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Lana shines with new brilliance

by Toni Everwand

More than 1,500 lights have to be recorded and categorised in the South Tyrolean market town of Lana. The background of this action is a resolution by the South Tyrolean government which intends to optimise public street lighting with regard to energy efficiency and minimised light pollution. Light planner Christian Ragg developed a master plan for public lighting which focuses on saving energy and curbing light pollution in the night sky. This plan was implemented with the Leica Zeno 5 and support from mobileGIS.at.

Christian Ragg, a light technology engineer from the neighbouring country of Austria was commissioned with illuminating Lana in the area of light. "Step one is to take inventory of public lighting, and step two is to develop a light plan with which the town can comply with the stipulations of the local government's ordinance."

One requirement of the town of Lana was that the contractor would have to acquire geo-referenced data and provide it to the management in such a way that it could be integrated into the regional geographic information system. This is why Ragg chose to rely on support from Leica Geosystems for

Light pollution and energy conservation in public spaces

Light pollution refers to brightening of the night sky from artificial illumination. Light pollution interferes with the astronomical observance of the night sky, irritates nocturnal insects and migratory birds in their orientation and navigation and also negatively affects the growth cycles of plants in the city. Modern lighting can make a contribution in the area of energy conservation. Contemporary lighting systems with LED light technology consume up to 80% less energy than outdated systems equipped with mercury vapor bulbs, for example.



his commissioned task. He contacted DI (FH) Martin Trimmel of "mobileGIS.at": "As a light technician, the geographic location of recorded points isn't part of my daily work. Martin Trimmel provided me with a hand-held Zeno 5 GPS from Leica Geosystems, a device which I could use to carry out my job efficiently and within a time frame acceptable to everyone."

After a brief training period, Ragg got started. He hopped on a bicycle and rode to all the lights in the city, point by point. "I was happy to be equipped with such a lightweight and handy device," said Ragg. While the device determined the position of the light point, Ragg filled in the predefined entry fields, such as light type, bulb type, age of the light and light point height, on the device and was able to cover about 170 to 180 lights per day.

Because recording the outdoor lighting of a town isn't part of Ragg's everyday work, he decided to have the GIS evaluations carried out by mobileGIS.at. He sent the data gathered with the Leica Zeno 5 to Martin Trimmel, who prepared it for the light technician using the Zeno Field & Office software and sent it back to him for further evaluation in the form

of Excel tables and a PDF location plan with streets and integrated light points. The city of Lana, on the other hand, received direct GIS-capable shape files from Trimmel. Using these files, further development of the lighting network could be documented and controlled.

Using the survey as a basis, the second part of Ragg's task could begin – the creation of a light plan. He will develop a proposal where inefficient lights and lights which create a large amount of light pollution will be replaced with efficient light systems with the least possible light pollution. "This proposal will be discussed with the town and implemented in steps," said Ragg. It will enable Lana to be illuminated in an energy-efficient, economical and environmentally friendly way. The town agreed to it, and Ragg is implementing it using Leica Geosystems technology as a foundation. ■

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