

LEDCity

Project report

THE CHEDI ANDERMATT

-78%
ENERGY SAVINGS

CLIENT

The Chedi
Gotthardstrasse 4
CH-6490 Andermatt

March 2023

FIVE-STAR LIGHTING IN ANDERMATT

In the luxury hotel „The Chedi“, the sensor-controlled LEDCity lighting system has been used in the corridors, the multi-storey car park and in the adjoining rooms since 2021. This enables energy savings of 78 percent despite previously installed motion detectors.

BEFORE THE CONVERSION

An initial inventory showed that T5-FL tubes were installed throughout the whole hotel, more specifically in the residence, in the ancillary rooms, corridors and in the car park. The measurements that were carried out, show that even though there were motion detectors installed, the light burns almost around the clock due to the long follow-up times.



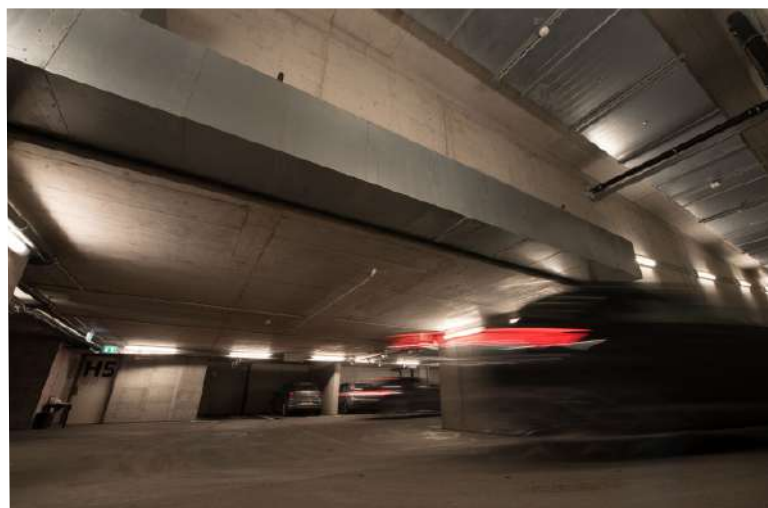
THE PILOT PROJECT WAS CONVINCING

In a first step, ten semi-autonomous LED tubes were installed in a pilot project. The sensor and control components are integrated directly in the light source, so that each light source can decide for itself how much light is needed and when. As a result, the operating time of the lighting could be halved. In addition to the uncomplicated installation of the plug-and-play system and the first energy measurements, the customer is convinced of the advantages of a decentralised system and the associated savings. Actually, the conversion of only ten light sources was sufficient to also switch from the other FL tubes to the energy-efficient lighting solution.

LIGHT AS NEEDED

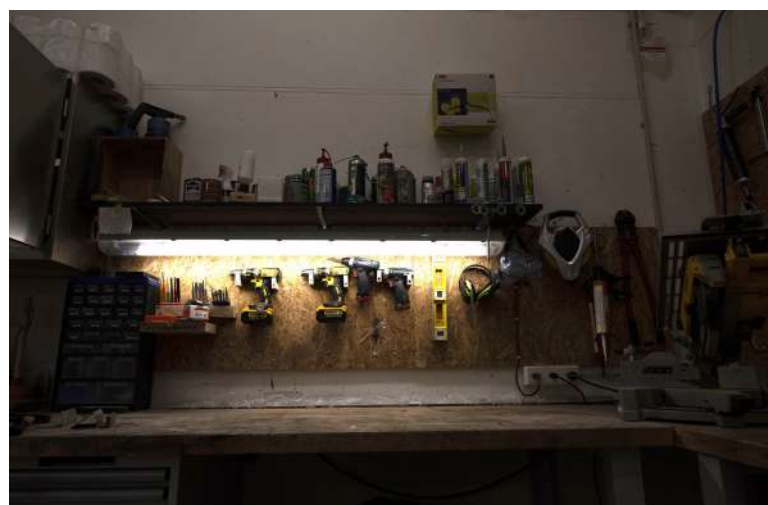
Convinced by the pilot project, a total of 1,014 lamps have been modernised. Of these, each individual lamp saves around CHF 16 per year. In the corridors and in the car park of the hotel, the semi-autonomous light sources are used as retrofits. These change the lighting intensity and duration automatically, so that the light is adapted to the actual demand over a small area. For example, if there is no one in the corridor, only the individually adjustable base light is available. This saves 78 percent energy and as a result not only protects the environment, it also reduces costs.

Compared to modern LED lighting, the LEDCity lighting saves around 50 percent more energy due to the sensor technology. In a year, this results in a saving of 69,005 kilowatt hours, which corresponds to the average annual electricity consumption of about 14 households. Thanks to the low energy, installation and maintenance costs as well as the longer service life, the investment in the new lighting system pays for itself after only 3.8 years.



HIGH SUBSIDIES

The incentive to change the current lighting to the LEDCity lighting system increases even more thanks to possible subsidies. Unlike many retrofit light sources from other manufacturers, most LEDCity light sources are eligible for subsidies. This enabled the five-star hotel to cover a total of CHF 19,090 of the investment costs of CHF 89,537.



	Illuminant before	Illuminant after
Type used	1.45m Fluorescent tube	LEDCity 1.45m semi-autonomous
Power	49 W	22.5 W
Form	T5	T5
Lifespan until 50% failure	30'000h	70'000h
Color temperature.	4000 K	4000 K
Luminous flux @ 25° C	4375 lm	3400 lm (satin)
Light output	89.3 lm/W	150 lm/W
Efficiency class	G	D
Operating time (full power)	6.22 h / day	3.11 h / day

THE PROJECT IN NUMBERS

Investment costs [CHF]:	89'537
Subsidies [CHF]:	19'089
Total energy savings per year [CHF]:	13'801
Total CO2 savings per year [kg]:	1'311
Number of installed tubes [n]:	1'014
Yearly cost reduction per illuminant [CHF]:	16
Energy savings [%]:	78
Equivalent annual household consumption CH [n]:	14

CONTACT

LEDCity AG
Werdstrasse 21
8004 Zürich

+41 44 500 73 85
info@ledcity.io

ledcity.io