

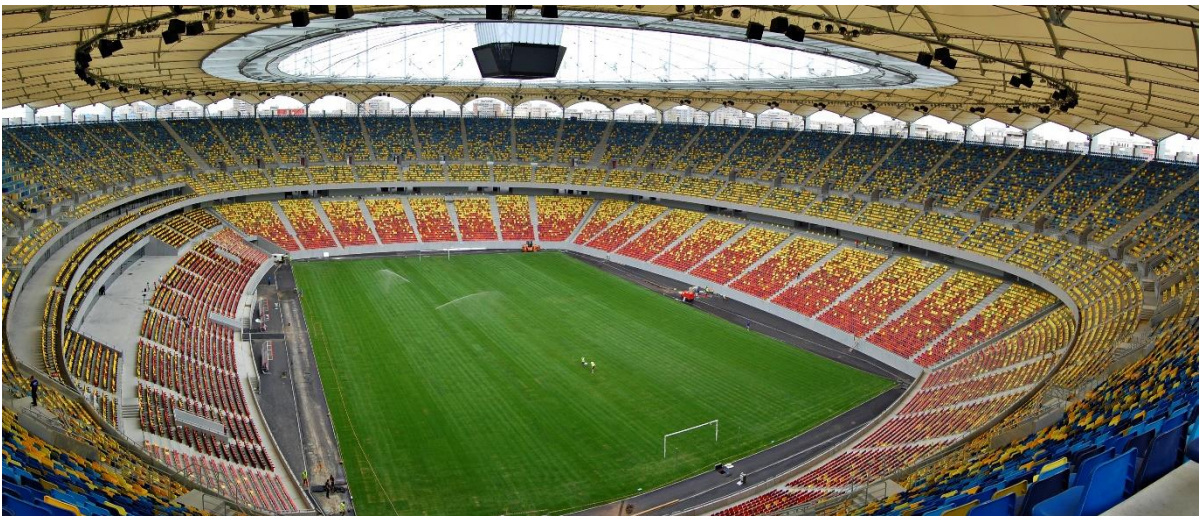


National Stadium Heat Detection

Bucharest, Romania

AP Sensing's N4387A Linear Heat Series was installed in 2011 in the new National Stadium in Bucharest, Romania. It is a football (soccer) stadium for international matches of Romania's national football team, as well as for the finals of the Romanian Cup and the Romanian Supercup. The stadium also hosted the final of the Europa League 2012 and has a capacity for 55,600 to 63,000 people.

Utilizing AP Sensing's fiber optic Linear Heat Detection (LHD) system comprised of an interrogator unit and robust sensor cable, our system continuously monitors the temperature in the stadium's cable trays for smoldering fires or abnormal hotspots developing along the power cables. The monitored cables supply the power for the lighting on the venue's playing field. Multiple trays of different sizes and with different cable loads are mounted above each other, as the cable trays run over different levels and in several areas. The lightweight sensor cable is installed along the cable trays above the main tray, and the cable trays are divided into 24 different alarm zones.



The National Stadium

As the fiber optic LHD system detects radiation and convection heat, the sensor cable should generally be installed above the potential fire and within the "field of view". The challenge of this project was areas with multiple cable trays. A separate sensor cable run per cable tray would have multiplied the required cable length and added complexity to the overall system configuration, including peripheral equipment and wiring. The final solution required a balance and a design to protect as many cable trays as possible with just one cable run.



Sensor Cable

The sensitivity of the LHD system can be set according to the individual project requirements and alarm thresholds can be configured accordingly. The LHD instrument in this installation is connected to the fire panel via the relay in- and outputs. Using these relays, each zone controls the automated fire extinguishing for that particular zone. The total length of the fiber is about 2,500 m and is installed in a single-ended configuration.

With its compact design, the sensor cable ensures fast, effective heat detection. The extremely robust cable is designed for use in both controlled and harsh environments, and more importantly requires no maintenance after installation. This is one of the reasons why the AP Sensing LHD system was chosen as the best suitable technology for this project.



LHD instrument in the control room