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AES have delivered in 2006/07 the DIM, Detection Indentification and Monitoring, Vehicles for the Communities and Local Government

a new dimension for **disaster response**

AES detection investigation and monitoring vehicles are about to enter service. In covering the benefits of these vehicles, The BAPCO Journal also looks at the communication implications...

The Office of the Deputy Prime Minister (now the Department of the Communities) awarded AES with the prestigious Detection Investigation and Monitoring (DIM) contract for 18 vehicles to be supplied to the greater Fire and Rescue Service. Subsequent orders have been received from Wales and Northern Ireland. The value of the contract exceeded two million pounds. This contract is part of the New Dimension project established and funded by central government to provide a national response to a disaster.

what are the missions of the DIM vehicles?

Based on the Iveco Daily 50 C 17 5.2 Tonne extra high roof van platform the DIM vehicle enables the Detection, Identification and Monitoring Advisor to transport the suite of DIM equipment provided by the Department of Communities to an emergency and carry out a detailed analysis of the unidentified substance in a suitable environment.

The primary functions of the DIM equipment are to enhance the present FRS capability to detect, identify and monitor hazards and also to identify substances at Chemical Biological Radiological Nuclear (CBRN) or Hazardous Materials "HazMat" incidents.

Timely, well organised detection and identification of hazardous substances at the scene of a CBRN or 'HazMats' incident will not only assist in identifying appropriate cordoning of the incident and determine the necessary safe systems of work (including the required levels of personal protection) but inevitably, reduce risk to members of the public, emergency responders and the environment.

It can also significantly reduce the time taken to successfully resolve such an incident thus mitigating societal and economic impacts and assist in re-establishing or maintaining business continuity.

requirements

The vehicle layout was determined by the equipment carried. The driver cab was fitted out with specialist and resilient communication systems as well as navigation systems to facilitate deployment.

The central or laboratory area carried specially stowed analysis equipment in a climatically controlled environment, multiple battery packs and the IT infrastructure. Power is supplied to the vehicle from both on-board DC and AC sources managed by a programmable logic controlled electrical system.

The outcome specification required full analysis and development through 3D graphical modelling, stress analysis and prototyping.

The significant risk identified early in the process was the Human Factors element due to the operational environment and physical properties of the personnel decontamination equipment being deployed.

A formal process of user trials based on the prototype vehicle identified the steps taken by the users in completing their assignment; these individual tasks were assessed to identify hazards. Having established these protocols the risks were assessed and engineering solutions developed to mitigate them.

Upon completion the vehicles are sent to strategic FRS locations to guarantee quick deployment ensuring the best possible response and intervention at major centres of population. The vehicles also have to provide sufficient IT provision to enable the DIM to analyse their findings and email the results for further clarification from an international company when appropriate.

communication

The Department of the Communities required an end-to-end communication system managed service, from design through to in-service logistical support. The Department of the Communities by working with AES have also the advantage of a full mobile data system installation and integration with back office IT systems and wireless applications.

the intelligent IDR from M-Flow

The Department of the Communities have procured as part of the contract a full M-Flow back office system receiving vehicle management and location information from the M-Flow FMS 500 data recorder. With this system the users can track and analyse the health of the vehicle continuously working to improve their use, availability and care.

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