

Digitalisation as enabler for innovation in data management

Stefan Jensen, Sune Djurhuus, Christine Brendle | EEA-Eionet day, 1 March 2023



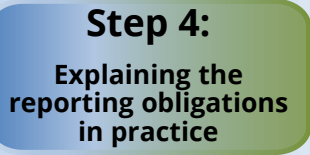
European Environment
Information and
Observation Network



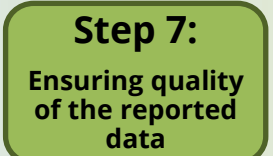
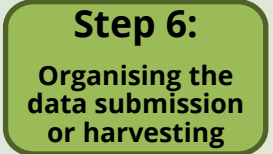
European
Environment
Agency

The process: EEA reporting workflow

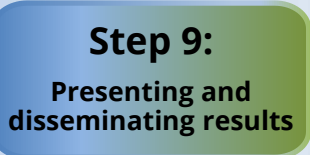
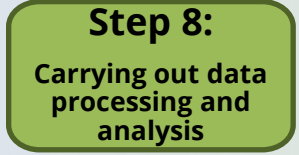
Legislation



"data acquisition"



"data processing"



Feedback loop:
lessons learnt

A curved blue arrow indicates a feedback loop from Step 10 back to Step 4.



European Environment
Information and
Observation Network



European
Environment
Agency

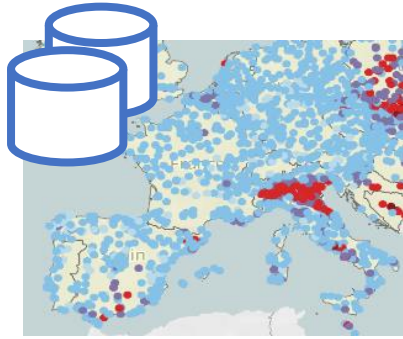
Country delivery: reporter perspective workflow steps



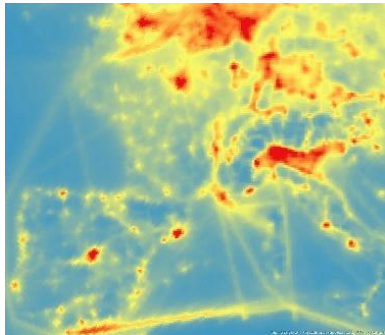
Example: Air Quality Reporting – using ML to create AQ grid

Air Quality e-Reporting

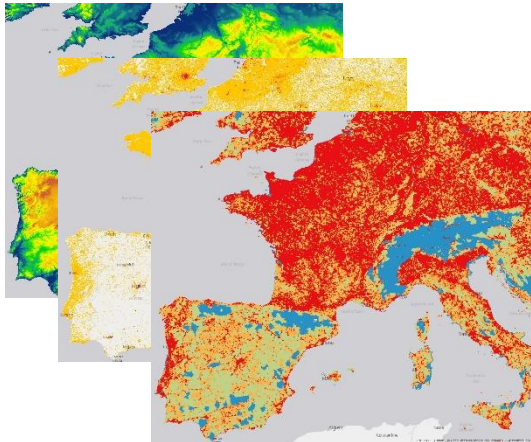
(AQ values at measurement locations)



Copernicus Atmospheric Monitoring Service



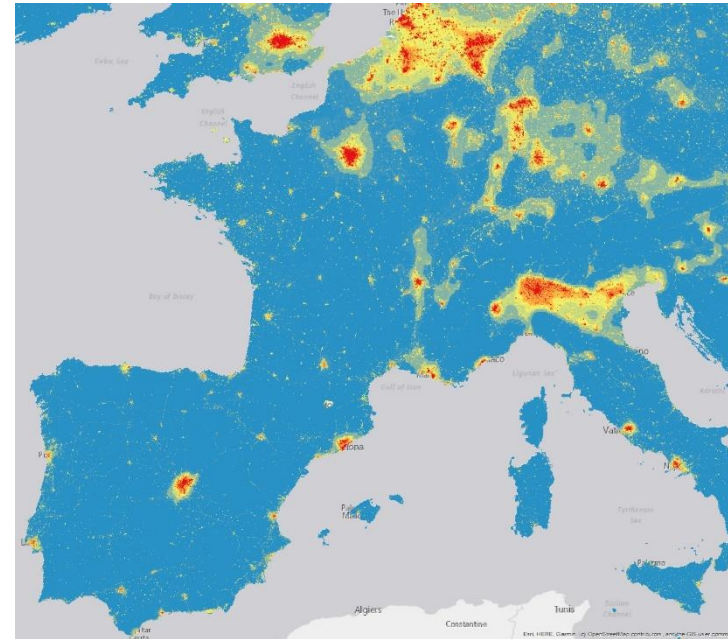
Copernicus Land Monitoring Service & other data



ML algorithm



Air Quality spatial predictions
(here: downscaling to 1x1 km grids)



European Environment Information and Observation Network

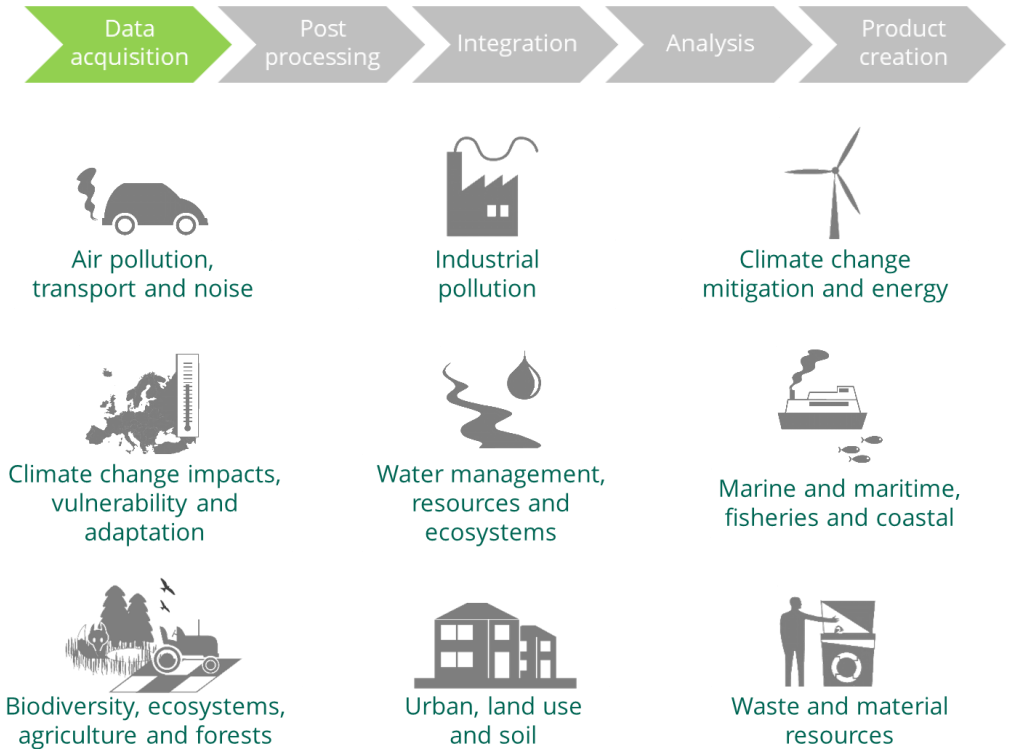


European Environment Agency

Planning a dataflow

Topics to consider:


- Stakeholders (roles and responsibilities)
- Complexity of data flow and data sizes
- Automation of parts of the dataflow possible?
- Can analytics such as ML enhance automation and efficiency?



Business game - 3 different roles - 2 discussion rounds

Group discussion 10'	Group discussion 10'	Group discussion 10'	Plenum
<p>Project manager</p> <p>Project Manager in a company/ministerial responsible for reporting. (i.e., NFP of Country, roles of the EIONET Group Data & Digitalisation)</p>	<p>Decision maker</p> <p>Budget manager / client with overriding responsibility, (Head of department or director of environmental agency, EPA Network)</p>	<p>Expert</p> <p>Expert /IT technician who has the most knowledge about the data flow process. (Technical assistant, executing person, EIONET Group Data & Digitisation)</p>	<p><i>collecting the results</i> <i>discussion</i> <i>outreach</i></p>
<p>Highly motivated person. Has many ideas. But needs the support of the supervisor and the cooperation of his colleagues.</p>	<p>Either very high expectations on innovation and automating processes.</p> <p>Or very restrictive attitude and very frugal budget planning. Does not want to release resource</p>	<p>Highly motivated person but overloaded</p> <p>Or nice person, but doesn't know much about technology</p>	

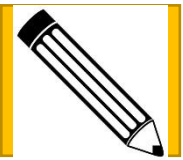
Business game - 3 different roles - 2 discussion rounds

Group discussion 10'	Group discussion 10'	Group discussion 10'	Plenum
<p>Project manager</p> <p>in a company/ministerial responsible for reporting. (i.e NFP of Country, roles of the EIONET Group Data & Digitalisation)</p>	<p>Decision maker</p> <p>Budget manager / client with overriding responsibility, (Head of department or director of environmental agency, EPA Network)</p>	<p>Expert</p> <p>Expert /IT technician who has the most knowledge about the data flow process. (Technical assistant, executing person, EIONET Group Data & Digitisation)</p>	<p><i>collecting the results</i></p> <p><i>discussion</i></p> <p><i>outreach</i></p>
<p>Highly motivated person. Has many ideas. But needs the support of the supervisor and the cooperation of his colleagues.</p>	<p>Either very high expectations on innovation and automating processes.</p> <p>Or very restrictive attitude and very frugal budget planning. Does not want to release resource</p>	<p>Highly motivated person but overloaded</p> <p>Or nice person, but doesn't know much about technology</p>	

Business game – Sample questions for 2 discussion rounds

Project manager

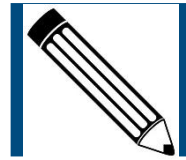
- Which innovations would be possible?
- What is already automated?
- Where are the possible efficiency gains and cost savings?
- Are AI methods taken into account – what is their benefit?
- Whom do I have to convince and how?
- Do I have the staff for innovation?



Please write down thoughts and results in the group on moderation cards (yellow colour).

Decision maker

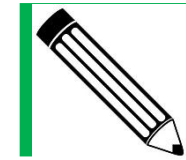
- What is the added value of the new processes - where can I save cost/time by introducing them?
- Do we have the staff for this innovation?
- What is the needed investment in technology/IT/staff
- Are there synergy effects with other tasks/partner institutions possible?



Please write down thoughts and results in the group on moderation cards (blue colour).

Expert

- What do I need to solve my task?
- What resources/training do I lack?
- Do we need to establish a helpdesk?
- How do I evaluate added value of automation or applying new technology/analytics



Please write down thoughts and results in the group on moderation cards (green colour).



Thank you

Stefan Jensen, Sune Djurhuus, Christine Brendle | EEA-Eionet day, 1 March 2023



European Environment
Information and
Observation Network



European
Environment
Agency