WP4

Mastering Trust in AI for Crisis Management

WP 4 : Beyond technology

"Trust as a condition for success"

Societal and ethical challenges must be addressed, before crises occur, rather than being added once systems are already operational

The overall objective of WP4

- ✓ Serve as a space for reflexivity on the design, use, and impacts of AI in CIThARA.
- ✓ Support the development of AI systems that are not only effective, but also ethically governed and socially accepted.
- ✓ Make trust a central condition of performance, rather than a secondary consideration

CIThARA

WP 4

4.1. Observation : Impact of AI on practices

Lead ASNR, partners : Ecole Polytechnique, NMBU

- **Objective:** observe the roles of experts and decision-makers and the concrete integration of AI into their practices
- **Method:** Field studies, interviews and observation of the design and validation of tools within WPs 1, 2, and 3.

4.2. Analysis : Ethical dilemma in AI governance

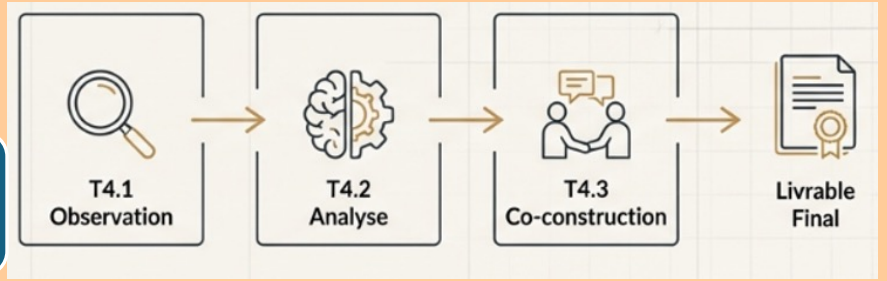
Lead NMBU, partners : ASNR, KIT, Ecole Polytechnique, BfS, CEPN

- **Objective:** On this basis, the identification of key ethical issues
- **Method:** Uusing the micro–meso–macro approach.

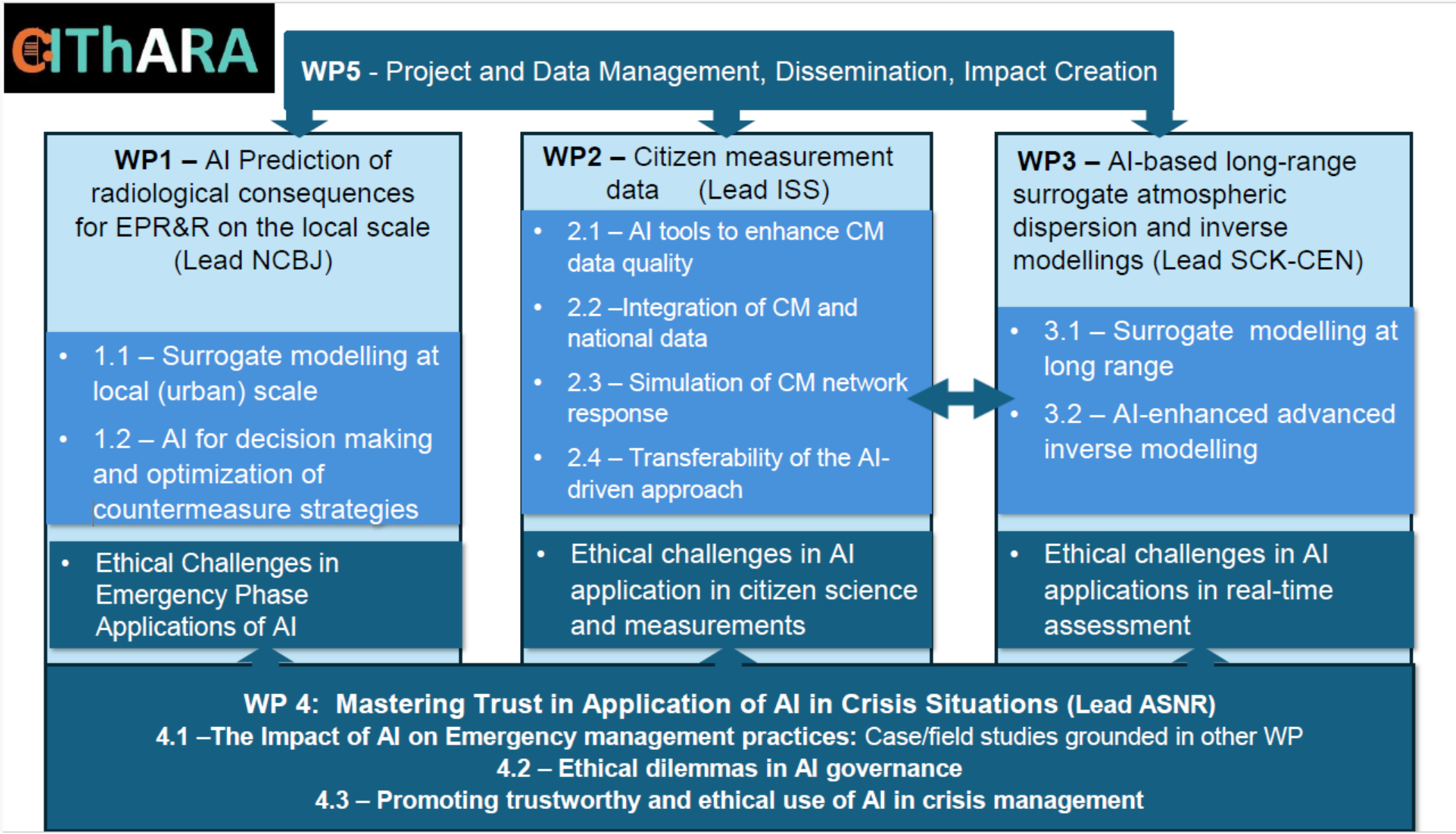
4.3. Co-Construction : Promoting trustworthy

Lead CEPN, partners ASNR, NMBU, BfS, Ecole Polytechnique

- **Objective** : Recommendations mastering trust in AI for crises management
- **Method:** Co-expertise workshops with stakeholders.



Millesone 18 M | **Millesone 24 M** | **Millesone 30 M** | **Deliverable 36M**


ITHARA
WP5 - Project and Data Management, Dissemination, Impact Creation
WP1 – AI Prediction of radiological consequences for EPR&R on the local scale (Lead NCBJ)
1.1 – Surrogate modelling at local (urban) scale
1.2 – AI for decision making and optimization of countermeasure strategies
Ethical Challenges in Emergency Phase Applications of AI
WP2 – Citizen measurement data (Lead ISS)
2.1 – AI tools to enhance CM data quality
2.2 –Integration of CM and national data
2.3 – Simulation of CM network response
2.4 – Transferability of the AI-driven approach
Ethical challenges in AI application in citizen science and measurements
WP3 – AI-based long-range surrogate atmospheric dispersion and inverse modellings (Lead SCK-CEN)
3.1 – Surrogate modelling at long range
3.2 – AI-enhanced advanced inverse modelling
Ethical challenges in AI applications in real-time assessment
WP 4: Mastering Trust in Application of AI in Crisis Situations (Lead ASNR)
4.1 –The Impact of AI on Emergency management practices: Case/field studies grounded in other WP
4.2 – Ethical dilemmas in AI governance
4.3 – Promoting trustworthy and ethical use of AI in crisis management

- How case studies are selected
- How training data are selected, qualified, and validated,
- How surrogate models simplify complex radiological phenomena, and what uncertainties are reduced, displaced, or ignored.
- How “risk” is perceived and defined by different stakeholders involved in the modelling and decision-making chain.
- How AI outputs frame operational zones and protective action options, shaping emergency response strategies.

WP1 – AI Prediction of radiological consequences (Lead NCBJ)

- 1.1 – Surrogate modelling at local (urban) scale - modelling & validation
- 1.2 – AI to predict operational zones for emergency response

CIThARA

•How citizen data are collected, cleaned, filtered, and integrated into institutional systems.

•How data quality, reliability, and credibility are defined when citizen and institutional measurements are combined.

•How AI-based data processing is made understandable to citizens, experts, and institutions within citizen science infrastructures.

•How AI tools could redistribute roles between citizens, experts, and institutions (data providers vs. co-producers).

WP2 – Citizen science, citizen measurements and involvement (Lead ISS)

- 2.1 – AI tools to enhance CM data quality
- 2.2 –Integration of CM and national data
- 2.3 – Simulation of CM network response
- 2.4 – Transferability of the AI-driven approach

CITHARA

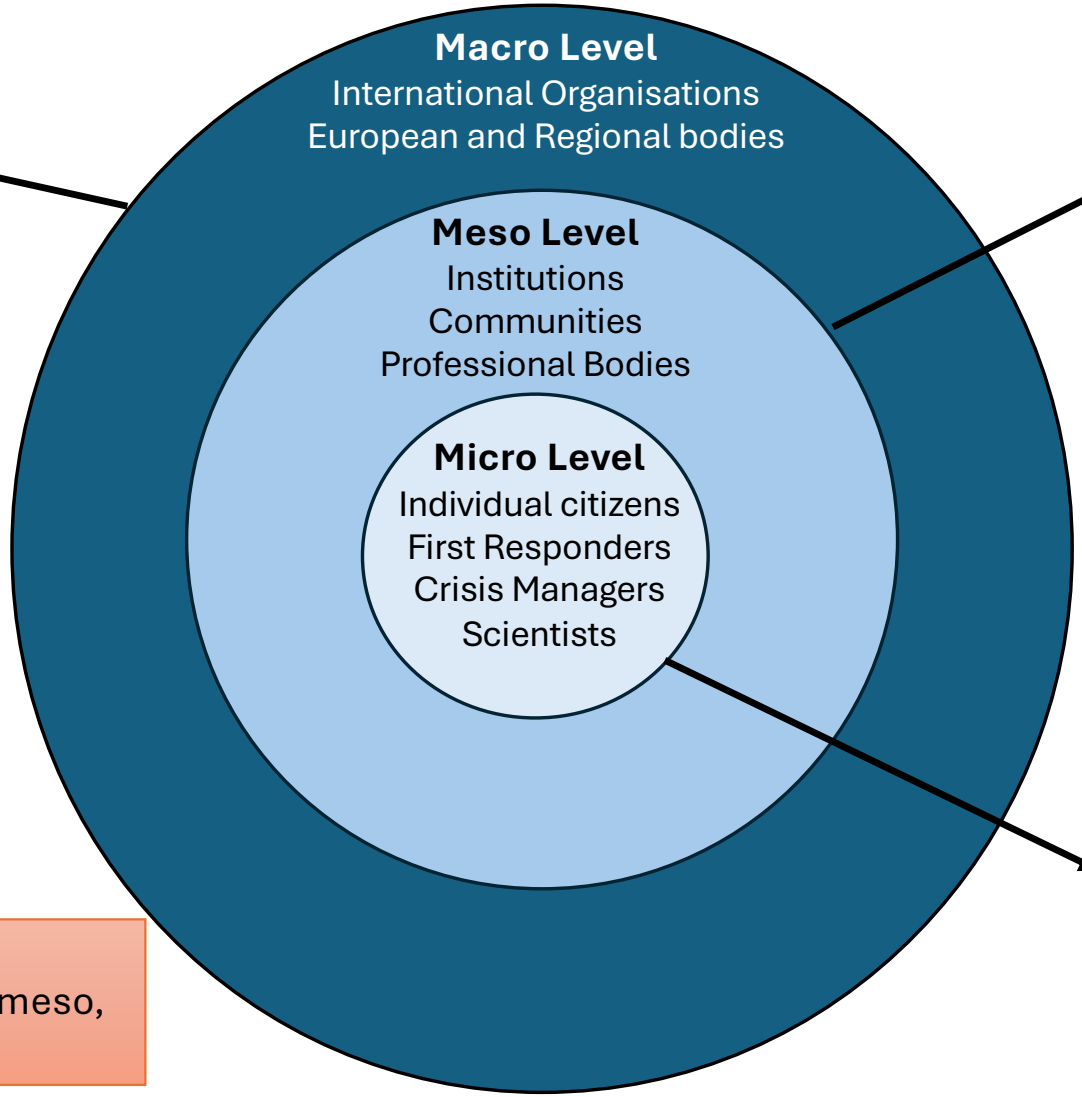
- How AI is used to compensate for modelling gaps, time constraints, or incomplete data in real-time situations.
- How trade-offs between speed, precision, and uncertainty are negotiated in AI-enhanced modelling.
- How inverse modelling embeds assumptions about sources, dispersion, and behavior.
- How surrogate models shape uncertainty and protective action in real-time inverse modelling..
- How reliance on AI affects expert autonomy and responsibility under time pressure.

WP3 – Real-time assessment of source term & contamination zones (Lead SCK-CEN)

- 3.1 – Surrogate modelling at long range - modelling & validation
- 3.2 – AI-enhanced inverse modelling

CIThARA

4.2: Ethical Dilemmas in AI Governance (Lead NMBU)



Examples Macro

- Governance differences between nations
- Globalisation and trans-national companies
- Coherence across EPR systems

Examples Meso

- Responsibility for eventual negative side-effects
- GDPR compliance
- Data stewardship
- Inequities within communities

Examples Micro

- Data privacy
- Transparency
- Stigma
- Access to technology
- Loss of autonomy
- Sidelining of expertise

Methodology: Ethical Analysis across micro, meso, macro levels. M9-24

From Analysis to Co-construction with stakeholders :
Promoting trustworthy and ethical use of AI in Crisis management

4.3 Co-construction

Lead by CEPN

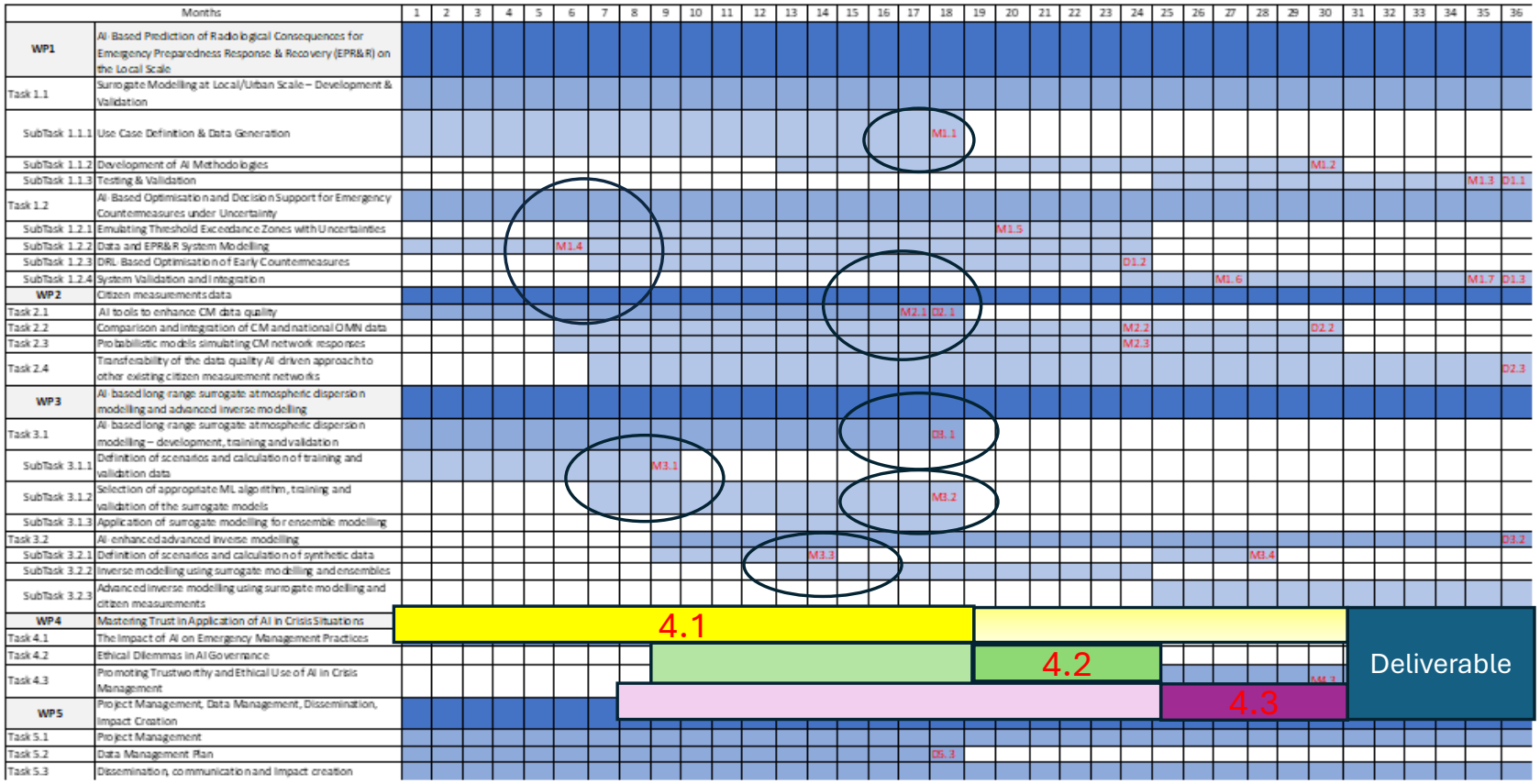
- Engaging stakeholders in the discussion of analytical findings

- Based on a rigorous analysis of the social impacts of AI and associated ethical dilemmas

- Practical solutions and recommendations for a responsible governance framework, co-constructed with experts and relevant stakeholders

WP4

CIThARA Gantt chart



CIThARA Partners roles (red: Leader)

Conclusion
Technology alone is not enough.

WP4 ensures that CIThARA's innovations will not only be powerful, but also reliable, ethical, and accepted by society.