



# EOTEC DevNet NETWORK INTELLIGENCE:

*Understanding the Earth observation capacity  
development network*

*PRESENTED BY: ERIN MARTIN, MARTYNA STELMASZCZUK-GÓRSKA AND YASHA  
MoZ (EOTEC DevNet SECRETARIAT)*

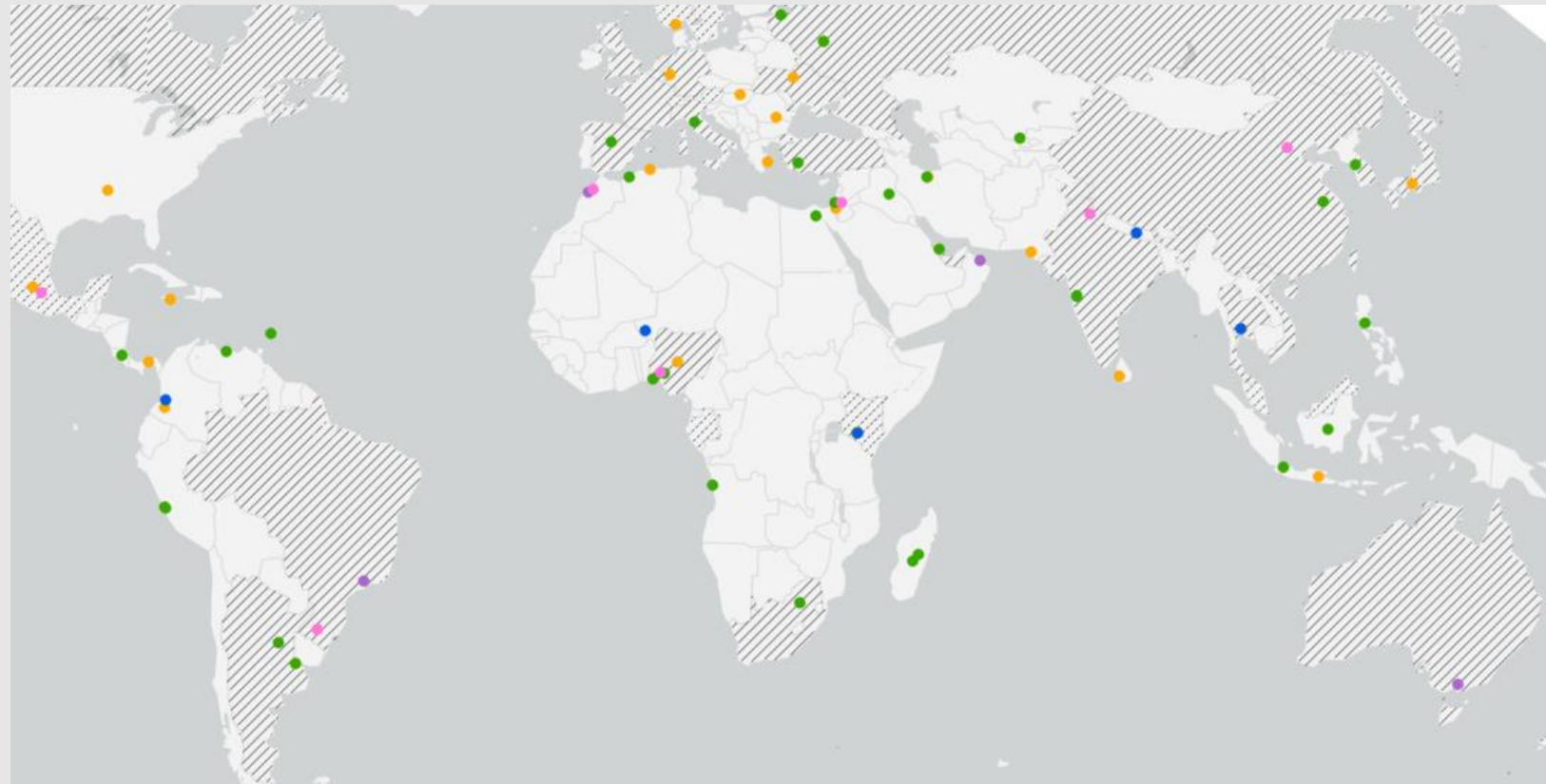
*WITH TECHNICAL CONTRIBUTIONS FROM DR. MURAT SARTAS*

EARTH OBSERVATION TRAINING, EDUCATION, AND CAPACITY DEVELOPMENT  
NETWORK

October 2023

# Presentation outline

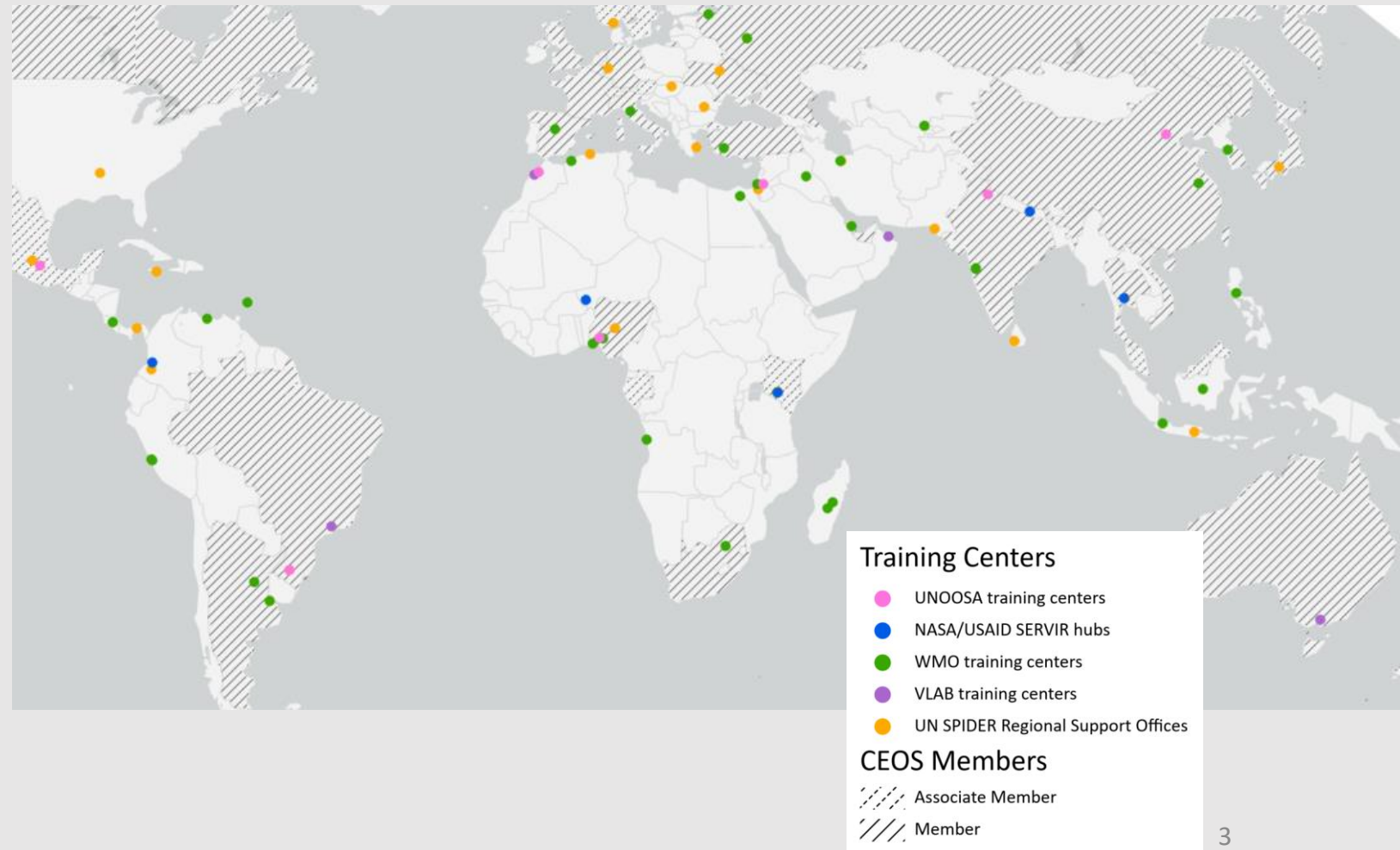
- I. Aims of EOTEC DevNet Network Analysis
- I. Early Results
- I. Next Steps
- I. Methodology in detail



# I. Aims: Why multi-stakeholder network analysis?

*The Earth Observation Capacity Building Stakeholder Landscape is highly complex...*

- Many organizations
- Multiple networks
- Global scope
- Multi-dimensional and geographically-specific needs
- Ever-changing technologies
- Trade-offs between goals



# I. Aims: Why multi-stakeholder network analysis?

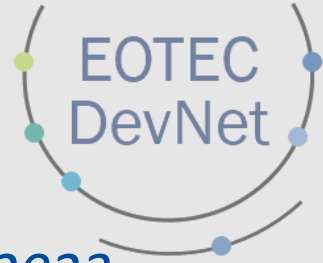
- *Improve collaboration among EO-capacity building providers*
- *Foster exchange of capacity-building resources*
- *Reduce duplication*



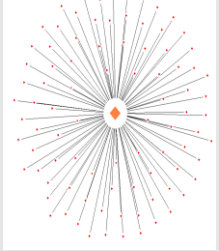


## II. Early results

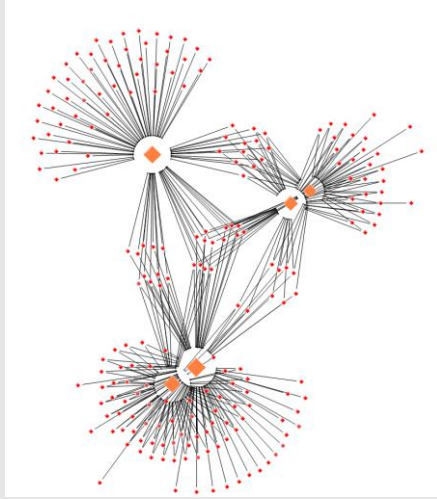
*Looking at EOTEC DevNet, the network is growing...*



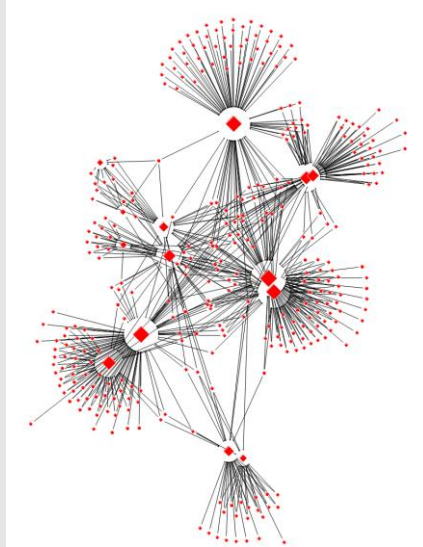
*June 2021*



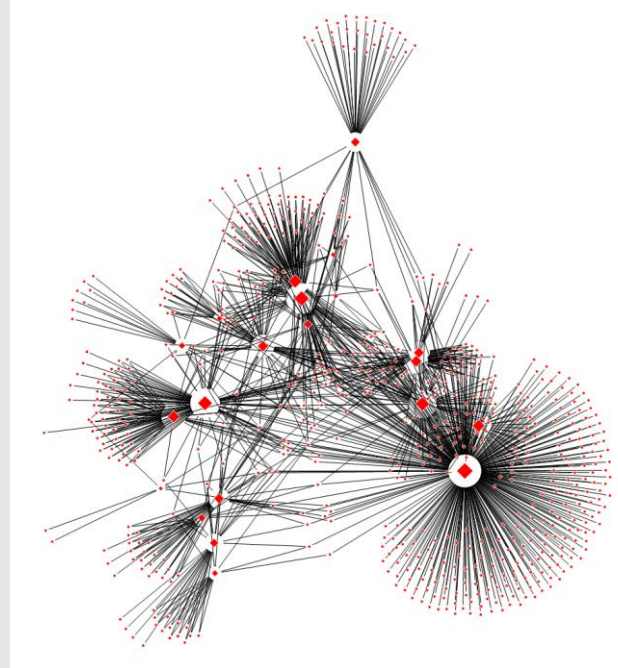
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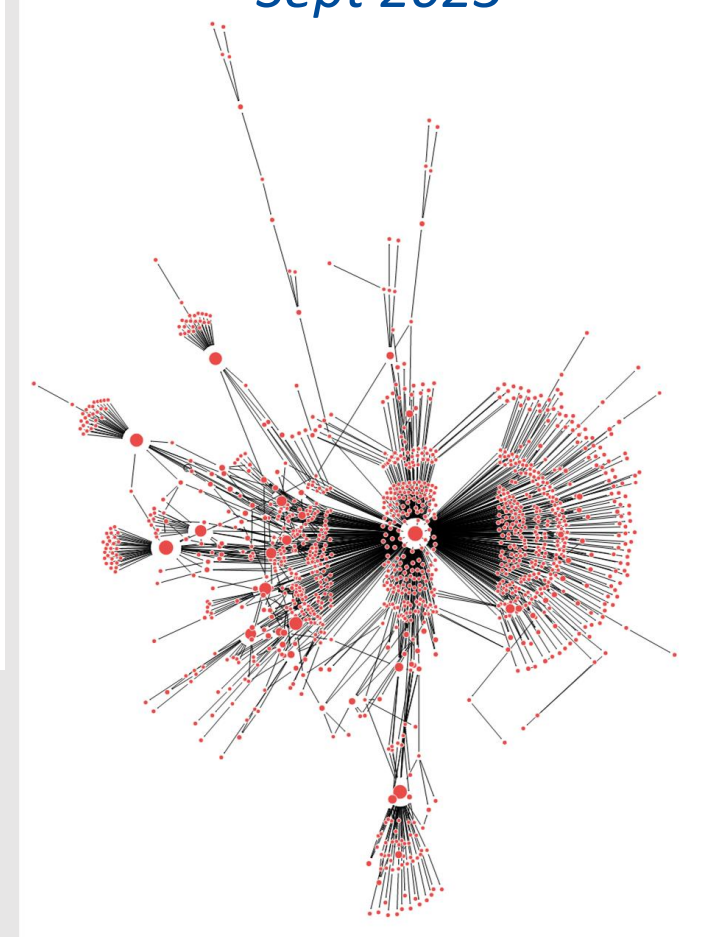
*October 2022*



*Feb 2023*



*Sept 2023*

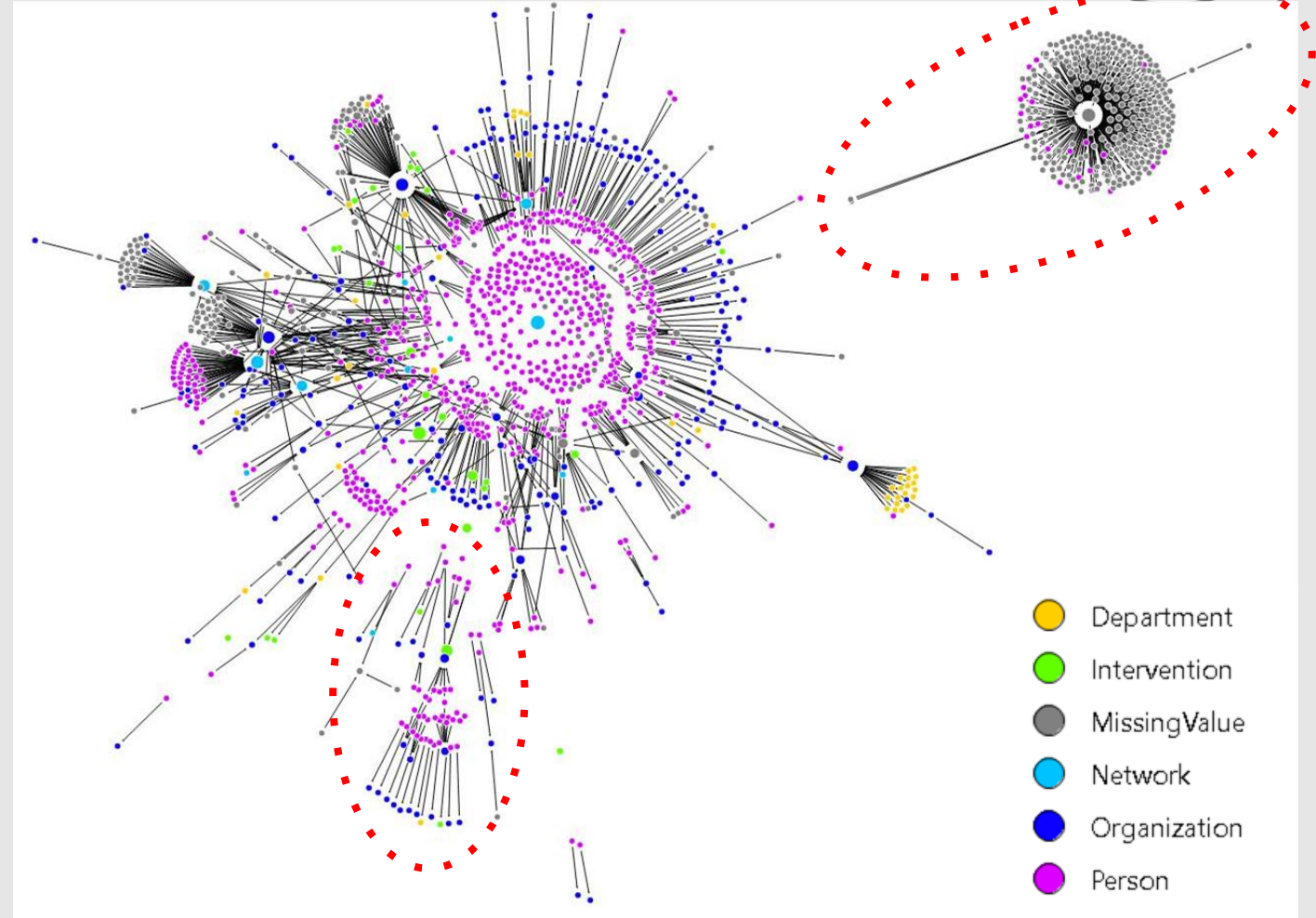
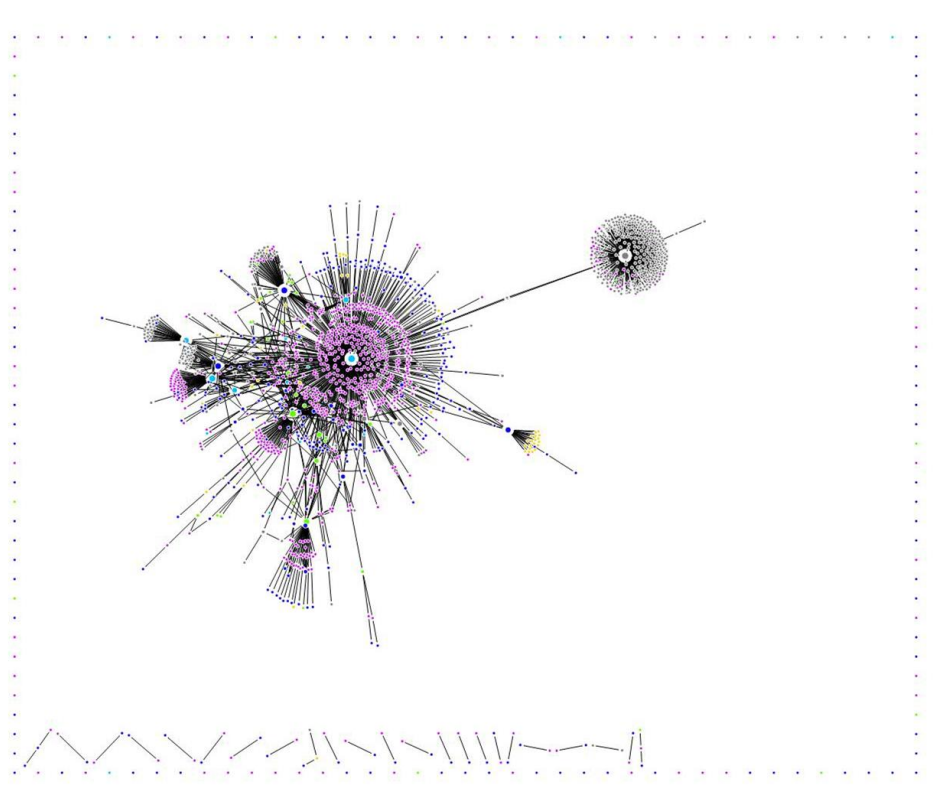
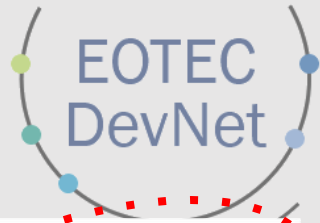


Both:

- Extensively (94 entities)
- Intensively (882 new connections)

## II. Early results

*But EOTEC DevNet remains a small part of the global ecosystem*



### III. Next steps

*Expand analysis beyond on our network to understand the EO capacity building landscape*

- **Expand detail of data collection.** Information on the individuals and their actual and potential role is not articulated yet. The articulation can provide intelligence for high granular action to improve the performance of EOTEC DevNet and all earth observation capacity building ecosystem
- **Extend data collection beyond EOTEC internal documentation.** Although it includes information about the organizational member of networks constituting EOTEC DevNet, majority of the network information about EOTEC DevNet networks and larger ecosystem was not included in the analysis. Therefore, the extrapolation results to the overall ecosystem should be done very cautiously. To better understand the ecosystem, data from the engagement of constituent networks prove very high value.
- **Update and prepare dashboards** for key stakeholders

# III. Next steps

*Build a dashboard to answer key management questions*



| EOTEC DevNet STATUS Board  |                                 |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
|--|---------------------------------|---|--------------------------------|--|-------------------------|--|------------------|--|------------------|----------------|---------------------------------|--------------|-----|
| How many people are involved in EOTEC DevNet Activities?   |                                 |   | 721                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many regular participants are involved in EOTEC DevNet activities?   |                                 |   | 274                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many organizations are currently involved in EOTEC activities?   |                                 |   | 340                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many countries are represented in EOTEC activities? (UN Country Classification)  |                                 |   | 81 of 248                      |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many regions are represented in EOTEC activities? (UN Sub-region)  |                                 |   | 14 of 18                       |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many GEO/CGMS/WMO/UNOOSA/CEOS network participants are active in EOTEC DevNet?   |                                 |   | 12                             |  |                         |  |                  |  |                  |                |                                 |              |     |
| How many new connections have been established thanks to the activities of EOTEC DevNet?   |                                 |   | 882                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| Which organizations and people are most active and key in EOTEC DevNet activities?   |                                 | Web Page Stats  | ###                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| <table><tr><td>1. World Meteorological Organization</td><td>1. Martyna Stelmaszczuk-Górska</td></tr><tr><td>2. National Aeronautics And Space Administration</td><td>2. Jorge Del Rio Vera</td></tr><tr><td>3. Committee On Earth Observation Satellites</td><td>3. Kenneth Mubea</td></tr><tr><td>4. United Nations Platform for Space-based Inform...</td><td>4. Adrian Guzman</td></tr><tr><td>5. SERVIR</td><td>5. Sydney Neugebauer</td></tr></table> |                                 | 1. World Meteorological Organization  | 1. Martyna Stelmaszczuk-Górska | 2. National Aeronautics And Space Administration | 2. Jorge Del Rio Vera   | 3. Committee On Earth Observation Satellites | 3. Kenneth Mubea | 4. United Nations Platform for Space-based Inform... | 4. Adrian Guzman | 5. SERVIR      | 5. Sydney Neugebauer            | Unique Visit | ### |
| 1. World Meteorological Organization   | 1. Martyna Stelmaszczuk-Górska  |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
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| 4. United Nations Platform for Space-based Inform...   | 4. Adrian Guzman                |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| 5. SERVIR  | 5. Sydney Neugebauer            |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
|  |                                 | Total Engagements   | ###                            |  |                         |  |                  |  |                  |                |                                 |              |     |
|  |                                 | Social Media Engagements  | ###                            |  |                         |  |                  |  |                  |                |                                 |              |     |
|  |                                 | Likes   | ###                            |  |                         |  |                  |  |                  |                |                                 |              |     |
|  |                                 | Shares  | ###                            |  |                         |  |                  |  |                  |                |                                 |              |     |
| What themes and service types are most actively worked within the EOTEC network?   |                                 | <a href="#">Data Sources</a><br><a href="#">Engagement Types</a><br><a href="#">UN Regional Classification</a><br><a href="#">ILO Occupation Classification</a> |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| <table><tr><td>1. -</td><td>1. -</td></tr><tr><td>2. education - general&amp; science - general</td><td>2. Education &amp; Research</td></tr><tr><td>3. education - general</td><td>3. Education</td></tr><tr><td>4. drought management</td><td>4. Coordination</td></tr><tr><td>5. agriculture</td><td>5. Coordination &amp; Collaboration</td></tr></table>  |                                 | 1. -  | 1. -                           | 2. education - general& science - general        | 2. Education & Research | 3. education - general                       | 3. Education     | 4. drought management                                | 4. Coordination  | 5. agriculture | 5. Coordination & Collaboration |              |     |
| 1. -   | 1. -                            |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| 2. education - general& science - general  | 2. Education & Research         |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| 3. education - general   | 3. Education                    |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| 4. drought management  | 4. Coordination                 |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |
| 5. agriculture   | 5. Coordination & Collaboration |   |                                |  |                         |  |                  |  |                  |                |                                 |              |     |

Real time answers to key network management facts, e.g.:

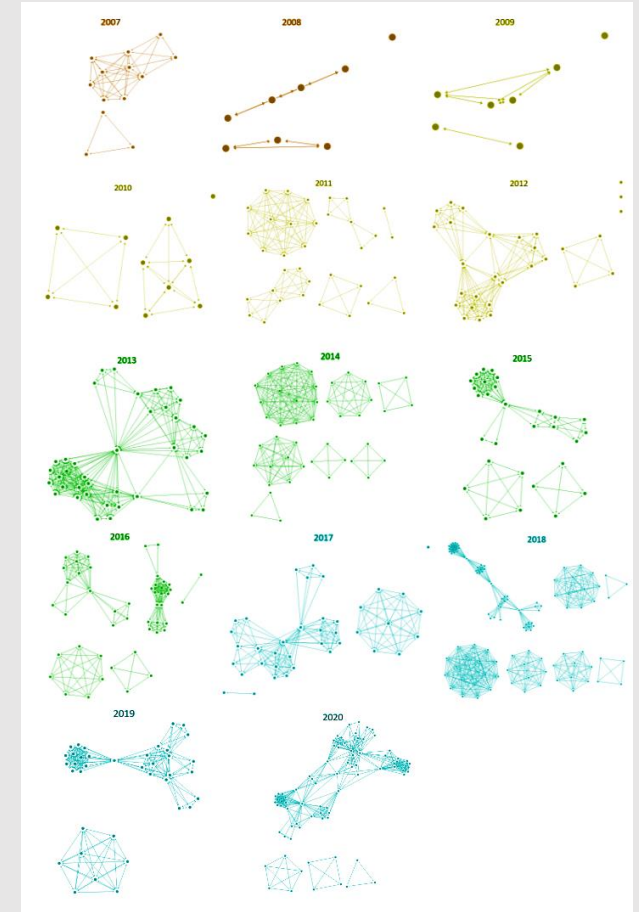
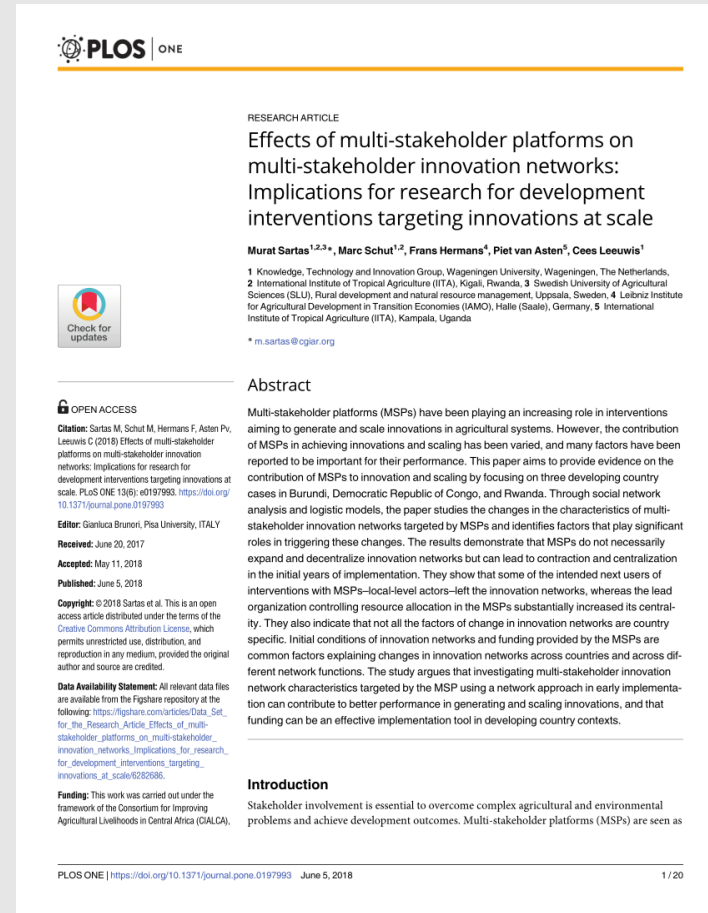
- *Direct Outreach (people and organizations)*
- *Scope (countries and regions)*
- *Value added (Unique EOTEC DevNet Contribution)*
- *Key people and organizations*
- *Focus themes and service activities of the network*
- *Social media outreach and engagement*
- *Web page outreach and engagement*



# IV. Methodology in detail

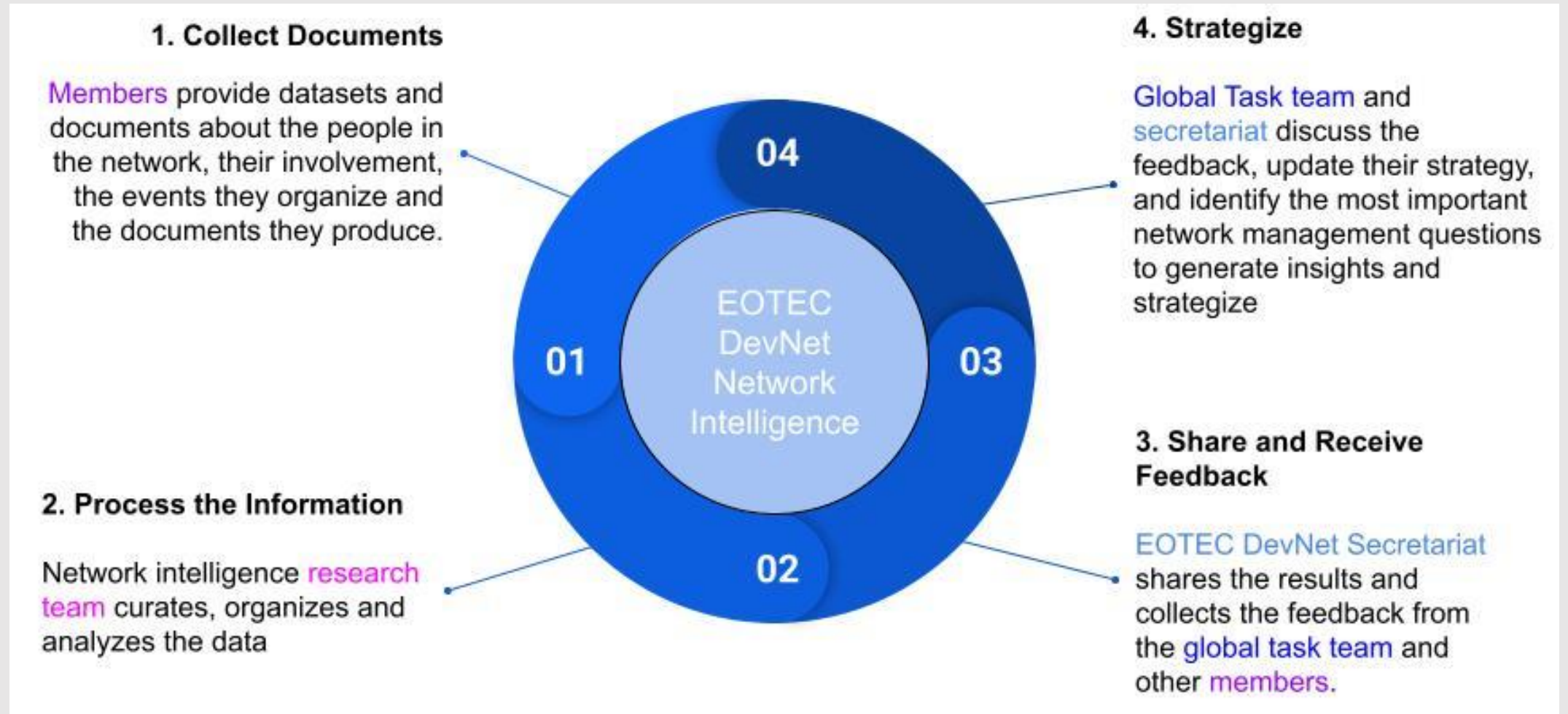
## Approach

- Social network analytics
  - 20 Data tables from events, email lists..
  - Rigorous data validation via internet
  - Exploring 20+ Statistics and 100+visualizations
- Supporting management decisions while conducting research
- Combining statistics with visualizations



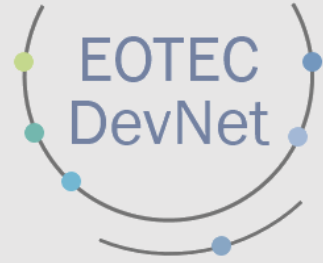
# IV. Methodology in detail

## Approach



# IV. Methodology in detail

## *Data management process*



### ***Dataset Based***

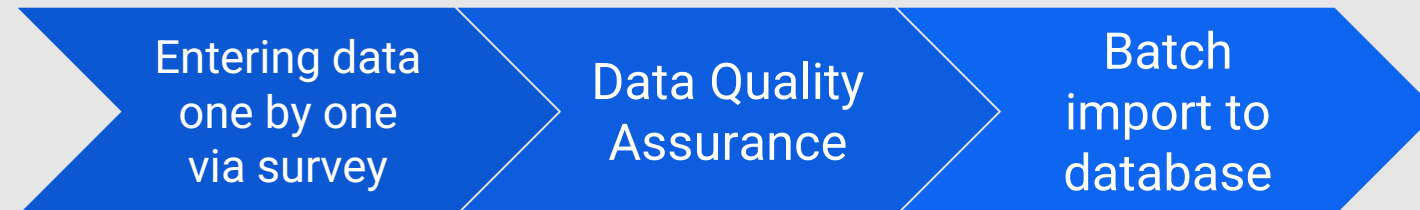


### **Learning Data Collection Process**

Exploring  
interactive  
dashboards

A blue chevron-shaped box pointing to the right, containing the text "Exploring interactive dashboards".

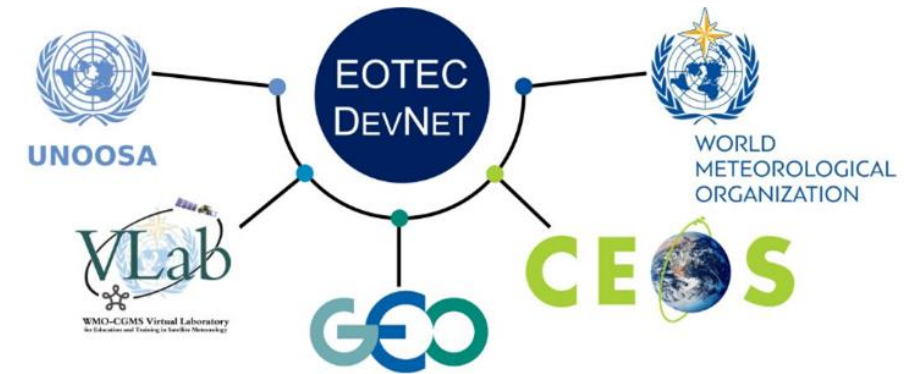
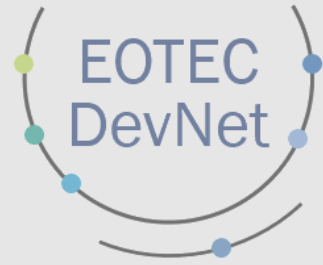
### ***Form based***



# IV. Methodology in detail

## *Protocol: What is a social data network?*

- SNA data are the dots, lines between dots and their attributes
- Dots and lines are too many, what matters is the key network management questions
  - What are the existing collaborations and partnerships between stakeholders?
  - Who are the key stakeholders and partners?
  - What is the geographical distribution of stakeholders and partners?
  - What are the main topics and trends?
  - How do different stakeholder groups (academia, industry, government) contribute?
  - ...



Annex: Social Network Data Collection and Curation Protocol  
for

Generating High-Quality Social Network Analysis Data for  
Effective, Efficient and Inclusive Earth Observation Networks

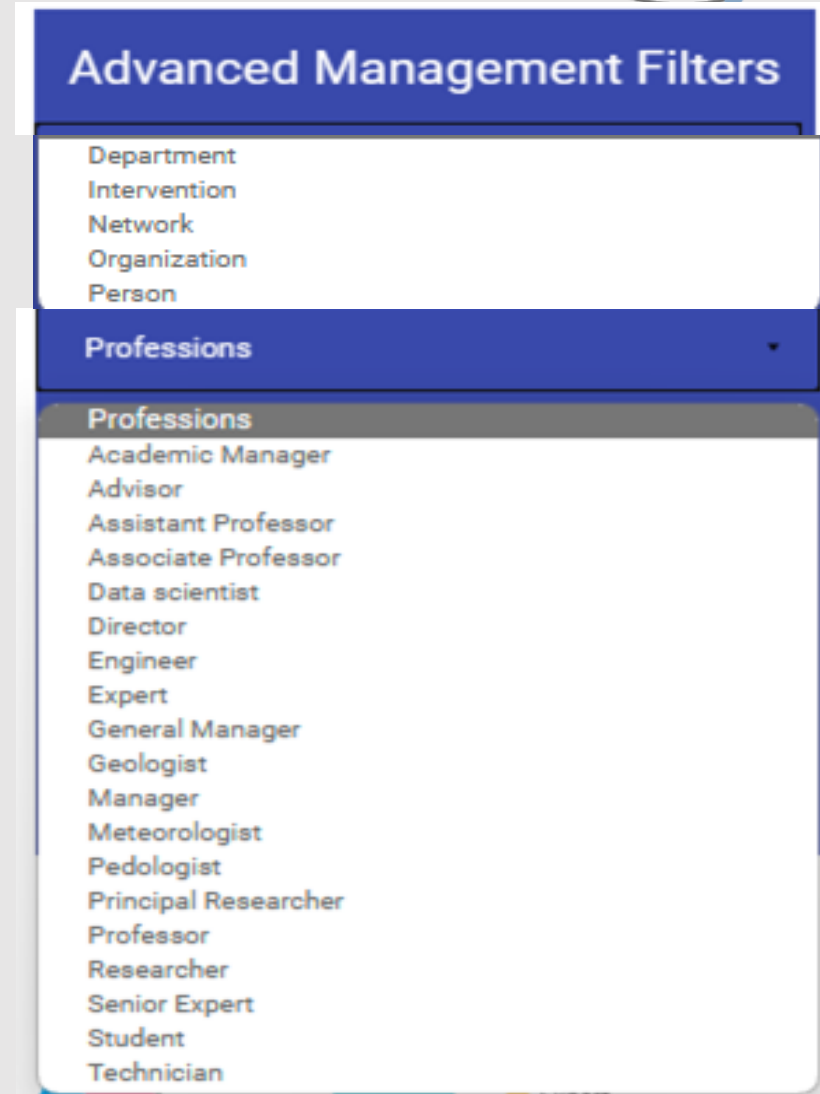
|   |    |
|---|----|
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## IV. Methodology in detail

*Protocol: What is a social data network?*

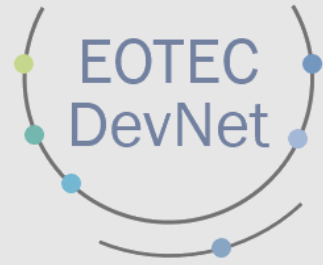
- (dots) entities
  - person
  - department
  - organizations
  - networks
  - network of networks
  - interventions, i.e. project, program etc.
- attributes
  - professions
  - age
  - sex
  - base location
  - ....
- the key is to decide whom are we interested in learning and influencing

A screenshot of a web application interface titled "Advanced Management Filters". The interface has a dark blue header bar with the title in white. Below the header, there is a white box containing a list of filter categories: "Department", "Intervention", "Network", "Organization", and "Person". Below this list is a dark blue bar with the word "Professions" in white. Underneath, there is a white box with a dark blue header bar that also says "Professions". This box contains a long list of professions: "Academic Manager", "Advisor", "Assistant Professor", "Associate Professor", "Data scientist", "Director", "Engineer", "Expert", "General Manager", "Geologist", "Manager", "Meteorologist", "Pedologist", "Principal Researcher", "Professor", "Researcher", "Senior Expert", "Student", and "Technician".

| Advanced Management Filters |  |
|-----------------------------|--|
| Department                  |  |
| Intervention                |  |
| Network                     |  |
| Organization                |  |
| Person                      |  |
| Professions                 |  |
| Professions                 |  |
| Academic Manager            |  |
| Advisor                     |  |
| Assistant Professor         |  |
| Associate Professor         |  |
| Data scientist              |  |
| Director                    |  |
| Engineer                    |  |
| Expert                      |  |
| General Manager             |  |
| Geologist                   |  |
| Manager                     |  |
| Meteorologist               |  |
| Pedologist                  |  |
| Principal Researcher        |  |
| Professor                   |  |
| Researcher                  |  |
| Senior Expert               |  |
| Student                     |  |
| Technician                  |  |

# IV. Methodology in detail

*Protocol: What is a social data network?*



- (lines) engagement options
  - team membership
    - manager
    - secretariat
    - membership
    - staff
  - event participation
    - management meetings
    - trainings
    - courses
  - publications
    - reports
    - research papers
- attributes
  - specific engagement types
- the key is to prioritize which relationships are more relevant and informative

## Advanced Management Filters

### Engagement Type

Email group  
Entity  
Event participation  
Network membership  
Work or service support

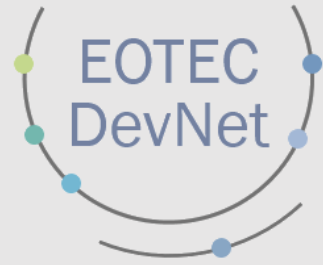
### Specific Engagement Types

### Specific Engagement Types

Co-chair  
Contributor  
Drought group membership  
Flood Tracker Demo  
Global Task Team  
Member  
Regional communities of practice - Floods Working Group  
Regional communities of practice - Task Team  
Regional community of practice  
Regional flood group membership  
Secretariat

# IV. Methodology in detail

## Terms of data provision and use



- Data-for-Analytics Use Model
  - provider of data agrees to share their data in exchange for access to the analytics generated from that data (*to create incentives to provide data*)
  - for a period of time (*to create incentives to update data*)
  - can be done at various levels; with EOTEC DevNet, its constituencies, or any other entities (*to customize to the management needs*)



### Annex: Terms of Provision and Use of Social Network Data for

**Generating Comprehensive and Up-to-date Social Network  
Analysis Data for Effective, Efficient and Inclusive Earth  
Observation Networks**



|  |   |
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| 1 Background.....  | 2 |
| 2 Disclosure Statement.....                              | 4 |
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| 2.1 Roles and tasks of data providers and users.....     | 5 |
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