

# THE NEW AGE OF LIGHTING

The 2019  
AGE Induction Lighting Catalogue



Advanced  
Green Economy



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Green Economy

## **RESEARCHERS, ENGINEERS, COMMUNICATORS AND ENVIRONMENTALISTS ARE THE BACKBONE OF AGE.**

The AGE Group Team is formed by in-house experts with a wide range of global experience in various fields such as engineering, product design, manufacturing, energy optimization, energy efficient technologies, operation of industrial plants, civil engineering, electrical, electronics and mechanics, as well as business management and development and management of assets .

We strive for excellence to each of our products, making continuous improvements and innovations to better serve our customers. With a diverse background, intellect and an ongoing effort to improve our technology, knowledge and skills, the AGE group provides the best energy-efficient solutions and respect for the environment to address environmental sustainability issues globally.



## AGE Group

**We produce Innovation for improving the quality of life and safeguarding of the Environment, with an Advanced Green Economy prospective.**



Advanced Green Economy or AGE is an Italian group of private investors, based in Bergamo and Piacenza. The results of AGE's Research & Development division constantly brings innovations, often source for industrial patents in several areas of application, with extraordinary results that makes AGE's products an excellence in their field of application.

AGE's products are conceived in the full respect of the Environment, using only recyclable materials and non harmful substances for the Earth and human health, with a target of reaching the most reduction of CO2 emissions and the lesser production of waste.

AGE has started a new expansion phase in the International market, including some Countries of Europe, Middle East, Africa and South America.

### Mission

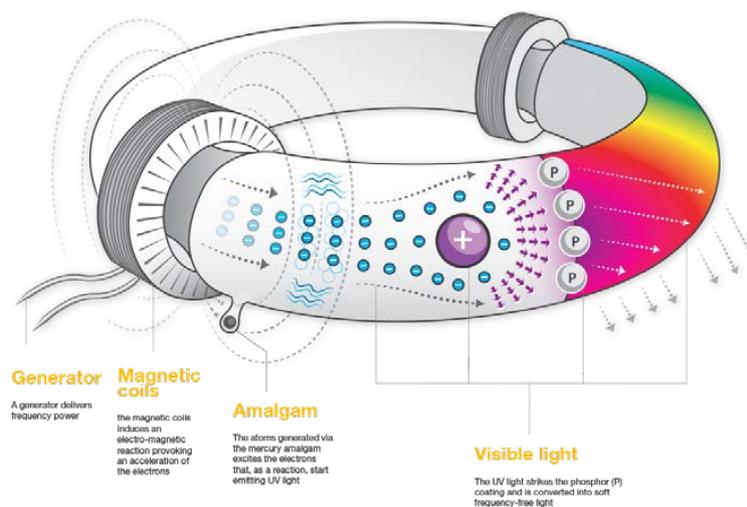
To offer alternative solutions using unique and reliable technologies along with our know-how, in order to accomplish excellent results in the various sectors of intervention with the fastest return of investment for our customers.

### Vision

Our work is oriented to the improvement of the life of the Community, with particular interest for the Environment and for the Health. Targets that we accomplish by conceiving and developing innovative and very efficient solutions in the scope of Green Economy and Energy Efficiency.

# Induction Technology

**Thanks to the continuous R&D activities, AGE is able to produce Lighting solution with extraordinary results in terms of yield, consumption and duration with a very low environmental and economical impact.**



The principle of the technology is not recent, in fact the first induction lighting was invented by Nikola Tesla back in 1890. Essentially, an induction lamp is an electrodeless fluorescent. Without electrodes, the lamp relies on the fundamental principles of electromagnetic induction and gas discharge to create light. The elimination of filaments and electrodes results in a lamp of unmatched life, lasting about 90.000-100,000 hours (AGE up to 110.000 hours), this system can outlast 100 incandescent, five HID, five typical fluorescent I or 2-3 LED lamp changes.

The light is generated via a gas discharge through simple magnetism. The two magnets, which consists of 2 rings with metal coils (called also toroid), create an electromagnetic field around a glass tube which contains the gas, using a high frequency that is generated by an electronic ballast.

The discharge path, induced by the coils, forms a closed loop causing acceleration of free electrons, which collide with mercury atoms (present in a small solid mercury amalgam pellet) and excite the electrons. As the excited electrons from these atoms fall back from this higher energy state to a lower stable level, they emit ultraviolet radiation.

The UV radiation created is converted to visible light as it passes through a phosphor coating on the surface of the tube.

The unusual shape of an induction lamp maximizes the efficiency of the fields that are generated.

AGE R&D division created an electronic ballast able to reach a lifetime of up to 330.000 hours (about 80 years of public lighting or 37 years if lighting on 24/7), with unique features and way beyond any other induction lighting product or any other lighting technology available today on the market.

**AGE researchers and engineers has developed and applied innovation improvements to the existing technology in order to make it more durable and more efficient, making de facto AGE's lighting the most efficient and most durable lighting in the market.**

# The advantages of AGE Induction Lighting

- Lamp's lifespan up to 110.000 hours
- Ballast's lifespan up to 300.000 hours
- Purest light available, comparable to daylight
- Instant start, instant restrike and flicker free
- Absolutely Stable luminous flux
- Very high Colour Rendering Index (CRI) up to 91
- High generator Power Factor ( $\cos\mu$ )  $\geq 0,988$
- Harmonic Distorsion THD  $< 2,5\%$
- The lesser effective consumption ever
- Very flexible working Temperature (  $-55^{\circ}\text{C}$  /  $+85^{\circ}\text{C}$  )
- 185+ lm/W effective (E.V.E.) - 204+ lm/W (V.E.L.) - 204 Plm
- Very low lumen depreciation, less than 15% after 90.000 hours
- Lowest heat output ever ( max  $45^{\circ}\text{C}$  )
- 100% recyclable product
- Completely non toxic and with null Photo-biological risk
- 10 years warranty
- Maintenance free
- Option DIMMER (possible to regulate the power and effective lighting) with linear consumption reduction: - 50% power reduction = 50% consumption reduction

## Visual Comfort

**A perfect light, uniform and diffuse  
to improve Safety and Visual Comfort**



**Excellent light Distribution and Uniformity  
High Color Rendering Index CRI up to 91**

**No Glare**

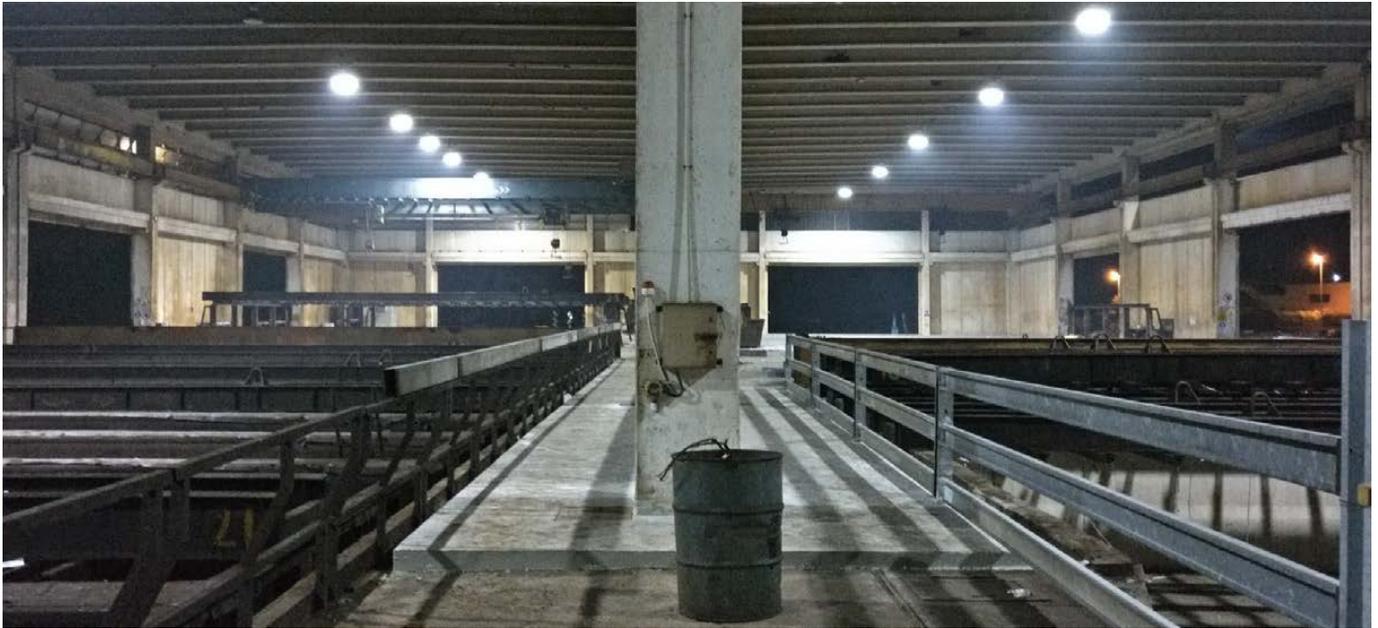
**No photo-biological hazards**

**No Flickering**



- Industry
- Heavy Industry
- Sport
- Public
- Smart City
- Service Sector
- Roads & Highways
- Farming

## ● Industry



For the Industrial sector it is crucial to have an adequate lighting in the working areas, for a more efficient and more accurate production, and safeguarding the health of the employees. The cost of lighting is very critical as well as its maintenance cost.

**Ideal for:**

Factories, warehouses, hangars, logistic centres.

### **The lowest cost of lighting with the maximum diffusion of light**

AGE Lighting is the perfect solution for the Industrial sector solving most of the critical aspect related to lighting, with a drastic reduction of the energy consumption and the cost of operation: on top of the virtually maintenance-free lighting, there are additional savings related to avoiding any interruption of the productive activities inside the factory.

On top of all these benefits there is an extraordinary chromatic index that make the colours more vibrant and illuminating perfectly all the working areas, with no glare and no photo-biological risks, without tiring the eyes and other noises that can slow down the personnel, making de facto the working area safer and more comfortable to work in.



## ● Heavy Industry



Heavy Industrial environment are characterized by extreme and challenging working conditions: high temperatures, corrosion, acidity, explosive atmospheres, humidity, dust, transient voltage, harmonic distortion, power surge and more.

**Ideal for:**

Metal manufacturing and processing, automotive industry, offshore, mines, mills, petrochemical plants, chemical plants, shipyards.

### **The best performance also in the most extreme conditions**

AGE Induction Lighting are built to survive in harsh, high demand applications with dynamic power environments.

Uniform, perfectly diffused light is crucial for the maximum safety in areas with heavy equipment and full of hazards. Exclusive integrated technology eliminates transient voltages and filters facility generated noise to ensure that dirty power doesn't affect the lighting to cause failures.

AGE Induction Lighting stand alone, no matter the circuit, no matter the panel and load, with no need for fusing, surge protectors, line conditioning, isolation transformers or capacitive filters.

AGE Induction Lighting is also available with Ex-Proof and ATEX versions, ideal for environments with explosive atmospheres, and AE Version for Acidic and Corrosive environments.

## ● Roads & Highways



### Maximum Safety and Visual Comfort

AGE Lighting is the perfect solution for the roads and Highways Operators: drastic cost reduction thanks to the very low energy consumption, to the incredibly long lifespan and to the virtually maintenance free.

AGE Induction Lighting has a great diffusion and uniformity of light, flicker free and with no glare, very critical aspects for drivers, that will be able to drive with better visual comfort and safety. With a very good CRI objects and threats can be easily identified.

AGE TSC - Tunnel Comfort Plus models are particularly indicated for Tunnels and Galleries, a unique model with separable ballast up to 75m distance, with obvious advantages for operation and maintenance, with the highest Visual Comfort and Safety.

AGE Induction Tunnel Comfort Plus has an high resistance to high temperatures, therefore in case of a fire, enables the lighting to function for a long duration assisting with the evacuation operation, together with an improved visibility thanks to the multi-frequency luminous flux that facilitates the passage of light among the smoke.

The street lighting is one of the highest costs for the Roads & Highways Operators. To have an efficient and reliable lighting is a condition that is not negotiable.

**Ideal for:**

Roads, highways, tunnels, stations.

## ● Public



Efficient Lighting system is one of the main target of the Public Authority. The public lighting is a very important and critical cost, both on the economical side and for the best valorisation of the territory and safeguarding of the Environment.

**Ideali per:**

Roads, historic centers, parkings, public parks, advertising banners, buildings.

### **The lowest effective consumption ever**

The exceptional colour rendering makes the colour more vibrant and illuminates perfectly the public areas valorising them.

AGE Lighting is the perfect solution for the Public Authority, drastically reducing the cost of lighting thanks to a very low energy consumption and the virtual maintenance free, at the same time providing a very long lifespan and a perfect illumination of the areas, creating an attractive and safe environment for residents and tourists.

AGE Lighting for the Public sector are available in several versions: IP65, IP67, Dimmable (very important for reducing consumption in a specific area and time) and AE (for acid and corrosive environment or nearby saline environments).

## ● Smart City



### The most efficient Dinamic Lighting

Lighting is definitely a fundamental aspects of the "Smart Cities", whereas the technologies will merge to enable more sustainable, efficient and environmentally friendly future cities.

To cut public spending related to energy utilities, improving and innovating the infrastructure, brings several benefits in terms of public infrastructure operation, together with several benefits for the citizens and tourists.

Our induction lighting range of products interact perfectly with all the modern lighting communication protocols, such as Wi-Fi, LoRa, ZigBee, DALI, DALI-2, smart sensors, and customizable upon request.

The correct choice of technology and its correct implementation are critical aspects for making the "Smart City" efficient in its full complexity.

**Ideal for:**

Roads, historical centres, parkings, public parks, buildings.



## ● Service



In the Service's world it is crucial to offer the best possible lighting and, at the same time, the most efficient lighting with the lesser energy consumption.

**Ideal for:**

Malls, airports, train stations, gas stations, markets, large stores, parking.

### The longest lifespan ever

AGE induction lighting satisfy the highest range of quality and are nontoxic, with photo-biological risk equal to zero, and are completely recyclable.

AGE Induction lighting are EMC certified for electromagnetic compatibility, important for areas where interference with other electromagnetic technology is not allowed.

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Another important factor for the Service sector is the Dimmerable option that, with linear relationship between luminous flux and power consumption, which is able to go from 100% to 50% power with 49% reduction of energy consumption, which is very important during service closing time.

## ● Sport



### For the best performance

AGE induction lighting is the perfect solution for the Sport centres, solving most of the criticalities related to lighting, thanks to the best efficiency on the market, with the lesser energy consumption, the longest lifespan, the virtually maintenance free and, at the same time, with the perfect light for sport areas.

With a color rendering index CRI up to 91 and no glare, the player will make a better performance with no risks for the eyes, headache or other inconvenience, at the same time the audience will enjoy a perfect and uniform lighting, as well as the TV operator that will be able to film without flickering and with a clarity never experienced before.

The quality of light is essential for every party involved in the sport sector, no matter if it's for the player or instructor or TV operator or even the audience, it caters for all.

**Ideal for:**

Sport centres, swimming pools, tennis, soccer, baseball, paddle, basket, volley courts.



## Farming



Lighting is among the most critical aspects for the correct plant's germination, growth and production in a greenhouse. The correct technology choice is crucial in order to obtain the right quality and quantity, and for a quick return of investment.

**Ideal for:**

Leafy plants, fruit plants, vegetables, ornamental and flowering plants, small fruits.

### The ideal lighting for plants

AGE's staff has developed customizable products that can ensure the correct plant-specific spectrum (the correct amount and type of light for each plant), for the germination, growth and production for both for traditional or for high-tech green-houses.

Our Induction grow lights, representing the cutting edge of innovation, are designed to help farmers increase the yield, reduce their energy and maintenance costs and extend the seasonality of summer crops, guaranteeing production even in the winter period.

AGE induction Grow lights provides a soft, homogeneous and diffuse light that light up all parts of the plants without harming them, making de facto easier the farming, the operation and the care of the plants. Our grow lights are designed to last very long also in harsh environment, ensuring the farmers a high savings both in energy and maintenance.

# Special applications

## High CRI Environments



### The highest Color Rendering Index without disturbing glare nor reflection, and with the longest lumen maintenance

The Glare reflected on the vehicle surface has a negative impact on the painting operator.

An inadequate lighting can cause many undesirable results, while a correct lighting helps to correctly complete the work in less time and helps identifying eventual mistakes.

The lighting for vehicle painting need to be with high CRI and excellent uniformity.

AGE Induction lighting is ideal for these applications, thank to an high uniformity of lighting and high CRI (up to 91), with no glare.

A perfect lighting that provides the best Visual Comfort to the operator, that will then be able to work better, quicker and avoiding mistakes caused by a wrong lighting.

Some specific sectors requires High CRI Values, for example:

- Quality control areas
- Textile Industry
- Food Industry
- Industrial Painting rooms (Planes, Helicopters, Vehicles, Trains, etc..)
- High Precision Industry
- Industrial Printing
- Hospitals
- Clinics

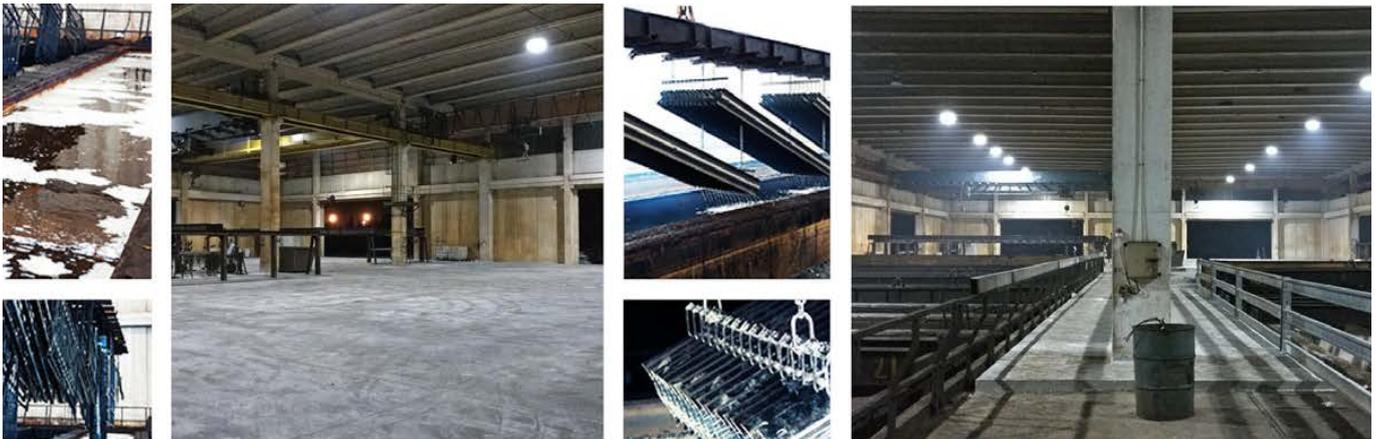
A Color Rendering Index (CRI) is a quantitative measure of the ability of a light source to reveal the colors of various objects faithfully in comparison with an ideal or natural light source.



## Corrosive and Acid Environments

**A special coating that follows the specific customer needs, in order to contrast the typical degradation of the acidic and corrosive environments**

The treatment can be customized according to the effective protection grade requested.



### Applications:

Industrial sites for the production and manufacturing of products and components in the Metal sectors, Chemical Products, Swimming pools, saline environments close to the Ocean and other environments with high levels of acidity.

## **ATEX / EX-PROOF**

### **AGE Induction Lighting for use in potentially hazardous atmospheres**

The ATEX/ExProof version of the AGE induction lighting has all the technical, performance and visual comfort benefits of AGE lighting, with additional high resistance and robustness necessary for specific hazardous environments. Also in this case is possible to customize the product (only for large quantities).



#### **Applications:**

Oil refinery, production and stock of gas and fuel, paper mills, industrial painting (planes, trains, vehicles, etc.), chemical industries and any environment with explosive atmosphere hazards.

## Rubber production and storage

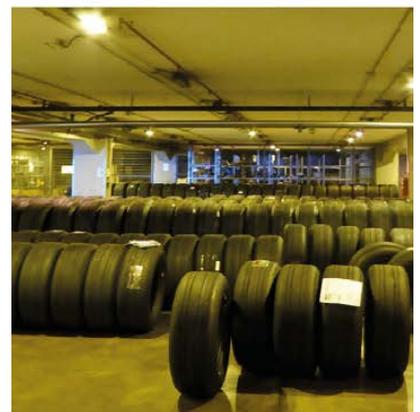
### Designed for protecting the Rubber from the deterioration caused by lighting and, at the same time, Saving Energy and Maintenance costs

The exposure to light is a critical factor for the production, storage of rubber products and materials, as an addition to the other problems such as temperature, humidity, atmosphere and placement. In fact it is a common practice to avoid the exposure of tyres to direct daylight or to artificial lighting consisting of high contents of blue or ultraviolet rays.

Following an accurate research, AGE has developed an induction lighting conceived for the safeguard of the rubber, avoiding its degradation that could cause potential problems with performance and duration.

The AGE Induction Light Bulb designed for Rubber, has a particular photometric output that has the ideal lighting emissions, while maintaining a pleasant and well distributed light. Furthermore AGE is able to develop customized Photometry, based on the specific needs and requests.

This extra feature can be applied to most of AGE induction models (Optional: RUBBER), therefore, on top of safeguarding the rubber materials, it will be possible to experience all the advantages of AGE induction lighting, like energy efficiency, performance, duration and quality of light.



#### Applications:

Industrial sites for the production, processing and storage of rubber and vulcanized rubber;  
Warehouse and storage of tyres for airplanes, public transport, bus, trucks, bikes, tractors; Raw rubber, semi-finished rubber, seals and other products that uses rubber as a main component.

# Products



**CL** ● ● ●

Serie IFI+ | High/Low Bay Lights



**CH** ● ● ● ●

Serie IFI+ | High Bay Lights



**CC** ● ● ●

Serie IFI+ | High Bay Lights



**RS** ● ● ● ● ● ●

Serie IFI+ | Flood Lights



**TSX** ● ● ● ● ● ●

Serie IFI+ | Flood Lights



**TSC** ● ● ●

Serie IFI+ | Flood Tunnel Lights



**SE** ● ● ● ● ● ● ●

Serie IFI + | Street Lights

- Industry
- Heavy Industry
- Sport
- Public
- Smart City
- Service Sector
- Roads & Highways
- Farming



# SR ●

Serie IFI + | Small Retrofit



# RCP ● ● ●

Serie IFI+ | Panel Light 60x60



# WP ● ● ●

Serie IFI+ | Wall Pack Lights



# EXPV ● ●

Serie IFI+ | ATEX - EX Proof - HB/Flood Lights



# CM ● ●

EX Proof Serie IFI+ | Ex proof High Bay Lights



# EXPS ● ●

EX Proof Serie IFI+ | Ex Proof Street Lights



# EXPF ● ●

Ex Proof Serie IFI+ | Ex Proof Flood Lights



# Grow light ●

Serie IFG+ R | Grow Lights

- Industry
- Heavy Industry
- Sport
- Public
- Smart City
- Service Sector
- Roads & Highways
- Farming

AGE Induction Lighting is the optimal choice for large areas, able to satisfy the highest standards of quality and efficiency.

AGE Lighting represent the new generation of Lighting, de facto the most advanced lighting technology, that will replace the various lighting technology existing in the market.



Advanced  
Green Economy

## **AGE International Srl**

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