

EEA-Eionet day, March 1st 2023

Workshop on “Digitalisation as enabler for innovation in data management”

Background and setup

The aim of the workshop is to reflect the existing and future issues for innovation and digitalisation in data management. Around 50 people took part in the workshop. At the entrance, everyone received a sweet. The colour of the wrapper was later part of the game/ group finding.

The workshop was structured in three parts. After the welcome by Stefan Jensen, Sune Djurhuus introduced the topic. Sune presented an example of a process as it is experienced in most agencies' data management. For a modern infrastructure and for automated processes, complex issues, roles and responsibilities need to be clarified as well as efficiency gains identified.

After the introduction, Christine Brendle presented the business game. The aim was to answer from three prescribed roles/perspectives what is needed for a modern infrastructure and automated processes. Keywords or answers to the projected guiding questions were written down on cards and a highlighted set of them discussed in plenum.

Summary of the main messages:

The participants see a **proper infrastructure and training resources** for staff as crucial as well as a commitment of multi annual budgets. However, an integration of innovations pays off only after some delay of (investment) time.

One of the main aims to run innovation projects is to **increase and substantiate the role of data for decision-making** which are easier to understand and raise visibility in general (dashboards) and having dynamic tools (at expert level). Other objectives are the **reduction of cost regarding manual work and speeding up processes** and having **better quality checks**.

The project manager as visionary has to convince the decision maker as well as staff/experts. Therefore, a **solid review of existing platforms and technologies** will help to find own solutions. Compatible data flows, harmonised processes, online formats and standards are **pre-requisites for automation**.

Pilot projects help to implement innovations in smaller steps with less risk. Consider the peculiarities of the regions (areas) of different data scales / size /time series. **Adding value to existing data** is seen as important.

On the management and decision maker side, additional thoughts need mentioning. They may want to look for **synergies** between (small) countries and use of networks such as Eionet, for knowledge transfer and collaboration i.e., sharing open-source technologies.

Further, a check of whether (and which) **work can be outsourced** as well as an **ethical review of data use and technology** is needed.

On an international level, the countries need to **convince stakeholders** (i.e. the commission/EEA) to allow the use of new data and technologies and to develop joint standards and methods.

The executing experts are dependent on further training and cooperation with pioneers. Most of the participants mentioned the importance of a helpdesk.

In many cases, there is a lack of knowledge on how to deal with AI and ML. The audience also highlighted that cooperation between departments is essential: the same data can provide answers to various questions.

Sample questions for the discussion rounds:

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).

Detailed results collected from Post-it(s) (by role assigned):

Project manager

In an agency/ministry responsible for reporting. (i.e. NFP of country, roles of the EIONET Group Data & Digitalisation)
Highly motivated person. Has many ideas, but needs the support of the supervisor and the cooperation of his colleagues.

Is the person, who has the vision

First to ensure a good infrastructure then there is room for innovation

How is the data going to be used /presented? Data quality usefulness, outputs

Investments/funds for innovation

Quality checks API directly to eea / reduce manual work

Train existing staff / Hire new staff People involvement also in other fields

Data as sources for decision making (dashboards) / easier to understand / rise visibility in general

Dynamic tools

Has to convince the decision maker and the staff

Be prepared with arguments and examples

Check which software / platforms are already available

AI for handling big data/ speed up modelling

Speed the process -> use of satellite data/ Copernicus data

Compatibility of dataflows/ Harmonisation, level up data and processes/Online forms, format locked

“piloting”: Consider the peculiarities of the regions (areas) of different data scales / size /time series. Adding value to existing data

Needs and resources always are unbalanced / barriers: innovation versus expertise versus user needs

From MS perspective:

To convince the commission to allow the use of new data and technologies
To convince EEA to develop joint standards and methods
Ethical review of technology and data use

Decision maker

Budget manager / client with overriding responsibility, (Head of department or director of environmental agency, EPA Network)

Either very high expectations on innovation and automating processes.

Or very restrictive attitude and very frugal budget planning. Does not want to release resource

Needs and resources always are unbalanced / barriers: innovation versus expertise versus user needs

Knowledge transfer for small countries

Look for synergies but focus on the project, choose cases carefully

Ethical review of technology and data use

Link between business and IT

Increase efficiency: to reduce staff/manual work due to automation

Lack of staff solve by outsourcing?

Encourage to try something new /innovations

Share open source technologies

Commit multi annual budget

Integration of innovations pays off after some delay of (investment) time

New data and services

Expert

Expert /IT technician who has the most knowledge about the data flow process. (Technical assistant, executing person, EIONET Group Data & Digitisation)

Highly motivated person but overloaded

Or nice person, but doesn't know much about technology

Time to solve tasks

Helpdesk at eea/topic center/ help from peers → provides efficiency

To assist with collection, processing and understanding data

Need easier solution

Training -> convince manager

Community (i.e. Eionet)

Train different expertise (general and IT)

Clear topic / understanding my purpose

Consider target group

Improve quality to satisfy the target group

One data set for multiple aims

Time to get results

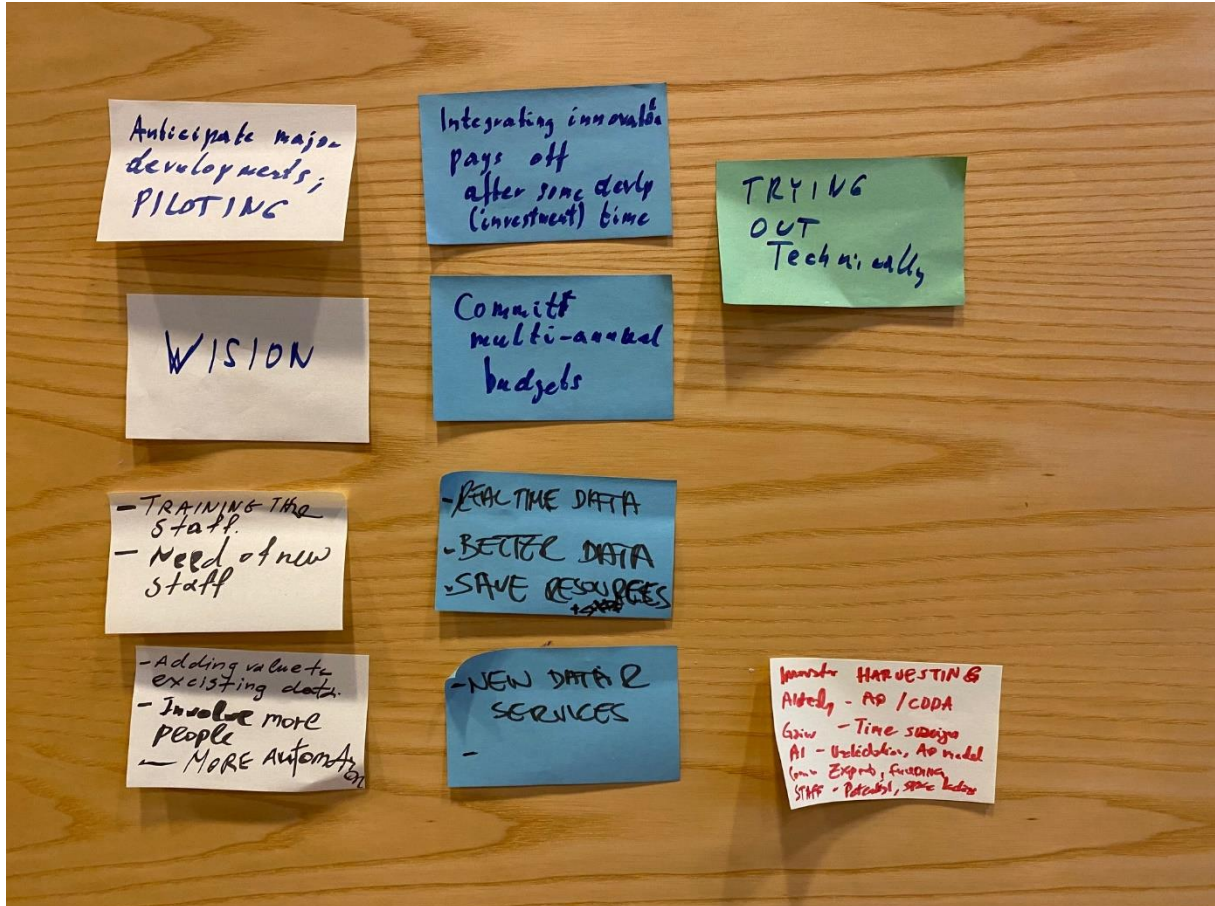
Real time data / near real time data

Training on data flow understanding machine learning and artificial intelligence

If I need to learn something new someone else needs to take over my current project

New learning as a principle in current tasks / daily work

Annex: Photo protocol



1) by reducing manual work
- encourage to try something new → innovation
- increase efficiency
- make data more visible, easier to understand
- earn by making data

2) NO

3) - new staff
- resource to finance time, money, training, outsourcing
- link business & IT together
- project manager

4) look for synergies, but focus on the project, use the existing ~~take~~ synergies cases carefully chosen

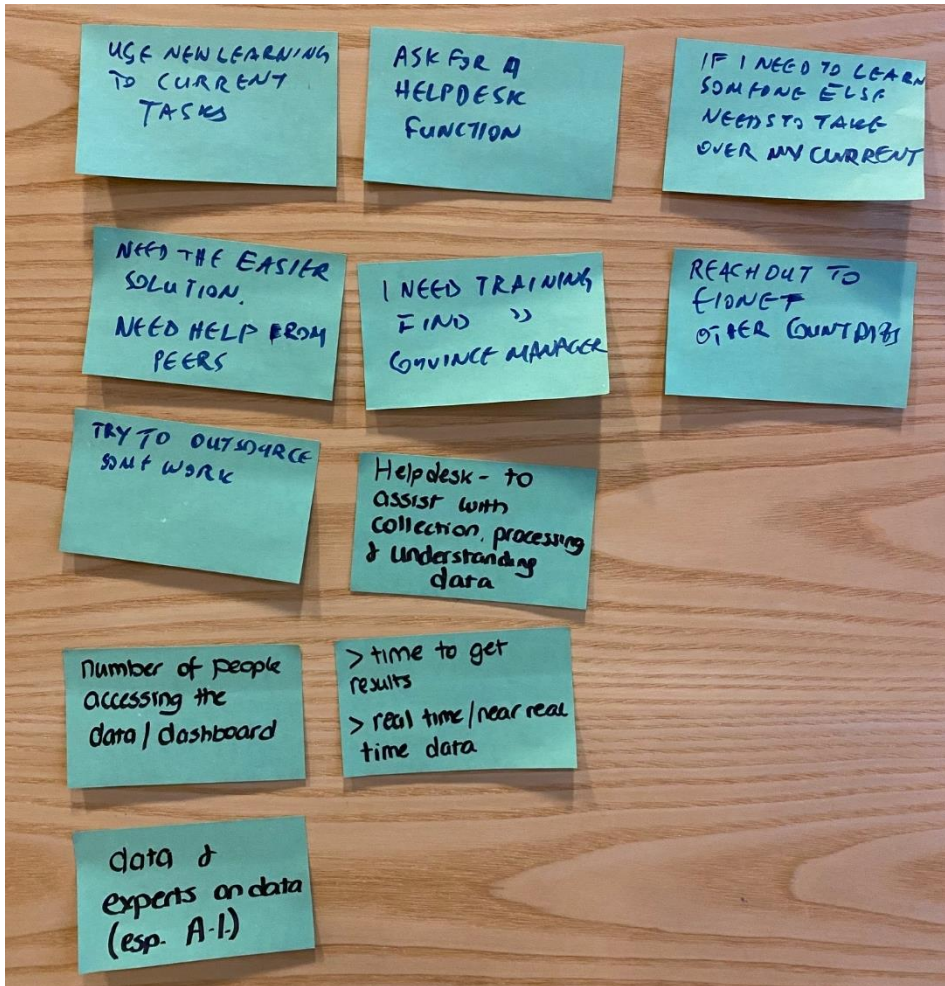
- the objective ○
resources
• network, support

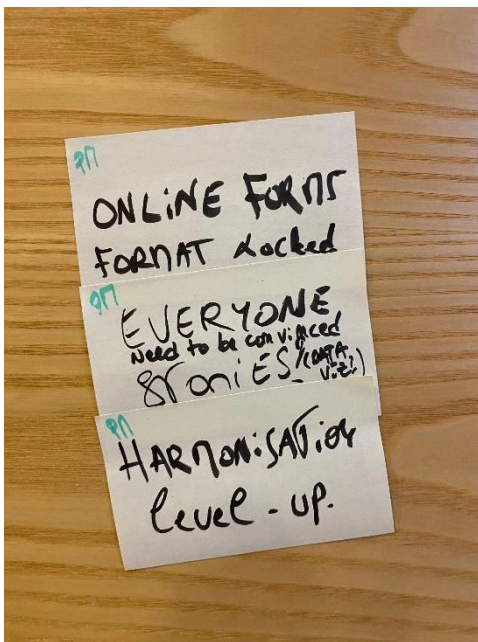
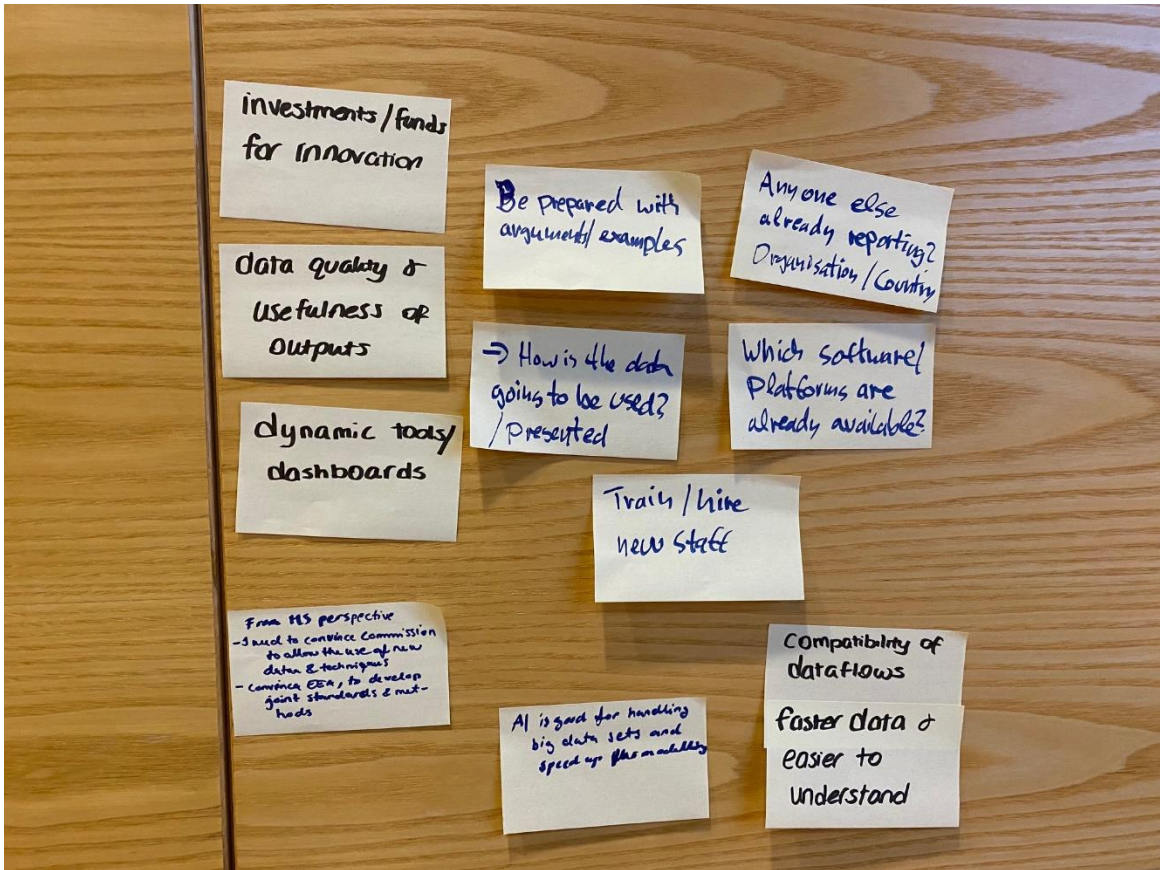
2) guidance → manual
+ time
training on / data flow
understanding ML, AI

3) yes, helpdesk provide
efficiency
to solve problems now
& future problems

4) time saving, money saving
- satisfaction of target
- improvements in group
quality
- allows to simplify
complex data / questions







-> TECHNICAL YES BUT WE
NEED TO BUILD FIRST AND
INFRASTRUCTURE
-> TAKE OUT OF RESOURCES
-> INVESTMENT -> EXAMPLE OF
TRANSFER KNOWLEDGE

-> ETHICAL AND ECONOMIC
ISSUE INTRINSIC OF TECHNOLOGY
-> INVESTMENT

-> TRANSFER KNOWLEDGE
NETWORK IS IMPORTANT
-> STEER THE PROCESS
USE OF SATELLITE DATA
BARRIERS INNOVATION VS
EXPERTISE -> WE NEED

1. Use Copernicus
data to assist
in definition
of additional
forest area

2. AI Recognize
forest area
3. AI Define
the area
for the area
size

4. Determine
per region
the difference
between area
size for two
different time

Added value
of improving
the image of
the country
regarding nature
protection

do we have
input and resources?
we ask EEA
to develop

TIME FOR INNOVATION
IT TAKE TIME!
A KNOWLEDGE NEED
INCENTIVE
AND ≠ EXPERTISE/DISCIPLINE

LINK BETWEEN
HELPAISE (EBA) AND
NATIONAL EXPERTS REPORTING
DATA SHOULD STRENGTHEN
CRAT GPI → HELPAISE!!

