

# MODERNIZATION OF GROUND LIGHTING SYSTEM OF KAUNAS INTERNATIONAL AIRPORT, LITHUANIA

## SECTOR — AIRFIELD GROUND LIGHTING



State Enterprise  
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*Kaunas with population nearly 400 thousand is the second city (after capital Vilnius) in the country. It is not the city of old traditions only, but also the large business and industry centre. It can also lay claim to be the city of young people with over 35,000 students studying at one of the seven universities here.*

## PARTNER

Kaunas International Airport is situated 13 km from Kaunas in North-East direction. The territory is surrounded by picturesque landscapes and forests, and is convenient for development of the airport, as Kaunas Free Economic Zone is situated in the vicinity.

Airport operations were relocated from Aleksotas airfield to Karmelava in 1988. Kaunas airport has acquired international status in 1991.



## CONTEXT

Modern high intensity ground lighting system started operation at Kaunas Airport on 13th September, 2007 at 9 A.M. The system permits safe landing in complicated meteorological conditions, which is very important as Kaunas Airport is an alternate national airport. When aircrafts are not able to land at Vilnius International Airport because of bad meteorological conditions, they can always use Kaunas Airport for landing.

At the moment the ground lighting system on the runway of Kaunas Airport has obtained the 2nd meteorological minimum category on course MK-262 and the 1st meteorological minimum category on course MK-82.

The high intensity lights, that were supplied and installed by "Siemens" company, ensure not only safe landing, but also economic and efficient use of electric power during safe aircrafts landing and taking off. In comparison to the old system, the new high intensity system concentrates more power to the focused light, which is better visible to the pilots of landing aircrafts. The safety of flights increased through installing this system and power energy is used more efficiently.

10 kilovolts central distribution station in the area of the airport is supplied by two independent substations in Kaunas and Palemonas district to ensure reliable and constant power supply to the airport. The airport also has Diesel power generators as independent source of power. In case of missing power from any power station, the Diesel power stations automatically connect to power grid. Such scheme ensures constant power supply for the airport. Allowed power break during the exchange is no more than 1 second.



The new modern Airfield ground lighting system on the runway of Kaunas Airport ensures safe Airport operation and safe landing and taking off for the aircrafts.

## EXPERIENCE OF THE PARTNER

Staff of Kaunas International Airport is very active and has huge experience in modernization of existing lighting systems. Energy staff of the Airport works in close cooperation with research institutions, local and foreign companies, which have expertise in modernization of lighting systems. The purpose of the project “Modernization of ground lighting system of Kaunas International Airport” was refurbishment of existing outdated ground lighting systems. The main objectives of the project were as follows:

- Increase safety of landing for the aircrafts in complicated meteorological conditions;
- Reduce electricity expenses through energy saving.
- Demonstrate good practice solutions.

This project goes in line with strategic goals and requirements of Lithuanian National Energy Strategy, Strategy of Kaunas International Airport.

### Technical data

The project of the new Airfield ground lighting system was elaborated by “Siemens” company. The company has high experience in developing ground lighting systems at the airports around the world. The new power stations, Diesel power stations, lights and remote operating system were developed using new technologies and their experience. The equipment was supplied by ADB Company. All installation and control work was done by “Siemens”.

New ground lighting system has the 2nd meteorological minimum category on course MK-262 and the 1st meteorological minimum category on course MK-82.

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## FINANCING OF THE PROJECT

The highest share, 75%, of the project was funded by EC Structural Funds and 25 % was funded by the Ministry of Transport and Communications of the Republic of Lithuania.

## BENEFITS OF THE PROJECT

### 1. Energy:

The new ground lighting system allows economic use of electric power.

### 2. Economical:

The lighting system refurbishment will reduce annual expenses for airport ground lighting by 22%, with the payback period just over 6 years.

### 3. Safety:

The high intensity ground lighting system maintains safe aircrafts landing in Kaunas International Airport.

### 4. Environmental, Social and others:

- Environmental benefits include 9695 kWh of electrical energy saved every year, which represents 2,0 tons of CO<sub>2</sub> emissions annually.
- After installation of the new ground lighting system flight companies will be more interested in Kaunas International Airport and this will increase the number of flights in future.
- After modernization of the Airport ground lighting system the operation of the Airport improves and takes new quality.

## FURTHER INFORMATION

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