

Tuningen switches to smart
LED lighting



82 Percent Energy Savings

A sizeable contribution to conserve natural resources

Converting to LED technology and smart lighting management controls helped Tunningen achieve two significant goals: on the one hand, increased energy conservation and sustainability while, on the other hand, drastically improved quality in the lighting of public spaces. Compared to the previous lighting system, the new system cuts annual electricity use by around 141,000 kWh, which corresponds to a yearly savings of 82 percent – a very sizeable contribution to conserving our natural resources and streamlining the town's budget.

Hess has long enjoyed a reputation as a manufacturer of energy-efficient aesthetic outdoor lighting. Besides singular design, Hess quality stands for high-grade materials and components, precision-engineered optical systems and LED systems designed for specific lighting tasks. Hess combines these qualities with smart lighting management solutions to provide towns and cities with custom-fit complete lighting solutions that upgrade public lighting in terms of both efficiency and aesthetics.



Tuningen switches to smart LED lighting by Hess

Entire town lighting to smart remote-managed Hess LED lighting converted

Cutting expenditures for energy and conserving our environment – key priorities of Germany’s national, state and local governments – require cities and towns to drastically overhaul their operations in order to become more energy-efficient and sustainable. The Schwarzwald-Baar municipality of Tuningen is leading by example, having successfully converted outdoor lighting throughout the town to energy-efficient, smart LED technology. The town worked closely with the lighting specialist Hess on this model project.

The project involved about 500 lighting units, for which the town chose Hess’ MADRID and NEW YORK luminaires. These products feature Hess’ highly innovative integrated smart remote-management systems DIMPro and AstroDIM, which deliver state-of-the-art efficiency and performance.

Tuningen invested more than a half a million to convert its lighting to LED technology. Of the town’s total investment, Germany’s Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMU), provided Tuningen with a grant of 20 percent.



Smart Lighting Management with Dimmsystem DIMPro

Light only when and where it's needed

To allow Tuningen to manage its lighting based on the frequency and nature of the public's use of the illuminated areas, Hess fit the MADRID luminaires installed in the residential streets with LEVO LED modules, DIMPro dimmers and motion detectors. The system configures to automatically adjust luminous output to specific use scenarios and traffic levels.

Nights, at around 11 PM, the system diminishes light output to 10 percent of its level during busy hours and activates the motion detectors, which sense movement and infrared radiation. Upon detecting movement, the sensors prompt the system to boost the lighting level. Afterwards, the system automatically lowers light output to the previous level after a predetermined period of time has elapsed without detected movement, delivering significant savings on electricity usage.

Integral antennas permit communication between the individual luminaires via a WiFi network. Amongst many other advantages, this allows operators to programme the entire system to the required specifications from a single remote terminal using a software platform.

Please find further information about the smart lighting management system DIMPro on our website:
http://www.hess.eu/en/Produkte/Dimmsystem_Professional/



Dimmsystem DIMPro



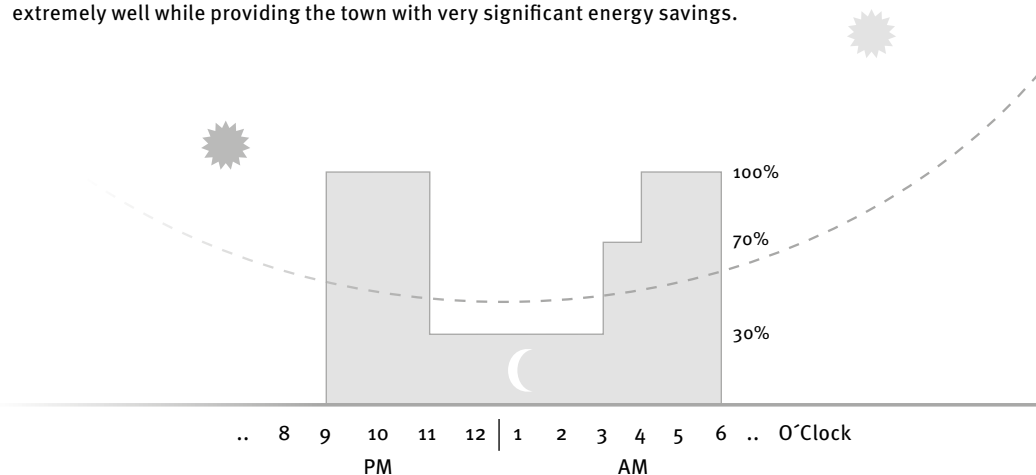


AstroDIM

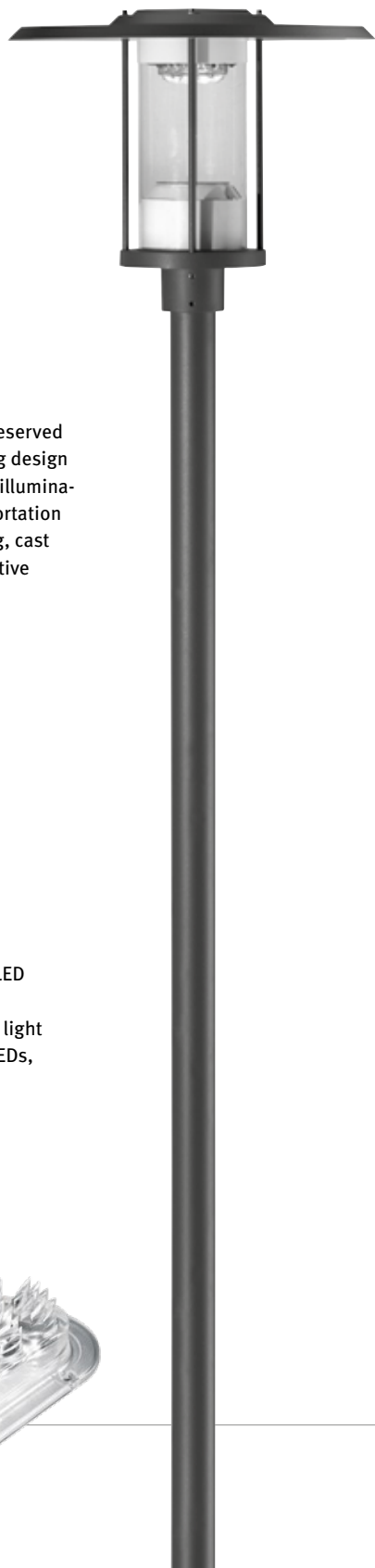
Pre-set to Customer Lighting Management Requirements

Along the heavily frequented streets, the town installed NEW YORK 700 and 1000 luminaires, each fit with AstroDim dimmer. AstroDim is a standalone system, which means it doesn't require an external control infrastructure. Its settings are factory-set and operate on an integral timer. Here is a description of how the system functions: Between 9 and 11 PM, Tübingen's NEW YORK luminaires automatically cut their light output to 70 percent. From 11 PM to 3 AM, the lighting level automatically falls to 30 percent. At 3 PM, luminous output increases to 70 percent and at 4 AM the level returns to 100 percent.

AstroDim's two-stage dimming serves Tübingen's street lighting needs extremely well while providing the town with very significant energy savings.



The luminaires – the technology



M A D R I D

MADRID, Hess' classic pole top mounted luminaire, features tastefully reserved design that makes it ideal for the comprehensive and integrated lighting design of public spaces, where it superbly serves residential neighbourhoods, illuminating and embellishing their side streets, gathering areas, public transportation stops and more. The luminaire's quality construction includes a housing, cast from special-purpose high-grade aluminium, and a canopy with a reflective underside.



MADRID
www.hess.eu/1070

Technology LED module LEVO:

The MADRID luminaires in Tuningen are fitted with the multifunctional LED module LEVO. The LEDs are on a replaceable PCB. A large-area optical component configured with a complex array of prisms concentrates the light and facilitates the rapid, uniform dissipation of heat produced by the LEDs, prolonging the LEDs' lifetime.



LEVO-Modul





NEW YORK

Hess' NEW YORK pole top mounted luminaire offers dynamic, ultra-modern aesthetics. Designed to illuminate arterial roads and main thoroughfares, this exciting product has a wedge-like appearance that tapers off from the pole. NEW YORK has a cast aluminium housing and accommodates either single or twin RAP LED modules from Osram, depending on the specific lighting needs. Cooling fins on the top of the housing deliver optimum thermal management. The product is available in different variants, including pole top or single and twin pole bracket amongst others.



NEW YORK
www.hess.eu/1520

Technology RAP LED module:

The RAP LED module is a complete system, whose individual members perfectly interact with each other, in particular, the optical components, including the LEDs, reflector, optical control and the module's undulated formed enclosure. The precision-designed and -configured faceted reflectors economically and homogeneously distribute the light emitted from the high-power LEDs to the targeted, walkways, streets and open spaces. Their precise optical control protects motor vehicle drivers, pedestrians and individuals in adjacent buildings from disturbing glare. For the specific application's exact requirements different optical systems are available.



RAP-Modul



Press Conference, Tuningen 8th August 2014

Together with the project partners, Mayor Jürgen Roth spoke to the regional press on 8 August 2014 at Tuningen's Town Hall about the town's extensive conversion to smart LED lighting. They discussed in depth the key details of the newly installed lighting, such as how the smart control management functions and the benefits of LED technology.

Tuningen's mayor, Jürgen Roth, is very satisfied with every aspect of the LED conversion. "This project has given our town a name as the first municipality in Germany to carry through with such an extensive smart-technology based LED conversion plan. I am proud that Tuningen is leading by example," says Mayor Jürgen Roth. "The smart lighting management system allows us to exploit the full potential of LED technology. For instance, LED modules installed for side streets require a mere 3 watts when dimmed." Town residents have expressed enormous satisfaction. Their response has been just overwhelming," explains Roth.

In addition to the significantly improved quality of lighting and drastically lower operating costs, Tuningen is impressed by the LED lighting's very low maintenance. "If operated at full capacity, which is an average of 4000 operating hours a year without dimming, the luminaires would easily go 12 years without maintenance," says Jürgen Duffner, Hess Sales Director.

Thanks to the smart controls installed in Tuningen's lighting system, which efficiently control the lighting during the night hours based on use, however, Tuningen can expect significantly less maintenance and much lower costs of operation.

TV Report about Tuningen

SWR, a regional television station in Germany, reported live from Tuningen on the outdoor lighting conversion. Here you can watch the report:



<http://swrmediathek.de/player.htm?show=004c85e0-3523-11e4-b748-0026b975f2e6>

