



AIDERS - Cyprus Wildfires (July 2025)

In late July 2025, amid a heatwave, a massive wildfire tore through southern Cyprus. The fires, described as the worst on the island in more than 50 years, devastated large tracts of the Limassol area, killing two and injuring dozens of people. Hundreds were displaced. An estimated 250 firefighters battled to contain the blazes. Cyprus Civil Defence (CCD) was also involved in these efforts, using the AIDERS solution which was primarily deployed for monitoring and inspecting designated areas. The UAVs provided real-time situational awareness, supporting coordinated emergency response efforts defined by field authorities.

What is it, where and how was it used?

The AIDERS system aims at developing application-specific algorithms and a novel mapping platform that harnesses the large volume of data that first responders are now able to collect through heterogeneous sensors. The solution was first developed by KIOS in 2019, and has been used in multiple full-scale exercises by the CCD since then. The main objective of using AIDERS during these fires was to support first responder authorities in the field (Fire Service, Forestry Department, Civil Defence and the Cyprus Police, among others) by monitoring remote or inaccessible areas where firefighters could not operate. Cooperation across agencies is managed through coordinated communication and clearly defined roles established before and during the operation.

Technical and organisational aspects

Two DJI Mavic2 UAVs were used for the main tasks. The UAVs collected and transmitted data such as geographical information and live camera streams to the Command and Control Centre (CCC). Other key technological components include a web-based platform for managing multi-agent systems, integration of AI tools, and capabilities for data acquisition and analysis. These components support both real-time operations and future planning needs.

One half of the CCD team was stationed at the CCC, the other half (pilots and observers) on-site in the field to ensure safe operation for each UAV mission. Communication between field pilots and the CCC was primarily maintained via mobile phones. Additionally, live video streams were monitored from the CCC, maintaining continuous communication. Deployment at both locations took approximately 5 minutes, including system startup, UAV preparation, and establishing communication with the AIDERS platform.



Benefits and effectiveness of the solution

AIDERS supports information sharing by providing a common platform where UAV data is accessible to all relevant authorities. The outcome was improved situational awareness (fire front monitoring, evacuation planning), enabling more informed decision-making and efficient coordination during the wildfire response. The solution has demonstrated a high success rate, particularly in its ability to deliver timely, accurate information that supports effective emergency response.

Its effectiveness is largely attributed to several key factors: rapid deployment capabilities, ease of use, integration with existing systems, and the reliability of the hardware and software components. These features work together to ensure that responders can act quickly and with confidence, even in high-pressure scenarios. Compared to traditional methods, the drone-based solution enabled wider area inspection, including regions that were otherwise inaccessible.

Key challenges

While no major challenges were encountered during development or deployment, one consideration for the future is ensuring all users have sufficient technical familiarity with the system. Providing adequate training and user-friendly interfaces will be important to support smooth adoption and effective use across different teams and regions. Besides that, the operation area provided limited communication coverage and, thus, the bandwidth for digital communications was limited. To address this challenge, the Starlink satellite system was deployed during the second day of operations.

Future potential of the solution

One of the key lessons learned was the importance of rapid deployment, especially in emergency situations. As a result, a major improvement over time has been the optimization of the setup process to significantly reduce deployment time and enable more efficient operation when it is needed most. Over the next 1-3 years, the solution has strong potential for broader adoption and integration into emergency response systems at both national and international levels. Continued improvements in hardware compatibility and automation could further enhance its scalability, reliability, and ease of deployment. Additionally, with growing awareness of the need for rapid, adaptable solutions in crisis scenarios, the system is well-positioned to become a critical tool in disaster preparedness and response strategies. Providing adequate training and user-friendly interfaces will be important to support smooth adoption and effective use across different teams and regions.

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