SATCULT

SATELLITE DATA FOR HERITAGE PROTECTION

SATELLITE DATA FOR CULTURAL HERITAGE PROTECTION IN EUROPE

In this edition of the **SATCULT** newsletter, we are proud to present the **results of our surveys of cultural heritage practitioners and geoinformation experts on the use of satellite data** - the very first Europe-wide surveys of its kind! There were a few surprises, we can tell you that much, but more importantly, we now have a reliable data souce on how to develop efficient interdisciplinary training programmes.

Enjoy reading more in this newsletter, which is aimed at **cultural heritage practitioners and geoinformation experts**.

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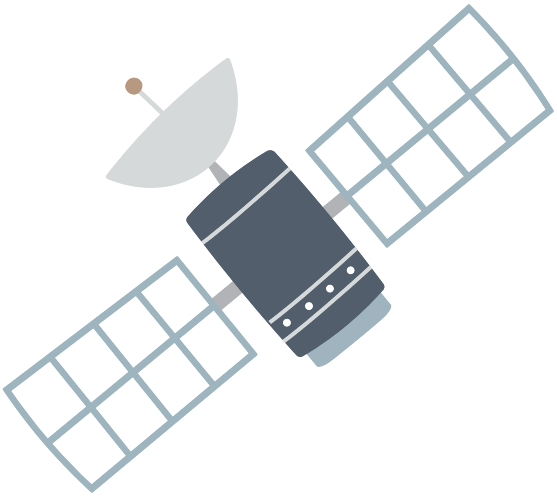
FRAMING THE TRAINING NEEDS -

RESULTS OF THE SATCULT SURVEYS



SATCULT reports the findings of two surveys designed to learn more about the **training needs of cultural heritage (CH) practitioners and Earth observation (EO) experts** in order to use EO and satellite data for the protection of cultural heritage.

While **both sectors show a high willingness to collaborate**, the analysis reveals that successful **adoption of satellite data is hindered by organisational and financial barriers rather than a lack of technical capability**. CH professionals seek **integrated workflows** and clear governance rather than just raw data, while geoinformation specialists require a **shared terminology** and **better access to the CH domain**.

To address these asymmetries, the analysis of the survey outcomes advocates for a **modular training framework** and the creation of an "Onboarding Kit" to standardise cooperation. Ultimately, the survey outcomes suggest that the transition from interest to implementation requires **open-source tools, flexible support models, and a focus on interdisciplinary communication** to protect cultural heritage sites effectively.

The SATCULT surveys:

Survey 1, aimed at representatives of cultural heritage institutions, and Survey 2, aimed at experts in geoinformation/Earth observation. It was open from November 2025 – February 2026.

A total of 65 respondents participated in Survey 1 and 19 in Survey 2, adding up to **84 respondents.**

Please find the full **report of the survey outcomes** here:

https://satcult.eu/survey/

APPLICATION DEMANDS

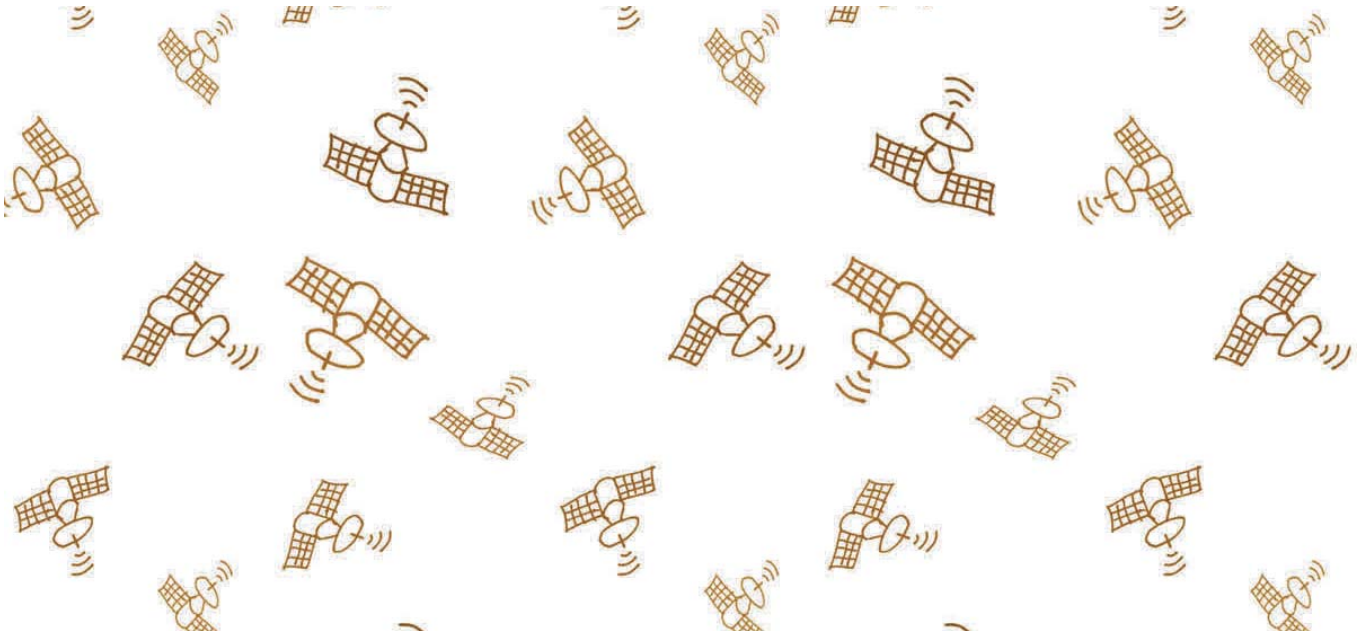
The "risk-prevention-protection" framing prevails in the application demands. The priority applications stated are clearly oriented towards **risk management and prevention**:

- Conservation/protection strategies 76.9%
- Monitoring of risk phenomena 75.4%
- Early detection/protection 75.4%
- Monitoring sites vs looting/vandalism 72.3%
- Environmental analysis/climate change impact 69.2%

When it comes to specific use cases, **operational and hazard-driven priorities emerge**:

- Structural monitoring (sites/historic structures) 73.8%
- Climate change prevention & protection 72.3%
- Landscape analysis linked to hazards 69.2%
- Fire / Hail / Storms 69.2% each

THE MOST 'ADOPTABLE' OUTPUTS ARE NOT GENERIC MAPS OR TECHNICAL PRODUCTS, BUT ACTIONABLE DELIVERABLES (INDICATORS, THRESHOLDS, TRIGGERS, PERIODIC REPORTS AND DASHBOARDS) LINKED TO PREVENTION/INSPECTION PROTOCOLS.



Main barriers for adopting satellite technologies

- **Economic Constraints and Procurement**: For CH institutions, the high cost of external technologies and missing skills is the most significant barrier. These organisations often have a high perceived need for the technology but low discretionary spending capacity. Furthermore, rigid multi-year contracts often encounter procurement barriers within these institutions.
- **Integration with Existing Workflows**: A major hurdle is the difficulty of integrating EO output into existing CH workflows, asset management systems, and decision-making processes. CH institutions often struggle to absorb this data without stable internal mechanisms for implementation.
- **Skills and Expertise Gaps**: There is a significant asymmetry in expertise. CH institutions report limited internal expertise to handle the data, while GI/EO experts find it difficult to deliver services because they lack staff with specific cultural heritage skills.
- **Semantic and Communication Barriers**: There is a notable lack of shared terminology and interdisciplinary exchange. This "semantic" gap means that technical outputs from satellite data are not always easily translated into management decisions or CH-readable deliverables.
- **Organisational and Administrative Risks**: CH institutions often hesitate because they bear operational and administrative risks, including concerns regarding reputation, responsibility, and governance. They require greater clarity on requirements and benefits before committing to the technology.

The main barriers to adopting satellite technology for CH are not primarily technical but are instead organisational, semantic, and economic. These challenges differ slightly depending on whether they are viewed from the perspective of the cultural heritage institutions (the demand side) or the geoinformation experts (the supply side).

Obviously, the solution is not "more technology," but rather the creation of interface mechanisms such as common glossaries, standardized reports, and clear governance models to bridge the gap between technical supply and operational demand.

Suggesting a Modular Training

To address the differing needs of CH practitioners and GI/EO experts, a training structure divided into four specific modules or tracks is proposed:

- **Core Module**: This module focuses on establishing a common language, reviewing case studies, and understanding the interpretation, limits, and uncertainties of the data.
- **Operational Module**: This track is dedicated to the practical application of the technology, including workflows, reports, and the setting of thresholds and triggers for action.
- **Advanced Module**: This module covers specialised techniques, such as SAR (Synthetic Aperture Radar) deformation and advanced analytics.
- **Integration Module:** This final module focuses on technical compatibility, specifically regarding GIS (Geographic Information Systems), asset management, and the integration of cultural heritage databases.

The full report is available here: https://satcult.eu/survey/

This modular approach is intended to bridge the gap between a heterogeneous audience requesting both introductory and advanced analysis and experts who emphasise technical fundamentals and database integration.

We are a proud partner of the EU Pact For Skills:

PACT FOR SKILLS Leader

An initiative of the European Commission

Co-funded by the Erasmus+ Programme of the European Union

SATCULT is funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Project number 2024-1-DE02-KA210-VET-000244931

READY FOR OPERATION:

THE INTERDISCIPLINARY SATCULT EXPERT POOL FOR CULTURAL HERITAGE AND GEOINFORMATION SPECIALISTS

In the **SATCULT** surveys, participants were asked whether they would be willing to cooperate and act as experts in their sector within a publicly accessible database. They were also asked to indicate their willingness to collaborate on pilot projects.

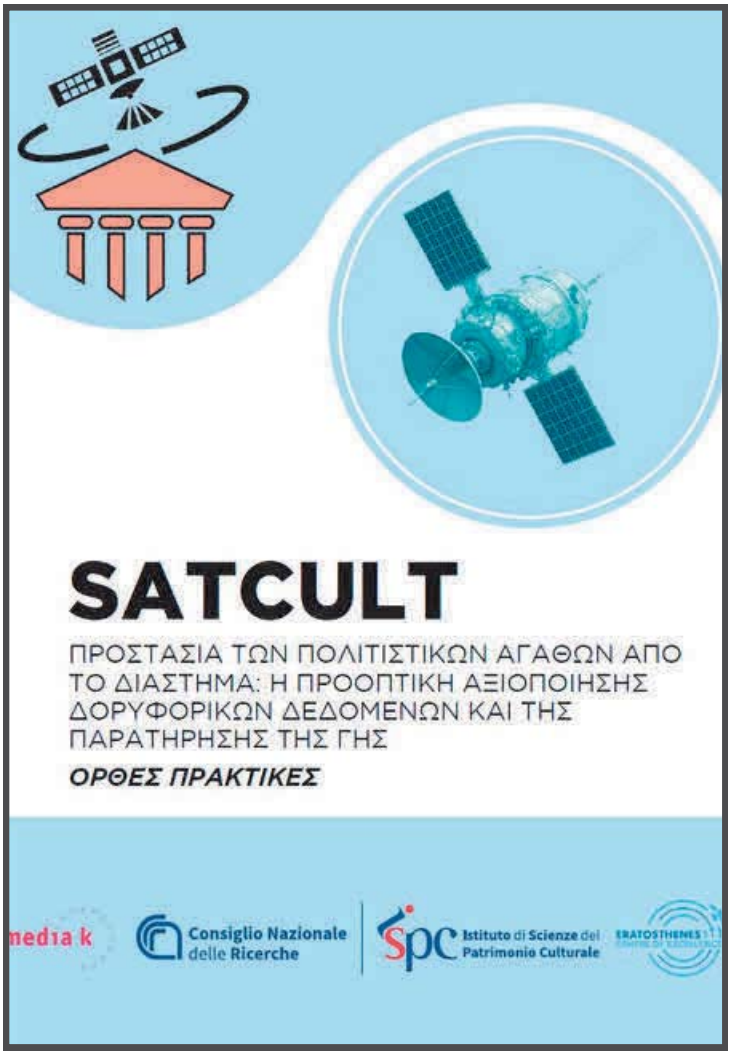
An overwhelming majority agreed to this: 89,2 % from the cultural heritage sector and 89,5% from the geoinformation sector declared their willingness to collaborate! Additionally, 56,9% representatives of the heritage sector declared their willingness to act as a pilot site for a respective project. They deserve our heartfelt thanks for stepping forward as pioneers and committing to interdisciplinary engagement.

Following their formal agreement for publication, the experts from geoinformation and the cultural heritage sectors are listed on the **SATCULT** website: https://satcult.eu/expert-pool/ . This marks the first time a publicly accessible forum is made available that brings together experts from both sectors!

Any expert willing to join this pool of unique expertise is invited to share contact details similar to the template on the homepage by sending an email to satcult(at)media-k.eu.

NOW ALSO AVAILABLE IN GREEK:

THE SATCULT BROCHURE WITH 12 GOOD PRACTICES AND 12 UNIQUE STORIES



The **SATCULT** team is delighted that the **SATCULT** brochure is now also available in Greek. This is all the more welcome given that there is a highly active community of researchers and practitioners in Greece and Cyprus, who are already working with satellite data in the field of cultural heritage protection.

The brochure is also highly recommended to experts in the field of geoinformation, to inspire and motivate them to seek contact with the cultural heritage sector.

The brochure can be downloaded free of charge in three languages (English, German, Greek) from the **SATCULT** homepage:
https://satcult.eu/about/information-material/

Upcoming eVents - Save the Dates

Nationales Forum für Fernerkundung und Copernicus 2026
Darmstadt, 28.-30.4.2026 (in deutscher Sprache)
Im European Space Operations Centre (ESOC) in Darmstadt findet das Nationale Forum für Fernerkundung und Copernicus statt als Plattform für den Dialog zwischen den Akteur*innen der Erdbeobachtung in Deutschland. Erfreulicherweise wird darin auch eine Session zum Kulturgüterschutz angeboten, geleitet von Dr. Benjamin Ducke (Deutsches Archäologisches Institut und Mitglied des Copernicus Expertennetzwerks), Titel: "Erdbeobachtung und Fernerkundung in der Anwendungspraxis von Archäologie und Kulturgüterschutz". Programm: https://bit.ly/4sQURvr

12th International Conference on Remote Sensing and Geoinformation of the Environment, 27-29 April, 2026 - Paphos, Cyprus
A special session titled "Remote Sensing Research for Cultural Heritage Protection" will take place on 28 April 2026 in Paphos, Cyprus, inside the "12th International Conference on Remote Sensing and Geoinformation of the Environment". Organised by **SATCULT** project partner Eratosthenes Centre of Excellence in the **SATCULT** project context, the event addresses Cypriotic as well as international cultural heritage practitioners and researchers from geoinformation. It will feature the presentation of project results alongside research papers addressing innovative applications of remote sensing for the protection of cultural heritage. Registration is open: https://rscy2026.com/

SATCULT online webinar May 6th, 2026, 9.00 h - 12.20 h
Italian **SATCULT** partner CNR – Institute of Heritage Science (ISPC) offers an online workshop for cultural heritage practitioners and geoinformation experts (in English) on the outcomes of the **SATCULT** project. Nicodemo Abate and Nicola Masini will also present the outcomes of the **SATCULT** survey, which, for the first time, set out the conditions under which interdisciplinary training on the use of Earth observation and satellite data in the protection of cultural heritage could take place. Check the programme on the **SATCULT** homepage: https://satcult.eu/events-to-meet/ or in the **SATCULT** LinkedIn group: https://www.linkedin.com/groups/13118904/ .

GET IN TOUCH WITH US!

SATCULT partners:

- **media k GmbH** is a German social enterprise that has been actively involved as enabler, facilitator, and service provider in cultural heritage protection activities and the development of respective training for more than 25 years.

- **Consiglio Nazionale delle Ricerche** (CNR) – **Istituto di Scienze del Patrimonio Culturale** (ISPC – Institute of Heritage Sciences) is the CNR's Italian hub for research, innovation, training, and technology transfer in cultural heritage.

- **ERATOSTHENES Centre of Excellence** (ECoE) is a multidisciplinary research and innovation centre based in Limassol, Cyprus. It specialises in Earth Observation (EO), space-based monitoring, and related digital solutions that leverage cutting-edge engineering and expertise to address critical global challenges, including climate change, environmental sustainability and cultural heritage preservation.

Interested to stay in touch? Please ask to be included in our communication activities or join the **SATCULT** LinkedIn group:

https://www.satcult.eu;
https://www.linkedin.com/groups/13118904/

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(Illustrations: Pixabay CC)

The high-class SATCULT European Advisory Board

Additional expertise from Germany, Italy and Cyprus is involved:

- **Patricia Alberth** is Director of State Palaces & Gardens Baden Wurttemberg / Germany
- **Daniele Gardiol** is an astronomer and researcher at INAF – Istituto Nazionale di Astrofisica in Turin / Italy.
- **Margherita Sani** is a project coordinator at NEMO – Network of European Museum Organisations and is based in Italy
- **Chrysanthos Pissarides** is president of the Cyprus Branch of ICOMOS.

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