NIGHTINGALE

Novel Integrated Toolkit for Enhanced Pre-Hospital Life Support and Triage in Challenging and Large Emergencies

NIGHTINGALE
Advancing pre-hospital life support and triage

- Research and Innovation Action
- H2020 SU-DRS-02 Technologies for First Responders, Subtopic 3-2020: *Methods and guidelines for pre-hospital life support and triage*
- **Duration:** 3 years (started in October 2021)
- **Overall budget and EU Contribution:** €8,831,477,50
- **Consortium:** 23 partners
  - 8 end-users and practitioners
  - 8 specialised SMEs and industries,
  - 6 RTOs and universities

The NIGHTINGALE Toolkit

NIGHTINGALE will offer intelligent, integrated, and interconnected tools and services. These technological solutions will be complemented with a commonly agreed operational framework that will be embedded seamlessly within the workflow. The toolkit will be provided to emergency medical services, non-medical civil protection personnel, volunteers, and citizens for extensive testing in the framework of a rich Training, Testing and Validation Programme

Triage and vital signs devices
Devices and mobile applications that assist with unique identification of victims and show the triage status of patients. The devices offer hands-free functionalities and visualisation of vital signs of patients

DEVICES
DIGITAL TRIAGE TAG — TRIAGE AND VITAL SIGNS APP
VITAL SIGNS EARPLUG — AUGMENTED REALITY GLASSES
FIRST RESPONDER WEARABLE

Intelligent systems
Intelligent systems that enhance situational awareness and operational capacities of emergency teams. The systems provide information about mass casualty incident scenes quickly, supporting fast triage, diagnosis and prognosis of patients whilst allowing optimal utilization of resources and assets

DEVICES
UAV RAPID TRIAGING SYSTEM — RESOURCES AND ASSETS OPTIMISATION
THERMAL SCANNING SYSTEM — DIAGNOSIS AND PROGNOSIS SERVICE

Interoperability and data fusion
Information-processing modules support interoperable access of heterogeneous data from the field and open data sources. The system integrates early warning notifications and provisional recommendations that can be communicated to victims and the general public.

DEVICES
EARLY WARNING AND RISK ASSESSMENT — DATA LAYER
DECISION SUPPORT SERVICE — INTEROPERABLE DATA LAKE

Multi-Agency collaboration
Integrated systems that provide a common operational picture and advance coordination and cross-team collaboration of emergency medical services and civil protection agencies
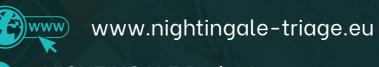
DEVICES
SWAPP APP — NG 112 (PSAP)** — (C3/IMS)*
AUGMENTED REALITY SERVICE — SCENARIO BUILDER

**PSAP = PUBLIC SAFETY ANSWERING POINT   *CC3/IMS = COMMAND, CONTROL AND COORDINATION & INCIDENT MANAGEMENT SYSTEM

The NIGHTINGALE Results

NIGHTINGALE aims to upgrade pre-hospital life support and triage by creating innovative technological tools for emergency medical response. The tools will optimise current procedures and methods and enhance the operational capacities of emergency medical services and civil protection agencies in mass casualty incidents

- Digital identification and traceability of affected people during mass casualty incidents
- AI-enabled continuous monitoring and classification of medical conditions
- AI-enabled optimisation of assets and resources
- Local and remote assessment and real-time monitoring of affected people which specifies their location and proximity to emergency teams
- Augmented reality application supporting monitoring of victims, information sharing and communication between emergency teams and with victims
- Innovative digitized training and scenario-building platform for first responders

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