SHOBHAN LIGHTING STUDIO

Commercial – Retail – Light Studio

Project Name: Shobhan Lighting Studio

Location : Surat

Architect : Vishal Kheradia

Project Type: Commercial – Retail – Light Studio

Project size: 2900 Sq.ft

The approximate costing in INR for the entire smart integration : 11,70,000/- INR

Performance objectives for this Project:

Shobhan Lighting Studio is one of the exceptional and incredible projects that we came across in our itinerary. Very seldom does someone spend for their own accessibility in order to promote the goods of another entity on a commercial level.

Performance objective of the project was crystal clear from day one. Implementing an automated lighting system that enhances the customer experience and enables efficient management of the showroom.

All technologies ranging from Smart Lighting control, Digital Dimming and Tuning, Curtains control, Security, time sequence to HVAC integration, Security, Multi-Zone music control etc. were emplaced in a very systematic and meticulous way and all seamlessly integrated on RTI platform collaborated with KNX Lighting Control and Shading solutions.

Shobhan Lighting is one of the biggest Lighting Showroom in Gujarat region. The studio is separated into various sections with more than 600 lighting fixtures, each of which showcases a particular form of lighting. Although the studio primarily focuses on different types of lighting, it also seamlessly integrates HVAC management, multi-zone music, Wi-Fi networking, curtain control, security, and surveillance, all of which are triggered by human occupancy and scheduling.

The main highlight of this project is the customized user interface. The RTI Control App enables controls through LAN, Wi-Fi and offers secure local or remote access to an RTI control processor from any Internet connection. This gives the user convenient access to control any device in the space simultaneously and seamlessly.

The lighting studio offers a wide range of lights for display. Each space is designated for a specific sort of light, and these lights are further divided into various sections to make the notion evident to every visitor. Managing light control was the key objective of this project. In order to accomplish this, we have integrated the system in such a way that for every type of light placed in any position, the application offers a visual 3D image and icon in the same arrangement as the lights. Because of this, the user has easy and intuitive control of each and every light.

Following smart home/automation products integrated by us in this Project and why?

1. Lighting Control:
    a. 8 Channel On-Off Relay by Theben : 25 Nos
    b. 64 channel Dali2 for Tuneable & Dimmable Relay by Theben : 4 Nos

2. Shades Control 4 Channel Shades Control by Theben : 1 Nos

3. HVAC Control & Integration
4. Automation Keypad by Schneider : 3 Nos
5. Conference room integration : Light. HVAC, Shades, Display
6. Security – Video Surveillance, Digital Door locks, Access Controls and Attendance System
7. PA Music System integration

Please find below each subsystem's basic characteristics and uniqueness

This project is unique because of the varied and remarkable handling of solutions and integrations used in it. In my opinion, we haven't left anything in terms of automation for a lighting studio.

1. Lighting Control: Entire studio lighting is on automation control which comprises of all direct, indirect and technical illumination, decorative lighting, focus lighting, facade and landscape lighting as well as emergency lighting etc. Different lightings with different fixtures are control by KNX with THEBEN as backend modules and the user interface is from Schneider M series.

2. Dimming and Tuning: All the technical lighting in the project are controlled by Digital Dimming DALI KNX Gateway from THEBEN.

3. Motorized Curtain solutions: Motor system make the curtains and blinds smooth, noise free and offers seamless control of automation on KNX keypads as well as RTI.

4. HVAC Integration & scheduling: High power IR Emitters with blinked LED was used in all the main areas with smart scheduling and control. All spaces have air conditioning with scheduling that controls and manages the studio's temperature. In order to save energy and facilitate administration, HVAC systems are switched on/off during working hours and non-working hour respectively on weekdays to maintain a specific temperature.

5. PA Music system: For uninterrupted and outstanding listening, 6W in ceiling speaker with 90W PA amplifier from BOSCH was provided including volume controllers.

6. To create the ambience of conference room, Video Conferencing solution was deployed.

7. Door Control and Locking Integration: The Main Door of the studio is obviously keyless and operated by Digital Lock from Yale and controlled on automation for seamless use through IP Door Station from RTI. Fingerprint Access Control was provided for attendance of staff members.

8. Surveillance of the full periphery was planned, implemented, and integrated on RTI and a select few indoor locations for smart alerts via notifications.

Below we have described all automation events that do not require user interaction which happen within and between the integrated subsystems.

Scheduling: Furthermost, for most of the schedules, we have created modes based on the working hours and non-working hours for the staff. Few security features get activated during away mode.

1. Lights – For all types of lights including direct lights, indirect lights, decorative lights, profile lights etc., the required lights are scheduled to be ON during the daytime. These are automated by timings as well as by sensors. Post which some lights are scheduled to stay ON for the entire

night and are switched OFF by sunrise for security purpose.

2. Curtain Scheduling - All the curtains are managed by multiple schedules. All the curtains are opened during sunrise, closed at noon. Further, they are also a part of user scenes or macros. 3. Server AC - Needless to say, Server room AC has been kept on schedule to keep the unit turned on for the duration, as per external temperature conditions. This also has been smooth to quite an extent.

4. HVAC scheduling – All the air conditioning units are switched ON in the morning with a particular temperature adjustment for each area. Further units are switched OFF after exit of all staff members.

5. Automated playlists for every weekdays for Main Cabin and other required areas (for customer's attentiveness). This playlist triggers across 4 Zones is turned on/off based on the client's preferences.

Macros have been created and assigned across multiple platforms and interfaces:

1. The studio has on/off macros for every area, triggered by the last rocker of the keypad and represented by a graphic icon on the display. The OFF button makes sure everything in the area - Lights, blinds, media, HVAC are all turned off one by one.
2. Studio has Scene macros for every room, triggered by the engraved display of the MOORGEN Keypad. Scenes have been created for Guest Scene, Smart scene, Tunable Scene, Evening scene, etc. which comprises of lighting, curtain control, AC, etc.
3. Scenario buttons has been assigned macros and these buttons have been creatively display on the user interface of RTI application. Few of them are
4. Also initiated a sequence to reboot the server rack equipment via a custom scenario button on the RTI platform.
5. Alexa integration has been achieved and using macros, certain scenes have been delivered on the voice platform, to be triggered via RTI, involving multiple subsystems like Lighting, AC, Curtains, etc.

Technical details and calculations made for this system's power management.

Power management was given utmost importance, considering the extent of automation controls. Although Ahmedabad enjoys the most stable and clear power source in the entire country, precautions was taken to handle outages.

Server rack was supplied through an Online UPS to take care of backup and fluctuations. All the cameras, finger scanner devices were supplied power through Online UPS Backup, with at least 30-mins of backup

Further, a separate phase was cabled to every switch board and selective lighting circuits for an emergency use, if needed at a later point in time. In case of natural calamity or unforeseen event, this provision can come in handy.

Additional customer requirements and technical challenges

A significant portion of these requirements were additions to the original scope of work, which we were able to complete because to our initiative, the placement of cables in strategic locations, our innovative thinking, and our never-say-never approach.

Our main challenge was the integration and control of these numerous lights. There were various lighting controls, including dimming, tunable lighting, and other options. With lighting as the core concept for the studio, we ultimately succeeded to come out with a solution which was convenient as well as efficient for everyone.