



2019



Case Study

Comprehensive lighting modernization for
LG Electronics Poland / Dong Yang

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Dong Yang

Manufacturer of
plastic components

Dong Yang Electronics is a Korean company founded in 1989. One of its headquarters is located in Poland. It's a manufacturer of plastic components for TV sets, particularly plastic housings, produced mainly for LG Electronics Polska. Luxon LED partnered with Dong Yang Electronics after having completed a previous order for the manufacturer. This time, we had to modernize the existing lighting system and replace luminaires in warehouses and production halls in Mława. The project was implemented in the first half of 2019





Challenge

Which luminaires will ensure the return of investment in less than two years?

Dong Yang Electronics aimed at reducing electricity costs in their production halls and warehouses. It required new luminaires to be installed to ensure a significant increase in electricity savings. The key aspect for the customer was the return of investment in <2 years from the implementation of the project. The Luxon LED team faced also another challenge: we had to create a comprehensive offer in a short time. The customer expected

the cheapest solution possible, with a significant increase in savings and a quick return of investment at the same time. There were difficult conditions in the production halls – in some of them, the temperature reached more than 50 C in summer, which led to frequent failures in luminaires. Luxon LED carried out a detailed audit and prepared the offer within 3 days, presenting the optimal solution with ROI = 1,5



Solution

Luminaires with high efficiency of LED components

Luxon LED carried out an audit in 12 production and warehouse halls of Dong Yang Electronics. It enabled us to prepare a comprehensive offer to modernize the lighting system, taking into account the requirements and standards of the industry, as well as customer's expectations, including quick return of investment and greater comfort of work.

We checked and measured all traditional luminaires to replace them 1:1. We used the existing electrical installation to optimize the costs. We chose the following luminaires: Industrial 5.0 and High Bay 3.0, with colour temperature

of 4000 K, which is not only suitable for production halls, but also ensures high comfort of work and limited risk of eye damage. Due to the conditions in the rooms, we chose the PRO luminaires, which are adapted to work in high temperatures, up to 55 C. In order to minimize the risk of failure, we used special temperature sensors in the luminaires. We used also high quality Korean SEOUL Semiconductor LEDs to create better working conditions in quality control areas. We offered a 5-year warranty for the luminaires and a 2-year warranty for assembly.



Customer benefits

We have fulfilled the client's requirements

- Reduction in energy costs and a threefold increase in savings (from 106 kWh to less than 30 kWh)
- Two or three times higher light intensity to achieve better comfort of work
- ROI = 1,5 year
- Luminaires suitable for work in high air temperature (above 50 C)
- Built-in temperature sensors in the luminaires to reduce the risk of failure
- Korean SEOUL Semiconductor LEDs with high colour rendering index to create better working conditions in quality control areas

Implementatnion

Summary

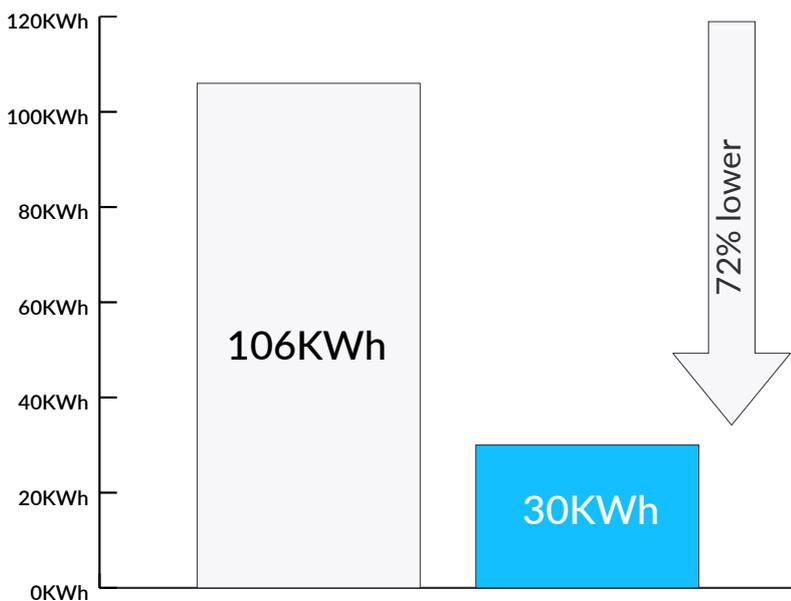
Daily reduction of energy consumption from 106 kWh to 30 kWh



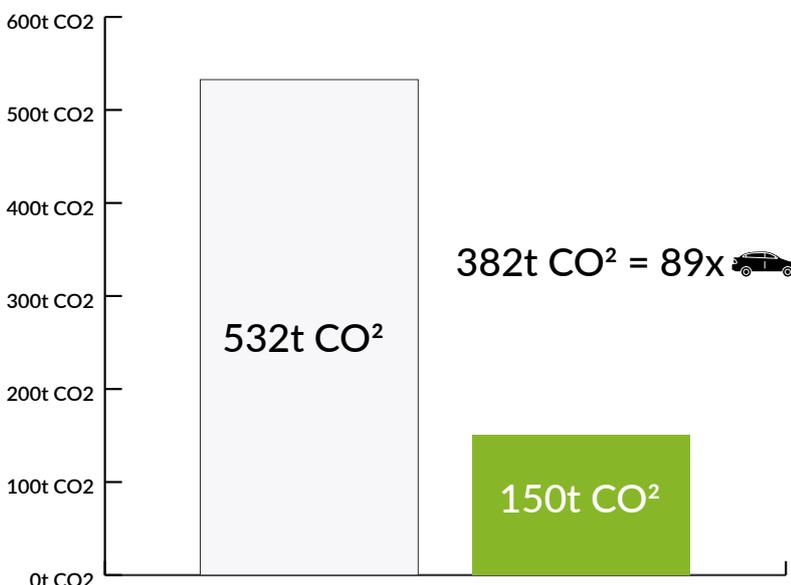
The biggest challenge of this project was to reduce the amount of luminaires in the facility without interfering with the current installation. Thanks to the use of Industrial 5.0 and HighBay 3.0, we were able to obtain better light parameters with reduced energy consumption.



Mateusz Michalski
Lighting Designer



Daily reduction of energy consumption from 106 kWh to 30 kWh



Annual reduction of CO2 emissions from 532 tons to 150 tons



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