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Intelligent StreetLighting

Our intelligent street lighting sheds the right light within your city.

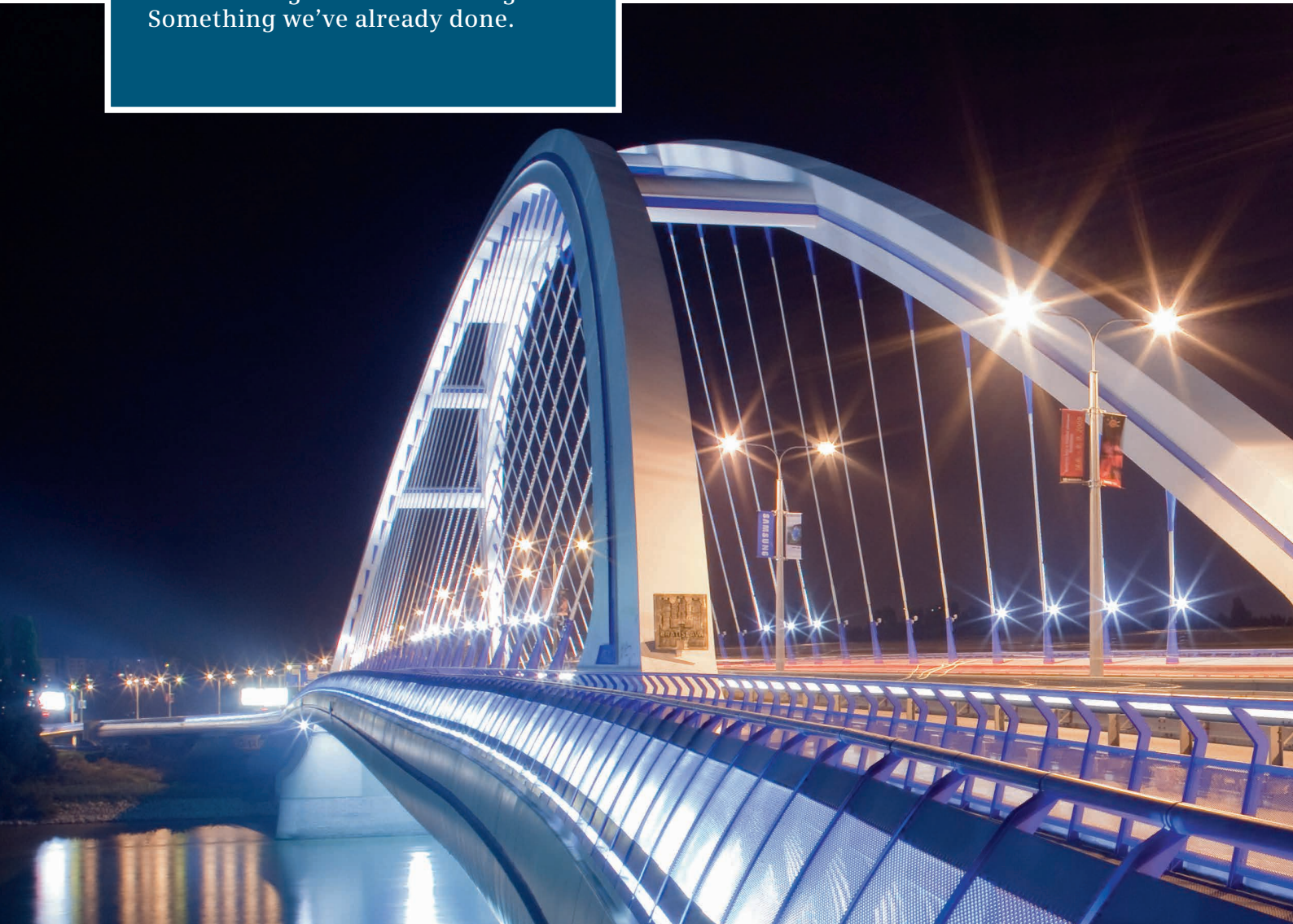
We keep the world running.

Light makes cities more attractive

Light and lighting systems are an integral part of urban infrastructure. They ensure clearly illuminated streets, increase the sense of security in public places and make a decisive contribution to a city's nighttime charm – for locals and tourists alike. In times of constantly rising energy prices, light is also a cost factor that needs to be given a lot of thought. Something we've already done.

We have a wide variety of options at our disposal when it comes to reducing the cost of street lighting. These range from the use of more energy-efficient lights and lamps and the installation of more modern ballasts up to intelligent light management that adjusts itself to local conditions.

In order to give our customers the best possible support for all these options, we have a very broad range of different services.



Maintenance services

In connection with our maintenance services, we replace faulty and inefficient components and draw up sustainable maintenance plans. On the basis of these plans we decide whether to take a proactive or reactive approach to replacing components. This raises the effectiveness of our service and improves the availability of the systems.

Modernization

Our modernization packages make sure that only the necessary parts of street lighting systems are renewed, which means increased energy efficiency at reasonable cost.

Intelligent street lighting

Conventional street lighting works on the all-or-nothing principle: either it's on or it's off. But rising energy costs are forcing engineers to rethink this principle. We develop intelligent lighting solutions that automatically adjust to actual lighting requirements. The services we provide in this area include engineering, installation, programming and even operation.

Operation

If the customer wishes, we also assume responsibility for the daily operation of his street lighting systems – all the way from maintenance and administrative duties to the purchase of electricity.



Clear conditions,
nighttime charm

Maintenance services for maximum economic efficiency

“We have been modernizing and maintaining the street lighting in Sliven since October 2005. And with considerable success. Not only did we meet all our deadlines, but we’re also in the position now to guarantee unmatched levels of availability and reliability.”

Anatoliy Stoyanov, project manager in Sliven.

Our maintenance services make sure street lighting systems always reflect the state of the art – today, tomorrow and the day after.

A close-up portrait of a man with short brown hair and glasses, wearing a blue and white striped shirt. He is smiling slightly and looking towards the camera. The background is blurred, showing what appears to be an office or meeting room setting.

98 percent
availability

Inventory and audit

Whoever wants to know the best way to the future first has to know where he stands today. By creating an inventory of the existing system (e.g. types of lamp, manufacturers, poles, cabling, connections to supply grids), we collect all relevant data to establish a sound planning basis. Then we carry out an audit to evaluate the existing technology and identify which parts should be upgraded or replaced.

Maintenance

Varying general conditions – legal, technical or local – result in a wide variety of challenges. But whatever the conditions are, the availability of street lighting must be assured at all times.



To make sure the lights do not go out, we draw up plans for preventive maintenance and repair that are tailored to the given circumstances.

Operation

From a financial point of view, there are many arguments that speak in favor of outsourcing the operation of street lighting. Siemens offers flexible financing models that ease the burden on the public sector while increasing operational reliability. An all-in-one package of activities (engineering, maintenance, supply of spare parts, ongoing modernization, etc.) from a single source offers considerable savings potential, whereby top priority is given to cost transparency and planning reliability.



A real-life example: Sliven, Bulgaria

With a population of 90,000, Sliven is the cultural center of the Bulgarian province of the same name. In 2005, Siemens was contracted to redesign, modernize and maintain the municipal street lighting system. But it was not only the city itself, also 44 outlying districts were part of that contract.

After creating an inventory of the existing system in a digital street map, Siemens redesigned the street lighting.

The order also includes a 20-year maintenance contract. So far, all the contractual assurances of performance have been achieved. However, municipal treasurers are more likely to be interested in the financial impact: an energy saving of 68 percent and a guaranteed availability of 98 percent.

Modernization projects and performance contracting for increased energy efficiency

Energy is a valuable resource. Combined with modern management systems, efficient street lighting enables local authorities to handle this resource more economically.

Siemens uses tailored modernization packages to bring lighting systems right up-to-date – from the retrofitting of inefficient light sources to the replacement of aging lamp poles. And what's more, with the right kind of financing.

Thanks to guaranteed availability ratings and assured energy savings, the customer can benefit right from day one.

A real-life example: Bratislava, Slovakia

In 1997, Siemens received an order from the administration of the Slovakian capital to modernize its street lighting system. 30,000 street lights had to be modernized and a further 12,000 replaced. In addition to cutting costs, the municipal administrators also hoped to provide better lighting in some areas of the city.

The 20-year contract includes not only modernization and maintenance, but also a spare parts service. Among other things, this service foresees the replacement of each lamp every four years. This service is managed via a 24/7 call center and an online platform.

And the results really do show the project in a good light. For example, energy consumption was cut by 50.5 percent while availability rose from 35 percent above the guaranteed 95 to as high as 98 percent. At the same time, the 500,000 or so inhabitants now enjoy more and better lighting in many parts of the city.



A nighttime photograph of a city square. In the center is a large, ornate building with a prominent clock tower. The clock tower has a white face and is illuminated. The building's roof is dark with a pattern of small, light-colored tiles. To the left, a classical building with large columns is visible. To the right, another building with many windows is visible. The square is paved with large, light-colored tiles. In the foreground, there are several benches and some potted plants. The sky is dark blue.

worldwide competence

„The new technology has made many corners of our city brighter. That gives people a good sense of security.“

Dana Smihlova
Siemens call center agent



Modern control technology

Intelligent street lighting

Does street lighting really need to burn at full power the whole night now that energy is becoming more and more expensive? We say: No, it doesn't.

That is because intelligent street lighting management already provides a wide range of options for cutting energy consumption without compromising on safety and the quality of life. Both the duration and intensity of lighting can be regulated with the aid of modern sensors and control systems.

A real-life example: Düsseldorf, Germany

The Danziger Strasse is a four-lane main artery in North Düsseldorf that has heavily fluctuating traffic volumes. Whereas stop-and-go traffic is the rule during the morning rush hour or when a major event is being held, there are hardly any vehicles on this road late at night.

To ease the strain on the environment and the city's budget, Siemens developed an intelligent solution for Düsseldorf using the VIA LUMEN street lighting management system. The lighting control system adjusts itself automatically to actual traffic levels and makes use of many of the telematic components already installed in the city. Traffic intensity is taken into account just as much as the weather conditions (e.g. fog, rain) and current road construction. An individual lighting program can be installed on the controllers for any kind of traffic situation and for each lighting group. If communication between the controller and the light is interrupted, an emergency program automatically activates the lighting level for heavy traffic.

Energy meters in the Siemens control cabinets continuously record the energy consumed by the lighting system. Statistics already confirm that the lighting level only needs to be raised every twentieth nighttime hour in response to critical traffic situations. The reduction in the remaining 95 percent of the time allows savings between 60 and 90 percent. The annual total savings in Danziger Strasse are now as high as 108 MWh. These figures also attracted even greater attention. The project earned the City of Düsseldorf the German Telematics Award in the category "Best Practice 2012" from Lower Saxony's transport minister.

"This innovative software from CAOS GmbH in Karlsruhe (with Siemens acting as the exclusive sales channel) can be ideally integrated into the existing infrastructure. In Düsseldorf, VIA LUMEN harmonizes perfectly with the Sitraffic Scala Solution 6 traffic computer and the Traffic Eye Universal detectors."

Wilhelm Derenne, sales officer at Siemens AG, Division Mobility and Logistics



Strong partnerships open up even more possibilities

Intelligent street lighting systems provide interfaces to many adjacent areas. We have entered into strategic partnerships with leading specialists to ensure the best possible integration of these areas so that we are able to continue enhancing the performance of our solutions.



CAOS GmbH – specialists for the use of public space

CAOS GmbH in Karlsruhe develops computer software for application-oriented systems that focus on the monitoring, coordination and management of public street space. The company has maintained a close and productive partnership with Siemens since 2003.

CAOS solutions support us in controlling street lighting systems, as well as in monitoring and maintaining technical installations and components belonging to the public street space such as traffic lights, cable networks, road signs, and a whole lot more. And a dedicated mobile solution enables not only data acquisition and data monitoring on site, but also comprehensive fault management.



Leading
specialists

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The information in this document contains general descriptions of the technical options available, which do not have to be present in all individual cases. The required features should therefore be specified in each case at the time of closing the contract.