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Airbox Systems

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MOSAIC

Navigation and Situational Awareness



Take control in any situation

Launched in 2008 with a core mission to help save lives and support those in the operational field, Airbox Systems holds interoperability at its heart. Bringing together all emergency responders across the country to enhance operations through clear and comprehensive situational awareness software.

Driven by passion and great people who share our enthusiasm for trying to make the world a better place, our team includes individuals from military, aeronautic and law enforcement backgrounds who bring to the development of our solutions first hand insights of frontline operations, in the air and on the ground. ACANS and MOSAIC are continuously updated by real-time by data feeds. Airbox makes a positive impact on operational safety.

Airbox Systems is widely respected and recognised for its innovations. The suite of situational awareness tools can be used across web, desktop, and mobile applications, using the latest technologies. These are designed for planning, execution and after-action review, and are trusted by Law Enforcement, Military, Special Forces, Search & Rescue, Fire and Medical Emergency Services around the world.

One system shows everything at a glance

Supporting field operatives in complex and demanding situations, MOSAIC helps people to visualise their environment. MOSAIC is used across the emergency services, military and in commercial settings.

Designed for field-based professionals working with or without central co-ordination, the software provides a single pane of glass on which users can see a complete picture of their environment and share information. This leads to safer, more efficient and accurate operations and tasks.

“The benefit of using Airbox was quickly understood across the Specialist Operations Unit, the ability to share information in real-time during operations allowed us to act more effectively, enabling us to communicate with neighbouring agencies and improve the response rate across all lifesaving forces.”

Sir Mark Rowley, QPM, Former Assistant Commissioner of Special Operations, Metropolitan Police

Features and benefits

- Integrated mapping and aerial photography
- Tracking of people, vehicles and assets
- Ability to add intelligence and operational plans to the map and share
- Map overlays of schematics, data sets and sensor information
- Sharing of secure messages, risk assessments, photos and video imagery
- Integration with drones and ROVs
- Workflow, tasking and checklists
- Geo-fencing and safety alerts
- Pre-planning and after action review capability
- Integration with 3rd party data feeds eg. tracking, CCTV, intelligence and C2 systems



Multi-platform, multi device



Maps, charts and overlays



Schematics



Annotation



Tracking



E-Logging



Navigation



Live video and sensors

Used by

Airbox has a clear mission to help save lives and support the decision making of first responders using the software. Many of our clients are risking their lives daily, to help keep others safe. Airbox understands that we have a heightened duty to respect the trust which clients place in both our products and us as individuals.

- UK Specialist Police
- UK Emergency Services
- International Counter-Narcotics Units
- NATO
- UK Armed Forces
- UK Military Training Establishments
- Commercial Organisations
- R&D Establishments

G7 Devon and Cornwall Police

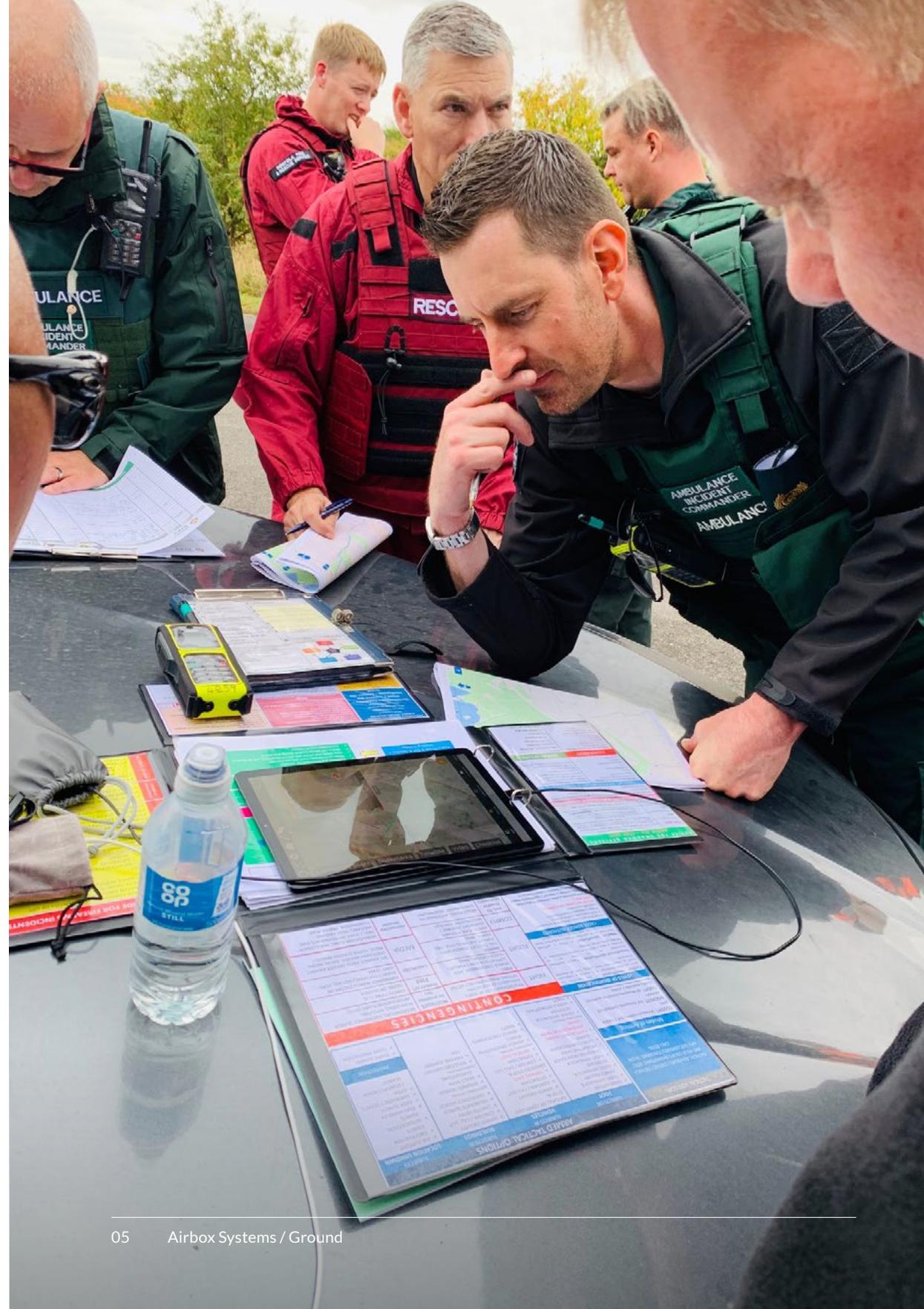
For some on site, the Airbox System was a new feature to their tool kit and the team were on hand to enable the end user with quick and clear set up. Sgt Tom Shainberg of Devon & Cornwall Police used Airbox to enhance his picture for counter-drone work. Tom said

“Airbox provided technical mapping capability to us during the G7 summit, supporting our delivery of a safe and secure event. Three individuals were detained during the course of the event after they flew their drone into temporary restricted airspace where a number of manned aviation operated. The ability to mark up the map during live tracking allowed for a quick search to locate the individuals.”

Additionally, it allowed us to successfully integrate drones into a complex airspace, allowing a safe and reliable operating space for all air users.”

To help with the preparation of this complex operation with its many locations the support of a number of departments within Devon & Cornwall Police was required. Rob Goldsmith of Devon & Cornwall Police said:

“As a GIS practitioner I found working with the Airbox team to be simple and effective. The process of sending GIS data was easy with our data uploaded and deployed to the end user almost instantly. The utilisation of the system helped highlight the wide operational benefits of having GIS data easily accessible to key stakeholders.”





The tactical approach

Using the system to its full capability allows users to optimise their situational awareness during pre-planning and in operation environments. MOSAIC offers the complete operational picture and that pane of glass view that Emergency Service specialists desire.

Integrated mapping and aerial photography As well as the Google suite of maps available on the MOSAIC system we also hold up to 400 different map sets. The base level maps just sit on the device offline so no need for the internet. Air photography can also be imported or stitched into the map layer from several sources and used offline.

Schematics (buildings complex) Schematics can be obtained from 3 different sources: already held by the Emergency Services, from the internet, or created following discussions with someone that has knowledge of the building/complex. These can be stitched to the base map for the team to see and use during operations.

Overlays (area locations) Overlays are produced to create the unified view of grouped assets: hospitals, associates/criminals, a communications plan, all tube stations etc. Open created overlays are searchable if required. Live overlays are also available such as: AIS system, NPAS and ARV Track App.

Note: All schematics and overlays can just sit on the device offline and be produced at the press of a button.

Annotation As well as custom made icons that will fit several situations there is flexibility to identify assets using a drawing panel that has different shapes and colours. Using the map as an operational planning tool, intelligence can be shared to the team as required.

Tracking and Geofence MOSAIC can track up to 10,000 entities at the same time. Geofences can also be used to indicate when a tracked asset arrives or leaves a location, as a safe corridor in a non-descript area and report lines when moving across or through an area.

Photos and Videos Photos and Videos can be taken with the device or a 3rd party system (Drone, Body Cam, CCTV etc.) and brought into the operation. All photos and stills taken from videos can be annotated, further enhancing the accuracy of a known area/person of interest.

Timeline The Timeline allows for the secure capture of all information (messaging, photos, videos, geofence breaks and check lists) which can be immediately shared with other users and also available for After Action Reviews, Audit Trail or Debrief.

5 Levels

1. Integrated mapping and aerial photography
2. Schematics and Overlays
3. Annotation
4. Tracking and Geofence
5. Photos and Videos/Timeline/Expanding circle

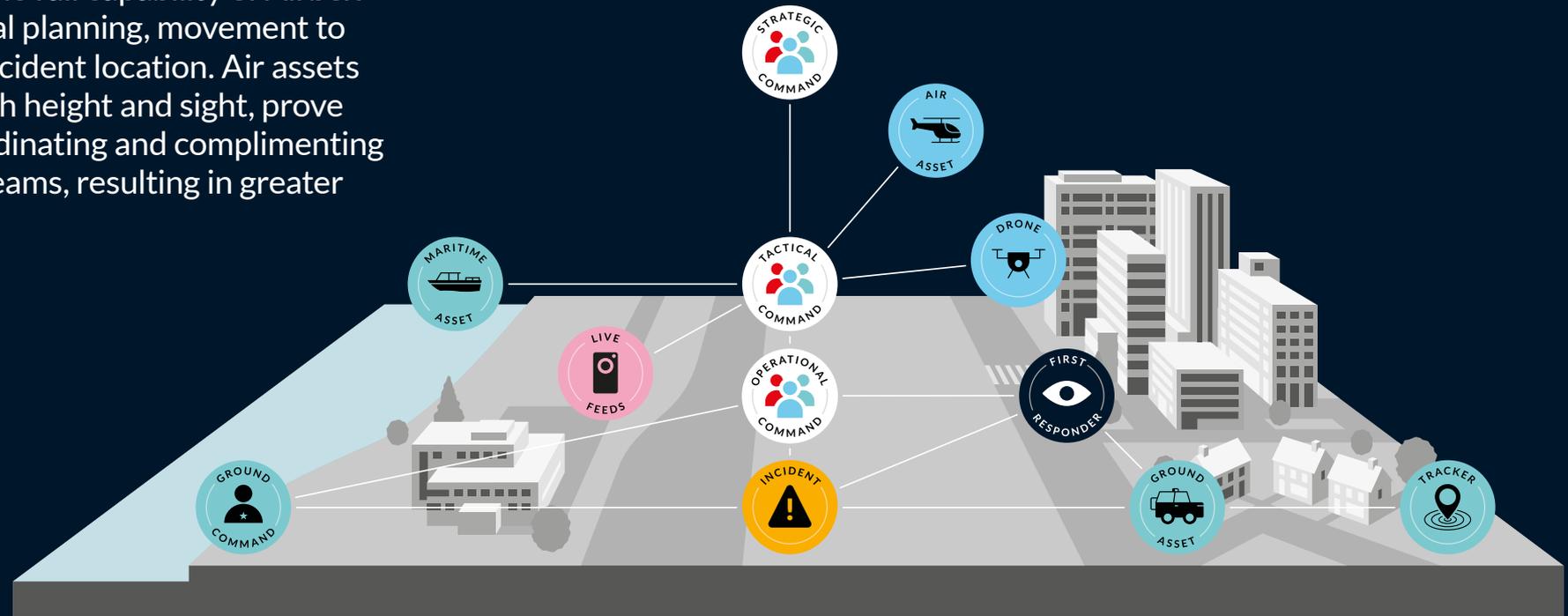


Interoperability

When a major incident occurs the full capability of Airbox can be utilised to cover the initial planning, movement to the incident and action at the incident location. Air assets on the Airbox System, using both height and sight, prove invaluable as they assist in coordinating and complimenting both deployed ground and air teams, resulting in greater efficiency and a safer outcome.

Step by step narrative of incident

1. Incident
2. First responder
3. Strategic command
4. Tactical and operational command
5. Live feeds
6. Ground team
7. Aviation team



- Key:**
- Incident
 - Aviation - ACANS
 - Ground - MOSAIC
 - Government

Multi-agency events show the power of Airbox across the agencies, being able to see teams, passing intelligence to the right teams, manoeuvring people and ensuring quick response where every second counts.

Multi-agency information sharing answers to some of the recommendations of recent public reports including Kerslake, London Bridge, Borough Market and Grenfell. These reports all outlined the need for the unification of and interoperability between the forces through a nationwide geo-location system. Interoperability is at the heart of Airbox and providing the much needed solution to linking the agencies together across air and land.

East of England Ambulance Service

The first Ambulance customer for Airbox's MOSAIC mobile operational support application was the East of England Ambulance Service (EEAS). Jamie Fountain, Resilience Manager and National Inter-Agency Liaison Officer (NILO) for EEAS, discussed their experiences with the system.

Jamie noted benefits he sees both with MOSIAC and the relationship with Airbox – *“the technology is one thing, but the impact would not be the same without the support, flexibility and commitment of the team at Airbox”*.

As a NILO, Jamie saw ACANS (the airborne equivalent of MOSAIC) being used by Emergency Helicopter crews and recognised its potential for EEAS. A modest pilot programme was funded; 25 MOSIAC licences/iPads were procured and issued to specialist sub-units, such as Hazardous Materials Response teams. It took a while for the EEAS staff to adapt to the power and flexibility of MOSAIC, but Airbox personnel helped to smooth the introduction.

Jamie highlighted several *‘game changing’* improvements MOSAIC had delivered across the whole *‘mission cycle’*. For example, the timeline facility enables senior officers to swiftly assimilate crucial information, improves *‘after action’* analysis and predicts when hospitals will reach capacity. As other organisations adopt MOSAIC, the Emergency Services will be increasingly *‘joined up’*. Jamie referenced the nerve agent attack in Salisbury as an example where even closer integration between Police, fire and specially trained hazard response crews would have been beneficial. More MOSAIC users equals better interoperability. He also praised Airbox for their unusually collaborative approach to interfacing with software from other vendors, such as *‘What Three Words’*, all of which incrementally improve the service EEAS provides.

Jamie sees MOSAIC being distributed to more personnel within at EEAS. He'd like to further unlock the power of data networks, using algorithms to exploit geo-tagged Social Media posts to potentially locate the scene of the incident before 999 is even dialled. He'd also like to see MOSAIC assisting in better *‘patient packaging’* – ascertaining which is the most appropriate hospital given patient status and traffic conditions, streaming information to the receiving unit so that they are both better prepared to receive the casualty and acting as a conduit for senior medical staff to provide virtual assistance to the attending clinician on scene or in transit.

MOSAIC has already been a game changer for EEAS – and Jamie is convinced it could be a significant aid to National Resilience.



Navigating the Airbox story from air to ground

A De Havilland Venom jet marks the entrance to Grove Technology Park, the long term home of Airbox. The park is part of the former RAF Grove airfield, it is steeped in the history of brave people going out to risk their lives to protect others. Grove played a pivotal role in the Berlin Airlift of 1948, a risky and long running operation to ensure supplies of food to the citizens of Berlin.

William Moore, Airbox' CEO and co-founder was hooked on flying from the moment he took off from RAF Fairford in a Second World War Mustang Fighter. Having studied Mechanical Engineering at Bristol University, he founded his first business in 2004 specialising in the supply of fixed wing aircraft parts. As a novice pilot he saw how technology could simplify the flying processes, navigation and checklists were digitised, allowing pilots to have more head space to plan and enjoy the flight.

The initial product was a piece of hardware which was brought in from Hong Kong and loaded with the Airbox mapping service. These were sold in their thousands around the world and lead to numerous international awards. However, with the development of smart phones and touch screen devices, the hardware element was no longer required and the business became focussed on software.

Through a happy coincidence, in 2012, William met Gerry Hill MBE QGM+Bar. Gerry a highly decorated former 22 SAS officer, who, after 34 years' service was in the process of leaving the regiment. Both sharing a passion for protecting life they saw the potential of creating a piece of software which would allow all of the emergency services to share information. It was from this partnership that the modern Airbox, with its dedication to the protection of both those who serve and the people they protect, was born.

**Our passion is to protect life through helping people understand their world.
We deliver software which enables informed decisions in complex environments.
Safety and operational effectiveness are paramount to our customers.**

Airbox is underpinned by strong cultural values. In addition to our customer focus, we want Airbox to be the best possible place to work – a place governed by strong ethics, with a highly inclusive environment where people can do the best work of their lives in support of a deeply meaningful objective.



Our team

The Airbox team is built around our core values which are championed by the Senior Leadership Team. We treat our colleagues, customers and all those with whom we interact with respect, sympathy, fairness and understanding of their strengths, limitations and diversity as human beings, it is the strength in the teams humanity that enable Airbox to have strong customer relationships.

Founders

William Moore CEO



William is co-founder and CEO of Airbox Systems, with more than thirteen years of entrepreneurial experience in situational awareness provision. Airbox was born in 2008 as a solution to navigation for private pilots, the system was quickly taken up by medical response helicopters with Dorset Air Ambulance leading the way. By 2011 the expansion into the emergency services sector was defining the future of Airbox. With a focus on innovation, safety and the highest level of customer service, Airbox became one of the leading providers of situational awareness amongst the emergency services.

The focus now was to connect air and ground responders and create a clear operating picture that brought the emergency services together. William's extensive experience in assessing the technological needs of customers and translating goals into software has provided a strong foundation for a connected operational picture.

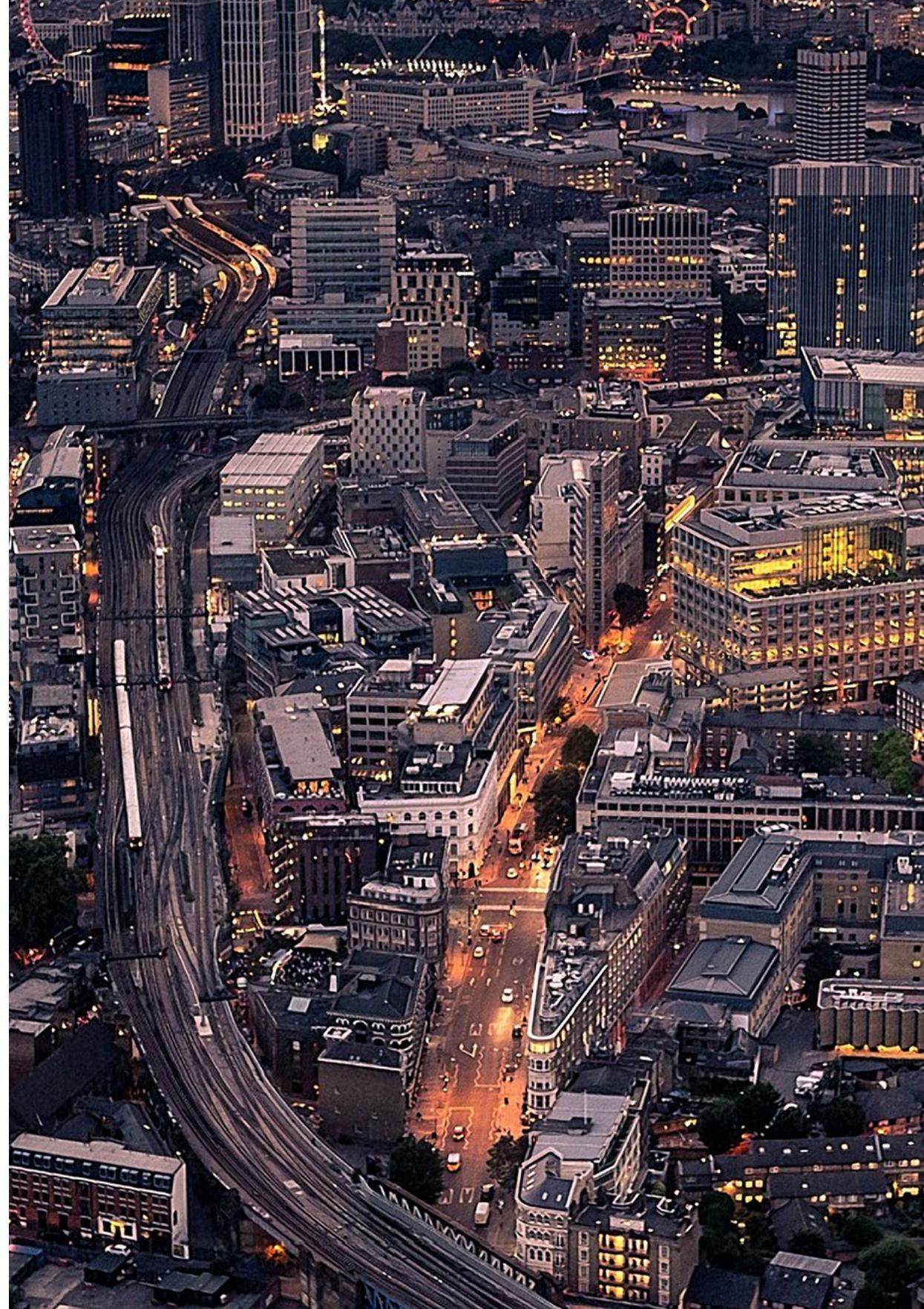
Gerry Hill MBE QGM+BAR Director and co-founder



Gerry spent 45 years in the Armed Forces, 34 of which were with 22 SAS Regiment. During this period, he saw service in major conflicts: Northern Ireland, the Falkland Islands, the Balkans, the Middle East and Afghanistan as well as being deployed in a number of other countries where there was British interest.

Many of the positions he held throughout his career have particular relevance to the role he undertakes at Airbox today. Having worked extensively with the Emergency Services and Police where he planned, prepared and ran training and operations within the counter-terrorism arena.

Whilst serving, Gerry received four gallantry awards – two Queen's Gallantry Medals (QGM) and two Mention in Dispatches (MID), a Commander in Chief Commendation (CINC) for valuable service as well as being created a Member of the British Empire (MBE).



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