



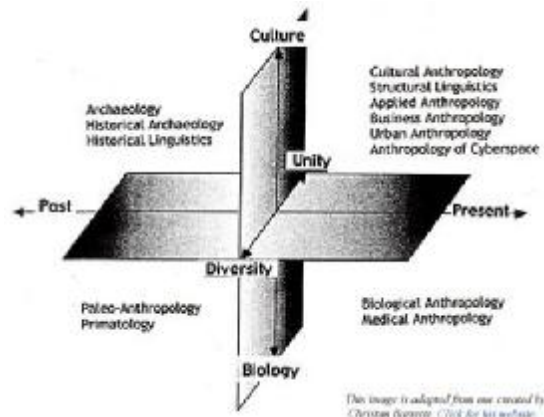
Case Study: Museum of Anthropological Survey at Nagpur



Introduction

Museums collect and care for objects of scientific, artistic, or historical importance and make them available for public viewing through exhibits that may be permanent or temporary. Most large museums are located in major cities throughout the world and more local ones exist in smaller cities, towns and even the countryside. Many times, museums concentrate on the host region's culture.

Anthropology is the study of humanity. Anthropology has origins in the natural sciences, the humanities social sciences. Anthropology's basic concerns are "What defines *Homo sapiens*?", "Who are the ancestors of modern *Homo sapiens*?", "What are humans' physical traits?", "How do humans behave?", "Why are there variations and differences among different groups of humans?", "How has the evolutionary past of *Homo sapiens* influenced its social organization and culture?" and so forth.



Project Brief

Anthropological Survey of India (AnSI) is the apex Indian organization involved in anthropological studies and field data research for human and cultural aspects, working primarily in the fields of physical anthropology and cultural anthropology. While maintaining a strong focus on indigenous populations, it also attempts to document the cultures of other communities and religious groups.



Operating under the Ministry of Culture, Government of India, AnSI is headquartered in Kolkata and has branches in Port Blair (Andaman and Nicobar), Shillong, Dehra Dun, Udaipur, Nagpur and Mysore (established in 1960), in addition to two field stations at Jagdalpur in Bastar district, Chhattisgarh and at Ranchi, Jharkhand.

Museum of Anthropological Survey at Nagpur is one of the land marks of the city. Located at seminary hills, the museum is an attempt to show case human origin, evolution, adaptation and bio-cultural diversity with special reference to Central Region of India and its large number of ethnic group and their rich cultural heritage.

Completed in 2011-12, it has a collection of about 2300 specimens from tribes and other communities inhabiting Chhattisgarh, Madhya Pradesh, Maharashtra and Goa, related to activities like hunting and gathering, fishing, agricultural operations, household articles, dress and ornaments, musical instruments, art, religion, folk painting, Palaeolithic tools, fossil casting

Project Credits:

| | |
|----------------|---------------------|
| Client | CPWD Nagpur |
| Occupancy Type | Museum |
| Built Up Area | 50000 Sq ft |
| Location | Nagpur |
| Architect | Inhouse CPWD Team |
| Contractor | Kothari Electronics |
| Lighting | Wipro Ltd |

Lighting for Museum:

LIGHTING for Museums and Art Galleries has a unique set of priorities, those of conservation and effective display. In many ways these two requirements conflict as there is a necessity to restrain lighting levels to promote the former whilst the latter



requires sufficient light of a high quality to provide optimum viewing conditions. The process of lighting design becomes something of a balancing act to provide an effective compromise between these conflicting requirements. To attain this balance we need to look to the entire armoury of the lighting designer, specifying only the best equipment available, and we should consider all aspects of light within the display area. A complete understanding of the reasons for and requirements of, conservation level lighting is essential.

EXHIBIT LIGHTING ELEMENTS -

The elements of exhibit lighting match the three goals of any museum:

- ü PRESENTATION: Showing the true beauty of art and historic artifacts
- ü PRESERVATION: Protecting exhibits from fading and damage, and
- ü CONSERVATION: Conserving energy, resources, manpower and funds

Lighting for Museum involves –

- ü Choice of Light Source
- ü Colour Rendering Index
- ü Flexible display

Light Source Colour Properties: -



Cool White



Natural White



Warm White



Proposed Solution:

Solution Proposed for Museum Lighting comprises of four main parts –

- i. Flexible Track system suspended from the ceiling
- ii. Track Mounted CDMT Projectors for highlighting of the monuments
- iii. Surface Mounted CDMT Projectors for highlighting paintings
- iv. Recess mounted LED down light luminaire for racks

Track System:

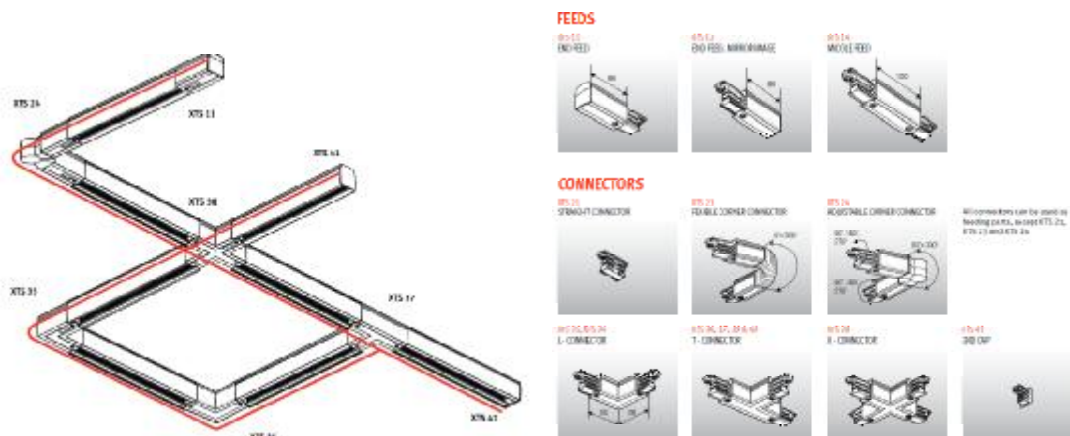
Track system is the most flexible system available in lighting. Tracks are available in recess and surface / pendent version. The track has electrical circuit for powering of luminaires mounted on the track. Luminaires can be mounted using universal track adaptor with lock and phase selection facility. The luminaire can be mounted any where on the track based on the requirement using adaptor.



Track comes in standard length of 1 Meter and 2 Meter along with complete accessories of connectors, feeders, suspensions and end connectors.

Use of Track system in Museum provides high degree of flexibility which is the main requirement. The details of track system are given below.

Typical Layout of Track System:





Luminaire Used: AVIO Projectors:

We have proposed AVIO range of projector luminaire for museum lighting, which given flexibility of either using it on track as well as directly mounted on the surface.

AVIO range of luminaire are available in wide range like 35W and 70W CDMT lamp with two beam options of narrow and wide which gives flexibility in applications like museum.



We have proposed both track mounted as well as surface mounted projectors for this project.

Track mounted projectors are used to highlight objects with lower heights and surface mounted projectors are used to highlight the paintings mounted on the upper side of walls.



Internal View of Museum

Proposed Key Products:

| Product Details | Lamp Details | Product Photograph |
|-----------------------|----------------------|--|
| AVIO Track Light | 35W CDMT 70W CDMT |  |
| AVIO Surface Mounted | 35W CDMT 70W CDMT |  |
| Surface Mounted Track | n.a. |  |

Results Achieved:

- Ø Good vertical lux levels achieved over the required surfaces
- Ø Lighting Power Density achieved using next generation CDMT lamps
- Ø Flexible Lighting System because of track mounted luminaires
- Ø Existing wiring was utilised to implement new solution

Benefits to Client:

- Ø Proposed solution of Wipro helped in giving new identity to Museum
- Ø Flexible Lighting System can be used to adjust the light levels if required
- Ø More footfall because of well illuminated objects in the Museum
- Ø Energy saving through use of next generation CDMT lamps



Museum of Anthropological Survey at Nagpur is a prime example in Wipro Lighting's philosophy of Innovation & Design with product like Avio developed keeping an eye on the particular application. Today Wipro is one of the leaders in providing innovative and efficient lighting solutions for varied applications.

Wipro would like to answer any queries or questions you have on Energy Efficient lighting (Indoor and Outdoor), stand alone and network based Lighting Control systems related topics. Please feel free to contact us on helpdesk.lighting@wipro.com. You can also visit our website www.wiprolighting.com for more information.
