

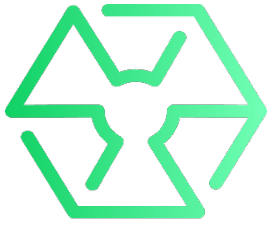
eu - radion

EU-RADION

EU-RADION (European System for Improved Radiological Hazard Detection and Identification) (Grant no. 883204) is a project funded under the H2020 programme focused on performing research and providing innovative solutions in the field of **CBRN threat detection and identification**.

It is coordinated by Łukasz Szklarski, PhD from ITTI and it aims at responding to the needs of **first responders and crisis management teams** by developing solutions that would cover the technological gaps identified by the ENCIRCLE project.





eu - radion

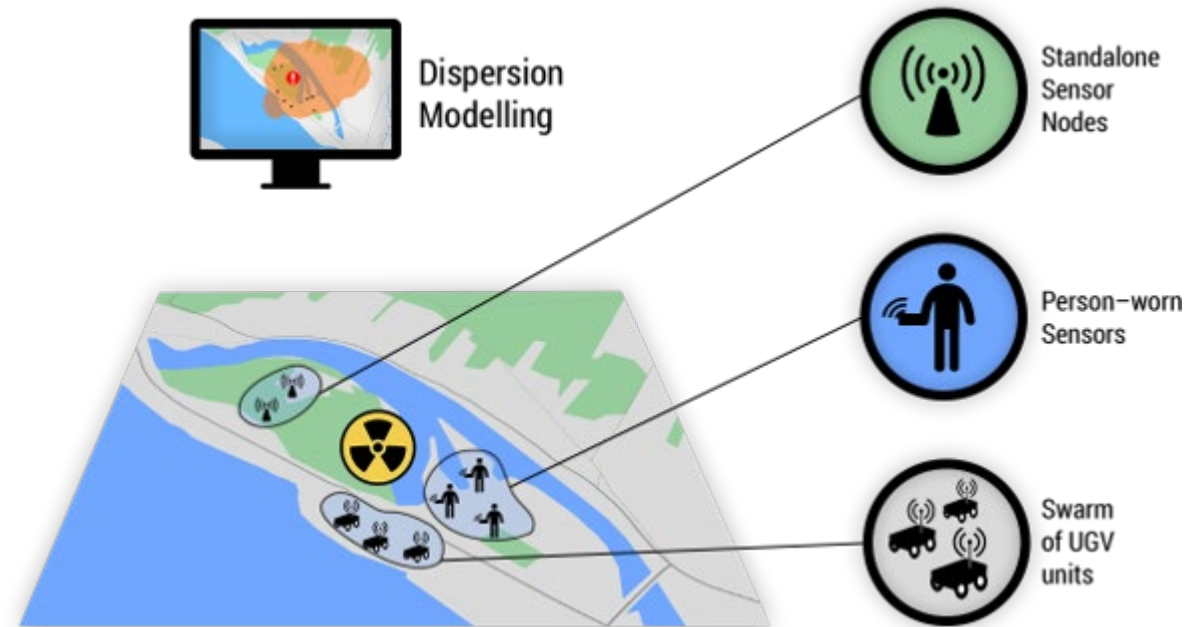
EU-RADION

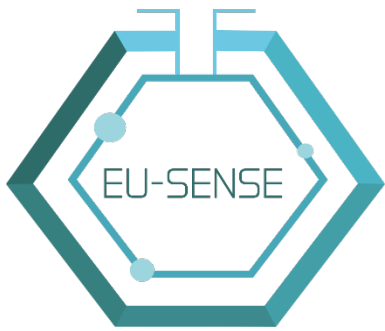
The project's main objective is to design and develop a fully operational **system for detection and identification of RN materials**.

To detect RN threats swiftly and efficiently, the novel solution will use a **network of heterogeneous sensor integration units** that are adapted to operate as both stationary and mobile units.

The system will allow practitioners to **monitor the RN hazard in real-time** and is going to **calculate the RN material dispersion model**.

Its **dispersion engine** will be able to **generate a threat map model** and **estimate the potential source/direction** of the hazardous RN substance.





EU-SENSE

ITTI

- **EU-SENSE** is a 42-month EU funded research and innovation project realized H2020 grant agreement no. 787031.
- It is coordinated by Łukasz Szklarski PhD from ITTI.
- The key aspect of the EU-SENSE project is the response to actual **needs of European practitioners and technological gaps identified by the ENCIRCLE project.**
- The crucial innovation of the EU-SENSE project is the development of a **novel network of sensors for chemical threats detection.**



TNO innovation for life

FFI Forsvarets forskningsinstitutt
Norwegian Defence Research Establishment





EU-SENSE Innovations


The EU-SENSE system incorporates the following prototypes/functionalities:

- **Heterogeneous sensor node** combining different detection technologies such as IMS, PID, EC, FPD and MO
- **Reduction of false alarms** by limiting the impact of environmental noise on the sensor readouts
- **Data fusion algorithms** for classification and identification of the substance
- **Estimation of hazard source location and dispersion modelling**
- **Dedicated training module** for first responders



Alarm

Chemical Hazard Detected

 Alarm id: 0e94595e-ef5c-40bf-a25e-65e6c5a26673
Reporting node: node-1
Detected substance: NH₃ Concentration: 0.16 ppm
Concentration level: AEGL-1 Confidence: 76%
Timestamp: 2021-04-19 14:04:04 GMT+0200
Alarm description:
Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Aenean gravida dui sed augue.

Configuration
Status
Logs
Log out

Nodes deployed: 4 System status: AEGL-2 concentration detected
Current process: Preparedness

Node configuration

ID	Label	Type	Sensors
node-1	sensor node	WEARABLE	GDA-P EC, GDA-P PID, MO, APAC

Sensors status

ID	Status
node-1	OK

Node status

ID	Status	Latitude	Longitude
node-1	OK	52.489700	16.940600

11:04:30

Temperature: 8.69°C
Wind speed: 1.54 km/h
Wind direction: 140°
Air humidity: 34%
Air pressure: 1018 hPa
Date: 2021-4-27





EU-SENSE Demonstration

The final demonstration is a two-day event held in **Poland**. The conduct of the demonstration event includes the following key points in the agenda:

- **Day 1** (6th October 2021) takes place at the **University of Warsaw** and focuses on presentation of the EU-SENSE innovations and training module software.
- **Day 2** (7th October 2021) is held at the test site of the **Main School of Fire Service in Nowy Dwór Mazowiecki** and focuses on demonstration of the EU-SENSE system in operational conditions
- Contact: lukasz.szklarski@itti.com.pl

