

TEA S.p.A., MANTOVA - ITALY BOSCO VIRGILIANO

Pilot action factsheet

Project index number and acronym	CE452 - Dynamic Light
Lead partner	Hochschule Wismar University of Applied Sciences: Technology, Business and Design
Project Title	Dynamic Light - Towards Dynamic, Intelligent and Energy Efficient Urban Lighting
Responsible partner (PP name and number)	PP06 - TEA S.p.A.
Project website	www.interreg-central.eu/dynamic-light
Start date	1/06/2016
End date	31/05/2019

Summary description of the pilot action explaining its experimental nature and demonstration character

The main role and responsibilities of TEA refer to the implementation of an intelligent bio-dynamic lighting solution in a green area of the city of Mantua, with the purpose of extend the obtained pattern to all urban “aggregative lighting” areas (parks, cycle-pedestrian paths, squares and parking lots). Such solution consists in brand new LED technology light sources which dimmer depending on users detection and are equipped with 2.700K ÷ 4.000K ranging light. TEA will realize its innovative public lighting system and will contribute to all project WPs, especially by providing and elaborating all necessary data and information and contributing to the editing of most of the expected documents (reports, manuals, databases, etc.). Beside the financial support to implement a pilot project, one of the main expected benefits is related to the exchange of knowledge. TEA is direct expression of tens of cities in the Province of Mantua, its role in the project is to make available its twenty-year experience in the field of public lighting and to implement a pilot project in order to: obtain energy savings; test innovative solutions and implement new services through the lighting network; assess the impact; disseminate the knowledge gained within the project and raise awareness (between both citizens and policy makers) about the advantages of dynamic lighting.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

Mantova is located in the southeastern corner of Lombardy Region, in the heart of Po Valley: it has a strategic position due to the proximity with Garda Lake and its centrality among urban centers of remarkable importance as Milan, Verona and Bologna.

The city by itself is a unique reality at a landscape level, since it appears as a strip of land surrounded by three artificial lakes. This peculiarity originates a wider system of environments with significant naturalistic value. Most of the adjacent territory is included within the nature protection area called Parco Regionale del Mincio, constantly protecting ecosystems and Natura 2000 Special Areas from the Morainic Hills to the Po Valleys.

The territory main resources consist in agriculture and livestock farming, together with the business directly related to tourism activities.

The city's main attraction lies in its historic value as ancient medieval town, which preserves intact its artistic and cultural structures.

UNESCO World Heritage Site since 2008, thanks to its culture-addressed touristic vocation Mantova has earned the designation of 2016 Culture Italian Capital.

Expected impact and benefits of the pilot action for the concerned territory and target groups

Main driver is the will to transmit a higher level of "perceived" safety to all social categories, in order to increase the usability.

On a local level, there are several green areas (+ 65% per person compared to regional average) actually unused for most of the year.

The current regulations regarding public lighting keep this type of environment out of their technical restrictions, providing guidelines about the so-called "aggregative lighting" areas (i.e. acting on parks, cycle-pedestrian paths, squares with limited vehicular traffic and parking lots).

Development of a 4.0 tourism that gives value and promotes the integration between past and future, with the recovery of abandoned areas to give them new life.

The local public lighting management is fundamental not only to guarantee an aesthetic uniformity of the territory, but also to normalize the consumptions and ensure the compliance with all the regulations, actively contributing to emissions reduction and environment conservation.

As to Local Administrations, being able to relate with the neighboring territories and having the assurance of the best system management relying on the "own" local company, which has its specific know-how, make all adopted solutions particularly involving and easily available, considerably improving citizens' life and governance activities.

Sustainability of the pilot action results and transferability to other territories and stakeholders

TEA S.p.A., through its operative subsidiary TEA Reteluce, manages the about 60K light fixtures, 11K of which are located in the Municipality of Mantova territory. The 34% of these last light fixtures is dedicated to the “aggregative lighting” areas (that is the one which covers gardens, parks, cycle-pedestrian paths, squares and parking lots).

The importance of green areas within the urban pattern has been growing for the last years, in the same way these areas have to offer safety and usability features that meet people needs. Their adequate lighting plays a paramount role in both a better management and the complete users satisfaction: the application of advanced LED technology light sources turns out to be the best solution in terms of reliability, energy saving and visual outcomes, as well as drastic light pollution reduction.

The subsequent technological step, tested thanks to this project, consists in the possibility to regulate the light intensity depending on way of use and all related variables, exploiting a bio-dynamic, or bio-adaptive, mode of operation.

Furthermore, choosing to focus on urban green areas allows us to have a wider range of experimentation, since the national legislation on public lighting does not impose any of its technical restrictions on this kind of environment. Considering that this is the very first implementation of this innovative technology in Italy, we have found appropriate to opt for this type of areas, for it presents a smaller complexity of users, variables and conditions, particularly in order not to hinder the emergencies management across the city.

Eventually, the related implementation of a GIS-based database is an easily accessible and visible tool to be used under all operative circumstances and combined with any other additional system, possibly powered by the current electrical network. Any further smart implementations (IOT) can be implemented, even through remote control.