



Project Profile

Safe Rescue

Lowering mortality rates through point-of-injury monitoring

The ITEA project Safe Rescue protects workers and emergency responders during industrial accidents. Through a combination of wearable sensors, two-way communication, geolocation technologies and integrated operations centres, mortality rates and health costs can be significantly lowered.

ADDRESSING THE CHALLENGE

In an accident in an industrial setting, emergency responders must address critical impacts in real-time without missing the potential for secondary issues. This includes locating and evacuating workers, identifying casualties, assessing physical statuses and providing first aid. However, information sharing between Search and Rescue (SAR) and Emergency Medical Services (EMS) agencies remains difficult, particularly under time pressure. Additionally, agencies often lack the capacity to use physiological sensors or to integrate results into a common output that can be analysed. New decision support systems, advanced sensors, communications technologies and data analyses are needed.

PROPOSED SOLUTIONS

The Safe Rescue project has the potential to save the lives of victims and first responders by allowing emergency dispatchers to track, locate, and direct teams to rescue at-risk / down personnel during emergency situations. Software and related hardware will be developed to improve dispatchers' emergency management response accuracy, by proposing optimal decisions to resolve an accident. Furthermore, project outputs are aimed to increase the emergency dispatcher situational awareness on the accident, by providing a dashboard view of the incident location, superimposed with the information on status and locations of the

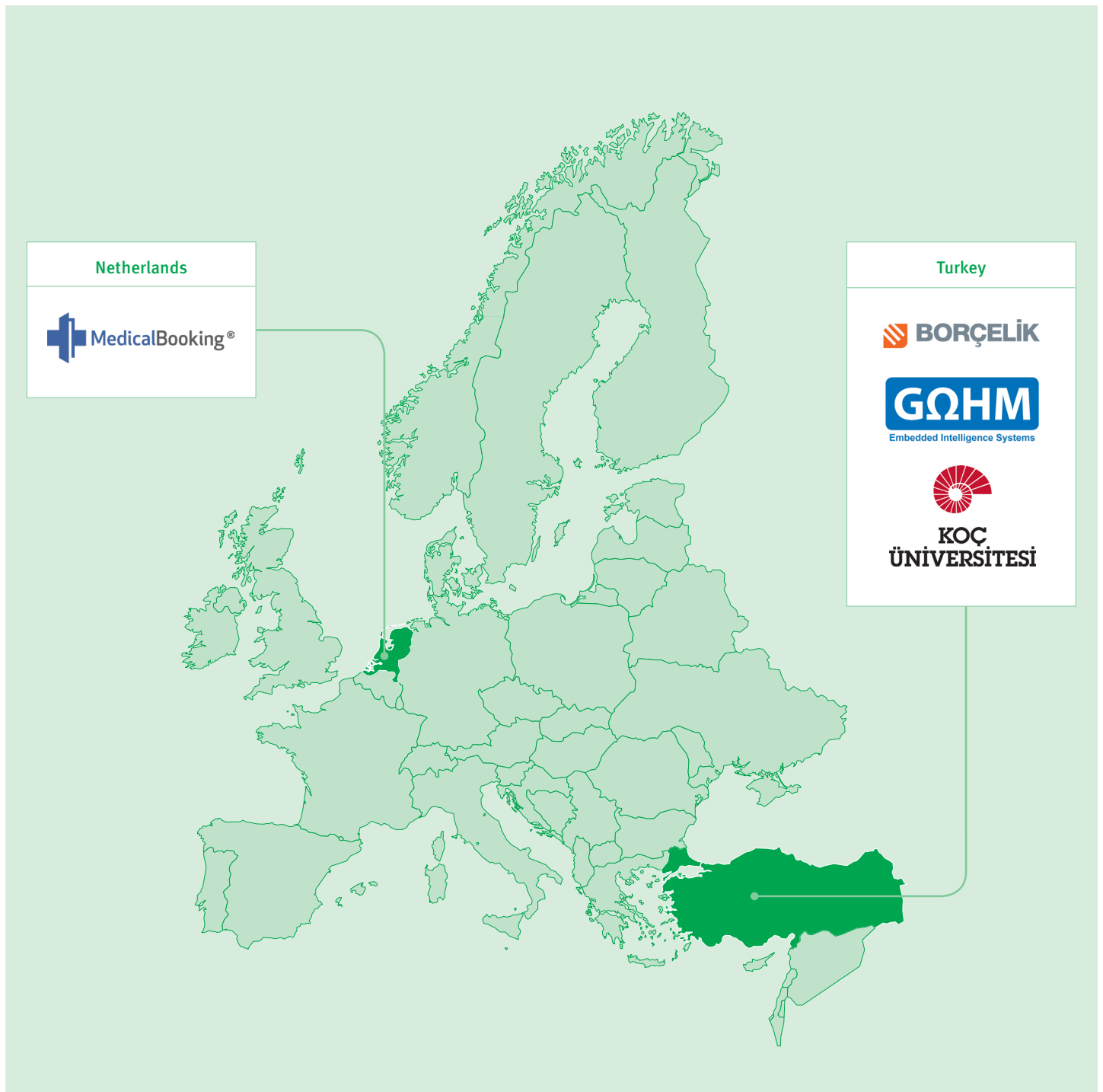


Safe Rescue - Personal tracking device conceptual prototype 2

first responders, incident location, workers, and victims. Firstly, Safe Rescue will develop software and hardware tools that can locate all staff on site in real-time and determine their physiological status. Secondly, an artificial intelligence-based decision support system for emergency dispatchers to improve emergency management response accuracy will be developed, which will improve the survival rate and avoid secondary incidents. Finally, Safe Rescue will develop tools to provide emergency dispatchers the ability to accurately locate and track the victim, collect other related sensor data in real-time to rapidly and effectively re-deploy or save at-risk responders during an incident.

PROJECTED RESULTS AND IMPACT

Safe Rescue's foremost impact will be lower mortality rates in fields as varied as manufacturing and mining, with a priority in high-risk industrial environments. During an incident, immediate location of injured workers greatly increases their chance of survival, while real-time communication and hazard detection makes the work of emergency responders safer. From a financial perspective, incident and emergency management market is expected to grow more than 5% within 5 years. The Safe Rescue product class is expected to have first mover's advantage to capture the significant percentage of the market, comprised of hundreds of thousands of users.

**Project start**

January 2018

Project leader

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Project website<https://itea3.org/project/safe-rescue.html>**Project end**

December 2020

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