

Geospatial Intelligence for Environmental Compliance Assurance Project (GIECA)

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Cross-Cutting Tools & Approaches Expert Team

IMPEL Open Day - 05 February 2025



Funded by the
European Union

THE CONTEXT



From the 4Network Conference (Rome, 23rd 2023): ... *need to actively seek opportunities to improve the use of new techniques such as big data analysis, **geo-intelligence** (satellites, drones) and artificial intelligence, that will enable authorities to **detect** and **act earlier** on potential breaches and **respond quickly** to any issues, with clearer priority areas and targets*



THE GOAL



IDENTIFYING effective
methodological approaches

IMPROVING technical
capability of inspectors

**INCREASING ENVIRONMENTAL AGENCIES
AND REGULATORS CAPABILITY TO USE
GEOSPATIAL INTELLIGENCE**

RAISING awareness of
prosecutors and judges

PERFORMING analysis of
the courts requirements

FIRST PHASE – IMPEL GIEDA PROJECT



Overview of **real cases** using **geospatial intelligence** to produce **evidences** and **support** the ascertainment and assessment of **environmental damage**

Geospatial Intelligence for Environmental Damage Assessment

(GIEDA)

Database
identification
and query

Analysis of
EU reports

Questionnaire-
based survey

IMPEL GIEDA PROJECT: OUTCOMES



Database
identification
and query

Absence of official databases focused on environmental damage cases at European and national level

Analysis of EU
reports

Reports focused on procedural and legal issues **without** specific information about technical aspects (e.g. data used, methodology)

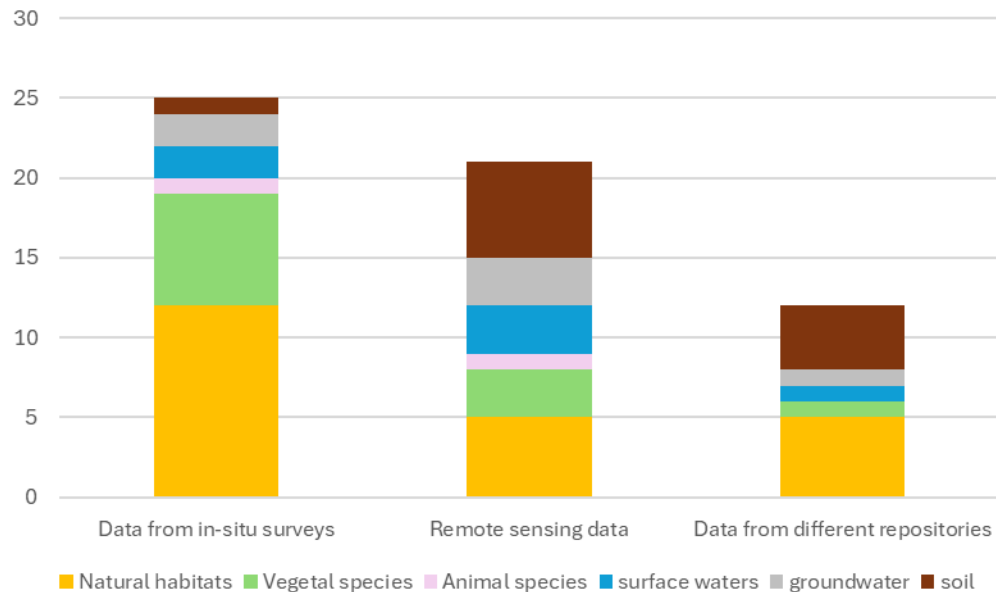
IMPEL GIEDA PROJECT: OUTCOMES



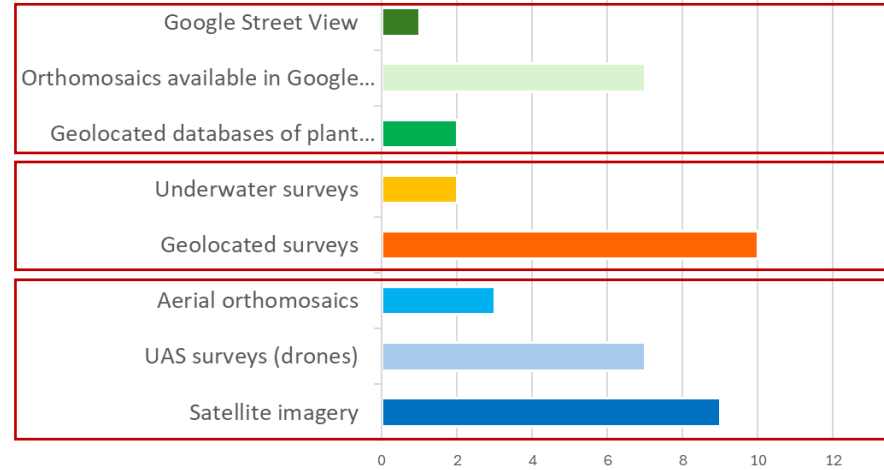
Questionnaire-based survey

42 responses from 7 countries (28 cases)

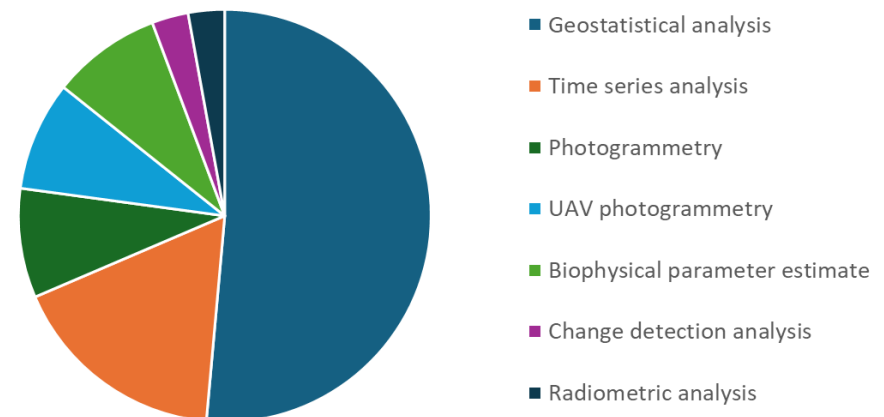
Natural resources



Geospatial data used



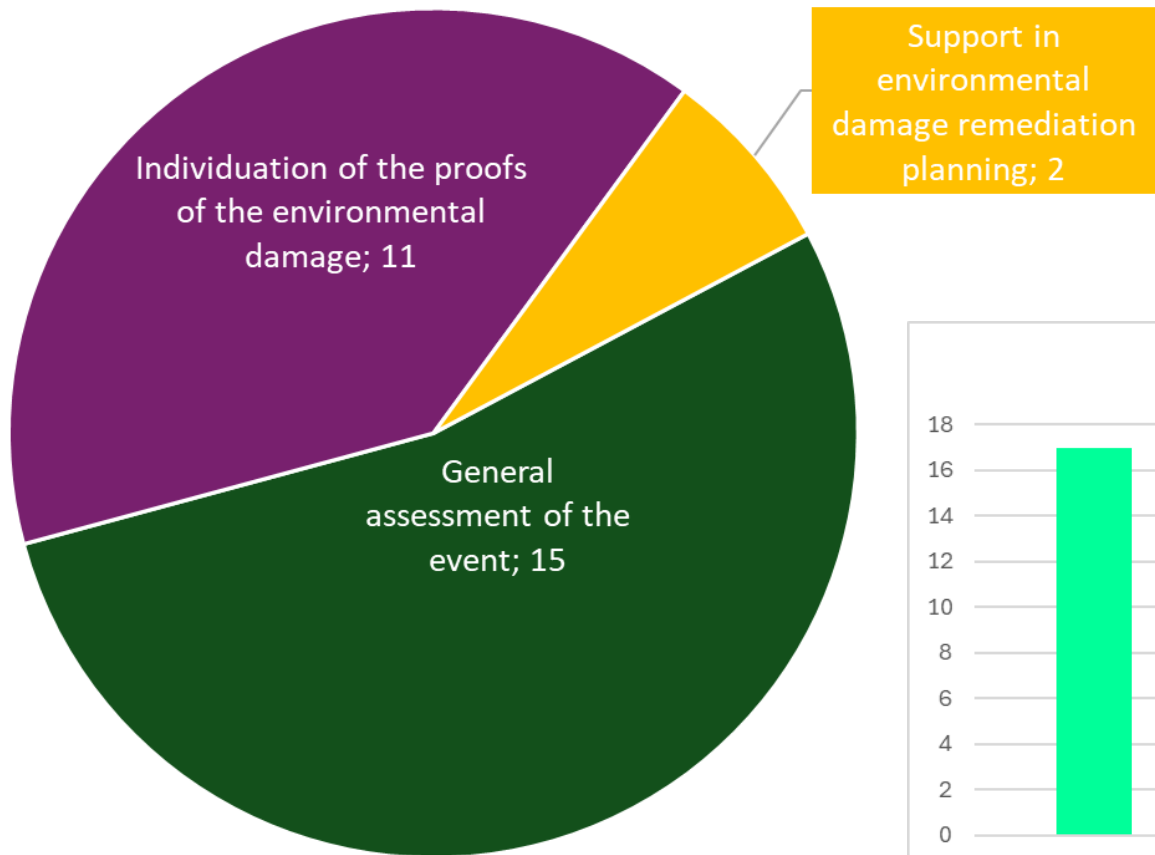
Methodological approach



GEOSPATIAL INTELLIGENCE AND ENVIRONMENTAL DAMAGE

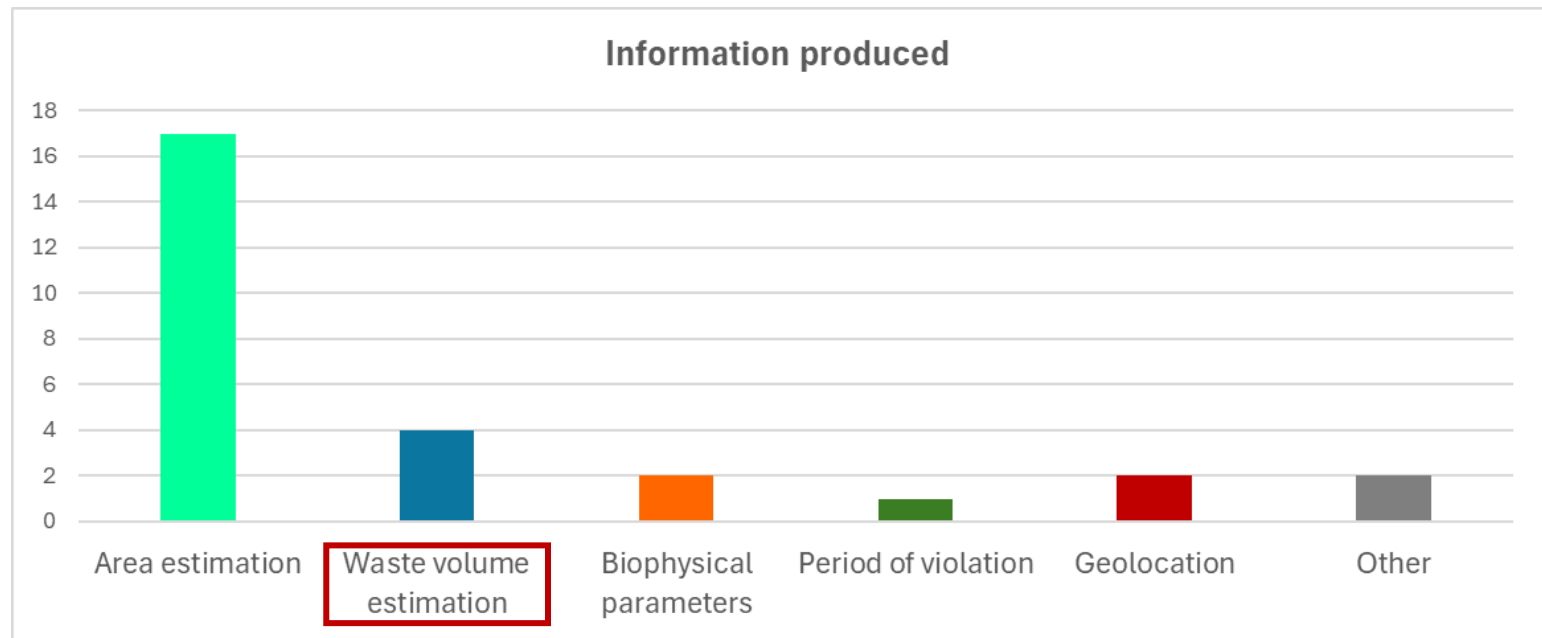


Use of geospatial intelligence



- IN-SITU SURVEYS
- REMOTE-SENSING DATA
- REPOSITORIES

Qualitative/quantitative information



EXTENDING INVESTIGATION TO ENVIRONMENTAL CRIMES

TECHNICAL ISSUES

Optimize the capacity of environmental agencies and inspectorates to use geospatial intelligence

- Satellite data features: revisit time, spatial resolution, cloud coverage
- Integration of different data: satellite, UAV, in-situ surveys
- Uncertainty estimation

LEGAL AND PROCEDURAL ISSUES

Define the admissibility criteria of geospatial-based evidence in court

- Use of open-access data and software
- Role of public officials in-situ surveys

IMPEL GIECA PROJECT FUNDAMENTALS



Interacting with **EUFJE**, **ENPE** and **EnviCrimeNet** networks in order to analyse requirements and provide a baseline of needs that could be used to setup action aimed at improving agencies capacity

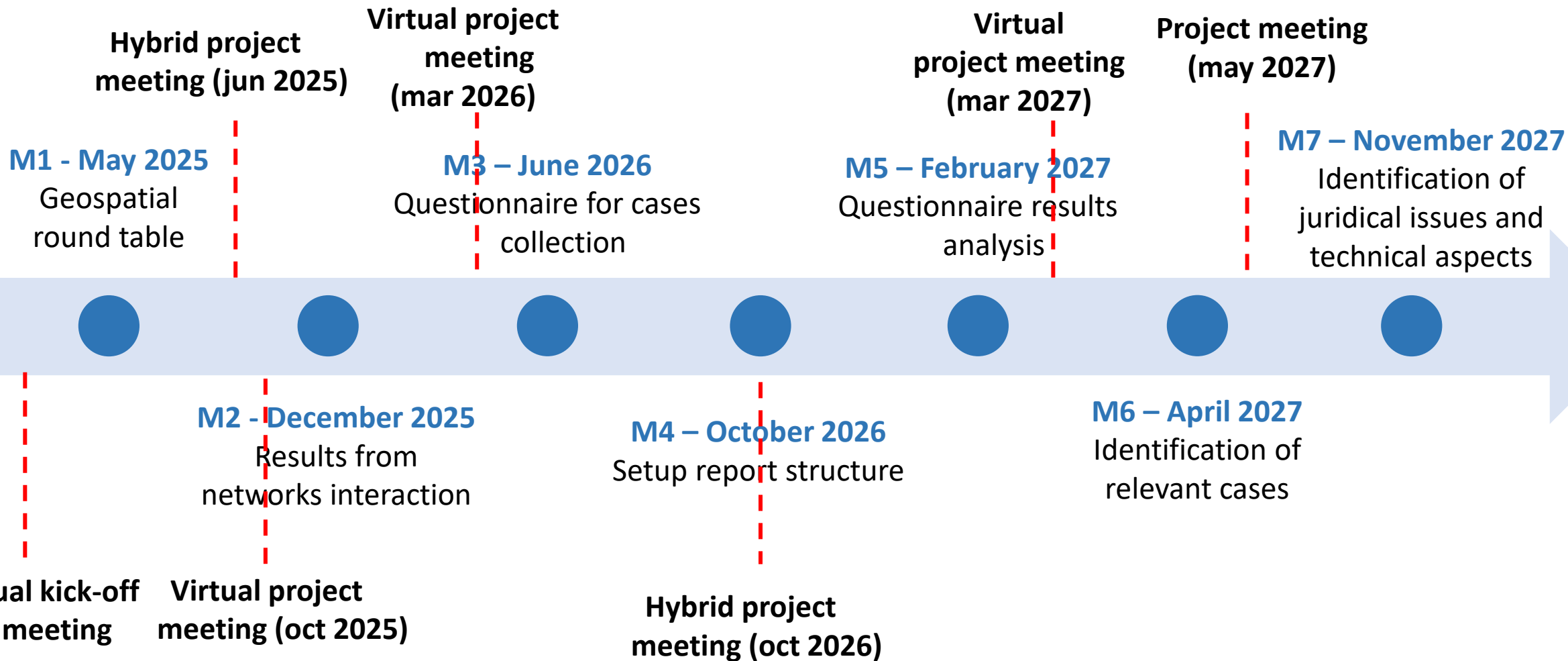
→ ROUND TABLES
→ SHARING OF KNOWLEDGE

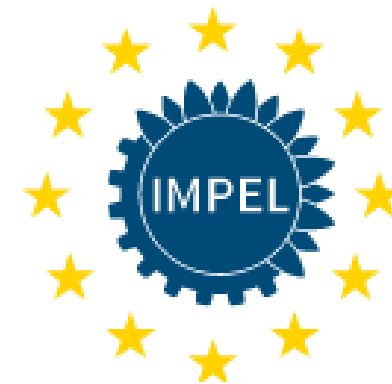
Reporting on demonstration real cases to set up **technical and juridical requirements**



6 Core Team Members + 28 Project Team Members (from 16 Countries)
20 Supporting Contributors

IMPEL GIECA PROJECT MILESTONES AND MEETINGS





Contact information:

- ✓ **For joining this project:** If you work for an IMPEL member organisation and would like to join the project or receive further information, **please contact the National Coordinator of your country and the Project Manager at laura.calcagni@isprambiente.it, federico.filipponi@isprambiente.it**
- ✓ **For becoming a member of IMPEL:** If you are from an Environmental Authority or association of authorities that is based in a member state of the EU, a candidate country or another country applying Community law and would be interested in becoming a member of IMPEL, **please contact IMPEL Secretariat at info@impel.eu** for more information.
- ✓ **For all other interested parties:** please check out our new website for further information!
www.impel.eu



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