Lighting technology with vision: HELLA airfield lighting

Lighting has been our element for a hundred years. For more than 20 years, HELLA has been a pioneer in the LED technology sector. What started originally with the development of vehicle lighting is now part of ordinary life in many areas: the quick changeover to a lighting system that meets the global ecological challenge and the economic requirements of the time with the greatest possible efficiency. The HELLA airfield lighting is highly flexible, adaptable and guarantees savings of ongoing costs, regardless of location, while reducing CO\textsubscript{2} emissions at the same time.

HELLA LED lighting was developed in close collaboration with various international airports. The result represents a nearly perfect incorporation of individual requirements, special situations and needs of the airport as a whole. The portfolio includes CCRs, systems such as FLASH or PAPI, the electronic control and the entire program of signs, elevated and inset lights for runways as well as taxiways and aprons. On this basis, we are working on innovative solutions for the future – today. The focus is on continued further development of the current standards and, in particular, intelligent electrical control.

Today, HELLA is the market leader in LED runway lighting. Based on this position and the experiences in LED airfield lighting, we developed an innovative LED concept ranging from civil and military airports to helicopter landing pads which completely meets the international standards (ICAO, FAA, STANAG).

Changing to LED lighting is profitable in several ways. Costs for maintenance and spare parts are drastically decreased. In addition, the service life of LEDs – compared to halogen light sources – with around 50,000 hours is significantly longer, while their power consumption is up to 85% lower.

Because of the long service life of the products and the reduced material consumption associated with it, the results are savings that finally translate into value gain in the operating statement. Another advantage: The LEDs are mercury-free, an aspect that should not be neglected since mercury light sources will be illegal throughout the EU as early as 2015.

Finally an important note: Lighting and aviation experts rank LED as the best lighting solution for poor weather conditions!

Approach
The exceptional qualities of LED lighting are particularly and clearly recognizable in approach lighting. Clear colors and brilliant intensity of LEDs ensure an optimal view, even under poor weather conditions. The pilot is guided to the landing runway, safely and significantly earlier. In addition, the LED lighting flashes at significantly lower energy costs. Hence, a HELLA LED uses 50 W compared to a halogen light with 150 W – which pays for itself particularly in the case of light-pole designs – with a noticeable reduction in maintenance intervals.

Runway
The very low installation height is a huge benefit in the touchdown zone. Less interference noise, less abrasion. Due to the lower contact points, the lights are more maintenance-friendly than variants with greater installation heights, an aspect which leads to fewer damages and malfunctions, particularly during winter service. Safety is increased enormously thanks to a clear demarcation of the color and high light intensity.

Taxiway
The long-life, maintenance-free taxiway lights are available in all required color combinations. Upon request, they can be fitted with heating to ensure an optimal view even in winter weather conditions. At the same time, each light can be monitored individually with the single-light control.

Adaptive Solutions
Specialty solutions or special customizations are, of course, possible in order to seamlessly integrate our lights into your existing lighting and safety concept.

For example, the prisms in use are also available with sapphire glass as an option to provide additional protection against possible damages, wear from sandblasts and scratches.

Systems
HELLA has been a pioneer in intelligent further development of LED technology for decades. An enormous head start that could also be utilized for airfield lighting through adaptation and qualified concepts. A special feature for airports worth mentioning here is the control of the strobe system which operates without a separate control cable and is monitored by an internal control system. Thus, the maintenance does not need to be done in the outdoor area but can be done directly within the central control system.