8mm² multi-junction architecture for high bay and outdoor applications with leading lm/W performance: LUXEON M
- First 50 Watt equivalent perfect-fit GU10, enabled by LUXEON H

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- World's first Chip Scale Package LED
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- First color tunable cell phone flash

2015

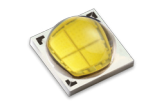
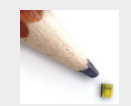
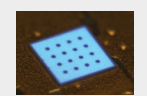
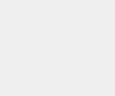
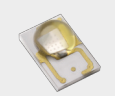
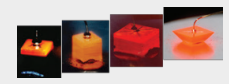
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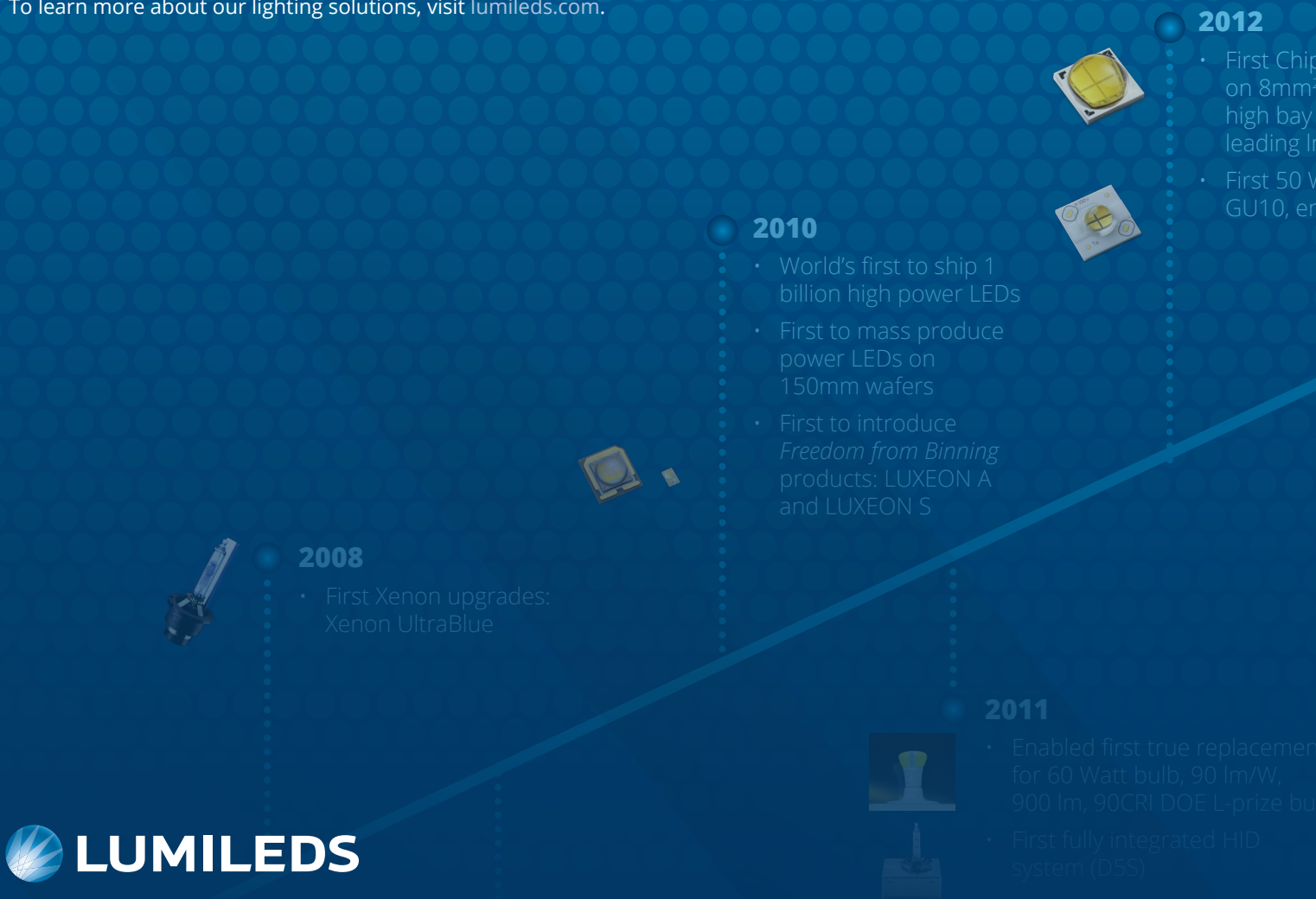
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About Lumileds

Companies developing automotive, mobile, IoT and illumination lighting applications need a partner who can collaborate with them to push the boundaries of light. With over 100 years of inventions and industry firsts, Lumileds is a global lighting solutions company that helps customers around the world deliver differentiated solutions to gain and maintain a competitive edge. As the inventor of Xenon technology, a pioneer in halogen lighting and the leader in high performance LEDs, Lumileds builds innovation, quality and reliability into its technology, products and every customer engagement. Together with its customers, Lumileds is making the world safer, better and more beautiful—with light.

To learn more about our lighting solutions, visit lumileds.com.



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