

Eco renovation of the lighting system of the BEJAIA Airport

by [abdelkrim tifrit](#) / © 2019-07-01 11:23:34 / International / 8101 / EN



Year of commitment : 2018

CO2 Impact : 8 kg of CO2 per m² per year

Green energies : Energy Efficiency, Electricity

Digital services : Comfort

Sustainable mobility : Airport Infrastructures

Label/Certification :

- HQE Infrastructures



120 000 €

Builder

BET TIFRIT ABDELKRIM BESEE

Manager / Dealer

EGSA ALGER

GENERAL INFORMATION

The project is part of the Ms-Ppiev training launched by the École des Mines Saint Etienne and has been renovated in terms of lighting quality of terminal area Bejaia airport. The study and the realization were made on the basis of an energetic diagnosis / lighting / cost of invoice.

The goal is to keep the same electricity grid that has been in use for more than 20 years, and to add lighting supports without affecting the environment and the cost of the energy bill.

The result of the lighting is satisfactory while conforming to the norm of the lighting of the external spaces with a minimum average respected after realization of 20 Lux for the people with reduced mobility "PRM" and a quality of uniform illumination on the alignment of the entire perimeter of the airport.

Finally, any type of camera lens that can easily capture photon involves more pixels and definition, which gives a high definition image capture.

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Public

Website Enterprise / Infrastructure

<http://www.egsa-alger.dz/>

Sustainable Development

Attractiveness : The people of Bejaia city are very dynamic, from where they give their opinion for each building or infrastructure installation; we noticed for the travellers a satisfaction since through this lighting there was an addition of flights at night. The airport manager has given his very favourable opinion regarding the continuity of the round service through LED lighting and is launching an internal consultation for some work on the interior and parking lot lighting in order to homogenize all the lighting. For border police officers, a feeling of security felt at home and expressed with some adjustment of the lights according to the angle and the permanent round system.

Well Being : The use of LED lighting for this type of installation allowed to keep the same underground cables, a simulation in 3D under POV dial allowed us to make a presentation of the advantages of perimeter illumination in terms of security and possible installation of cameras. Material such as the device for measuring the illumination, consumption and quality of energy "Qualistar" have been used.

Social Cohesion : The feeling of security inside the terminal has pushed the managers to add flights at night, For the outside, i.e. the neighbouring roads, we have noticed a benefit of using this pedestrian and motorist road since the lighting is in conformity with pedestrians' needs and it contributes to the improvement of the living environment.

Responsible use of resources :

The study from day one is based on the principle of energy efficiency and sustainable development. We tried to limit consumption by replacing lamps of 250 WATTS SHP by 100 WATTS LEDs, while doubling the number of luminaires to reach 200 watts. This is lower than the old systems but with a quality up to 10 times better in illumination. The idea of sustainable development and efficient renovation has been considered, since the age of the underground installation exceeds 20 years. In order not to release more CO2 through the production/transport and distribution of cable products toxic to human health, we have chosen to keep the same network already in use, but minimizing cable heating with an interval of 13%. Since receipt, energy bills have decreased and the cable is reliable even in temperatures of 30 degrees Celsius.

Testimony / Feedback

The people of the city of Bejaia are very dynamic, they give their opinion for each building or infrastructure installation; we noticed the satisfaction of the travelers, because with the implementation of the lighting there was an addition of flights at night. The director of the airport gave his opinion very favorable continuity the continuity of the Led lighting service and launched an internal consultation for some works on the interior lighting and the parking in order to homogenize all the 'lighting. For border policemen, a sense of security was felt and expressed with some adjustment of the luminaires according to the angle and the system of the permanent round.

Governance

EGSA ALGER

Holder Type : Public Local Firm

BET TIFRIT ABDELKRIM BESEE

Builder Type : Power producer

EGSA ALGER

Manager / Dealer Type : Public


In the first place, the project owner did not intend to replace SHPp lighting with Led, only that after several meetings we convinced our client.


The objective is to guarantee a standard lighting for the installation of surveillance cameras. The advantage of this study is that we have demonstrated to the master of the work that he will gain in terms of billing and avoid redoing all the network under the final result after completion is that now the surveillance is done even without surveillance cameras with a satisfaction of the police and the director of the Airport of Bejaia

Conclusion
Après notre teste sur terrain en a constaté les résulte suivant :

- La moyenne de 35 lux dans un rayon de 15metre
Les résultats sans acceptable suivant les normes

Pièces jointes
Fiche technique de la pareille de mesure LM100(AMPROBE)

Le Maitre D'ouvrage
Fait le : 

L'entreprise De Réalisation
fait le : 

B E T
Fait le

Sustainable Solutions

Luminaire LED

Description : The product is a solution to replace the SHP

In the first place, the LED was refused but after demonstration by the BET an acceptance was issued to generalize in all the airports of the EGSA

- Infrastructure
- Urban Lighting



Company (es) Website :

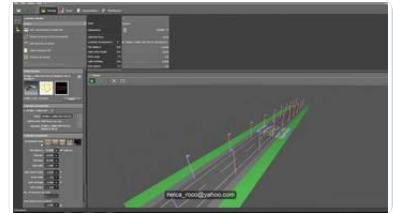
DIALUX EVO 8.1

Description : The client has requested us, as a engineering consultants, a energy efficiency to minimize the cost of work, achieve good lighting for a possible surveillance camera installations while keeping the old underground network of the company. We have suggest some conditions with which we will realize the project without difficulty, among these conditions we quote:

the company must be approved and approved by the services of the distribution of electricity at the national level "Sonelgaz" , this condition is recommended to ensure electrical protection under ground and that the grounding will comply

The company knows how to measure the illumination to present a good sample of illuminance valid and compatible with the old network that according to our estimates has a degradation of 30% on its conductive material according to the age of the installation. Study with several variants with video simulation which is presented by the Dialux EVO software, this idea was to convince the technical service of the project holder that it is feasible despite the limitation of the height according to the requirements of the standard of the international air navigation represented by the services of National Establishment of the Air Navigation in Algeria "www.enna.dz" which delivered us a lawsuit which forbids us from exceeded 3 meters of height.

- Infrastructure
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Contest

Reasons for participating in the competition(s)

Maintain the old buried electrical network

Leave to our children the care to renovate according to their future technology and to avoid emissions co2 useless for the need

Minimize electric energy consumption through the use of led luminaires

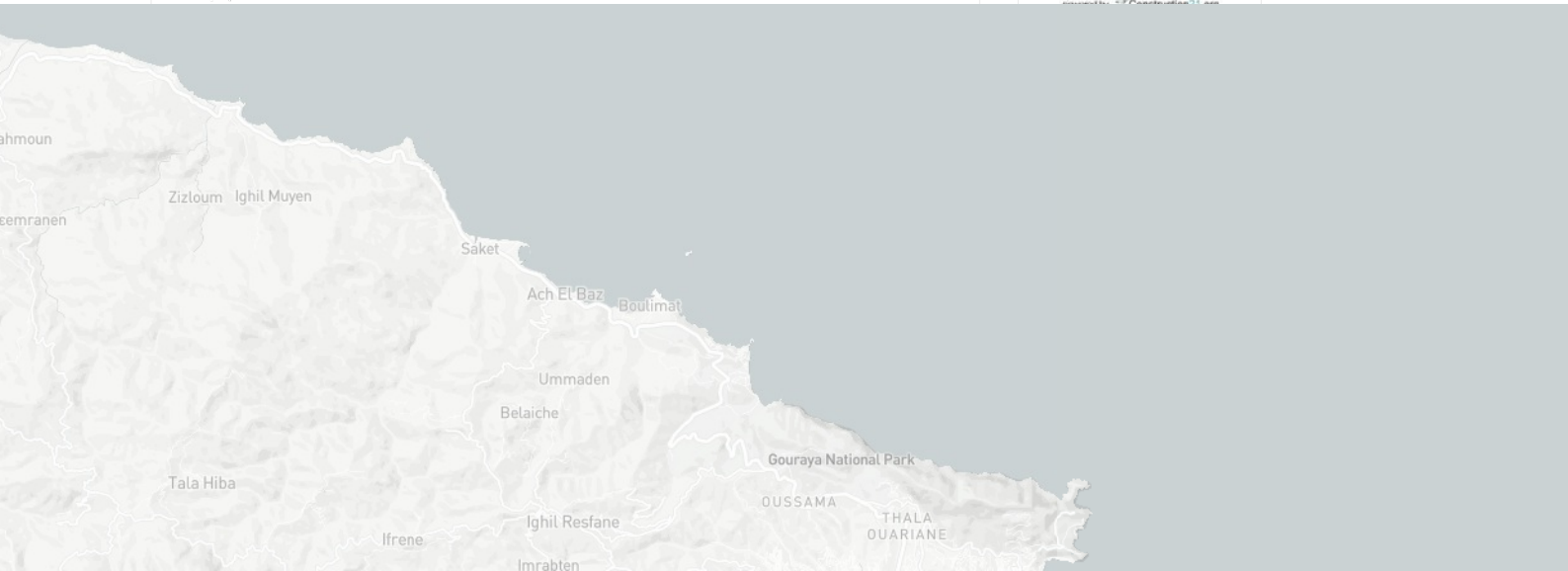
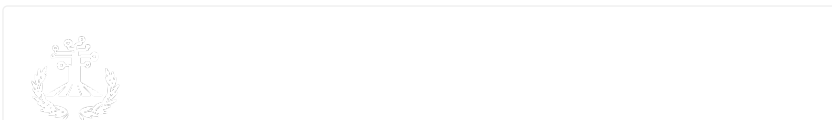
The use of the led to control the photometric curve and thus to have a direct lighting

Respect the standards of air navigation

Minimize the bill of electrical energy

For one person: installation of perimetric lifi system for an exploitation by the pedestrians

Building candidate in the category





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