

TRANSPONDER

The progress in clean energy is based not only on the use of renewable sources, but mainly on the respect for the environmental and pollution conditions in the beacons' installation site.

A huge attention has recently been paid to the issue of the light pollution in the urban environment and, most of all, in the surrounding settlements.

The German Regulatory Institute draws a special focus on this issue. As a result, from 31st December 2022, it has drawn up a standard on the requirement to turn-off the beacons when the aircraft aren't in the surrounding air space.

LUXSOLAR's R&D department has promptly developed a system for implementing its beacons providing:

- **Drastic decrease in light pollution.**
- **Decrease in Power consumption.**
- **Decrease in Material consumption.**
- **Even longer beacon lifetime.**

Flight lighting

From 31st July 2021, the use of transponder equipment on all the aircrafts during night flights is mandatory.

LUXSOLAR's beacons will be equipped with an automatic remote-control system which enables it to acquire and communicate data both to and from the approaching aircraft.

The specifically developed electronics will process the acquired data and control the beacon's on-off according to the aircraft's distance and speed of approach/departure. It will also provide remote signaling in case of a fault and report the obstacle positioning and its characteristics.

TRANSPONDER

Light-signalling device.

Luxsolar system for the control of the beacons' operation will be automatic in order to reduce the human failure. Specifically, there will be several protocols:

LUXLAN TRPR

This system is integrated in the beacon and it's based on a transponder receiver able to receive data transmitted by approaching aircraft and to turn on the beacon itself.

LUXLAN TRPT

This system is integrated in the beacon and it's based on a transponder transmitter able to communicate the exact positioning and to report the characteristics of the obstacles to the approaching aircraft.

LUXLAN RD10

Applicable in case of more than one obstacle in the area (for example, a wind farm). This system is integrated in the beacon on the main obstacle (MASTER) and it's able to set the minor beacons (SLAVE) to the same setting of the main one.

All these systems can be used alone or at the same time and they are integrated in the same control panel so that there's more choice to control the beacon's operation.