SMART MOBILITY

ADILUX SYSTEM. ADAPTIVE AND EFFICIENT ADJUSTMENT IN ROAD TRAFFIC LIGHTING

SICE has developed a system that seeks a balance between the safety of traffic lighting and the energy consumption of itself.

This is due because there are still many road traffic areas where there is few or no circulation. This solution allows an important energy savings, reducing the level of brightness, and thus the energy consumption.

The **ADILUX** system allows to regulate the illumination level adapting it to the traffic conditions. ADILUX is able to modify the luminous level according to the state of the traffic (congestion, speed, etc.), meteorological conditions (fog, visibility) and other variable that are measured from the traffic control systems.

This system aims to find a balance between the safety provided by lighting systems in the roads and the energy consumption which can often be a waste of money since there are remote areas where there is hardly any traffic at certain times, so it is not necessary to have them illuminated at the maximum brightness guaranteeing compliance with Spanish standard RD 1890/2008. ADILUX requires the use of LED lamps, as they are more efficient and because of their ability to regulate the intensity from 0 to 100%.

The ADILUX system, developed by SICE, integrates vehicle detectors with a point-to-point luminaire remote management device, which uses wireless communications (Zigbee …).

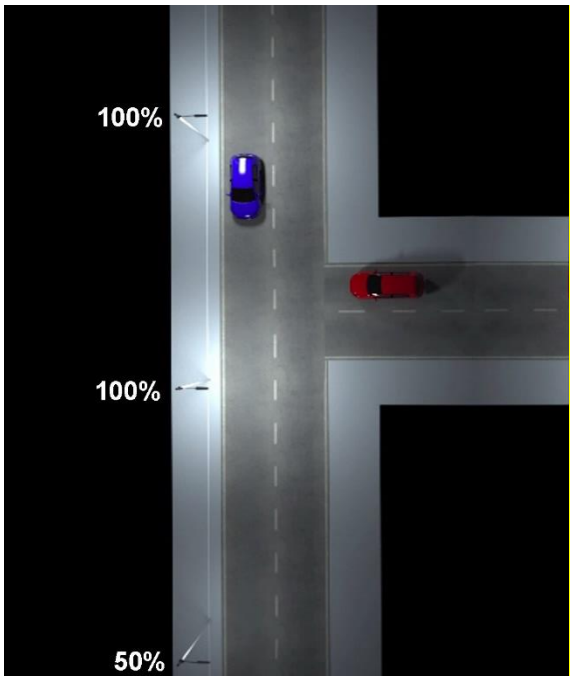
INTELLIGENT LIGHTING

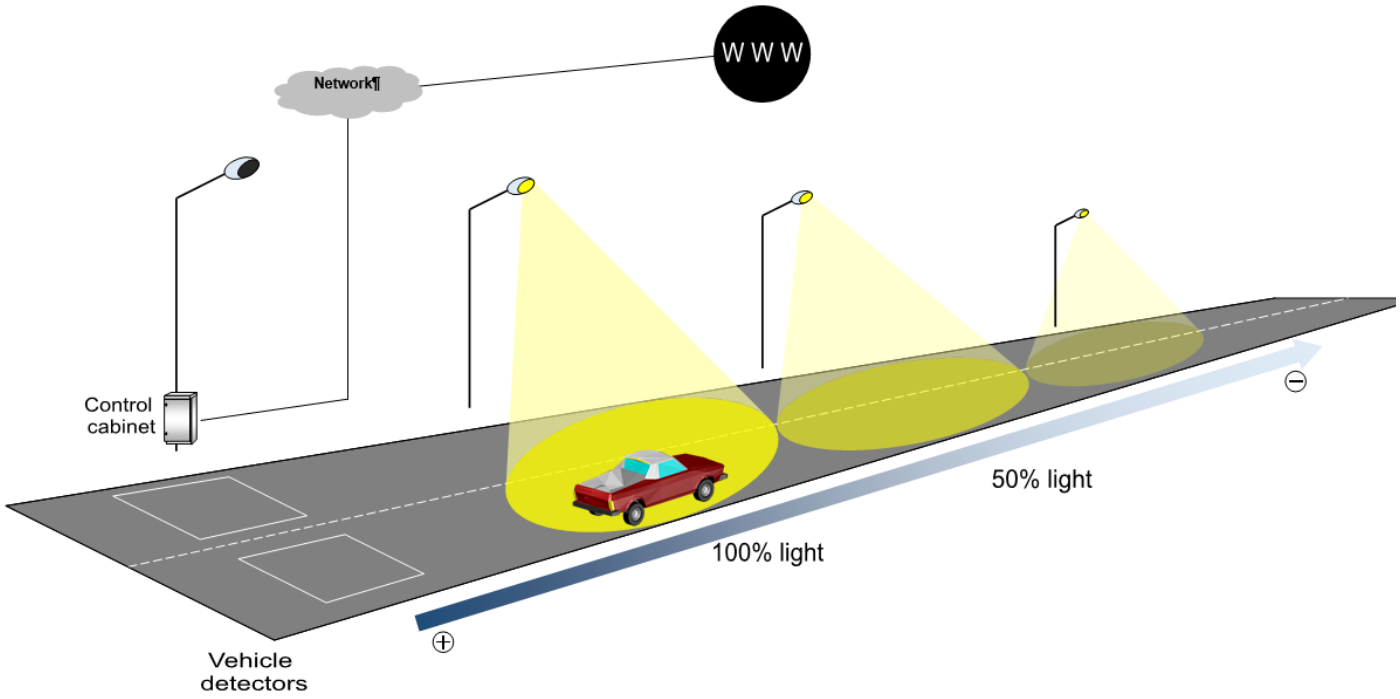
The main objective of this type of regulation is to integrate traffic management systems and weather sensors with the lighting network in order to reduce energy consumption while maintaining road safety conditions.

ADILUX calculates the appropriate lighting level for each luminaire taking into account factors such as speed, traffic occupancy, meteorology, track topology, whether it is or not an intersection, energy efficiency and road safety criteria.

If there is a crossroad near, the system can be programmed in a way that it will manage possible conflicts between vehicles, optimizing consumption and being respectful with the urban traffic regulation.

The system has also an additional safety device that detects the excess speed of a vehicle, a very important factor in the drivers safety.





Working Mode

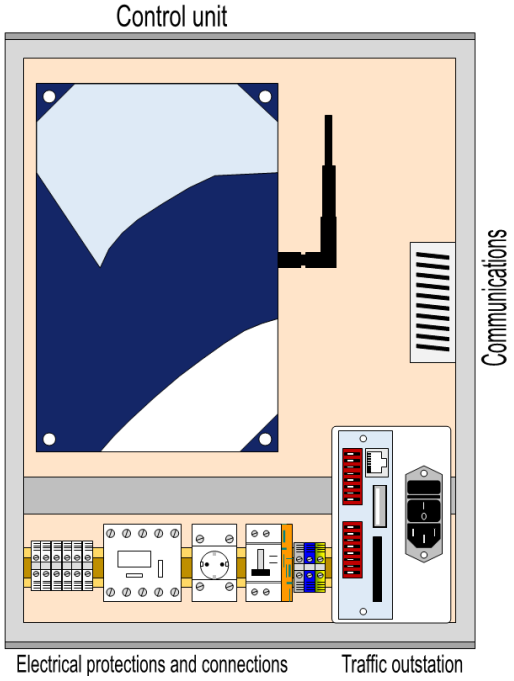
In case there is a crossroad, when a vehicle is detected in the secondary road, the illumination of the first lamp (near the crossover) is turned on at the maximum brightness to illuminate the crossroad; while in the rest of luminaires the brightness intensity depends on the ratio of the traffic intensity, average speed and visibility.

In case of no vehicle presence in the secondary road, the luminaire follows the standard urban traffic regulations criteria established.

The system allows different lighting regulations according to the traffic from moderate (<30 km/h and less than 100 vehicles/h) to others more demanding (>60 km/h and 300 vehicles/h).

Technical Features

The ADILUX system it consists in a traffic outstation, a control unit, communications and electrical connections.



Everything is mounted in a small cabinet. This one can be fixed (screwed) to the street lighting poles 4 m high to avoid vandalism.
Vehicle detection systems such as electromagnetic loops or other non-intrusive devices are installed on the road.
The power supply is 230 Vac, 50/60 Hz, although it could also work with a solar panels.