

REDUCING CO₂ EMISSIONS OF PUBLIC LIGHTING



Newsletter

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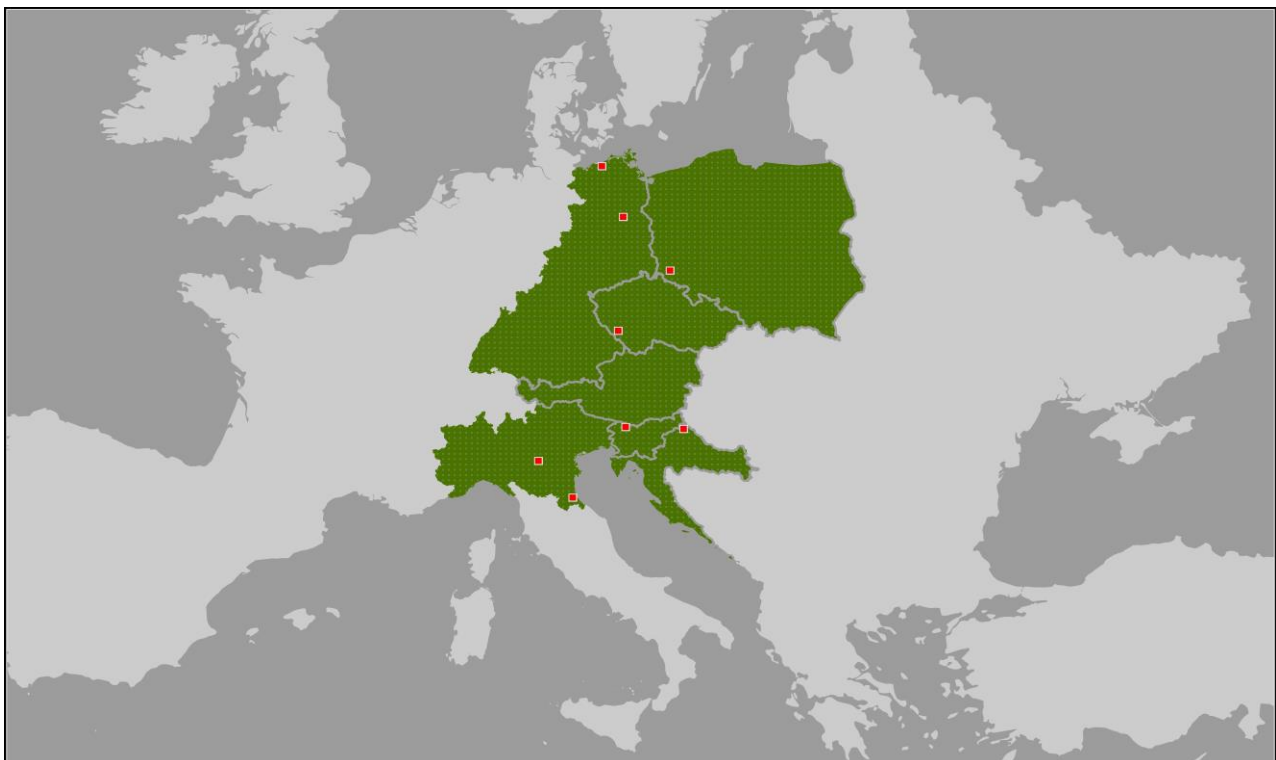
Dynamic Lights—Towards Dynamic, Intelligent and Energy Efficient Urban Lighting

THE 8 PILOT PROJECTS

The main focus of the Dynamic Light project is on how to improve quality whilst reducing light pollution and energy consumption in Public Lighting. The project will develop parameters for lighting control (brightness, colour, light scatter, glare) that reflect the social needs of residents (security, visual identity, attractive urban areas, reduction of light pollution). These parameters will then be implemented across 8 different “Pilot Installation” in various Central European sites. **These pilot projects are funded through the EU Interreg Central Europe funding programme and are scheduled to be started by mid-2017.**

The core idea is that the technical aspect of the lighting needs to be combined even more strongly with questions of the city planning in order to use the new technological possibilities. This requires firstly the identification of factors and parameters influencing user needs and subsequently the development of a scheme to link these needs with lighting requirements. Furthermore, these lighting requirements will form the basis to create dynamic lighting control strategies to be tested in the 8 innovative pilot projects with people-centric planning approach towards high quality light in public spaces in:

- Mantova, Italy
- Cesena, Italy
- Čakovec, Croatia
- Rostock, Germany
- Gorenjska region, Slovenia
- Glienicke/Nordbahn, Germany
- Sušice, Czech Republic



To investigate the potential of dynamic lighting based on the user demands and social needs in the pilot area, 2 innovative tools have been developed in the scope of the project: **the “Joint monitoring tool” and the “Demand analysis”**.

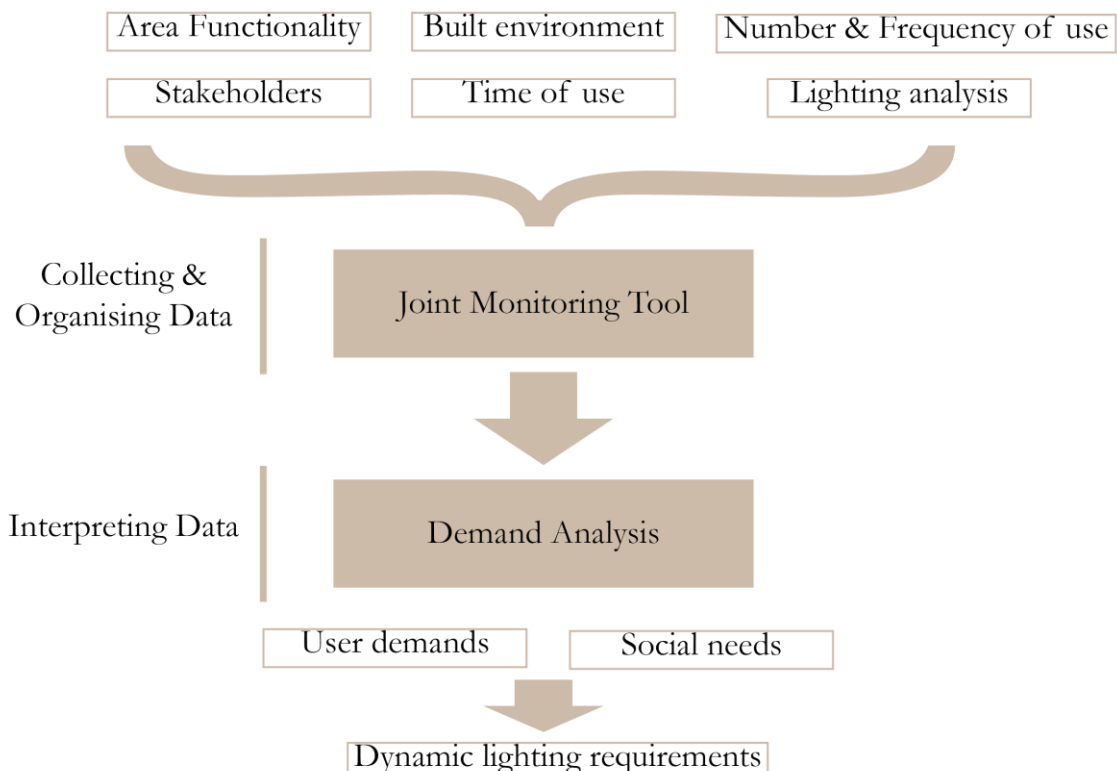
THE “JOINT MONITORING TOOL”

The “monitoring tool” aims to ascertain the parameters and framework for assessing user’s demand for dynamic lighting according to their social needs and conduct a “demand analysis”. This tool consisting of components like area functionality, stakeholder analysis, built environment, time of use, number of users and frequency of users for assessing user’s demand for dynamic lighting based on their social needs.

These are the 6 categories the tool consists of:

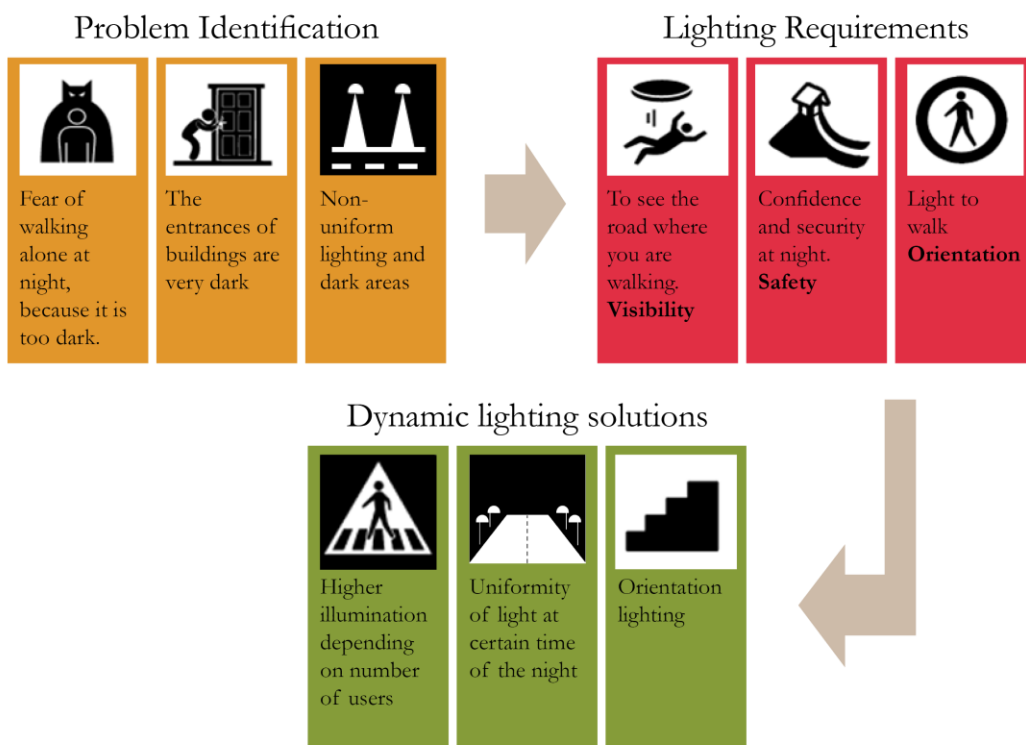
1. **Area functionality:** What activities, uses and functions? Walking, Staying, Meeting, Playing/fun, Cycling, Safe movement
2. **Stakeholders/ users:** Who is performing the above mentioned activities/functions/uses?
3. **Built environment and urban fabric:** Where are these activities being performed?
4. **Time of use:** When do the different stakeholders perform what functions?
5. **Number of users and frequency of use**
6. **Lighting analysis and conditions survey**

These parameters will be further analysed as a part of the “Demand analysis”; the aim is to develop a comprehensive demand analysis identifying the requirements for dynamic light control for the particular “Pilot sites” for the test implementations. The relationship between the tools joint monitoring tool and the demand analysis is illustrated below.



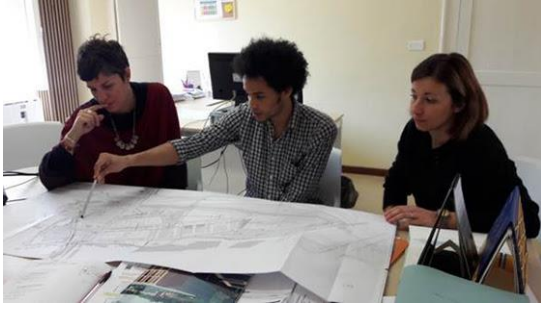
THE “DEMAND ANALYSIS” IN DIFFERENT CITY SITES

The aim of the demand analysis is to identify the dynamic lighting requirements based not only on the user’s basic demand from lighting but also the social needs of a particular site. The project has developed a methodology for examining of real social needs, conducting surveys and interviewing of general public on their social needs. Three types of questionnaires developed for municipalities, general public lighting and site-specific public lighting in the pilot locations were used to collect and systematically analyse the demand for public lighting based not only on the user’s basic demand from lighting but also the social needs of a particular society or municipality. Demand analyses were implemented in the municipalities of Cakovec, Cesena, Sušice, Jezersko, Tržič, Bled, Wismar, Lwowek-Slaski and Mantova. **A total of 381 questionnaires for citizen and 45 for municipalities was collected in the final analysis.**



THE TOOLS IN USE: THE EXAMPLE IN CESENA (IT)

The planning process for the pilot investment in Cesena and the methodology for the social needs analysis has foreseen the use of different tools and stakeholder engagement methods according to the main typology of stakeholders identified. In addition to the designed questionnaires for citizens and technicians, the Municipality of Cesena investigated the specific user needs in the pilot area “Ex Sugar Refinery,, using Social Research as a design tool. Besides to the site-specific questionnaires distributed to the citizens living in the pilot area, information was also collected by the means of a mapping exercise with citizens’ Committee “Zuccherovivo” members. The aim is to create a lighting atmosphere that encourages the use of the public gardens in the pilot area that creates a sense of security and brings about a positive change in user behaviour.



The dynamic light questionnaire for users were distributed by info points at the public entrance of the municipal building and through interviews on the main square in the District City Centre of Cesena during the market days.

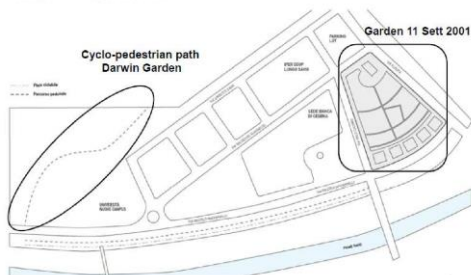


Through the involvement of the Committee “Zuccherivivo”, the site specific questionnaire was distributed to families, which are resident within the study area. On 12th April 2017 in Cesena, a workshop was organized with the Committee “Zuccherovivo” to collect some first specific needs of citizens in relation to the expectations of public lighting in public spaces. During the workshop the Committee’s members were asked to map their current interaction with the study area and in particular with “Park 11th September 2001” during night time. They were asked to trace on a map the paths and the most significant points along the bicycle and pedestrian routes that cross the neighbourhood.

EXERCISE on the MAP – USES of the STUDY AREA

The aim of the activity is to map your current and future movements in the evening / night hours :

- In the Garden 11 Settembre 2001
- on the cyclo-pedestrian path crossing the Darwin Garden
- In the wider area «Zuccherificio»



FURTHER DEMAND ANALYSES

Demand analyses were implemented in the municipalities of Cakovec, Cesena, Sušice, Jezersko, Tržič, Bled, Wismar, Lwowek-Slaski and Mantova. The results will be published soon on the project website in the form of comparative consolidated report.

POLAND

An analysis of acceptance for dynamic lighting on the municipality level has been performed in Lower Silesia Region in Poland. The Region is consisting of 169 municipalities. The aim of the survey was to investigate the level of

CZECH REPUBLIC

The demand analysis in Town of Sušice has been conducted in the park „Santos“, which is located near to the city centre by the riverside. Totally, 29 questionnaires have been collected. The overall impression of general public

CROATIA

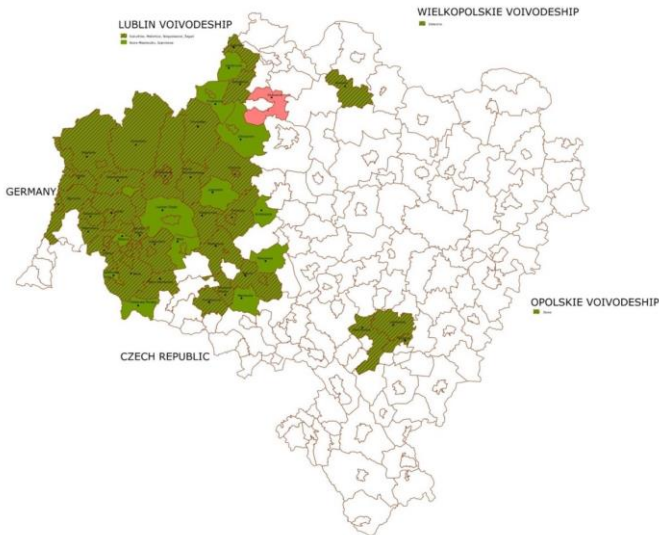
In order to find out the social needs of the pilot area, it was necessary to examine all users which were divided on residents, children, young adults, office workers, municipal authorities, shop owners and others. Buildings usages

awareness, knowledge and acceptance of new lighting systems for public lighting applications. The questionnaire was dedicated to local authorities' representatives involved in the issue of public lighting. As a result answers from 37 municipalities (74%) were obtained.

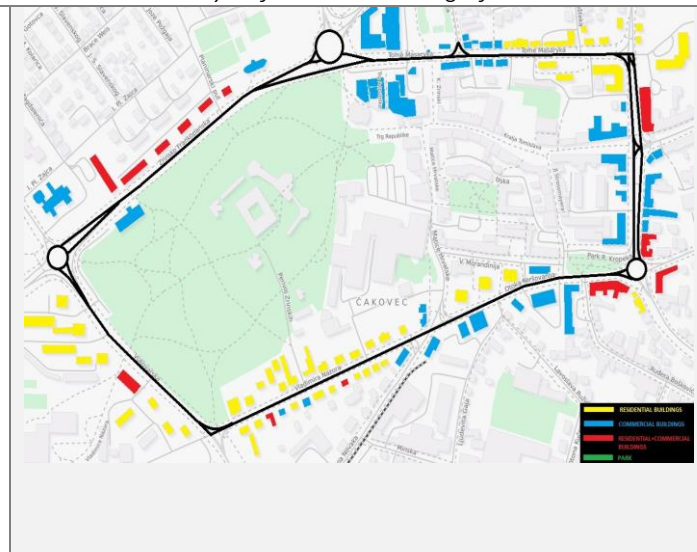
on the quality of public lighting is satisfactory. This is given by their low expectation about public lighting quality partly. Moreover, 60 % of citizens are not aware about the dynamic control of public lighting. On the other hand, for example, 72 % of respondents stated that there is no proper light for playground which is dangerous and leads to underusing of the playground during autumn and spring.

in pilot area have been identified by field survey. Qualitative methodology was used in order to do a better identification of a problem and to get more realistic results. In the case of Čakovec, regarding the research of the social needs of public lighting, the problems were identified using in – depth interviews, observation and data collected from local municipalities. Based on the collected questionnaires, lighting requirements were established which should be taken into account when designing dynamic lighting in the “Ring of Čakovec”.

Demand analysis in Lower Silesia Region in Poland



Demand analysis for the site “Ring of Čakovec”



NEWS

2nd Project Progress meeting in Wroclaw, Poland – April 2017

Dynamic Light 2nd Project Progress meeting was held between 19th and 21th of April 2017 in Wroclaw Poland.

Next 3rd Project Progress meeting will be held in Prague, Czech Republic – October 2017

Dynamic Light 2nd Project Progress meeting will be held between 16th and 18th of October 2017 in Prague, Czech Republic.

Cross dissemination event: Dynamic Light meets Diademe project (LIFE15 CCM/IT/000110) - 23th May 2017

On 23th of May 2017 in Cesena were organized a cross-dissemination activity between Dynamic Light project and Diademe project (LIFE15 CCM/IT/000110) which address the same issue of new high-efficiency energy technologies in the field of public urban lighting: in particular, Diademe project will experiment a new road lighting regulation system to reduce energy consumption by 30% with an application in a residential and commercial district of Rome. The event initiated a collaboration between European projects that could contribute to the exchange good practices on urban public lighting in Europe.

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