



# Lighting

Arrow is a leading global supplier of electronics for solid-state lighting (SSL) and Internet of Things (IoT) applications with decades of experience partnering with lighting manufacturers and other organizations in designing and building lighting components, assemblies and fixtures.

Arrow has been at the forefront of lighting innovation, partnering with manufacturers and others to successfully transition from analog lighting to SSL. Living Five Years Out, Arrow is ready today to transition manufacturers, building managers and city planners into the world of IoT to create networked infrastructures of intelligence that can save energy, streamline operations, and make workers and residents feel happier and safer.



**Five Years Out**

We start by sourcing the most reliable and innovative parts and components from the world's leading electronics and lighting manufacturers.

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We extend our value with cutting-edge expertise — unbiased guidance and system-level analysis of your SSL and IoT infrastructures with a keen eye to lowering overall system cost and speeding your time to market. Arrow engineers and designers work directly with customers to provide expertise where it's needed most. We can help you at each stage of your product or network's development including design, testing, manufacturing and logistics support throughout your product's entire lifecycle, and the financing to make it all happen.

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Because Arrow lives Five Years Out, we have all the products, components and expertise you need to build an your SSL infrastructure and leverage it into an IoT network. Through your partnership with Arrow, you have access to the world's leading SSL and IoT technologies across your entire solution, from LEDs, optics, power, thermal management and interconnect to sensing, wireless connectivity, networking, security, hardware, software and storage.

With Arrow, you have all the building blocks to develop a complete solution.  
**A solution that's Five Years Out.**

# Arrow IoT and SSL Technology

Arrow's unique combination of expertise in lighting, enterprise computing and IoT positions us today to design and build your smart infrastructure of the future.

Arrow has the capabilities to be the single source of technology and practical experience needed to integrate SSL infrastructures into large-scale smart networks. We start with your lighting infrastructure and build the services and functionality you want into your existing fixtures. Using wireless connectivity, we can then integrate any number of solutions into your existing IT infrastructure.

Arrow's IoT tools have been developed and refined over many years using insights that grew out of Arrow's enterprise computing expertise. Arrow expertise, resources and solutions bridge the gap between the physical and the digital that enables the real estate, industrial, retail and municipal sectors to develop powerful IoT solutions and bring them online quickly and effectively.

## **ARROW IS A GLOBAL LEADER IN:**

- > Sensors
- > Device management
- > Wireless communications systems
- > Connectivity devices and protocols
- > Networking and network management
- > Operating systems
- > Enterprise computing hardware and software
- > Big data platform management systems
- > Cloud solutions
- > Custom data analytics software and dashboards
- > Security solutions
- > Large-scale systems integration



# Smart Buildings, Smart Cities, Smart Stores

Living in the world of Five Years Out, Arrow has the technology and expertise to transform your SSL infrastructure into a distributed network of intelligence, control and data-gathering, providing you with feedback on nearly every environmental aspect to optimize efficiency and service.

Arrow can help you design a **smart city** by integrating data from your IoT network into police, fire and other vital city services to improve security, responsiveness and quality of life. Arrow can also help cities unlock these potential benefits:

- > Monitor the operational status of every LED for predictive maintenance leading to better service, reduced operational costs and less down time
- > Help reduce traffic congestion
- > Optimize public transit performance and dynamically adjust parking fees
- > Monitor air quality
- > Deliver municipal-wide Wi-Fi
- > Provide roadside charging for electric cars
- > Open the door to crowdsourced feedback and solutions

Arrow can help you design a **smart building** that will adjust light intensity and color to complement the weather giving office workers better energy and motivation.

Arrow can help you design a **smart store** with motion sensors, thermal sensors and imaging cameras that track customer movements and emotional responses to analyze and optimize marketing and sales strategies.

As organizations are pushed to curb costs while needs and expectations rise, IoT holds the promise of helping you do more with less on an extremely large scale, tying together entire buildings, campuses and cities.

# Arrow Connect

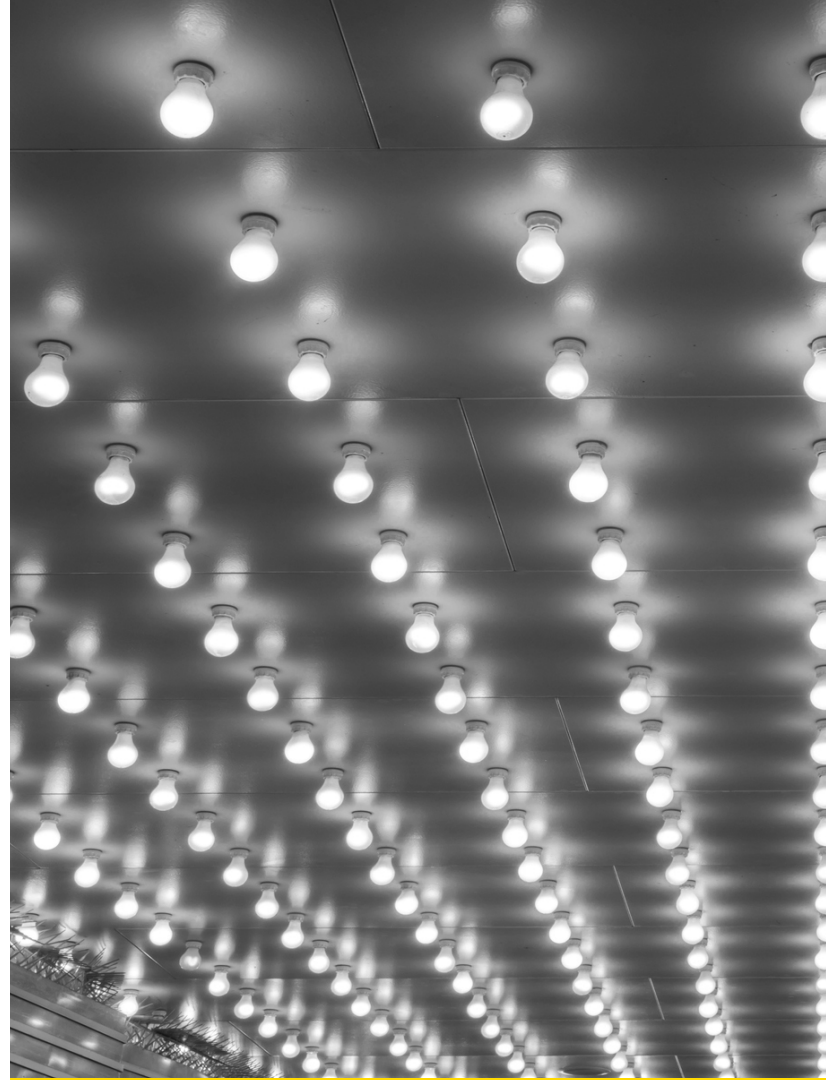
**Arrow Connect** is Arrow's open-source communications gateway software that bridges any device to any data platform. Arrow Connect simplifies solutions and enables seamless integration with existing systems and networks by providing:

- > Connectivity between the Internet, data gateways, sensors and other devices
- > Security for networks, devices and applications
- > Management of updates to devices and operating systems

As you evolve, Arrow Connect evolves with you, requiring minimal development effort as you upgrade or change hardware, add gateways or change cloud platforms. You can control, import, assign, activate, update, suspend, replace, deactivate and more all from a single platform. Arrow Connect makes device management easy so you can focus on creating value through your IoT infrastructure.

Arrow Connect makes it easy to move data from your devices to your favorite data platform, with support for multiple data and connectivity protocols across the most common hardware platforms.

Whether your device connects directly to the Internet or is connected through a hub, smartphone, or gateway, Arrow Connect keeps you connected to your devices.



## Engineering and Design

Arrow's engineering and design support helps you minimize design cycles to speed your time to market or implementation. IoT and SSL technologies are constantly evolving with new products, new innovations and new opportunities for cost savings and improved efficiency. Count on Arrow experts to be on top of the latest technology to help you solve your technical and business challenges quickly, and to help you stay ahead of the curve.

Arrow field engineers are available to work side by side with your in-house experts at any level you require, from expertise in designing a circuit or component to entire infrastructure designs. Arrow provides you a single point of contact that is backed by a team of industry experts that can give you insight into new technologies and help you leverage hidden opportunities.



## World-class Supply Chain Management

Arrow is a recognized leader in managing global supply chains and logistics operations. Our ability to quickly move products and components across the globe for assembly in the United States means we can meet your demand for short lead times. Arrow can provide turnkey manufacturing for any part, component or assembly you need. Critical parts can be stored in our modern warehouse in Reno, Nev. We can stock inventory from your bill of materials, finished boards or finished fixtures.

Arrow has a proactive, long-term approach to our global supply chain to meet our customers' needs for quality, timely products.

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We offer intelligent systems, flexibility and demand-responsiveness. Arrow is committed to supporting your IoT infrastructure throughout its evolution.

## Production and Manufacturing

With unmatched technologies and facilities, Arrow is positioned to bring your designs to life. We can build components, assemblies and complete fixtures at the full turnkey level, or help you take advantage of off-the-shelf products that may speed your time to market. We can help you determine the best manufacturing option for your design.

# Arrow's Four Pillars of Support

Intelligent lighting is where engineering meets world-class supply chain and logistics support, IoT connectivity, full cloud and network management and more. With Arrow, intelligent lighting has never been easier. We enable our partners to design, integrate, connect and manage intelligent solutions.

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## DESIGN

- > Complete design services
- > Specification driven IP
- > Faster design deployment
- > Test and measurement services

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## CONNECT

- > Wireless implementation services
- > Intelligent node applications
- > Complex IoT applications expertise

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## INTEGRATE

- > Systems level integration
- > Complete manufacturing integration
- > Global resource expertise

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## MANAGE

- > Local and WAN dashboard controls
- > Data analytics and storage services
- > World-class system bundling
- > Renowned supply chain management services

# Why Arrow

Arrow works with partners, suppliers and manufacturers to bridge the gap between the possible and the practical. We can think Five Years Out because of our commitment to lasting relationships with the most forward-thinking companies in the world. As the eyes and ears of the future, Arrow can help you take your business to the next level. From sensor to sunset.

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## SOLUTION ARCHITECTURE AND DESIGN

Change is constant. New standards, new ideas, new breakthroughs. Faster, better, cheaper are always around the corner. What doesn't change is Arrow's persistence in thinking Five Years Out. Partner with Arrow to help you design a new device, component or finished product, or to take an existing solution to the next level. Our engineers leverage the world's best resources to help you minimize design cycles to speed your time to market. We can help you find the shortest distance between inspiration and profits.

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## PROTOTYPE TO SCALE

At Arrow, we know everything great and monumental begins behind the scenes. Part selection. Engineering. Design. Put your custom-designed board, component or device to the test with our prototyping and testing services. And get it certified by UL, EnergyStar or DLC. When you're ready for market, use Arrow's custom manufacturing solutions to quickly scale production to your needs.

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## ROUTES TO MARKET

Creating a marketable solution is only half the battle. Getting your solution to market is the other half. Boost revenues and maximize business opportunities by working with Arrow to create lead generation programs and new routes to market. Put your designs into production quickly with Arrow's turnkey manufacturing solutions. Meet the demand for short lead times with Arrow's renowned global supply chain and logistics support. With Arrow by your side, you can keep your products on the route to profits.

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## HARDWARE AND SOFTWARE INTEGRATION

So many platforms. So many protocols. And so many potential problems. Arrow's integration expertise complements yours to help you bridge the practical and the possible in networks, enterprise computing, IoT and wireless communications. Whether you need device-level integration or large-scale systems integration, Arrow can handle your needs, no matter how demanding.

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## CLOUD SECURITY AND ANALYTICS

The cloud is vast and ever changing. Arrow cloud consulting, infrastructure, software and security services help you navigate the shortest distance between innovation and reality. With Arrow, the cloud is clearer so you can create solutions unique to your company, your industry, your customers. Arrow data analytic tools and expertise help you turn data into insight. And insight into action. Because what you do with your data tomorrow depends on what you put in place today.

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## SUSTAINABILITY

Devices become obsolete. Basic materials don't. Turn to Arrow to unlock the value hiding in yesterday's innovation. Reduce, reuse and turn inefficiency into opportunity. From point of use to point of origin, Arrow's sustainable technology solutions group turns challenges into solutions, waste into profits. Arrow guides innovation forward through the reverse supply chain—spares management, returns management, inventory control, remarketing and electronic asset disposition. Arrow has you covered from sensor to sunset.

# Are You Five Years Out?

Most people live in the present. The world of now. But a handful of us work in a unique world that doesn't quite exist yet—the world of Five Years Out.

Five Years Out is the tangible future. And the people who live and work there know that new technologies, new materials, new ideas and new electronics will make life not only different, but better. Not just cheaper, but smarter. Not just easier, but more inspired.

Five Years Out is an exciting place to be. So exciting that, once you've been there, it's hard to get excited about the present. Because we know what's coming is going to be so much better.

Five Years Out is a community of builders, designers, engineers and imaginers who navigate the path between possibility and practicality. Creating the future of everything from cars to coffeemakers.

Are you one of them? Then you're probably working with us.



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## Online

**[arrow.com/office\\_locations](http://arrow.com/office_locations)**

Visit our website for additional information and a sales office closest to you.

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