

## Eco renovation of the perimeter lighting of BEJAIA Airport

by [abdelkrim tifrit](#) / 2019-05-15 11:00:32 / Algérie / 3105 / FR



**Year of commitment** : 2018

**CO2 Impact** : 8 kg of CO2 per m<sup>2</sup> per year



**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.

Architectural description: the airstrip is private for airport operators, but airport security is mandatory; optimal lighting is recommended for police to recognize faces, security patrols.

An additional lighting for the installation of surveillance cameras. Our case study is based on the supply efficiency/quality of correct lighting and maintainability of the lighting network with its compatibility with the remote monitoring system while keeping the old underground network thoroughly renovated.

## Data Reliability

Self-declared

## Funding Type

Public

## Website Enterprise / Infrastructure

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

## Sustainable Development

Attractiveness :

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"

Social Cohesion :

The feeling of security inside the terminal motivates the addition add flights in the night. Regarding the outside we noticed benefits on surrounding roads for the pedestrian and motorist, since the lighting is in line with pedestrians 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 the consumption by replacing lamps of 250 WATTS SHP with 100 WATTS A LED while doubling the number of luminaires therefore 200 watts still inferior to the old system but with a quality up to 10 times better in illumination. The idea of sustainable development and efficient renovation studied has been going on since 20 years with the intention of reduce CO2 by the production / transport and distribution of toxic cable products for human health we chose to keep the same network already used, but reducing the heating of cables with an interval of 13%, and since the receipt the bill has decrease and the cable is reliable even in temperatures of 30 degree 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 thanks to the implementation of the lighting there was an addition of flights at night. The director of the airport gave a very favorable opinion for 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 lightings. For border policemen, a sense of security was felt and expressed with some adjustment of the luminaries 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

<b>Conclusion</b> 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 <u>Fiche technique de la pareille de mesure LM100(AMPROBE)</u>	
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



DIALUX EVO 8.1

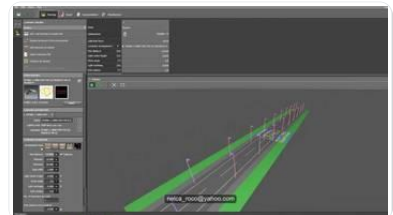
Description :

The client has requested us, as an 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
- Urban Lighting



<https://www.construction21.org/france/data/sources/users/8864/konformitatserklarungnachiso17050stand201401021.pdf>

## Contest

### Reasons for participating in the competition(s)

- Maintenabilité de l'ancien reseau électrique entere
- Laisser à nos enfants le soin de rénover selon leur technologie futur et éviter des émissions co2 inutiles pour le besoin
- Minimiser l'énergie électrique par l'utilisation des luminaires led
- L'utilisation du led pour contrôler la courbe photométrique et ainsi avoir un éclairage direct
- Respecter les normes de la navigation aériennes
- Minimiser la facture de l'énergie électrique
- Pour une perspective: installation du réseau lifi périmétrique pour une exploitation parles piétons



