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# ABOUT LUMILEDS

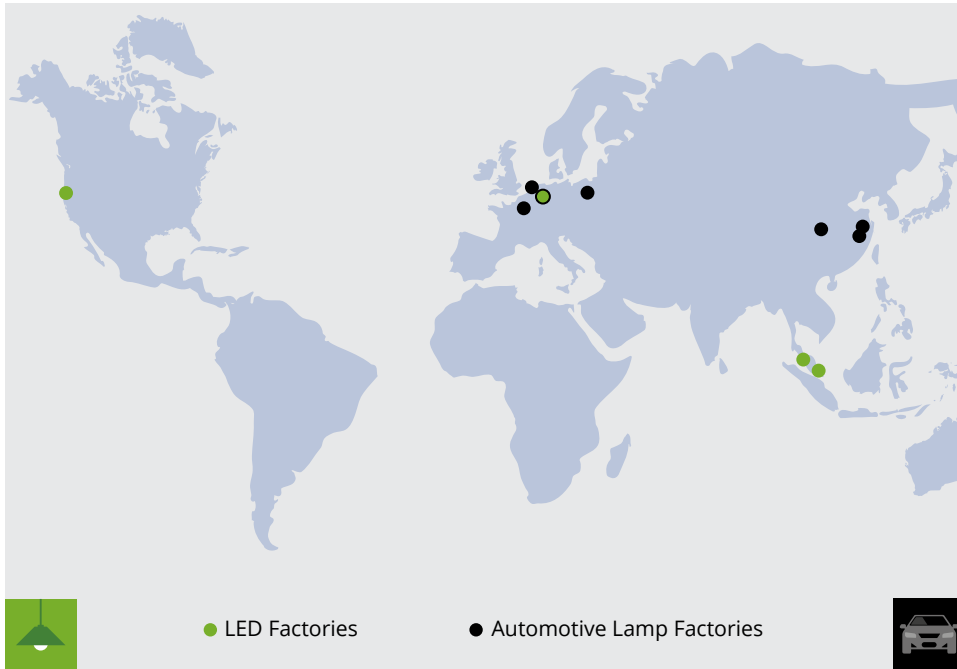


*With more than 100 years of inventions and industry firsts, Lumileds is a global lighting solutions company that helps customers around the world deliver differentiated solutions to gain and maintain a competitive edge.*


*As the inventor of Xenon technology, a pioneer in halogen lighting, and the leader in high performance LEDs, Lumileds builds innovation into everything it does. What's more, quality and reliability are guiding principles for Lumileds. The company demonstrates this by maintaining control over materials, processes, and technologies and by helping customers engineer the best quality of light for their application to achieve the highest levels of performance. Lumileds acts with integrity as a trusted partner to its customers, honoring commitments, offering deep expertise, and going the extra mile—making the world better, safer, more beautiful—with light.*

Lumileds has research and development (R&D) and manufacturing facilities in Asia, Europe and the United States and 30 commercial offices in the Americas, Asia, and Europe.

- **Four LED factories** in San Jose, United States of America (USA); Singapore; Penang, Malaysia; and Aachen, Germany.
- **Seven Automotive Lamps factories** in Aachen, Germany; Chartres, France; Jiaxing, Shanghai, Songzi, China; Middelburg, the Netherlands; and Pabianice, Poland.



Lumileds organizes its business into **two business units** organized to serve key customer segments: The Automotive Business Unit and The LED Solutions Business Unit:

AUTOMOTIVE BUSINESS UNIT	LED SOLUTIONS BUSINESS UNIT	
AUTOMOTIVE PRODUCTS	ILLUMINATION PRODUCTS	SPECIALTY PRODUCTS
		
Cutting-edge lighting solutions to motor vehicle manufacturers and suppliers	Products focused on architectural, entertainment, retail, horticultural, and sports lighting solutions.	Products designed to provide cutting-edge solutions for Camera Flash, Display, Infrared (IR) and ultraviolet (UV) applications.

### Lumileds at a Glance

**± 9,000** Worldwide Employees

**100+** years of experience in lighting technology

**11** Manufacturing Facilities

**30** Countries of Operations

**Corporate Headquarters** Schiphol, the Netherlands

**Operational Headquarters** San Jose, USA

**CEO** Jonathan Rich

Read more about Lumileds on our website.

## Sustainability at Lumileds

At Lumileds, seeking sustainable solutions helps us push the boundaries of light. We are committed to a culture of engaged employees, striving for the highest standards of quality and responsibility in creating products that make life safer, better, and more beautiful.

We approach sustainability throughout every stage of our products' lifecycle:

**Product Innovation** – Our energy-efficient product innovations contribute meaningfully to the transition to a low-carbon economy. Our worldwide team maintains a singular focus on delivering products that consistently meet or exceed sustainability requirements by integrating environmentally conscious practices throughout R&D.

**Responsible Operations** – Our workplace and manufacturing practices prioritize the well-being of our employees and resource conservation. We value our employees and the communities in which we operate, and embrace strict Environmental, Health and Safety (EHS) management guidelines that help ensure safe, secure, and healthy working conditions across the globe.

**Acting with Integrity** – We act with integrity to uphold the practices expected by our customers, investors, regulators, and partners, and seek out suppliers that do the same. We have integrated these requirements into our business processes, our policies, and Code of Ethics to make these commitments actionable.

## Sustainability Governance

Our ability to deliver on our sustainability commitments many years into the future requires that we establish a strong governance framework. With that in mind, Lumileds has formed a Sustainability Board that provides executive-level governance for the Sustainability Program at Lumileds. The Sustainability Board sets the vision for sustainability at Lumileds, is responsible for the sustainability and EHS policies, and identifies areas for improvement. The Sustainability Board consists of Executive Team members representing Operations, R&D, Quality, Human Resources (HR), and Legal functions.

Lumileds has a Sustainability Manager at the corporate level who oversees management of the ESG issues disclosed in this report. The Sustainability Manager reports into the Quality Function and provides periodic updates (at a minimum of three times per year) to the Sustainability Board.

Each manufacturing site has an EHS Management Function and EHS Manager(s). The site EHS Manager(s) report into the Operations Function. The Sustainability Manager and the site EHS Managers communicate regularly to align on progress toward our corporate sustainability targets.



# CEO MESSAGE

*“Lumileds is a company that focuses intently on illuminating the world with the most durable, efficient, and appealing light. As we light the world, we also protect it. I’m extremely proud of the care and passion our employees have with all aspects of quality and responsibility in creating products that make life safer, better, and more beautiful.”*

**Dr. Jon Rich**

CEO Lumileds



Ingrained in our culture is the responsibility to create innovative lighting technology and products that make the world safer and more sustainable. To that end, our lighting solutions are contributing to positive changes in energy usage, safety, and health and wellness, thereby also supporting our customers across automotive, specialty, and illumination lighting markets throughout the world in achieving their sustainability goals.

Building on our Hewlett-Packard and Philips heritage, we continue our strong commitment to be an ethical and sustainable company. In support of that commitment, we created a formalized sustainability agenda that sets forth how we will run our business, where we will focus our efforts, and what we will measure. Using frameworks such as the United Nations Sustainable Development Goals and the Global Reporting Initiative as our guide, we established baseline performance metrics and long-term goals aligned with our priority issues.

We are proud of the progress we've made on our sustainability goals. As of 2018 end, we:

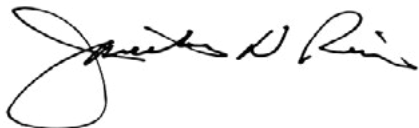
- Reduced our normalized emissions by 41 percent (compared to 2015 baseline)
- Reduced our normalized energy consumption by 25 percent (compared to 2015 baseline)
- Reduced our normalized water consumption by 25 percent (compared to 2015 baseline)
- Recorded over 1,700 volunteer hours by Lumileds employees
- Achieved 82% compliance rate from suppliers in the supplier sustainability code of conduct

As we look ahead, we are driven by the myriad possibilities to apply lighting technology to improve the world around us. We see tremendous opportunity in leveraging digital lighting to transform products and experiences in areas such as agriculture, health and healing, and vehicle safety. These are just a few examples of how LED technology is applied to new areas, and our sights see no bounds.

At Lumileds, we believe in the power of innovation and collaboration. As we continue to invest in innovation, we will bring more energy efficient products and solutions to market. We will also explore new applications with our customers to drive adoption of lighting innovations with the goal of reducing carbon footprint. We cannot achieve our goals alone.

On behalf of the Lumileds employees, I would like to thank our customers, suppliers, and other stakeholders for their support of our sustainability journey. Together, we are making our world safer, better, and more beautiful with light.

Regards,



Jon Rich

*“As part of making the world better, safer, and more beautiful with light, we are committed to building a more sustainable future—both through our products and the way in which we operate.”*

**Dr. Jon Rich**

CEO Lumileds

**ON TRACK**

to meet our commitment to reduce carbon emissions from our operations by 20% in 2020

to meet our commitment to lower energy consumption in manufacturing by 20% in 2020

to reduce water intake by 20% in 2020

**OVER 1,700**

volunteer hours recorded by Lumileds employees

**ACHIEVED 82%**

compliance rate from suppliers in the supplier sustainability code of conduct

# IDENTIFYING OUR SUSTAINABILITY PRIORITIES

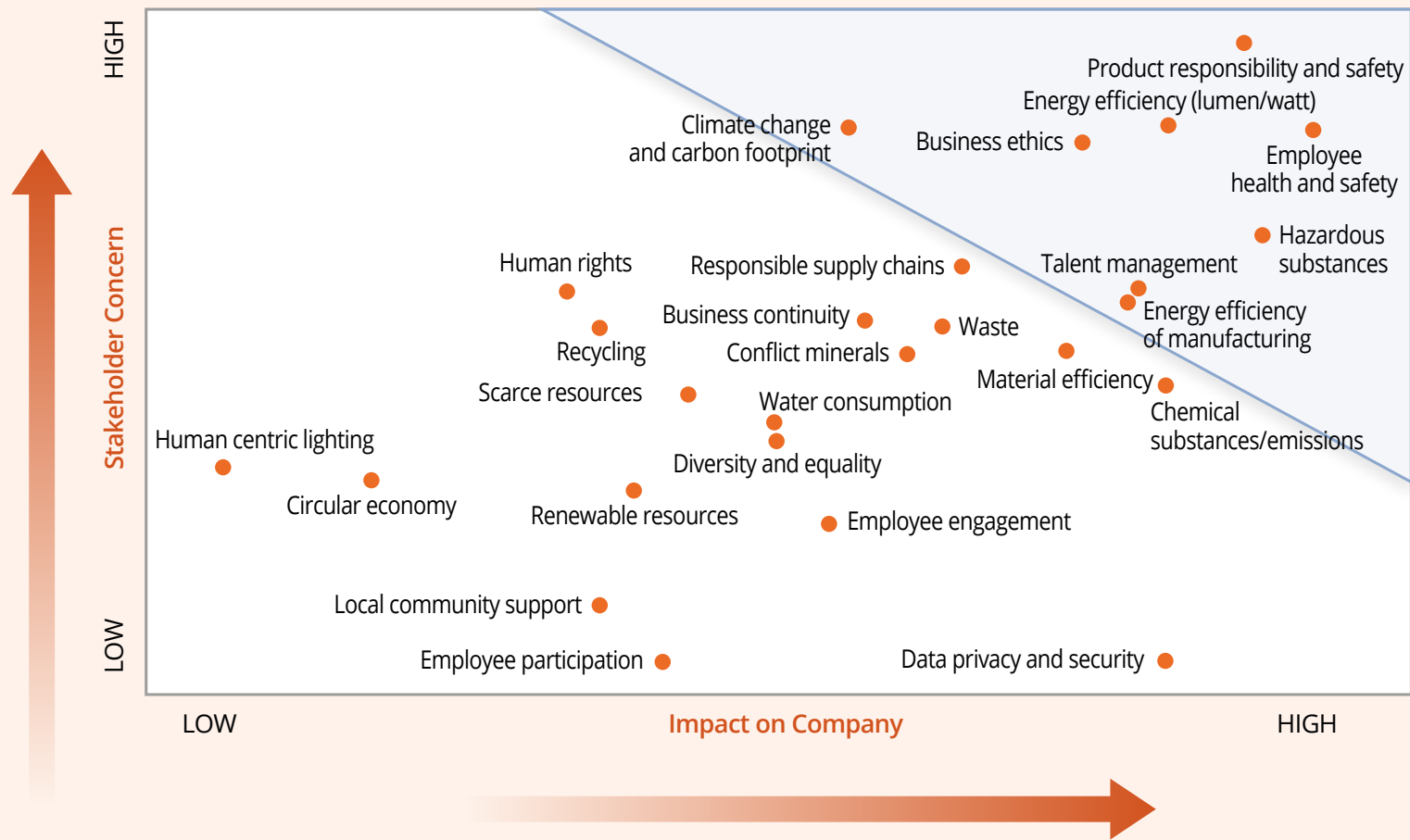


*Lumileds prioritizes the environmental, social, and governance issues that have the greatest impact on our business and the highest importance to our stakeholders. As part of a periodic review, Lumileds updated our materiality analysis in 2018. To complete the assessment, we collected internal stakeholder input through executive interviews and completed external research including a peer review and trends analysis.*

*We mapped the results of our internal and external inputs on a matrix to highlight the most important issues. The matrix includes the entire list of issues considered for inclusion in the analysis. The issues with the highest priority are shown in the top right quadrant (shaded triangle). The results of our materiality analysis—our priority issues—allow us to better define our sustainability strategy and disclosure priorities.*



### Lumileds 2018 Materiality Matrix



Through this assessment, Lumileds identified eight priority issues, which are the focus of our sustainability strategy.

- Business Ethics
- Efficiency and Manufacturing
- Hazardous Substances
- Product Responsibility
- Climate Change and Carbon Footprint
- Employee Health and Safety
- Product Energy Efficiency
- Talent Management

## Stakeholder Engagement

As we continue to innovate and challenge ourselves to drive value for our business, we recognize stakeholders are key to our ongoing success. To ensure our priorities continue to align with current stakeholder expectation, we engage the stakeholders most material to our business success and most impacted by our activities. We continuously interact with them through a wide range of initiatives and on topics specific to the interests of each group. A sampling of stakeholder interactions undertaken in 2018 are provided below. Some of these interactions are discussed in further detail throughout this report.

STAKEHOLDER	INTERACTION	DESCRIPTION/EXAMPLE
<b>Communities</b>	<ul style="list-style-type: none"> <li>Local community outreach projects</li> </ul>	Our manufacturing sites engage in community outreach activities to build relationships with a broad range of local partners. As an example, see our <a href="#">Singapore case study: Cherish and Nourish Bazaar 2018</a> .
<b>Customers</b>	<ul style="list-style-type: none"> <li>Customer meeting</li> <li>Joint research and development</li> </ul>	Care for our customers is one of our core values. Everything we do is with our customers in mind—meeting their existing requirements and lighting needs, plus anticipating their future demands. To that end, we listen closely for insights that serve as the catalyst for breakthrough solutions and services.  <a href="#">As an example we refer to the strategic partnership announced between Lumileds and Legrand to develop tunable white LED lighting.</a>
<b>Employees</b>	<ul style="list-style-type: none"> <li>People Survey</li> <li>Employee newsletters</li> <li>Intranet platform “THE HUB”</li> </ul>	We have a range of initiatives to engage with our team members on an ongoing basis. In 2018 we launched our first People Survey that measures employee satisfaction. <a href="#">See section Focusing on the Employee Experience for more information.</a>
<b>Investors</b>	<ul style="list-style-type: none"> <li>Board meetings</li> <li>Participation in portfolio network events</li> </ul>	We have intensive dialogue with our investors through Board of Directors Meetings. On the topics of Environmental, Social and Governance (ESG) performance we regularly interact with <a href="#">Apollo</a> by numerous touchpoints, including the ESG Reporting Program, ESG Webinars, and ESG Digests.
<b>Regulatory bodies</b>	<ul style="list-style-type: none"> <li>Engagement through Industry Associations</li> </ul>	We are active in several industry organizations where we partner with peers and engage policymakers on a range of environmental and social topics specific to our industry.  As an example Lumileds has been engaging with other industry partners through <a href="#">LightingEurope</a> with the European Commission and their consultants to help shape the next energy performance rules for lighting products.
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>Supplier Sustainability Declaration</li> <li>Supplier trainings and audits</li> </ul>	We understand suppliers are critical to our success. Everything we achieve is a collaborative effort. That’s why we seek suppliers who share our exacting quality and sustainability standards, then work closely with them to enhance product innovations and speed-up time-to-market. <a href="#">See section Responsible Supply Chain for more information.</a>

## Sustainability at Lumileds

In 2018, we launched a comprehensive Sustainability section on [our website](#) designed to increase visibility of Lumileds’ sustainability and performance on priority issues for our stakeholders. The section includes:

- Our definition of sustainability
- A description of our materiality analysis
- Our priority issues, including short descriptions
- Case studies and metrics to illustrate our performance on each priority issue

## Sustainable Development Goals

The [United Nations Sustainable Development Goals \(SDGs\)](#) are a collection of 17 goals that establish a global action plan to address social, environmental, and economic development issues. We recognize that business has a key role to play in contributing to the achievement of the SDGs. In 2018, we conducted a benchmark analysis and mapping exercise to understand how to further integrate the SDGs into our business, and to identify alignments with our current activities. Lumileds has identified the following SDGs as those where we can make the most significant contribution:



### Ensure healthy lives and promote well-being for all, specifically as related to enhancing road visibility to prevent traffic accidents.

Lumileds supports SDG 3 through the development of high-quality lightning solutions that improve road safety for individuals.



### Ensure access to affordable, reliable, sustainable and modern energy for all.

Lumileds supports SDG 7 through the development of affordable and energy-efficient LED lighting solutions that reduce energy demand.



### Ensure sustainable consumption and production patterns.

Lumileds supports SDG 12 by continually increasing the energy and material efficiency of lighting products on a global scale while also reducing the impact of lighting production.



### Take urgent action to combat climate change and its impacts.

Lumileds supports SDG 13 through the development of low-carbon LED lighting solutions and an ongoing commitment to reduce greenhouse gas (GHG) emissions in our operations

Throughout this report, we have indicated the SDG linkages to our relevant topic areas.

# SUSTAINABLE PRODUCTS



*At Lumileds, we believe our largest positive contribution to protecting the environment and supporting the transition to a low-carbon economy comes from developing lighting solutions that reduce energy use and greenhouse gas (GHG) emissions during the consumer use-phase. We also reduce the impacts associated with the production phase by avoiding or minimizing the use of hazardous substances, setting standards for supplier environmental performance, and innovating to improve the efficiency of lighting solutions.*

*Beyond managing for environmental impacts, safety remains at the core of our product-responsibility efforts. In all that we do, we strive to create a safer world by improving the quality and use capabilities of lighting products and ensuring that they perform as intended.*



**Ensure access to affordable, reliable, sustainable and modern energy for all.**

Lumileds supports SDG 7 through the development of affordable and energy-efficient LED lighting solutions that reduce energy demand.



**Ensure sustainable consumption and production patterns.**

Lumileds supports SDG 12 by continually increasing the energy and material efficiency of lighting products on a global scale while also reducing the impact of lighting production.

## Advancing Product Efficiency

Lumileds makes our cities, homes, offices, mobile devices, and vehicles more efficient through the development of energy-efficient lighting solutions. Our primary impact on efficiency comes through our innovations in LED technologies that have dramatically reduced the energy needed to produce light. We also focus on understanding the overall energy impacts of the materials that go into our products and reducing them wherever possible.

### More Efficiency, Less Environmental Impact

In 2018, the average efficiency of Lumileds flagship illumination-grade LUXEON V2 and LUXEON 3535L HE Plus LEDs produced over 150 lumens of light output per watt of electricity. That is over 10 times more efficient than the common incandescent bulb that operates at 15 lumens per watt.



### Efficient Lighting Solutions

One of the most important ways we deliver results is through lighting efficiency. Compared to traditional incandescent lights, Lumileds LED products have reduced the amount of energy needed to produce light by a factor of 10. This tremendous efficiency gain reduces the carbon footprint of our products during their use-phase and saves customers money.

### Combining Efficient Lighting Solutions with Human Centric Lighting

Human Centric Lighting supports health, well-being and performance of humans by combining visual, biological and emotional benefits of light. While the concept of human centric lighting—tailoring lighting to reproduce key beneficial attributes of natural light—isn't new, having affordable, simple methods to implement it is a new development.

Our LUXEON Fusion platform technology enables this next step in human centric lighting, by making unprecedented white light selection available for mainstream adoption. When lighting hospitals, restaurants, offices, or retail venues, designers often wish to adjust color temperature on-site or program it to adjust light levels throughout the day to complement a changing ambient environment. Ultimately, the goal is improving health and happiness by better tuning the light we control to complement the light that comes through our windows.

## Producing More Light with Less

Lumileds has a rich history of firsts in the LED technology industry. This includes inventing new classes of semiconductors, packages, and phosphor materials that have dramatically reduced the amount of electricity required to produce a lumen of light. This started with Lumileds work in the commercialization of LEDs at Hewlett-Packard in the 1960s and continued with industry-shaping LED applications and efficacy breakthroughs in the 1990s and 2000s.

Lumileds continues to push the boundaries of LEDs and lighting efficiency further. Lumileds LEDs enabled the first true-replacement 90 lm/W 60W A19 lightbulb as well as the first 200 lm/W TLED.

Through our LUXEON lighting series, Lumileds has invented a secondary optic technology that produces a high intensity light output while using fewer LEDs. This innovation reduces the amount of electricity required to operate a light fixture, lowers the embedded materials per product, and eliminates the energy that would have been used to manufacture more LEDs.



### Looking Ahead

Lumileds will continue to invest in innovation to bring more energy efficient products and solutions to market. In collaboration with our customers, we will continue to explore new applications of our technology to drive adoption of lighting innovations with the goal of reducing carbon emissions. In fact, we've announced several new [breakthroughs in efficiency in 2019](#).

## Ensuring Safe and Beneficial Products

Lighting plays a critical role in making our daily lives safer. By innovating to improve the quality and use capabilities of lighting products and ensuring that they perform as intended, we create a safer world. At Lumileds, we position safety at the center of our product-responsibility efforts.



**Ensure healthy lives and promote well-being for all, specifically as related to enhancing road visibility to prevent traffic accidents.**

Lumileds supports SDG 3 through the development of high-quality lighting solutions that improve road safety for individuals.

### Lighting a Safe Path

*Road safety starts with seeing and being seen, and that's where top-quality car lighting counts.*

Lumileds products are used in many applications around the world, including one out of every three cars globally. We know that improving the quality and safety capabilities of vehicle lighting has the power to save lives. That is why we carefully consider use-phase safety concerns during product design. Through innovations like our VisionPlus headlamps, we increase road visibility by 60 percent and allow drivers to see more clearly. Our products also improve the illumination of city streets and active work areas, making them safer by increasing visibility and reducing hazards.

### Delivering Quality Products

Product quality is a strategic business priority, core value, and an absolute requirement for success at Lumileds. In order to keep people safe, we must ensure the quality and consistency of our products. The commitment to deliver superior product quality inevitably extends to suppliers as well, who we choose based on shared standards for quality management and a willingness to collaborate on product innovation.

We demonstrate our commitment to quality by maintaining control over materials, processes, and technologies and by helping customers engineer the best quality of light for their application to achieve the highest levels of performance. We work according to standards, structures, and processes that support ongoing quality improvement. Lumileds is certified against world-class Automotive Quality Management Systems standards – IATF 16949:2016 and ISO 9001:2015.

By way of context, IATF 16949:2016 is the globally applied standard for technical specification and quality management in the automotive industry. It is designed to be used in conjunction with ISO 9001:2015 and contains supplemental requirements specific to the automotive industry. IATF 16949:2016 brings together standards outlining requirements on designing, developing, manufacturing, installing, and servicing automotive products.

## Improving Vehicle Safety Today and Tomorrow

The safety of passengers and pedestrians impacted by our products is a key priority and motivates our commitment to innovate and make driving safer. Nighttime driving presents especially high risks to individuals due to poor visibility. Nearly half of all traffic fatalities occur at night. One way Lumileds is contributing to solving this problem is by developing light-source technology for Adaptive Driving Beam (ADB) applications. ADB lights use onboard cameras to identify oncoming vehicles and then dynamically switch or dim individual LEDs in relation to the position of approaching vehicles. This innovation improves visibility by letting drivers keep their high beams on while also reducing glare for other drivers.

In addition to making vehicles safer today, Lumileds is also working on the future of vehicle safety in the era of autonomous cars. Before crossing the street, pedestrians intuitively make eye contact with drivers to confirm they have been seen. Autonomous vehicles will have to take over this important safety task without an active driver behind the wheel. Lumileds is currently working with automakers to define and develop new solutions that communicate to pedestrians using lighting signals. In the same way turn signals, hazard lights, and brake lights communicate information today, autonomous vehicles will say “I see you” using Lumileds lighting technologies.



### Looking Ahead

Lumileds will continue to be at the forefront of developing innovative lighting solutions for enhanced performance and improved safety. Smart cars are ushering in a new era of travel that is cleaner, safer, more efficient and also affordable. One of our ambitions for these next-generation cars is to invest in technologies that improve the driving experience while also increasing the safety of drivers. Digital lighting will play a major role by enabling high resolution head lighting systems with enhanced new beam functionalities as well as lighting for automated driving systems further improving seeing, sensing and being seen, all of which help to increase road safety and driver comfort. Lumileds sees also as part of its mission to bring those benefits not only to the innovative premium end of the market, but also to the full mainstream market. By further technological improvements and smart standardized, modular solution thinking, total system costs or even total cost of ownership can be reduced further to enable full global market adoption and maximizing the benefits for the market.

## Reducing Hazardous Substances

Lumileds is dedicated to designing environmentally-friendly lighting solutions. Wherever possible, we work to minimize or eliminate non-regulated hazardous substances from our products. As part of this commitment, our policies and operations frequently go beyond existing industry-related hazardous substances regulations and standards.

2020 Goals (2015 Baseline)	Progress in 2018
Replacement of PVC and BFRs from consumer products by 2023.	<b>ON TRACK:</b> In 2018, 87% of Lumileds consumer products sold were free of BFRs and PVC.

## Customer Health and Safety

At Lumileds, we are guided by an unwavering focus on the safety of our customers and an adherence to environmental stewardship. The way we improve the environmental profile of our products and protect customer health is by establishing commitments that go above and beyond current regulations. For example:

- **Polyvinyl Chloride (PVC) and non-regulated Brominated Flame Retardants (BFR) –** Lumileds has set a goal to voluntarily phase out PVC and BFRs not covered by existing regulation from all consumer products by 2023. (See case study “Phasing out PVC and BFRs” to learn more.)
- **Phthalates –** Lumileds prohibits the use of all phthalate-based plasticizers beyond the four phthalates restricted by European Union (EU) law. Despite their common use, many phthalates-based plasticizers are known to have a wide variety of negative impacts on human health.
- **Azo dyes (pigments, colorants) –** Lumileds restricts the presence of Azo dyes in all applications that can potentially come into contact with skin. Lumileds’ policy goes beyond the requirements of the EU’s REACH regulations.
- **Chlorinated Flame Retardants –** Lumileds does not use chlorinated flame retardants in any of our consumer products.

## Regulated Substances at Lumileds

To make our commitment to reducing hazardous substances transparent to stakeholders, we publish and regularly update the Lumileds [List of Regulated Substances](#). In addition to complying with the obligations of our policy, we require all suppliers to comply with it as a condition of doing business with Lumileds. The list is derived from stakeholder consultations, scientific evidence of hazards, and awareness of existing and possible future legislative requirements.

## Phasing Out PVC and BFRs

In 2018, 87 percent of Lumileds consumer products sold were free of BFRs and PVC. Our goal is to completely remove all PVC and BFRs from our consumer products by 2023. To support this process, we continuously identify, test, and implement alternative materials where applicable. In some cases, however, the use of PVC and non-regulated BFR is required due to regulatory, safety, or technical requirements.

Brominated Flame Retardants (BFRs) are categories of substances that reduce or inhibit the flammability of materials like plastics and textiles. Due to increasing concerns regarding the build-up of BFRs in the environment and growing evidence of their negative impact on human health, some BFRs are being phased-out by various regulations globally. Despite our legal ability to use many other BFRs, Lumileds is actively substituting all BFRs in new product development.

Polyvinyl chloride (PVC) is a synthetic polymer found in a broad range of products and applications. In 2017, over 40 million tons of PVC was produced worldwide due to its low production cost and favorable chemical attributes. However, a number of scientific opinions have increasingly questioned the effects from PVC on human health and the environment, particularly when incinerated nonprofessionally, as sometimes happens at landfills in developing countries. Guided by the precautionary principle, Lumileds has committed to voluntary phase-out PVC.



## Looking Ahead

Lumileds is actively monitoring legal developments for additional substances that will become regulated in the future to initiate phase-outs prior to restriction dates. In line with the ongoing PVC and BFR activities, we are stressing to replace remaining components and designing new products to achieve our goal of total phase-out until 2023.

# PROTECTING THE PLANET



*As part of making the world better, safer, and more beautiful with light, we are committed to building a more sustainable future—both through our products and the way in which we operate.*

*In 2015, Lumileds launched a five-year sustainability target program that is overseen by a sustainability board comprised of executive team members from all corporate functions. The sustainability program objectives are based on creating value for customers through sustainable innovations, preventing injuries, reducing the environmental footprint of the company's operations, and driving improvements in the company's supply chain toward compliance with the Responsible Business Alliance (RBA).*

13 CLIMATE ACTION



**Take urgent action to combat climate change and its impacts.**

Lumileds supports SDG 13 through the development of low-carbon LED lighting solutions and an ongoing commitment to reduce greenhouse gas (GHG) emissions in our operations

## Lumileds Environmental Targets

2020 COMMITMENT	2018 RESULT	OUR PROGRESS
<p><b>Operational Carbon Footprint:</b> Reduce the carbon footprint of our operations per unit produced by 20% (CO<sub>2</sub>e per unit produced) compared to 2015 baseline</p>	<p>Lumileds has significantly reduced its carbon footprint compared to the 2015 baseline—and we have reduced our normalized emissions by <b>41%</b>.</p> <p>In 2016, we implemented 3 new emission reduction units in Singapore, which reduced the impact of PFCs by more than 90%. This initiative was the main contributor to reducing our emissions.</p>	<p><b>ACHIEVED TARGET</b></p>
<p><b>Operational Energy Consumption:</b> Reduce energy consumption in our operations per unit produced by 20% (MWh per unit produced), compared to 2015 baseline</p>	<p>All sites are contributing to this target with specific energy saving projects and new projects have been initiated in 2018. These projects combined are expected to produce annual savings of more than 11.2 gigawatt hours (roughly equivalent to 4% of Lumileds total energy consumption).</p> <p>We have currently reduced our normalized energy consumption by <b>25%</b> compared to 2015.</p>	<p><b>ACHIEVED TARGET</b></p>
<p><b>Operational Water Intake:</b> Reduce water intake in our operations per industrial output by 20%, compared to 2015 baseline</p>	<p>All sites are contributing to this target with specific water saving projects and new projects have been initiated in 2018. These projects combined are expected to produce annual savings of more than 61,000 m<sup>3</sup> (roughly equivalent to 4% of Lumileds total water consumption).</p> <p>We have currently reduced our normalized water consumption by <b>25%</b> compared to 2015.</p>	<p><b>ACHIEVED TARGET</b></p>
<p><b>Recycled Waste:</b> Recycle 85% of our total waste</p>	<p>Recycling is the dominant disposal method for waste at Lumileds manufacturing sites. The recycling rate is tracked and defined as the total of waste delivered for recycling as a percentage of the total waste. The recycling rate for 2018 was <b>70%</b>. This is an improvement against the 65% recorded over 2017, but there is still more to do to achieve our target for 2020.</p>	<p><b>ON TRACK</b></p>

We recognize the urgency with which society must act to mitigate the threat of climate change. By developing lighting solutions that reduce energy use and GHG emissions during their use-phase, we continue to promote the transition to a low-carbon economy. We also look for ways to reduce impacts beyond our four walls by working with our suppliers and encouraging them to reduce their environmental impact. Because we know that our manufacturing operations are the primary contributor to our own environmental footprint, we pursue comprehensive programs to improve the efficiency of manufacturing, lower energy and water use, reduce waste, and reduce negative impacts from chemical processes. And we do so in a way that meets or exceeds all environmental laws and regulations.



## Lumileds Environmental Policies and Documents

- Environmental, Health and Safety Policy
- ISO 14001:2015 Certification
- REACH Position Statement
- Restricted Substances List (RSL)
- Supplier Sustainability Declaration (SSD)



## Minimizing Our Climate Impacts

We reduce our GHG emissions by developing energy efficient lighting products and implementing environmentally beneficial practices across our business operations and processes.

### Reducing Carbon Footprint Through Energy Efficient Lighting

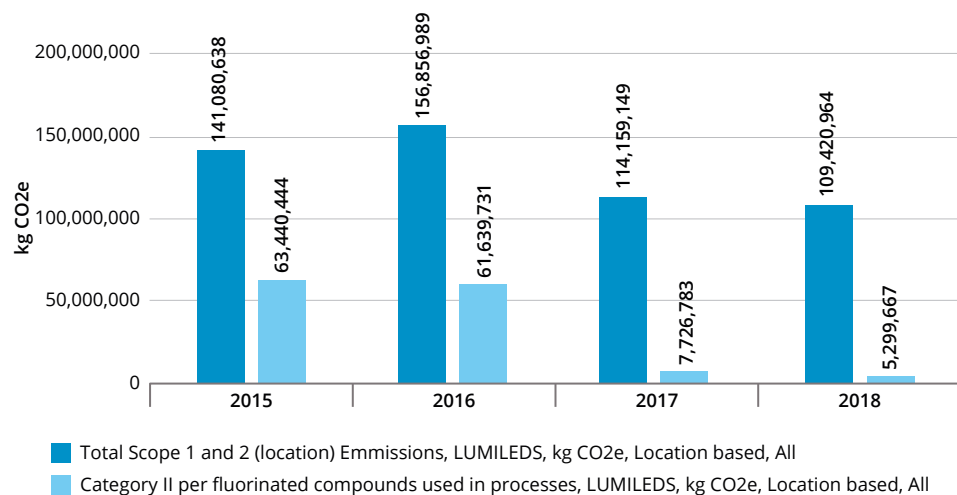
Lumileds is facilitating a global transition to a low-carbon economy through innovation in LED lighting solutions. An external 2017 market analysis by IHS Markit estimated that Lumileds LEDs reduced the total carbon-dioxide emissions of lighting globally by an estimated 39 million metric tons, which is equivalent to a 0.11% reduction of the world's entire CO<sub>2</sub>e footprint and roughly equivalent to shutting down 11 coal-fired power plants in the United States.

Lumileds tracks product performance in lumens per watt for the general illumination and automotive business units. An internal analysis measured CO<sub>2</sub> reductions compared to a baseline of conventional lighting products and to year-over-year improvements in Lumileds LED products. Based on this data, we helped customers reduce carbon by 17 times our own corporate carbon emissions in 2018. Note that this analysis does not account for the impact of historical installs (LED sales prior to 2018) on CO<sub>2</sub> reductions in 2018.

### Reducing the Climate Impact of Our Operations

In addition to creating low-carbon products, we are reducing the climate impact of our operations. The majority of our GHG emissions are produced through the use of energy and the release of perfluorinated compounds (PFCs) in our manufacturing.

### Lumileds GHG Emissions and Perfluorinated Compounds, 2015–2018



The main contributor to GHG emissions is energy consumption of the manufacturing sites. To offset part of the GHG emissions that we cannot reduce in the short-term, Lumileds acquired carbon offsets in 2018 to offset our electricity consumption of 26 million kWh. We have implemented several energy reduction initiatives, which will result in significant GHG emission reductions. See ["Improving Operational Efficiency"](#) for more detail on these initiatives.

In addition to energy consumption, PFCs significantly contribute to Lumileds' total GHG emissions. PFCs serve two important roles in the semiconductor manufacturing process—chamber cleaning and plasma etching. While PFC use is limited at Lumileds, its high potency as a GHG compared to CO<sub>2</sub> makes this compound a significant emissions contributor. Notably, our emissions from PFCs have drastically reduced in the past two years (see "Lumileds GHG Emissions and Perfluorinated Compounds" table). This reduction is predominately attributable to the implementation of three new emission reduction units in our Singapore facility. These emission reduction units reduced the GHG impact of our PFCs in Singapore by more than 90 percent. While emissions from PFCs once accounted for roughly 28 percent of our total carbon footprint, PFC emissions now equal about six percent of our total carbon footprint.

2020 Goals (2015 Baseline)	Progress in 2018
20% reduction in carbon emissions	<b>ACHIEVED TARGET:</b> We have reduced our normalized emissions by <b>41%</b> compared to our 2015 baseline.

### Greenhouse Gas Emissions at Manufacturing Sites

GREENHOUSE GAS EMISSIONS	2018	2017	2016	2015
Total scope 1 emissions (CO <sub>2</sub> e metric tons)	15,736	19,284	72,742	72,877
Total scope 2 emissions (CO <sub>2</sub> e metric tons)	93,685	94,875	84,115	68,203
<b>Total emissions</b>	<b>109,421</b>	<b>114,159</b>	<b>156,857</b>	<b>141,081</b>

### Looking Ahead

Driven by our 2020 targets and continual improvement efforts several new energy savings projects will be implemented throughout 2019, which will result in further significant GHG emission reductions.

## Improving Operational Efficiency

At Lumileds, we continue to reduce our operational impact by pursuing comprehensive programs to improve the efficiency of manufacturing, lowering energy and water use, reducing waste, and reducing negative impacts from chemical processes.

### Improving Energy Efficiency

We recognize that energy use is our most significant operational impact area. The energy that we use not only releases carbon emissions, but it also has the potential to pollute local air. To mitigate this impact, we focus intently on reducing energy use through internal efficiency programs, and we have set company-wide targets for energy-use reduction.

2020 Goals (2015 Baseline)	Progress in 2018
20% reduction in energy consumption in manufacturing (in MWh/unit produced)	<b>ACHIEVED TARGET:</b> We have reduced our normalized energy consumption by 25% compared to our 2015 baseline.

### Energy Use at Manufacturing Sites (MWh)

FISCAL YEARS	2018	2017	2016	2015
Electricity	222,428	227,930	223,726	217,103
Natural Gas	48,736	54,797	52,110	44,221
Other	10,152	10,216	14,371	12,712
<b>Total</b>	<b>281,316</b>	<b>292,943</b>	<b>290,207</b>	<b>274,036</b>

## Energy Efficiency Programs

Driven by our corporate target to reduce normalized energy consumption by 20 percent from a 2015 baseline, each of our manufacturing sites implemented projects to reduce energy consumption in 2018. In total, these 23 projects are expected to produce more than 11.2 gigawatt hours of annual savings, equivalent to approximately four percent of Lumileds total energy consumption. Examples of projects achieving energy savings are provided below.

### Cooling Projects

- In Aachen, Germany, two state of the art chillers with outdoor coolers were installed. The benefits that resulted were a fail-safe system with double lifetime and reduced electricity consumption of 170 MWh per year.
- In Penang, Malaysia, chillers were optimized so that one chiller would automatically turn off during weekends, reducing electricity consumption by 140 MWh per year.

### Compressed Air Projects

- In Aachen, Germany two existing compressed air stations with four compressors were reduced to one station with three compressors. This change reduced the energy required to produce compressed air by 27 percent, equal to 4,000 MWh per year.
- In Pabianice, Poland, our facility implemented a constant monitoring system for compressed air usage and installed electro-valves with shut-off consumption, reducing electricity required for compressed air production by 462 MWh per year.
- In Penang, Malaysia, the compressor configuration was optimized, unused tools were decommissioned, and pressure was reduced where possible, leading to reduced electricity consumption for compressed air by 883 MWh per year. In addition, the compressed dry air system was optimized for an additional reduction of 302 MWh per year.
- In Songzi, China, compressors were optimized resulting in energy savings of 400 MWh per year.

### Building Retrofits

- In Singapore, the nitrogen facility was optimized, enabling the second air compressor to stop running, which reduced the use of liquid nitrogen, resulting in savings of 2759 MWh of electricity per year.

### HVAC Systems

- In Songzi, China, our facility implemented a project to recover heat from compressors, which in turn will reduce the electricity needed for heating systems. The project will result in savings of 314 MWh per year.

### Demand Optimization Projects

- Several sites implemented projects to modify energy demand according to the production schedule.

## Conserving Water

Water is critical to our business and our operations, as LED manufacturing is a water-intensive process. We acknowledge our responsibility to use and manage water resources responsibly, and we understand that Lumileds' impact on water differs depending on the how much water a facility consumes and how much water is available in the local environment.

Our sustainability program places a high priority on continually reducing our water consumption and a company-wide target is in place for water reduction. Reuse and recycling of water is one of the main options to reduce the use of municipal water supply. Our larger manufacturing sites have wastewater reclamation systems that treat and recycle wastewater from production to then be used again in production, cooling towers, and scrubbers.

Driven by our corporate target to reduce normalized water consumption by 20 percent, the more water-intensive sites are continually focusing on further efforts to reduce water consumption. One such project in San Jose, USA will reduce the water used in abatement systems for ammonia emissions control, saving 24,700 m<sup>3</sup> per year. Another project in Singapore will increase the number of times water is used in cooling towers, resulting in reduced water consumption of 16,403 m<sup>3</sup> per year. These projects combined are expected to save more than 61,000 m<sup>3</sup> of water annually (roughly equivalent to four percent of Lumileds total water consumption).

2020 Goals (2015 Baseline)	Progress in 2018
20% reduction in water intake	<b>ACHIEVED TARGET:</b> We have reduced our normalized water consumption by <b>25%</b> compared to our 2015 baseline.

## Ensuring Environmental Compliance

To reduce our environmental impact, be compliant with EHS requirements, and continually enhance EHS performance, all\* Lumileds manufacturing sites are certified to the ISO 14001:2015: Environmental Management Systems standard. In addition, our site in Aachen, Germany is certified to the ISO 50001:2011: Energy Management Systems standard.

\*Our new site in Jiaxing, China will be certified to ISO 14001:2015 in late 2019.

## Building Accolades in Water Efficiency

Lumileds Singapore has received the Water Efficient Building Gold Certificate as recognition for the continual efforts the site has put in place for water efficiency.

In Sept 2013, Lumileds Singapore won the Water Mark Award given by the Public Utility Board (PUB). This is the highest accolade for individuals and organizations in the public, private and people sectors for excellent achievements in water efficiency and conservation of water resources in Singapore. In addition, the company has also been certified as a Water Efficient Building since July 2012 and was awarded with the Water Efficient Building Gold Award Category the following year. Some of the initiatives done by the company to become more water efficient building include: building a wastewater reclaim system enabling the plant to recycle 43% of used water, installing water metering at strategic locations to monitor consumption, and installing a water leak detection system to respond to leakages immediately.



## Looking Ahead

Lumileds long-term water strategy reflects the need to understand water challenges in their local context. Some of our operations are in regions that may become increasingly vulnerable to prolonged droughts and/or to increased risk of floods. In 2019, we will be conducting a water risk assessment according to the WRI's Aqueduct for Measuring and Mapping Water Risk to understand where and how water risks and opportunities are emerging at our manufacturing sites.

## Reducing Waste

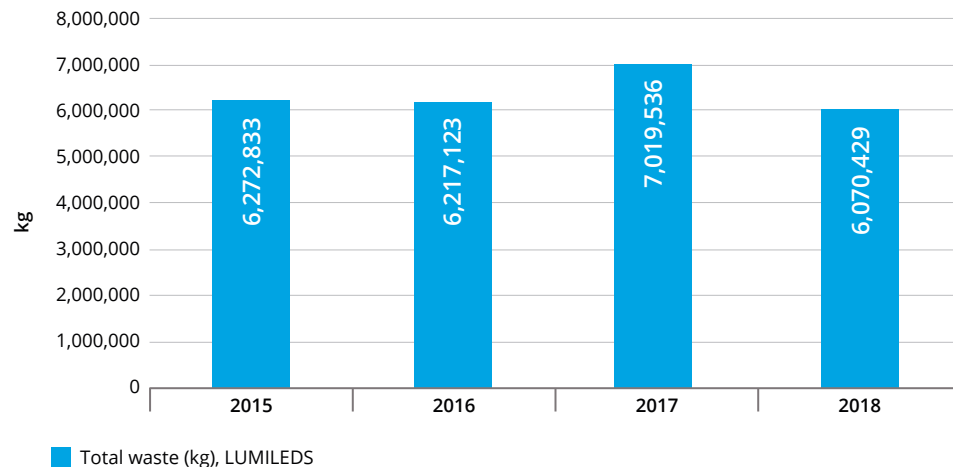
To reduce our overall impact on the environment, we work to decrease the waste we generate and increase the waste we recycle. Lumileds has a company-wide target to increase the recycling rate of the total waste generated and reduce the amount of waste delivered to landfill. Our manufacturing sites generate hazardous and nonhazardous waste streams, in addition to office and general waste. Most of the waste is related to the manufacturing of our products. Recycling is the dominant disposal method for waste at our manufacturing sites. We track our recycling rate, which for 2018 was 70 percent.

Specific improvement projects are implemented to reduce the amount of waste generated and increase the percentage of waste recycled. Several projects are focused on optimizing the segregation of waste streams and training employees to minimize the mixture of recyclable and non-recyclable waste. Manufacturing sites are also looking for opportunities to divert waste from going to landfill. For example, in San Jose, wastewater treatment sludge is now recycled under the "Alternative Daily Cover" requirements within the landfill regulations and in Penang, used lead acid batteries are now sent to a licensed facility for recycling.

As depicted by the following chart, our total waste at Lumileds decreased by more than one million kg in 2018.

2020 Goals (2015 Baseline)	Progress in 2018
Recycle 85% of total waste.	<b>IN PROGRESS:</b> In 2018 70% of our total waste was delivered for recycling.

Lumileds Total Waste (kg), 2015–2018



## Lumileds Singapore BCA Green Mark Platinum Award

In 2018, our Lumileds Singapore site was awarded the BCA Green Mark Platinum Award. The award was created by the Singapore Government's Building and Construction Authority (BCA) to acknowledge efforts to improve building performance and reduce environmental impacts. The certification incorporates internationally recognized best practices in environmental design and rates buildings based on a standardized benchmarking process.

Two of Lumileds' buildings earned points toward certification in all categories including Building Energy Performance thanks to investments made in energy consumption monitoring systems, efficient lighting, motion sensor optimization, and an efficient central chiller plant. Updates to the chiller plant alone have led to three million kWh in annual energy savings.

*"At Lumileds Singapore, we strive to continuously explore sustainable solutions that balance economy and ecology. The Green Mark Award is an acknowledgement of our commitment to advance sustainability and energy efficiency within our operations."*

– Jim Day, VP of Singapore Wafer Fab Operations



## Looking Ahead

Driven by our 2020 targets and continual improvement efforts we will continue to look for further efficiency improvements on energy, water and waste. Several new improvement projects are identified for energy, water, and waste, and these projects will be implemented throughout 2019.

# EMPLOYEES



*We strive to make the world a better, safer, and more beautiful place for everyone. This starts internally with our employees. Our first priority is to provide safe and healthy workplaces for our employees, contractors, customers, and visitors, as well as strive for an accident-free workplace. We also acknowledge that in order for us to continue to sustain our top performance, we need to recruit and retain the best talents. We believe that a values-based culture, supportive management and a focus on diversity are key ingredients for us in shaping a work environment that will attract, engage, and retain talented employees.*

## Investing in Talent

To attract and retain the right people with the right skills, Lumileds provides opportunities for employees to learn and grow in their careers while developing new skills and capabilities. Examples of these opportunities are our trainee programs and the commitment we show in supporting mid-and senior-level talent in their skill and career development. We also invest in our unique culture as a way to cultivate our values and contribute to our ability to attract and retain a diverse mix of employees.

At Lumileds, we believe the role of the manager is a crucial one. The way they manage on a day-to-day basis can make all the difference to the way our employees feel. In many ways, managers hold the keys to our employees’ skills and career development, so providing them with training and development opportunities is critical.

We recently introduced a new standard for leadership at Lumileds. One that we built together through workshops with over 60 managers globally. This new leadership standard provides a framework for developing leadership behaviors (such as empowering and driving engagement), which are aligned with our values and that are crucial to achieving meaningful goals for our employees, customers, and owners.

We also recognize the value of collecting input to understand the employee experience. The results of our People Survey and subsequent interviews with employees globally tell us our managers continue to impact positively the performance and development of the employees they support.

### Reinforcing Lumileds Culture and Values: Culture Champions Network

We are committed to creating a culture that inspires employees to pursue and grow their careers with us. In 2018, Lumileds launched a company-wide culture initiative designed to further bring our values—innovation, quality, execution, care for customers, collaboration, and integrity—to life in everything that we do. To support the initiative, we brought together enthusiastic employees around the globe to form a “Culture Champions” network. The network helps to leverage the collective intelligence of our diverse team members to drive culture change in a way that resonates with our employees globally.

## Learning@Lumileds: Learning Management System

By creating learning and development opportunities for employees, we help them grow and advance. In 2017, we launched a new Learning Management System (LMS) that offers employees virtual and instructor-led courses on hundreds of topics. Some of the subjects covered by the LMS in 2018 included influential leadership, risk-based thinking, and process optimization. On average, 565 courses are completed each month. For subjects related to our culture, products, and compliance, we have targeted curricula. For example, we have created a specific curriculum on Lumileds values. So far, this values-based curriculum has been completed 1,891 times. Employees are given an option to follow this course with an additional course focused on a single value. Employees most frequently chose Collaboration, Care for Customers, and Integrity as follow-up courses.

### More than a Job: Lumileds Employee Value Proposition

Lumileds operates in markets where there is fierce competition for talent. In order to differentiate ourselves, we designed Lumileds’ new Employee Value Proposition (EVP) in 2019, highlighting the areas where we want to excel at as an employer.

We know that nowadays work is more than just a job, employees want to be proud of where they work, and they want the company’s culture to reflect their values. Our EVP describes what makes it attractive to work for Lumileds and it forms the basis for what and how we communicate with current and prospective employees. To make a difference in deciding for an employer, we looked for an EVP that is attractive, sustainable, distinct, credible, and true.

We leveraged People Survey data and interviewed employees around the globe to make certain that our EVP both reflects what is important to our employees and is perceived to be true.

Based on the above, the key attributes of our new EVP are:

- Meaningful work
- Innovative products
- Managers that make a positive difference to employee performance and growth
- A work atmosphere/culture that radiates integrity and diversity and feels empowering
- Competitive pay and benefits

Over the course of 2019, we will use these attributes in our employer branding and in other HR initiatives.

## Focusing on the Employee Experience

We engage and communicate with our employees in several ways, including web-based media, print, and face-to-face events. Company updates are regularly shared through our intranet, THE HUB, which promotes awareness of business results, customer wins, and large internal initiatives. It promotes engagement, recognition, and role modeling by featuring employee stories at all levels, and it also serves as an educational tool about the Lumileds business. We feature sites so that employees can understand the diversity of our locations and people.

Each business unit and function has its own newsletters that highlights different aspects of its work. As an example, some business units or functions highlight social occasions and events that are relevant to their employees. The CEO and his Leadership team organize periodic Town Hall meetings to provide updates to everyone in the company. These typically cover strategy, state of the business/financials, and other relevant organizational topics such as client wins and product innovation. All employees are invited to ask questions directly to senior management. In addition to the Global Town Hall meetings, each business unit, function, and site organizes their own Town Hall meeting on a quarterly basis.

We also distribute surveys to capture employee feedback. In 2018, we launched our first People Survey that measured employee satisfaction. Based on the feedback from our employees, we defined three global priorities. Each priority has a high impact on employee satisfaction, scored low on the survey, and is tied to our values. To improve these identified priorities, hundreds of action plans have been created at the level of individual teams.

Our recognition program awards and celebrates outstanding employee achievement and contribution. Recognition is most often offered for project completion, outstanding results, living Lumileds values, and company seniority. We have different award levels, each with a different monetary reward. Reward winners are typically recognized and celebrated during business unit, function, and site-specific Town Hall meetings. We also have an annual quality improvement competition where employees from across Lumileds share quality improvement ideas, and a jury of senior-level business leaders selects the winners.

## Strengthening Diversity

Lumileds is guided by a set of ethical standards, which underscores our commitment to build a strong and diverse slate of candidates. We believe talented and diverse employees provide fresh perspectives and strategic thinking, better equipping us to understand global markets and forge connections in the communities in which we operate.

In order to track our progress on building a diverse company, we must measure our performance. Gender balance has been identified as one of the key performance indicators for our global effort on talent management and retention. On a monthly basis, we track Gender Balance and Voluntary Women Attrition for our mid-to senior-level employees. This data is shared with the Company and HR leadership teams. In the event we do not meet our pre-defined targets, we design and deploy corrective action plans.

## Lumileds Honored for Talent Acquisition Efforts

Lumileds was honored at the 2018 Asia Recruitment Awards, Asia's biggest awards event dedicated to recognizing the recruitment and talent acquisition achievements of companies. The event celebrates successful company programs and projects as well as HR professionals and teams from across the region. Lumileds won the Best Regional Recruitment Program Gold Award and Best Recruitment Innovation Bronze Award. The following activities across our Asia Pacific Region contributed to these honors:

Lumileds established a talent network internally where employees collaborated to help clarify Lumileds employee value proposition and brainstorm new ways to source talent

Lumileds increased the agility of its recruitment structure so that recruiters focused on a specific business unit can also be deployed to other segments

The Talent Acquisition Team increased early engagement with business units to better anticipate future needs in addition to addressing vacancies when they arise.



## Looking Ahead

Over the last few years, we introduced values-based competencies to Lumileds with corresponding training curricula. Throughout 2019, we will support our employees in leveraging these with more rigor and specificity to increase the effectiveness of learning. We will also continue to highlight, share information and give tools for social learning collaboration. This enables employees across Lumileds to share their knowledge, learn from each other and build communities of practice via our Learning management platform. Diversity is important to us and we will continue to monitor and manage it in an integrated way across our full range of HR practices, e.g. through talent management, recruitment and reward.

## Promoting Health and Safety

As we strive every day to make the world safer with innovative lighting solutions, we also work tirelessly to ensure our employees have a safe, secure, and healthy place to work. We aim to foster an injury prevention culture where employees, managers, and leadership have the courage to act on “potential” injuries before they occur. To support these ambitions, we conduct risk assessments, host safety trainings, oversee safety improvement programs, and make ongoing adjustments to processes and operations. All of our efforts are supported by the OHSAS 18001-certified Lumileds Occupational Health and Safety Management System. This system is implemented at all our manufacturing facilities and is externally certified. The management system ensures a structured approach on key safety topics such as hazard/risk assessment, operational controls, training, communication, governance, and management review. These topics are assessed through internal and external safety audits.

2020 Goals (2015 Baseline)	Progress in 2018
Reduce lost workday injury cases to 0.15*	<b>On Track:</b> In 2018 our lost workday injury case rate was 0.12.

\*Percentages are based on cases per 100 full-time equivalent employees (FTE).

Due to our continual improvement efforts and relentless focus on occupational safety, our Lost Workday Case Rate decreased from 0.18 in 2017 to 0.12 in 2018 (measured as total number of lost workday cases per 100 full-time equivalent employees (FTE) at manufacturing sites). Since the spinoff in 2015, this rate is the best we’ve achieved and aligns with industry best practice. Our Total Recordable Case rate also decreased from 0.42 in 2016 to 0.26 in 2018 (measured as total number of recordable cases per 100 FTE at manufacturing sites). With these improvements, our safety performance is on track to meet our 2020 goals.

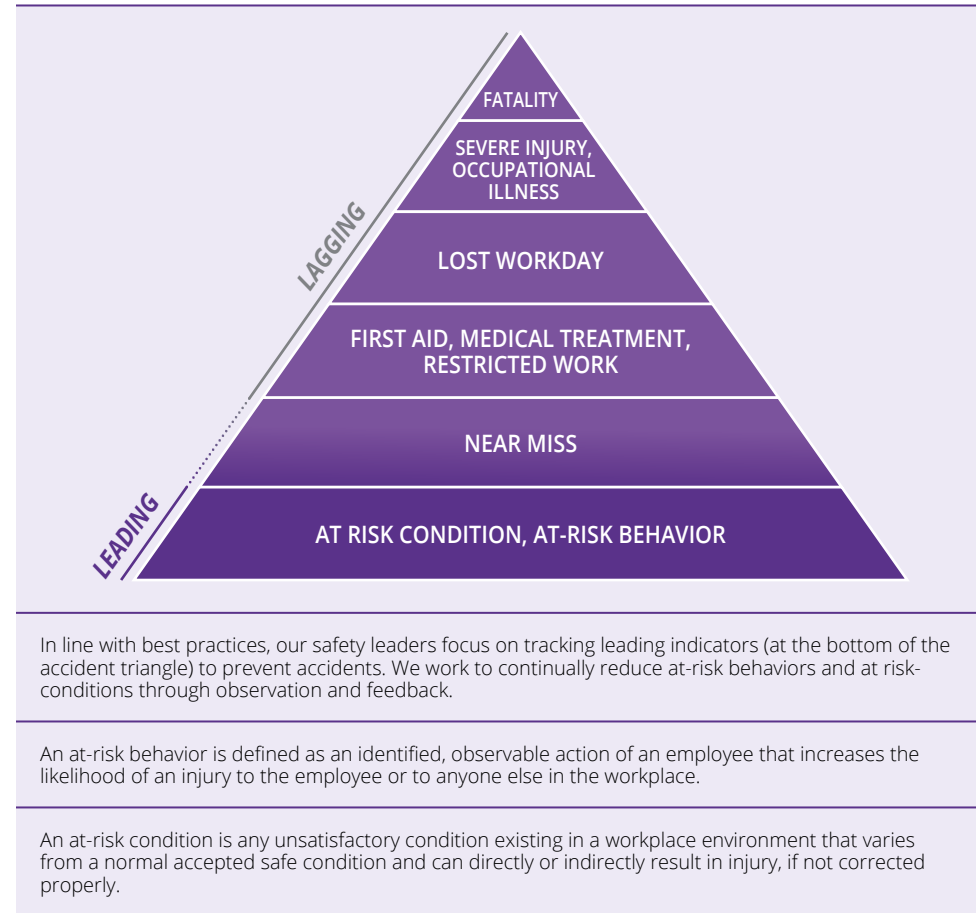
## Promoting a Healthy Workforce

To support the health and well-being of employees, our sites around the world manage a range of initiatives, including:

- Health talks by experts on topics such as women’s health, better sleep, ergonomics, and stress management
- Periodic dedicated days or weeks to promote a healthy lifestyle.
- Workplace investments to improve indoor air quality
- Collaboration with local health providers to allow employees access to fitness and health centers
- Tools to measure and manage personal health, such as blood sugar, weight, BMI, and blood pressure

## Reducing Safety Risks Through Continual Improvement

Our decrease in injuries is only possible through fostering an injury prevention mindset where all employees are empowered to identify, react to, and solve for risky behavior and situations.



Lumileds performed a total of 13,301 injury prevention actions in 2018 including:

- 7,611 at-risk behavior observations with feedback provided
- 3,615 at-risk workplace conditions observed and addressed
- 2,075 near misses reported and actions taken

Our aggregate injury prevention rate in 2018 was 1.51, which is the same as in 2017 (measured as total number of injury prevention actions per FTE).



## Changing Behaviors for a Safer Workplace

The majority of occupational injuries have their origins in at-risk and unsafe behaviors. To address this, we work to reinforce a company-wide culture where everyone is responsible to proactively identify, address, and reduce unsafe actions. To support this, Lumileds created Behavior Based Safety (BBS) programs that foster positive safety behaviors. In 2018, each of our sites implemented several BBS initiatives, including the following:

In Pabianice, Poland, Lumileds launched a Safety Workshop with the management team and supervisors to work out a new approach and new questionnaire for BBS observations.

In Penang, Malaysia, our team collected BBS approaches from all other Lumileds sites to develop a best practice to be implemented locally.

In San Jose, USA, Lumileds hosted safety trainings for all supervisors across the site.

Behavior Based Safety observations create a culture where employees openly look out for themselves and each other and discuss how to do their jobs more safely.



## Looking Ahead

Also in 2019 we will be relentlessly looking for further continual improvement opportunities in the area of health and safety. As a specific project we will be preparing the conversion to ISO 45001 (the occupational health and safety management system standard replacing OHSAS 18001). The conversion to ISO 45001 will be completed in the course of 2020.

## Safety Training

To ensure all employees have the right skills and knowledge to do their job safely, as well as minimize the risk of injuries to themselves and colleagues, we provide trainings at all of our sites. Our training programs range from general safety trainings for employees to job-specific safety trainings and specialized trainings.

Examples of specialized trainings carried out in 2018 include:

- First aid trainings
- Fire protection trainings
- Behavior Based Safety (BBS) Trainings on how to conduct BBS assessments
- Log-out Tag-out (LOTO) trainings on electrical safety
- Machine safety trainings
- Chemical safety trainings



Training is just one way we engage employees around safety. We also offer surveys, demonstrations, workshops, competitions, and quizzes.

Our Penang site held a poster competition during EHS Week 2018. Employees created posters about five selected EHS rules. The competition enhanced employees' awareness of EHS, while providing friendly competition.

## Advancing Safety in 2018

A safety mindset requires a relentless effort to continually identify additional improvement efforts. Each site has a safety plan in place with initiatives aimed at specific risks and opportunities identified locally. Examples of initiatives undertaken in 2018 include:

- Safety culture surveys to capture employee feedback and identify areas of improvement to enhance our safety culture.
- Machine safety levels were upgraded by several sites, implementing measures focused on ergonomics, noise, and guarding.
- Chemical Health Risk Assessments analyzed and ensured chemical hazard control measures are in place.
- Site improvements in Singapore to minimize slips, trips, and falls, such as eliminating wet and slippery entrances, installing railings, and encouraging employees to report any hazards in the workplace.
- BBS trainings conducted at four sites to improve workers' attention to their and peer's everyday safety behavior.

# COMMUNITIES



*The activism and passion of Lumileds employees on the ground is what transforms our community strategy into real-world results. We are committed to building a culture that enables employees to apply their time and talents to the issues they care most deeply about, and to offering programs that maximize volunteer efforts.*

## Supporting Community Initiatives

Collaboration with our stakeholders is one of our core values, including the communities in which we live and work. Engagement with communities is organized locally to enable our sites to address the community in a meaningful way. Local community engagement activities are reported centrally and are shared on our global intranet, THE HUB, to foster awareness and recognition for these initiatives.

In total, 1,705 employee volunteer hours were dedicated to company-sponsored community and other charitable activities during 2018. Most of these activities were partnerships with local non-governmental organizations (NGOs). Examples of community engagements undertaken in 2018 include:

- Blood donation campaigns (Aachen, Chartres, Pabianice and Penang)
- Supporting local children's homes (Aachen, Pabianice, and Shanghai)
- Participation in the Family Giving Tree for the Holiday Wish Drive and Back to School Drive (San Jose)
- Cherish and Nourish Bazaar 2018 at Yishun Singapore including several activities and a donation campaign.

## Cherish and Nourish Bazaar 2018

Working closely with North West CDC and Nee Soon East Grassroots Organizations, Lumileds collaborated with community partner SiloamXperience to organize Cherish and Nourish Bazaar 2018 at Yishun. The charity drive encouraged acts of giving and support for members of the community. Lumileds employees went door-to-door to personally invite residents to the Bazaar. The event featured free haircuts, massage, and game activities for attendees of all ages and a Siloam Thrift shop where Lumileds employees donated lightly used and new items.



## Looking Ahead

Throughout 2019 we will continue to explore new opportunities to engage with communities in a meaningful way.

# GOVERNANCE



*We maintain trust with all stakeholders by creating and enforcing high standards in ethics and governance. Lumileds Leadership Team is guided by our corporate values of innovation, quality, execution, care for customers, collaboration, and integrity, as well as our Global Code of Ethics. These standards also drive the expectations that we set internally for employees and externally for our business partners.*

*Our company values are at the core of Lumileds' culture. They serve as our compass and describe how we want to shape the cohesive culture of our company. These values guide how we work with our colleagues, customers, business partners, and communities.*

*Our values are not only descriptions of operational procedures or statements, they are reflections of our common principles. Together with our Global Code of Ethics, our values serve as a guide to do the right thing and to take actions in the best interest of our company, customers, our employees, and the world in which we live.*

## Managing Our Business Responsibly

At Lumileds, our values guide how we conduct our business every day. We are committed to managing our business responsibly, which means acting with integrity and in accordance with the highest ethical standards to ensure compliance with all relevant laws and regulations where we operate. Adherence to our values starts internally with our people, whose actions are guided by the Lumileds Global Code of Ethics.

### Global Code of Ethics

Lumileds Global Code of Ethics serves as an ethics guide for employees and stakeholders and supports commitment to working in alignment with the highest ethical standards and our global values. The Code has been translated into multiple languages and is integrated into mandatory new hire trainings.

Lumileds believes it is important to cultivate an open, transparent culture among our employees, allowing everyone to express, in good faith, any concern. We have a dedicated 24/7 Speak Up line and an online platform where everyone can express concerns, report complaints, and ask questions.

Everyone should be able to raise concerns without fear of retaliation, knowing that their concern will be treated confidentially, seriously, fairly, and promptly. Most of the time, this can be done by speaking with a direct manager, the local HR representative or the Legal and Compliance department. If an employee prefers to remain anonymous, they can contact the Lumileds Speak Up line.

Calls to the Speak Up line are toll free and available 24 hours a day in all local languages. Telephone numbers for the Speak Up line are available on posters throughout Lumileds sites, on the Lumileds intranet, and on [lumiledsintegrity.com](http://lumiledsintegrity.com). The Speak Up line serves as a whistleblowing line and is managed by an independent company. All reports are reviewed by our Global Compliance Director and employees can be assured of objective treatment. The Speak Up line is operated in compliance

with data privacy requirements and reports can be made anonymously (unless local law prescribes otherwise).

### Ethics and Employee Training

Every Lumileds employee is educated on working in an ethical, honest, and compliant manner and he or she has received the message that Lumileds will not compromise when it comes to ethical principles. To ensure this ethical standard is communicated accurately, Lumileds has trained all employees on fair competition, gifts and entertainment standards, anti-bribery policies, avoiding conflicts of interest, complying with global trade restrictions and export controls, protecting data/IP/other property, as well as Lumileds' view on taking care of people and the planet. In 2018, all new employees were trained in the Code of Ethics, and all existing employees are required to take an annual refresher course. Certain qualified employees are required to take subject matter-specific trainings as well.

### Protecting Data Privacy

At Lumileds we are committed to treating the personal data of our business partners, customers, and employees with respect. We are keen to collecting personal data in alignment with our business purposes and the relevant lawful basis, and to protecting it appropriately. We consider it important to demonstrate our commitment to data protection and have, as part of our Data Protection Compliance Program, filed Binding Corporate Rules with the Dutch Data Protection authorities.

## Looking Ahead

By taking a values-based approach towards the development and implementation of our Ethics & Compliance program, we will use our values, and in particular integrity, as the umbrella under which all activities and communications related to the way we want to do business will reside. Rather than putting the program solely in a legal context, driving our Ethics & Compliance program with our values in mind will provide a platform to discuss the ethical standards to which we want to work.

In order to further advance this culture and value-based approach, a cross-functional governance structure will be put in place: the Compliance Board will remain in place and a cross-functional Ethics & Compliance Steering Committee will be added, driving multiple initiatives simultaneously ensuring a coordinated and consistent, values-based approach.

In addition, we are establishing a cross-functional Ethics & Compliance Community, using the existing networks of Local Compliance Officers, Culture Champions, EHS Managers and Privacy Leads as well as expanding employee involvement in other functions, such as IT, Finance, Sales & Marketing, Procurement, and Legal. By involving our colleagues representing multiple disciplines and geographies, it is our intention to start working towards business ownership for ethics and compliance activities.

The following activities are on the compliance roadmap for 2019:

- A **risk assessment** will be performed in several key jurisdictions where we operate to ensure proper identification of priorities for our Ethics & Compliance program.
- Several **training and awareness** activities are on the agenda to ensure visibility and engagement.
- **Data protection/data privacy** is identified as an area of focus given the increasing importance of data protection and cybersecurity compliance.

## Lumileds Ethics and Supply Chain Policies and Documents

- [Supplier Sustainability Declaration](#)
- [Conflict Minerals Position Statement](#)
- [Conflict Minerals Declaration \(CMRT\)](#)
- [Transparency in Supply Chains Statement](#)

## Responsible Supply Chain

Our core value of integrity extends externally to our supply chain where we set strict standards for the suppliers with whom we work. As a condition of doing business with Lumileds, we require suppliers to share our commitment to responsible business practices.

We enforce this commitment through the [Supplier Sustainability Declaration](#) policy that sets standard labor, environmental, ethics, and health and safety requirements for suppliers. Our Supplier Sustainability Declaration is based on the [Responsible Business Alliance \(RBA\) \(formerly the Electronic Industry Citizenship Coalition\) Version 6.0 \(2018\)](#). In accordance with the California Supply Chain Transparency Act (SB 657), the [Supply Chain Transparency](#) statement provides information on our efforts to address the issues of slavery and human trafficking in the supply chain.

Additionally, Lumileds oversees a Conflict-Free Minerals Program that ensures our supply chain is conflict free. Our Conflict-Free Minerals Program follows the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. To support the program, we require suppliers to perform supply chain due diligence, identify all smelters in their supply chain, and take corrective actions when needed.

Examples of supply chain actions in 2018:

- Held 38 training sessions with suppliers on the Supplier Sustainability Code of Conduct.
- Executed 59 audits at supplier sites (the majority of which were conducted by third-party audit companies).
- Created corrective action plans following each audit to verify the resolution of any non-conformities.
- Implemented a new supplier audit scoring system to provide new insights focused on continual improvement opportunities.

Goals	Progress in 2018
90% supplier compliance with the Supplier Sustainability Code of Conduct by 2020	<b>ON TRACK:</b> The compliance rate (number of suppliers with a valid audit without non-conformities/ total suppliers in the program) is <b>82%</b> , which is in line with the target set for 2018.

## Holding Suppliers Accountable: Monitoring and Audits

To support supply chain responsibility efforts, Lumileds carries out selective monitoring by means of supplier self-assessment questionnaires and third-party audits to ensure suppliers fulfill their commitment. The selection of a supplier in the self-assessment or audit program depends on the risk profile of the supplier. A supplier's risk profile includes the country risk as assessed by external sources.

If a supplier is selected to be in the scope of the audit and accepts, the supplier will be enrolled in a three-year audit cycle. The audits cover all the requirements of the RBA Code of Conduct. The audit identifies any code violations, for which a corrective action plan to remedy the violations is agreed upon with the supplier. Lumileds works with the suppliers on the improvement areas that are identified in the audit, and follows up with coaching to suppliers until the non-conformities are corrected. This also includes opportunities for improvement that are not identified as a non-conformity, and which can be identified through overall trends observed in the audit program.

Currently, there are 92 active suppliers included in the audit program. The compliance rate (number of suppliers with a valid audit without non-conformities / total suppliers in the program) is 82 percent, which is in line with the target set for 2018.

Key non-conformities identified and corrected as part of the supplier sustainability program in 2018 were:

1. Fire exit and escape route (signs, quantity, emergency lights)
2. Weekly working hours
3. Occupational safety
4. Fire safety certificate
5. One day rest per seven days
6. Waste water/gas/noise monitoring
7. Benefits (social insurance/leaves)
8. Personal protective equipment
9. Fire drill
10. Environmental certificates

## Improving Supplier Sustainability Auditing

Lumileds is committed to continuously reducing the environmental and social impact of our supply chain. To support this, Lumileds oversees an audit program designed to hold suppliers accountable and guide them in improving the sustainability of their products and operations.

After completing an assessment, we determined that our existing auditing process was focused too closely on short-term compliance requirements, preventing Lumileds from effectively driving longer-term change in our supply chain. In 2018, Lumileds implemented a new audit scoring process that took a more systematic approach. We focused our new approach on rewarding strong management practices and improvement initiatives that drive better long-term continual improvements.



## Looking Ahead

Throughout 2019 we will evaluate the results of our new audit scoring process implemented in 2018 to identify further improvement opportunities. For conflict minerals we will be implementing a new compliance software tool to support our Conflict Minerals Program.

## Conflict Minerals

Conflict minerals are natural resources that ethical companies seek to avoid purchasing because they have been extracted in conflict zones and are used to finance and perpetuate armed conflicts. The most prominent contemporary example has been in the Democratic Republic of the Congo (DRC), where various actors have profited from mining while contributing to violence and exploitation during wars in the region.

The four most commonly mined conflict minerals are tin, tungsten, tantalum, and gold. Each of these metals are used in the manufacturing of LEDs. As outlined in our [Conflict Minerals Position Statement](#), Lumileds is committed to not purchasing raw materials, subassemblies, or supplies that contain conflict minerals that directly or indirectly finance or benefit armed groups. Lumileds also asks our suppliers to establish their own Conflict Minerals Policies and to only use validated smelters. Further, Lumileds supports organizations including the Responsible Minerals Initiative that seek to prevent minerals that directly or indirectly finance the DRC conflict from entering the electronics supply chain.

## Conflict Free Smelters and Refiners

The [Responsible Minerals Initiative](#) helps companies make informed choices about responsibly sourcing minerals in their supply chains. The organization conducts independent third-party audits of smelter and refiner management systems and sourcing practices to form a comprehensive list of conformant companies. Lumileds uses this list to assess our suppliers and we will not work with any that use non-conforming smelters and refiners.

# PERFORMANCE



*Throughout this report, we detail the performance related to the priority issues identified. In this section, we provide an overview of our environmental and social performance in 2018.*



## Environmental Performance

GREENHOUSE GAS EMISSIONS	2018	2017	2016
<b>Total absolute emissions (metric tons of CO<sub>2</sub>e)</b>	<b>116,553</b>	<b>123,256</b>	<b>165,904</b>
Scope 1	15,736	19,284	72,742
Scope 2 location-based (manufacturing)	93,685	94,875	84,115
Scope 2 location based (offices) <sup>i</sup>	1,666	1,768	1,768
Scope 3 (air travel only)	5,466	7,329	7,279
<b>Total normalized emissions</b>			
GHG intensity (g CO <sub>2</sub> e per unit produced) <sup>ii</sup>	35	34	62

- i 2016 Scope 2 location-based emissions are estimated. We started tracking office emissions in 2017.
- ii GHG intensity measures Scope 1 and Scope 2 location-based emissions attributable to manufacturing per unit produced.

ENERGY	2018	2017	2016
<b>Total energy consumption (MWhs)</b>	<b>285,095</b>	<b>296,862</b>	<b>294,177</b>
Natural gas	48,736	54,797	52,110
Fossil carburants (diesel and LPG) for stationary use	732	724	776
Energy from electricity consumed in manufacturing	222,428	227,930	223,726
Energy from electricity consumed in offices <sup>i</sup>	3,047	3,194	3,194
Energy from heat, steam, and cooling	10,152	10,216	14,371
Direct purchase of renewable electricity	-	-	-
Indirect purchase of renewable electricity (renewable energy certificates)	26,153	27,256	36,262
<b>Total normalized energy consumption</b>			
Energy intensity (kWh per unit produced) <sup>ii</sup>	0.09	0.09	0.11

- i 2016 energy consumption in offices is estimated. We started tracking energy consumption in 2017.
- ii Energy intensity measures total energy consumed in manufacturing sites per unit produced.

WASTE	2018	2017	2016
<b>Hazardous waste (metric tons)</b>	<b>984</b>	<b>1468</b>	<b>1324</b>
Sent to landfill	59	112	137
Recycled or composted	393	413	438
Recovered (energy from waste) <sup>i</sup>	264	309	0
Incinerated	269	634	749
<b>Non-hazardous waste (tons)</b>	<b>5087</b>	<b>5552</b>	<b>4893</b>
Sent to landfill	267	483	528
Recycled or composted	3869	4134	3835
Recovered (energy from waste) <sup>i</sup>	135	41	0
Incinerated	816	894	531
<b>Recycling Rate</b>	<b>70.2%</b>	<b>64.8%</b>	<b>68.7%</b>

- i Waste recovery was included under incineration in 2016. Since 2017, waste recovery and incineration are tracked separately.

WATER	2018	2017	2016
<b>Total water withdrawn (Nm<sup>3</sup>)</b>	<b>1,699,647</b>	<b>1,739,749</b>	<b>1,651,361</b>

ENVIRONMENTAL COMPLIANCE	2018	2017	2016
Number of significant environmental fines	0	0	0
Amount of significant environmental fines	0	0	0

## Safety Performance

SAFETY	2018	2017	2016
Fatalities as a result of work-related injury (number)	0.00	0.00	0.00
Fatalities as a result of work-related injury (per 100 FTE)	0.00	0.00	0.00
High-consequence work-related injuries <sup>i</sup> (number)	0.00	1.00	0.00
High-consequence work-related injuries <sup>i</sup> (per 100 FTE)	0.00	0.01	0.00
Total incident rate <sup>ii</sup> (injury cases per 100 FTE)	0.26	0.42	0.44
Lost-time incident rate <sup>ii</sup> (lost workday cases per 100 FTE)	0.12	0.18	0.32

- i Excludes fatalities. Work-related injury that results in a fatality or in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within 6 months.
- ii Total incident rate and lost-time incident rate covers full-time equivalents at manufacturing locations, which is greater than 95% of all Lumileds full-time equivalents.

## Gender Diversity

GENDER	TOTALS		FEMALE		MALE	
	2018	2017	2018	2017	2018	2017
<b>Employment Contract</b>						
Permanent employees	8,823	9,133	4,592	4,846	4,231	4,287
Interns	34	50	15	11	19	39
<b>Employment Type<sup>i</sup></b>						
Full-time	8,728	9,036	4,538	4,778	4,190	4,258
Part-time	129	147	69	79	60	68
<b>Employees by Region<sup>i</sup></b>						
Americas	671	678	217	229	454	449
APAC	5,821	6,087	3,664	3,924	2,157	2,163
EMEA	2,365	2,418	726	704	1,639	1,714
<b>Employee Category<sup>i</sup></b>						
Admin Support	522	534	336	340	186	194
Director	247	215	37	41	210	174
Executive	31	24	3	1	28	23
Manager	540	326	169	94	371	232
Production & Assembly	4,014	4,516	2,839	3,193	1,175	1,323
Professional	2,138	2,258	729	744	1,409	1,514
Supervisor	214	232	72	74	142	158
Tech Support	1,151	1,078	422	370	729	708

i Interns are included in calculations.

PERCENTAGE OF FEMALE EMPLOYEES	2018	2017	2016
Americas	32%	34%	32%
APAC	63%	64%	65%
EMEA	31%	29%	29%

## Gender Diversity

NEW EMPLOYEE HIRES <sup>i</sup>	2018	2017
<b>Total</b>	<b>1,078</b>	<b>1,312</b>
<b>New Employee Hires by Region</b>		
Americas	108	72
APAC	746	1,024
EMEA	224	216
<b>New Employee Hires by Gender</b>		
Female	567	745
Male	511	567
Not Declared	0	0
<b>New Employee Hires by Age Group</b>		
Under 30 years old	454	693
30–50 years old	554	573
Over 50 years old	70	41
Not Declared	0	5

i Excludes contingent workers and interns.

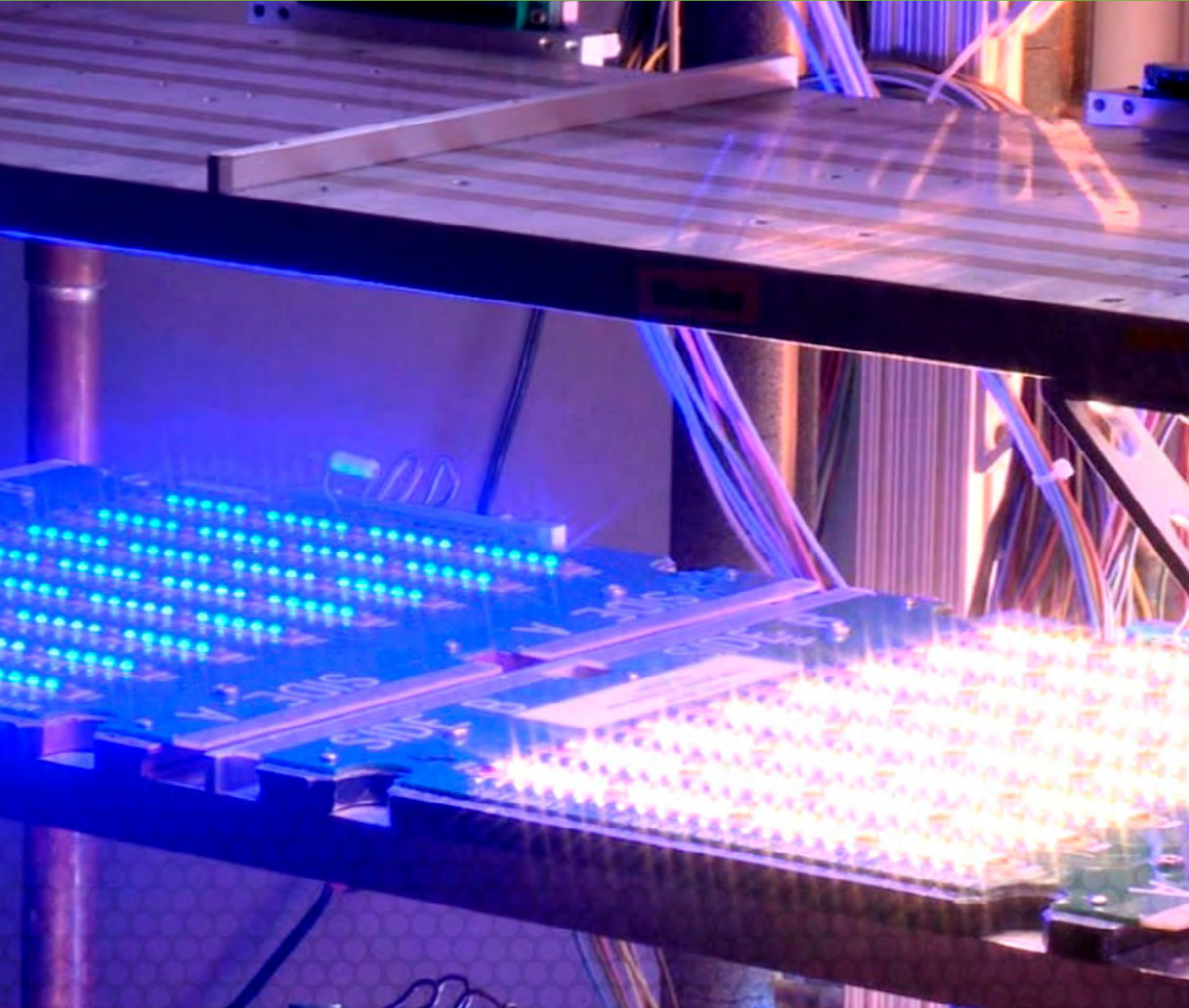
EMPLOYEE TURNOVER AND RATE	EMPLOYEE TURNOVER <sup>i</sup>		TURNOVER RATE <sup>ii</sup>	
	2018	2017	2018	2017
Voluntary	1,288	1,228	14.6%	13.5%
Involuntary	115	97	1.3%	1.1%
Retirement	69	59	0.8%	0.6%
End of Fixed Term/Intern Contracts	202	10	2.3%	0.1%
<b>Total</b>	<b>1,674</b>	<b>1,394</b>	<b>19.0%</b>	<b>15.3%</b>
<b>Turnover by Region</b>				
Americas	124	124	18.5%	18.3%
APAC	1,249	1,065	21.5%	17.5%
EMEA	301	205	12.9%	8.6%
<b>Turnover by Gender</b>				
Female	1,051	815	22.9%	16.8%
Male	623	579	14.7%	13.5%
<b>Turnover by Age Group<sup>iii</sup></b>				
Under 30 years old	745	597	34.4%	23.8%
30–50 years old	728	602	13.7%	11.4%
Over 50 years old	161	131	12.0%	10.1%

i Excludes contingent workers and interns.

ii Turnover rate is calculated by total number of terminations divided by total headcount.

iii Employees who did not declare their age group are not included.

# GRI INDEX



*The GRI Sustainability Reporting Standards (GRI Standards) are the most widely adopted global standards for sustainability reporting. This report applies the 2016 version of the GRI Standards. "2016" refers to the Standards issue date, not the date of information presented in this report.*

**GRI 102: General Disclosures 2016\***

DISCLOSURE	DESCRIPTION	CROSS-REFERENCE OR ANSWER
<b>Organizational Profile</b>		
102-1	Name of the organization	Lumileds
102-2	Activities, brands, products, and services	<a href="#">Who We Are</a>
102-3	Location of headquarters	Our operational headquarters is in San Jose, USA. Our Corporate headquarters is in Schiphol, the Netherlands.
102-4	Location of operations	<a href="#">Our Global Footprint</a>
102-5	Ownership and legal form	Lumileds operates as a private company and is majority owned by Apollo Global Management.
102-6	Markets served	Lumileds products are sold worldwide. We have commercial offices in more than 30 countries and service other countries through a network of distributors. Customers in the specialty and illumination market are exclusively business-to-business. In the Automotive market we have customers in both the business-to-business (OEM, OES) and business-to-consumer (Aftermarket) segments.
102-7	Scale of the organization.	<a href="#">Company Overview</a>
102-8	Information on employees and other workers	<a href="#">Performance, pages 33–35</a>
102-9	Supply chain	<a href="#">Responsible Supply Chain</a>
102-10	Significant changes to the organization and its supply chain	We have a new production facility in Jiaxing, China. The facility has been incorporated into our 2018 reporting.
102-11	Precautionary Principle or approach	Within Lumileds management system processes, we evaluate risks and opportunities related to quality, environment, and health and safety. These risks and opportunities are reviewed annually, and discussed in the Management Review at the Corporate Level. This includes any impact of our activities upon human health or the environment.
102-12	External initiatives	<a href="#">Identifying Our Sustainability Priorities, page 10</a> We endorse the Responsible Business Alliance (RBA) Code of Conduct. The RBA Code of Conduct is a standard part of Lumileds terms and conditions of purchase. The code of conduct requires suppliers to share our commitment to promote acceptable working conditions, environmentally, responsible management, and ethical behavior.
102-13	Membership of associations	We are active in industry associations in Europe (LightingEurope) and US (NEMA) where we partner with others in the industry to engage with policymakers on a range of environmental and social topics specific to our industry. We are active in several standardization bodies where we help to define specifications to enhance safety related to automotive lighting solutions.
<b>Strategy</b>		
102-14	Statement from senior decision-maker	<a href="#">CEO Message, page 6</a>

DISCLOSURE	DESCRIPTION	CROSS-REFERENCE OR ANSWER
<b>Ethics and Integrity</b>		
102-16	Values, principles, standards, and norms of behavior	<a href="#">Governance, pages 28–31</a>
102-17	Mechanisms for advice and concerns about ethics	<a href="#">Governance, page 29</a>
<b>Governance</b>		
102-18	Governance structure	<a href="#">Leadership Team</a>
102-20	Executive-level responsibility for economic, environmental, and social topics	<a href="#">About Lumileds, page 3</a>
<b>Stakeholder Engagement</b>		
102-40	List of stakeholder groups	<a href="#">Identifying Our Sustainability Priorities, page 10</a>
102-41	Collective bargaining agreements	61% of Lumileds work force is covered by collective bargaining agreements.
102-42	Identifying and selecting stakeholders	<a href="#">Identifying Our Sustainability Priorities, pages 8–10</a>
102-43	Approach to stakeholder engagement	<a href="#">Identifying Our Sustainability Priorities, pages 8–10</a>
102-44	Key topics and concerns raised	<a href="#">Identifying Our Sustainability Priorities, pages 8–10</a>
<b>Reporting Practice</b>		
102-45	Entities included in the consolidated financial statements	Not applicable as Lumileds does not publish consolidated financial statements.
102-46	Defining report content and topic Boundaries	<a href="#">Identifying Our Sustainability Priorities, pages 8–10</a> The report includes all Lumileds operations. The Environment, Health and Safety (EHS) performance indicators represent our manufacturing facilities, and do not include our commercial offices, unless otherwise indicated at the relevant sections.
102-47	List of material topics	<a href="#">Identifying Our Sustainability Priorities, page 9</a>
102-48	Restatements of information	None.
102-49	Changes in reporting	This is the first public sustainability report for Lumileds as an independent company. Until June 30, 2017, Lumileds was fully owned and consolidated by Philips, and as such Lumileds was consolidated in the Philips Annual Report.
102-50	Reporting period	January 1, 2018 through December 31, 2018
102-51	Date of most recent report	This is Lumileds first public sustainability report.
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Contact the Director of Sustainability at <a href="mailto:info@lumileds.com">info@lumileds.com</a>
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.
102-55	GRI content index	<a href="#">GRI Index, pages 36–38</a>
102-56	External assurance	The 2018 Sustainability Report and GRI disclosures were not subject to external assurance.

\* This report applies the 2016 version of the GRI Standards. “2016” refers to the Standards issue date, not the date of information presented in this report.

### GRI 103: Topics and Topic Boundaries 2016\*

GRI TOPIC	CROSS-REFERENCE OR ANSWER	RELEVANT EXTERNAL ENTITY
<b>GRI 205: Anti-corruption 2016</b>	<a href="#">Governance, page 29</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 302: Energy 2016</b>	<a href="#">Protecting the Planet, page 18</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 305: Emissions 2016</b>	<a href="#">Protecting the Planet, page 17</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 306: Effluents and Waste 2016</b>	<a href="#">Protecting the Planet, page 20</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 307: Environmental Compliance 2016</b>	<a href="#">Protecting the Planet, page 19</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 401: Employment 2016**</b>	<a href="#">Employees, pages 21–23</a>	
<b>GRI 403: Occupational Health and Safety 2018**</b>	<a href="#">Employees, pages 24–25</a>	
<b>GRI 416: Customer Health and Safety 2016</b>	<a href="#">Sustainable Products, pages 13–14</a>	Communities, Customers, Policymakers, Investors, Suppliers
<b>GRI 419: Socioeconomic Compliance 2016</b>	<a href="#">Governance, page 29</a>	Communities, Customers, Policymakers, Investors, Suppliers

### GRI 200–400: Topic-Specific Disclosures 2016\*


DISCLOSURE	DESCRIPTION	CROSS-REFERENCE OR ANSWER
<b>GRI 205: Anti-corruption 2016</b>		
205-2	Communication and training about anti-corruption policies and procedures	<a href="#">Governance, page 29</a>
<b>GRI 302: Energy 2016</b>		
302-1	Energy consumption within the organization	<a href="#">Performance, page 33</a>
302-3	Energy intensity	<a href="#">Performance, page 33</a>
302-5	Reductions in energy requirements of products and services	<a href="#">Sustainable Products, page 12</a>

### GRI 200–400: Topic-Specific Disclosures 2016\* (cont'd)

DISCLOSURE	DESCRIPTION	CROSS-REFERENCE OR ANSWER
<b>GRI 305: Emissions 2016</b>		
305-1	Direct (Scope 1) GHG emissions	<a href="#">Performance, page 33</a>
305-2	Energy indirect (Scope 2) GHG emissions	<a href="#">Performance, page 33</a>
305-3	Other indirect (Scope 3) GHG emissions	<a href="#">Performance, page 33</a>
305-4	GHG emissions intensity	<a href="#">Performance, page 33</a>
305-5	Reduction of GHG emissions	<a href="#">Protecting the Planet, page 17</a>
<b>GRI 306: Effluents and Waste 2016</b>		
306-2	Waste by type and disposal method	<a href="#">Performance, page 33</a>
<b>GRI 307: Environmental Compliance 2016</b>		
307-1	Non-compliance with environmental laws and regulations	<a href="#">Performance, page 33</a>
<b>GRI 401: Employment: 2016</b>		
401-1	New employee hires and employee turnover	<a href="#">Performance, page 35</a>
<b>GRI 403: Occupational Health and Safety 2018</b>		
403-1	Occupational health and safety management system	<a href="#">Employees, pages 24–25</a>
403-2	Hazard identification, risk assessment, and incident investigation	<a href="#">Employees, pages 24–25</a>
403-3	Occupational health services	<a href="#">Employees, pages 24–25</a>
403-4	Worker participation, consultation, and communication on occupational health and safety	<a href="#">Employees, pages 24–25</a>
403-5	Worker training on occupational health and safety	<a href="#">Employees, pages 24–25</a>
403-6	Promotion of worker health	<a href="#">Employees, pages 24–25</a>
403-9	Work-related injuries	<a href="#">Performance, page 33</a>
<b>GRI 416: Customer Health and Safety 2016</b>		
416-1	Assessment of the health and safety impacts of product and service categories	<a href="#">Sustainable Products, pages 13–14</a>
<b>GRI 419: Socioeconomic Compliance 2016</b>		
419-1	Non-compliance with laws and regulations in the social and economic area	Lumileds incurred no significant fines associated with non-compliance of social or economic laws in 2018.

\* This report applies the 2016 version of the GRI Standards. "2016" refers to the Standards issue date, not the date of information presented in this report.

\*\* Employees as a stakeholder group are not considered an external entity.

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