

RHINO ENGINEERS Evoke The Glory of Indore's Rajwada Palace and Gandhi Hall with Dynamic Lighting Installation



Indore glows in a new light, as AV consultant Rhino Engineers and AV integrator Dhara Electricals, deploy dynamic lighting at Rajwada Palace and Mahatma Gandhi Town Hall

Two of Indore's historical landmarks – Rajwada Palace and Mahatma Gandhi Town Hall – have stood the test of time, attracting a massive number of tourists every year. This year, the two embodiments of Indore's cultural heritage were revamped with intelligent lighting, allowing visitors to actually view Indore's history in a new light. In this article, Dip Patel, Project Manager, Rhino Engineers, in a conversation with AV-ICN Magazine, reveals the technology and the team involved in the installation project.

Fondly known as the Holkar Palace, as a tribute to the builders of the icon of royalty in Indore, the **Rajwada Palace** is an ode to the artistic intelligentsia of the Holkar dynasty, an embodiment of the dynasty's love and wisdom of their history, heritage, and culture. On the other hand, the **Mahatma Gandhi Town Hall** in Indore is a towering structure constructed in an Indo-Gothic style. The front façade of the Town Hall also functions as a Clock Tower, and the Central Hall of the building is massive enough to accommodate upto 2000 people, which serves as an exhibition venue for several Indian trades and arts.

The **Indore Smart City Development Limited (ISCDL)**, a civic body focused on redeveloping the city as a Smart City, aimed at increasing the tourist footfall at the above-mentioned historic destinations. AV consultant **Rhino Engineers** and AV integrator **Dhara Electricals** were tasked by the ISCDL to adorn the structures with intelligent, dynamic lighting and increase its appeal in the realm of Indian tourism.

PALM + AV-ICN explores the concept, the creation, and the execution of the project.

The Client's Brief:

Dip Patel, Project Manager, **Rhino Engineers** shares the brief the company received from the client, "The requirement of Indore Smart City Development Limited with regards to Rajwada Palace and Mahatma Gandhi Town Hall in Indore was to convert the structures into something filled with advanced, technological grandeur, with projects the likes of Statue of Unity in Gujarat serving as an inspiration. After sharing our initial designs, we were relieved that the client was on the same boat as us when it came to our ideas and concepts. Of course, the identity of our project is so different, and we think our installation takes into account the importance of the history, heritage, and culture that Rajwada Palace and Mahatma Gandhi Town Hall stands for."

The Initial Concept:

Narendra Naidu, Chairman and Managing Director, **Rhino Engineers**, explains the significance and the impact the right lighting has on any venue. He comments, "The lighting concept for the Rajwada Palace needed to be illuminated with attractive and vibrant lights which have been developed with a glimmering array of installations, figures and optical illusions. For the Mahatma Gandhi Town Hall, Rhino Engineers was tasked with decking the venue with warm white colour. He shares, "Lighting is an integral contribution in any architectural and façade/landscape environment design. Lighting is essentially a nocturnal makeup that can be used to bring attention to the façade of interest and turn potential eyesores into works of art. Lighting can create a unique and memorable experience. Well-planned lighting can connect places and stimulate night tourism."

The lighting pattern decided for the Rajwada Palace was as follows:

- **Monday to Friday:** To illuminate all the floors (from ground floor to the 7th floor) of the Rajwada Palace in simple warm white colour, followed by a full facade illumination for 5 minutes.
- **On days of national importance:** To illuminate the Rajwada Palace with the colours of the Indian flag.
- **On Saturdays and Sundays:** To illuminate the façade of the Rajwada Palace with vivid colours and patterns, changing every 5 minutes.

Challenges Faced During Execution:

No big feat has ever been achieved without big challenges. Patel talks about the challenges the team at Rhino Engineers faced while executing the lighting installation for the venues, "There were a number of challenges for this project. Rajwada Palace was built in 1776, which makes it almost two centuries old. So, the luminaries' placement & fixing with cable/wire laying posed major challenges in the project. Also, as per the



Imbued with warm white light, the Mahatma Gandhi Town Hall looks every bit resplendent – as it should be

ASI norms, we weren't allowed to drill within the structure."

He further shares, "A majority of luminaries designed are on different angle, wattage & lance angle, which did not suit the requirement. As readymade products did not satisfy our needs, we did R&D to get the optimized and desired product."

But the challenges did not end there. Patel goes on to elaborate about one more

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(from L-R): Kapil Nama, Electrical Engineer, ISCDL, Dip Patel, Project Manager, Rhino Engineers, Narendra Naidu, Chairman & Managing Director, Rhino Engineers, Sunil Dubey, Executive Engineer, ISCDL, Miness Mehta, Director, from Dhara Electricals, Arvind, Project Manager, Dhara Electricals

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challenge – just this time, it was more human than technical. He says, “This project included a number of stakeholders such as the agency, government departments, and local authority. We had to make sure that all of them were on the same page when it came to strategic decisions, which required a fair bit of coordination. Also, the time period for the project is important, but we overcame the challenges and it was completed within four months.”

Words of Praise:

The Rajwada Palace shines in all its glory, courtesy intelligent, dynamic lighting from Signify India that adorns the façade

Everyone involved in the dynamic lighting project seemed impressed with the conceptualization and execution of the same. **Pratibha Pal**, (IAS) Commissioner of Municipal Corporation, Indore, Madhya Pradesh found both simplicity and style in the way the lights transform the ambience of the structures, “I strive for two things in design: simplicity and clarity. Great design by Rhino Engineers is born of those two things.”

Divyank Singh, (IAS), CEO of Indore Smart City Development Limited, corroborates Pal’s words as he shares, “Tourism experiences utilize all human senses in a variety of different ways. Notably in the nightlife tourism industry, vision is integral as it accentuates the beauty and essence of the surroundings. Therefore, the understanding of lighting perception within the tourism industry can only provide a future where light quality and efficiency are utilized to provide the ultimate tourism experience. Rajwada Palace’s and Mahatma Gandhi Town Hall’s dynamic lighting installation can lead to discovering more about the importance and the impact lighting has on the tourist experience.”

Sunil Dubey, Executive Engineer, Indore Smart City Development Limited, complimented the unique lighting design concept at both the venues. He shares, “AV consultancy Rhino Engineers has developed and installed a unique intelligent lighting design concept in collaboration with AV integration company Dhara Electricals while following all the guidelines laid out by the ISCDL, and still managed to execute the concept in practice in just four months.”

Kapil Nama, Electrical Engineer, Indore Smart City Development Limited, elucidates how lighting can change the way a visitor views a façade, “Lighting affects everything light falls upon. How you see, what you see, how you feel about it, and how you hear what you are hearing – everything. The consultant and the integrator monitored the entire installation process very effectively and the fine result,

born out of team work, dedication, and hard work, reflects in the way Rajwada Palace and Mahatma Gandhi Town Hall’s structure glows in the aura of intelligent, dynamic lighting.”

Kinjal Kumar, Electrical Engineer, Indore Smart City Development Limited, concludes, “Design is defined by light and shade, and appropriate lighting is enormously important. Consultant Rhino Engineers and integrator Dhara Electricals have done the excellent work in this regard.”

Inventory:

The inventory for intelligent lighting installed at Rajwada Palace and Mahatma Gandhi Town Hall included entirety of Signify India (previously known as Philips Lighting). However, numerous products from the brand were used to complete the lighting installation. They are as follows:

DESCRIPTION	QTY	OEM Make & Model
Projector Light 15-Watt, 3000 K, 1000-1100 Lumens	122	BVP 323 24 LED
Projector Light 22-Watt, RGBW, 1500 Lumens	76	BVP321 12LED
Linear Wall Washer 12-Watt, 3000 K, 900 Lumens	88	BCP381 12LED
Linear Wall Washer, 20-Watt, RGBW with Tuneable white (2700-4000K)	371	BCP386 60LED
Linear Wall Washer, 30-Watt, RGBW with Tuneable white (2700-4000K)	4	BCP 382 24 LED
Projector Light 50-Watt, 3000 K, 3000 Lumens	82	BVP 323 24 LED
Linear Flexible 15-Watt with 1000 mm Rigid Profile 3000K	790	BGC301 1100LM
Surface Mounted Downlight 12-Watt, 3000K	144	DN590B
Window Light, 12-Watt, 180 °C Window Light, 3000 K	66	BCP 390
Track Based Spotlight 24-Watt, 4000 K	40	RCS 170 1C L1
DMX Splitter & Amplifier	24	RDM6-ZXP399
DMX Controller	1	Zxp 399
Multi-Protocol Converter	8	DMX 512