PERIMETER PROTECTION

Martin Vojtek *explains why it's time to paint a new type of perimeter for galleries and museums*

When news broke that a Renoir painting had been stolen from an exhibition in the South of France, days after 600 diamonds were taken from a museum in Vienna, few in the art or security worlds would have been surprised. Europol had recently published "Changing Tactics, Changing Targets: The Evolving Nature of Museum Heists," highlighting criminals' growing focus on high-value objects and their increasing use of force. The latest theft also echoes the Louvre heist almost a year ago, both in how quickly it unfolded and in the security lessons it exposes.

Both French museum thefts happened in broad daylight. Both were fast. CCTV from the Renoir museum shows the perpetrators cutting through the perimeter fence early in the morning. Police were reportedly on site within five minutes of the alarm being raised. It still wasn't fast enough.

As criminals become bolder, custodians of national treasures and high-value objects need to rethink where protection begins. For many museums and galleries, simply building higher walls or stronger fences isn't an option. These buildings are often architectural landmarks and public spaces. Turning them into fortresses defeats the point. But there is another lever security teams can pull: earlier detection. A few extra seconds of warning could give on-site security or nearby police the time they need to intervene before a work of art disappears.

The cover of Europol's museum heist report shows a criminal wielding a mallet in front of artefacts protected by red laser beams. Virtual perimeters aren't science fiction. But the technology available today looks very different. Museums and galleries need stronger protection without compromising their architecture or the visitor experience. One technology attracting attention is LiDAR, a spatial sensing system that uses lasers to understand what is happening within a physical environment.

LiDAR's appeal lies in its accuracy and flexibility. It can operate in and outdoors, integrate with existing cameras, alarms and sensors and strengthen security without major physical alterations to a site.

The technology sends out laser pulses and takes millions of spatial measurements every second, building a three-dimensional picture of its surroundings. Security teams can use that data to create virtual zones around a building, room or individual exhibit. Those zones can be changed as the site changes.

A museum perimeter, for example, might remain protected around the clock. A gallery being prepared for a new exhibition could be temporarily excluded while authorised staff work inside it. Once the zone becomes active again, an intrusion can trigger an immediate alert.



The same principle can work while a museum is open. If someone gets too close to an exhibit, crowds begin to form or a person remains in a sensitive area, the system can alert staff or bring up feeds from relevant cameras. That means security teams can focus their attention where needed instead of relying on someone to spot every incident across banks of CCTV screens.

During an attempted robbery, LiDAR can identify the location and movement of people and vehicles, including their direction and speed. It also has a significant advantage over conventional CCTV: it does not depend on external light. Detection can continue in bright daylight or complete darkness. That makes the perimeter less about a physical barrier and more about knowing, instantly, when someone crosses a line they shouldn't.

And the technology can do more than detect intruders. Walk-through simulations allow teams to move through a virtual version of a site much as they would navigate an open-world computer game. Before an exhibition changes, teams can test how a new layout can affect visitor movement, identify blind spots and bottlenecks, and assess evacuation routes. That gives security teams the chance to find problems before visitors arrive, not after something goes wrong.

Museums and galleries face a fundamental tension: to make art and culture accessible while protecting objects that can be both culturally irreplaceable and financially priceless.

The answer cannot simply be more barriers. The next generation of museum security needs to detect threats sooner without getting between visitors and the works they came to see. The strongest perimeter may be the one nobody notices ●

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