



Fael LUCE[®]
DOING IT BETTER

PROJECT
BOOK

5

READY TO ILLUMINATE A NEW DECADE

The 2020 opens a new decade which, we are sure, will be marked by new lighting logics.

In fact, we are witnessing an intelligent growth of cities, infrastructures and multisport facilities, which are increasingly connected, interconnected, smart. Lighting plays a fundamental role in the communication process in which the exchange of information takes place precisely through the lighting fixtures which will therefore be the vehicle for the development of interactive value-added services such as Wi-Fi connection, management and control of the luminous flux and creation of light effects, with the aim of increasing the comfort and reliability of cities, infrastructures and structures.

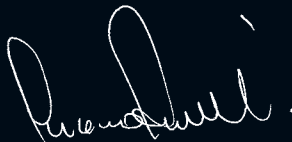
LIGHT is no longer an end in itself, but it goes beyond the frontier of traditional lighting, placing itself as a connecting feature, thanks to the mix of lighting and information technology. And when light is connected, we transform the future into the present, the imagination into reality. With our intelligent lighting systems we make cities safer and more connected, in large areas we communicate with traffic, in sports facilities and in architectural areas we transmit emotions.

Topics such as *light effects, connection, light management and light control* have already distinguished some spectacular projects described in this fifth edition of the Project Book: we are sure that they will represent the starting point for new extraordinary creations and collaboration.

That's why WE DO IT BETTER and also WE CONNECT IT BETTER!

Enjoy the reading!

Luciano Parravicini



Board of Chairman Fael Spa



SWITCH ON







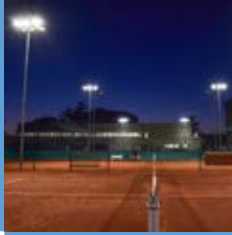
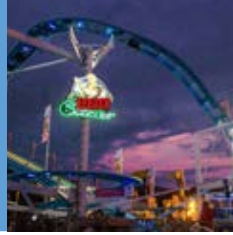




THE CONNECTION **NOW**





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MONUMENTAL LIGHTS FOR THE "U" STADIUM





LEDMASTER ONE

ESTADIO MONUMENTAL "U"

Lima, Perù



The Estadio Monumental "U" in Lima, Perù is the largest stadium in South America that can accommodate up to 80100 spectators. The 60th edition of the Libertadores Cup of America, the most important football competition in South America organized by CONMEBOL, was held in this facility. 47 teams from 10 Latin American countries took part in the tournament: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

For the first time in the history of the competition, the final was played in a single race and on a neutral pitch. The last act should have hosted the Estadio Nacional in Santiago; however, due to the social tensions in Chile, CONMEBOL has decided to move the final match to the Estadio Monumental in Lima.

The spotlight shinning on this structure to ensure perfect light distribution for ultra-high definition footage transmitted via 33 cameras, including special equipment such as three Super Slow Motion and Ultra Slow Motion cameras, a Skycam, two Steadycam, two Jimmy Jibs and one Omni-flex camera mounted on a helicopter, to track the buses that move the players to the stadium and the panoramic views of the place.

The competition was won by the Flamengo team, the second most successful in the competition. The Brazilians defeated the title holders, the Argentines of the River Plate in the final, obtaining the right to play the FIFA club world cup 2019 and the South American Recopa 2020.



Recommendation:
FIFA International
events level V.5

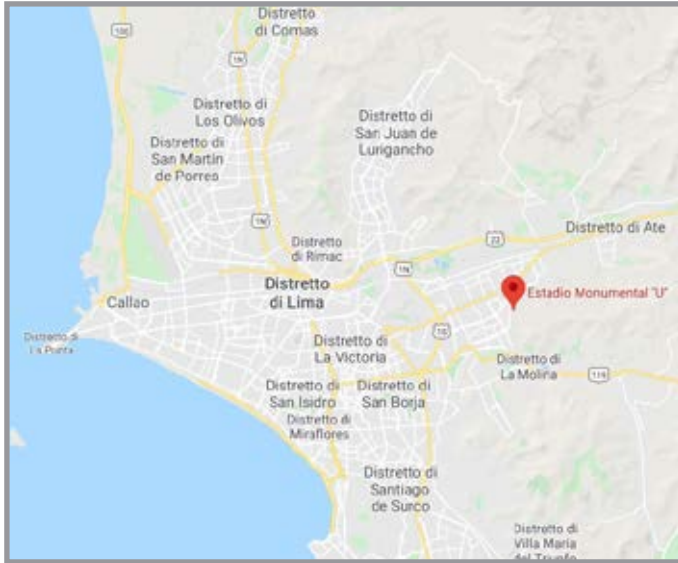


Recommendation:
Comenbol Copa Libertadores



Thanks to its production flexibility, Fael LUCE immediately reprogrammed its production lines and supplied the **LEDMASTER ONE** with the predisposition of **DMX, the light control management**, on site with a perfect symbiosis between all the protagonist involved.





THE TECHNICAL SOLUTION

In just six weeks Fael LUCE has successfully undertaken to provide lighting for this facility since the final was scheduled to be played in Santiago, Chile, but was suddenly assigned to Lima. Thanks to its production flexibility, Fael LUCE immediately reprogrammed its production lines and supplied 386 LEDMASTER ONE with the predisposition of DMX, the light control management, on site with a perfect symbiosis between all the protagonist involved, allowing, in fact, the 80100 spectators and the 5 million spectators worldwide connected to attend the event to enjoy the emotions of the second largest event in the world.

The extremely flexible production and the very high lighting performance of the Fael LUCE systems have allowed an extremist makeover of the MONUMENTAL "U" ESTADIO of Lima with excellent results which allowed the stadium to obtain full compliance with the FIFA CLASS V specifications.



Floodlights type: **LEDMASTER ONE**





MARCO POLO AIRPORT:
NEW LIGHTS ON THE DOGE'S CITY AIRPORT



LEDMASTER ONE, LEDMASTER 3

MARCO POLO AIRPORT

Venice, Italy



Overlooking the lagoon, the Marco Polo in Venice, according to the Best Airport 2019 classification, is the first airport in Italy. Millions of passengers land here with the major airlines that operate national and intercontinental flights, including direct ones.

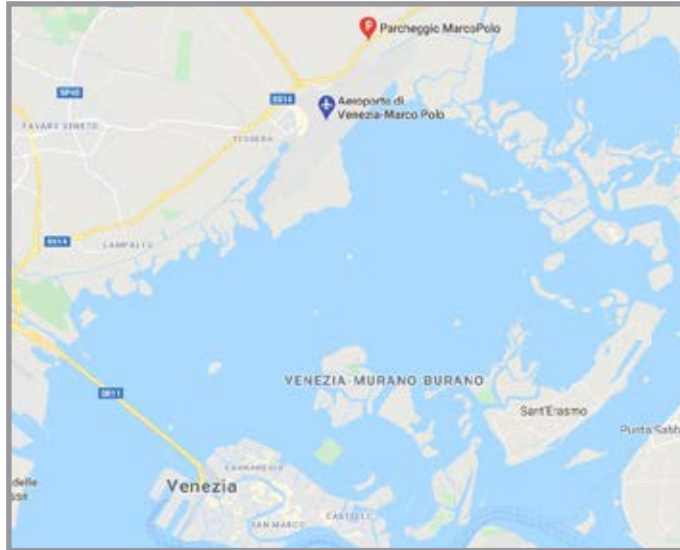
This praise result is directly connected to the infrastructure development program envisaged by the Master Plan 2012 – 2021. The integrated approach has been adopted by the Management Company for the design of the expansion and redevelopment of the terminal which will allow the airport to accommodate an ever increasing number of passengers. Better architectural quality, greater benefits in the construction phase and a more performing collaboration between the various subjects involved, are just some of the advantages found in the BIM process that will lead to the tripling of the passenger terminal surface by the end of the next decade.

In carrying out its institutional role, the ENAC supervises the execution of the interventions and supports the managers in the design verifying that the works fully meet the aviation safety requirements and, at the same time, offer passengers a comfortable and valuable environment from an architectural point of view.





Fael LUCE team, thanks to the several years of experience in lighting industry, suggested **the newest high power LEDMASTER ONE and LEDMASTER 3 floodlights** to light up the outdoor plane parking and maneuvering areas.



THE TECHNICAL SOLUTION

In this scenario, the lighting system plays a key role in the developing plan. Fael LUCE team, thanks to the several years of experience in lighting industry, suggested the newest high power LEDMASTER ONE and LEDMASTER 3 floodlights to light up the outdoor plane parking and maneuvering areas. The studies of specific asymmetric optics allowed to reach significant results and high luminous efficiency combined with elevated uniformity, that leads to obtain large energy savings, in compliance with requirements of protection against light pollution.

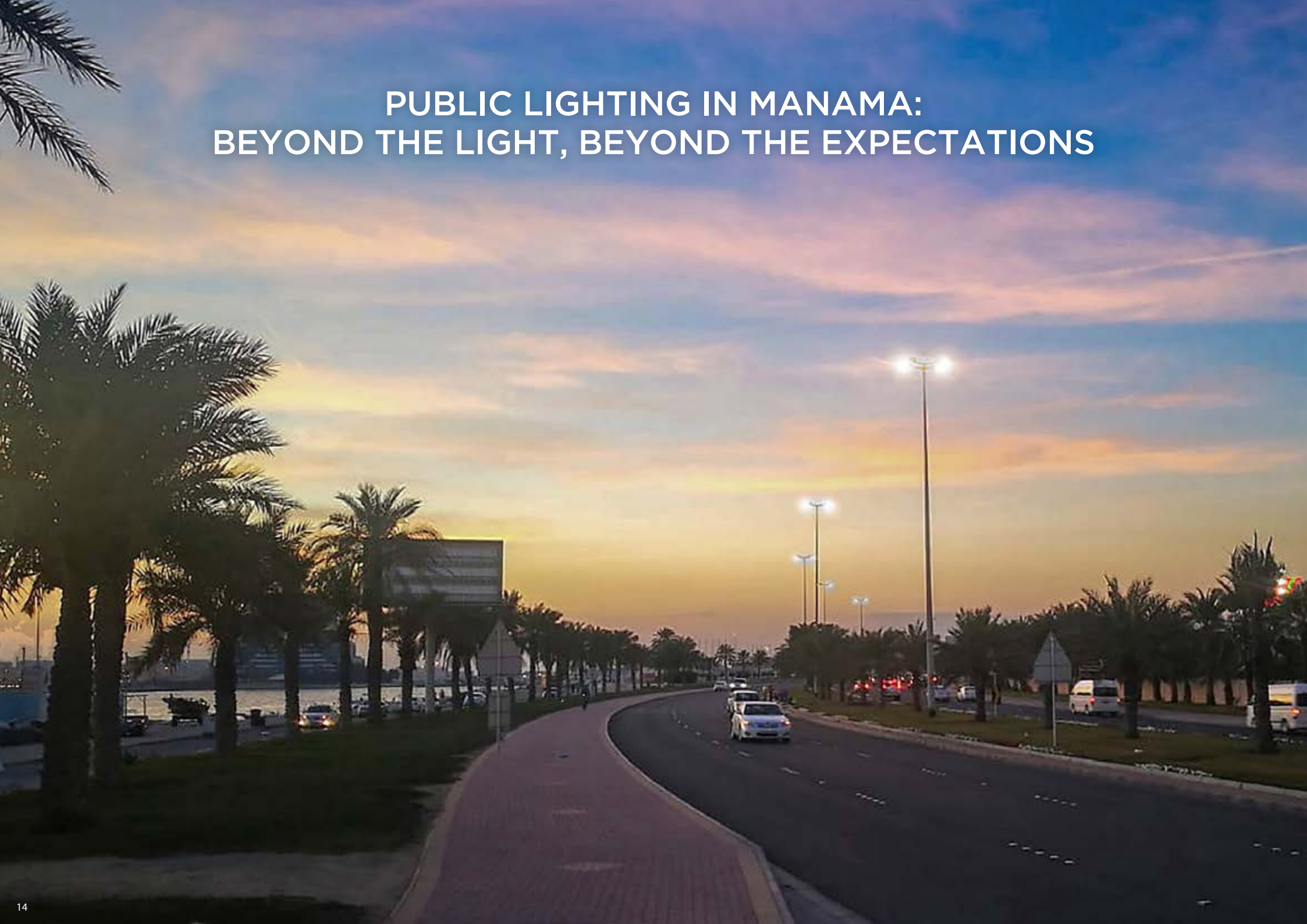
It is a very particular installation due to the height of the masts, even taller than 30 meters, that has seen the design and implementation of special stainless steel brackets to accomplish the marine grade specifications and resist saline mists.

The great power and number of Lux on the ground offered by the LEDMASTER ONE and LEDMASTER 3 floodlight, both in the asymmetric and symmetric versions, were a key factor in the development of the entire lighting project.



Floodlights type: **LEDMASTER ONE, LEDMASTER 3**

PUBLIC LIGHTING IN MANAMA: BEYOND THE LIGHT, BEYOND THE EXPECTATIONS





CHALLENGE, PROXIMO SERIES

MANAMA STREET LIGHTING

Manama, Bahrein



Manama, the capital of the Kingdom of Bahrein, a small state located on the archipelago of 33 islands near the western shores of the Persian Gulf, is the home of many large and spectacular structures. Its continuous and incessant development makes it on a par with the most avant-garde cities in the world, while maintaining an inestimable treasure represented by its history and culture.

The Authority aims to provide electricity and water services at the highest levels of quality and reliability in order to ensure sustainable development in the Kingdom of Bahrain and become one of the 20 best countries in the world by 2022.

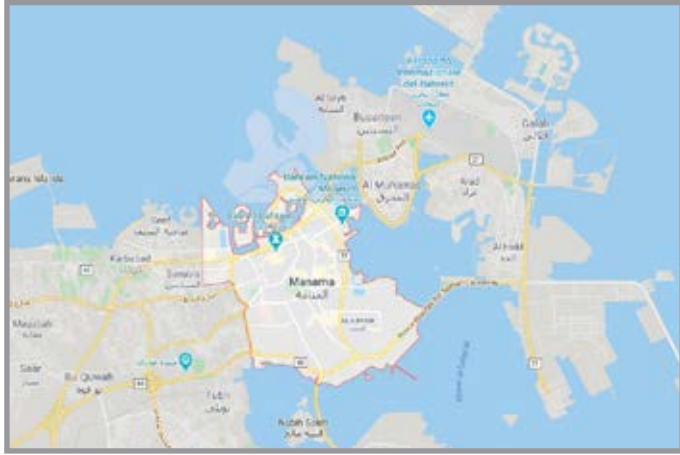
Fael LUCE is in perfect symbiosis with the Authority: a long-lasting collaboration for the renovation of the part relating to public lighting. With discharge lamps luminaires first, and then with the latest generation of LED streetlights, Fael LUCE is accompanying the Authority on the ambitious path towards sustainable development of the Kingdom.





Fael LUCE is **in perfect symbiosis with the Authority**: a long-lasting collaboration for the renovation of the part relating to **public lighting**.

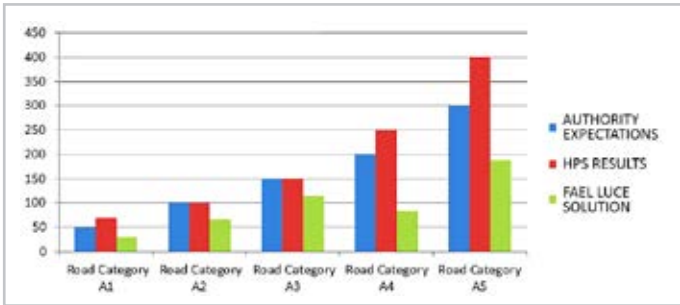




THE TECHNICAL SOLUTION

In the perspective of sustainability, the Authority has chosen the smart street lighting systems **CHALLENGE** and **PROXIMO** which, thanks to the integrated wireless control, provide the possibility to manage and control the entire public lighting system remotely, ensuring effective management and maintenance.

Together with the construction features of the luminaires, that allow their use in extreme environmental conditions, the proposed Fael solution has gone far beyond the expectations and specific requirements of the Authority, and far from the values obtained with traditional discharge lamps, in the different road categories where Fael products have been installed, guaranteeing an average savings of about 60%.



KEY FIGURES

Floodlights type: **CHALLENGE, PROXIMO SERIES**



BRIANTEO STADIUM: CONNECTING EMOTIONS





LEDMASTER ONE BRIANTEO STADIUM

Monza, Italy



The Brianteo Stadium, a reference point for football supporters in the north-east of Milan, represents one of the spearheads of stadiums in Italy. The Brianteo Stadium has undergone a deep modernization process that has seen the birth of four new high-mast towers on which 204 LEDMASTER ONE floodlights have been positioned.

The cradle of the AC Monza is today comparable to the main Serie A stages, for the possibility of creating light effects thanks to the innovative LEDMASTER ONE floodlights integrated with the DMX control system.

The main purpose of the project was to obtain a technologically advanced facility, to offer an unique, emotional experience to all the users.

The new Brianteo Stadium is confirmed an excellence among sports facilities with a strong component of innovation. Not only lights, but pure emotional lighting that will represent a benchmark through the Italian and European stadiums.



Silver sponsor:
AC Monza

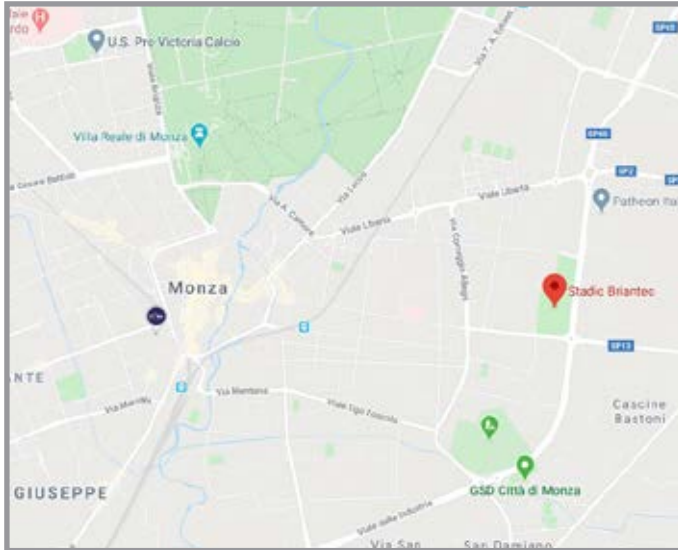


Recommendation:
Serie B Lega Calcio



The floodlights placed on the four high mast towers, which frame the central covered grandstand that can hold over 4500 seats, **create a choreography of lights and colors** that left all the audience attending the match **astonished**.





THE TECHNICAL SOLUTION

The Fael LUCE floodlights for sport venues have been selected to switch on the future on the AC Monza football field. The LEDMASTER ONE floodlights, integrated with DMX light control system, have been installed on four high mast towers, 42 meters above the pitch ground level, for a total of 250kW of power. The floodlights placed on the four high mast towers, which frame the central covered grandstand create a choreography of lights and colors that left all the audience attending the match astonished.

With several different optics, from narrow to medium beam, the obtained lighting values allowed the venues to perfectly comply with the B SERIE LEGA Calcio specifications. One of the peculiarities of this innovative series of floodlights is that the electric configuration can be chosen according to best meet the various plant requirements. In this project the power supply drivers have been placed in specially equipped rooms.

The Engineer Mr. Flavio Sangiorgio, Fael LUCE's Technical manager and Vice President, who followed the project from the genesis to the final phase, explains: *"The project, as the result of the close collaboration between AC Monza Calcio and Fael LUCE, is the emblem of the stadium of the future. It is a summary of the technical and strategic choices that have generated a cutting-edge system, representing a step forward in the evolution of spectator entertainment"*.

KEY FIGURES

Floodlights type: **LEDMASTER ONE**

Vertical Illuminance (Ev): > 1200 lux





PROXIMO, CHALLENGE, DOMINO HIGHWAYS NATIONAL AUTHORITIES *Italy*



The complex and fragmented Italian highway network ideally traces the geographical conformation of the territory, guaranteeing the connection between the main Italian cities and regions, with an extension of almost 7000 km. In terms of lighting, the main objectives to pursue are basically visual comfort, safety and, last but not least, energy savings. The intense flow of vehicular traffic, the different junction configurations and the various acceleration and deceleration lanes, require extremely high levels of lighting and uniformity, in order to guarantee the maximum safety and full visibility at every spot.

Fael LUCE, the main interlocutor with the various highway network dealers, supplied the PROXIMO and CHALLENGE series street lights and, for pedestrian crossings, the DOMINO series luminaires. In the perspective of a containment of the power consumption and intelligent management of the lighting systems, Fael LUCE luminaires have been provided with a wireless communication system, which transforms the lighting system in a real infrastructure network, allowing the transmission and processing of millions of data and translated into real actions.

A solution that overcomes the border of traditional lighting, providing, thanks to lighting-information technology combination, an integrated and smart lighting system that gives the possibility to manage remotely the system, allowing, for example, the adjustment of the light flux by time slots, by vehicle flux or by pre-set scenes, as well as keeping the luminous flux emission of the luminaires constant throughout their life, the real-time detection of consumption, signaling of any anomalies also for each individual luminaire.



HIGHWAYS NATIONAL AUTHORITIES: BEYOND THE LIGHT



CHIC LIGHTS FOR A GLAMOUROUS CITY





PROXIMO CITY, PROXIMO WAY
SANTA CLARA GOLF MARBELLA
Marbella, Spain



Marbella is a city in southern Andalusia, the undisputed pearl of the Costa del Sol. It is located about halfway between Malaga and the Strait of Gibraltar, and its 150,000 inhabitants make it one of the most populated population centers in the entire area. Its beautiful pedestrian promenade, its delightful historic center and the charm of Puerto Banus make Marbella a favorite holiday destination for millions of tourists, mostly from Great Britain and the countries of Northern Europe, but in recent times it has also become a glamorous destination chosen by actors and sportsmen, who increasingly choose to buy a villa in these parts.

This city has recently been the protagonist of the Smart City Project which has foreseen a series of investments aimed at improving energy efficiency. In this context, Fael LUCE has been selected for the renovation of the entire street lighting of the Santa Clara Golf Marbella area. An high-level residential area located within the same golf course as Santa Clara, one of the best known in the area, where technology and design, combined with lighting performance, were fundamental requirements.

To fully meet these requirements, more than 450 PROXIMO CITY and PROXIMO WAY street lighting fixtures with LED technology integrated with the adaptive device that ensures the regulation of the luminous flux according to the real traffic conditions with significant energy savings.

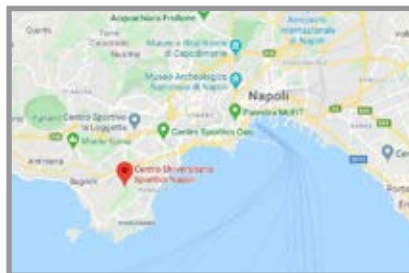
Floodlights type: **PROXIMO CITY, PROXIMO WAY**



CHALLENGE PLUS, PROXIMO HP

UNIVERSIADI 2019

Naples, Italy

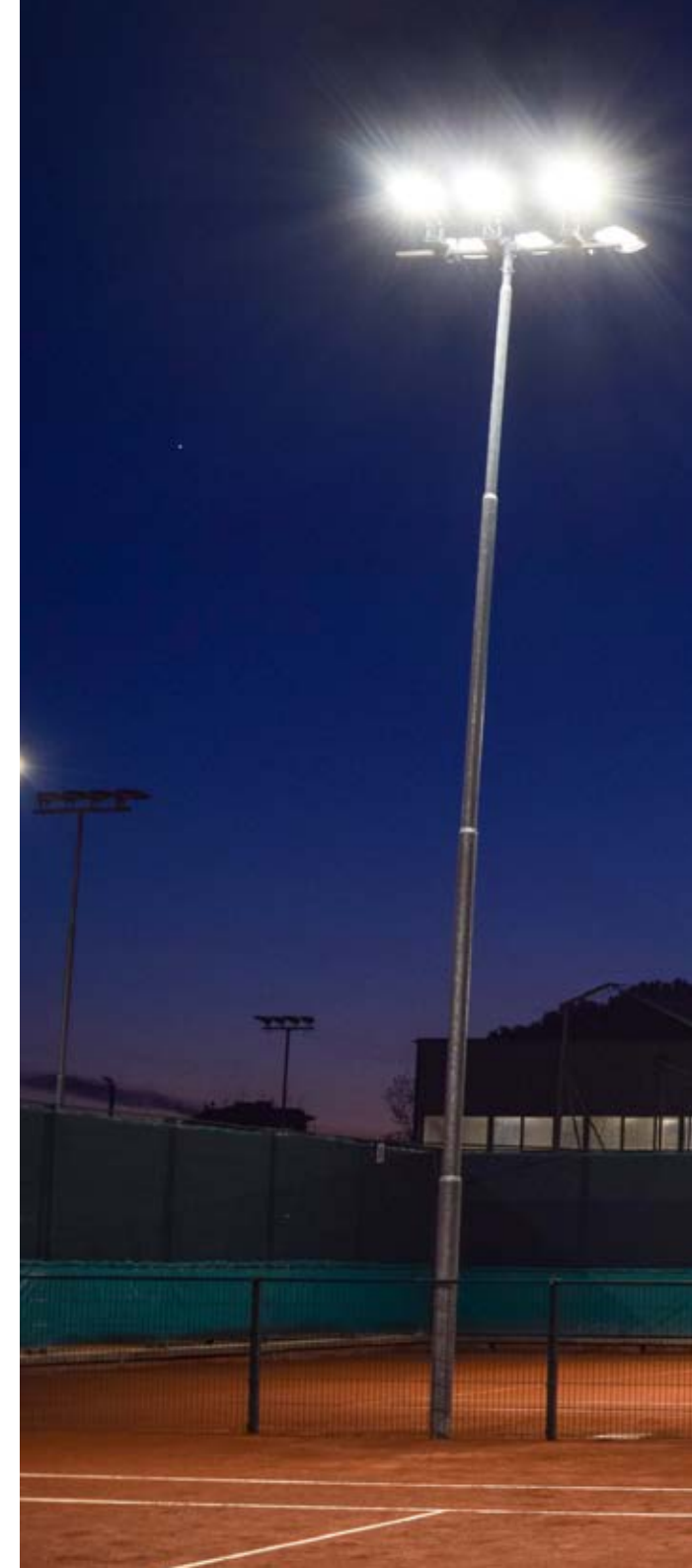


The Universiade is a multi-sport event addressed to university students from all over the world. For relevance and number of participants, Summer Universiade is just second to Olympic Games and it is considered more important than the Winter Olympic Games. This event, over the years, acquired the distinguished features of an international sport and cultural festival. The word "Universiade" is the combination of the Italian words "Università" and "Olimpiade", thus embodying one of the most relevant concepts of sport: universality.

The designation of Naples as the headquarters of the 2019 Universiade provides not only a success, but also an extraordinary opportunity for the city, Campania region and the whole of Italy to promote its values and riches all over the world and relaunch images of the earth of culture and sport.

In this context CHALLENGE PLUS and PROXIMO HP floodlights series were chosen to illuminate the football and soccer fields, basketball courts and athletics tracks

Floodlights type: **CHALLENGE PLUS, PROXIMO HP**



MASTER LIGHTS FOR THE UNIVERSIADI 2019



HIGH-SPEED LIGHTING AT THE ROLLERCOASTER HEIDI





LEDMASTER ONE, PROXIMO HP
ROLLERCOASTER HEIDI OKTOBERFEST
Munich, Germany



There are quite a few rollercoasters at the Oktoberfest, but what makes “Heidi - The Coaster” so special is the buoyant turn after the first descent. Expect an exciting experience that is extraordinary right from the start. A booster lift catapults the gondolas directly up on the elevator hill, which is 13 meters high. From there you go with up to 58 km/h to and fro and up and down until you finally have solid floor under your feet again and a bright smile on your face.

Fael LUCE provided the high power lights for this high speed attraction: LEDMASTER ONE and PROXIMO HP floodlight series were switched on to illuminate indeed this rollercoaster. The good light for a nice souvenir photo!

More than 6 million people were able to enjoy a good beer and appreciate the lighting qualities and the unmistakable design by Fael LUCE.

Floodlights type: **LEDMASTER ONE, PROXIMO HP**



PROXIMO HP
DONAU ARENA
 Regensburg, Germany



The Donau Arena in Regensburg, Germany is a spectacular multipurpose sport venues, used for handball, ice hockey and concerts that recently has been the protagonist of the renewal of the lighting system. Fael LUCE has just completed the new LED lighting system of the Donau Arena, using the powerful and robust PROXIMO HP floodlights.

The spectacular ice hockey events along with the numerous other shows that take place in this venue now have the perfect lighting component needed to be even more exciting.



**CHALLENGE CITY, CHALLENGE WAY,
 GALAXY SHOW**
PARC LOGÍSTIC – PORT DE BARCELONA
 Barcelona, Spain



The Parc Logístic of the Free Zone of Barcelona is a logistics and commercial park located near the port of Barcelona, the largest port in the Mediterranean in terms of passenger transport and the tenth European port in container traffic.

The privileged position of the Parc Logístic confers an unique and exceptional character to this logistic and commercial site whose extension reaches 130,000 m². With direct access to the Ronda Litoral, which connects with the main network of roads and highways, it's possible reach the airport, the port, the other commercial centers of the city and the entire metropolitan area of Barcelona in just a few minutes.

Fael LUCE has carried out the design of public lighting for the entire logistics platform and also for numerous industrial warehouses. Using the Challenge City, Challenge Way and Galaxy Show products, this logistics and commercial park has taken on a whole new light!



PROXIMO, PROXIMO CITY
MARSA JUNCTION PROJECT
Marsa, Malta



Fael LUCE signs up an important project as the Marsa Multilevel Junction which will contribute to the decongestion of the road network and promote the efficiency of the Scandinavian-Mediterranean Core network Corridor, in Malta.

Upgrading modal connection project, was awarded to Fael from an European Committee who selected its products among international brands; Fael specific technical features scored up PROXIMO the best option based the less power consumption, a full spill light control and an easy maintenance stage if any. Fael showing its peculiarity and leadership which meets up the highest levels of standards with a smart city lighting solution as PROXIMO CITY is provided.

Along the 12km of flyovers and interconnection roads, Fael delivers PROXIMO range which control a local wireless communication network in each on-site luminaries. The intelligent solution uses encrypted IP protocol that defends data transmission from any illegal violation in both directions..



DOMINO FLY
CHANNEL TUNNEL
Dover (UK), Calais (F)



The Channel Tunnel is a railway tunnel over 50 km long, 39 of which under the sea, which connects the United Kingdom to France, passing over the bottom of the English Channel.

Fael LUCE was involved in the lighting design of the entire submarine section. Eurotunnel, the private company that manages the tunnel, has imposed strong safety and energy saving requirements. Fael LUCE answered very well by proposing the DOMINO FLY floodlight. The die-cast aluminum body with zero copper content and the particular painting resistant to the marine environment make this luminaire ideal to light up particular areas, even in difficult environmental conditions. The luminaire, equipped with an intelligent device, allows to keep the voltage line always in operation in order to guarantee an adequate luminous flux even in the event of a blackout and at the same time to signal partial and total faults to guarantee the timely intervention of the maintainers. The adaptive lighting sensor, which regulates the luminous flux as the train passes, also allows maximum energy savings.



Fael Luce Spa

a: via Euripide 12/14 • 20864 Agrate Brianza (MB) Italy

ph: +39.039.63411 • **f:** +39.039.653868

ufficio commerciale italia • **ph:** +39.039.6341332-333

export sales office • **ph:** +39.039.6341222-223

e: info@faelluce.com • **i:** www.faelluce.com

Fael Luce Middle East (FZE)

a: Executive Suite Z3 - 67 • P.O. Box 121966 • Sharjah - U.A.E.

e: me@faelluce.com