

CASE STUDY



# Cosmos Theatre

## Immersive projection mapping

**Spectacular 'technology-performance-gastronomy' shows delight audiences with a 270-degree immersive experience created using 32 NEC laser projectors and video mapping techniques.**

Blending digital and visual art, the Cosmos Theatre is an innovative project promising a brand-new guest experience: 'a unique synthesis of art, gastronomy, entertainment and technology.' The 'Dinner Theatre' aims to awaken all five of the senses through themed gastronomic events where guests are entertained with on-stage performances and an immersive digital art experience. Located alongside the Nirvana Cosmopolitan Hotel in Antalya, Turkey, the Cosmos Theatre hosts concerts, themed events, and famous local and foreign performance artists.

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## The Challenge

During the Covid period, the Client, Kilit Hospitality Group, purchased an area in Antalya to build a new five-star Nirvana Hotel. The main hall of an existing convention centre was to be developed into a unique entertainment venue both for hotel guests and tourists. The venue must be multifunctional, able to be used as a conventional theatre, or set up for banquet or bistro style events, or indeed, entirely flexible. The building renovation impacted the entire infrastructure from heating, ventilation, and air conditioning to stage mechanics, and audio-visual systems.

In pursuit of the highest quality outcome, the Client requested state of the art technology at international standards. The objective was to deliver a superior audio-visual experience, yet for the technology itself to remain unobtrusive.

The AV concept design was provided by project consultant Fatih Osmancelebioglu, while the detailed AV system was designed, supplied, and installed by Atempo.

To create an immersive experience, the Client requested a 270-degree visualisation, whereby the performance areas and supporting digital content appears on all sides of the hall except the floor and rear wall, opposite the stage. To accomplish such dramatic immersion, Atempo identified projection mapping as the ideal solution, although achieving optimal brightness levels would be challenging. Acrobatic and musical performers would require a significant level of stage lighting, so the key was to illuminate the stage whilst not impacting the projected dynamic imagery on the surrounding walls in terms of brightness and contrast. It was calculated that a minimum projection brightness of 270 ANSI lumens per square metre would be needed.

Furthermore, the positioning of the projectors would be critical to generate the desired visual impact without causing physical or noise disturbance to the audience, bearing in mind that some would need to be positioned at floor level.

## The Solution

Atempo selected PX Series 20,000 ANSI lumen DLP projectors from Sharp/NEC, confident in the high quality and reliability of the brand. The RB laser technology uses red lasers, increasing the colour gamut to produce more vivid images. The filter-free sealed optical system means no dust can impact the Constant Light Output ensuring impressive longevity and minimal maintenance whilst reducing fan noise. 32 x NEC PX2000UL projection units are carefully positioned discretely at critical locations around the hall using projection mapping to create the 270-degree visual experience. The projectors are achieving 284 ANSI lumen per square metre, in excess of the desired brightness level, and their quiet operation does not cause any disturbance to audience members sitting in close proximity.



The entire internal surface of the venue is covered with a silver-coloured acoustic fabric (PONGS) providing a 1200m<sup>2</sup> mapping area, keeping the speakers out of sight yet preserving the sound quality, as well as enhancing the visual quality of the projection.

The video mapping design acknowledges the architectural limitations of the building and the flexible usage requirements of the space yet delivers the required WOW factor generated through the blend of digital art and on-stage performance. At dining events, for example, where projection is used in its full magnificence, there are 44 dancers on the stage that simultaneously create a visually captivating show.



## The Result

Cosmos Theatre is Antalya's first Dinner Theatre with an immersive digital infrastructure to offer the ultimate multi-sensory audience experience. Special shows are hugely popular with locals and tourists who are drawn to the area to experience the unique spectacle. The stage itself may not be of unusual proportions, but the surrounding digital immersion makes it appear larger than it is. Performers are keen to utilise the unique technological capabilities that the theatre can provide.

There are 'technology-performance-gastronomy' shows taking place three times a week, with the remaining availability being taken up for concerts, family sensory experiences, industry awards events, corporate presentations and more.

### Site information

#### SECTOR

Leisure and entertainment

#### CLIENT INSTALLATION

Cosmos Theatre, Nirvana Cosmopolitan Hotel  
Antalya, Turkey  
Cosmostheatre.com

#### INSTALLATION PARTNER

Atempo | [atempo.com.tr](http://atempo.com.tr)

#### INSTALLATION DATE

Spring/Summer 2023

#### EQUIPMENT

32 x NEC PX2000UL installation  
laser projectors

**COSMOS**  
THEATRE

**AATEMPO**

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