

Pan Intellectcom discusses how it married technology and content to honour Dr. B. R. Ambedkar as the integrator worked against the clock to deploy AV systems for a national memorial and museum.

# Honouring an icon

Museums serve as a place where visitors can engage with their history and the past. More and more, technology is being deployed as the tool to make this engagement possible.

Harbir Singh, managing director of Pan Intellectcom, talks about the impetus behind the development of a new museum: "It was long felt by the government of India that Dr. B. R. Ambedkar, the messiah of the downtrodden, can be portrayed as a model to instil a sense of achievement and pride for the deprived segment of the masses. His humble background, deprived childhood and upbringing in a caste-sensitive society touches the major population of India.

"The decision of selecting a befitting memorial place zeroed down to Delhi, where he had culminated most of his aspirations into action as a crusader of justice for all, emancipator of the poor, a parliamentarian and architect of the Indian constitution. The site, 26 Alipur Road, where he spent many years of his life and breathed his last, was acquired by the government in 2003 and was declared a national property."

The government assigned the Ministry of Social Justice and Empowerment with the task of turning the residence into a befitting memorial.

The move also forms part of a greater strategy

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being implemented by the government of India. Singh explains: "The museum is also a part of the 'Panchteerth' being developed by the government in honour of Dr. Ambedkar. This memorial was inaugurated by the honourable Prime Minister, Narendra Modi, on the eve of Dr. Ambedkar's 127th birth anniversary."

Pan Intellectcom was engaged by the Central Public Works department of the Government of India as the system integrator for the project. Work commenced in August 2017 and was completed in May 2018.

Singh says: "Pan Intellectcom was assigned the task of providing a lively recreation of the major facets of the life and activities of Dr. Ambedkar. This task was achieved by deploying high-end audio visual technology comprising direct view LED videowalls and high-end projectors, mannequins and holograms. We were also involved in the content production,

with integration and programming, exhibits and art work development Dr. Ambedkar National Memorial (DANM)."

Regarding the work on content development Singh says: "The content aimed to focus upon real and authenticated artefacts and manuscripts so as to convey the multiple facets of Dr. Ambedkar. He was the emancipator of the downtrodden, crusader for equality, father of the Indian constitution, economist, nationalist, humanitarian, analyst, writer, orator, philanthropist, labour minister, law minister, lawyer, political analyst, parliamentarian, sociologist, educator, music lover and animal lover. The client wanted the content to be carefully worded in order to avoid hurting the sentiments of the masses. Also, the client wanted the content to enable the masses to get acquainted with Dr. Ambedkar and not with the dark sides of any religion or community."



On the technology side, the end user had a clear idea of what purpose the AV systems would serve and this was conveyed to Pan Intellectcom. Singh says: "The museum at this memorial aimed to create an immersive experience into the life of Dr. Ambedkar and his contribution, through extensive use of static and dynamic media, with AV content and multimedia technologies, towards shaping of modern India."

Both content and AV were to fuse seamlessly to help the museum convey its message. Singh details: "A key aspect of the work was the creation of an AV document based on the content advisory note included in the tender and according to items mentioned in the contract. The creation involved a high degree of research, both factual and historical and we interacted with institutions and specialists identified in the content advisory note. The approved content document formed the basis of all the content creation for the museum – static, dynamic and audio visual content."

The museum is divided into galleries which display different content. Based on the content and the thematic storytelling, Pan Intellectcom has deployed appropriate visual solutions.

Singh says: "Depending on the theme of the gallery and the story narration involved, we have used different combinations of output at different places."

Christie Coolux workstations serve as the heart of the video systems deployed and is the location where all the content resides. For output a range of different solutions have been employed.

Christie projectors with brightnesses of 14,000 lumens, 11,500 lumens and 8,500 lumens have been used in galleries where projection was required. Delta LED videowalls comprising 4mm pixel pitch tiles have also been used when a large format display was needed. For the museum areas that required interactivity, Samsung 55-in touch panels with embedded IR or capacitive touch have been used. Standard Samsung displays in 75-in, 65-in and 55-in screen sizes have also been used.

Projection in particular has been employed in a creative manner. The integrator has done away with standard screens and opted for translucent PepperScrim screens to enhance the impact of the content.

Audio is handled by a Behringer 8-channel USB soundcard which provides processing and

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Museum exhibits and technology, such as Christie projection, are used side by side to tell the story



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< distribution of sound. Individual channels are selectable and configurable with an output power of 125W per channel at 70V. Turbosound loudspeakers are deployed for sound and amplification is provided by Lab.gruppen units.

Regarding audio, Singh says: “The audio system was designed first and foremost to meet the tender specifications. Secondly, we have installed the speakers previously and were assured of the audio quality.”

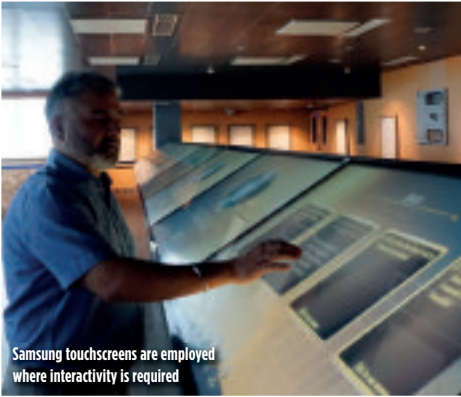
Pan Intellectcom has also developed an app for the museum which visitors can download on to Android or iOS devices. This app provides access to curated content, organised by gallery, for the visitor to peruse at their own leisure.

Medialon Pro has been used to control all the peripherals over IP. Singh says: “Medialon Pro is a standalone system. It is an all in one show controller with all necessary show protocol interfaces to control and synchronise dimmers, lighting desks, video projectors, video servers, sound processors, etc. So, no additional equipment was used for processing.

“The chosen equipment has all the required protocols to control DMX-controlled equipment, AV equipment on IP and choreograph them.”

For lighting DTS Focus 25 Degree, Focus Solo Zoon and FOS 33 models have been selected. Philips spot lights are also used in certain instances.

With a project of this stature, Pan Intellectcom was faced with a number of challenges. Singh narrates: “At the time of tendering, it was explicitly stated that this national museum had to be completed within the time span of three and a half months. Accordingly,



we were very well prepared to adhere to the time frame but were held back owing to reasons beyond our control. The building shell structure was slated to be delivered to us on a particular date but it got delayed by five months.” Further delays which were out of the integrator’s control were experienced. Singh

details: “In gallery number two, two holographic screens (Samsung) were required according to the tender. Eventually, only one holographic screen was installed in the gallery and the second one was installed in the basement. The layout was changed due to thematic change of the content.” He continues: “In gallery number five, there was an AC duct on the ceiling which created hindrance in the installation of eyeliner screen for projection mapping. To resolve this issue, the AC duct was shifted to give more space for the installation.”

Other technical challenges also cropped up and were duly resolved. Singh explains: “In gallery number five, there was a lot of lighting (installed according to the content layout) around our equipment. This diffused the quality of the picture projected on the scrim. To resolve this issue, an enclosure was created around the scrim. This helped in filtering out lumens and the desired quality was achieved.”

The large number of involved stakeholders also presented a unique challenge. Singh offers further clarification: “The script, being the heart of this project, was the starting point. It went through multiple rounds of reviews and approvals from the client, Ministry of Social Justice and Empowerment, Government of India. Pursuant to this, the creation of the media content was delayed because we had to realign time and again with changed sample stretch, instead of the actual media content. This posed hindrance to our pre-planned schedule.”

Singh goes into further detail: “Due to the creative nature of the work, any minor change in the script, media content or layout had to be addressed at various stages of the work. This necessitated frequent reworks and hence, increased the time pressure.”

Looking back at the project, Singh wishes the delays faced by Pan Intellectcom could be avoided: “Ideally, we would have liked to avoid the loss of man days and associated expenditure. But, despite the time constraints, we ensured that the quality was not compromised because in our field a compromise in quality will have a negative multiplier effect on the desired experience that we are aiming to create. Therefore, we worked steadily day and night to ensure that our work was completed in a befitting manner.”

### Tech-Spec

- Video**  
Christie projectors and Coolux workstation and output card  
Delta 4mm LED tiles  
Samsung 75-in, 65-in, 55-in display panels
- Audio**  
Behringer USB card  
Lab.gruppen amplifiers  
Turbosound speakers
- Control**  
Medialon Pro show control
- Lighting**  
DTS Focus 25 Degree, Focus Solo Zoom, FOS 33 lights  
Philips spot lights