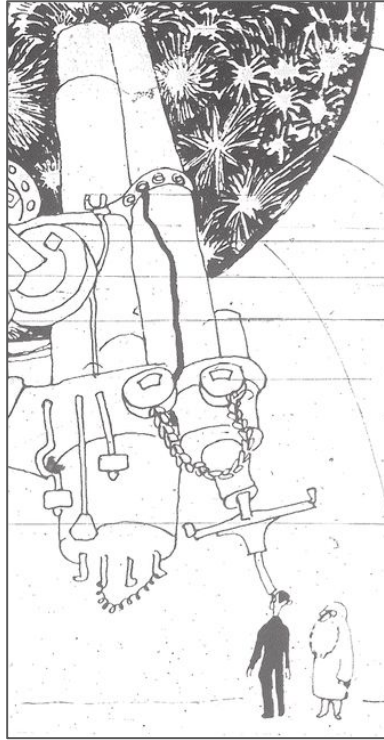


# WP5 status

Realtime alerts & follow-up observations

Marek Kowalski & Fabian Schüssler  
(with contributions from Jakob Nordin)

# Time-domain astronomy

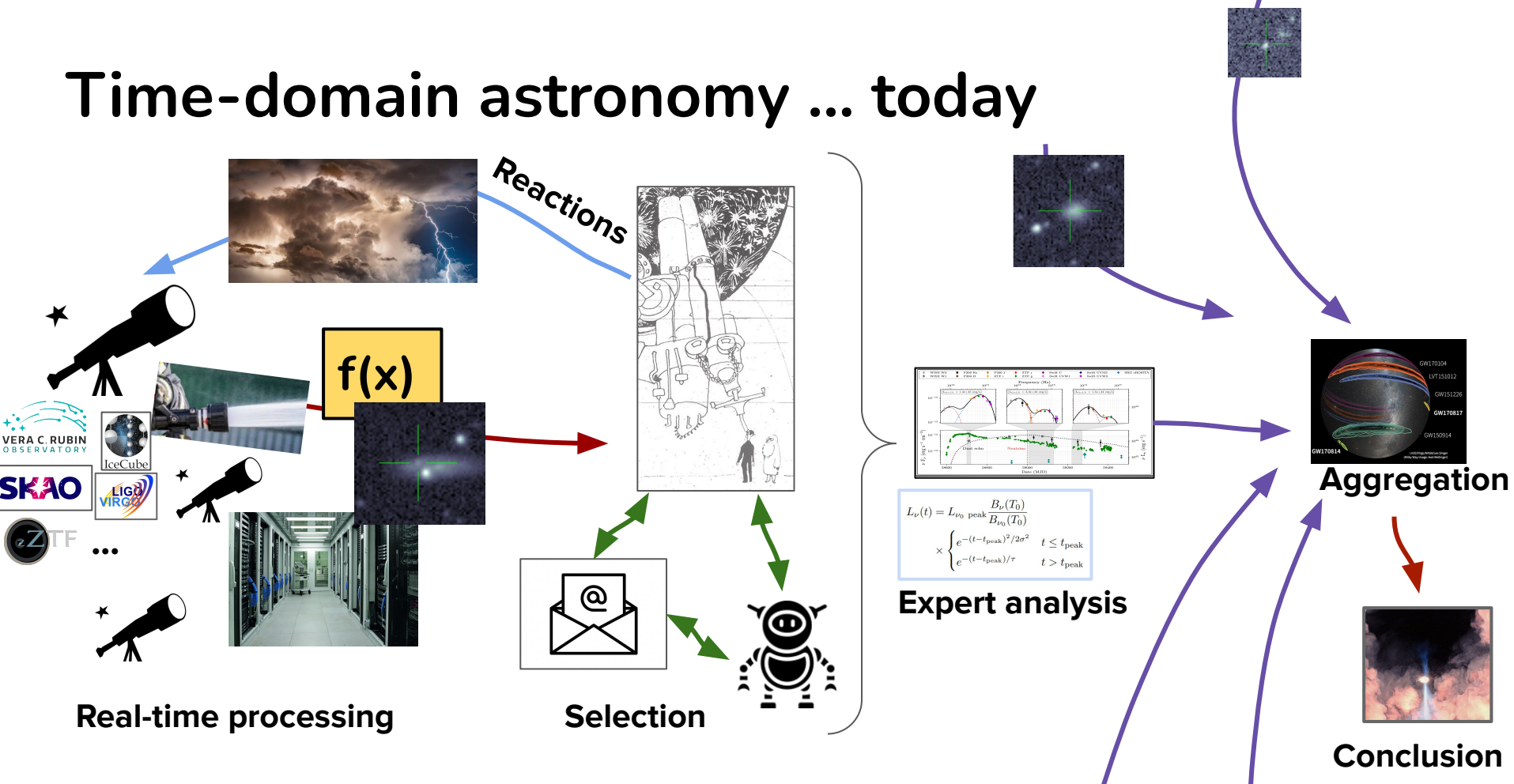


**Observation**



**Conclusion**

# Time-domain astronomy ... today

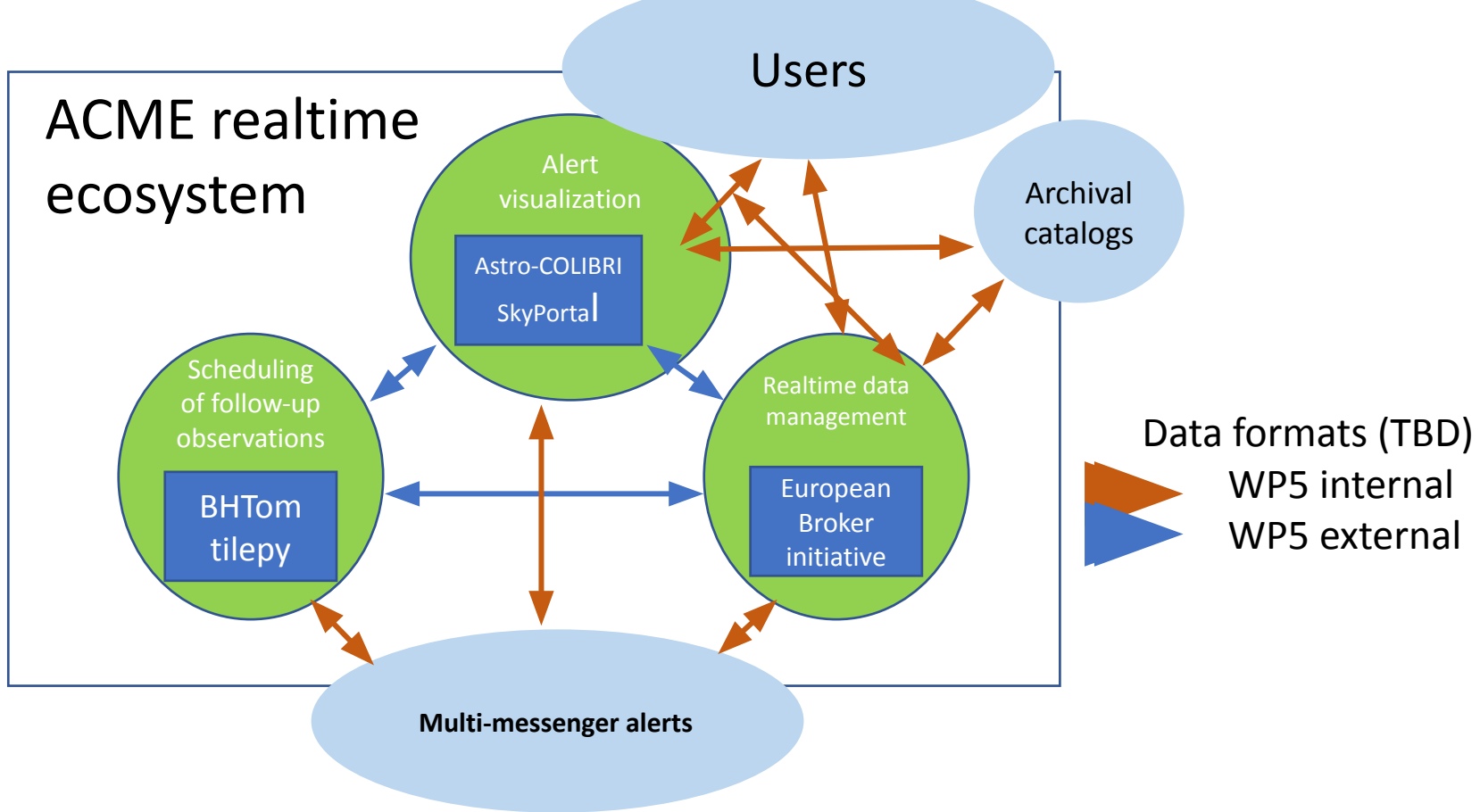


# WP5 Real time alerts & follow-up observations

**Goal:** Enable scientists to efficiently use complex, real-time astronomical data streams.

**Context:** Diverse infrastructure / tool development already ongoing across Europe in small teams.

WP5 will develop common solutions and interaction protocols.  
Focus will be for long-term stability and transparent access by end users.



# WP5 Real time alerts & follow-up observations

## **Task 5.1 Multi-messenger alerts**

Unified format for the exchange of real-time information.

## **Task 5.2 Real time data management, alert filtering & classification**

Tools for accessing, evaluating and reacting to large throughput data streams, upholding FAIR principles.

## **Task 5.3 Platforms & tools for scheduling of follow-ups**

Multi-instrument follow-up and analysis of large sky regions and/or unique objects.

# WP5.2 “European Broker Initiative”

Example of work planning now starting:

Three European VRO/LSST brokers: AMPEL, Fink & Lasair

Joint development of new features:

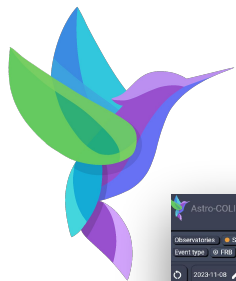
- Contextual catalog information (Lead: Lasair)
- Machine learning test-beds (Lead: Fink)
- User designed analysis schema (Lead: Ampel)

To be accessible through all brokers, as well as directly.

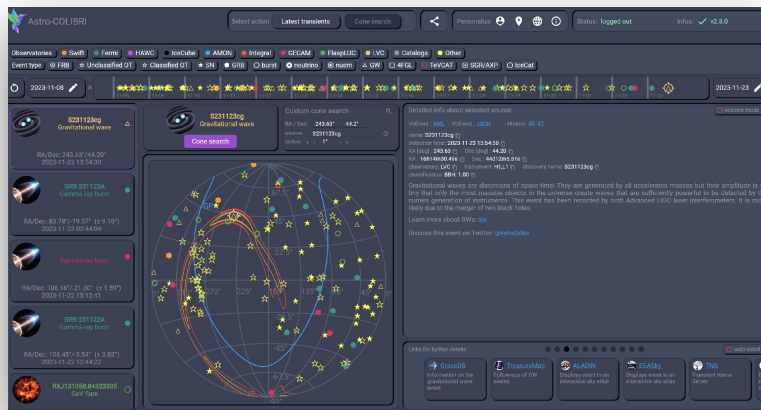
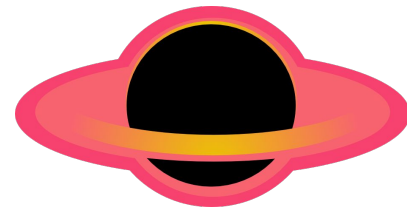
~ Monthly calls (contact: E. Ishida)



# WP5.3 “Platforms&tools for scheduling of follow-ups”



First examples:  
Astro-COLIBRI  $\Leftrightarrow$  BHTOM



<https://astro-colibri.com>

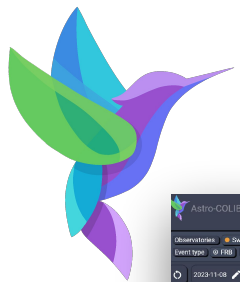


Facilitate the start of extensive follow-up campaigns

- press a button in the Astro-COLIBRI app => start follow-up campaign of multi-messenger transients within the BHTOM network

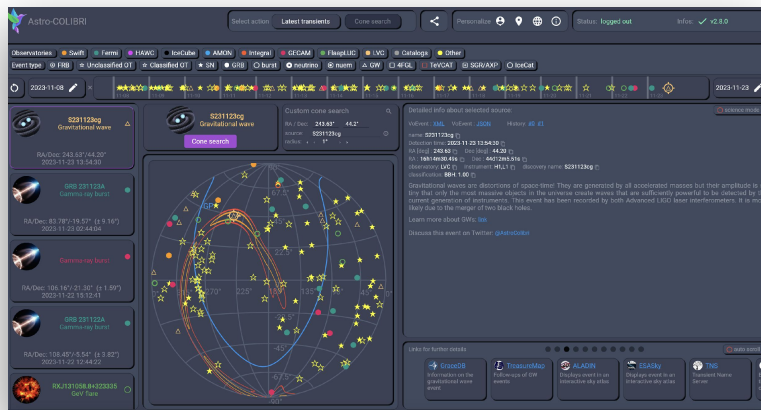


# WP5.3 “Platforms&tools for scheduling of follow-ups”



First examples:  
Astro-COLIBRI  $\Leftrightarrow$  Tilepy

tilepy



<https://astro-colibri.com>



Facilitate the start of extensive follow-up campaigns

- press a button in the Astro-COLIBRI app => get an optimize observation plan for different observatories
- Tilepy code is open source and it is available in a publicly accessible API at <https://tilepy.com>