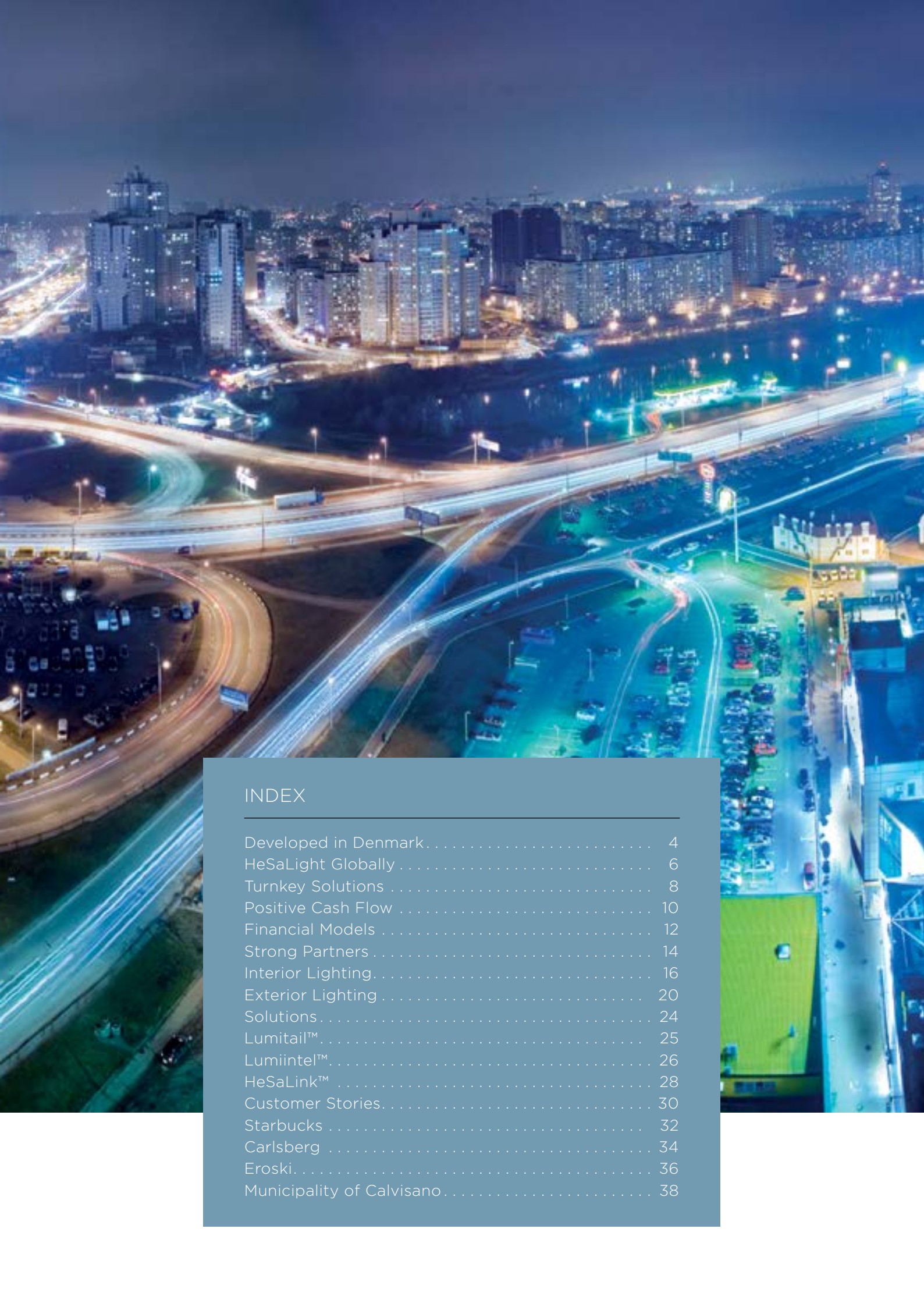


The logo for Hesa light, featuring the word "Hesa" in white on a green rectangular background, followed by the word "light" in green on a white rectangular background. The background of the entire page is a close-up, artistic photograph of a modern LED light fixture with a grid of small lights and blue light trails.

LIGHTING THE WAY

OUR CORPORATE PROFILE





INDEX

Developed in Denmark.....	4
HeSaLight Globally.....	6
Turnkey Solutions.....	8
Positive Cash Flow.....	10
Financial Models.....	12
Strong Partners.....	14
Interior Lighting.....	16
Exterior Lighting.....	20
Solutions.....	24
Lumitail™.....	25
Lumiintel™.....	26
HeSaLink™.....	28
Customer Stories.....	30
Starbucks.....	32
Carlsberg.....	34
Eroski.....	36
Municipality of Calvisano.....	38



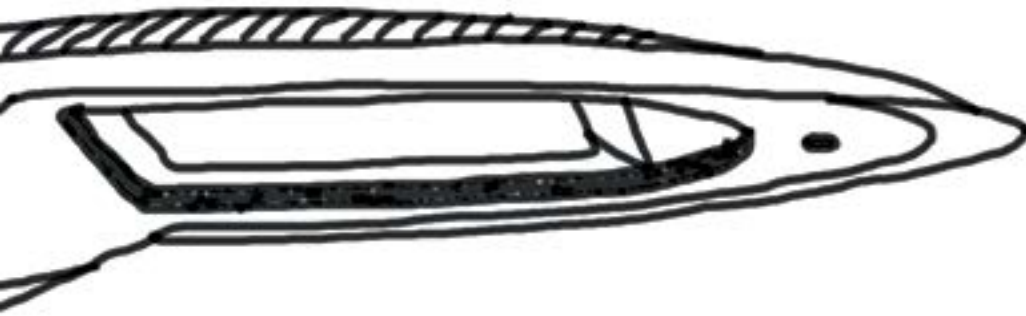
DESIGNED & DEVELOPED IN DENMARK

From our headquarters, close to the capital Copenhagen, our management team leads product development and the global sales and marketing strategy for our local offices and customers. Our location benefits from an LED technology cluster comprised of partners considered best-in-industry, leading technological universities in Denmark and international partners.

Our engineers work in market-driven development teams to create products specifically to meet the needs within our key markets. Every step along the way, from concept to production, the development team validates technical product design, thermal design, LED component selection, expected LED lifetime, product performance, system efficiency, and much more to deliver the best possible product to our customers.







WHO?

HESALIGHT® is an international company that develops and manufactures advanced energy-efficient LED lighting solutions with the lowest total cost of ownership for all segments, within both the private and public sectors.

We operate in more than 30 countries around the world and are rapidly expanding into new markets. We are considered among the leading LED solution providers in Europe.

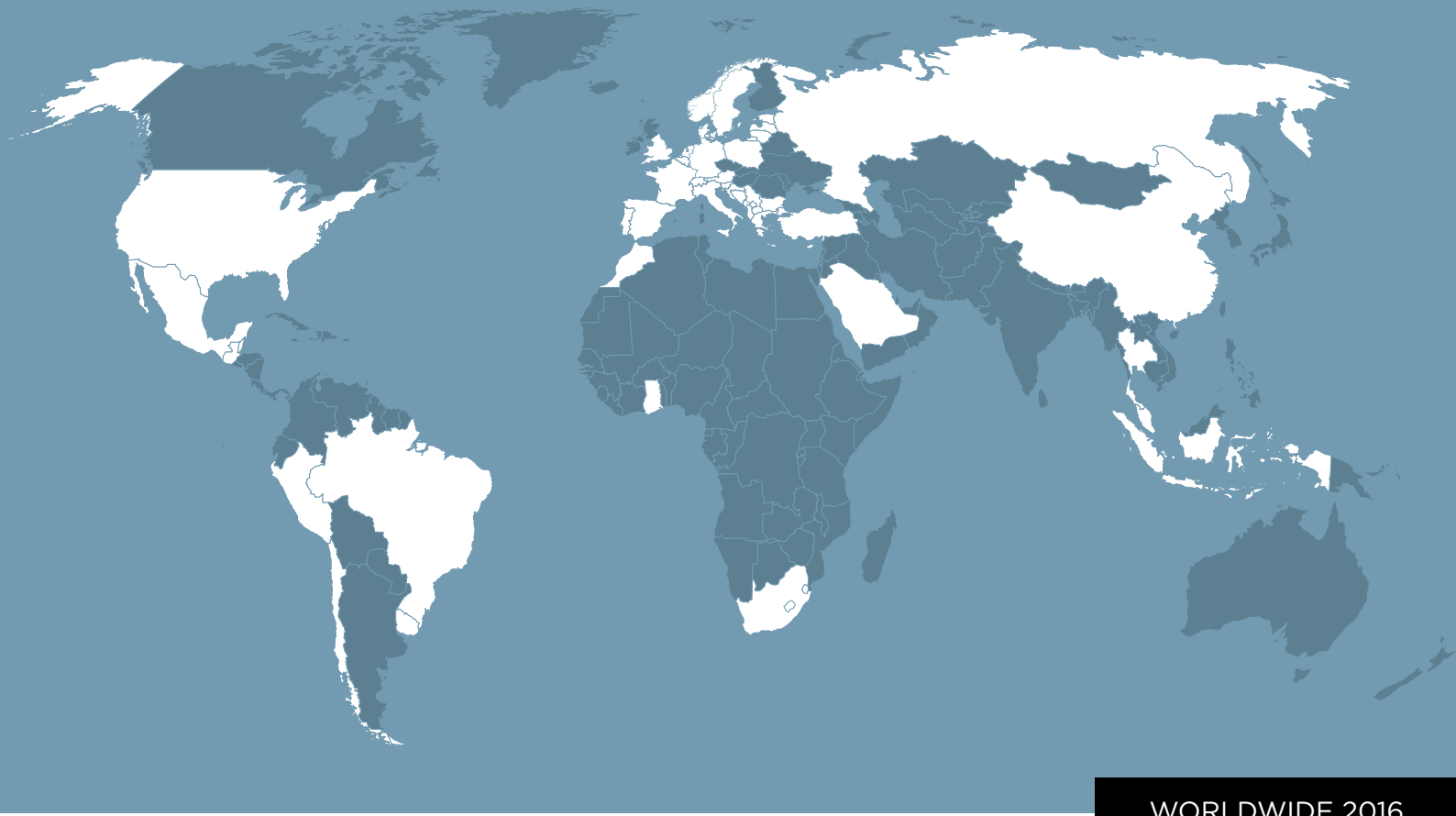
We are pushing the migration to energy-saving and CO²-neutral solutions further with an extensive LED product portfolio and unique government-backed financing models. We provide high quality solutions match any lighting requirement, while providing massive cost savings with consistent economic and environmental benefits.

Our unique and cash-flow-positive finance and rental models, combined with our LED expertise, means that our customers benefit by obtaining immediate savings, high quality product offerings, and solutions for many years.

This makes us a leader in shaping the future with exciting new lighting solutions that accelerate savings and reduce harmful CO² emissions.

OUR HEADQUARTER





WORLDWIDE 2016

WHERE?

HESALIGHT IS PRESENTLY OPERATING IN: AUSTRIA, BELGIUM, BOSNIA, BRAZIL, BULGARIA, CHILE, CHINA, CROATIA, DENMARK, ESTONIA, FRANCE, GERMANY, GHANA, INDONESIA, ITALY, LATVIA, LITHUANIA, MALAYSIA, MOROCCO, MEXICO, MONTENEGRO, NETHERLANDS, NORWAY, PERU, POLAND, PORTUGAL, RUSSIA, SAUDI ARABIA, SWITZERLAND, SWEDEN, SOUTH AFRICA, SPAIN, THAILAND, TURKEY, UNITED KINGDOM, URUGUAY, USA, SOUTHEAST EUROPE.

PRODUCTION FACILITIES ARE IN: DENMARK, TAIWAN, SOUTH KOREA AND CHINA.

WE OPERATE IN MORE THAN 30 COUNTRIES AROUND THE WORLD

WELCOME
TO OUR
WORLD

WHAT?

YES, WE CAN TAKE CARE OF EVERYTHING!

YOUR FULL SATISFACTION AS A CUSTOMER IS OUR MOST IMPORTANT TASK

TURNKEY SOLUTIONS

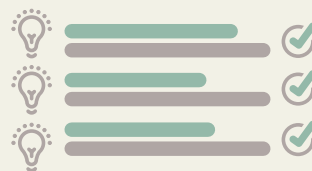
We deliver turnkey solutions that take all the hassle out of cost reduction and ensure you smooth and dependable operations.

We are committed to delivering the best quality in each one of our products and services. That's why we take full responsibility for every stage of the process: from Lighting Audit to Delivery and Installation.

We do this to ensure the selection of the best options and the delivery of the most complete solution.

Our excellent after-sales service supports you as a customer every day for the lifetime of the installation.

LIGHTING AUDIT



- TYPES AND NUMBER OF DIFFERENT LIGHT SOURCES
- CURRENT OPERATIONAL HOURS AND ENERGY CONSUMPTION
- CURRENT ENERGY PRICE IN KWH
- CURRENT SERVICE AND MAINTENANCE
- SPECIAL REQUIREMENTS AND REQUESTS

ENERGY SAVINGS CALCULATION



- ENERGY SAVINGS AND TOTAL SAVINGS GENERATED BY OUR SOLUTION
- REDUCTION OF CO² EMISSIONS WITH OUR SOLUTION
- PAYBACK PERIOD WITH THE GENERATED SAVINGS



CUSTOMIZED ENERGYGO FINANCE PLAN



- CASH-FLOW-POSITIVE FINANCING
- INTEREST-FREE PAYMENT PLAN
- CREDIT APPROVAL WITH COMPANY REGISTRATION NUMBER
- CONTRACT WITH TERMS AND CONDITIONS

DELIVERY AND INSTALLATION



- ORDER CONFIRMATION AND DELIVERY DATES
- PRE-DELIVERY AND INSTALLATION MEETING
- LOCAL INSTALLATION PARTNERSHIP
- ONSITE INSTALLATION COORDINATION
- SOLUTION HANDOVER AND VERIFICATION

AFTER-SALES AND WARRANTY



- LOCAL CONTACT AND WARRANTY FULFILLMENT
- CUSTOMER SERVICE PHONELINE
- UPGRADES
- RE-ORDERS
- EXTENDED WARRANTY AND SLA OPTIONS

RETURN ON INVESTMENT
IS GENERALLY BETWEEN 1 TO 4 YEARS.

HOW

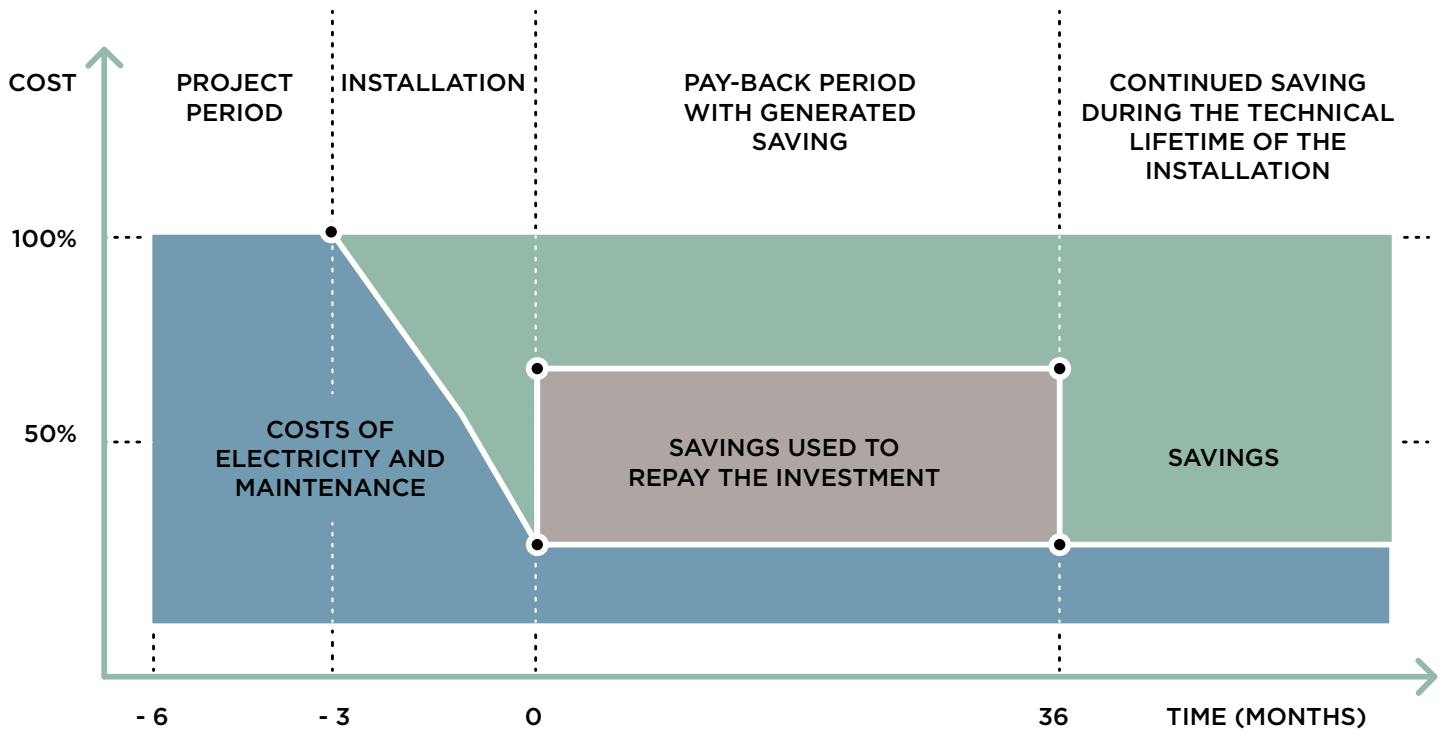
THE GENERATED SAVINGS PAY FOR YOUR LED UPGRADE

Going green without any financial impact - the price difference between traditional lighting and the far more efficient LED lighting can, for some companies and municipalities, seem prohibitive, stalling the environmentally friendly change to LED and the savings it brings in energy costs and maintenance.

To help more customers migrate from old and ineffective solutions to new LED technology, HeSaLight® has developed, in cooperation with Denmark's official export credit agency, flexible and CAPEX-natural state-guaranteed financing. We call the concept EnergyGo.

With EnergyGo the savings generated by upgrading to LED lighting cover the state-backed payment plan that we offer you. The generated savings result in a payback time that makes it very interesting to execute the project as soon as possible. As LEDs have a higher CAPEX than traditional light sources, but a much lower OPEX, we offer a state-backed financial solution that adapts completely to your project and protects your company's cash flow, so you can dedicate it to your core business.

LONG FLEXIBLE PAYMENT TERMS
THAT FIT YOUR FINANCIAL AGENDA



GENERATING SAVINGS
OF 50% TO 85% ON THE ELECTRICITY BILL
HAS A LARGE POSITIVE IMPACT
ON YOUR COMPANY'S BOTTOM LINE

INTEREST
FREE
FINANCING

HOW MUCH?

Our unique financial and rental models offer you cash-flow-positive state-backed financing that makes energy-efficient solutions economically attractive and easily accessible.

Through our approval by the Danish Export Credit Fund (EKF), you obtain immediate energy savings and HeSaLight®'s second-to-none product quality, without any investment or down payment. It's all paid for by the savings our solution generates.

ENERGYGO — FINANCIAL MODEL

HeSaLight®'s unique and cash-flow-positive finance models mean that you save money from day one. We adjust the financing period to cover the payback period, so the generated savings pay for the investment and you also achieve a positive cash flow.

We have 0%-interest financing opportunities and we also offer models with submarket interest rates that

keep your operational credit facilities free for your core business.

Owning your installation gives you complete control of any modifications you want to make and you can use your own technical personnel and resources (subject to HeSaLight® warranty rules).

FINANCIAL MODEL:	ENERGYGO FULL	ENERGYGO 85%+15%
PERCENTAGE FINANCED	100%	85%+15% (100%)
DOWN PAYMENT	0%	0%
INTEREST P.A.**	0%	3%
SUPPORTING DOCUMENTS	LETTERS OF CREDIT	BILLS OF EXCHANGE
CREDIT APPROVAL OF	CUSTOMER'S BANK	CUSTOMER
FINANCE PERIOD	1-5 YEARS	1-5 YEARS
FIRST PAYMENT	6 MONTHS AFTER DELIVERY	6 MONTHS AFTER DELIVERY
PAYMENTS	HALF-YEAR OR QUARTERLY	HALF-YEAR OR QUARTERLY
DOCUMENTS FOR CREDIT EVALUATION*	COMPANY REGISTRATION NUMBER OF THE CUSTOMER'S BANK	COMPANY REGISTRATION NUMBER OF THE CUSTOMER

* the 15% down payment can be a Letter of Credit.

** the interest rate is dependent on the supporting documents that the customer gives.

HESARENT – RENTAL MODEL

HeSaLight®'s flexible Leasing and Rental model generates a positive cash flow from day one and gives you hassle-free operations, including complete service and maintenance.

The Leasing and Rental model gives you all the benefits of a new and energy-efficient LED lighting solution, without any capital expenditure.

BENEFITS INCLUDE:

- Reduced balance sheet
- Cash flow improvement
- Payments are operating expenses and deductible from profits
- Full warranty and service on the equipment

SOLUTION INCLUDES	LUMINAIRES, INSTALLATION, WARRANTY AND SERVICE
CUSTOMERS SHARE OF SAVINGS PER YEAR	10, 20 AND 30%*
SUPPORTING DOCUMENTS	BILLS OF EXCHANGE
CREDIT APPROVAL OF	CUSTOMER
CONTRACT DURATION	10-25 years**
FIRST PAYMENT	3 MONTHS AFTER DELIVERY
PAYMENTS	QUARTERLY
DOCUMENTS FOR CREDIT EVALUATION*	COMPANY REGISTRATION NUMBER OF THE CUSTOMER

* the savings share is calculated from the achieved savings compared to the cost of the old traditional light

** the maximum possible leasing period is the technical lifetime of the equipment

EKF – State-Approved Financing

HeSaLight® is approved by the Danish Export Credit Fund (EKF) and offers several flexible payment possibilities based on the energy savings that our solutions generate (pending prior credit approval).

EKF was established in 1922 and is owned and guaranteed by the Danish state (AAA). In 2013 EKF financed operations for over EUR3.35 billion.

AAA-rated by Dun & Bradstreet

Dun & Bradstreet, a Fortune 500 company has given a triple A rating (AAA) to HeSaLight® through its Nordic partner Bisnode. The Nordic Triple-A Rating is the highest creditworthiness available.

Less than 8% of Danish companies have a AAA rating.



HeSaLight® participates actively in developing novel solutions and product offerings, building on research carried out by our partners, such as the Department of Photonics Engineering at the Technical University of Denmark (DTU). We also participate in Denmark's new platform for developing future LED-lighting solutions called Danish Outdoor Living Lab (DOLL) that offers a 1:1 experience of new outdoor lighting solutions. Through our approval by the Danish Export Credit Fund (EKF) we offer our customers cash-flow-positive state-backed financing for all our solutions, making energy efficient solutions economically attractive and accessible.

STRONG

PARTNERS

Research + Development Partner

The Technical University of Denmark (DTU), Department of Photonics Engineering works in the science of controlling light. DTU Photonics conducts research,



development and education in LED materials and devices for general lighting and communication.

- 200 researchers, 55 PhD Students
- Ranked 1 in the Nordic countries in Leiden ranking 2014 citation impact indicator
- Ranked 5 in Europe in Best Global Universities (U.S. News), Engineering
- LED materials and devices
- Diode Lasers & LED Systems
- Nano photonics

Danish Outdoor Living Lab (DOLL) is Denmark's new platform for developing a future-proof transition to LED-lighting solutions. DOLL supports municipalities, regions and private companies internationally, in



cooperation with scientists, with developing of new and improved lighting solutions, to create energy-efficient and intelligent outdoor lighting solutions.

DOLL consists of three laboratories:

- Quality Lab, located at DTU Photonics department – tests and documents all aspects of SSL lighting
- Virtual Lab, located at DTU Photonics – tests, develops, and validates light solutions virtually in 3D
- Living Lab, located in Hersted Industrial Park – offers a 1:1 experience of outdoor LED lighting

Danish Export Credit Fund (EKF) is owned and guaranteed by the Danish state. EKF helps Danish companies finance Danish products for export and brings unique



expertise in the challenges faced by Danish companies in trading and investing around the globe.

- Established in 1922
- Financed orders for EUR 3.35 billion in 2013
- Represents Denmark in The Organization for Economic Co-operation and Development (OECD) and The World Trade Organization (WTO)

INTERIOR LIGHTING

HeSaLight® has developed a full product portfolio of luminaires and light sources for indoor illumination of any kind in building, for example: offices, warehouses, hotels, hospitals, sports arenas, parking areas and many other facilities. These products are developed with a strong

focus on light quality, and in particular, lumen-output and energy efficiency as essential parameters. We take great care, from the selection of high performance quality components to the right beam angle, so we can ensure long-lasting and energy-efficient products.



LED TUBES

- LED Tubes for replacement cover all types of conventional tubes T8-T5.
- Easy to replace and do not require rewiring of the existing fixture.
- The handling of thin glass and environmentally hazardous and harmful substances is finally a thing of the past.



LED DOWNLIGHT

- Downlights are a staple of any general ceiling lighting and are delivered in many different wattages and sizes — for rooms, hallways and reception areas.
- Recessed or surface-mounted, as well as rotatable, depending on the height of the ceiling, appearance requirements or installation options.
- Downlights provide the opportunities for either an even ambient light distribution or spot effect.



LED TRACK LIGHTS

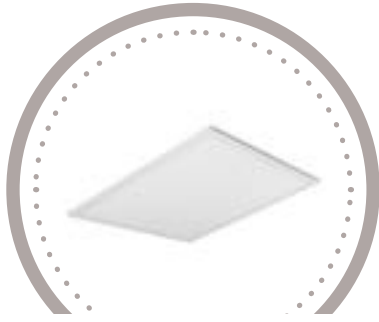
- Track Lights are a great choice for stores, shops, galleries and showrooms.
- With the TrueColor versions (CRI of 95) you are assured the best possible color representations for your displays and products.
- With the Lumitail™ system you can control the individual track light, and change the focus on different shop items according to customer response and season.



LED DECORATIVE LIGHTS

- For all places, where decorative light should be complementary to adjacent basic lighting - perhaps to make a statement or impression.
- Large suspended luminaires for high-ceiling rooms to light up grocery stores or a foyers.
- Everything in a simple, timeless design that works perfectly in all surroundings.





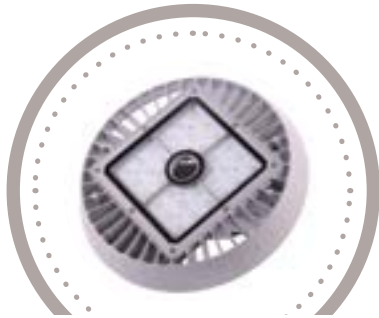
LED PANEL LIGHTS

- Can directly replace old fixtures with fluorescent tubes used in system-ceilings.
- Replacing or adding panel lights is easily achieved because the panel light has a similar height to conventional ceiling-plates.
- They can also be used as suspended lighting; especially the Float-family of panel lights are suitable as decorative lights.



LED INDUSTRIAL BULBS

- Highly energy-efficient light sources.
- Suitable for street light luminaries, industrial luminaries and as conventional high power incandescent bulb replacements alike.
- Direct LED replacement as a plug-and-play solution.



LED HIGH BAY LIGHTS

- High Bay Lights offer massive light output for the challenging demands created by high ceilings.
- Lighting a warehouse, production area, factory floor, food market, freight cargo area, train stations or airports.



LED FIXTURES AND ACCESSORIES

- All match the HeSaLight® range of LED-tubes, and can be delivered with or without built-in reflector, for indoor use or protected for outdoor installation.



LED BULBS

- Existing incandescent bulbs with traditional sockets can be replaced by the far more energy efficient LED retrofit bulb.
- Classical looking bulbs for most purposes, with and without a built-in reflector are available.
- They are also available with low Kelvin ratings, which is preferred for some hospitality areas.



LED STRIP LIGHTS

- Strip Lights accentuate and finalize decorative illumination, where light emerges from narrow or hidden areas.
- Applications are infinite and include recess-mounted on ceiling edges, indirect illumination of walls, embedded in hand railings, along desk-edges and many other applications
- Accentuating any surface or maximizing any detail.





EXTERIOR LIGHTING

Our selection of professional luminaires for outdoor use can illuminate city streets, squares, parks and other open spaces — big or small — that need energy-efficient, high quality light with high uniformity and low glare. With the additional use of our HeSaLink™ Wi-Fi solution and Lumiintel™ control and management system, the Smart City concept is raised to another level with an infinite range of possibilities, from the wireless control of light to free Wi-Fi services for city-users. Not to mention luminaire housing that is manufactured in ruggedized and weather-resistant materials.



OUR LUMINARIES FOR OUTDOOR USE CAN ILLUMINATE CITY STREETS, SQUARES, PARKS AND OTHER OPEN SPACES - BIG OR SMALL



LED FLOODLIGHTS

- These luminaires cover a wide range of light solutions — for sports facilities, industrial buildings, warehouses, tunnels, squares, and even places with a high risk of explosions.
- It is the light of choice for tasks that require a widespread distribution of clean, even and powerful light.
- Up to 1000W-versions available in either white light or RGB colors.



LED LANDSCAPE LIGHTS

- Illumination of trees, sculptures, facades, caves, parks — and other places where light is required to accentuate the landscape.
- It is possible to create highly variable lighting scenarios and lighting moods.
- Light-levels up to 85 Watts, in pure white or programmable color-changing RGB light.
- Different beam angles ranging from the narrowest of spotlight to the widest.



LED WALL WASHERS

- Ideal lighting for facades that need to be illuminated evenly in either shades of white or programmable RGB color change.
- Any facade lighting challenge is met through the variety of different lengths, wattages and beam angles.
- In more detailed lighting projects, wall washers can be combined with the use of landscape lights or floodlights.



LED DECORATIVE LIGHTS FOR OUTDOORS

- HeSaLight® facade spots are created with a simple, timeless design.
- They have both an upwardly directed and a downwardly directed light cone, illuminating the facade with a symmetrical light distribution.
- Often used to emphasize the architectural rhythm of a building, in particular columns, or to frame an entrance.



LED STREET AND URBAN LIGHTS

- Our wide range of street luminaires products offers a complete selection of luminaires for the ultimate in street and urban lighting projects.
- A full range series of luminaires created in new, organic and timeless forms around the best-in-class LED technology offering leading performance.
- If the requirement for the streetlight is to preserve the original fixture, the solution can be a replacement of the electronic components with an adaptable Retrofit Street Light Engine.
- As a final option, HeSaLight® offers an upgrade of the light source itself through a simple replacement — a retrofit, LED 1:1-solution.



SOLUTIONS THAT MAXIMIZE SAVINGS

HeSaLight® has developed a range of technical solutions that enable you to achieve additional savings on top of the change to LED.

Through the application of our LumiTail™ Light-as-a-Service and Lumiintel™ management and control system, we multiply the savings and increase the potential of your new LED lighting solution. This allows for a faster payback period and also contributes to extending the technical lifetime of your new lighting installation.

Our HeSaLink™ solution is actively bridging the gap between the present disconnected information flow and the Smart and Connected City of the future. This solution creates a communication infrastructure and internet hotspot in the area or city where our luminaires are installed, making novel municipal services possible.

LUMITAIL™ - LIGHT AS A SERVICE

LumiTail™ is a Light-as-a-Service solution for customers in the retail business who want to increase revenue per m² and provide more attractive retail spaces by using intelligent LED track lighting with our industry leading True Color™ system with a high CRI (Color Rendering Index) of 93.

In retail stores, shops and commercial malls with long opening hours significant energy savings are achieved by updating to LED. We offer innovative and easy service models specifically for LED track lighting, which ensures that energy and cost savings are achieved without any necessary investment from tenant or property owner.

We install the upgraded track lights at your premises and the service agreement is based on the number of hours the LED track lights are being used per month.

Each LED track light is equipped with our LumiTail™ system, which allows for tracking the usage in terms of time and energy consumption as well individual dimming control for each track light via iPad or iPhone. In addition, various groups and light scenes can be timed to activate at different intervals of the day so you can easily create a complete light setting time cycle for all areas.

Our broad and deep product portfolio of LED track lights allows for great flexibility in designing lighting plans with great detail and with great precision to increase revenue per m².



SEIZE CONTROL OF YOUR EXPENSES AND BECOME MORE EFFECTIVE

LOCAL CONTROL



SENSORS (DAYLIGHT/MOTION)



SWITCH/DIMMER

CENTRALIZED CONTROL



TRACK LIGHT



PANEL LIGHT



DOWN LIGHT



LINEAR TRUNK SYSTEM

LUMIINTEL™ - CONTROL AND MAINTENANCE SYSTEM

Lumiintel™ is an intelligent control and maintenance system that optimizes street light usage to lower energy consumption by decreasing the lighting level at off-peak traffic hours. It also reduces maintenance cost by real time monitoring and reporting of performance - many other features are available at a click of a mouse, all without compromising quality or safety.

Our Lumiintel™ solution helps municipalities and ESCOs increase direct energy savings, provide safer streets, and create cities and towns that are safe and enjoyable to live, work and do business in.

The general challenge facing the technical department in the municipalities and ESCOs is continuously monitoring and maintaining the city's lighting solution under the constant restraint of limited resources and time. In many municipalities and ESCOs this is a

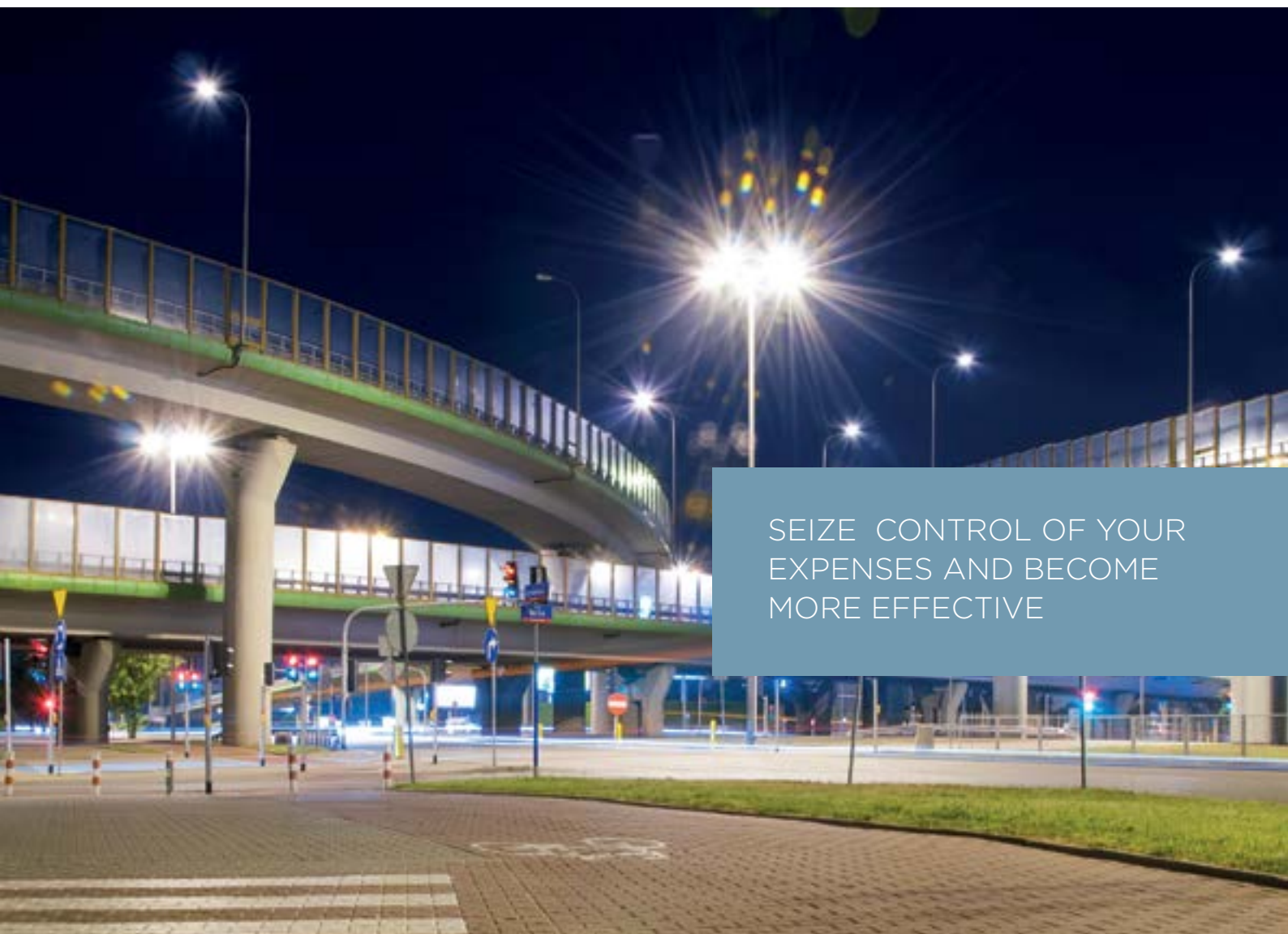
manual task that needs to be done onsite, thus being a very time consuming and inefficient process that raises the maintenance costs for the entire lighting solution.

The intelligent and geo-referenced street luminaire management and control system helps municipalities and ESCOs become more efficient and save both time and money on the monitoring and maintenance of their lighting solution.

The software allows you to visualize your entire street light installation and monitor its operation and you can evaluate the consumption and intensity of the light emitted from the luminaire, individually or in groups. You can also adjust the parameters in real time, without any added costs to increase the lifetime of the luminaries.

- REDUCED ENERGY CONSUMPTION AND BETTER LIGHT INTENSITY CONTROL
- REDUCED MAINTENANCE COSTS
- INCREASED LED LUMINAIRE LIFETIME
- RELIABLE AND SECURE SYSTEM WITH LONG RANGE
- EXPANDABLE AND "OPEN" INFRASTRUCTURE WITH SCALABILITY
- EASY-TO-UNDERSTAND SOFTWARE FOR SYSTEM OPERATION
- REAL TIME DATA FOR STATUS UPDATES
- PROGRAMMING OF HOURLY PROFILES
- REAL-TIME INFORMATION AND CONTROL
- SMART MAPPING

OPTIMIZES STREET LIGHT USAGE TO LOWER ENERGY CONSUMPTION



SEIZE CONTROL OF YOUR EXPENSES AND BECOME MORE EFFECTIVE

HESALINK™ - WIFI NETWORK

HeSaLink™ gives you a complete Wi-Fi network - that can be the backbone of any Smart City initiatives in your city - just by changing the streetlights. The solution is comprised of our highly efficient and well-proven LED street light range - with integrated Wi-Fi Hotspot transceivers.

As demand for cost optimization and improved service levels to citizens is getting higher, the need for smart solutions in municipalities is continuously increasing. One way to combine necessary and cost saving infrastructure changes like upgrading street lighting to LED with smarter solutions, is to start the journey towards the smart city concept. We provide complete solutions that tackle both challenges.

Our HeSaLink™ solution gives your municipality or ESCO a fast and cost efficient launch of Smart City network and services. By upgrading the current street light system with new HeSaLight streetlights, you can offer all citizens a safe, powerful and trusted Wi-Fi network, in the entire city.

For the light system owner, a Wi-Fi network can contribute to the operation of other services within the owner's domain such as Smart City services for a municipality - or the Wi-Fi network can be utilized to create completely new direct revenue streams.

The HeSaLink™ partnership can have different structures:

- 100 % Investment Ownership
- Managed Wi-Fi Hotspot Service.
- LED Investment Offset with dedicated noncommercial use

HESALIGHT PROPOSE TO ENTER INTO A BUSINESS PARTNERSHIP WITH THE STREETLIGHT OWNER AND ADD THE NECESSARY EXPERTISE TO EXPLOIT THE WI-FI OPPORTUNITY AS WELL OPERATIONAL MANAGEMENT OF THE NETWORK.



A SAFE, POWERFUL AND
TRUSTED WI-FI NETWORK
IN THE ENTIRE CITY

EVERY COMPANY STARTS
WITH AN IDEA.

OUR BRIGHT IDEA WAS
ALL ABOUT REDUCING
OUR CLIENTS' ENERGY
CONSUMPTION AND SAVING
THEM MONEY.

NOW, 7 YEARS LATER, WITH
GLOBAL COMPANIES LIKE
STARBUCKS, SHELL, MAERSK
AND CARLSBERG AS
CUSTOMERS, WE HAVE
PROVEN THAT OUR BRIGHT
IDEA WAS THE RIGHT IDEA
— FOR THEM AND FOR THE
FUTURE.



STARBUCKS

Starbucks is the premier roaster and retailer of specialty coffee in the world with more than 21,000 coffeehouses in 65 countries. Starbucks is the go-to place for coffee lovers everywhere and distinguishes themselves with genuine service, an inviting atmosphere and a superb cup of richly brewed coffee.

So, when Starbucks wanted to remodel and restyle all their coffeehouses in Austria and Switzerland, they of course wanted to maintain the inviting atmosphere. That is why the performance of any LED lighting solution was extremely important as a key part of Starbucks customer offering and concept.

CHALLENGE

Starbucks wanted a full-service solution in two countries: from inventory taking, complete lighting plans, financial solution, logistical support, turnkey installation to a long warranty. The solution needed to reduce the carbon footprint and energy consumption at the same time.

All this needed to be accomplished within a very narrow timeframe to reduce the non-operational period of the coffeehouses, and with several customized solutions required.

SOLUTION

HeSaLight® developed a new lighting plan based on LED products under the constraint of the existing position of light sources.

The existing halogen track lights in all the coffeehouses were replaced with HeSaLight® LED track light model HL-TL-18W-VRO in a low color temperature (Kelvin). This is similar to the light and color temperature you get from a halogen lamp and was done to maintain the

cozy ambiance that is needed for the best customer experience.

HeSaLight® provided a complete logistical solution by developing 'Starbucks Light Packages' containing Starbucks standardized luminaires and all supporting material needed for the installation. These were sent to each coffeehouse for the installation company to install.

To safeguard Starbucks' cash flow, the entire investment was financed with the unique HeSaLight® finance model EnergyGo. With EnergyGo the savings are carefully calculated and the payments spread over the payback period so the project for Starbucks always results in a positive cash flow. In short, the investment is paying for itself.

In the 2 countries over 6.500 traditional high consuming light sources have been replaced by HeSaLight® energy-efficient LED lighting, reducing energy consumption and maintaining and improving light quality.

RESULTS

The overall results are a drastically reduced energy consumption. There is a calculated reduction of 73% in energy consumption.

In addition to the reduced maintenance and increased technical lifetime of the high-quality HeSaLight® LED's, the Starbucks coffeehouses have maintained their unique welcoming and inviting atmosphere that makes customers feel comfortable and enjoy their cup of richly brewed coffee.

Financial benefits aside, the project also prevents more than 373 tons of CO² per year from being emitted into the atmosphere, reducing the carbon footprint from lighting by 73%.

CUSTOMER

STARBUCKS COFFEE COMPANY

LOCATION

**50 COFFEEHOUSES IN AUSTRIA
AND SWITZERLAND**

HESALIGHT® PRODUCTS

HL-TL-18W-VRO

HL-MR16-4X1,5W-OB

HL-T8N-120CM-22W



“Only very few companies provide such a long guarantee. It proves the highest quality of the products. We always look for innovative and sustainable solutions from companies that have a flexible approach to projects and we felt a strong commitment and willingness from HeSaLight® to overcome the challenges we presented”.

Claudio Casal - Construction Manager at Starbucks Coffee Switzerland/Austria.



CARLSBERG

The Carlsberg Group is one of the largest brewers in the world, employs 40,000 people, and has an extensive portfolio of more than 140 beer brands.

The company was founded in 1847 by J. C. Jacobsen and the company's flagship brand is Carlsberg Beer, one of the best-known beer brands in the world. Carlsberg is named after Jacobsen's son Carl.

Carlsberg has been present in Malaysia since 1969 and the brand has become the leading beer brand with more than a 50% share of the Malaysian beer-market. For Carlsberg, the Asian region offers considerable prospects for growth, and keeping Carlsberg's production facilities up-to-date is a top priority.

CHALLENGE

The old lighting system consisted primarily of high bay lights, with a high-energy consumption, that also needed frequent re-lamping with the maintenance cost associated. As a part of the continuous task of improving energy efficiency, Carlsberg was very focused on identifying any possibility that existed for carbon footprint reduction and energy cost reduction.

The main objective was to achieve a substantial energy saving of at least 50% and a corresponding reduction in CO² emissions, of course without sacrificing performance.

Financially, the most important target was a full recovery of the investment using only the savings the solution generates.

SOLUTION

After creating lighting layouts in Dialux based on the CAD drawings of the brewery, the facility management approved the lux levels and the light distribution in each area.

The chosen solution replaces the existing 400W high bay lights with HL-HBL-200-UFO of 200W. The light quality and distribution make this product the ideal replacement for traditional high bay lights.

All luminaries were delivered with a color temperature of 4000 kelvin for a clear and pleasant visual perception of the beer and production area.

After being trained by HeSaLight® in the correct way of installing the luminaries, the luminaires were installed by Carlsberg's own facility management team.

RESULTS

The results obtained in this project have been very significant and have been better than the initial forecast, achieving a reduction in energy consumption of 58%.

At the same time, Carlsberg has been positively surprised by the performance of the luminaires and the lux level generated.

The CO² emissions were reduced by 58%, helping Carlsberg achieve more sustainable production in Asia.

The technical lifetime of the installed equipment is over 12 years, more than double the warranty period of 5 years.

Beyond the immediate benefits, cost savings and improved lighting, Carlsberg now has a complete new LED lighting solution with high quality products, long technical lifetime, and no maintenance — resulting in a very safe investment.

CUSTOMER
CARLSBERG

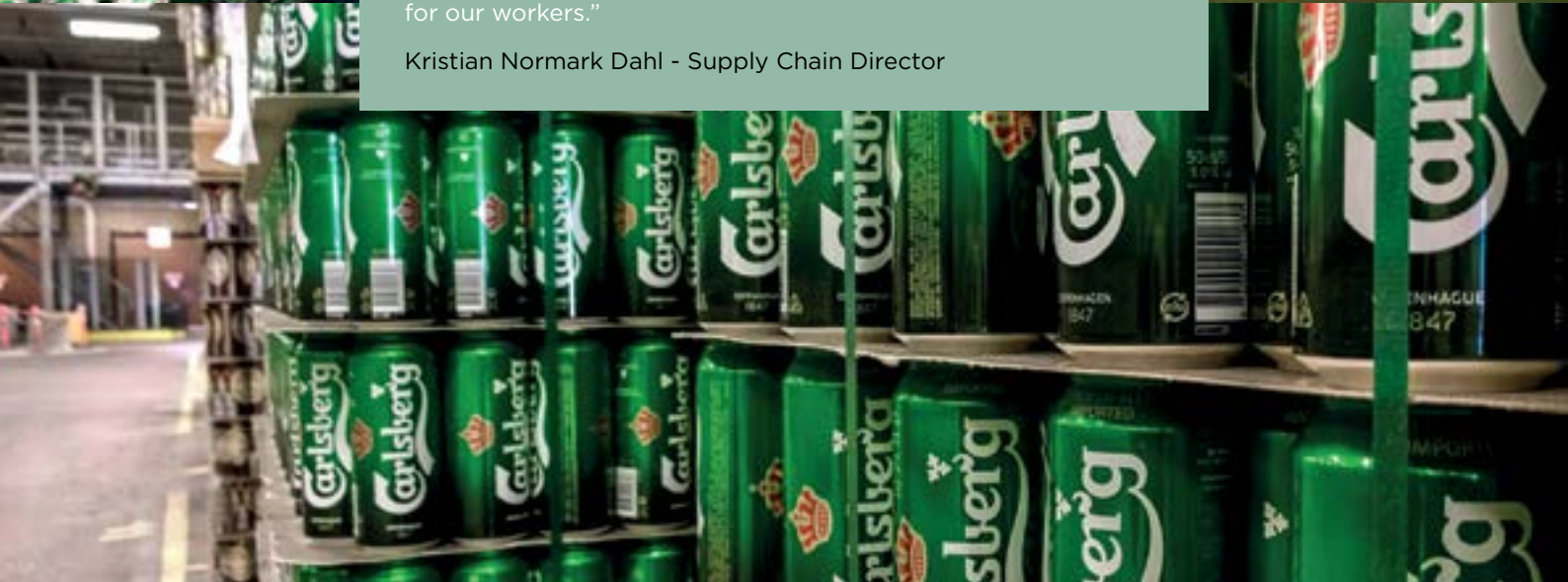
LOCATION
MALAYSIA

HESALIGHT® PRODUCTS
HL-HBL-200W-UFO
HL-FL-100W-HP



“The solution and project management of HeSaLight® have lived up to our expectations. Their solution means real economic savings for us, as well as areas that are better illuminated and safer for our workers.”

Kristian Normark Dahl - Supply Chain Director



EROSKI

Eroski is one of the leading Spanish supermarket chains with more than 2,000 outlets. It's structure as a worker and consumer co-operative within the Mondragón Corporation group gives Eroski a special focus on sustainable development and growth.

Eroski is a pioneer in using energy efficiency systems and is also the 1st company to guarantee "Zero Waste" in their food and vegetables category. By cooperating with over 40 social responsibility organizations, Eroski helps reduce food waste by ensuring that no food fit for human consumption is thrown out.

Eroski's head office, where all central operations are managed, is located in Elorrio, Biscay and is approximately 15,000 m².

CHALLENGE

Eroski wanted to realize the energy savings potential that their head office and outdoor lighting represented, but was not convinced that the real savings of LED could be the claimed level of 50% or more. They wanted to see and measure for themselves the consumption and the lighting level (lux) that HeSaLight LED could generate in their offices.

Furthermore, the required lux level of 700 lux at the work plane (table) was substantially over the recommended minimum of 500 lx. A further constraint was that installation should be kept to a minimum so the position of the luminaires could not be changed, and installation needed to be done outside normal working hours.

SOLUTION

As part of the process of showing the savings and performance of the HeSaLight solution, HeSaLight® designed a test setup that directly compared the traditional lighting installed to the proposed HeSaLight® products.

After verification of the results Eroski moved forward with the entire project of changing more than 8,600 light sources and luminaires. The entire interior and exterior lighting was changed.

In the offices and common areas more than 5,000 HL-2G11-17W units were installed to replace compact fluorescent lamps of 36W. 1,400 T8 fluorescent tubes units were replaced with HL-T8N-120CM-22W. All interior light sources have a color temperature of 3000 Kelvin and the exterior has light sources with 4000 Kelvin color temperature.

In the parking lot a combination of floodlights HL-FL-60W and street lights HL-PRO-60W was used to replace the old installation of 150W sodium lights. Higher power units like HL-FL-100W/150W and HL-SL-PRO 150W were also used, as well as the HL-FL-350W replacing 1000W sodium floodlights.

The entire project is financed over a 5-year period with HeSaLight®'s EnergyGO model, based on the savings generated. The warranty is a full service model and includes replacement of any defective product on site by a Hesalight® technician.

RESULTS

The energy consumption is reduced by 60%, well over the targeted savings. The required performance level of lux has been measured and is also monitored by a third party. The performance complies with the requirement that ensures a high level of illumination for the tasks, but still in a color temperature that provides visual comfort.

Apart from the performance and financial benefits, the project reduces the carbon footprint from lighting by 60%. This means that the CO² emissions of Eroski are 405 tons lower per year, helping Eroski to become an even more sustainable company.

CUSTOMER:

EROSKI COOP

LOCATION:

HEAD OFFICE OF 15,000 M² IN ELORRIO, BISCAY, SPAIN

HESALIGHT® PRODUCTS:

HL-2G11-17W, HL-T8N-120CM-22W, HL-G24-9W-360, HL-FL-60W, HL-FL-150W, HL-SL-PRO-150



“Working with HeSaLight® has been highly productive, both with regard to the resulted savings as well as their full-service concept”

Izaskun Txurruka, Project Responsible at Eroski Coop.



MUNICIPALITY OF CALVISANO, ITALY

The Municipality of Calvisano is located in Lombardy, the most populous and richest region in Italy. This region, that has Milan as a capital, is also the region with the most UNESCO World Heritage Sites in all of Italy.

When the Municipality of Calvisano wanted to modernize their lighting infrastructure, significantly reduce the CO² emissions and eliminate the environmentally hazardous mercury vapor lamps, they turned to HeSaLight.

CHALLENGE

The main objective was to optimize the overall lighting levels to give the citizens a higher degree of perceived security. The energy efficiency goal was to achieve a reduction in energy consumption of more than 60%.

At the same time the City Council wanted to have total control of the new lighting system to reduce maintenance costs and management.

All this had to be achieved under the financial constraint of not spending more on their street lights than today and with a return on investment equal to the warranty on the new luminaries installed.

SOLUTION

An entirely new lighting plan was designed using the HeSaLight PRO series street lights that are much more efficient and better performing.

Some 1.400 units of the PRO series in a dimmable version was used. Depending on the classification of the road and the position of the luminaire versions from 30W to 170W (HL-SL-PRO 30W-170W Lumiintel™ was used.

The use of asymmetric optics allowed a uniform distribution of light. The precise optics has eliminated light pollution in homes adjacent to the street, a former problem in some areas.

The low color temperature of 3200 kelvin gives the light a familiar tone and several historic buildings were illuminated by projectors (HL-FL-60W), that maintained the impression of the historical architecture, but have a better light distribution and very low energy consumption.

The Cloud-based remote management system Lumiintel™ has been configured and installed to maximize savings and energy efficiency. This system gives the real time status of each street luminaries and allows easy handling with one click.

RESULT

The results obtained in this project are very significant and the electricity consumption is reduced by 66 %.

The payback period was less than four years, while in the financing by HeSaLight is provided for 5 years. This project has given the municipality an immediate positive cash flow that can be used in other municipal projects.

The technical lifetime of the installation is calculated to 12,8 years, more than 3 times the payback period. The payback period is less than 4 years, well within the warranty period of 5 years.

Beyond the immediate benefits, this solution provides the Municipality of Calvisano with high quality products with a lighting system that is controllable, manageable and very energy efficient.

CUSTOMER

MUNICIPALITY OF CALVISANO

LOCATION

CALVISANO, LOMBARDY, ITALY

HESALIGHT PRODUCTS

**HL-SL-PRO 30W-170W, HL-SUS-30W,
LUMIINTEL CONTROL AND MANAGEMENT
SYSTEM**



“Every day we work to deliver a better service for our inhabitants and getting tools like LED lighting that we can monitor and control is a big help. The generated energy savings are used for other relevant projects and better lighting is something that benefits everybody and also makes our municipality look better”

Mr. Cerutti, from Esco - Brixia

NO CITY, STREET, PARK OR SHOPPING MALL IS TOO BIG OR SMALL FOR OUR SOLUTIONS

We have grown from local clients, with whom we still enjoy working, to global clients who need cross-border solutions. We have delivered several hundred tubes to the local supermarket, and we have delivered thousands of track lights, tubes, street lights and downlights to multinational chains and foreign municipalities. Each of our customers is special, and they are just about as diverse as you could imagine. We work well with every size of company, and if you want to save big or small amounts, our solutions scale to fit. Try us ...







OUR MOST IMPORTANT PARTNER:

YOU



HESALIGHT A/S

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