



POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH

DESTINY – AI for living evidence in climate & health

Jan Minx (*on behalf of the entire DESTINY team*)

ICASR Meeting

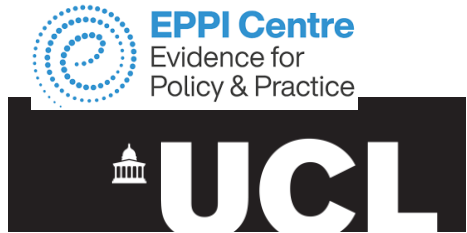
9 July 2025

DESTINY

Digital Evidence Synthesis Tool Innovation Yielding Improvements in Climate & Health

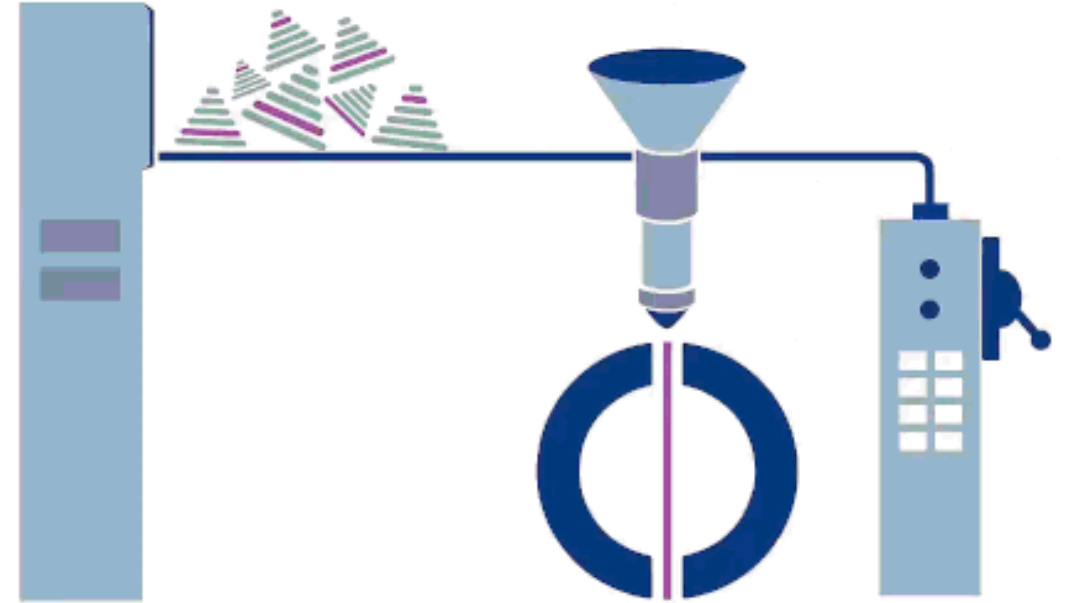
DESTINY will co-develop a **new generation of digital evidence synthesis tools (DESTs)** and showcase their **transformational power** for the delivery of rigorous **living evidence** in climate and health **that matters** to policymakers and other evidence users.

DESTINY consortium



DESTINY – living evidence for climate & health

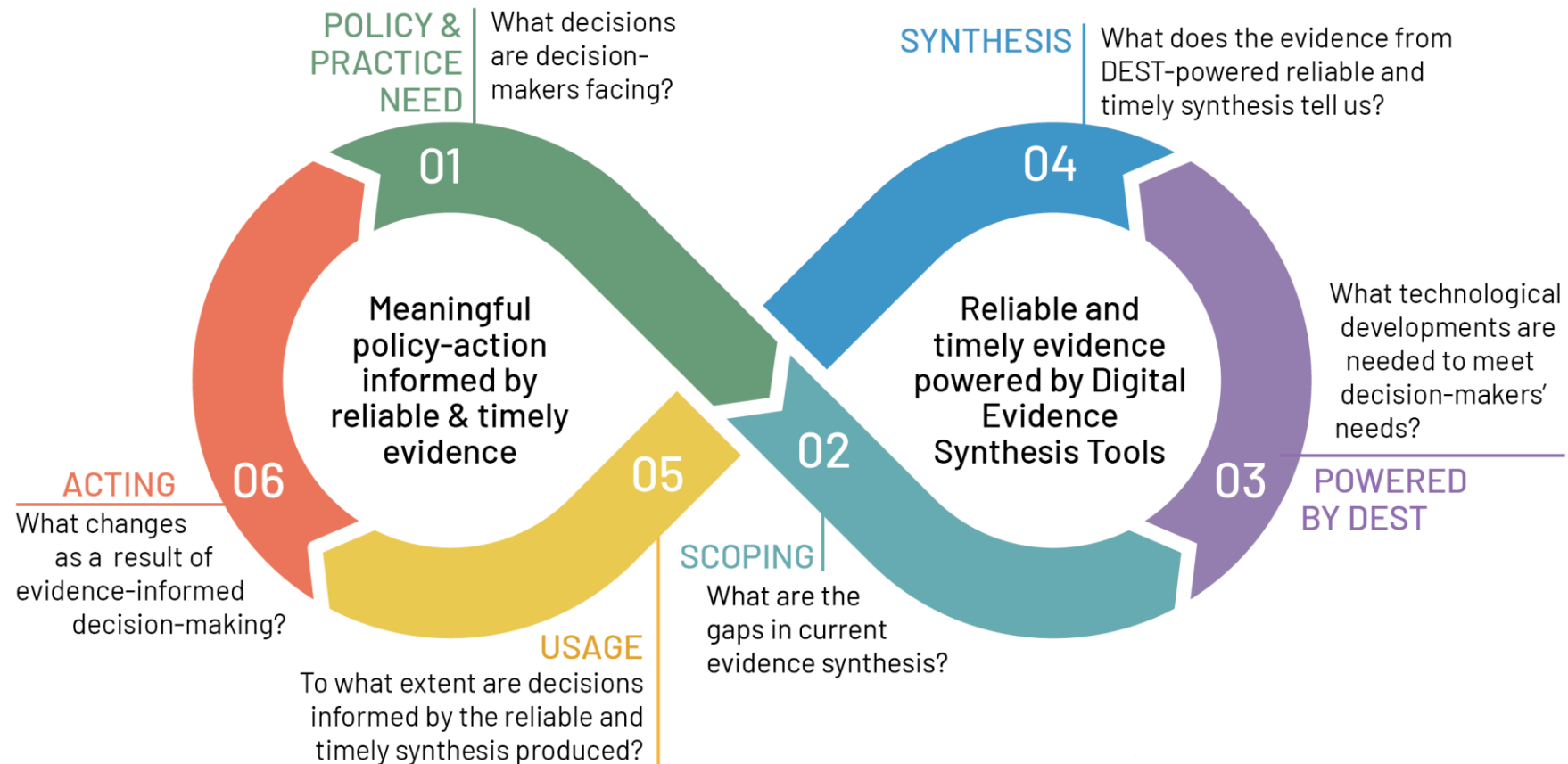
- **New DESTs** – Use AI to create faster, cheaper, and more useful evidence synthesis tools (WP2).
- **Responsible Use** – Ensure safe and responsible DEST applications without compromising standards (WP3).
- **Impact Through Co-Production** – Work with decision-makers to apply DESTs in key cases (WP1, WP4).
- **Mainstreaming DESTs** – Help users, producers, and funders establish best practices (WP5).



Co-producing DESTs for living evidence

ALIVE MODEL - PROVIDING RELIABLE & TIMELY EVIDENCE FOR DECISIONS

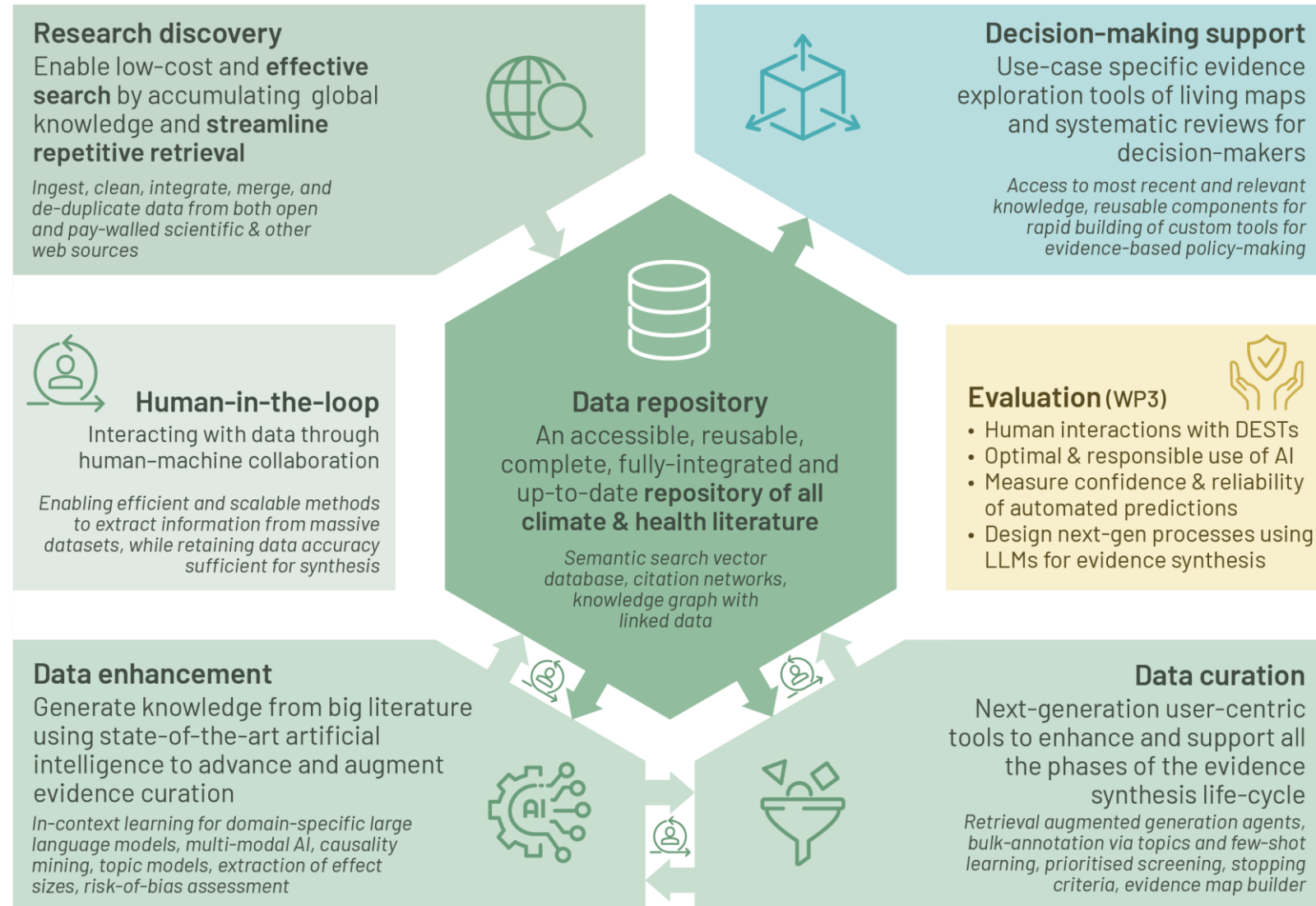
The Alive Model will play a key role in ensuring decision-makers' needs are met through reliable and timely evidence synthesis



Building the next generation of DESTs

WP2 BUILDING NEXT-GENERATION TECHNOLOGIES TO IMPROVE EVIDENCE SYNTHESIS

Accelerating evidence synthesis with interoperable state-of-the-art tools around an integrated data repository, establishing their responsible use (evaluated in WP3), and delivering real-world benefits



Successful implementation will deliver real world benefits to users

Ensure
comprehensiveness

Improve
reliability

Increase
efficiency

Expand
accessibility

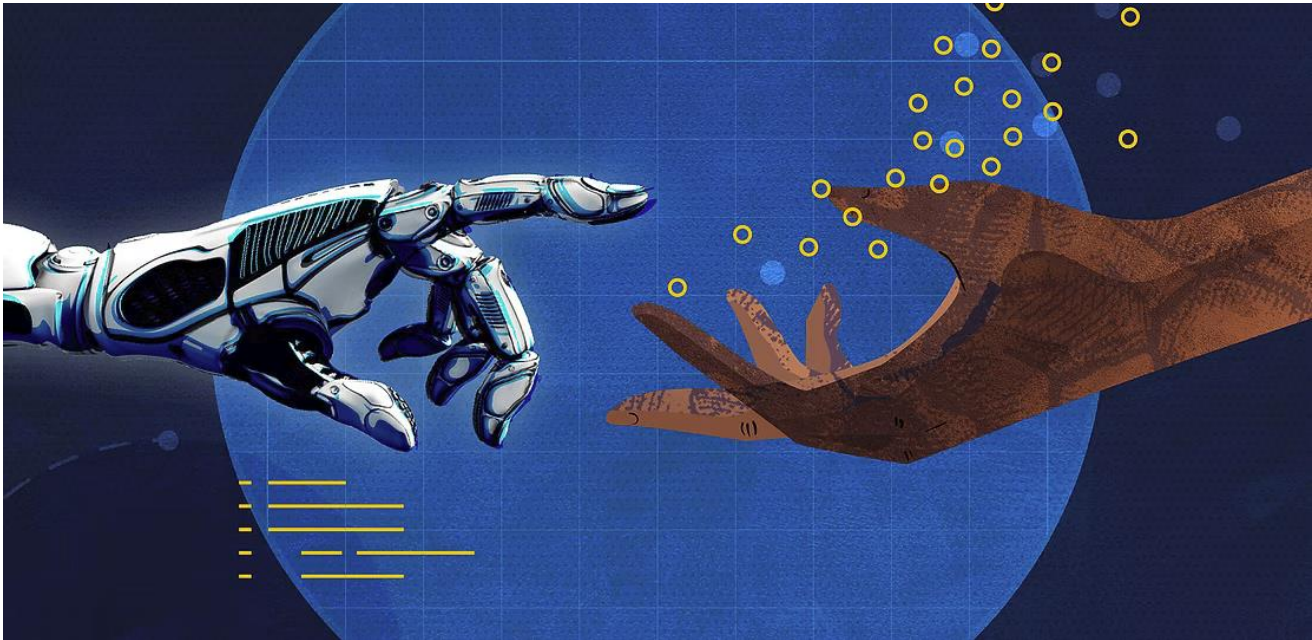
Establish
timeliness



The current frontier is
AI....

...and we broadly
know how to cross it

The NEXT FRONTIER is TRUST

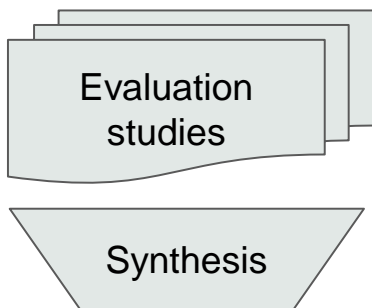


Evaluation is key!

Performance evaluation

What works and how well?

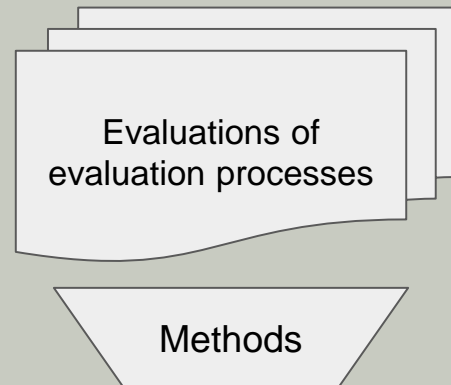
- Which tasks traditionally done by humans can we automate and how well?
- How well can LLMs automate RoB assessment?
- Under which conditions does automation work better/worse?



Process evaluation

How to use DESTs responsibly in the wild?

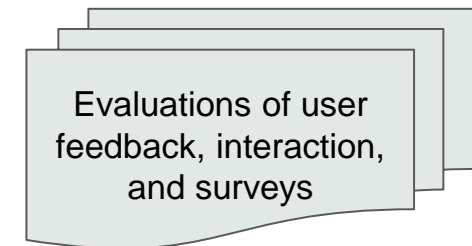
- How can we reliably estimate performance in live reviews?
- How can we best allocate human annotation resources to stay within acceptable error risks?
- How to safely conduct evidence synthesis with automation?



Human evaluation

How effective and useful are DESTs?

- Do humans behave differently when using these tools?
- What levels or error risk are tolerable/desirable?
- How does the use of DESTs affect our results?
- Evaluate real-world effectiveness and usefulness of our tools



Six DESTINY Impact Cases

Case selection:

- › Evidence synthesis gaps
- › Evidence user groups
- › Evidence synthesis methods
- › Geographies
- › Evidence scarcity and evidence transfer

WP4 IMPACT Showcasing the transformational power of Digital Evidence Synthesis Tools in six communities
CASES of practice for the delivery of rigorous and living evidence that matters to evidence users

Why this case selection?

Ensure that impact cases are representative of real-world problems



Evidence users
Different government levels & organisation types



Geographies
Different availability of resources & evidence



Evidence gaps
Different evidence needs for pressing decisions



Methods
Different types of evidence & synthesis methods

Case studies

1 GLOBAL EVIDENCE

International organisations
Evidence curators
National governments

Current & planned partnerships*: WHO, IDRC, OECD, Lancet Countdown, Campbell, Cochrane

*Abbreviations in the annex

2 LOCAL EVIDENCE

City networks
Local governments

Current & planned partnerships*: ICLEI, C40, CDP, GLA

3 MORTALITY & MORBIDITY

International organisations
NGOs
Local governments
National governments

Current & planned partnerships*: WHO member states, EH!WOZA, NWRA, SECTION27

4 FOOD SYSTEMS

International organisations
NGOs
Local governments
National governments

Current & planned partnerships*: WHO member states, UK-EA, EH!WOZA, SECTION27, WRC

5 LOCAL ADAPTATION

City networks
Local governments

Current & planned partnerships*: ICLEI, C40, CDP, GLA

6 GLOBAL SDGs

International organisations

Current & planned partnerships*: The Global SDG Synthesis Coalition, Sustainable Development Solutions Network

Who needs the evidence?

Which evidence gap is addressed?

What method is used to address the gap?

What is the potential impact and use?

Agenda setting, horizon scanning

More efficient evidence ecosystems and improved priority and agenda setting in climate & health across in low-, middle-, and high-income countries

Policy design, policy advice, policy advocacy

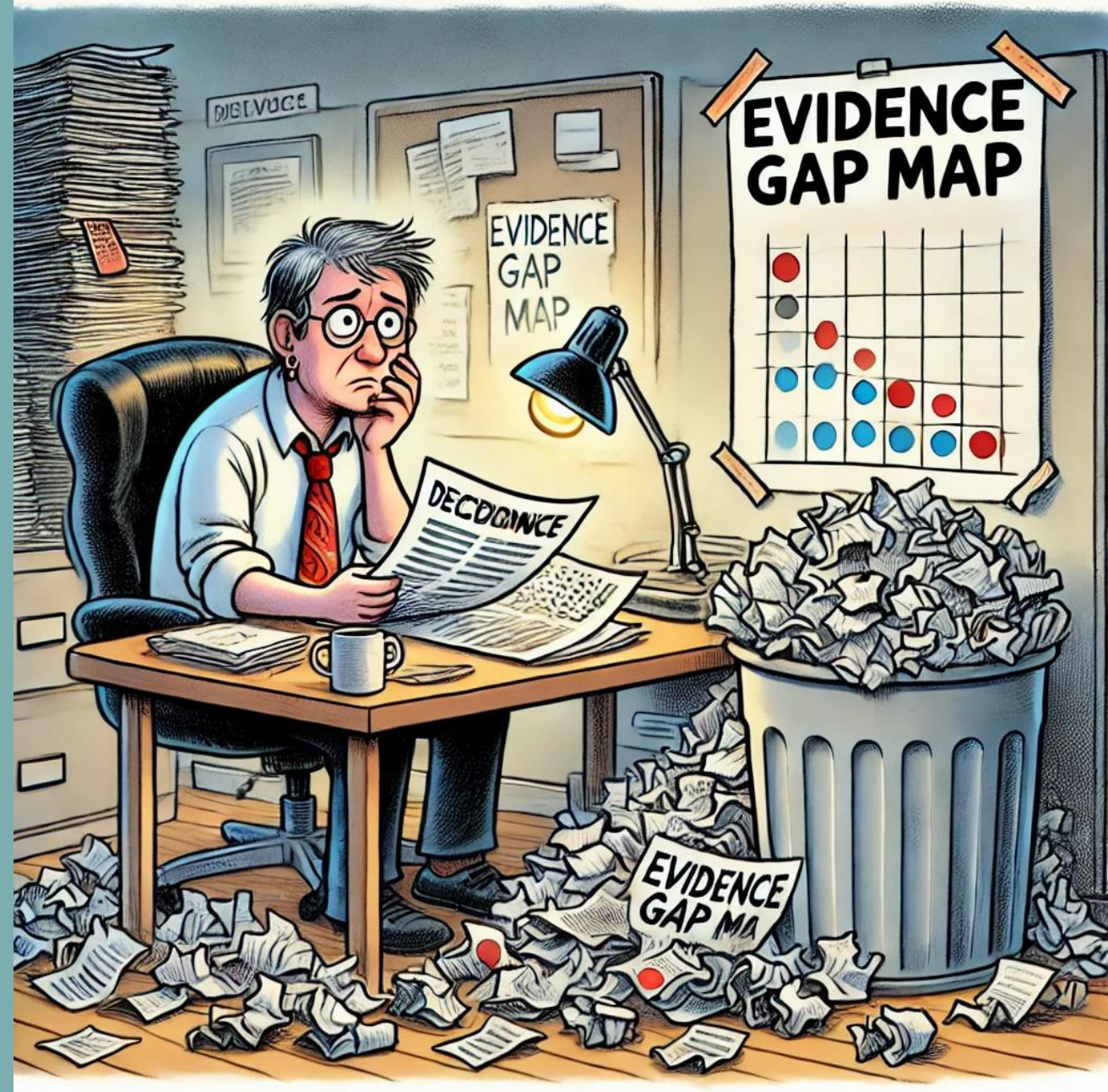
Comprehensive, timely and relevant evidence that informs more effective policies to protect people's health and reduce emissions

Policy design, policy learning

Accelerated progress towards climate and health related SDGs

MOTIVATION

Evidence (gap) maps are very useful, but usually only used once – because they are very specific and quickly outdated.

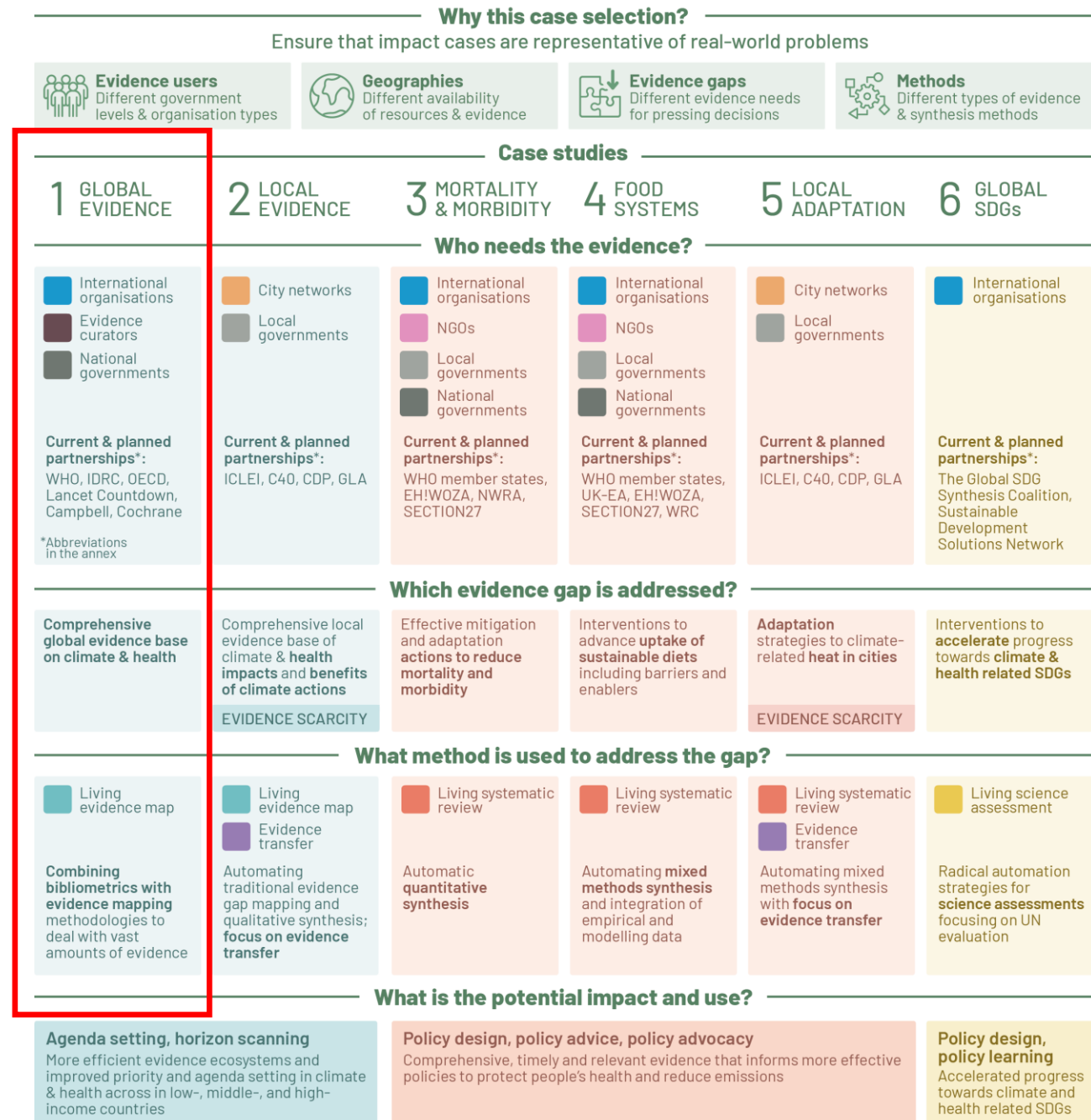


AMBITION

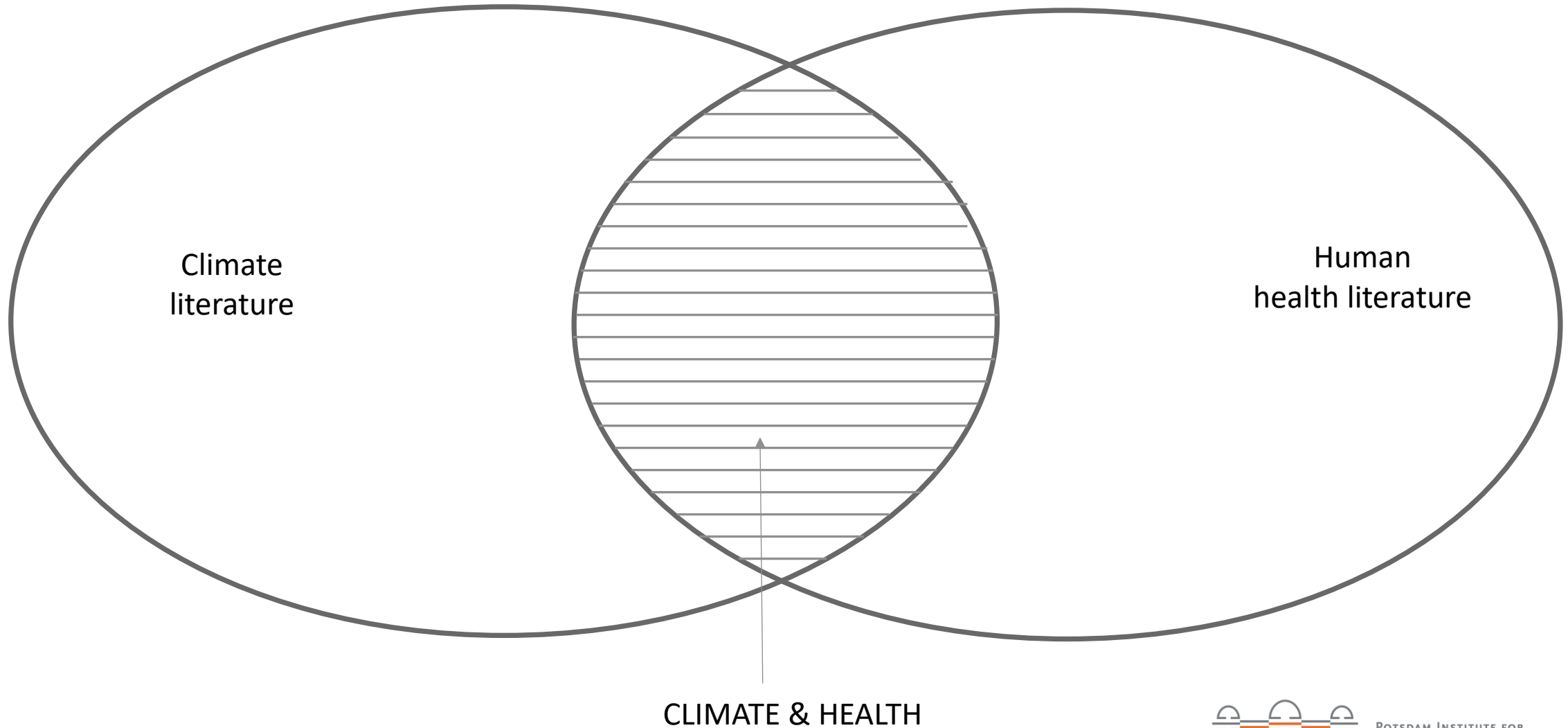
Create a comprehensive, global, living, multi-purpose evidence map in the field of climate & health

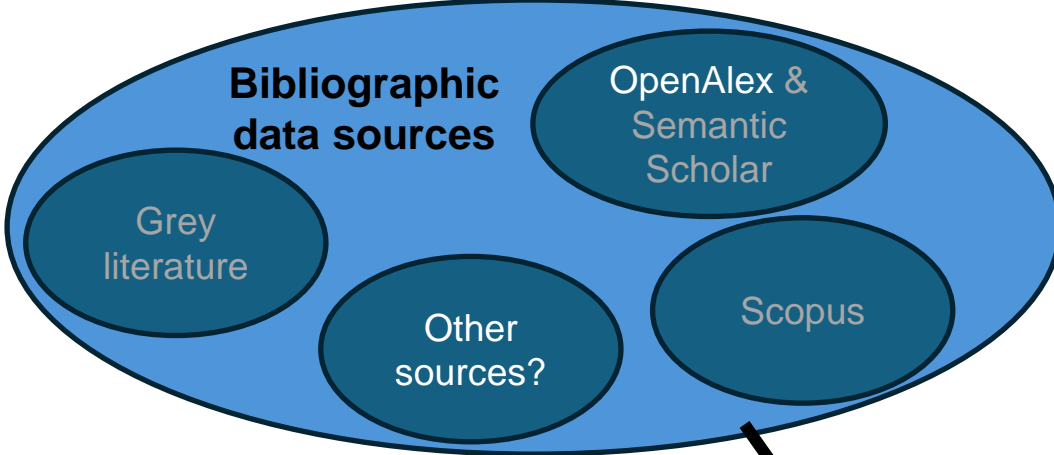
- › Driven by user needs
- › Easy to use/ easy to find stuff
- › Daily updated
- › One-stop shop: peer-reviewed, grey lit, multi language
- › AI for enhanced meta-data

WP4 IMPACT CASES Showcasing the transformational power of Digital Evidence Synthesis Tools in six communities of practice for the delivery of rigorous and living evidence that matters to evidence users



Our CURRENT scope in simple terms





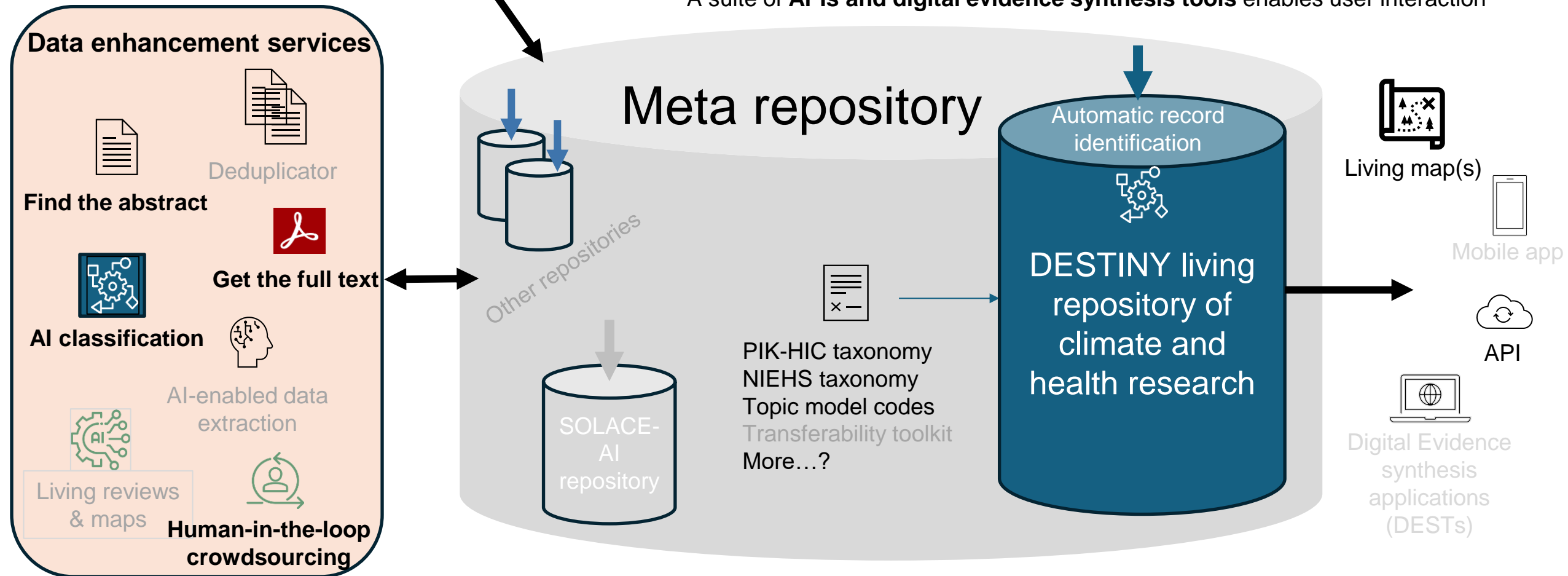
Extensible data architecture for a continually-updated (living) repository serving DESTINY, SOLACE-AI, LEADIng and other project repository needs.

A **meta repository** contains as much bibliographic data as possible (OpenAlex++).

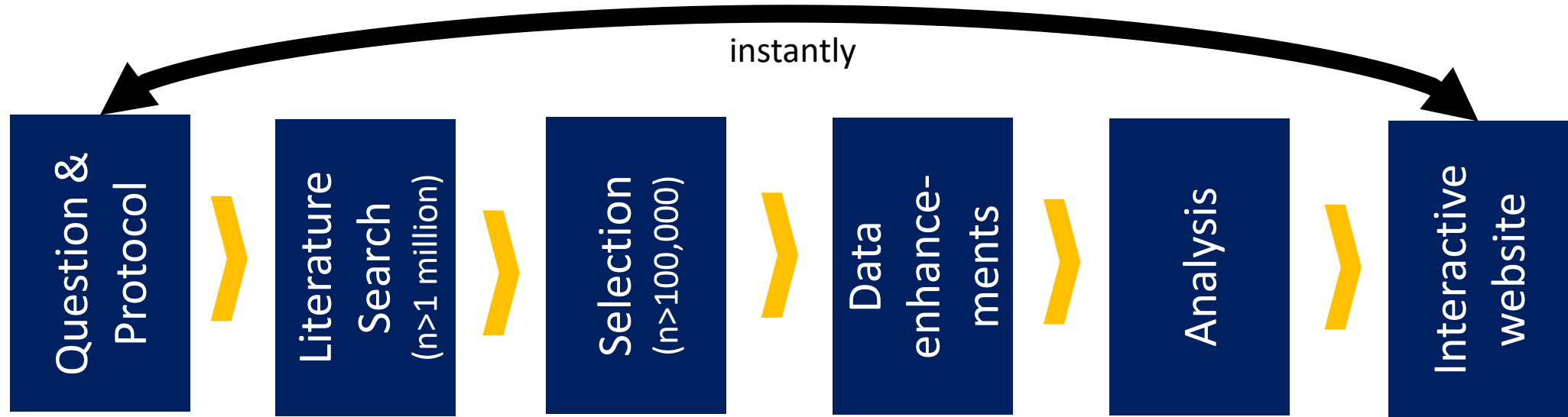
Any number of **specific repositories are defined** within the meta repository by a 'tag' being applied to a record. (e.g. a search result and / or ML classification)

A modular **suite of services** increasingly enhance those data for specific topics

A suite of **APIs and digital evidence synthesis tools** enables user interaction



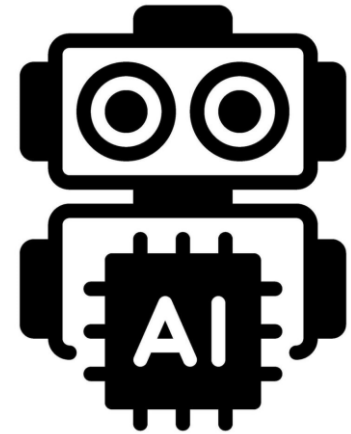
FULLY AUTOMATED ML PIPELINE



- Bibliographic databases
- Broad string around climate, weather & health outcomes

- Mitigation, adaptation, impacts
- Climate & health taxonomy
- Location extraction

- Evidence on climate, weather & health
- Inclusion classifier and LLM



- ▼ ☐ Intervention
 - ▶ ☐ Climate policy instruments
 - ▶ ☐ Means of implementation
- ▼ ☐ Context
 - ▶ ☐ Sectors
 - ▶ ☐ Geography
- ▼ ☐ General exposure
 - ▶ ☐ Climate drivers
 - ▶ ☐ Extreme events
 - ▶ ☐ Documented impacts
 - └ ☐ Ecosystem change
- ▼ ☐ Health outcomes

- ▼ ☐ Intervention
 - ▼ ☐ Climate policy instruments
 - ▼ ☐ Mitigation policies
 - ▼ ☐ Policy instrument types
 - ▼ ☐ Agreements
 - ▼ ☐ Domestic agreements
 - └ ☐ Government/non-state actor agreements
 - └ ☐ Inter/transnational agreements
 - ▼ ☐ Economic instruments
 - ▼ ☐ Carbon pricing
 - └ ☐ Border Carbon Adjustment
 - └ ☐ Emissions trading
 - └ ☐ Subsidy removal
 - └ ☐ Tax
 - ▼ ☐ Direct Investment/ spending
 - └ ☐ Infrastructure Investments
 - └ ☐ International investments
 - └ ☐ Other investments
 - └ ☐ R&D investments
 - ▼ ☐ Non-carbon taxes
 - └ ☐ Energy taxes
 - └ ☐ Fuel taxes

DESTINY Dashboard

Whole database overview ↗

Total Records

1,416,535

↑ 2913

Total Enhancements

6,585,364

Most recent update

2025-06-22

Codeset

Choose Type

☐ ANTD

☒ ST_tree

▼

☒ Intervention

>

☒ Climate policy instruments

>

☐ Means of implementation

>

☐ Context

>

☐ General exposure

▼

☒ Health outcomes

☐ Cancer

>

☐ Cardiovascular Impact

☐ Dermatological Impact

>

☐ Developmental Impact

☐ Diabetes/Obesity/Overweight

>

☒ Infectious Disease

Yearly Record Distribution

Records per Year (showing latest 10 years)

Year	Counts
Unknown	200
2024	2950
2023	2850
2022	1900
2021	1450
2020	850
2019	550
2018	250
2017	100
2016	50

Home

REPOSITORY OVERVIEWS

Keyword Search

Dashboard

DESTINY Taxonomy

DEMO VISUALISATIONS

Demo Page 1: Bar Chart

Demo Page 2: Pie Chart

Demo Page 3: Hierarchical Vi...

Demo Page 4: Attribute Cross...

Settings Menu

Select a color theme

viridis

Maximum Number of Items Displayed in Plots

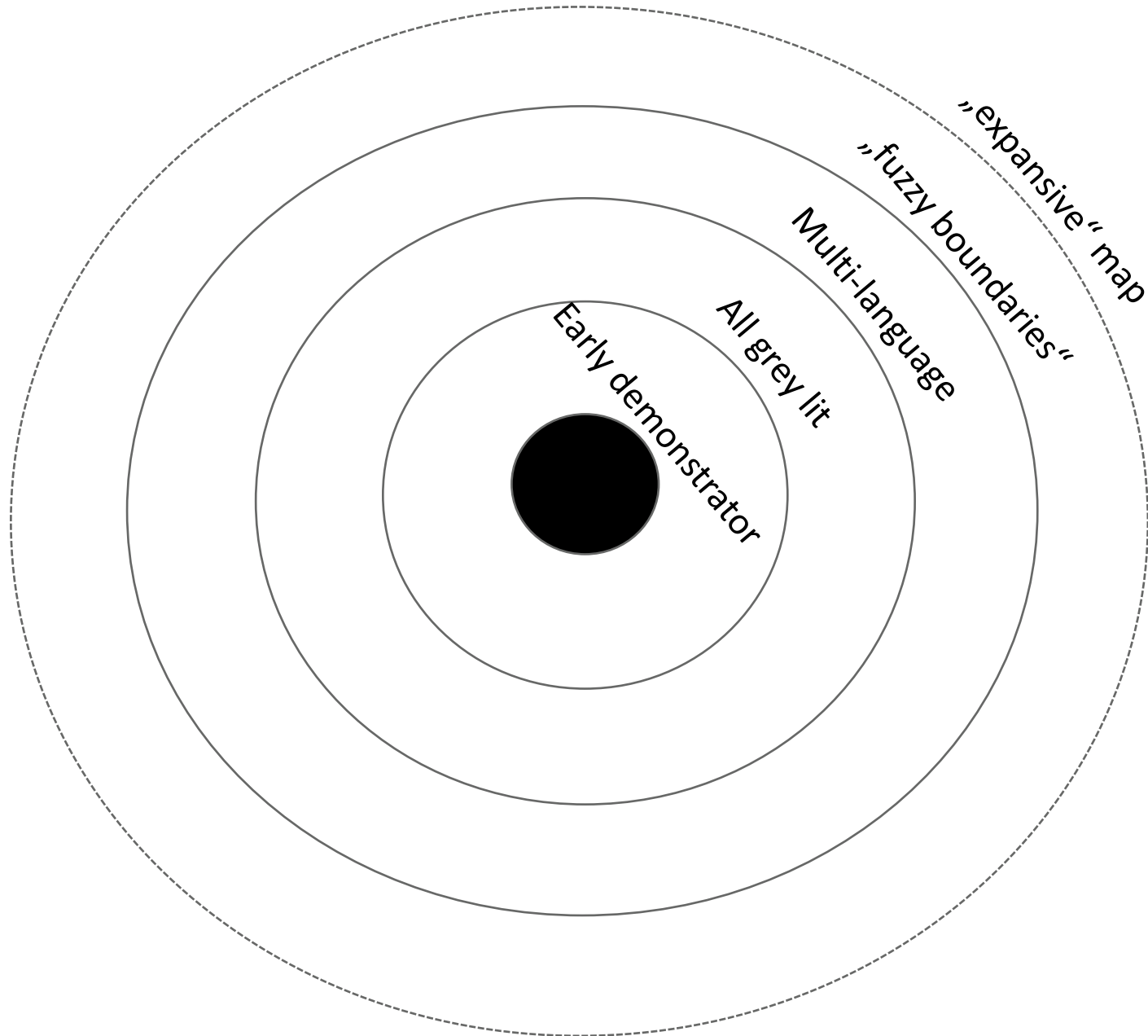
10

2

100

Maximum Length of Labels in Plots

PATH FORWARD – this map is living and will evolve dynamically!



Next focus projects: towards synthesis and UI development



This all is not for a project – it is a community project!

Cape Town Consensus Charter

(Last updated on 1 July 2025)

We commit to **transforming evidence synthesis to improve lives**. Alongside our own individual and organizational efforts, we commit to building and sustaining – together – the Evidence Synthesis Infrastructure Collaborative (hereafter the Collaborative) as a vehicle for this transformation. We commit to a strategic shift of power to the Global South and more generally to locating **equity** – in its many dimensions – at the heart of the infrastructure, the processes and outputs enabled by it, and its impacts on people. Embracing this once-in-a-generation opportunity for impact, we will **follow the five steps in the ESIC roadmap** – and the ‘SHOW ME the evidence’ principles – to achieve this vision and make the Collaborative a cornerstone of the global evidence architecture.

1) Build a better **evidence synthesis infrastructure** to serve everyone

We will co-create a distributed infrastructure governed, funded and delivered using a collective impact framework. The infrastructure will include: 1) engaging with users to understand needs and respond to ‘windows of opportunity’; 2) sharing and reusing data; 3) safely and responsibly using AI; 4) making synthesis more timely, relevant and affordable; and 5) sharing capacity. In Cape Town we agreed that: 1) we see key principles reflected in the proposed solutions (e.g., collaboration among this ‘community of communities,’ equity including leadership from the Global South, and agility in how we co-develop ways of working together); 2) we have already seen significant alignment happening during the six months of the planning process and we will benefit from regular ongoing communication, an agile coordination team, a lean governance function, and an overall commitment to adapt and evolve over time; 3) we need to pursue further alignments using a ‘nothing about us without us’ approach, by leveraging the strengths of regional, language and sectoral networks, and by foregrounding transdisciplinary and intersectoral perspectives; and 4) we need to be alert to unintended consequences and risks.

2) Make user-centred **evidence synthesis** the norm

We will make evidence synthesis more timely, relevant and affordable. We will support equitable global provision, coverage of all societal challenges, and integration into users’ preferred sources of information. In Cape Town we agreed that: 1) we need to better engage neglected sectors and interest holders in the process, and acknowledge their different traditions of evidence synthesis and use, different capacities, and different needs; 2) we must systematize and innovate in evidence synthesis, including in co-production with citizens and in operationalizing the idea of ‘evidence for big decisions’ (or ‘policy-scale’ evidence synthesis).

3) Work with **intermediaries** who support decision-makers

We will support evidence intermediaries with: a) actionable insights about what has been learned from around the world and how these findings vary by groups and contexts; b) open reusable data ‘on tap’ that can be rapidly contextualized; and c) quality assurance for the data being shared. These evidence intermediaries include evaluation units in UN agencies and operations teams in



ICASR

International Collaboration for the Automation of Systematic Reviews

Thank you!

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