



The Future of Lighting
Is Here

Energy Smart Industry
LED Technology & Solutions

LED TECHNOLOGY

A revolution in lighting!







About **Energy Smart Industry**

Energy Smart Industry is an American electronics design and manufacturing company. Our extensive experience with color and white LED lighting is recognized by various City Councils and Leading Architects around the world.

We specialize in lighting projects where

- running and maintenance costs must be minimized,
- unique and modern solutions are required for distinction,
- long life and high quality of lighting is crucial,
- low heat production is desirable, and
- installation challenges must be overcome.

A World's Leading Industry

In contrast to many others in this industry, we are not confined to distributing off-the-shelf products from overseas. Rather we can create, from start to finish, products specifically to suit our client's needs. We test, guarantee and fully support all our products.

We can also

- help you develop creative ideas
- work from design specifications
- organize and supervise the installation.





LED TECHNOLOGY

A revolution in lighting!

LED lighting is creating a revolution in the lighting industry by providing fresh solutions for traditional lighting applications and exciting new applications for lighting that we can currently barely imagine. Take a look at the benefits:

Outstanding flexibility for decorative lighting solutions

Being very small, LEDs can be easily integrated into all sorts of objects, furniture and architecture to produce creative lighting solutions by 'hidden' light sources.

Saturated colours or white

LEDs produce vivid, saturated colours without filtering or several whites including fresh and warm white.

Dynamic effects

LEDs bring appealing dynamic lighting effects - such as colour mixing and changing for scene-setting - to outdoor and indoor applications.

High light output without heat, UV or infrared

LEDs produce light without heat, UV or infrared, therefore ideal to illuminate sensitive objects without causing damage or heating up materials.

Easy electronic control

LEDs switch on right away and can be easily dimmed while keeping stable colours.

Even applicable in wet and cold environments

LED for outdoor environments are sealed waterproof and can cold start down to -40 degrees Celsius.

Exceptionally low maintenance

With lifetimes up to 50,000 hours, SSL solutions last up to 50 times longer than traditional ones. Simply install and forget!

Exceptionally low operating costs

LED solutions are highly energy efficient, when compared to traditional light sources, especially to filtered light solutions.



UNDERSTANDING LEDs

The bright future of LED lighting

How LEDs work

A LED or Light Emitting Diode is a special type diode, containing semiconductor materials, which converts electrical energy directly into light. The wavelength, or colour, of the light emitted depends on the exact combination of different materials. This makes it possible to produce LEDs that emit red, amber, green, cyan or blue light. As this light is more or less of one wavelength the colours are saturated and no filters are needed.

White LEDs

A white LED is based on a blue LED covered with phosphors, converting the blue light partly into yellow. The mixture of the two colours of light is white.

LEDs for Decorative applications

Dimming and colour changing effects are the basis for many decorative and architectural lighting applications. The LED is an electronic component, switches on instantaneously and can be electronically controlled to cause these effects. Many products make use of these possibilities to be controlled via soft- or hardware.

And general illumination

And although the first LEDs were produced in 1962, developments over the past years made general illumination possible. The efforts are still focused on better efficiency and more light per device and today's LEDs are able to produce up to 150 lumens and have an efficiency over 100 lumens per Watt. Contrast this with a halogen lamp which at best generates around 20 lumens/W and an incandescent lamp which generates 10 lumens/W. And these are already mature technologies whereas LED lighting still has a lot of potential for further improvements in lumens/W.





The leading LED lighting technology from Energy Smart Industry

Energy Smart Industry is one of the world's leading manufacturers of power LEDs and a pioneer in the use of LEDs for everyday applications. We manufacture billions of LEDs annually and produce the world's brightest LEDs covering virtually the complete visible spectrum, including red, amber, green and blue as well as white.

Power LEDs are the first to combine the brightness of conventional lighting with small footprint, long life and energy efficiency. Built-in heat-sinks allow the packages to handle up to 12.5 Watt, and the LEDs have an operating lifetime of more than 50,000 hours.

Colour-changing effects with LEDs

All colours, including white can be produced by combining red, green and blue LEDs. Energy Smart Industry 'RGB' systems are ideal for making different lighting effects by varying the intensities of these different coloured LEDs.

White LEDs and AWB systems

True and consistent white LED with a colour temperature from 3200 Kelvin (warm white) and 5500 Kelvin (cool white) are now also available due to a unique process. To produce a white LED, a phosphor is deposited over a blue LED chip and process variations can cause differences in tones of white.

These white LEDs feature in the new amber, white and blue (AWB) systems by Energy Smart Industry. The colour temperature is changed easily towards warmer or cooler when either the amber or the blue LEDs are activated. This creates a broad and unique range of white-light tones, of course also available with Energy Smart industry LEDs



The energy efficiency of LED Saves more than just money...

Low running costs

LED lighting solutions are small in size but big in performance. LED technology allows lighting to limit its product dimensions while giving light of a substantial quality and quantity. Using only a fraction of the energy consumed by traditional lighting systems, our LEDs are very gentle on your wallet since it reduces your running costs in electricity, for general lighting as for decorative purposes.

Hardly any maintenance

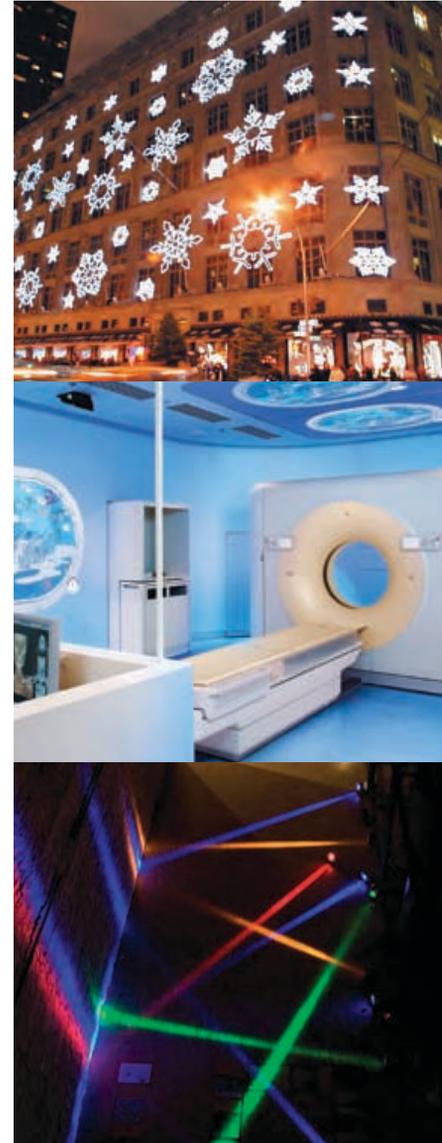
Philips LED solutions come in different forms. LED products are available to replace complete traditional lighting installations in use today, but also as a retrofit solution to replace only the light source within existing systems. In any case, when installed, LED is almost worry-free. The long lifetime of our LED solutions assures hardly any maintenance costs. The lifetime of up to 50,000 hours means almost no interference for years and years.

Think total cost of ownership

Take this all into account when you select your lighting systems: the price you pay for a lighting solution only reflects a fraction of the total cost for lighting. Being maintenance free in its long efficient life, our LED lighting show real value for money over the years. So think total cost of ownership and encourage your customers to do the same!

Save on the environment too!

Global climate change, Kyoto targets on using CO2 emissions and environmental legislation to stimulate energy efficiency, while reducing waste and the use of hazardous substances, are factors that are not limited to the political arena. It affects business too, also the lighting business. Responsible for almost 20% of the electricity consumption, massive savings in the use of electricity can be won if installations would switch over to



energy efficient lighting systems. Our LED lighting solutions are able to save up to 80% in electricity consumption in comparison to traditional lighting solutions like incandescent or halogen. Next to that, the long lifetime and the many possibilities for miniaturization of our systems lead to reduced waste. And being totally RoHS compliant, Energy Smart LEDs do not contain any hazardous material harming the environment.

Our EcoDesign principles demonstrate Energy Smart's commitment to the future. They assure you that we will always invent, develop and manufacture lighting solutions that have the smallest impact on the environment but the biggest impact on your business!

Look out for our Green Products if you want your customers to select the best environmental choice in the market today.



Retrofit solution for specific accent lighting		
	Halogen 35W	MASTER LED

energy consumption	35W	7W
burning hours per year	9,000	9,000
product lifetime	3,000	45,000
energy costs (kWh)	\$0,15	\$0,15
energy consumption per year	315kWh	63kWh
energy costs per year	\$47,25	\$9,45
energy savings per year		\$37,80
average purchase price per system	\$7,50	\$40,00
total system costs per 3 year (*)	\$209,25	\$68,35

* (average of 9,000 burning hours per year, excluding replacement costs)



eco friendly

GENERAL

Illuminance for performance



Application Ideas

Facades & walls

Stores

Office buildings

Bars & restaurants

Hotels

Gardens & fountains



How can lighting transform indoor spaces?

The medium of light can change and transform a room into a more meaningful and inviting space, giving it the ability to enhance a person's sense of well-being, relaxation and comfort. That is why Energy Smart is strongly committed to composing lighting intended to create inspiring indoor environments, designed especially around you.

In addition to our standard indoor solutions, Energy Smart has the ability to create custom solutions in order to carry out any creative design project. It is our goal to help you enhance your indoor space with the right light.

Marker LED, eye-catching

This luminaire provides clearly visible marking and uniform light output, allowing for a wide range of creative options.



ACCENT

Highlights, downlights, accentuate



Application Ideas

Shop windows & show rooms

Fashion stores

Food stores

Homes

Parks & Roads



The outdoor lighting trends are towards:

- Energy efficiency and long, dependable service, not only to reduce your lighting ownership costs but also to address environmental concerns.
- Improved visibility and enhanced ambience to attract people back into your city centers at night.
- Miniaturization enables unobtrusive lighting and exciting new luminaire designs.

The high power LED Wall Washer is perfect for giving that intense atmospheric wash of colour on your selected surface.



High Power LED Wall Washer



ENERGY EFFICIENT

Reliable low maintenance



Application Ideas

- Warehouses
- Stockrooms
- Parking Garages
- Gas Stations
- Storage Spaces



LED Low Bay, energy efficient



Lighting parking decks with LEDs

The technology in LED is proven reliable, uses one third the power and provides a higher lumen output than the metal halide fixture. There is no re-strike time if the power is interrupted as there is with metal halide fixtures which can take minutes to relight when interrupted.

The LED Low Bay is designed for use in warehouses, stockrooms, parking garages, walk-in freezers and other applications that require reliable low maintenance lighting.



INDICATIVE

Communicate and guide by light



Application Ideas

Book stores & libraries

Art galleries & museums

Gardens & fountains

Stores

Homes

Office & public buildings

Bars & restaurants

Hotels

Parks & roads

Gardens



3W CREE MR16 Lamp

High power accent lighting

When you choose Energy Smart AccentLED lamps as a lighting solution, you get more than just new technology. AccentLED lamps offer energy-saving benefits of up to 80% compared with other technologies and have a highly intense and clearly defined beam, which does not generate heat.

Now, enjoy the benefits of the high-power LEDs in retrofit accent lighting. Objects enjoy the illuminance of the AccentLED K2 range since it generates no heat, UV or infrared. Due to its long lifetime it offers a solution for installations where minimum maintenance is required.



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