



ZUMTOBEL



SBB service facility, Oberwinterthur

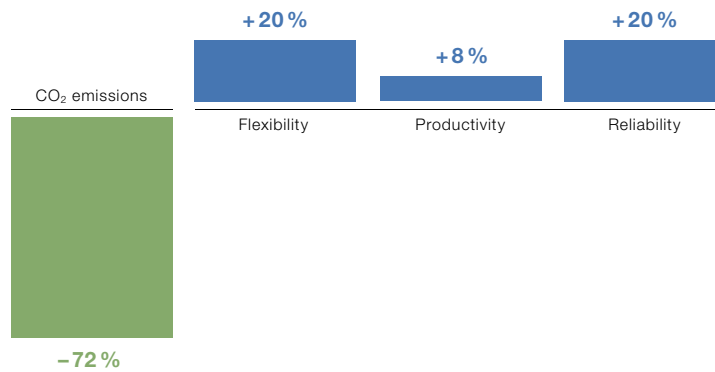
One thousand TECTON luminaires in continuous operation: efficient high-quality lighting thanks to intelligent daylight-based control and Maintenance Control function.



Perfect lighting quality day and night

Seven days a week, twenty-four hours a day, the staff of the SBB service facility in Oberwinterthur provides maintenance and cleaning of 187 trains. Three different vehicle generations featuring various maintenance systems place varying requirements on the lighting system. While older models must be maintained from the railway platform, more recent models require maintenance via the roof in most cases. In the context of the refurbishment project, two roof working platforms were built and the lighting system replaced to match the visual tasks, thus creating ideal prerequisites for high-precision work and at the same time considerably reducing maintenance and service costs.

zumtobel.com/industriallighting



SBB service facility, Oberwinterthur | CH

Electrical consultants: Herzog Krull Group Zurich, Schlieren | CH
 Electrical installations: Schultheis-Möckli, Winterthur | CH
 Lighting solution: TECTON continuous row system, LUXMATE
 LITENET lighting control system incl. daylight sensor, emergency
 lighting system with ONLITE central CPS central battery supply

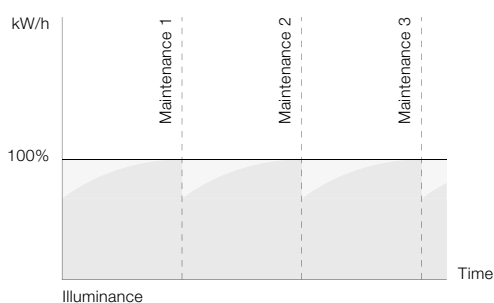
1. CO₂ efficiency and cost efficiency

-72%_{CO₂}

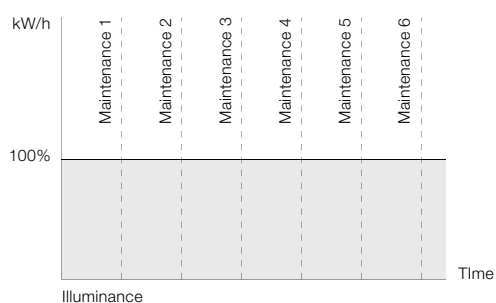
Power consumption optimised by daylight-based control and Maintenance Control function

In order to fully exploit a lighting system's saving potential, all luminaires are dimmed down – or possibly even switched off – depending on the daylight available, the ideal lighting level calculated and on the data provided by the central LUXMATE LITENET daylight sensor. Moreover, electricity is saved by using the Maintenance Control function. This function compensates for natural ageing and soiling of the lighting system. In order to obtain a constant illuminance level of 500 lx at maximum output of 850 lx, the luminaires require only 65% of their power at the beginning of the maintenance period. Experience shows that after a few years, with increased soiling, they need 75% of their power, then 90% to 100%. However, automated dimming down to set values does not only save energy. Maintenance cycles will also be extended, and illuminance levels that are too high at the beginning of a maintenance cycle can thus be avoided.

With Maintenance Control function



Without Maintenance Control function



2. Flexibility



+ 20 %

A variety of visual tasks, one luminaire system

Maintenance work at roof level comprises mainly of medium fine to fine installation tasks; at platform level, however, the requirements placed on the lighting solution are determined by technical maintenance and cleaning tasks. Based on the EN 12 464-1 standard for lighting of indoor workplaces, two values were defined as ideal illuminance levels for the SBB service facility: 500 lx correspond to more demanding visual tasks on roof working platforms, while 300 lx are sufficient for working at floor-level platforms – since the train walls are well lit thanks to asymmetrical light distribution provided by the TECTON luminaires installed below the roof working platforms.

The TECTON continuous-row lighting system provides an appropriate solution for both lighting tasks with different installation heights – either as a suspended trunking system or a ceiling-recessed system.

Light designed to meet the visual task at hand



(Medium) fine installation tasks 500 lx



Technical maintenance and cleaning 300 lx

3. Productivity

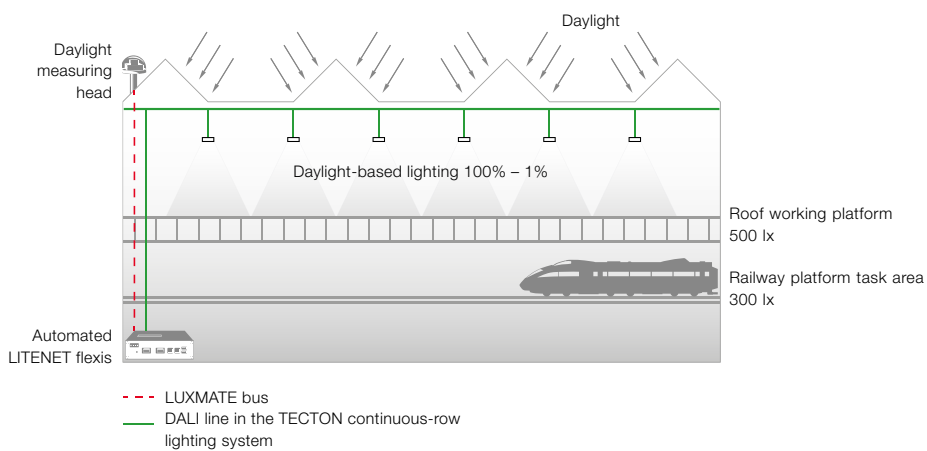
+ 8 %

Uniformly high illuminance levels

Constant, and above all uniform lighting is a prerequisite for avoiding mistakes, thus increasing staff efficiency. The SBB service facility's roof working platforms are used for servicing compressors, AC equipment, vehicular batteries and pantographs of the trains. The 500 lx TECTON continuous-row lighting system suspended from the ceiling provides perfect task-specific illumination of the roof working platforms, taking the freely available daylight into account as well. What is surprising is the arrangement of suspended luminaire rows installed transversely to the tracks. This ensures that no shadows are cast on the trains, which increases uniformity.

The TECTON continuous-row luminaires provide asymmetrical light distribution from the roof working platforms illuminating the side walls of the trains, thus creating an ideal lighting situation for cleaning these surfaces.

Increased productivity thanks to uniform lighting



4. Reliability



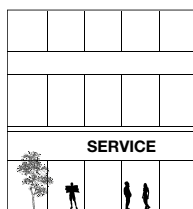
+20%

Luminaires, emergency lighting and control system from a single supplier

With a broad range of luminaires, emergency lighting and lighting control systems on offer, Zumtobel supplies a unique overall package which clearly stands out against others in terms of reliability and safety. At all stages of a project, Zumtobel customers can rely on the lighting solutions consultants' extensive application know-how – from the design stage to commissioning right through to programming.

Another benefit, especially with high ceilings: the pre-wired 11-pole TECTON continuous-row system is easy to connect. No complex wiring is required, and installation is possible even during full operation. In order to extend the maintenance intervals even further, special long-life lamps boasting a service life of 80,000 hours were fitted in the SBB service hall.

Full-line supplier for lighting, emergency lighting and control system – including installation and service



Zumtobel services

- Design support by Zumtobel consultants
- Programming of control system and commissioning by Zumtobel service team
- Maintenance of systems via Zumtobel remote maintenance option



Emergency lighting and supply systems

- Emergency power supply via ONLITE central CPS central battery
- Emergency lighting is integrated into the Zumtobel luminaires and is circuit-monitored, identification of escape routes using ONLITE escape-sign luminaires
- Products, design and wiring guaranteed to meet all relevant standards





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Top quality – with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products subject to registration within 90 days from the invoice date and in accordance with the terms of guarantee at zumtobel.com/guarantee.

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