



BALANCING TRADITION AND INNOVATION

Zakaria Demerdash explores some of the challenges for Hostile Vehicle Mitigation in sites of cultural importance across the UK and Middle East

In urban and architectural planning, the differences between the more mature markets in the UK and Northern Europe and the rapidly evolving landscapes of the Middle East are striking. While the UK must often contend with historical constraints in integrating modern hostile vehicle mitigation (HVM) measures into sites of cultural significance, the Gulf Cooperation Council (GCC) region faces the dual challenge of safeguarding its historic and religious sites while accommodating vast new developments. These divergent needs create a compelling exploration of how HVM solutions are tailored to their respective environments.

Navigating Heritage in the UK and Europe
In the UK and much of Europe, security planning is intertwined with centuries of history. The integration of modern safety measures into heritage sites, from ancient castles to iconic landmarks, requires a delicate balance between preserving cultural value and

addressing contemporary security needs. Architects, scheme designers and planners must carefully craft solutions that do not detract from the aesthetic and historical significance of these spaces.

Take, for instance, the narrow roads that crisscross many of Europe's historic towns. These streets were designed centuries ago for horse-drawn carriages, not the vehicles of today, let alone the need for pedestrian and vehicular segregation to prevent hostile vehicle attacks.

Yet modern threats demand solutions that ensure safety while preserving the visual harmony of these spaces. The use of sympathetic materials and subtle integration has become paramount.

The maturity of the UK market provides something of an advantage. Specifiers, architects and planners have long been exposed to security standards and HVM requirements. This helps to ensure that HVM solutions meet rigorous performance requirements while aligning with the architectural and cultural context of each site. Over decades, these markets have

developed a refined understanding of how to balance safety and preservation.

THE MIDDLE EAST: INNOVATION AND SCALE

In contrast, the GCC region is characterised by both historic sensitivity and boundless opportunity. While many parts of the region are a blank canvas for ambitious new developments, it is also home to sites of immense religious and cultural significance, such as the Masjid al-Haram in Mecca and the Prophet's Mosque in Medina, which attract millions of pilgrims and visitors each year – along with other touristic attractions of UAE and Saudi Arabia. These sacred sites attract incredible volumes of visitors and as such require security measures that are not only highly effective but also discreet and respectful of their cultural context.

For new developments, the architectural ethos of the region is characterised by grandeur, innovation and a commitment to pushing boundaries. Every detail, from skyline-defining skyscrapers to the placement of bollards, is an opportunity to express ambition and cultural identity.

Giga Projects in Saudi Arabia, the infrastructural triumphs of the Qatar World Cup and Dubai's Expo 2020 (rescheduled to 2021) epitomise the region's drive to be world leading. These endeavours demand security measures that align with their scale and vision. The emphasis on smart cities – urban spaces designed with seamless integration of technology for residents and visitors alike – extends to access control and HVM solutions. Bollards and barriers must now incorporate cutting-edge technology, such as automated systems and data-driven management, to meet the expectations of these modern urban environments.

One unique challenge in the region is the reliance on automobiles. Unlike Europe, where pedestrian zones are central to urban design, the Middle East's climate makes walking impractical for much of the year. This automobile-centric design ethos requires HVM measures to focus not just on pedestrian safety, but to also consider high volumes of vehicular traffic. Innovative solutions, such as truck-only roads in Abu Dhabi, showcase how security and urban flow can coexist.

Another unique aspect of the GCC market is the demand for security measures catering to the homes and resorts in upscale neighbourhoods. For this audience, ease of use, flawless aesthetics and the highest quality are as crucial as safety. Whether securing a private estate, a luxury resort or a high-end residential development, decision-making processes often prioritise bespoke solutions that reflect the client's status and preferences.

Security measures for these projects must meet stringent performance standards and specifications while offering a seamless blend of form and function. From custom finishes to state-of-the-art automation, these solutions represent the pinnacle of modern design and engineering, ensuring both security and an unparalleled user experience.

OPPORTUNITIES IN CONVERGENCE

The developments in the GCC region exemplify a drive for world-class urban innovation, incorporating cutting-edge technologies like artificial intelligence,

drones and smart city infrastructure into their designs. Command centres in these smart cities and resorts increasingly act as hubs for security activities, integrating physical and digital systems in unprecedented ways.

However, these advances in technology do not diminish the importance of physical security. Bollards, road blockers and barriers remain critical components of a comprehensive security strategy.

THE CHALLENGE IS TO DELIVER THE HIGHEST STANDARDS OF SAFETY AND FUNCTIONALITY

The key lies in the convergence of physical and digital systems, where integrated solutions provide not only safety but also enhanced functionality. Manufacturers capable of understanding and delivering this joined-up approach will be well-positioned to succeed in this dynamic region.

As smart cities become the norm, the convergence of physical and digital security systems will only accelerate. Command centres will integrate real-time data from cameras, sensors and access control systems, creating a comprehensive picture of urban security. For manufacturers, this shift presents an opportunity to innovate, developing products that seamlessly integrate into these eco systems.

Collaboration with architects, planners and technology providers will be essential to deliver solutions that align with the vision of smart cities. By embracing this convergence, the security industry can meet the demands of a rapidly changing world, ensuring that safety and innovation go hand in hand.

ENVIRONMENTAL CONSIDERATIONS

The Middle East presents unique environmental challenges that can significantly impact the design and deployment of HVM solutions. The region's extreme climate, with blistering daytime heat and occasional cold night-time temperatures, demands products that can withstand these fluctuations without compromising performance.

Sandstorms and abrasive winds are common, requiring materials and finishes that resist corrosion and wear. Arid conditions can also lead to issues with dust accumulation, necessitating low-maintenance designs that remain effective in harsh environments.

Conversely, flash floods caused by sudden rainfall demand robust drainage systems and the ability to withstand water ingress. All of which must be factored into security solution design.

Ground geology and topography further complicate foundation and installation design. In areas with soft or shifting soils. Tailoring solutions to these conditions ensures longevity and reliability, even in the most demanding environments.

DESIGN, SAFETY AND AESTHETICS

Balancing safety and aesthetics is a universal challenge, but the GCC region adds layers of cultural and architectural complexity. In historic areas, bollards and barriers must harmonise with traditional

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designs. In modern urban districts, however, the emphasis shifts to sleek, cutting-edge designs that symbolise progress and innovation.

The diversity of architectural styles in the GCC necessitates a flexible approach to design, ensuring that each solution is able to align with the vision of its surroundings.

SECURITY MEASURES NEED TO BE EFFECTIVE, DISCREET AND RESPECTFUL OF THEIR CULTURAL CONTEXT

Site functionality plays a pivotal role when designing an appropriate security scheme, especially in the GCC. It is key that the proper considerations are made to ensure that the functionality of the site is at the forefront of the design. Considerations such as site access requirements within automatic schemes influence the control systems that evolve automatic bollards into sophisticated pieces of access control.

STANDARDS AND APPROVALS

Ensuring compliance with security standards is critical in both the UK and the GCC, but the requirements differ. In the UK, PAS 68, IWA 14-1 and ISO 22343 define the testing of HVM products. These tests ensure that the impact performance of

products may be matched to specific requirements. In the GCC, there is still a reliance on the ASTM testing standard, while the High Commission for Industrial Security (HCIS) in Saudi and Security Industry Regulatory Agency (SIRA) in UAE also play a pivotal role in the Region.

Despite their differences, the UK and GCC regions share a common goal: creating spaces that are safe, functional and reflective of their cultural identity. In the UK, this often means preserving the character of historic sites while meeting modern security needs. In the GCC, it is far more likely to involve pushing the boundaries of what is possible, blending tradition with innovation on an unprecedented scale.

For HVM manufacturers and the security industry as a whole, the challenge is to adapt to these diverse demands, delivering solutions that meet the highest standards of safety, design and functionality. Whether securing a centuries-old cathedral or a futuristic smart city, the principles remain the same: understanding the environment, collaborating with stakeholders and embracing innovation.

As urbanisation and its associated threats continue to shape and reshape our world, the role of HVM measures will only grow in importance. By addressing the unique challenges of each region, the security industry can ensure that public and private spaces are not only protected but also enriched by the solutions on offer. The future is one of opportunity and, with the right vision, the possibilities are limitless ●

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