

Abstract

Challenges and Opportunities Facing Light Pollution: Smart Light-Hub Interreg [†]

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Abstract: Light pollution is a well-known problem because of its negative impacts on human health, flora, and fauna. From an ecological and engineering point of view, the literature states to consider the following aspects: (1) the light intensity; (2) the composition of the spectrum; (3) the time and duration of lighting to optimize the time of illumination with the available technologies; (4) the periods of lighting and the control cone; (5) the height and spacing between the light sources to optimize the space between the light sources, to reduce the flow of light and unnecessary energy consumption; (6) the environmental impact studies on-site; and (7) the analysis of real needs and less standardized approaches, examining the evolution of use and habits of light consumption. Accordingly, we want to present the SMART LIGHT-HUB (INTERREG) project, which pretends, during the next 3 years (2019–2021), to deliver smart lighting systems to reach the widest possible public, such as companies active in the relevant subject areas. We are setting up an R&D network in the Grande Région (Belgium, Luxembourg, Germany, and France) to facilitate the emergence of new collective solutions to needs that are not addressed in the private and public sectors, in terms of lighting. We are planning exchange workshops, which serve to complete the project, concerning the interested parties on the ground (public authorities, chambers of commerce and industry, local authorities, public–private sector, private companies, etc.) and external participants representing the final consumers. We also want to work on restoring a protected nighttime environment (i.e., continuous areas of “nocturnal/black corridors” for animals that cannot tolerate artificial light).

Keywords: light pollution; INTERREG; night



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