FRIEND: Flood risk & impact assessment through automatic change detection of S-1+S-2 images

Marco Folegani - MEEO

Project: Flood Risk & Impact assEssment through automatic chaNge Detection of S-1+S-2 images

Domain: Disaster Management

Scope:

Impact analysis

Risk estimation

Consortium:

MEEO
Meteorological Environmental
Earth Observation

Italian Company operating since 2004 in the field of Earth Observation Applications
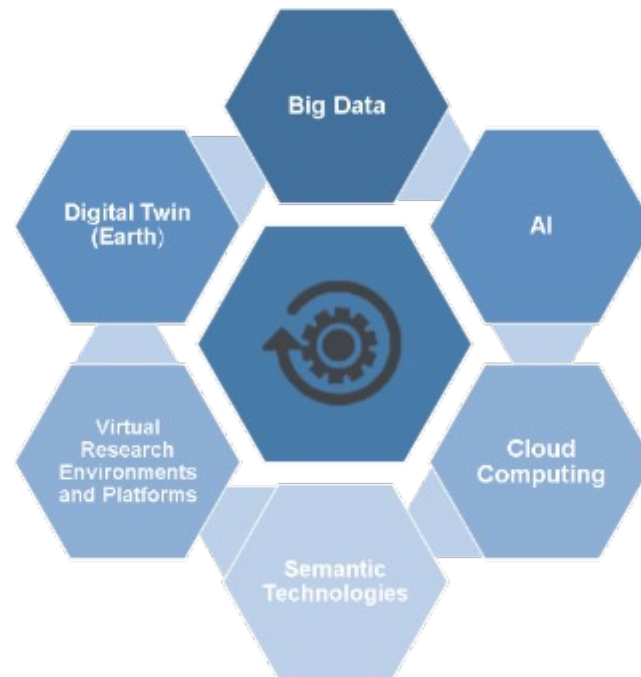
SatCen
European Union Satellite Centre

European Union Satellite Centre.
Analysis for decision making

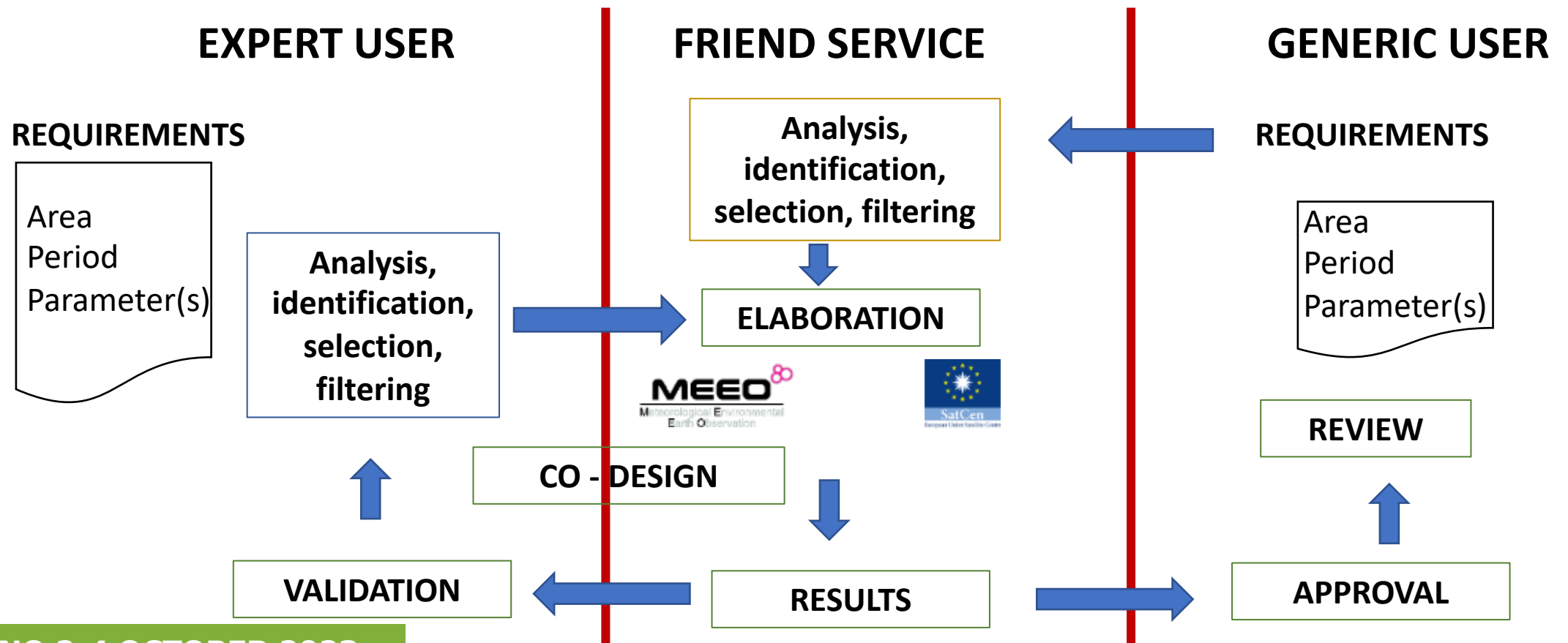*"It is key to have the right information, at the right time, to the right people and in the right place"*

DATA

TECHNOLOGY

SCENARIOS

Logic of the service

EXPERT USER

FRIEND SERVICE

GENERIC USER

REQUIREMENTS

Area
Period
Parameter(s)

Analysis, identification, selection, filtering

Analysis, identification, selection, filtering

REQUIREMENTS

Area
Period
Parameter(s)

ELABORATION

MEEO
Meteorological Environmental
Earth Observation

SatCen
European Union Satellite Centre

CO - DESIGN

REVIEW

VALIDATION

RESULTS

APPROVAL

FRIEND
access the service (non-expert
users)

FRIEND - **Climate data and Flood impact**
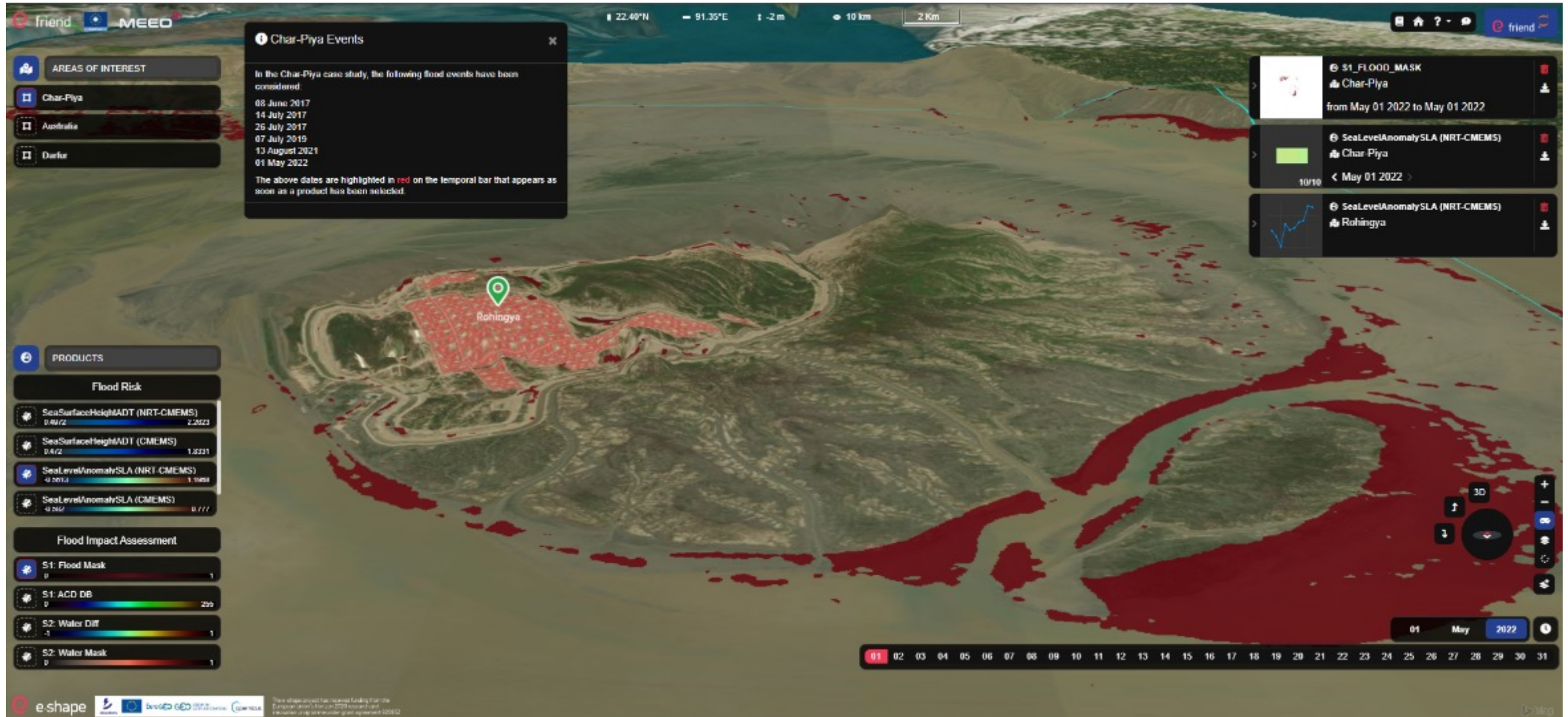
Jupyter Notebook application (expert users)

- **Jupyter Notebook** component for expert users (e.g. SatCen)
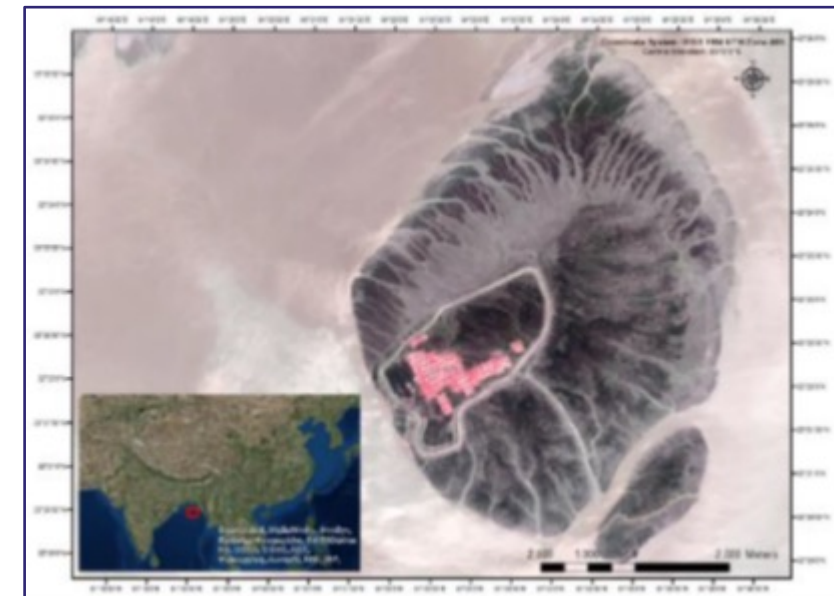

- Sentinel-1 + Sentinel-2 **data fusion** (GEO-DAMP component)

- Flexible and highly customizable **web-based interactive development environment**

Lessons learnt and further evolution

Lessons learnt:

- FRIEND allows us to add value to existing products by **aggregating other products** that facilitates a fully understanding of the context and the correlation with other variables;

- FRIEND is a **single access point** to multiple data;

- FRIEND will **increase user community**, moving from institutional users to international cooperation;

- FRIEND will **facilitate the user uptake** and enable the **exploitation of data by non-expert** users;

Further evolutions:

- **Further case study** implementation and new flood risk monitoring products integration

- Continuation of **dissemination** activities;

- **Integration with existing enduser services** .

Thank you!

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- FRIEND pilot on the e-shape website:

    https://e-shape.eu/index.php/showcases/pilot-6-5-friend

- FRIEND landing page:

    https://friend.adamplatform.eu/

Useful links

- FRIEND user guide:

    https://friend.adamplatform.eu/static/friend/userguide/S6P5_UserGuide_FRIEND_v3.pdf

- FRIEND video tutorial (on the landing page)