



MONITORING CHEMICAL THREATS DURING MAJOR EVENTS

ALERT AND INFORM IN THE EVENT OF A CHEMICAL ATTACK

CONTEXT

Over the last ten years or so, we have seen a steady increase in Nuclear, Radiological, Biological and Chemical (NRBC) threats, which have reached their highest level since the end of the Cold War. Today, we are witnessing a spate in CBRN risks, a worrying phenomenon caused by the return of high-intensity conflicts, but also by the diversification of enemies and employment frameworks.

Faced with this growing instability, **safety and security represent an essential building block in the organization of major events.** State services and private companies must ensure the safety of people in the public space, particularly during large-scale cultural, political and sporting events such as the 2024 Olympic and Paralympic Games, which will shortly be taking place in Paris.

Of all the risks involved, the use of chemical substances represents a real threat to people's health and to the sovereignty of states, with the potential to seriously undermine the political and economic stability of the countries concerned. In the context of major events, chemical threat detection solutions fulfil a vital function, which is to ensure the monitoring of critical sites to better organize the health response in the event of a terrorist attack.

BERTIN SOLUTION

To monitor chemical threats effectively, Bertin Technologies offers **Second Sight MS**, a camera that can **detect** and **identify** chemical gases **remotely** using **infrared multispectral technology**.

In a maximum of 10 seconds, Second Sight MS detects, visualizes and identifies one or several clouds of chemical gas, that it displays in real time on its human-machine interface. This gives operators precise information on the **location of the source**, the **point of contamination**, the **name of the gas** and an estimate of its **surface concentration**, to help them implement the appropriate countermeasures.

In addition, Second Sight MS has the **widest field of view** of any remote chemical detector on the market, significantly increasing its detection capabilities. Able to identify Chemical Warfare Agents (CWA) and Toxic Industrial Compounds (TIC), Second Sight MS also features an 'X-Gas' function, for the detection of **mixed, impure or unlisted gases**.

Easy to use, versatile and remotely operable, Second Sight MS can be mounted on tripods and vehicles, with an optional Pan&Tilt system, for 360° viewing of chemical threats from a sensitive site or its surroundings. Its low weight also makes it a mobile solution, easy to transport and deploy in the field.



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USE CASES



For several years, the **Los Angeles Police Department (LAPD)** has been equipped with a Second Sight MS, an **early warning system** for **real-time monitoring** of critical areas such as stadiums and fan zones. Before selecting Second Sight MS, the LAPD evaluated various systems and chose the Second Sight MS, which it described as the best solution available on the market.



Bertin Technologies also deployed the Second Sight MS during the **Football World Cup** in Brazil in 2014 and the **Rio Olympic Games** in 2016. Brazil wanted to equip itself with innovative technologies to better monitor and protect its major events and thus fight against chemical threats in **urban environments**.



After the **Boston Marathon** bombings in 2013, Bertin Technologies was also able to meet the specific needs of the **Boston fire brigade**, which was looking for an early warning system.

Two Second Sight MS equipped with a 30° lens (2 km range) were therefore positioned at strategic points to monitor the race from a distance and enable instant detection of chemical gas releases.

A first camera monitored the finish line from the roof of a building, while the second, mounted on a tripod, was on board a vehicle following the race and housing the Monitoring Center. In the event of a proven threat, the Second Sight MS' HMI displays **real-time information** on the **location of the source**, the **point of contamination**, the **name of the gas** and an estimate of its **surface concentration**, enabling emergency teams to **respond immediately to the threat**, with a precise situational context.

CONCLUSION

More than ever, chemical threats are a major threat to public safety and national sovereignty. To ensure the safety of people, it is essential to be equipped with tried-and-tested, high-performance instruments such as **Second Sight MS**.

Easy to use, this **versatile camera** monitors a **large area remotely** and **in real time**, **detects and identifies one or more gas clouds**, and **optimizes the response of first responders** in the event of a real attack. It is the ideal solution for monitoring major events, sensitive sites and critical infrastructures against Chemical Warfare Agents and Toxic Industrial Compounds.