Arup provided electric and natural lighting and controls design for the active gridshell component for a 499 room luxury hotel and resort situated within and across a new F1 racetrack site. The gridshell blankets the two towers with approximately 5,000 fritted glazing panels, each lit with a custom designed color changing luminaire. Automated programming using low-res media files ensures an ever-changing guest experience. Natural lighting design included sunlight reflection studies for the gridshell used in collaboration with the racetrack design. Arup also provided site and landscape illumination for the project including two pedestrian bridges as well as an event lawn.

Beside the obvious technical issues of heat management with the LEDs for the Gridshell, which was solved via implementing Remote Device Management DMX using ecue’s Lighting Application Suite, Arup solved the larger and more fundamental issue of having limited onsite time to develop the visual and atmospheric Gridshell lighting scenes using on offline process, more akin to pre-programming a Production. This allowed a re-iterative process with Asymptote to develop a dynamic and creative story of atmospheric scenes through the custom media, saving weeks of on-site programming time.

"Seeing a system this complex operational in 20 months is a reflection on the dedication of everyone involved from the design team to manufacturers to the rope-access installation teams who put in long hours to make this building a reality. It’s an honor to have been involved with a project that has already captured the hearts of the people of Abu Dhabi.”

Richard Fisher

Arup

LIGHTING DESIGNER
ArupLighting
Brian Stacy, Rich Fisher, Gabe Guilliams, Giulio Antonutto-foi, Anthony Cortez, Matthew Franks, Theresa Mahoney, and Key Anderson

LIGHTING DESIGNER
1212-Studio, Inc.
Tommy Voeten

OWNER
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Yas Marina Hotel, Abu Dhabi’, United Arab Emirates
“Arup intended to create a system and an experience which emphasizes the strong atmospheric feeling of Abu Dhabi’s newest 5-star hotel, through creating an iconic brand image. The foundation was the use of bespoke media pixel mapped to the RGBW LED luminaires surrounding the complex geometries of the Gridshell, which was balanced with the subtle highlights of the bridge and exterior lighting, which was viewed by millions around the globe on the Formula 1 Grand Prix race day.”

— Brian Stacy

“With a project of this complexity and technologically demanding, Cooper (luminaire manufacturer) came to the table ready to take the volumes of concepts and detailed ideas on the custom luminaire, and was able to interoperate the critical aesthetic issues and high performance technological thinking. This meant lateral leaps on how to deal with heat management and energy efficiency issues through programming, and real time feedback from the Enfis gear. Further, this was in concert with the Control Manufacturer, e:cue, to make sure everyone was talking the same language.”

— Brian Stacy