VIMALUX
A brighter vision

Parking lot, Italy

Case stories for Vimalux streetlights

VIMALUX
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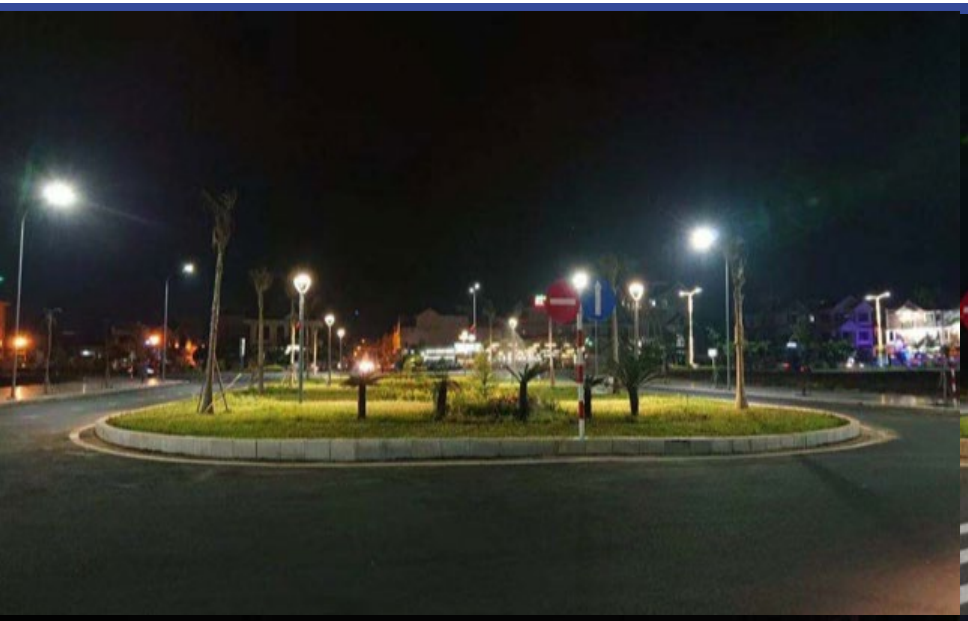
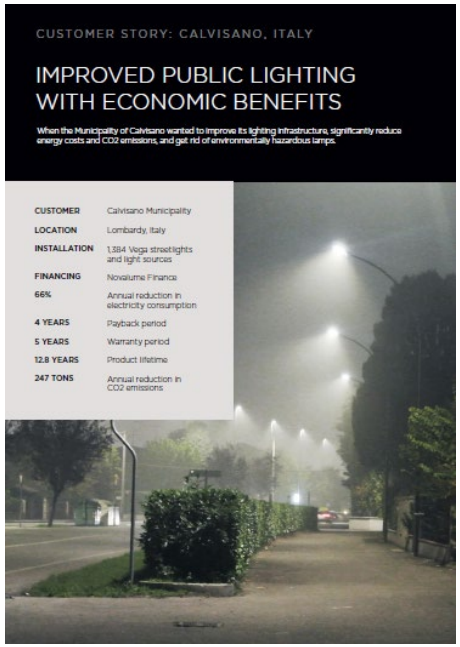
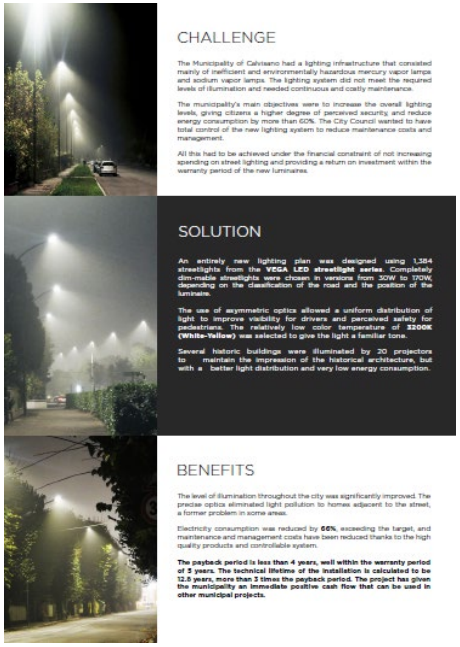
Spanish garden with street and urban lights

VIMALUX
A brighter vision



Senior Management-track record in the LED market





CUSTOMER STORY: STARBUCKS

REDUCING ENERGY CONSUMPTION AND IMPROVING LIGHT QUALITY

Our danish company is the light company that Starbucks chose to cooperate with in Switzerland and Austria - a success pilot project in 50 coffee houses. Now we hope the rest 21.344 Starbucks coffee houses will learn from Switzerland and Austria. We are ready for the challenge.

CUSTOMER	Starbucks Coffee Company
LOCATION	Austria & Switzerland
INSTALLATION	More than 6500 light sources replaced
SOLUTION	EnergyGO
73%	annual reduction in electricity consumption
3,5 years 5 years 10,1 years	payback period warranty period product lifetime
73%	annual reduction in CO2 emissions

CHALLENGE

Starbucks wanted a full-service solution – comprising inventory taking, complete lighting plans, financial solution, logistical support, turnkey installation and a long warranty – to replace the previous lighting system, which consisted of halogen and incandescent lamps. The goal was to preserve the customer experience while delivering energy and cost savings.

In addition to contributing to a welcoming ambience, the LED solution needed to offer dimming options to create different light settings. The project was to be completed in a very narrow timeframe to reduce the non-operational period of the coffeehouses.

SOLUTION

We developed a lighting plan based on installing LED products in the existing light source positions and a special dimming system to change and adjust the ambience and mood in the coffeehouses. A complete logistical solution was provided by developing "Starbucks Light Packages", which were sent to each coffeehouse, on time, for installation.

Track lights, halogen spots and incandescent bulbs were replaced by our LED products with a low color temperature to maintain the cozy ambience that is needed for the best customer experience. In stor-age areas, inventory and signs LED tubes and bulbs were used in existing fixtures.

The entire investment was financed with the unique finance model EnergyGo. The savings were carefully calculated and payments were spread over the payback period so the project always results in a positive cash flow for Starbucks: the investment is paying for itself.

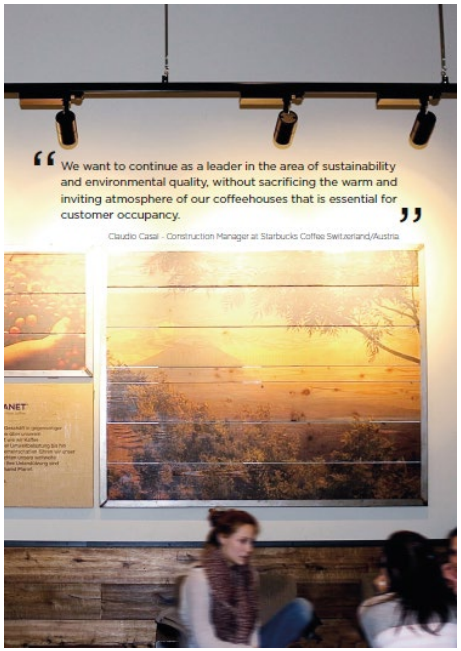
BENEFITS

The switch to high performance energy-efficient LED lighting resulted in dramatically reduced energy consumption, while enhancing the atmosphere

and brand experience. There is a calculated reduction of **73%** in the energy consumption, which equates to a drop of over 806,000 kWh per year and 373 fewer tons of CO2 being emitted into the atmosphere annually.

The investment, including installation, has a payback period of less than 3.5 years, falling well within the warranty period of 5 years. The technical lifetime of the installation is 10.1 years, almost 3 times the payback period and double the warranty period.

With more than 21,000 coffeehouses in other countries around the world, the potential is huge for Starbucks to replicate this successful and profitable collaboration with our company. We are ready for the challenge.



> "We want to continue as a leader in the area of sustainability and environmental quality, without sacrificing the warm and inviting atmosphere of our coffeehouses that is essential for customer occupancy."

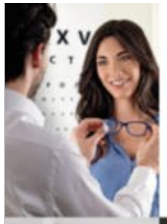
Claudio Casal - Construction Manager at Starbucks Coffee Switzerland/Austria

CUSTOMER STORY: SALMOIRAGHI & VIGANO

BETTER LIGHT FOR BETTER VISION

Good light quality is a prerequisite for displaying and selling optical products. Salmoiraghi & Viganò, Italy's leading optical retailer, saw the potential in new LED lighting technology to improve the customer experience in its stores and increase sales, while at the same time making cost savings.

CUSTOMER	Optical retail chain Salmoiraghi & Viganò
LOCATION	Italy
INSTALLATION	Recessed downlights
SOLUTION	EnergyGO Full
61%	annual reduction in electricity consumption
1.9 years 5 years 12 years	payback period warranty period product lifetime
61%	annual reduction in CO2 emissions



CHALLENGE

Optical retailers display products that are small and detailed, with a huge emphasis on aesthetics. Salmoiraghi & Viganò decided to begin a process of re-fitting the interior of all of its stores with this in mind, and lighting as the major focus area.

"When we started to think about upgrading our lighting, we knew that new LED technology could provide electricity cost savings, but we discovered that there was also the potential to improve the quality of light," explains Luca Cimoni, Development Director at Salmoiraghi & Viganò. "Our focus became design and light quality, to underline our range of products."

We were chosen to replace the existing track lights in Salmoiraghi & Viganò's stores with the goals of better lux performance and achieving a minimum 50% energy saving.

SOLUTION

We conducted a lighting audit valid for 490 of Salmoiraghi & Viganò's stores across Italy and made a lighting plan to meet their lighting and saving needs. A tailored financial plan was agreed upon, with payback over **1.9 years.**

The existing track lights were replaced by new luminaires. The Recessed Downlights were selected in square design, with the perfect color temperature and beam angle to optimize the lighting and customer experience.

Installation was arranged with approved technicians and the entire project of installing light sources in all stores is on track.

BENEFITS

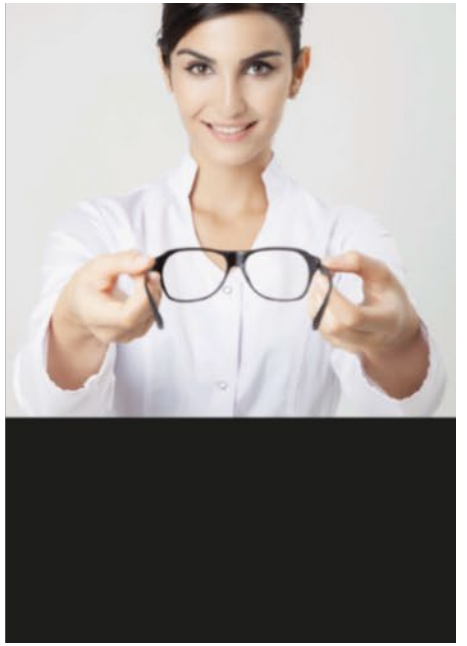
Salmoiraghi & Viganò needed a lighting installation that provided improved light quality in-store, in order to create the best conditions for customers to experience the products, and thereby improve sales.

There has been an instantly noticeable improvement in lux performance, which has translated directly into an improvement in sales. The rate of sales increases has risen from 3.9% before the renovations to 20%. 30% in completed stores, which the company puts down to the improvement in lighting.

The solution exceeded Salmoiraghi & Viganò's goal of saving 50% on its lighting electricity consumption, achieving a **61%** saving. The superior reliability of the new lighting installation has also contributed to a significant reduction in maintenance costs and an uninterrupted atmosphere in store.

> "The Danish suppliers was able to match our requirements in terms of quality, specification and price – and it was the only supplier able to provide us with a financial plan. With this financial plan, the proposal was unbeatable."

Mr. Luca Cimoni, Development Director, Salmoiraghi & Viganò



Case stories for streetlights

VIMALUX
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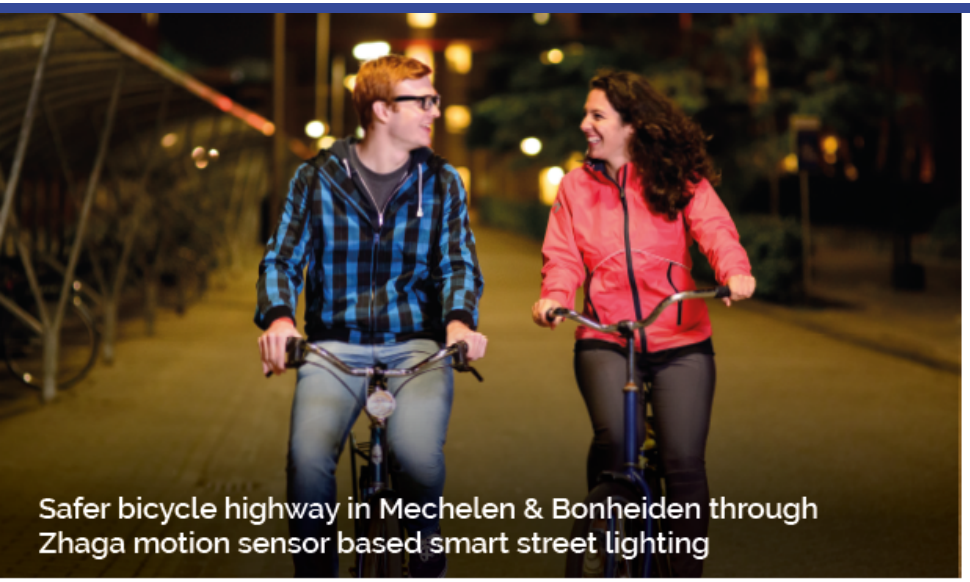

Safer bicycle highway in Mechelen & Bonheiden through Zhaga motion sensor based smart street lighting

Zhaga motion sensor-based intelligent streetlights and smart city lighting management software from Tvilight allow the municipality of Mechelen and the municipality of Bonheiden (Belgium), to make their street safer for the cyclists and pedestrians at night. In addition to minimizing operational and maintenance costs, the solution enables the cities to cut energy wastage, carbon emissions and light pollution. The versatile solution also enables the cities to create a foundation for smart city applications.

Smart bicycle highway lighting welcomes cyclists and pedestrians

> "Many youngsters visit the cinema, the skating ring, sports facilities and pubs around transit M (Mechelen) during late evening hours. Sometimes they move in group, but often alone, and then good lighting is essential for a better sense of safety. This is an excellent initiative for the bicycle highway."
>
> *Abdrahman Labsir, ships (Mechelen) of Youth and Prevention*

Challenge

The N15 bicycle path between the city of Mechelen and Bonheiden is frequently used by young people during the late evening hours. Poor lighting and dark spots along the path entailed unpredictability and a sense of insecurity among the youths. The city council wanted to address these issues through a smart solution, which is both effective and future-proof.

Solution

The city councils were searching for a lighting solution that would offer right amount of light, at the right place, at the right time – thereby saving energy without compromising public comfort. The councils wished to have a future-proof and an open solution that would allow them to monitor the infrastructure and offer better public services.

Tvilight, together with Fluvius, one of the three largest network operators in Belgium and the main contractor for this project, offered the municipalities with a revolutionary intelligent lighting solution, CitySense Lite, which includes Zhaga motion sensors and light controllers. The solution offers 'Light-on-Demand' creating 'safe circle of light' around the road occupant. Because of the standardized Zhaga (book 18) interface, installation of the solution is quick and easy.

In addition to the smart controls (OLC), Tvilight provided open smart lighting management software, CityManager, which allows the operator to collect valuable statistics, such as road usage. Furthermore, due to the openness of the Tvilight software platform and open API, the cities were able to integrate 3rd party asset management software and open ways to host diverse smart city IoT systems, which would help improve public services.

Benefits

- Increased safety for road users during late evening hours
- Standardized Zhaga and DALI D4I interface for quick, tool-free upgrade to smart street lighting
- Lower operating costs through proactive and selective notifications and automatic reports tracking luminaire health and performance
- Significant reduction in energy wastage, CO2 emissions and light pollution
- User-friendly web application to remotely monitor, manage and control public lighting
- Open API for seamless integration with other smart city applications, such as asset management, weather system and traffic system among others

> "Sensor data are securely stored and processed. That way, the lamps themselves 'learn' to adjust their brightness levels. For example, if a lot of people visit every day around a certain hour, the lighting system will already automatically adjust to 100%. Even when there is something to do on Transit M, the lamps would know and light-up."
>
> *Marina De Bie, City Council Member, Green Mechelen*

Project Details

Location	Bicycle highway N15 (opposite the Nekkerhal)
Client	Cities of Mechelen & Bonheiden
Application area	2.2 kilometer bicycle path
Streetlight height	4m and 8m
Products	SkyLite Prime, CitySense Lite & CityManager

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CUSTOMER STORY: CAERANO, GREZZANA, NEGRAR, RIVOLI VERONESE, ITALY

IMPROVED PUBLIC LIGHTING WITH ECONOMIC BENEFITS

When the Municipalities wanted to improve its lighting infrastructure, significantly reduce energy costs and CO2 emissions, and get rid of environmentally hazardous lamps, it turned to VIMALUX

CUSTOMER	Consorzio Stabile Energia B.
LOCATION	Lombardy, Italy
INSTALLATION	4.788 light sources
SOLUTION	rental 5 years period
66%	annual reduction in electricity consumption
Less than 4 years 5 years 12.8 years	payback period warranty period product lifetime
247 tons	annual reduction in CO2 emissions

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SL68
STREET LIGHT
WITH WI-FI NETWORK EQUIPMENT

FIRST
SMART CITY
IN SOUTH AMERICA THANKS TO VIMALUX