Helios

The automated outdoor lighting management system

Institute of high technologies
of Belgorod State University

The value proposition of using automated outdoor lighting management system

In the budget saving conditions, municipalities are forced to find more efficient energy saving solutions. A largest share of electricity consumed in the cities are outdoor lighting, street lighting, highways, and manufacturing facilities.

The most effective way to save energy is through replacement of the old incandescent lamp and integration of modern management system.

System capabilities and advantages

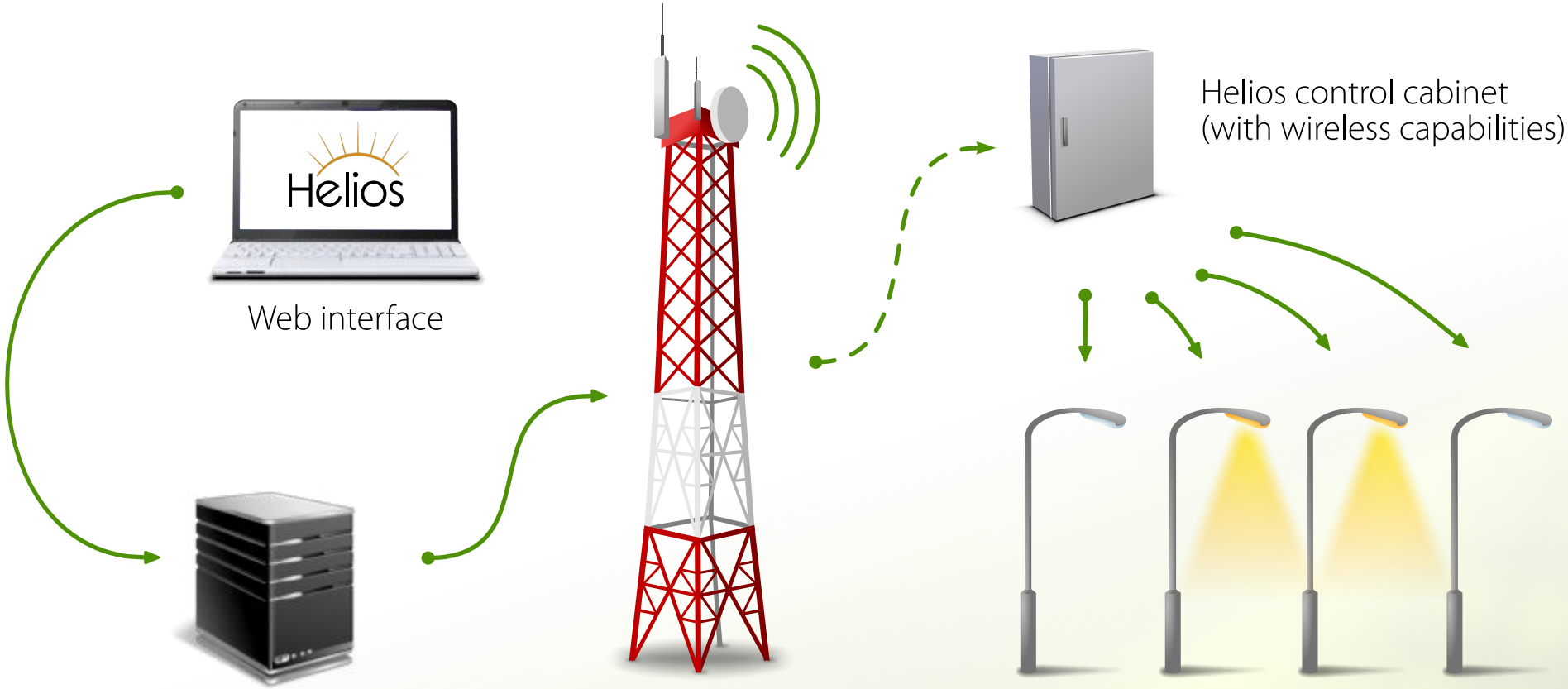
Capabilities of the system:

- Flexible lighting management modes with ability to segment
- Full remote network control through web interface
- Analysis and planning of energy consumption
- Optimization of lighting management efficiencies
- Improvement of operation and dispatch controls

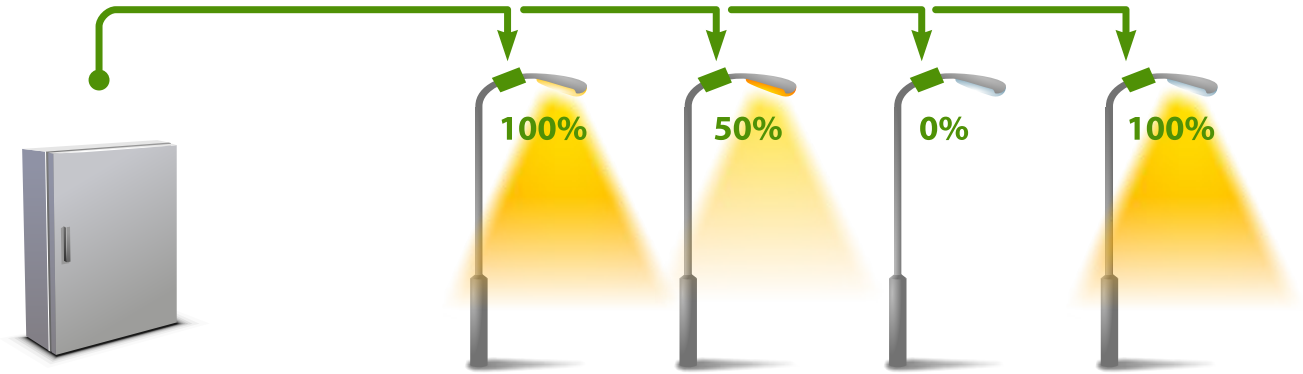
Advantages of the system:

- Helps reduce energy usage by about 40%
- Cost optimization
- Remotely controlled through web interface
- Gathers information for analysis and planning
- Helps increase lifespan of the lamp and decrease replacement frequency

General schematic of working system



Configuration with individual control of each lamp



Reduction of energy consumption **up to 30%**

Functional capabilities:

- Control each lamp separately
- Possibility to dimm each light or group of lights
- Future costs forecast
- Diagnosis of lamps' condition
- Integration with third-party systems

Control channels:

- 0-10, DALI, PWM

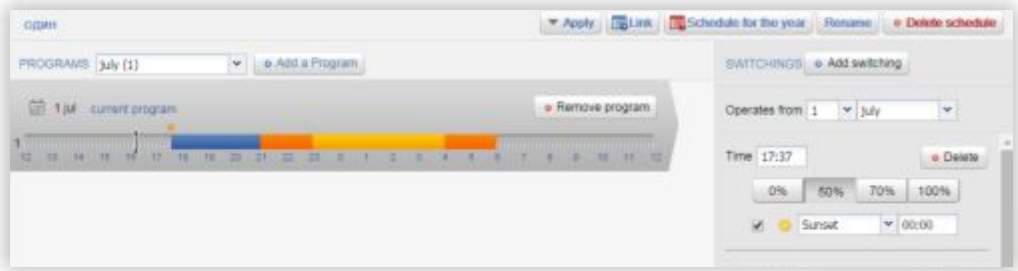
System works with different types of lamps:

- High -pressure sodium arc lamp 70, 150, 250 W
- LED
- Induction lamp and others

System possibilities

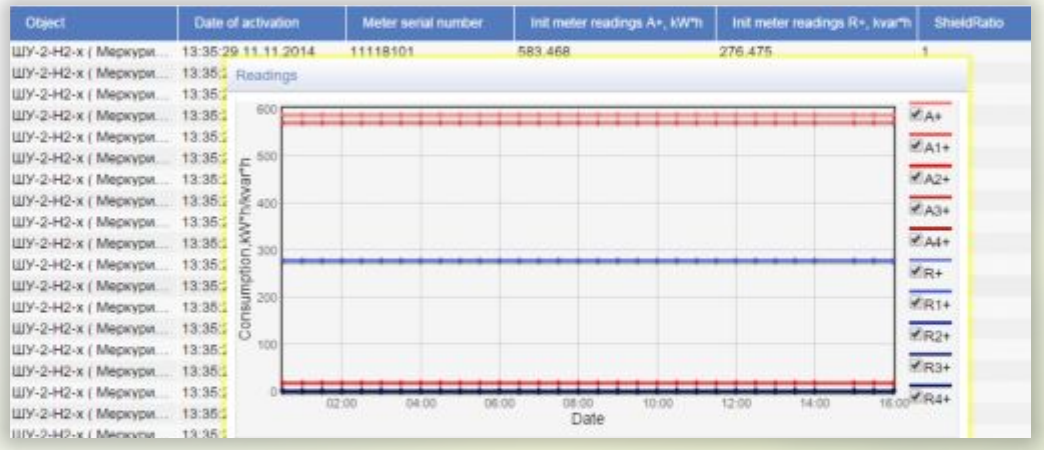
Setting

Flexible adjustment of lighting schedule (the annual schedule, seasonal, with a binding to the solar calendar)



Monitoring

Remote monitoring of street lighting lines (alarm on unauthorized connection, power decrease (burn tubes), the measurement of phase currents and voltages)



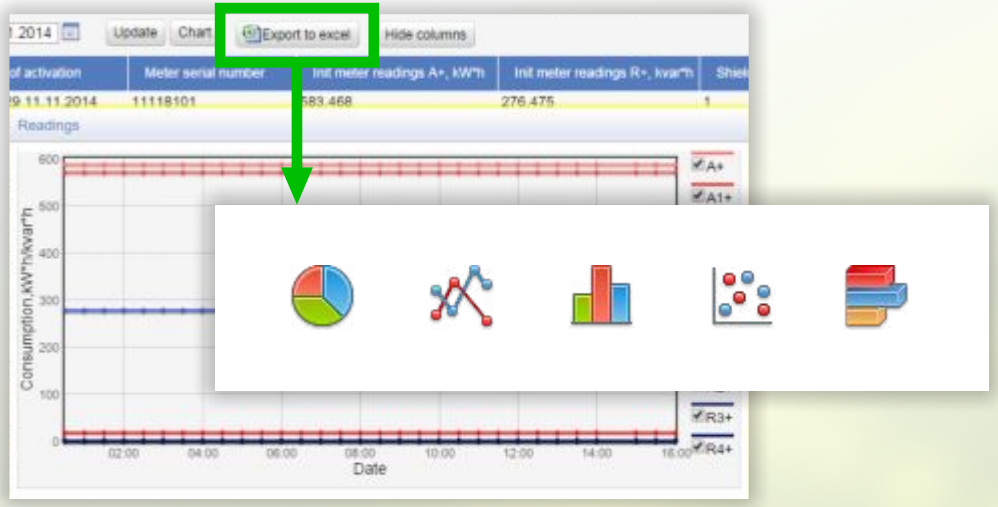
System possibilities

Control

Remote lighting by dispatcher's commands, remote monitoring of lighting points

Report generation

Effective accounting of electric power (multi-rate support, remote pick-up of indications, generation of energy consumption reports)



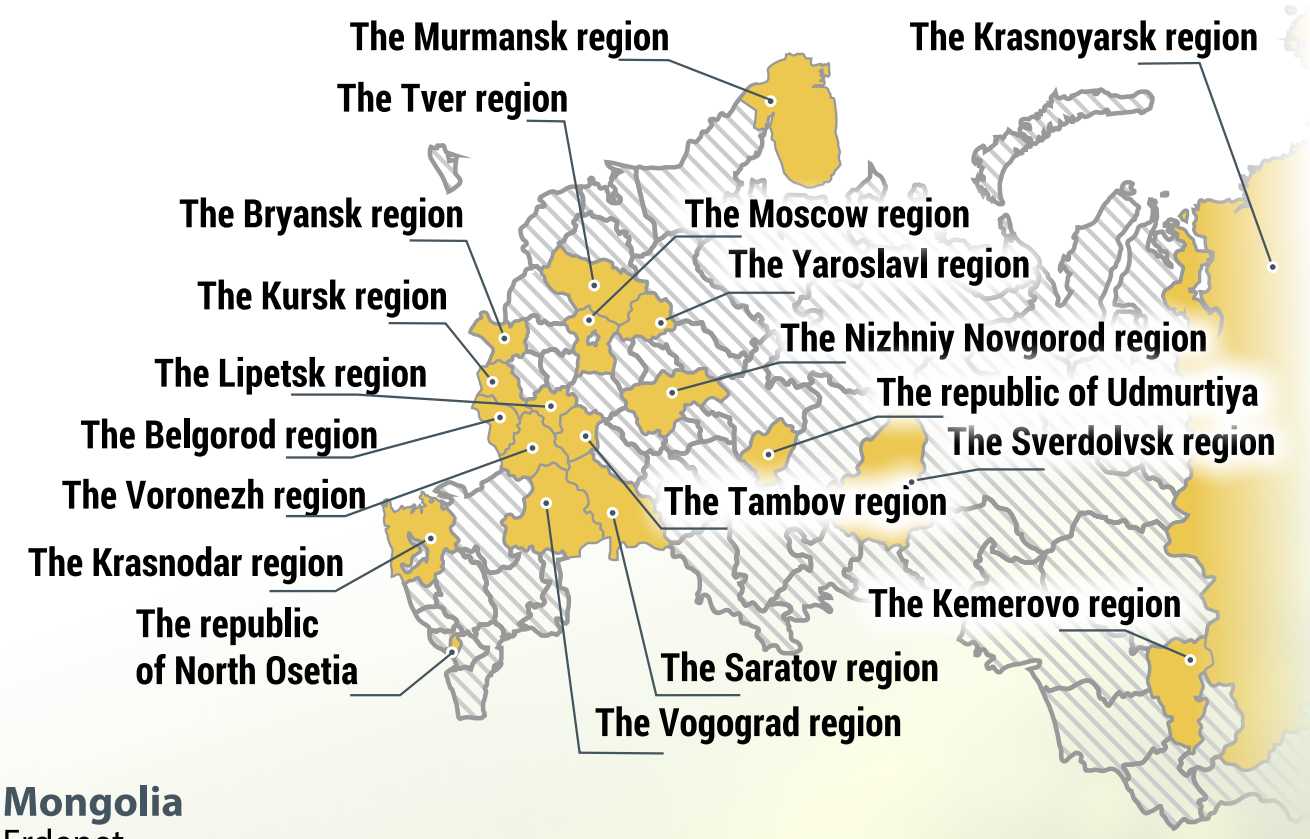
System implementation geography

In Russia:

19 federal subjects of Russian Federation
uses the system

More than 5 000
control cabinets

More than 125 MW
summary energy



In world:

Armenia
Yerevan

Mongolia
Erdenet

Thank you for your attention!

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