

SPORT

SCORING a SLAM DUNK with **LEDS**

The historic arena in Varese is the first basketball stadium in Italy to have a lighting system based entirely on LED technology

The new lighting system of the Palawhirpool in Varese was inaugurated on May 1st 2014. The centre of the arena recently hosted an unforgettable friendly match between the local basketball team, the Cimberio Varese, and CSKA Moscow. A match that brings back the memories of legendary games between Ignis Varese and the past Soviet Army team.

In 2014 the home team set a new record, a technological one: Palawhirpool in Varese is the first indoor stadium in Italy to have a lighting system based entirely on LED technology.

"The system, explains **Cecco Vescovi**, Chairman of Pallacanestro Varese with a long career as a successful basketball player, is a target that marks an important goal for Varese's basketball scene. In 2011, Varese's home basketball team, Pallacanestro Varese, took over the management of the city's sporting arena. With the support of "Varese nel cuore", a consortium of local businesses, we committed to renovate and improve the







The next page shows photos of the arena seen with the new LED lighting system compared with the old system. The new lights guarantee higher luminance levels and a colour temperature (5000° K white light) that is particularly suited for TV broadcast.

› management of the facility that occupies such an important spot in the history of Italian basketball. The restoration works included the renovation of the locker rooms, grand stands, press room, and part of the technical equipment; we also made the facility more accessible to people with physical disabilities. And of course, no restyling would be complete without a new lighting system.

The project was made possible also thanks to the cooperation of several companies of the consortium, such as Fogliani Group and PRM Service for the supply and installation of electrical equipment and the Albini & Castelli construction company. In Disano illuminazione we found the technical quality and expertise needed to develop a state-of-the-art and all-LED lighting system with excellent performance.

The new technology allowed us to achieve two important goals: lower energy consumption

(70%) and greater light quality.

This means improved comfort for both audience and athletes and the possibility to obtain better photo and TV coverage.

The new lighting system, besides providing tangible advantages for the facility's management, is hailed as a benchmark for all future design projects for Pallacanestro Varese.

Many sporting arenas in Italy have lighting systems that are becoming outdated and poorly sustainable in terms of energy consumption. Therefore, I believe that this project can serve as an example for other basketball clubs and Municipalities in charge of sports facility management.

New lighting technologies represent a boost to other projects on Italy's basketball scene".

THE OLD LIGHTING SYSTEM

44 1000 W metal halide spotlights

16 400 W metal halide spotlights

Total power **54,0 kW**

THE NEW LIGHTING SYSTEM

60 Astro (Disano) spotlights with 32 264 W LEDs

Total power **15,9 kW**

Colour temperature **5000° K**

Luminance levels

1600 horizontal lux

and **1000** vertical lux

Old and new lighting compared



THE LIGHTING SYSTEM

Massimo Parmigiani of PRM Service, the local company that installed the new lighting system, explains: "Our indoor stadium will celebrate its seventieth anniversary at the end of this year. Apart from the structural work, we also had to upgrade all the technical systems. The lighting system, in particular, had become obsolete both in terms of quantity and quality of the light output, and for the energy consumed, which represent major items in the operating costs of any sporting facility. The arena is used for the games and the training sessions of major and minor teams. This means that lights stay on for 10-12 hours every day. Light accounts for 75-80 % of all operating costs. Replacing metal halide sources with LED lights reduced consumptions by 70 % (see charts on next pages) obtaining a very high lighting level, even greater than the one estimated during the design stage. Moreover, Disano supplied the Astro LED fixture in a custom-made version, with a colour temperature (5000° K) that proved to be the excellent choice for high definition television coverage. Spotlights are equipped with differentiated optics: the ones installed at nearly 30 metres above ground in the central ring have narrow and wide symmetric beams, while another 44 spotlights with asymmetric optics are installed at a height of 7.5 metres above ground on the two box trusses behind the perimeter of the basketball court. Another important advantage of this system is the long life of the light fixtures and sources and for the lack of any maintenance costs. And last but not least is safety. Some spotlights are installed with an uninterrupted power station so that lights stay on even in case of black-outs. All LED spotlights feature instant start-up, unlike the old fixtures that needed some warm-up time to turn on.

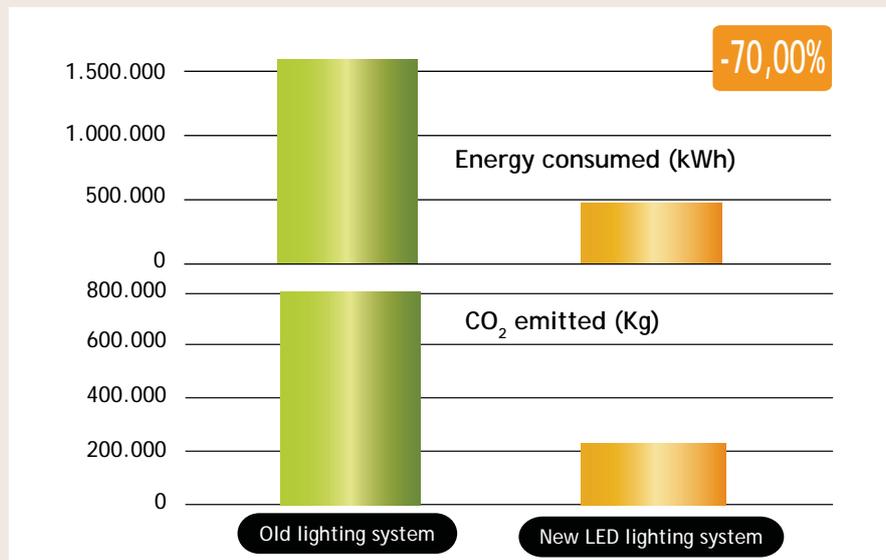
The lighting system consists of 60 Astro (Disano) spotlights with 32 LED bulbs of 264 W each. Energy consumptions are reduced by 70 %.



Lower energy consumptions and advantages for the environment

The charts below show the comparison between the new lighting system with LED spotlights and the old one with metal halide lights. Calculations refer to a period of over 10 years with an average power-on time of 3000 hours a year.

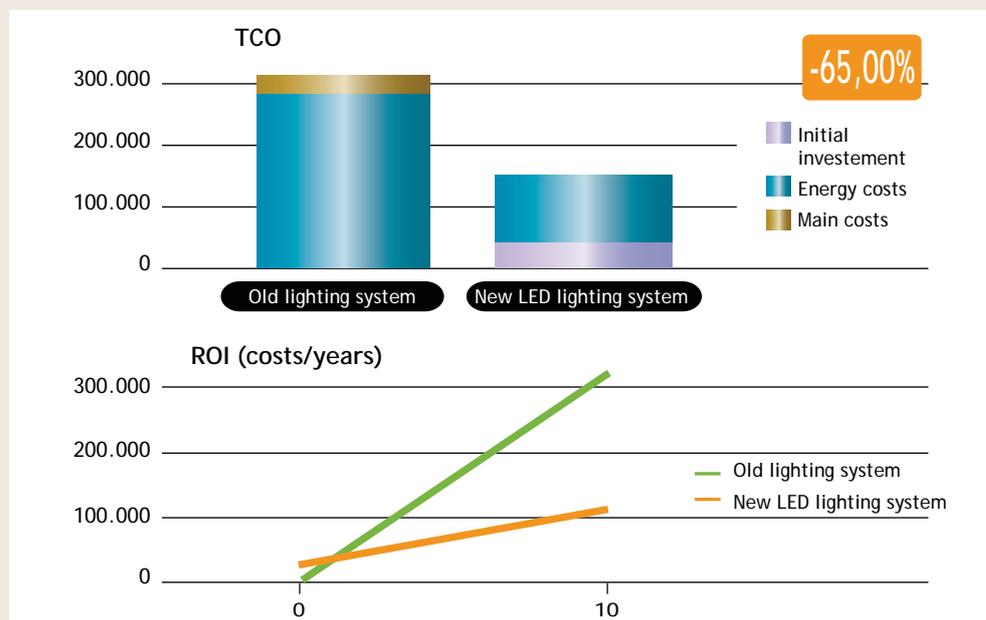
The remarkable difference in absorbed power of the LED lights compared to metal halide sources results in a 70% reduction of energy consumptions. The very low emission of CO₂ into the atmosphere is also remarkable.



Quick payback times

The economic evaluation shows how the total cost of ownership (TCO), considering the initial investment, is significantly reduced. The advantage of the new technology includes the lack of any maintenance costs and the long life of the sources (50000 hours).

The advantage in terms of energy savings, plus the lack of maintenance costs, ensures that the return on investment (ROI) is within 1-2 years from the installation of the new system.



A PASSION for BASKET and UNFORGETTABLE GAMES



On 6 December 1964, the city of Varese officially inaugurated its most important indoor stadium named after Lino Oldrini, the mayor and main promoter of its construction who unfortunately passed away before the works were completed. The facility was designed by the architecture firm Brusa Pasquè. The stadium changed its name into Palalgnis during the team's golden age when it was sponsored by the famous refrigerator manufacturer. Giovanni Borghi, owner of the Varese-based company, succeeded in creating an internationally praised basketball team making the history of Italian basketball. The indoor stadium has been the site of many unforgettable games against the teams of Milan and Cantù, other legends of Italian basketball.

At the end of the Eighties, the facility was extended reaching the current seat capacity of 5300 spectators. Since 2011 the arena, known today as PalaWhirlpool, is officially managed by Pallacanestro Varese.

The PalaWhirlpool indoor stadium is a multi-purpose facility capable of hosting big events other than sports, such as concerts, conventions, exhibitions and trade fairs.

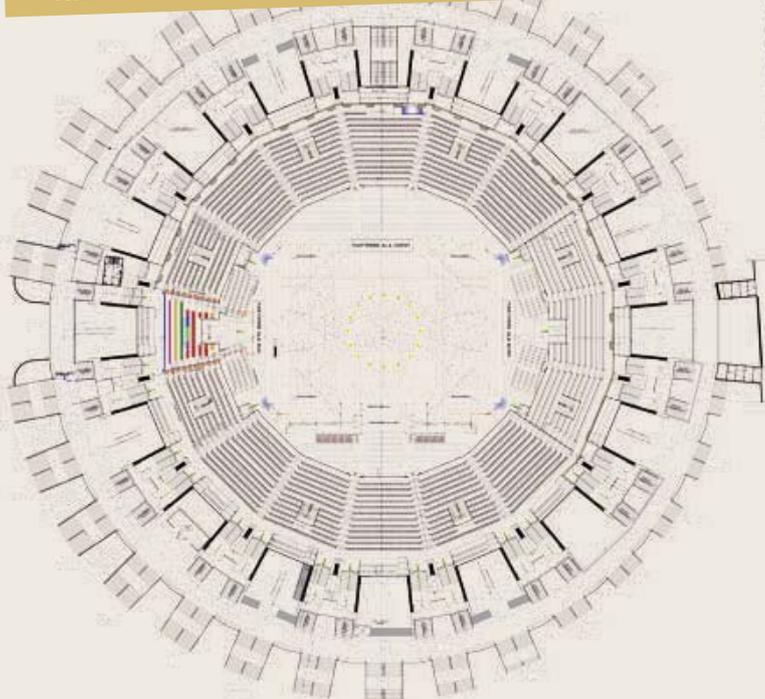


The highlights of Varese basketball

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|--------------------------------------|--------------------------------------|
| 1 Italian Basketball Supercup | 3 Intercontinental Cups. |
| 4 Italian Basket Cups | 5 European Champions Cup |
| 10 Italian Championships | 2 European Cup Winner's Cups. |



THE PLAN OF THE PALAWHIRPOOL STADIUM



ASTRO POWERLED summarises all the qualities of the new spotlights designed to make the best of LED technology. The product features a functional and a well-recognisable design for a greatly versatile housing that can be used both outdoors

(as a suspension luminaire and in median lane installation) and indoors (ceiling-mounted or wall-mounted). ASTRO is available with different combinations of LEDs (16, 24, 32, 48 and 72) all with low consumptions from 2.1 to 8 W per LED. Thanks to symmetric and asymmetric optics it sets itself as a solution that can meet any installation need. ASTRO was designed with a heat dissipation sink that enables the perfect operation of the LED. ASTRO offers the possibility to choose the correct drive current for LEDs, always allowing you to have the right power under specific design conditions. Equipped with state-of-the-art Wi-Fi systems and sensors, it detects motion and adjusts to daylight during the course of the day. With a power of 188 Watt, Astro can replace any 400 Watt halide lamp, thus generating great energy savings.