



DARLENE

Project name and abbreviation: Deep AR Law Enforcement Ecosystem (DARLENE).

Programme: Horizon 2020.

Project duration: 1 September 2020 - 31 December 2023.

Budget: € 6 954 860.

DARLENE in a nutshell:

Augmented reality (AR) holds massive potential for smart policing and for law enforcement agencies (LEAs) that need to continuously undergo digital transformation to stay one step ahead of criminals and terrorists. By overlaying useful information directly on top of the real world, AR technology can greatly improve situational awareness, a vital skill that is often critical to the survival and safety of officers and civilians in crime-fighting situations. Currently available technologies, however, lack the processing capacity to deliver rapid, real-time scene interpretation necessary when responding to criminal and terrorist incidents.

DARLENE was a three-year EU-funded project that investigated how cutting-edge augmented reality (AR) technology could be deployed to help law enforcement agencies (LEAs) and first responders make more informed and rapid decisions, especially in situations where time was critical. The project developed innovative augmented reality (AR) tools aimed at improving situational awareness when responding to criminal and terrorist activities. DARLENE combined innovative AR smart glass technology and powerful computer vision algorithms with 5G network architectures, enabling agile processing of real-time data by LEAs even in high-pressure situations. The project also carried out an integrated ethical, data protection, and social impact assessment of augmented reality tools to ensure compliance with ethics requirements and foster public trust in the lawful use of technology.

The project team developed much of the technology from scratch. A project partner developed the AI glasses and necessary algorithms. Existing methods and technologies were also identified and integrated into the overall prototype concept.

The prototype system was then demonstrated in two test cases, both involving police officers. The first simulation involved the identification of suspicious objects and injured people at an airport. The second simulation involved dealing with armed criminals in crowded spaces, such as hotels or shopping malls. These tests aimed to see if the DARLENE system could facilitate more coordinated responses in active shooting situations. The DARLENE system provided law enforcement officers with extra information about the location of people and objects in these scenarios, using an array of pre-installed sensors. Officers on the ground were then able to better visualise the situation.

The project, coordinated by [Ethniko Kentro Ervnas Kai Technologikis Anaptyxis](#) (Greece), involved 15 partners from 10 countries.

More information about the project: <https://www.darleneproject.eu/>.

More information on CORDIS: <https://cordis.europa.eu/project/id/883297>.

Project videos on YouTube: <https://www.youtube.com/channel/UCCYIcxHbPLUepNCvlf0VC6g>.