

Overview

PROJECT LOCATION

LANXESS arena Management
GmbH
Cologne, Germany

TECHNOLOGY

Mitsubishi Electric Europe B.V.
German Branch

CLIENT

T-Systems

COMPLETION

September 2007

PROJECT DESCRIPTION

Installation of a video display for
information and advertising

APPLICATIONS

Information
Scoreboard
Sport broadcasts
Live concert broadcasts
Action replays
Advertising
Entertainment

PRODUCT INSTALLED

AVL-IDT10

CONTACT INFORMATION

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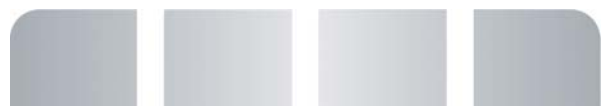
**THE PROJECT**

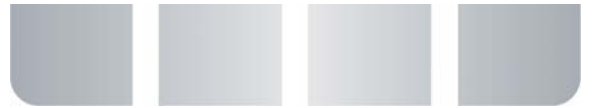
The LANXESS arena situated in Cologne is one of Europe's biggest indoor venues. And in September 2007 it acquired a large-format, 4-sided video display that does justice to its impressive dimensions. The new display boasts four screens, each one measuring 27.04 square meters, and replaces the venue's ten-year-old display system. According to the Arena management, it is the world's largest and most advanced permanent indoor display. German Hockey League fans got a first look at the newcomer on September 30 when the Kölner Haie (Cologne Sharks) took on the Straubing Tigers and the four screens treated a 9,300-strong crowd to a revolutionary visual experience. The Arena's management had called for a display combining extremely high picture quality and flexibility with low mass and energy consumption. All four screens had to guarantee homogeneous image quality on a seamless surface, precise color consistency and high-quality, flicker-free pictures, irrespective of screen content, as the display would be required to serve simultaneously as a scoreboard, a display for live or pre-recorded images, action replays, as well as advertising.

THE SOLUTION

Given the LANXESS arena's precise requirements, the AVL-IDT10 LED Diamond Vision™ Series from Mitsubishi Electric was the only realistic choice. The new display system weighs an impressive 20 metric tons and features four of the high-tech AVL-IDT10 screens, each of which is 5.2 x 5.2 meters square and can display up to eight separate video elements. The AVL-IDT10 system offers brightness of 1,500 cd/m² and generates more than 16 billion colors per screen, ensuring brilliant images even in strong ambient light.

The virtually black surface of the AVL-IDT10 displays provides extraordinary contrast, and with a pixel pitch of just 10 millimeters, resolution is excellent even at extreme viewing angles. The Mitsubishi Electric AVL-IDT10 system employs 3-in-1 LED SMD (Surface Mount Device) technology featuring three LEDs combined into one. The individual LED SMD modules can be assembled easily as large or small walls and cubes with no variation in brightness or color temperature. This guarantees consistent color reproduction at all times, even when displaying mixed content, such as pre-recorded material, live images or graphic elements.





The display also makes use of Color Space Conversion technology, specially developed by Mitsubishi Electric to ensure that colors remain natural, whatever the content, by making it possible to adjust each color individually. Moreover, the new screens can display broadcasts in both 16:9 and 4:3, so for sporting events (in addition to the Cologne Sharks, the LANXESS arena is also home to the VfL Gummersbach handball team), spectators can enjoy the best aspect ratio for High Definition pictures. And thanks to a viewing angle of 160°, all spectators will have an ideal view of the cube.

Delivery and Installation

The new system was transported to Cologne by air and sea, directly from Nagasaki, Japan, with each 27 m² screen split into six smaller elements for transport. Project Manager Dirk Strohmenger's team worked around the clock for two weeks to install the display. The team consisted of 10 engineers from Mitsubishi Electric and Lang AG, who traveled especially to Cologne for the project. They were assisted by the LANXESS arena's own production and technical crew. The German telecommunications giant Deutsche Telekom also provided active support in the form of technical expertise and financing. The display was finally brought into place on chains – measuring a total of 40 meters – attached to eight mobile motorized chain blocks.

Next-generation cube technology

The new display scores over its predecessor in numerous ways. Mitsubishi Electric's LED technology not only gives the cube significantly longer life expectancy, it also guarantees a quantum leap forward in operational flexibility. The new display also weighs 500 kilograms less than the previous display, meaning it can be fitted with additional cameras or lighting units for TV recordings. The AVL-IDT10 system from Mitsubishi Electric provides a seamless surface with versatile split-display options, perfect color consistency and natural-looking color reproduction. What's more, it can operate at just 25% of its maximum brightness of 1,500 cd/m² without impairing picture quality. Lower brightness levels protect the LEDs, save energy and reduce running costs. The new display is virtually maintenance-free, but in the event that repairs or adjustments are required, they can be carried out quickly and easily from the front and the rear.

The LANXESS arena

Germany's biggest indoor venue, the LANXESS arena sets the standard for other venues to follow. A 76-meter-high steel arch soars above a generously designed steel and glass shell which houses a venue boasting 18,000 seats and 83,700 m² of usable floor space. The LANXESS arena also offers giant displays for live video broadcasts, a restaurant, a bistro, bars, shops, and of course the very latest in stage, sound, and lighting technology. It hosts sports events and concerts, as well as party conventions, annual general meetings, congresses, symposia, and entertainment events of every possible kind. Visitors are looked after by up to 1,000 security, service, and catering staff. The LANXESS arena even features a fully equipped in-house television studio.

Mitsubishi Electric LED walls – decades of brilliance

When Mitsubishi Electric unveiled its first large-scale LED wall in 1980 in Los Angeles, it marked the start of a remarkable success story that has seen Diamond Vision™ screens installed in numerous major sports venues, including New York's Yankee Stadium. Since 2004, the "MTV 44 1/2" has made even Times Square brighter. It's not just its golden frame that makes this display stand out among its neighbors. It captures the public's imagination with its enthralling mix of content – music videos, MTV News, live concerts, and even a news ticker for concerts and theater, weather reports, and sports results. Another popular Mitsubishi Electric screen wows the public further west in Las Vegas, where thousands of visitors can enjoy their favorite shows on a huge screen at Caesars Palace.



SPECIFICATIONS

Model	AVL-IDT10
Pixel Pitch	10 mm
LED Type	3-in-1 SMD
Display Area	27.04 m ² (H x W: 5.2 x 5.2 m)
Pixel per Unit	262,144 pixels H x W: 512 x 512 pixels
Brightness	1,500 cd/m ²
Processing Level (Color Processing)	18 bit
Grey Level	12 bits
Colors	> 16 Billion
Viewing Angle	horizontal: 80° vertical: 80°
Minimum Viewing Distance	more than 2 m
Lifetime LED	50,000 hours (Brightness Reduction to 50 %)
Power Consumption	Ø 11 kW
Power Supply	19 kVA
Weight per Screen	Approx. 1,700 kg

The biggest Diamond Vision™ screen built so far has been lighting up the western stand of the Tokyo Race Courts since 2006. At 66.4 meters long and 11.2 meters wide, it is currently the largest display screen in the world. In Germany too, high-tech companies are finding it increasingly hard to resist the allure of this brilliant display series. In 2006, Deutsche Telekom installed an HDTV-capable 3 mm indoor LED wall at its headquarters in Bonn.

About Mitsubishi Electric

For more than 80 years, the name Mitsubishi Electric has been a byword for innovative, high-quality products that provide guaranteed reliability for businesses and consumers all around the world. The company's long and extensive experience has brought it widespread recognition as the market leader in the development, production, marketing and sale of electric and electronic products for use in information processing and communications, aerospace, satellite communications, consumer electronics, industrial technology, energy, logistics, and building equipment.

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The new display is a breathtaking sight ...



... and adds a new dimension to the LANXESS arena.



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