**iGuzzini illuminates the Genoa Saint George Bridge, designed by Renzo Piano**

*Genoa, 31st July 2020* – **iGuzzini**, a leading company in the field of architectural lighting, **has taken part in the construction of the new viaduct over the Polcevera river (now known as the Genoa Saint George Bridge), by putting its technological solutions at the service of the project designed and donated to the city by the architect Renzo Piano**. The new 1,067-metre-long structure, that was officially opened on 3rd August at 6.30pm, replaces the historic Morandi Bridge that tragically collapsed on 14th August 2018, killing 43 people. Following the disaster, the rapid intervention of the Mayor and Special Commissioner for the Reconstruction of the Bridge, **Marco Bucci**, enabled the demolition and reconstruction of a new viaduct connecting the two parts of the city to begin as soon as possible. All of the players involved in the new bridge’s design and construction phases – namely, the consortium **PerGenova**, which consists of **Fincantieri Infrastructure** and **Webuild** (formerly Salini Impregilo), **Renzo Piano**, the designer of the architectural and lighting concept, **Italferr**, the executive design engineers, and **Rina Consulting** the works director – pooled their specific know-how and only 13 months after the cast of the first foundation, they have succeeded in completing a bridge that is destined to redefine the city skyline.

**To borrow the words of the Architect and Senator for Life Renzo Piano**, in the new bridge “*there is the first taste of something beautiful, some compensation after so much tragedy. And there is the sense of a lesson: that bridges cannot and must not collapse. And this is already part of the valley. It will be landscape and life, and it will not speak about us, but about those who pass over and underneath it. I feel that it is already loved and cared for by future observers.*"

As it crosses the built-up area of the Polcevera Valley, the new structure has the character of an ‘**urban bridge**’ whose discreet presence succeeds in interacting with the context that surrounds it. The Genoa Saint George Bridge, in fact, is supported by 18 slim, reinforced concrete piers that blend into the variegated urban fabric. A specially designed support system ‘isolates’ the deck from the piers, giving the structure a sense of lightness as it crosses the valley. The deck section is also gradually tapered at the ends and its sides are punctuated with steel ribs to lighten and attenuate the visual impact of the structure. The elliptical cross-sections of the piers, together with the deck, recall the shape of a ship’s hull, and the design minimises their volume by allowing the light to slide softly over their reinforced concrete surfaces. Moreover, the decision to use a light colour to paint the steel elements allows the bridge to reflect the colours of the surrounding landscape, thereby reducing the impact of the new infrastructure on the Polcevera valley. An extremely important element is the way the bridge **recalls Genoa’s shipbuilding tradition**. This reaches its ultimate expression in the forms and materials borrowed from the nautical world: the piers, the steel structure and the white colouring with blue reflections are all reminiscent of a ship’s keel. Particular attention has also been paid to the aspects of **safety** and **easy maintenance** - in terms of both inspections and future interventions - as the bridge has been designed to “last a thousand years”.

*“The new bridge will have to be simple and parsimonious, but not trivial. It will look like a ship moored in the valley; a light and bright steel bridge. It will reflect the sunlight during the day and absorb solar energy that it will then give back at night. It will be a sober bridge, respecting the character of the Genoese people,”* **commented the architect Renzo Piano.**

**Light plays a fundamental role in helping to insert the structure in its urban context**. By day, natural light highlights the apparent weightlessness of the ‘ship’, by emphasizing the ‘frayed’ design of the sides of the deck and the sensation that it is levitating. **By night, the artificial light, designed by Renzo Piano and created with iGuzzini luminaires** (both standard and special, specifically designed and created to light the road and the structure’s architecture), operate in perfect harmony with natural light to emphasize the new bridge’s lightness and its ship-like form. Using luminaires mounted on high, mast-like poles in the middle of the carriageways also evokes the **idea of a ‘white ship’ crossing the valley to connect the eastern and western banks.**

*“The Genoa Saint George Bridge is a strong signal of hope for the city of Genoa and the whole country. We are extremely proud to have taken part in the reconstruction project alongside figures of international Italian excellence, like the architect Renzo Piano, whom we have worked closely together with for thirty years, and the major companies involved who have a unique level of know-how that has been constructed through years of experience all over the world. This is a choral project and a symbol of Italian expertise,*” **declared** **Adolfo Guzzini, President Emeritus of iGuzzini illuminazione***.*

**PROJECT DETAILS**

**The structure of the bridge**

Renzo Piano’s project has truly majestic dimensions. The bridge, which has 6 lanes (two in each direction and two hard shoulders) is 1,067 metres long and is made up of 19 spans of variable lengths, the longest of which measures 50 metres. The deck is supported by 18 elliptical-section piers (9.50 x 4.00m), each of which is 40 metres high and has 50-metre-deep foundations.

Particular care has been taken over the **issue of safety**. The bridge is equipped with automated robot and sensor systems that check and maintain the structure, as well as a dehumidification system that stops the build-up of saline condensation and limits corrosion damage. The energy required to operate the lighting, sensors and systems is produced by solar panels installed along the sides of the bridge. All the information captured by the continuous monitoring system, which checks the bridge’s state of health constantly, will allow a databank to be created that can then be studied, monitored and used as a base for similar construction projects in the future.

**The lighting design**

**The lighting design**, conceived by Renzo Piano and developed by Italferr, **has integrated road lighting with architectural and scenic illumination** in four different areas of the bridge. To achieve this, special luminaires have been specifically designed and others, already in production, have been modified to suit the various applications.

As far as the **road lighting** is concerned, the luminaires are positioned between the two carriageways for the whole of the central section and along the sides for the initial entry ramps to the new viaduct. Both fitted on poles, the luminaires have been designed by the architect himself in two different sizes according to the height of the installation and inspired by the shape of a mechanical connecting rod. At the centre of the carriageways, to symbolise ‘ship masts’, a sequence of 18 poles has been installed, each of which is 28 metres high and positioned 50 metres apart. These ‘Zena’ luminaires (a name that means Genoa in Genoese dialect), have been specifically designed to mechanically resist wind pressure and the natural strain of the bridge. Mounted at a height of 14 metres, these luminaires are fitted with large optical assemblies (Ø 700 mm) containing a special optic that produces a transversal sail-like light effect, which ensures the carriageways are lit to the required illumination values. A similar but smaller lighting solution mounted on lower 14m-high poles has been adopted for the access ramps and in a short initial stretch of the bridge as these areas are particularly delicate for travellers’ safety.

In the other three areas of the bridge, **scenic lighting** has been installed.

* **To illuminate the deck, which recalls the shape of a ship’s hull, runs of Linealuce luminaires have been positioned on the heads of the reinforced concrete piers**. These have been carefully positioned to emphasize the rhythm of the piers and their **grazing light enhances the levitation effect of a boat on the sea.**
* **On the sides of the bridge, a line of minimal form projectors has been connected in series.** Suspended and adjustable via a solid, circular joint integrated with a circular rod, **they highlight the deck’s side closure ribs**. To enhance this light effect, an optic that creates a soft wide beam was chosen. **The final effect is that of a continuous line of light that runs along the entire length of the bridge and is punctuated by the rhythmic position of the ribs and various other elements installed along the side of the deck.**
* Last of all, **two Platea Pro projectors have been installed at the base of each of the “masts” in the centre of the carriageways**. These are adjusted so their light points towards the summit of each pole. This light effect is therefore concentrated above where the poles taper. This outlines their architectural form, also at night, and emphasizes their functionality and iconic character.

**The special luminaires produced by iGuzzini illuminazione**

* **The special luminaire specifically designed for the bridge’s road lighting system is shaped like a connecting rod** (a mechanical part that connects two moving parts inside mechanisms such as pistons). Like many of the objects designed by the architect Renzo Piano, it is inspired by the world of industry and the range of tools used on worksites.

Its flat, streamlined, circular optical assembly is linked to the cylindrical pole by a shaped, metalwork arm that projects the product towards the road. This emphasizes the gap between the luminaire and the pole, and creates a sense of extreme lightness. The flange system that sustains the special luminaire is installed at the end of where the first portion of the pole tapers and has been specially developed to adapt and blend perfectly into the design of the mast. The two arms, on the other hand, have been designed and shaped to join smoothly to both the pole and the optical assembly. They are made of milled aluminium to dissipate the heat produced by the LEDs more effectively and guarantee their long-term performance. The upper surface of the compartments is smooth and curved to stop water accumulating.

Another important feature to note is that on the luminaires installed at a height of 14 m, the ballast is not located in the optical assembly, but in a sealed cabinet at ground level. This means that maintenance can be performed without having to use forklifts. Last of all, the LED circuit is divided into 3 modules, so if there is a fault in one of them, the other two can automatically adjust to supply the same quantity of light on the road.

* Each of the **1535 special luminaires developed by iGuzzini for the side of the bridge** is equipped with a watertight box that holds the ballast and the wiring. The box is fixed to the bridge structure and can be accessed for maintenance reasons via an upper grate positioned in the safety area inside the guardrail.

The question of maintenance plays a crucial role for all the elements in Renzo Piano’s project, including the lighting solutions. Therefore, right from the start the ballast and wiring have been designed so they can be accessed easily, even remotely, to facilitate inspections and part replacements.

//

*Founded in 1959,* ***iGuzzini illuminazione*** *is an international leader in the field of architectural lighting with around 1,450 employees. The company is dedicated to the study, design and production of smart indoor and outdoor lighting systems in collaboration with the best architects, lighting designers, designers and research centres from all over the world. Based in Recanati (Italy), it operates in over 20 countries spread across five continents. iGuzzini uses light to improve the relationship between human beings and the environment, through research, industrial manufacture, technology and knowledge, which it applies to cultural, work, retail and city locations and the infrastructure and hospitality&living sectors. Consolidated revenues in 2019 amounted to €237.7 million. As of 2019 iGuzzini is part of the Fagerhult Group. For further information:* [*www.iguzzini.com*](http://www.iguzzini.com)*.*