

FAQ THE LED SOLUTION THAT STANDS ABOVE THE REST

WHY SHOULD OUR AIRPORT CONVERT TO LED?

There are a number of benefits to converting to LED:

Maintenance time savings. The lamps in incandescent systems last for an average of just 1,500 hours; and one sign can contain up to 12 lamps. The result is that a LOT of maintenance time spent just changing bulbs. LED is a game-changer in this respect. LED lamps last an estimated 10 to 15 times longer than their incandescent counterparts. With a dramatic drop-off in bulb changes, maintenance crews can focus on preventative maintenance and other projects that have been put off for too long.

Replacement part cost savings. If you're changing lamps less, you're also spending less money on replacement lamps. While LED lamps cost more than incandescent lamps, you're still spending far less overall.

Energy savings. LED consumes 79% less energy than the incandescent T10P lighting system and 55% less energy than the LOVA quartz halogen lighting system

Finally, airports should convert because this is indisputably the direction the industry is taking. It's only a matter of time before LED is required by the FAA for reasons of safety and efficiency.

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WHAT COULD PREVENT US FROM CONVERTING TO LED?

While most airports are on board with the idea of LED, there are still some common obstacles to getting LED on airfields:

Cost. Some airports are still reluctant to pay more for LED technology, even though it is an investment that pays for itself relatively quickly. We encourage you to download our Cost Savings Worksheet and see the savings for yourself.

All or nothing. Some airports are reluctant to begin converting to LED because their fields are standardized to one lighting system, and they want to keep it that way. A standardized lighting system can make it easier for airports to stock parts, work on signs and perform general maintenance.

FAA guidance. Other airports worry about the FAA's response to having just one or a few LED signs on their field. This worry stems from FAA guidance on converting edge lights and in-pavement lights. FAA guidance states that an airport may not change a portion of lights on a single taxiway or runway to LED; the airport must change them all to limit visual distractions to pilots. However, the FAA guidance on converting signs simply says that co-located signs should be consistent. This allows for much more flexibility in converting portions of the field's signs to LED.

Fear of change/LED technology. Even some airports that recognize that LED is a good move can still be afraid to make a change. There is a comfort in the familiarity with an existing lighting system, how it works and how to work on it. The idea of an entirely new lighting system, especially one that utilizes electronics, can be a bit intimidating/overwhelming. The good news is we're here to help and walk you through a state-of-the-art, efficient LED system.

Bureaucracy. Large or highly bureaucratic airports run into the obstacle of needing to get approval at a number of levels before they can move forward in the decision to convert to LED. Securing all the necessary individuals on board can be a long, drawn out process. We urge you to contact a Lumacurve representative, who can provide the data that will help you create a compelling case to present to your decision-makers and stakeholders.

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WHAT SETS LUMACURVE SIGNS AND OUR LED SYSTEM APART?

OUR SIGNS:

Truly modular design. Our signs are constructed to give airports greater flexibility to add to or reduce length.

Longevity. While our technology continues to evolve, it is housed by our sign frames that have remained consistent in design to ensure compatibility with future enhancements as they are developed. Our sign frames are made of marine-grade aluminum, so they are built to last. You can expect 50 years of service—Lumacurves installed in 1982 still have decades of performance left in them. Airports choose to maintain and refresh their existing signs with lighting upgrade kits and panels in place of new signs.

Ease of maintenance. Our signs feature tool-less entry, making them easy to open up and maintain. The combination of our true modularity and tool-less entry make quick work of panel changes—simply slide the old panel up and out, and the new panel down and in.

Our Wait-Less service. Call by 10 a.m. and we'll send out replacement parts, custom legends panels or even a complete sign (with your specified legend panels and wiring configuration) that same day.

OUR LED:

Screw-in lamp. Our competitors all utilize LED light bars or light tubes in place of LED lamps. We kept the design of our LED simple and intuitive by staying with lamps. No tools or wiring are necessary to change them.

Lowest VA loads in the industry. Our signs are more energy efficient than those of any competitor.

Cost-efficient replacement parts. The cost of our LED replacement parts are the lowest in the industry. Our lamps cost under \$30 to replace and our controllers cost under \$500—hundreds less than our competitors.

HOW CAN WE FUND THE PURCHASE OF LED?

There are three main ways that we have seen airports fund LED sign/powerkit purchases. Please refer to our <u>Funding Document</u> for more information.

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WHO IS INVOLVED IN THE PURCHASING DECISION?

Regardless of how LED purchases are funded, the transition to LED has to be approved by the proper individuals—a group that varies by airport. In some cases, it could be just one person; an airfield maintenance manager who has the ability to make whatever decisions he wants for the airfield as long as he stays within his budget. In most cases, however, approval is required by a number of individuals/groups.

Generally, the idea for LED begins in maintenance with the people who are most hands-on with the airfield lighting. But it also has the potential to begin in planning or management with individuals who are interested in LED because of the energy savings or because they recognize the direction the industry is taking. In most situations, the decision ultimately lies with the airport director or board of directors.

HOW CAN LUMACURVE HELP YOUR AIRPORT FACILITATE AN INTERNALLY-FUNDED PURCHASE OF LED?

Our initial goal is to develop an understanding of your airport's situation. Our questions for you tend to include such topics as: your interest level and sense of urgency, motives, your airfield circuit dynamics, current maintenance practices, funding options and your airport's decision-making process. We will provide information about our LED upgrade kits, including what sets our system apart and what an airport can expect working with us. It also proves useful to convey how other airports have gone through the process of converting and how they've benefitted. We typically work to establish potential next steps for your airport.

We will stay in touch and proceed according to your level of interest and openness to our involvement. Some ways we can help:

LED information and pricing. We have LED informational documents that contain a parts list, diagram, load chart and installation instructions.

Process information and options. Because airports interested in LED usually haven't gone through the process of getting LED on their field before, we share with them ways other airports have gone about the process and weigh the viability of these options for the airport.

Justification for LED. We help individuals justify an LED purchase to stakeholders by sharing what we know about the industry and how other airports are benefiting from the switch to LED. Plus, using our Cost Savings Worksheet, we can create a custom quote that calculates the savings an airport can expect by upgrading.

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