Educational Initiatives in Earth Observation

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The 59th Virtual UNISEC-Global Meeting Timetable,

16 August 2025

Theme: New Space Industry and Academia activities in Bulgaria

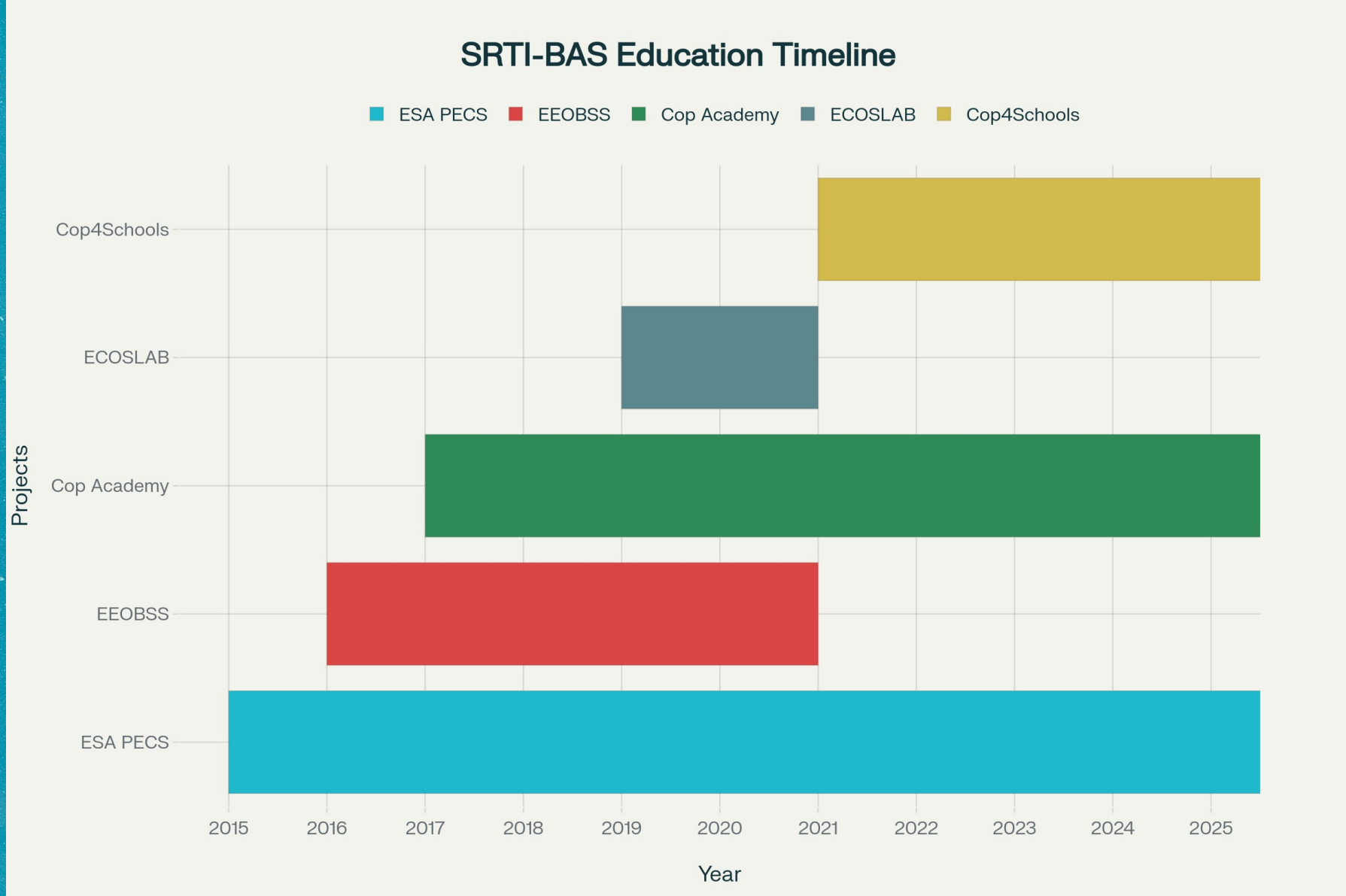
Major Educational Initiatives Covered:

1. EEOBSS Project (2016-2020) - The pioneer ESA-PECS initiative that developed comprehensive Earth observation curriculum for Bulgarian secondary schools, training over 150 students across 5 summer schools and engaging 30+ teachers.

2. ECOSLAB Project (2019-2020) - A national initiative under the program “Education with Science” of Ministry of Education and Science of Bulgaria. It focuses on natural disasters and ecological catastrophes, targeting students aged 13-18 with hands-on remote sensing education.

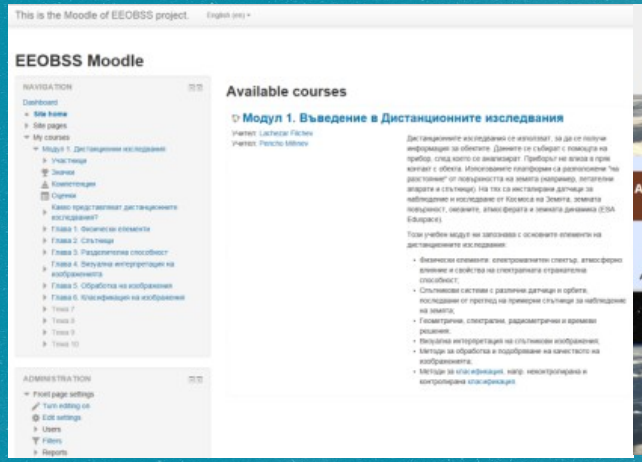
3. Copernicus Academy & Relays (2017-ongoing) - Bulgaria's participation in European networks, with SRTI-BAS as a key Copernicus Academy member alongside Sofia University.

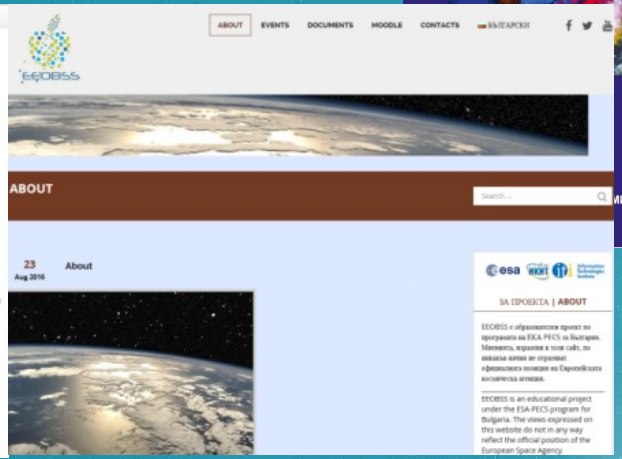
4. Copernicus4Schools (2021-2025) - The latest international collaboration involving 11 European countries, targeting 4,000+ students aged 12-16 with disaster management education.

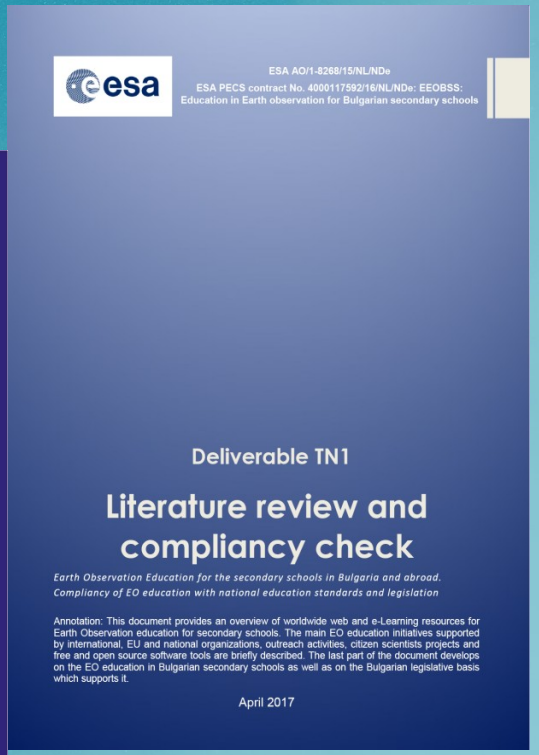

SRTI-BAS Education Timeline
ESA PECS
EEOBSS
Cop Academy
ECOSLAB
Cop4Schools
Projects
Cop4Schools
ECOSLAB
Cop Academy
EEOBSS
ESA PECS
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Year

EEOBSS Highlights

- **Timeline: 2016–2020**
- **Summer schools across Bulgaria**
- **MOODLE-based digital resources**

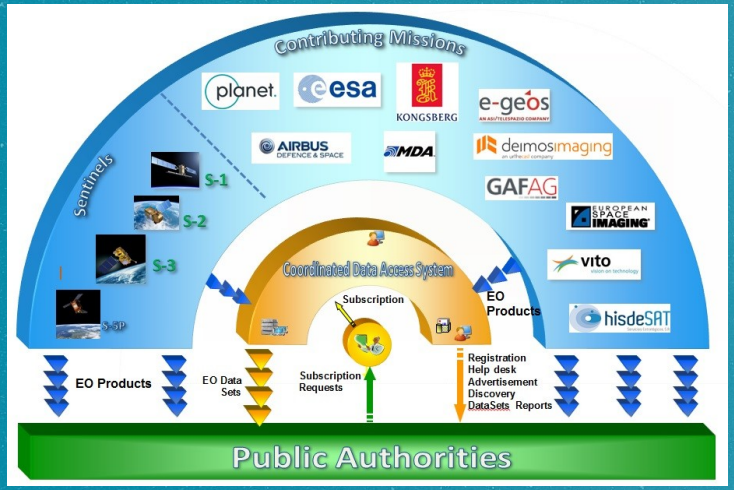






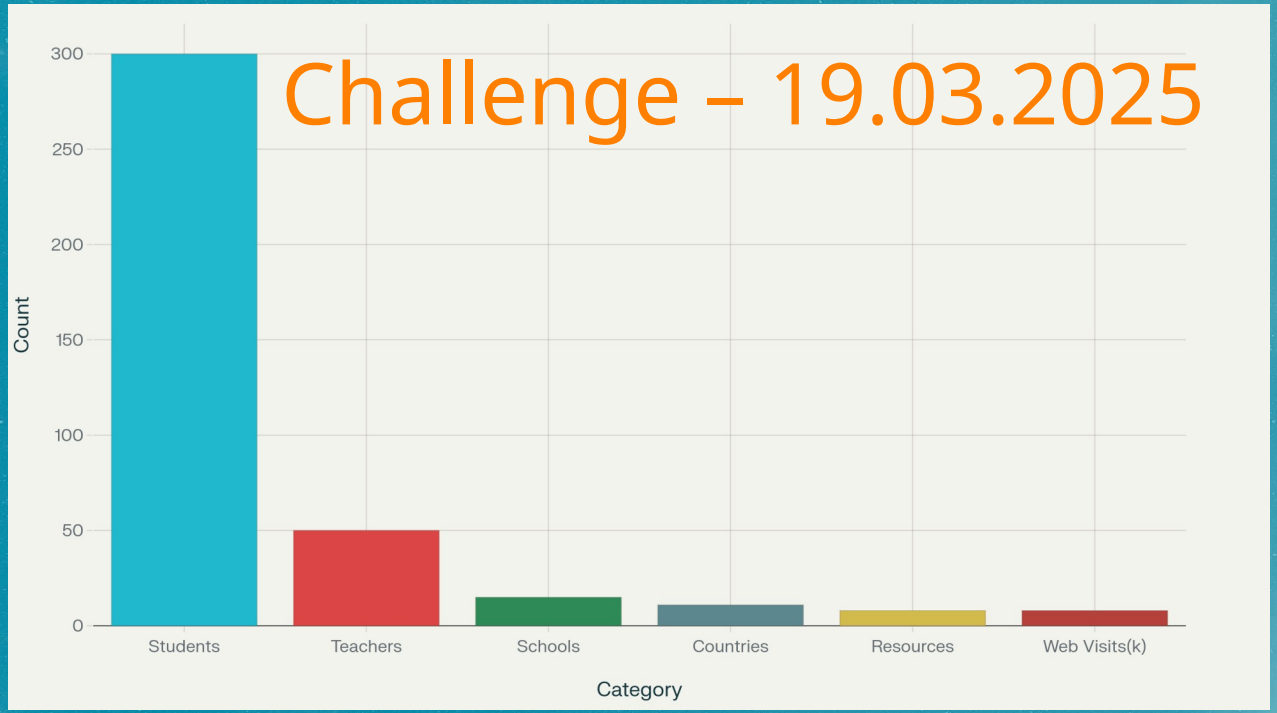
E#COSLAB Highlights

- **Wildfire monitoring with Sentinel-2A**
- **Satellite component diagrams**
- **NASA-style educator training**



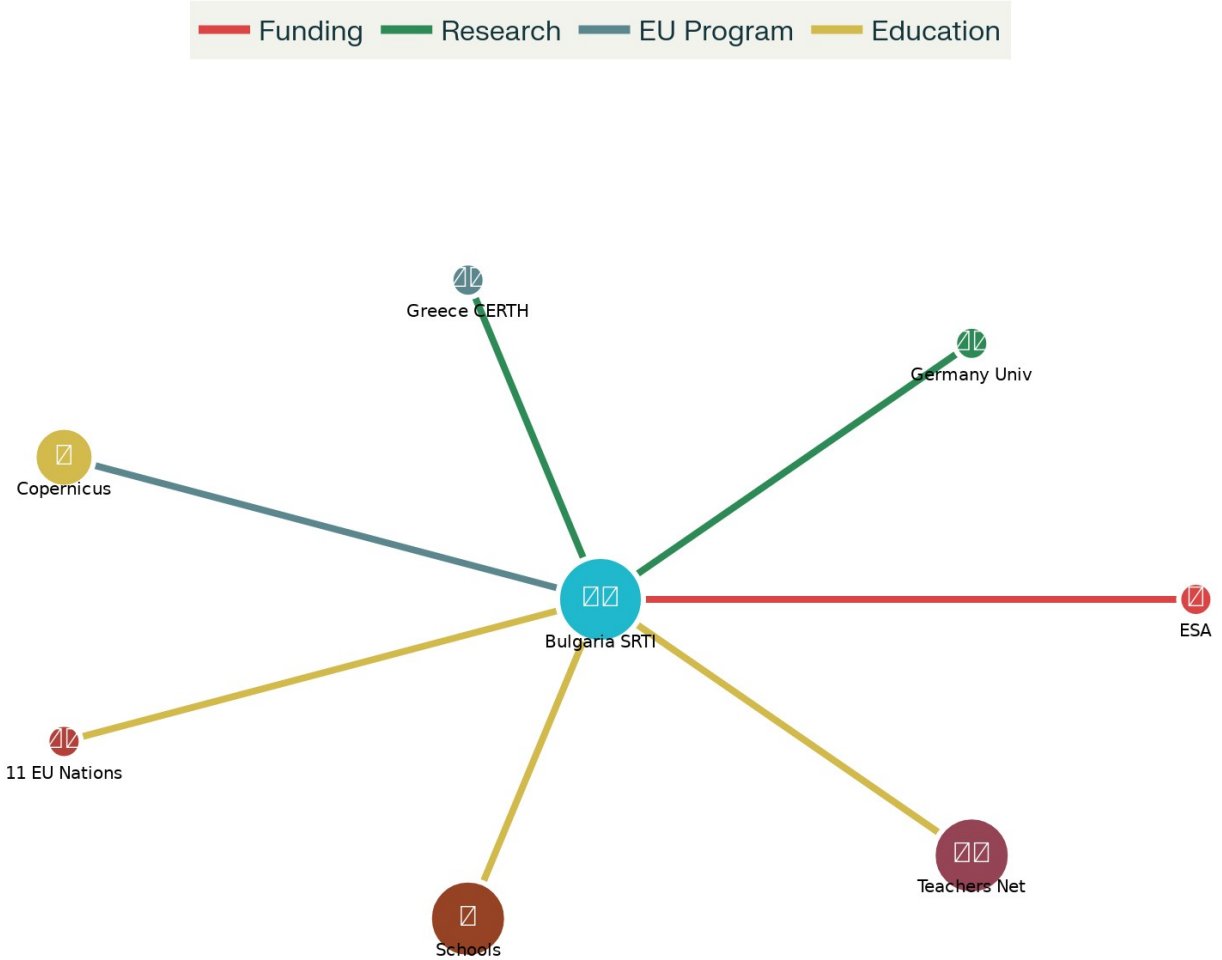
Satellite image showing a large wildfire and smoke plumes in a forested area near Batemans Bay on December 31, 2019, captured by Sentinel-2A.

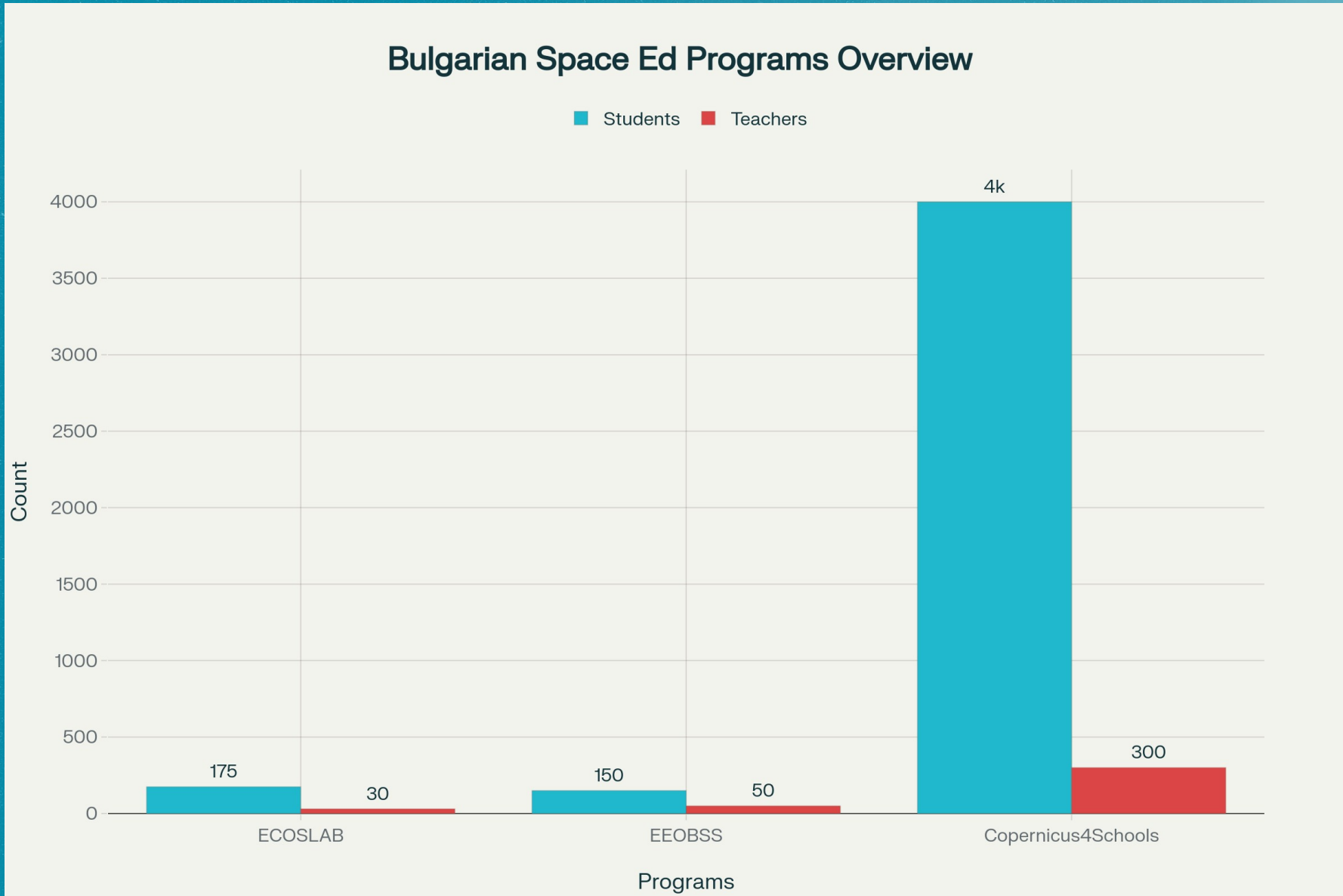
Copernicus4schools Training course:
https://copernicus4schools.readthedocs.io/en/latest/



International Collaboration

- ESA, Copernicus, European universities
- Joint curriculum and shared platforms




Bulgarian Space Ed Programs Overview
Students
Teachers
Count
4000
3500
3000
2500
2000
1500
1000
500
0
175
30
150
50
4k
300
ECOSLAB
EEOBSS
Copernicus4Schools
Programs

Educational Methodology

- Structured progression:
- basic → applied → real-world
- Inquiry-based, project-driven
- Multimedia and data integration

Design Principles and Technical Recommendations

- One concept per slide
- Progressive disclosure
- Interactive elements
- Consistent Bulgarian space branding
- High-res satellite imagery
- Live demos with QGIS & LEOWorks
- Static backups
- Layered technical explanations

Closing & Call to Action

- **Message**: Bulgaria is actively shaping the future of EO training for schools in EU.
- **Call to Action**: Let’s collaborate to expand Earth observation science through training and education activities for the new generation of scientists!
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