

LUCIA

PILOT PROJECT IN JŪRMALA
Economic development in smart urban lighting

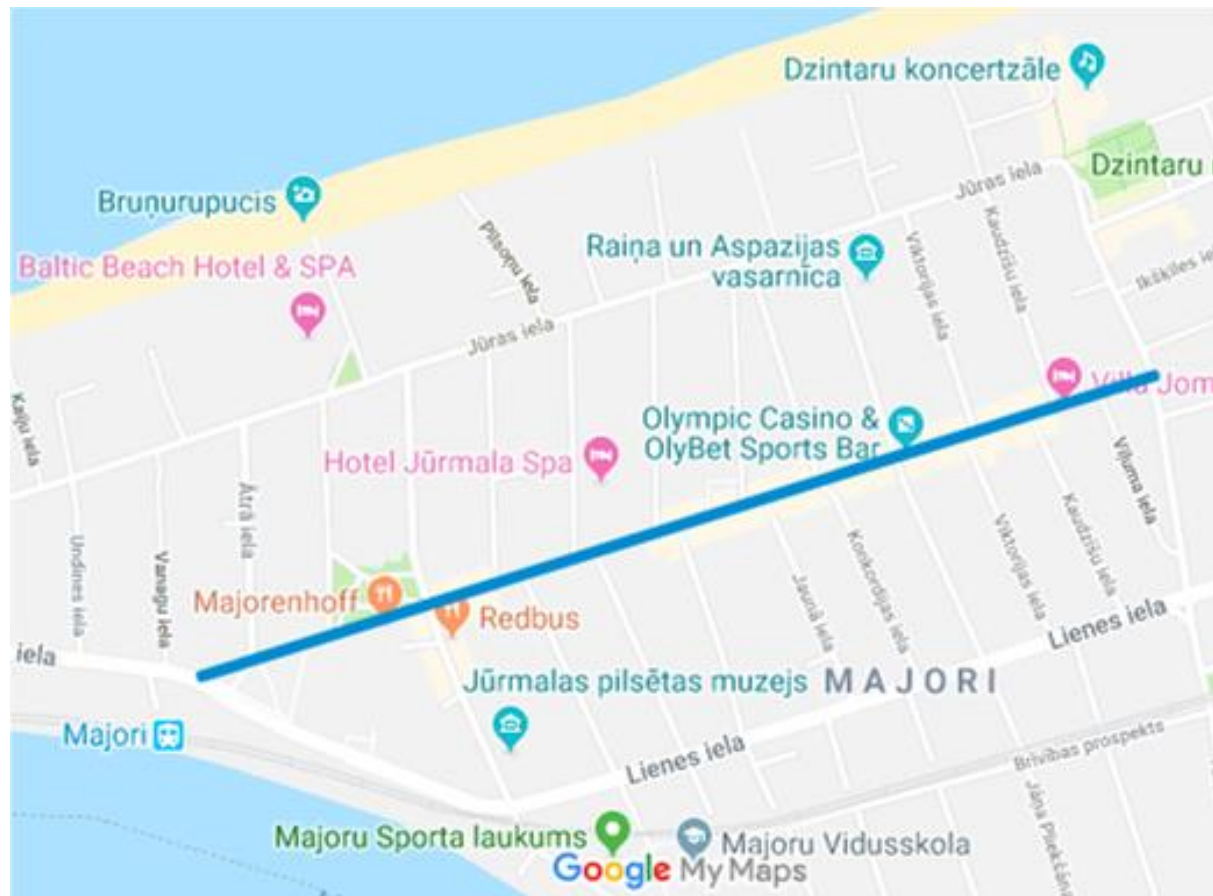
PILOT ACTIVITY

Pilot area:

- In length of 1,1 km luminaires on 109 lampposts will be replaced on Jomas Street

Current lighting situation:

- There are 109 lampposts (3Na light bulbs x 70W) and 9 lampposts with (2Na light bulbs 70W) with ineffective and old lighting





LIGHTING IN JURMALA

- Total number of lighting poles - 10955.
- 60% are wooden, reinforced concrete and metal lighting poles in poor technical condition.

TYPES OF LUMINAIRES

- LED – 1644
- Sodium – 8465
- Mercury – 254
- Spotlights – 259
- Others – 333



INTELLIGENT LIGHT FUNCTIONS ON JOMAS STREET

Suggestions from local inhabitants and entrepreneurs:

- Changes in the brightness of the lighting according to pedestrian flow
- Improving public security
- Analysis of pedestrian flow
- Waste management (notice if bins are full)
- Monitoring of the surface
- Road directions or offers sent to phone

Design of Jomas Street lighting



PHILIPS COPENHAGEN GEN WHITE





PHILIPS COPENHAGEN GEN WHITE



Philips Copenhagen
gen2 testing on
Jomas street



GLOBE





Globe LED1 x 5900 S679 T830 OP PC DALI
3x 64 W, 5590 LM





ENERGY CONSUMPTION ECONOMY

1. Projected luminaires will provide remote monitoring and control of their work and will be easy usable source of different data.
2. Draft calculations shows that planned luminaires will provide energy consumption economy about 40 %, using dimming function.
3. Calculated project's return of investment expected after 12 years. Calculations include 10% of power loss for LED lamps.

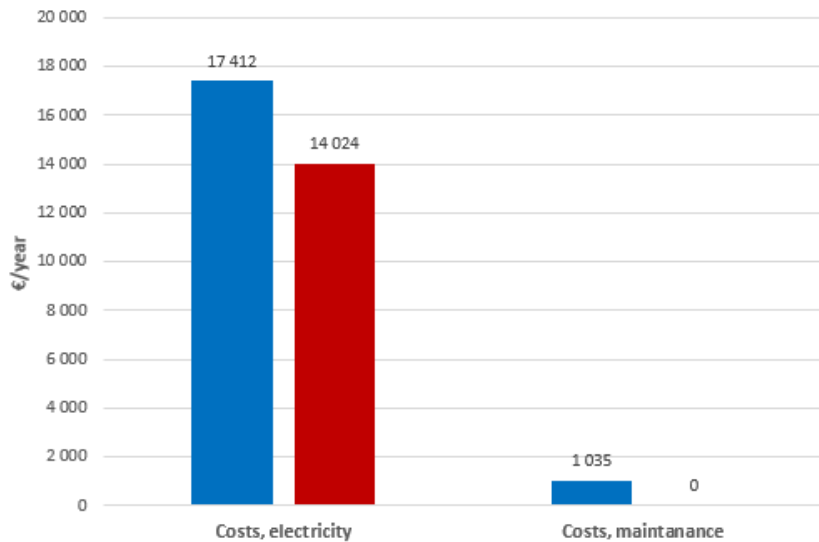
Current lighting

Photo	Hours/ per week	Electricity cost	Bulb type	Number of poles	Power W	Actual power W (according to projected calculations)	Energy consumption per year kWh	Energy costs EUR	Maintenance (cost of bulbs), EUR	Maintenance (labor/ technical costs), EUR	Total maintenance costs, EUR	Energy consumption + maintenance per year EUR
Jomas street												
	76	€ 0.159	Thorn 3x70W sodium	109	3x70	255	109 846	17 412	6.05	55.36	956	18 368
	76	€ 0.159	Thorn 2x70W sodium	9	2x70	170	6 047	958	6.05	55.36	79	1 037
								115 892	18 370			19 405
											1035	19 405

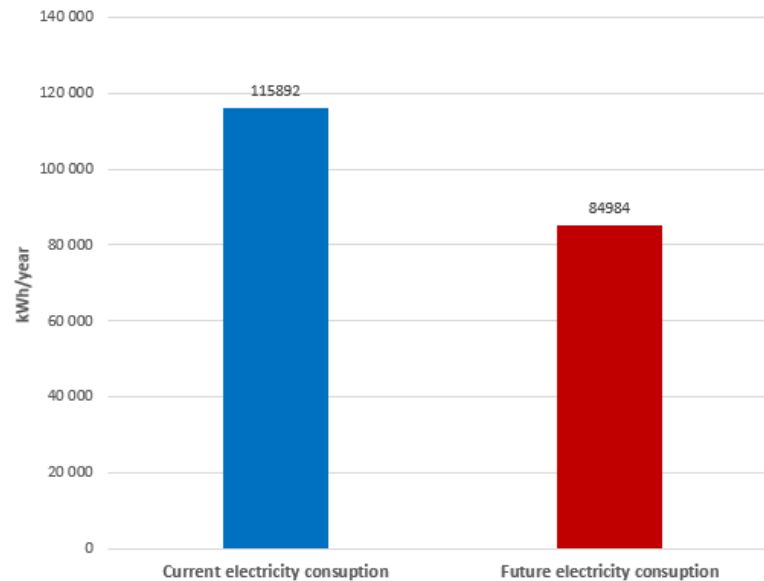
Planned lighting

Bulb type	Photo	Number of poles	Power W	Actual power W	Energy consumption per year kWh	Costs for energy consumption per year EUR	Costs for energy consumption per year using City Light system (40%), EUR	Savings on maintenance costs per year, EUR	Total project costs per year, EUR
Norchcliffe GLOBE		106	3x64	211.2	88 474	14 024	8 414	x	x
Norchcliffe GLOBE		9	2x64	140.8	5 008	794	476	x	x
					93 482	14 818	8 890	10 515	€ 213 503.74
								€ 87 512.40	ERDF + state
								€ 125 991.34	Jurmala City Council
								12	ROI, years

COSTS SAVINGS

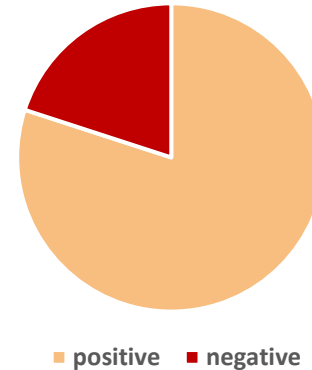


ELECTRICITY CONSUMPTION SAVINGS



NON-ECONOMIC BENEFITS

	select answer
Does the proposed solution improve safety compare to the current situation?	yes
Is there any art/urban design feature involved?	yes
Does the solution improve the situation on light pollution?	no
Does the solution include any smart features (navigation, commerce, charging)?	yes
Are there any positive ecological impacts on animal or plant population (bats, insects, etc.)	yes



THANK YOU!

<https://www.lucia-project.eu/>

https://twitter.com/LUCIA_BSR

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