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PA Gorenjska Region

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BSC
Business Support Centre Kranj
Regional Development Agency of Gorenjska

PILOT AREAS IN GORENJSKA REGION

Interreg CENTRAL EUROPE
European Union European Regional Development Fund
Dynamic Light

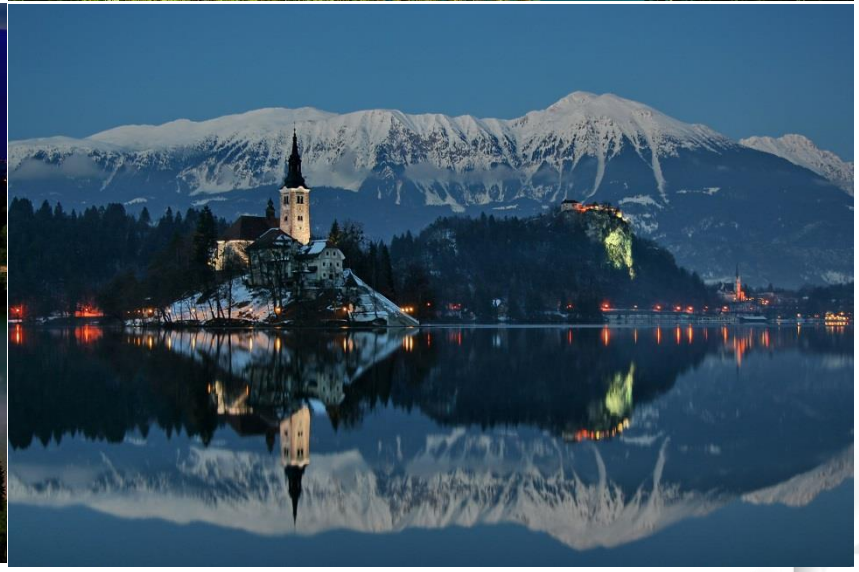
Municipality of Bled

Pilot area 1:

Park by villa Zora

Pilot area 2:

Park by villa Bled



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Municipality of Tržič

Pilot area:

Industrial zone Mlaka

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Municipality of Jezersko

Pilot area:

Settlement with recreational areas Zg. Jezersko

Pilot area 1 – Park by villa Zora

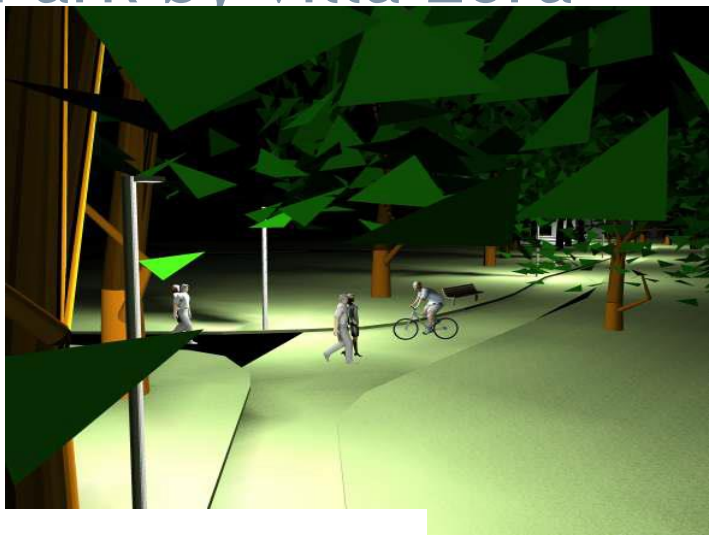
- Park Vile Zora is located on the eastern part of Lake Bled.
- It is situated between the municipal building on one side and the festival hall on the other.
- connecting area between hotels, shopping malls, restaurants, parking lot and a walking path around the lake.

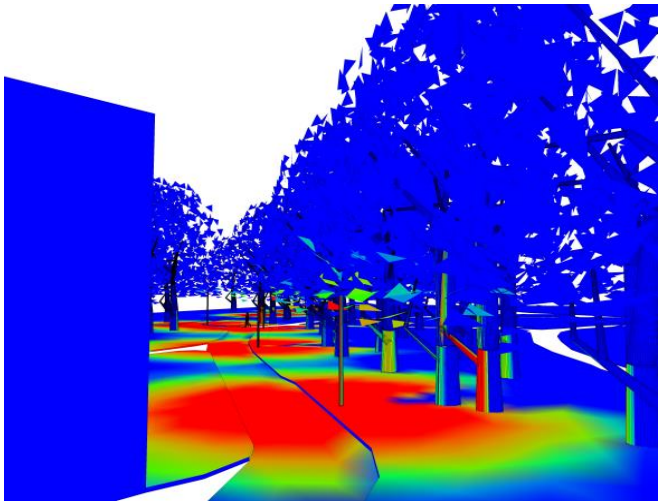
Pilot area 1 – Park by villa Zora

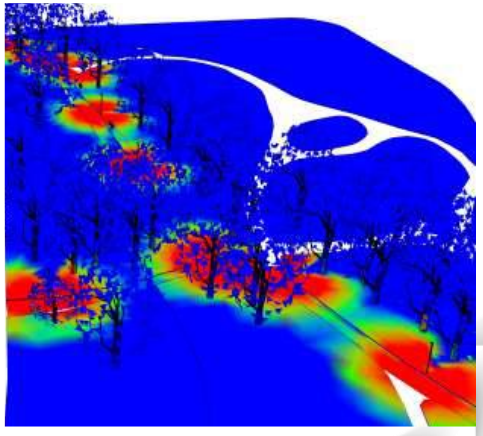
- areas with cultural and natural heritage
- ensure minimal impact of nature and thereby destroy the existing flora.
- ensure the safety and the intimacy of each user. → provide a safe path and also directed the user's look at natural beauties and the specifics of space

Pilot area 1 – Park by villa Zora

- Prepared calculations and simulations







BLED – PARK BY VILLA ZORA

Energy efficiency and New Technologies :

New Technologies used in pilot area:

- Basic system:
  - Lighting control LED luminaries – 16 pieces with new pules
  - Lamp width 19W
  - Colour temperature 3.000K

- Additional modules:
  - motion control sensors,
  - light sensors, 30% to 100%; from 24h to 5h lighting is switched off.
  - comunication and control.

Pilot area 2 – Park by villa Bled

- Park Vile Bled is located on the south side of Lake Bled.
- connecting walking path that connects the existing regulated promenade of the touristic accommodation facility Vila Bled – known as „TITO residence“.
- Similar demands as park villa Zora + installation on existing poles with specific shape under cultural protection.

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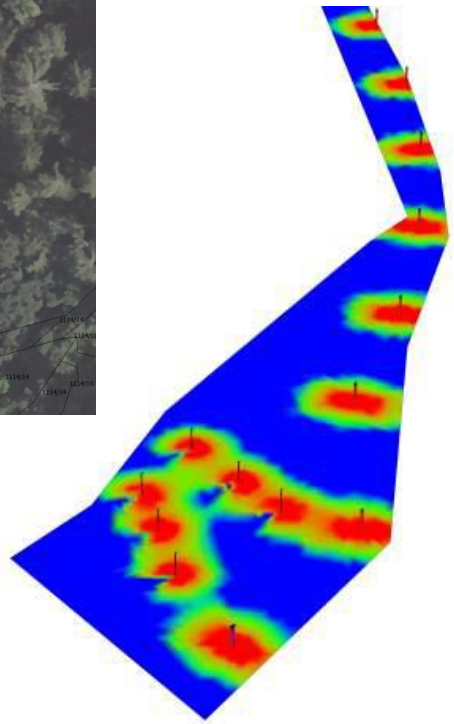
Pilot area 2 – Park by villa Bled

Pilot area 2 – Park by villa Bled

- Prepared calculations and simulations



Energy efficiency and New Technologies :

New Technologies used in pilot area:

- Basic system:
  - Lighting control LED luminaries - 42 pieces on existing protected pules; Lamp width 13W, Colour temperature 3.000K - *The dimensions and method of assembly of lamps on the concrete pillars is determined by the existing lamps and urban furniture (concrete pillars) of Vila Bled and surrounding park.*
  - installation of 6 luminaires - Road lighting lamp / LED Type, maximum lamp width 19W, colour temperature 3.000K,
  - motion control sensors,
  - light sensors, 30% to 100% from 24h to 5h lighting is switched off.
  - comunication and control.

Pilot area 3 – Industrial zone Mlaka

- Pilot location in Municipality Tržič is a local connecting road within the Industrial zone Mlaka.
- 700m long area
- Road is intended exclusively for motor traffic.
- purpose of use in the area:

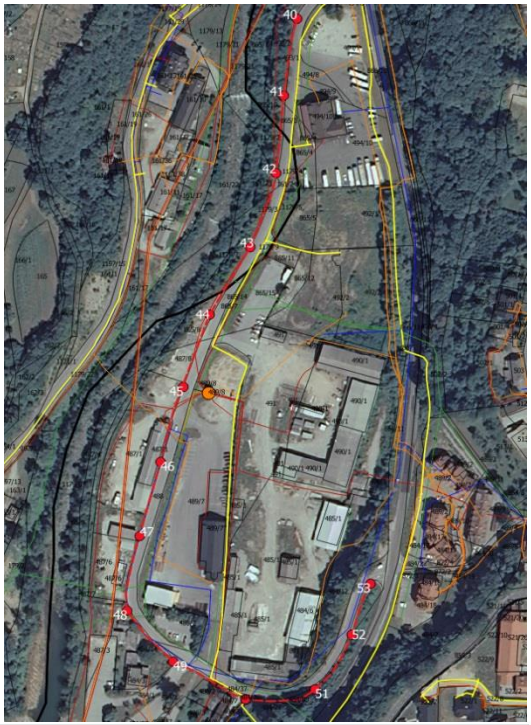
- to ensure adequate levels of illumination for the safety reason of transportation of cars and transport vehicles
-„eventual crime protection“

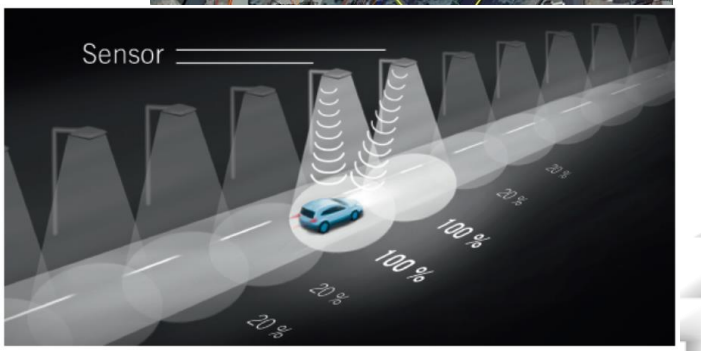
Energy efficiency and New Technologies:

New Technologies used in pilot area:

- Basic system:
  - Lighting control LED luminaries – 14 pieces new galvanized poles/candelabra with a height 9.8 m.
  - Road lighting lamp /, maximum lamp width 68W, colour temperature 4.000K,

- Additional modules:
  - Wireless motion control sensors
  - light sensors,
  - comunication ands control





Pilot area 4 – Jezersko

- Pilot location in Municipality Jezersko is a local road regulated around the lake „Planšarsko jezero“ .
- 500m long area
- Ski cross track runs along the road.
- purpose of use in the area:

- to ensure adequate levels of illumination for the safety reason
- Part of will be extended for the illumination of Ski cross track

Pilot area 4 – Jezersko

- municipality Jezersko is the highest located and smallest municipality in Gorenjska region with main focus in tourism.
- It is protected area, where we had to adapt the shapes of lamps and poles to the requirements of the **Institute for the Protection of Cultural Heritage of Slovenia**
- Some lamps (7 pieces) will be only used for the purpose of cross-country skiing which area leads beside the road. Lighting for cross-country skiing will be mounted only on locations where recreational path will be active - based on the snow conditions.

Energy efficiency and New Technologies:

New Technologies used in pilot area:

- Basic system:
  - Lighting control LED luminaries – 13 pieces new galvanized poles/candelabra with a height 6 m.
  - Road lighting lamp /, maximum lamp width 18W, colour temperature 4.000K,
  - Lighting control LED luminaries – 7 pieces on extended/combined poles (6m+2m) maximum lamp width 112W, colour temperature 3.000K,- used for the purpose of cross-country skiing

- Additional modules:
  - Wireless motion control sensors 30% to 100% from **23h to 6h lighting is switched off**.
  - light sensors,
  - comunication ands control

TOTAL COSTS AND SAVINGS OF PILOTS

COST OF ALL INVESTMENTS:

The financial volume of all 4 pilot investments amounted to 219.069 € with included VAT, 169.069 € of which was contributed by the municipalities themselves, the rest – 50.000 € was co-financed within project Dynamic Light.

MUNICIPALITY	Nuber of luminareres in proposal	Total power comsuption [W]	Annual operation [h]	Electricity consumption [kWh]	SAVINGS - Power regulation with regulation of luminous flux based on traffic intensity and operation time [%]	SAVINGS/ YEAR - Electricity consumption [kWh]	SAVINGS/ YEAR - Electricity consumption [€]
TRŽIČ	13	103	3.800	5.088	45%	2.799	263,31
BLED (PARK VILA ZORA)	16	19	3.800	1.155	45%	635	59,78
BLED (PARK VILA BLED)	6	19	3.800	433	45%	238	22,42
	42	10	3.800	1.596	45%	878	82,59
JEZERSKO	15	76	3.800	4.332	45%	2.383	224,18

❑ Merging urban planning, lighting design

different types of area from tourist, mountains, parks and industrial areas demanded lot of engagement from all involved staff through preparatory phase, creation of final project and procurement documentation and finally implementation of investments.

The designers/technicians need to taking into account the social aspect and not just the energy saving standard

❑ Social impact

Realization of pilot investments contributed to acceptance of dynamic lighting by stakeholders and users in the region.

through the pilot preparation we met the specific social needs of citizens related to public illumination

❑ A good practice that can be easily replicated

Interests of public lightning in other areas in 18 local communities in Gorenjska region.

If final beneficiaries realized impact of final results they will invest extra money and expand investment or prepared other one.

THANK YOU FOR YOUR ATTENTION!

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Dynamic light