Project name and abbreviation: Integrated and adaptive responses to toxic emergencies for rapid triage: engineering the roadmap from casualy to patient to survivor (TOXI-triage).
Programme: Horizon 2020.
Project duration: 1 September 2015 - 30 September 2019.
Budget: € 12 931 869,25.

TOXI-triage in a nutshell:

Chemical, biological, radiological and nuclear (CBRN) events increasingly target civilians, with first responders likely to be police officers or paramedics. A new platform for medical care and site management during triage of CBRN crises will enhance information access and utilisation to enhance outcomes.

When unprotected civilians are the target of CBRN attacks, coordination is required among inexperienced and often disconnected entities and agencies, including civilians themselves. The EU-funded "TOXI-triage" project brought together 18 partners across 7 countries, many of whom are competitors outside the project, to achieve better outcomes for humanity during the CBRN crises.

"TOXI-triage" developed and integrated numerous technologies to address the operational, technological, ethical and societal dimensions of CBRN response and recovery, and to ensure a path to a sustainable CBRN and multiuse system. Together the project team has developed advanced methods to determine the level of casualty exposure to poisons; created new payloads for drones that contain radiological and poison cloud monitoring instrumentation; designed new systems for mapping the environmental impact of an incident and managing decontamination activity; developed new tools to tackle the spread of fake news during an incident; and created a way to utilize social media during an emergency situation.

Although not envisioned at the project start, "TOXI-triage" incorporated a 'test atmosphere generator' to deliver relevant concentrations of target molecules. The **"**T4i Dover" (Drone Operable Vapour Examiner and Recorder) – a versatile, robust, and miniaturized chemical detector that can be fitted to an unmanned aerial vehicle (UAV), flown into contaminated air space, and give real-time feedback information on the chemical compounds present in the atmosphere. The T4i Dover is equipped with a state-of-the-art Human Machine Interface, which allows it to share resources among hardware, software, and firmware. It is used for sampling, modulation and separation in the detection of hazardous chemicals.

The **"**T4i Dover**"** was awarded for the best innovative technology in the 2023 Security Innovation Award event organized by EU DG HOME.

More information about the project: https://www.lboro.ac.uk/news-events/toxi-triage/ and
More information on CORDIS: https://cordis.europa.eu/project/id/653409.
Project field trials: https://www.youtube.com/watch?v=gRApDB5MHZA.