



RoadSparkTM
INTELLIGENT STREET LIGHT

RoadSpark™

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Engineering and manufacturing company is at the market of visual advertising since 1999. The scope of activities and interests: development, design, manufacturing and installation of lighting systems of various levels of difficulty. The company has its own production of neon and sufficient capacity to produce advertising of large dimensions. The company employs experts in the field of design, electrical engineering, in electronics and in assembly of advertising and design structures.

We have accumulated rich experience in the development of electronics and programming, designing and creating lighting objects of art, large outdoor advertising, street and facade lighting, in creating elements of decorative lighting and in the area of small light systems.

The intelligent street lighting system

A street LED luminaire of new generation was developed in the framework of the European project of conservation of energy, reducing the consumption of natural resources and the reduction of harmful emissions of CO₂. Practical design, maximal energy efficiency and a high-tech control system allow the long-term exploitation and sustainable energy consumption. Innovative street lighting system *RoadSpark* refers to a program of eco-technologies and is designed for intelligent lighting. It is capable to switch on/off by itself, change the intensity depending on the light level or depending on the time of day. In *RoadSpark* LED luminaire are used light modules with temperature 4500K. This light spectrum is comfortable to the eye in any weather and has no unpleasant blue or green hint. Luminaire is easy to install and it is notable for low-maintenance. *RoadSpark slim* has an adjustable mounting, which allows to obtain a predetermined area of lighting without changing the existing infrastructure. System tuning is performed remotely.



RoadSpark™

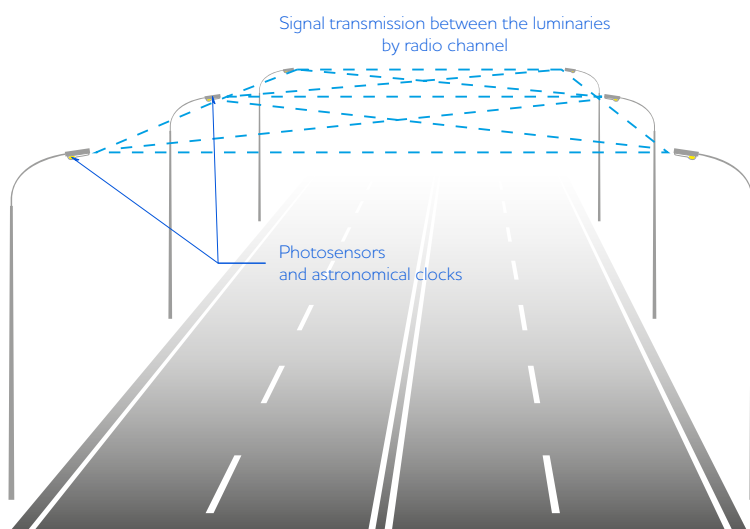
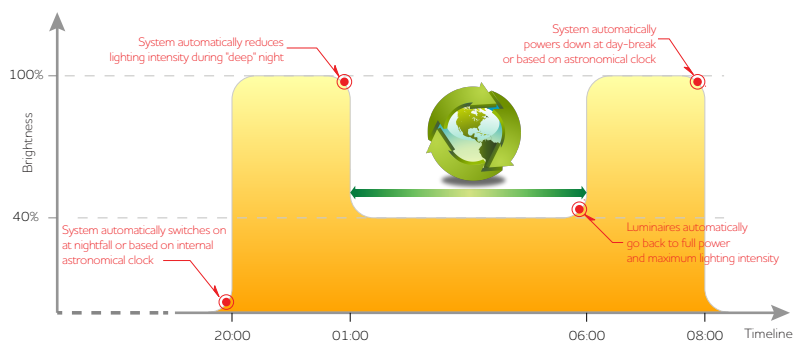


RoadSpark™ slim

System specification

Parameter	RoadSpark™		RoadSpark™ slim		
Power consumption (W)	80	120	40	60	80
Total system efficiency (lm/W)	107		149		
Color temperature (K)	4500 ÷ 5000				
Operating environment temperature (°C)	-40 ÷ 50				
Lifespan (Hours)	≥ 65 000				
Control system	Synchronized radio channel		Remote controlled dimming		
System protection	Temperature protection, brightness control (automatic or controlled), voltage drop protection, short circuit protection, power stabilization				
Protection class	IP66 / IK08				
Warranty (Years)	5				
Country of origin	Latvia (EU)				

RoadSpark street lighting system allows to change settings of each luminaire to automatically dimming on certain specified parameters - illumination, time of the day, and environmental conditions. System setup allows to reduce the intensity of illumination at night for 45-65% of face value.



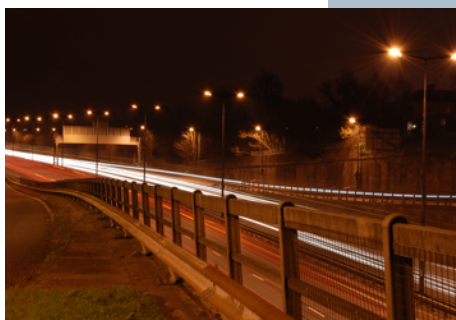
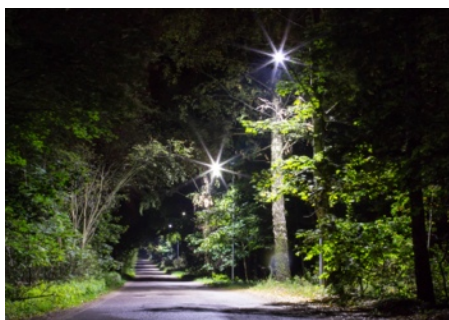
Luminaires continuously communicate amongst themselves over a selected RF-frequency. Combined in groups they are able to jointly analyze the changes of the environment and comprehensively adapt to changing conditions, dynamically changing the strength of the light flux. Independent scenarios can be set for the groups of luminaries.

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Innovative approach and years of experience

- There is a capability to save electricity by using the built-in RoadSpark dimming system.
- RoadSpark LED-lights are notable for the synchronicity in a given mode, as well as the localization of faults and errors, based on the collective intelligence and their programmability in working groups (wireless LAN). The data exchange in the group is carried out through an independent RF channel.
- The interchange of the operating modes and other parameters of luminaire and it's groups is performed remotely, this does not require physical access directly to the lamp.
- A unique cooling system of the luminaire with a high degree of heat output allows to keep compact size and weight.
- High quality electronic components with built-in protection systems preventing overheat and voltage surge provide long service life of the luminaire.
- The case of the luminaire corresponds to the standard of dust-moisture protection and protection from vandalism - IP66/IK08.
- High energy efficiency of luminaire guarantees minimal energy consumption. In the independent modes of operation eliminates the "human factor".
- All products are certified according to European standard and correspond with environmental regulations.



The obvious choice

With a similar power consumption, *RoadSpark* street lighting produces light flux of greater intensity than the products of reputable manufacturers. The following table provides a brief analysis of the technical characteristics of similar products. *RoadSpark* luminaries offer better characteristics and nevertheless have a more affordable price. The guarantee of quality is the European assembling of components from eminent world producers of the United States and Europe. The lifespan of the product is comparable to the showings of big-name brand`s recent developments.

High energy efficiency of LED modules pays off the project for three years (estimated on the basis of completed jobs). This fact allows us to carry out the modernization of the existing system of lighting with the use of DRL bulbs and get significant cost savings by the achieving of the payback period (2 - 4 years). The usage of the built-in features of dimming prolongs the life of project and provides additional savings of current energy costs. Electronic components and the case do not require an expensive maintenance support.



Parameter	<i>RoadSpark</i> ™	<i>RoadSpark</i> ™ slim	Osram STREETlight LUM90	Philips Speedstar BGP322
Power consumption (W)	80	80	90	83
System efficiency (lm/W)	107	149	67	103
Operating environment temperature (°C)	-40 ÷ 50	-40 ÷ 50	-25 ÷ 45	-25 ÷ 45
Unit lifespan (hours)	65 000	65 000	50 000	100 000
Protection class	IP66 / IK08	IP66 / IK09	IP65	IP66 / IK08
Luminaire flux (lm)	8500	11200	6100	8534
Price (VAT exclusive)	€698	€612	€649.53	€1045.82

Pricing facilities

Street lights *RoadSpark™* and *RoadSpark™ slim* are offered at factory prices.

Prices do not include taxes, the order is starting from 200 units and more.

A more detailed proposal is estimated for a specific project and is reconciled with a customer.

Description	Price (€, ExW Riga)
<i>RoadSpark™</i> LED Street Light, 80 W	698.28
<i>RoadSpark™</i> LED Street Light, 120 W	855.42
<i>RoadSpark™ slim</i> LED Street Light, 40 W	530.62
<i>RoadSpark™ slim</i> LED Street Light, 60 W	571.43
<i>RoadSpark™ slim</i> LED Street Light, 80 W	612.26

The street lighting project has been successfully implemented in a number of cities in Latvia. The lighting system conforms to all the requirements, proposed by the experts in competition at the municipal level, and upstaged all competitors both in feature set and price. The manufacturing company provides warranty service on products, and also has the technological and intellectual basis for the design and implementation of all types of industrial, street, facade and decorative lighting of any complexity.

City	Year	Lamps qty	Economy		
			tCO ₂ / year	MW/h / year	~ € /year
Rūjiena (LV)	2012	207	62.54	157.53	13483.44
Mazsalaca (LV)	2012	189	59.36	149.52	12797.83
Rūjiena (LV)	2013	256	72.03	181.44	15529.46
Stopiņi (LV)	2013	145	36.18	91.13	7800.30
Strenči (LV)	2013	180	49.59	124.89	10689.30
Smiltene (LV)	2013	230	64.2	161.71	13841.33
Seda (LV)	2013	102	25.94	65.34	5592.58
Olaine (LV)	2013	101	14.59	36.75	3145.56
TOTAL		1410	384.43	968.31	82879.80