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EASST

EUROPEAN ASTRONOMICAL
SOCIETY OF SMALL TELESCOPES



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Our project idea

- We unite a global network of over **130 telescopes** across **5 continents**, originally developed to support **ESA's Gaia mission** through real-time photometry and astrophysical transient events follow-up.
- We mastered the **data collection, standardization, and processing pipelines** for small telescopes, enabling **citizen science engagement** and **professional astronomy** alike.
- We turn **non-expert facilities** (schools, public observatories, amateurs) into valuable nodes of the global scientific network.

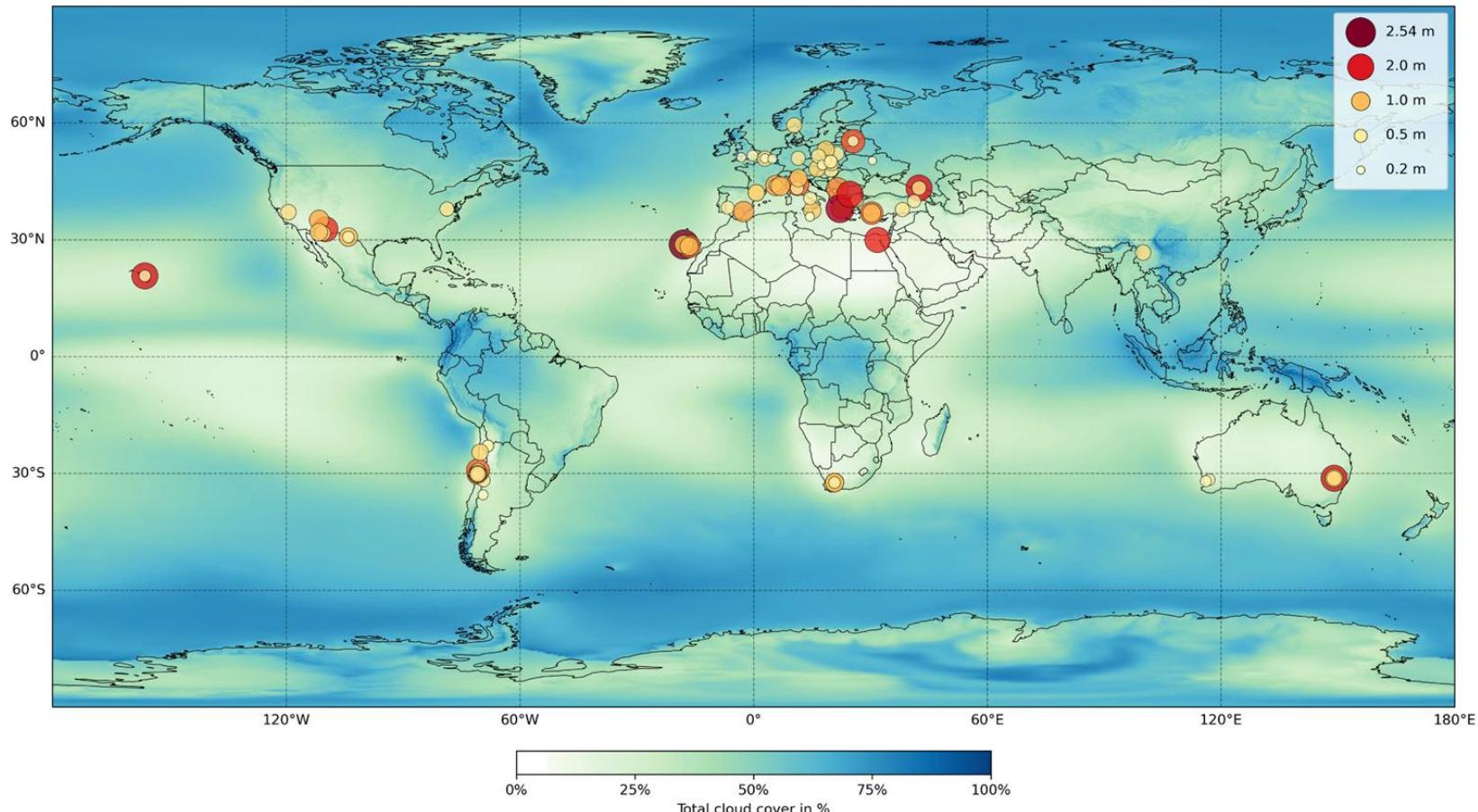
Previous & Ongoing Projects:

- **Gaia Science Alerts** (2014-2025): Real-time transient detection and follow-up.
- **BHTOM.space** (since 2020): Global photometric follow-up platform (EC Horizon Europe-funded).
- **EASST Outreach**: Public engagement programs connecting telescopes with education and citizen science.



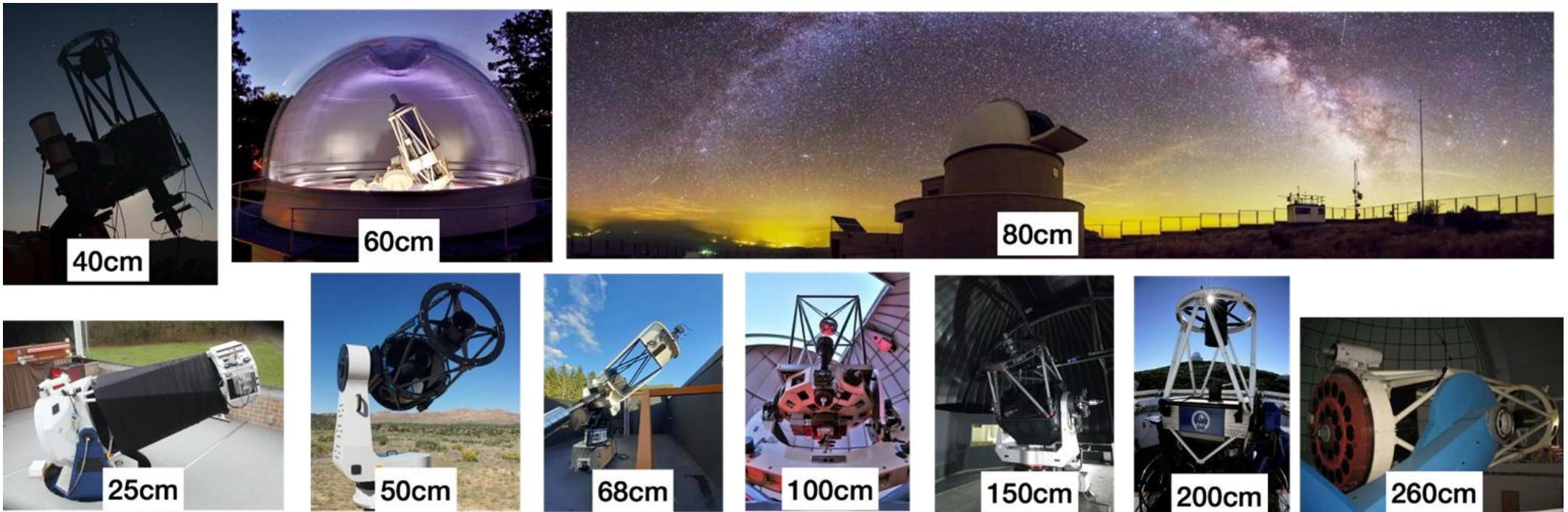
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Global telescope network

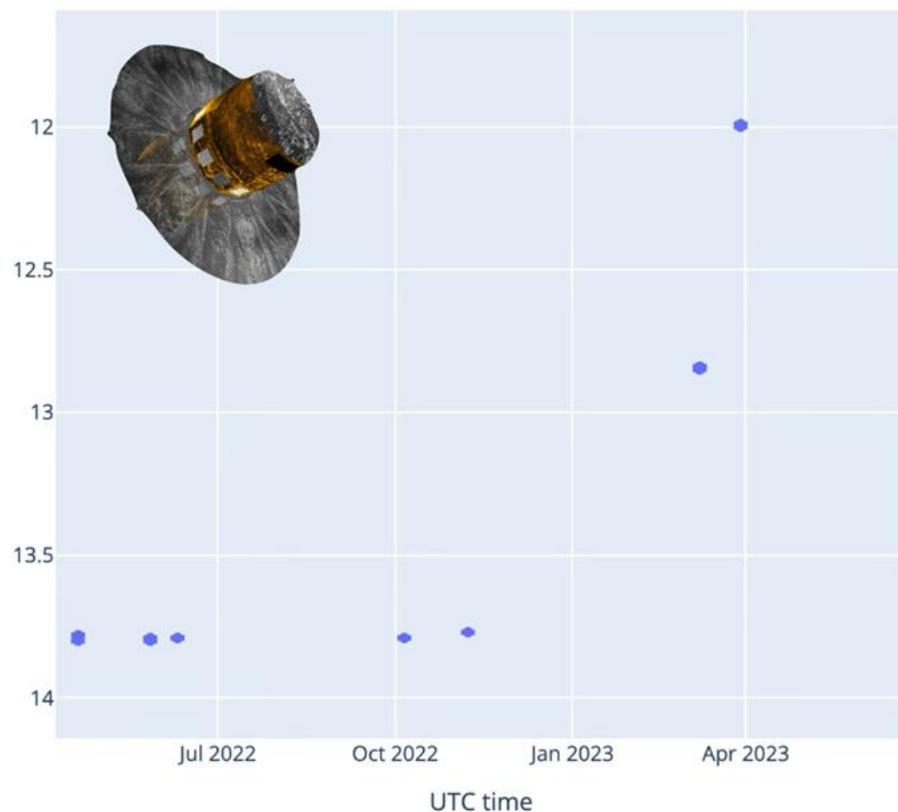


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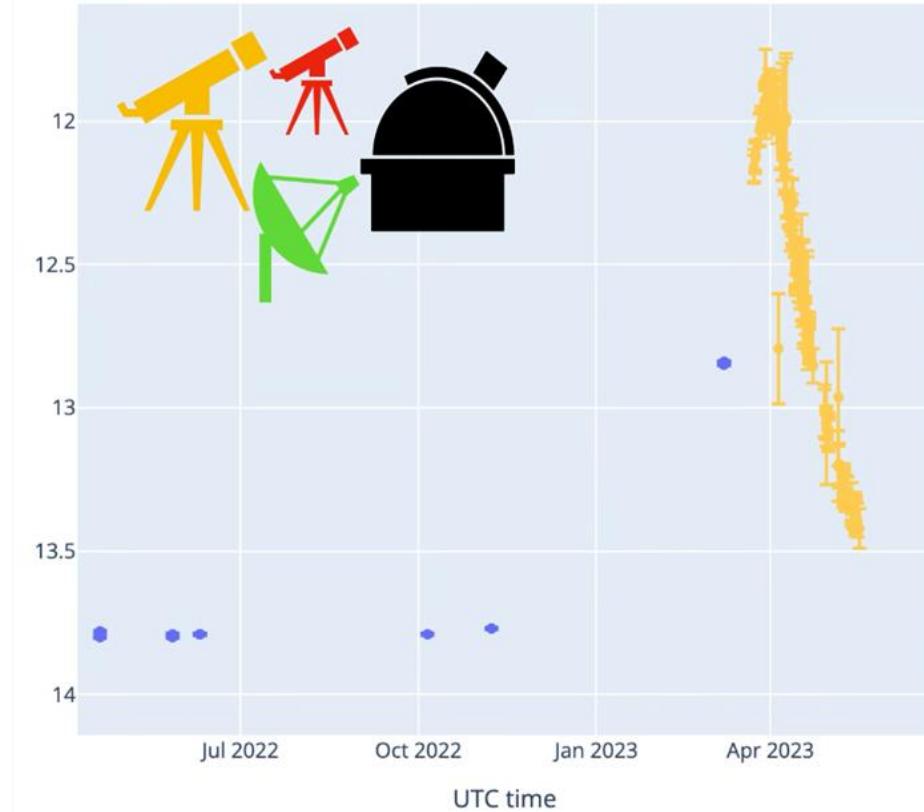
Global telescope network



Small telescopes supporting Gaia space mission

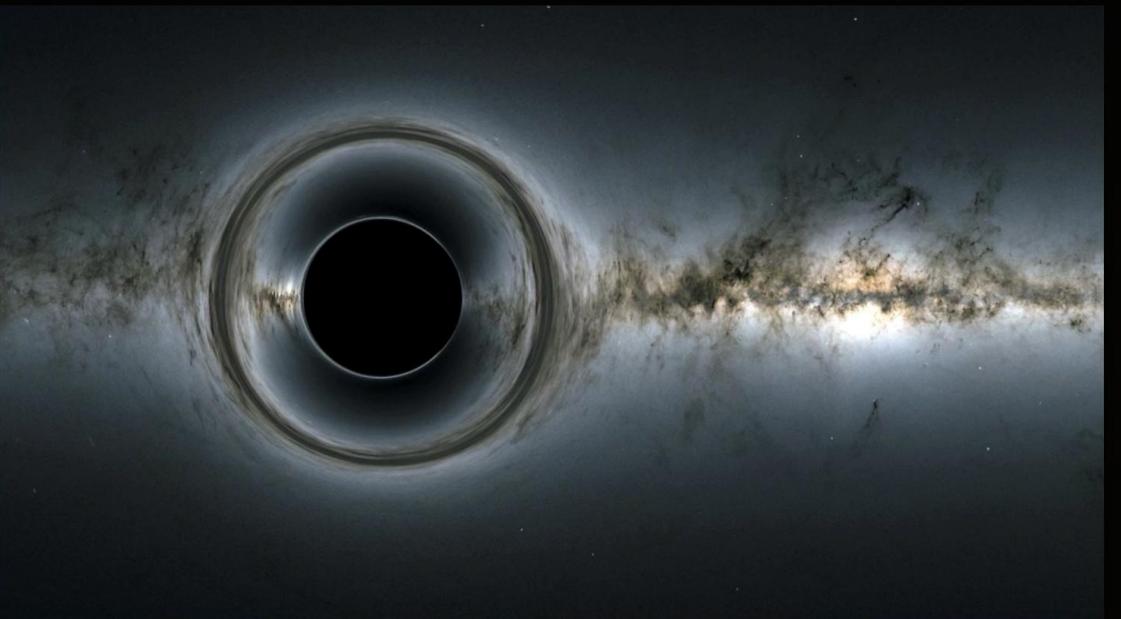


only Gaia



Gaia+small telescopes

BHTOM.space - automated data processing tool for an array of telescopes



The image shows a black hole with a bright, glowing accretion disk surrounding it. The disk is mostly blue and white, with some darker regions indicating where the light is being blocked by the black hole's event horizon. In the background, there are faint, wispy clouds of gas and dust.

BHTOM About Us Targets ▾ Target Grouping Alerts Observations ▾ Data ▾ Proposals Observatory Admin ▾

Black Hole TOM 2.0

(Image courtesy of NASA/ESA/Gaia/DPAC)

Names	RA	Dec	Nobs	Last Gmag	Last Filter	Importance	Created	Priority	Sun	Class
Gaia18acq	22:05:42.324	+03:39:17.064	982	20.2	Gaia/r	9.99	2023-09-18 10:09:17	799.0	155	long_period_variable
Gaia22bpl	10:38:42.425	-61:15:49.680	903	12.7	Gaia/r	9.99	2023-09-18 10:09:48	208.6	64	microlensing_event
Gaia22awa	19:04:51.962	-08:34:00.660	1602	15.0	Gaia/r	9.99	2023-09-17 21:09:11	770.1	111	microlensing_event
ZTF19abflirt	18:24:23.314	-24:36:42.053	842	15.2	Gaia/r	0.0	2023-09-19 11:09:02	0.0	100	long_period_variable

- fully automated real-time data processing - PSF photometry (the major bottleneck for many telescopes)
- standardisation of observations from any filter to Gaia Synthetic Photometry
- downloadable and science-ready - for registered users

New Directions: Bridging to the Space Industry

- **Expanding capabilities** to support:
 - **Satellite tracking & characterization**
 - **Space debris monitoring**
 - **Near-Earth Object (NEO) detection**
 - **Rapid-response observations for the space sector**

Looking for Partners:

- **Industry stakeholders** (satellite operators, debris mitigation experts).
- **Software developers** for adding new features and data processing.
- **Outreach organizations** to bridge science, industry, and society.



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