



**NEANIAS**  
**Novel EOSC services for Emerging Atmosphere,  
Underwater and Space Challenges**

**Deliverable**

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**Deliverable: D4.3 Space Thematic Services Release #1**

**31/10/2020**



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## D4.3 Space Thematic Services Release #1

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## Disclaimer

NEANIAS is a Research and Innovation Action funded by European Union under Horizon 2020 research and innovation programme, via grant agreement No. 863448.

NEANIAS is project that comprehensively addresses the 'Prototyping New Innovative Services' challenge set out in the 'Roadmap for EOSC' foreseen actions. It drives the co-design, delivery, and integration into EOSC of innovative thematic services, derived from state-of-the-art research assets and practices in three major sectors: underwater research, atmospheric research and space research. In each sector it engages a diverse set of research and business groups, practices, and technologies and will not only address its community-specific needs but will also enable the transition of the respective community to the EOSC concept and Open Science principles. NEANIAS provides its communities with plentiful resource access, collaboration instruments, and interdisciplinary research mechanisms, which will amplify and broaden each community's research and knowledge generation activities. NEANIAS delivers a rich set of services, designed to be flexible and extensible, able to accommodate the needs of communities beyond their original definition and to adapt to neighboring cases, fostering reproducibility and re-usability. NEANIAS identifies promising, cutting-edge business cases across several user communities and lays out several concrete exploitation opportunities.



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## Abstract

This deliverable D4.3 presents the list of the thematic Space services released by NEANIAS project in its first release cycle, due in M12 of the project.

# 1. Short deliverable report

## 1.1. Context

The deliverable D4.3 “Space Thematic Services Release #1” is produced in the context of WP4 “Space Research Services” of NEANIAS project. Services released are further detailed in deliverable D4.4 [2].

The deliverable refers to services released under the group of thematic services for the Space Community, namely:

**S1 “FAIR Space Data Management and Visualisation”**, named “SPACE-VIS”, provides an advanced operational solution for data management and visualization (including Virtual Reality) of astrophysics and planetary data adopting FAIR (Findable, Accessible, Interoperable, Re-usable) principles,

**S2 “Map Making and Mosaicking”**, named “SPACE-MOS”, makes high quality images from the raw data captured by instruments (map making) and for assembling those images into custom mosaics (mosaicking), and, finally,

**S3 “Structure Detection with Machine Learning”**, named “SPACE-ML”, performs pattern and structure detection in astronomical surveys as well as in planetary surface composition, topography and morphometry.

This document serves as a short reference to the respective digital artifacts (as the deliverable is of type “OTHER”), presenting a brief enumeration of the services delivered, located in the next subsection 1.2 “Table of Services”.

## 1.2. Table of Services

The following table presents the services released in this 1<sup>st</sup> cycle.

*Table 1 – Services and software released*

Short name	Sector <sup>1</sup>	Lead <sup>2</sup>	TRL <sup>3</sup>	Version <sup>4</sup>	Core Integration <sup>5</sup>	Documentation Status <sup>6</sup>	Testing Status <sup>7</sup>	EOSC Registration Status <sup>8</sup>
<b>ViaLactea</b>	SPACE-VIS (S1)	INAF	TRL7	1.0.0	AAI, C4.1 VD – VisIVO	complete	in progress	yes
<b>ADN</b>	SPACE-VIS (S1)	ALTEC	TRL7	1.0.0	C4.3 – PMS	under-update	in progress	not currently

<sup>1</sup> S1/S2/S3

<sup>2</sup> Organization leading implementation

<sup>3</sup> TRL level at release. All services start from TRL6.

<sup>4</sup> Version according to service issuer

<sup>5</sup> Integration level w.r.t. NEANIAS core services developed in WP6 (AAI, Accounting, Monitoring, FAIRness support, etc.)

<sup>6</sup> Level of documentation status: draft, under-update, complete, validated

<sup>7</sup> Testing status: mention the status w.r.t. unit, integration, user acceptance testing (n/a, in progress, complete, failed)

<sup>8</sup> Is service listed in Neanias and EOSC catalogue? (yes, in progress, not currently, n/a)

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<b>ADAM-SPACE</b>	SPACE-VIS (S1)	JACOBS/ MEEO	TRL7	1.0.0	AAI, C4.4 – DS	under-update	in progress	not currently
<b>AstroMerge</b>	SPACE-MOS (S2)	INAF	TRL6	1.0.0	AAI	complete	in progress	in progress
<b>ADAM-DPS</b>	SPACE-MOS (S2)	MEEO/ JACOBS	TRL7	1.0.0	AAI, C4.4– DS	under-update	in progress	not currently
<b>CAESAR</b>	SPACE-ML (S3)	INAF	TRL7	1.0.0	AAI	complete	in progress	yes
<b>AstroML</b>	SPACE-ML (S3)	INAF	TRL6	1.0.0	AAI, C3.1 - AI Gateway	complete	in progress	in progress

### 1.3. Further information

All services of the release are available under the NEANIAS development infrastructure. Depending on the service provisioning model, the services may be already available or under delivery within WP7 deployment tasks for their broader availability.

The next full release cycle is planned for M24 of the project, yet several interim releases of services will be scheduled by their respective providers and contributors.

The details about the Space services architecture and software development plan can be found in D4.1 [1].

The details about the services released can be found in D4.4 [2].

## References

- [1] NEANIAS WP4 Collaboration, D4.1 “Space Research Services Report on requirements, Specifications & Software development Plan” (2020)
- [2] NEANIAS WP4 Collaboration, D4.4 “Report on the Developed and Validated Space Thematic Services #1” (in preparation)