Osijek pedestrian bridge spans the Drava River and is one of the city’s most iconic landmarks. Opened in 1981, the bridge was completely renovated in 2007. In 2017 the bridge underwent a spectacular transformation with dynamic full colour lighting from acdc. The lighting project was funded by a Coca-Cola marketing campaign, which required citizens to collect more than 100,000 bottle caps. Coca-Cola launched the campaign to mark 50 years of production in Croatia, and to share its success as an active member of the local community by supporting projects that enhance the lives of citizens.

CROATIA

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HOW?

Comparing Osijek pedestrian bridge to other iconic bridges around the world, the bridge was quite literally, left in the dark. Dynamic, full colour lighting was required to highlight the bridge’s beauty and reinforce its iconic status, as well as enhancing the city’s status and attracting tourists. It was important for the lighting to become integral to life in Osijek, and to be the backdrop for many memories and important life moments.

acdc’s solution

acdc was instructed to supply the lighting for the bridge after parent company, Zumtobel Group, was invited to design, supply, install and commission a new lighting solution. The contract was won based on Zumtobel Group’s existing relationship with both Coca-Cola and the city of Croatia. To accommodate the bespoke lighting requirements of all events and special occasions, the new lighting offers a multitude of scenes and infinite colours.

Zumtobel Vice President for Benelux and Eastern Europe, Saša Pajdić, commented: “We were delighted to accept Coca-Cola’s invitation to partner with this exciting lighting campaign and recognise the importance of the pedestrian bridge for the City of Osijek. It is an extraordinary honour to illuminate the bridge, which will now attract even more tourists and have an even greater iconic appeal.”

The installation of the new lighting had a tight time-frame of just one week. More than 20,000 people attended the ceremony to celebrate the switch on of the lights, which were set to red to reflect the Coca-Cola brand.

“Not only as a partner but also as a citizen of Osijek, I feel extremely proud and privileged to be part of such an important and transformational project.”

SASA PAJDIC - ZUMTOBEL BUSINESS DEVELOPMENT VP: BEE, DACH
Surface mount narrow beam floodlights mounted to the very top of the two towers emphasise the height of the suspension bridge increasing the viewpoints from greater distances along the riverbank, defining the bridge as a point of destination.

Surface mount linear high output luminaires installed at a regular array carefully, positioned so as to be central to the structure, graze light up the suspension cables from the deck of the bridge, picking out the suspender soffit at the top.

High output narrow beam projectors mounted to the riverbank side of the anchor points carefully focussed to graze light along the underside of the deck of the bridge.
RGBW surface mount Fusion 48 luminaires mounted at high level provide a focused narrow beam graze down each of the structural pillars of the bridge at each side.

8no. Dynamic floodlights are installed on each pillar to carefully pick them out and to enable the bridge to dominate the skyline increasing the view of the bridge from a great distance along the riverbank and approach from the city.

Each of the structural pillars are 35m tall and the dynamic light from the Fusion 48 grazes down the pillars and provides a pool of coloured light to the space below, bathing people in dynamic light.

A single large Fusion hub is installed at the top of the bridge with all 8no. Fusion 48 with a single cable being plugged into it for a clean and seamless integration and reduced installation time.

RGBW Fusion 48 with an on-board 4 channel DMX RDM driver carefully positioned and focussed on site to graze with a low glare narrow beam of light down the structure.

A single large Fusion Hub was installed on each structural pillar with 8no. Fusion 48 luminaires connected with a single power and data cable from the hub to each Fusion luminaire. The schematic diagram above demonstrates the simple configuration to enable a fast first fix for the hub and cabling to be installed followed by the second fix of the luminaires themselves. The fusion hubs can have a distance of 300m between them as standard, and if required 300m to the fusion from the hub.
Surface mount high output linear IP67 RGBW LED luminaires were installed to the outside edge of the deck of the bridge to graze light up the suspension cables of the bridge.

The linear 10x40 degree beam ensured that the light captured the height and created an incredible wow factor for the bridge when either walking across the bridge or from the river side.

102 no. 1.2m luminaires with a narrow beam were installed at centers of approx. 2.65m spacing. Every second luminaire was centered upon the fixing position to the deck of each suspension anchor cables.

The IP67 linear fitting was supplied with a 0-100% DMX RDM dimmable driver to enable a full suite of colours enabling an infinite number of the scenes of light to be created. With a single cable combining power and data cable for a minimal, seamlessly integrated appearance ensuring that minimal additional mains cables are required, which is especially beneficial given that it is used along the full length (210 meters) of the bridge. Integrex also features.

The Blade max has a neutral aesthetic to ensure that it will seamlessly integrate into the bridge architectural structure. The loop in loop out facility also enables a fast installation.

To ensure a continuous linear graze the Blade max was positioned at a regular array along the full length of the bridge, with an even spacing between fittings to ensure there were no shadow gaps.

Elevation
Each linear Blade Max was centred upon specific structural details to ensure the linear optic output provided a continuous graze to the full height of the bridge emphasising the long view.
Lighting the underside of the bridge was essential to accentuate the curvature of the deck of the suspension bridge from the riverbank so that it was not left in the dark.

Surface mount high output Fusion 48 dynamic floodlights are installed on each anchor on either side of the riverside to graze the underside of the bridge. The architectural lighting to the side and underside of the bridge are separately controlled to enable a different colour to be projected to create contrast and further interest in the dynamic lit effect provided.

2no. Fusion 48 floodlights with a 10 degree beam were carefully focussed to ensure the center of the beam is highlighted on the centre of the suspension bridge.

The single power and data cable from the Fusion ensured a seamless integration and ease of installation with the small Fusion Hub at each end of the bridge.

The Fusion 48 luminaire is surface mounted, away from the bankside and access, and carefully focussed and locked off with the precise locking mechanism.

A single small Fusion Hub was installed on either side of the river with 2no. Fusion 48 luminaires connected with a single power and data cable from the hub to each luminaire. The schematic diagram above demonstrates the simple configuration to enable a fast first fix for the hub and cabling to be installed followed by the second fix of the luminaires themselves. The fusion hubs can have a distance of 300m between them as standard, and if required 300m to the fusion from the hub.
PRODUCTS

BLADE MAX

A FAMILY OF IP67 SURFACE MOUNT AND RECESSED HIGH OUTPUT LINEAR ARCHITECTURAL LIGHTING LUMINAIRES ABLE TO GRAZE UP OVER 12 METRES. ALL VARIANTS AVAILABLE WITH A VARIETY OF BEAM ANGLES WITH STANDARD OR EXTRA BRIGHT OUTPUTS.

Blade Mini/Max deliver 2000 or 5000 lumens per m with an even wallwash up to 10m. 2 product options, both with a neutral aesthetic to minimise the visual impact. Plug and socket connection for up to 35m continuous run reducing installation time. Inbuilt louvre and cowl accessories to minimise glare. Broad colour temperature choice with options for dynamic white, RGB and RGBW. Multiple lengths options available. Specialist Aleochrom® treatment combined with our two stage powder coating paint process ensures lifetime product performance in even the harshest external environment. Choice of finishes – White, Black, Anodised Aluminium Black, Anodised Aluminium Silver, Anodised Aluminium Titanium and RAL.

SPEC ME

FUSION 48

INTELLIGENT, DYNAMIC AND EFFICIENT LUMINAIRES TO CREATE AMAZING ARCHITECTURAL LIGHTING.

4 channel dimmable colour options: RGB, RGBW, RGBA, dynamic white, single colour. Broad choice of optics. Cowl, snoot, ground spike and wall arm bracket accessories. Robust luminaire housings made from high pressure, die cast, corrosion resistant LM24 aluminium. Two stage powder coating paint process ensures lifetime product performance in even the harshest external environments. Flexible focusing – can be tilted +50° forward or -95° back and rotated +/− 45° from 0° enabling the product to adjust to graze up verticals with ease. Choice of colour finishes – White, Black, RAL.
Each bridge is individual, each bridge will require a bespoke solution, that may not mean a bespoke luminaire, but the design and application of light will inevitably vary and the specifier should consider the following five key considerations:

**CONTEXT**

Where is the bridge - what is the bridge used for and by whom? The lighting applied will need to consider if it is a small walkway bridge in a rural location across a meandering river, or a large scale road bridge that requires roadway lighting and architectural illumination.

Where the bridge is located and its use will determine the lit effect required, it may also be part of the project to consider how the structure can be picked out by architectural lighting. The specifier should consider if the architectural lighting can help to provide the functional lighting too to reduce the number of luminaires on the project. If the bridge is in a location of natural sensitivity it may be a specific parameter that the level of light entering the water below and surrounding landscape is minimised so as to not disrupt local wildlife.

**LIT EFFECT**

The specifier will need to consider whether there are local regulations that need to be considered regarding minimum light levels or uniformity. Does the bridge require architectural lighting to accentuate the structure to increase the appeal of the bridge and help provide a point of contact and navigation in the hours of darkness.

There should be a balance between the architectural and functional lighting so that the bridge is not overtly but also not underlit meaning people can see each other, it is essential that peoples bodies & faces are modelled well and there are no dramatic shadows.

**OPTICS**

The distribution of light either for functional or architectural illumination is key to the success of the lit effect provided whether it is of people or of the structure to ensure that light pollution is minimised and or eliminated. Precise optics and careful focussing will ensure minimal intrusion into the water below or night sky. Care and consideration should be given to the beam angle specified to ensure that the light can either be focussed and locked into position or be of a specific distribution, usually associated for pathways and roads, to ensure they are well lit in line with local regulations. Consideration should be given to the height of the luminaire in terms of the optic specified as a regular position may not be available and therefore a choice of optics may be required.

**CONTROL**

Will the lighting to the bridge be a simple on / off control? Or will there be some interaction with the people using it, the lighting chasing them as they walk over the bridge? Will it change colour to become a beacon, a point of contact in the local community in the hours of darkness – the specifier should consider whether this is a static or dynamic lit effect.

Consideration should be given to the specific needs of the bridge installation in terms of the movement of the bridge and if it is a vehicular bridge regarding vibration. If the lighting installed has remote drivers where might they be installed and do they need to be accessible? Is the architectural lighting able to be mounted on the bridge or will it need to be mounted to the landscape to the side of the bridge? The lighting applied must be suitable for harsh environments, a bridge often has harsh winds, extreme weather or may be near a coastal location.