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LUMEN - THE NEW VOICE OF JOHANNESBURG

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Johannesburg has a new illuminated look projecting from its sky, courtesy of the Absa Towers skyscraper amidst its central business district. Absa is a member of the Barclay's Group, and one of South Africa's largest consumer banks supporting the South African community with financial services representing their retail, business, corporate and investment banking opportunities throughout the country.

Absa Lumen - A Media Showcase

The Absa Tower has recently installed Lumen, the world's largest LED messaging screen which has been placed on the crown of the 29-story building, wrapping around each side and presenting full color messages that can be seen for miles from any side of the building. Beyond being the biggest LED displays in the world of its kind, the Absa screens also contribute to positioning Johannesburg as the leading business center on the African continent. Not only are the Absa displays promoting its branding and financial services messaging to the community, but is also providing a highly visible cultural presence showcasing a state-of-the-art large scale public media communications system.

The world's largest LED messaging screen of ABSA Tower
Photo credit: Herring Media Group

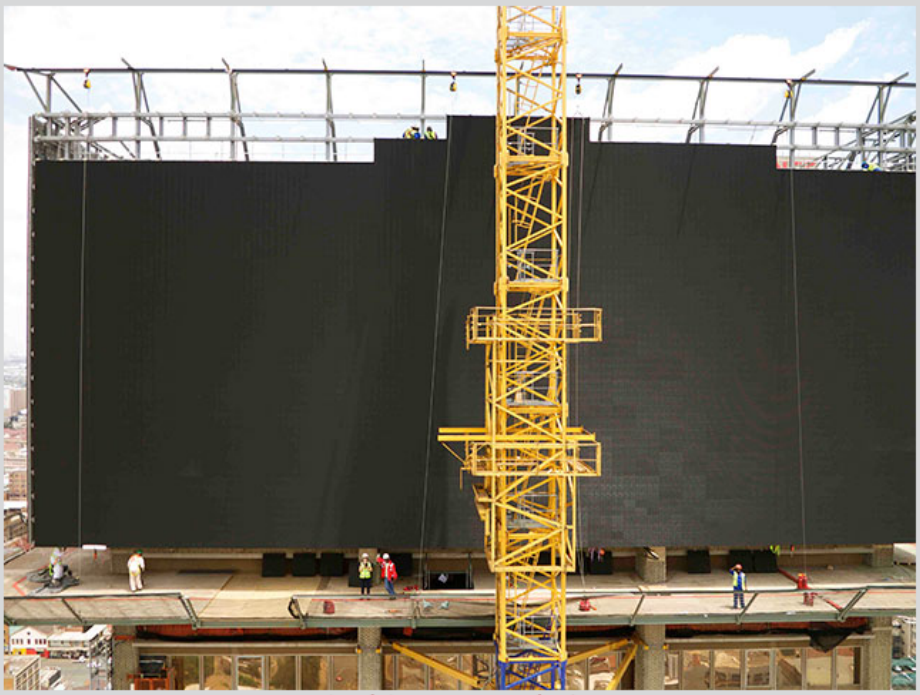
From creation to completion, the Absa Lumen project was designed by the Herring Media Group (HMG), of Glastonbury, Connecticut, which is a consultancy that specializes in the design, management and execution of advanced communication solutions, including the integration of Architectural Media tm as part of a building design. The company's principle designer and Creative Director, Marc Herring noted that HMG was the lead design consultant for the LED systems, and was part of an international team of leading professionals, including Project Architect, GHL and Associates, Turner & Townsend, Tiber Bonvec Construction, and WSP Structures Africa, WSP Consulting Engineers SA.

The Absa LED screens, each sized at 56-feet tall x 124-feet long (38x17 m) have the distinction of each screen being almost twice the size of a basketball court. The LED screens were acquired from Barco (Kortrisk, Belgium), a global technology company that designs and develops visualization products, including the LED screens for indoor/outdoor display solutions. For the Lumen project, Barco supplied its LiveDot TF-20 LED tile (3-feet square) with a 20 mm pitch. The LED tiles are robust indoor/outdoor modules rated at IP 65, making them waterproof and suitable for the outdoor display situations.

Barco Livedots TF-20 LED Screen

Managing each Lumen display was four Barco DX-700 units, a video processor capable of driving large LED walls, in a full operational mode. In terms of screen operations for display content, Lumen is able to present its content on either four separate screens with identical messages on each side of the building, or as a single "streaming" message that scrolls from one side of the building to another as it wraps its content around the building.

To enhance its viewing capabilities, the TF-20 is configured with brightness optimizing features including a 6000 nits brightness ratio for both day and evening display presentations. The LED screens are full color and for ease of viewing, brightness levels can be controlled separately and automatically. Each Lumen display includes a contrast-enhancing shader that allows for lower brightness and lower power consumption at any time of day during the LED screens operations. Moreover, the tilted LED configurations aim the LEDs downwards to ensure that its display content is well targeted at its audience proving full screen visibility at any viewing location in sight of the displays.



Mounting of giant LED screens of ABSA Tower
Photo credit: Herring Media Group

The final installation of the LED screens as described by Herring began with the fabrication of a great number of massive steel frames that were hoisted and assembled at the top of the building, with each frame mounted to a building side. With the steel frames erected and completed, the Barco LED tiles arrived on-site and were lifted in place from its staging area to the building's crash deck for final placement on each steel frame. As Herring noted, "…each LED wall was built one tile at a time on the roof of the building with flawless precession by our local teams. In the configuration of each Lumen display, 720 tiles were combined together to create each of the four LED screens, with a total of 2880 TF-20 tiles comprising the full wrap around display. Each of the Lumen displays were assembled between 15-20 days apiece. Over 70K accident-free man hours working at height were accomplished in less than 6 months."

Lumen Solar Cell Farm

With the Barco displays in place, each LED board consumed 52% less energy than similar competitor designs. Not only are the LED boards very energy efficient, but its power configuration also includes a first-time use for an LED display of a massive photo-voltaic farm comprised of dozens of solar cell panels to provide much of the required energy for the boards' ongoing operation. The photovoltaic farm located on nearby building roofs will offer approximately 700 000 kW/hrs of power or approximately 23% of Lumen's total energy consumption.

Beyond installation, during the Lumen display's inaugural period, HMG is also part of a team that is responsible for its operation and management and to provide some of the display's creation content, to coordinate traffic management for content operation, and as well is responsible for maintenance and monitoring of Lumen's board operation. "There are several groups, some in various time zones, who contribute to operating and supporting the Lumen displays," said Herring. "This includes ongoing performance review with the ability to monitor the Lumen displays in real-time via CCTV from other nearby buildings surrounding the Absa Tower. Technical support is local, and on-call 24/7 to be dispatched to the installation as needed."

Although recently introduced, Absa's Lumen is on its way to becoming a distinct world-class LED landmark, not only for its distinctive size, but also for its unique subsequent photovoltaic solar farm power source. Further along Lumen also acts as a cultural catalyst in the city's urban redevelopment of its central downtown district, as Herring pointed out, "Johannesburg, and the African continent, is going through a major revitalization. The Absa Tower displays are now a critical part of that development with its digital signage not only providing an important commercial communications asset, but a cultural asset as well, because the display speaks in a visual vernacular - to One Africa." With so many different languages in play the importance of the Absa LED displays visual content is magnified by the challenge of creating iconic messages that cuts through cultural and language difficulties and still presents the same message to their surrounding community.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