Sharp NEC Display Solutions Customer Installation for Aviation and Transport

Hamburg Airport
Complete digital signage solution with active fire safety

SITE INFORMATION

Sector
- Aviation and transport

Client Information
- Hamburg Airport, Germany
  www.hamburg-airport.de/de

Partner
- Ben Hur GmbH
  www.benhur.de

- JOB GmbH
  www.job-group.com/de

- LANG AG
  www.lang-ag.com

- media FIRE PROTECT

  www.mediafireprotect.de

Installation date
- December 2021

AUSSTATTUNG
- 7 x NEC LED-FE015i2-137 panels
- 7 x NEC LED-FE025i2-220 panels

Hamburg is home to the oldest airport in Germany – and also one of the largest. Hamburg Airport welcomes around 17 million passengers and handles around 22,000 tons of air freight every year, acting as an intermodal hub in the north of Germany. As in other critical infrastructures, all of this results in strict health and safety requirements. The airport needs sophisticated technology, especially when it comes to fire safety – and its digital signage solutions are no exception.

The challenge: fire safety at critical points of the airport

Airport passengers must be safeguarded from harm, at all times. As a result, airport operators have to follow strict health and safety requirements and detailed regulations for the use of technologies such as digital signage installations. However, the law does not provide for an LED wall hanging from the ceiling, which Hamburg Airport wanted to install directly above the main entrance to the terminal, neither in terms of fire safety nor general health and safety.

Nevertheless, the operators of Hamburg Airport wanted to take on the challenge of finding a solution that would meet all security requirements. Given the complexity of the installation, they commissioned Ben Hur GmbH to carry out the necessary planning. Walter Jünkering, CEO of Ben Hur GmbH, summarises the project: *"We had to find an airport solution that could be operated reliably 24/7 in a bright environment – without posing a fire or safety risk for passengers. The solution had to pass a fire safety assessment at the Materials Testing Office in line with the B1 DIN standards. The wall also had to look modern and match the overall airport design".*

The solution: LED wall with integrated extinguishing system

The project managers quickly opted for the LED modules of the FE series from Sharp/NEC: *"The LEDs and LCDs designed by Sharp/NEC are equipped with a metal housing and passive cooling system. This gives them a very low fire load from the outset and increases their service life. We were also impressed by the optical design and easy installation of the NEC LED-FE015i2-137 and NEC LED-FE025i2-220 Indoor LEDs"*, explains Jünkering.

The modules of the FE series are slim, frameless, only 8 cm deep and internally wired – and they can be seamlessly connected to build large LED walls. As the back of the screens have a uniform design, they can be mounted without having to cover the rear wall, which makes the wall seem even narrower – almost like a picture. The displays could also be installed overhead thanks to their streamlined design and low weight.

All these qualities make the Sharp/NEC LEDs ideal for installation in critical environments. However, the operators of Hamburg Airport had to take an additional safety precaution at the request of the fire safety officers, in order to completely minimise the risk of fire. For this reason, LANG AG was brought on board to integrate a special product into the cabinets. The product, known as *"media FIRE PROTECT"*, had been developed as part of a cooperative project between Ben Hur GmbH and LANG AG. The *"smallest fire extinguishers in the world"* are triggered as soon as a set temperature is reached, or fire is detected. When triggered, they shoot out extinguishing agents at the site of the fire and extinguish the fire locally before it can spread throughout the installation. The cooling factor starves the fire of energy, and the electrical current is permanently and safely interrupted to prevent re-ignition and stop the further spread of fire.

If a fire breaks out inside the system, only the affected panel needs to be replaced in which the e-bulb has been triggered. As the extinguishing liquid does not contain any residues, the remaining electronics are protected. This saves money and effort and reduces the display downtime. The installation also makes a significant contribution to sustainability, as there are fewer defective parts for recycling and disposal.

The result: the future of digital signage solutions for critical infrastructures

The 4.25 x 2.40 m LED installation with an integrated extinguishing system has been in operation at Hamburg Airport since December 2021, allowing a range of digital content, from advertising and entertainment to passenger information to be displayed in large format around the clock – in crisp detail and without disturbing transitions between panels. In this way, passengers can experience unique infotainment in unmatched visual quality.

The LED wall also meets all fire safety requirements and health and safety standards:
"According to the fire safety experts, we've managed to completely prevent the LED installation from causing or accelerating a fire by using Sharp/NEC displays. The operators and fire safety experts at Hamburg Airport are delighted! The solution also gives us the opportunity to install LEDs with additional safety precautions in critical environments such as at airports, in trade fair buildings and along emergency escape routes", emphasises Walter Jünkering.

The impressive combination of LED panels and e-bulbs is also about to be certified: *"We want to develop a consistent framework for the approval of such installations, for example by drawing up a specific testing plan"*, says Rajko Eichhorn, Senior Business Development Manager at JOB GmbH.

This will establish a transparent standard according to which installation partners will be able to install the integrated extinguishing systems into Sharp/NEC displays without having to perform lengthy testing to obtain re-approval for each project. If such an installation is required in line with specific health and safety standards, it will also be possible to install the e-bulbs in future products and services from Sharp/NEC.