

# EU Projects

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- **Recommendation 2018-06-12/03:** The UG recommends to explore ways to include in a systematic way higher-level science data products and pipelines developed from ESA data based on EU funded programs (e.g. FP7 and H2020) and other externally funded research teams in the astronomy archives...
- 4 EU H2020 projects and 4 EU FP7 projects were initially identified; 2 further Herschel related projects identified later.
- **Action 2019-02-13/13:** AAUG members to investigate one EU project each, investigate the type of data products from ESA missions the project is producing, advise ESDC what to ask the project PI, and if enough information at this point, recommend if the data should be [preserved in the long-term by ESA] added to any ESA science archives.



## Last AAUG meeting, October 2020:

- At least 7 projects were reviewed by the AAUG before the meeting.
- A dedicated EU projects discussion session was held in the meeting.
- ESDC presented a flow chart to show the steps in the process to be followed for each project evaluation.
- Discussions followed on the difficulties encountered by the AAUG when assessing the projects; on data becoming obsolete; on the additional project tools; and that it is unclear if the projects are interested in ESA preserving the data for the community.
- This led to 1 recommendation and 2 actions given to the ESDC:



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## Recommendation 2020-10-02/03:

*Following discussions in previous AAUG meetings on the potentially high value of including user-supplied data into the ESA Astronomy Archives (see esp. Recommendation 2018-06-12/01), astronomy related EU FP7 and EU Horizon 2020 projects have been identified. The AAUG is currently reviewing these projects based on their websites with the goal to advise ESA on whether the data products (provided from these EU projects) are valuable enough for the astronomy community to justify that ESA takes steps to ensure their long-term preservation and accessibility to a wider community.*

*The preliminary study of the AAUG shows that there should be a better defined process for the evaluation and the respective responsibilities, and that the ESDC should involve the PI of the EU project from the earliest stage possible.*

*Related to this, the AAUG suggests that the ESDC also looks into different possibilities of storing the products from such projects (e.g. in a guest storage facility or directly in the archives), depending on the work-power required for their ingestion and maintenance.*



**Action 2020-10-02/05:** *to search again the FP7 database to check the FP7 large projects for any using ESA data that may have been missed.*

1 further FP7 project identified (related to XMM-Newton):

- **STRONGGRAVITY** (Probing Strong Gravity by Black Holes Across the Range of Masses; XMM-Newton & ESO) [FP7] <https://cordis.europa.eu/project/id/31278> <http://stronggravity.eu/>

*Objectives: to develop analytical tools to study processes occurring near astrophysical black holes, acquire observational data on the Galactic solar-mass black holes in binary systems, super-massive black holes in the centres of galaxies and our central black hole of the Milky Way, and use the created tools together with the new and archival data for better understanding the properties of black holes and their immediate neighbourhood.*



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New H2020 projects recently awarded (programme: [H2020-EU.2.1.6.3. - Enabling exploitation of space data](#); call: H2020-SPACE-2020)

- **XMM2ATHENA:** a pathfinder for future multi-wavelength and multi-messenger observations with Athena; PI: N. Webb; 1 April 2021 – 31 March 2024 <https://cordis.europa.eu/project/id/101004168>
- **GaiaUnlimited:** Who is In, and Who is Not? Determining the Gaia Survey Selection Function; Lead Uni. Leiden; 1 Jan 2021 – 30 June 2024 <https://cordis.europa.eu/project/id/101004110>
- **NEMESIS:** Novel Evolutionary Model for the Early stages of Stars with Intelligent Systems; not clear they will use any ESA data. Lead Uni Vienna; 1 Mar 2020 – 28 Feb 2025  
<https://cordis.europa.eu/project/id/101004141>

Also to note :

- **EXPLORE:** Innovative Scientific Data Exploration and Exploitation Applications for Space Sciences; Intend on using ESA Datalabs and ESCAPE Science Analysis Platform; Lead [ACRI ST SAS](#); 1 Nov 2020 – 31 Oct 2023. <https://cordis.europa.eu/project/id/101004214>



**Action 2020-10-02/06:** *ESDC to begin contacting the PIs of the identified EU projects to gauge their interest in ESA preserving their project data.*

- Update projects information
  - links outdated
  - First pass on data product and tools access is very diverse
  - 2 projects are still ongoing
- Harvesting of contact data for the initial 10 EU Projects.
- Kick-off meetings



# EU Projects Spreadsheet



EU Projects using ESA Space Science Data																	
Project Acronym	Project Title	Programme	Theme	Topic	Topic Description	Domain	ESA Mission Data to be used	Coordinator	Participants	Start Date	End Date	Brief Description	Links	PI	Contact	Comment	Appointment
1	ExoPLANETS_A	H2020	Space	COMPET-4-2017	Scientific Data Exploitation	Astrophysics	HST; XMM; Gaia (other: Spitzer; Kepler); and in preparation for JWST	CEA, Paris	INTA; Leicester Uni; MPG; UCL; Wien Uni; SRON; NWO	01-Jan-18	31 mar. 2021	Will develop novel data calibration and spectral extraction tools, as well as novel retrieval tools, based on 3D models of exoplanet atmospheres, to exploit archival data from ESA Space Science archives (HST) combined with NASA Space Archives (Spitzer, Kepler) and produce a homogeneous and reliable characterisation of exoplanet atmospheres. Will also create a database of the relevant properties of host stars from ESA archives (XMM, Gaia), combined with international space mission and ground-based data.	<a href="https://exoplanet-atmosphere.eu/">https://exoplanet-atmosphere.eu/</a> <a href="https://www2.le.ac.uk/departments/physics/news/exoplanets-a-project">https://www2.le.ac.uk/departments/physics/news/exoplanets-a-project</a> <a href="http://cds.cern.ch/Phonix?ie=labov&amp;id=exp_technic&amp;nph=sp_sci#441">http://cds.cern.ch/Phonix?ie=labov&amp;id=exp_technic&amp;nph=sp_sci#441</a>	<a href="mailto:pierre-olivier.lagage@cea.fr">pierre-olivier.lagage@cea.fr</a>	N/A	Non-Hierarchical structure. Split into Workpackages with chairs and deputy chairs	
2	EWC	H2020	Space	COMPET-4-2017	Scientific Data Exploitation	Astrophysics	HST; In preparation for Euclid	UCL	Leiden Uni; CSIC; IFAE; CIEMAT; Durham Uni; INAF; CNRS; Bonn Uni; MPG; FCIENTIAS.ID	01-Apr-18	31 mar. 2022	Will (i) quantify the morphology of galaxies using archival HST observations; (ii) carry out a unique narrow-band photometric redshift survey to obtain state-of-the-art constraints on the intrinsic alignments of galaxies that arise due to tidal interactions; (iii) integrate these results into the end-to-end simulation pipeline; (iv) perform a spectroscopic redshift survey to calibrate the photometric redshift technique.	<a href="https://cordis.europa.eu/project/cn/219003/factsheet/en">https://cordis.europa.eu/project/cn/219003/factsheet/en</a> <a href="https://weaklensing.cosmology.org/">https://weaklensing.cosmology.org/</a>	Thomas Kitching (PI) t.kitching@ucl.ac.uk	Eugenia Scipinic (PM) e.scipinic@ucl.ac.uk	Very clear and list of deliverables	
3	SBNAP	H2020	Space	COMPET-05-2015	Scientific exploitation of astrophysics, comets, and planetary data	Planetary/Astro	Herschel, Akari, Gaia, Rosetta (others: Spitzer; Hayabusa; NEAR-Shoemaker; DAWN)	Max-Planck Munich	CSIC; MAGYAR TUDOMANYS AKADEMIÁ; Poznan Uni	01-Apr-16	31 mar. 2019	Physical and thermal properties of near-Earth, main-belt, and trans-Neptunian objects	<a href="https://cordis.europa.eu/project/cn/919146/factsheet/en">https://cordis.europa.eu/project/cn/919146/factsheet/en</a> <a href="http://www.obspm.fr">http://www.obspm.fr</a>	<a href="mailto:Thomas.Mueller@mnet-online.de">Thomas.Mueller@mnet-online.de</a>	CDS, Minor Planet Center (MPC), Planetary Data Systems (PDS). UPDPs for the Herschel Archive	09/04/2021 (10:00-10:45 CET)	
4	StarFormMapper	H2020	Space	COMPET-05-2015	Scientific exploitation of astrophysics, comets, and planetary data	Astrophysics	Gaia, Herschel	Leeds Uni	Cardiff Uni; Quasar SR; Grenoble Uni	01-Jun-16	30 nov. 2019	Will combine GAIA and Herschel data, alongside other satellite and ground-based observations, to map the density distribution of star formation regions.	<a href="https://cordis.europa.eu/project/cn/700020/factsheet/en">https://cordis.europa.eu/project/cn/700020/factsheet/en</a> <a href="https://starformmapper.org/">https://starformmapper.org/</a>	Dr. Stuart Lumsden (University of Leeds) S.L.Lumsden@leeds.ac.uk Deputy: Ignacio de la Calle (ESAC)	Ms Patricia Grant (SFMA Project Coordinator) p.grant@leeds.ac.uk	Software delivered to the cordis results database Dynamic Evolution Added Value Interface (DEAVI) GAVIP	14/04/2021 (14:00-14:45 CET)
5	ASTRODEEP	FP7-Space	"Cooperation": Space	FP7-SPACE-2012-1	SPA 2012.2.1-01 - Exploitation of space science and exploration data	Astrophysics	HST, XMM, Herschel (Others: Spitzer)	INAF	Edinburgh Uni; CEA; CNRS	01-Jan-13	31-Dec-16	ASTRODEEP is a coordinated and comprehensive program of i) algorithm/software development and testing; ii) data reduction/release, and iii) scientific data validation/analysis aimed at making Europe the world leader in the exploitation of the deepest multi-frequency data. We will focus on 5 key extra-galactic survey fields, the target of public observing programs motivated by the desire to understand the formation and evolution of:	<a href="https://cordis.europa.eu/project/cn/106789/factsheet/en">https://cordis.europa.eu/project/cn/106789/factsheet/en</a> <a href="http://www.astroddeep.eu/">http://www.astroddeep.eu/</a>	Project Coordinator: Adriano Fontana adriano.fontana@oa.roma.inaf.it	Fabrizio More (Dr.)	Dedicated CDS interface GOODS Herschel UPDPs	Iterating
6	DISCANALYSIS	FP7-Space	"Cooperation": Space	FP7-SPACE-2011-1	SPA 2011.2.1-01 - Exploitation of space science and exploration data	Astrophysics	Herschel, XMM, HST (Others: Spitzer; VLT, JCMT, APEX, ALMA, eMERLIN)	St Andrews Uni	Grenoble Uni; Wen Uni; Groningen Uni; Amsterdam Uni	01-Jan-12	31-Mar-16	Will study the birth-places of such exo-planets, the so-called protoplanetary discs, by combining multi-wavelength space data (HERSCHEL, XMM, HST, SPITZER) with ground-based continuum and line data (VLT, JCMT, APEX, ALMA, eMERLIN).	<a href="https://cordis.europa.eu/project/cn/700937/factsheet/en">https://cordis.europa.eu/project/cn/700937/factsheet/en</a> <a href="http://discanproject.wps.st-andrews.ac.uk/">http://discanproject.wps.st-andrews.ac.uk/</a>	Dr. Peter Woitke (PI, Teamleader) University of St. Andrews peter.woitke@st-andrews.ac.uk	Tish Stars (Ms.)	Diana Object Database FORTRAN, IGI GUI	
7	DUSTPEDIA	FP7-Space	"Cooperation": Space	FP7-SPACE-2013-1	SPA 2013.2.1-01 - Exploitation of space science and exploration data	Astrophysics	Herschel, Planck (and others)	Cardiff University	NAO; INAF; Uni Gent; CEA Uni Paris Sud	18-Jul-14	01-May-18	We develop tools and computer models that will help us relate observed cosmic dust emission to the physical properties of the dust (chemical composition, size distribution, temperature), the origins of dust (evolved stars, super novae, growth in the ISM) and the processes that destroy it (high energy collisions and shock heated gas). To help us interpret the data we will use our own, world-leading Monte Carlo simulations, kinetics and radiative transfer codes.	<a href="https://cordis.europa.eu/project/cn/919143/factsheet/en">https://cordis.europa.eu/project/cn/919143/factsheet/en</a> <a href="http://dustpedia.astr.uva.es/">http://dustpedia.astr.uva.es/</a>	P.J. J. Davis is now retired dustpedia@inoa.gv	Nick Bodcombe (Mr)	DustPedia Data archive some features are currently restricted to the DustPedia members only	
8	ETA-EARTH	FP7-Space	"Cooperation": Space	FP7-SPACE-2012-1	SPA 2012.2.1-01 - Exploitation of space science and exploration data	Astrophysics	Gaia (Others: Kepler; HARPS-N)	INAF	Padova Uni; Geneva Uni; St Andrews Uni; Queen's Belfast Uni; Edinburgh Uni; Smithsonian Inst; Warwick Uni	01-Jan-13	31-Dec-17	We will achieve our goal by combining the unprecedented photometric precision of NASA's Kepler mission, the unrivalled precision of ground based radial-velocities from the HARPS-N spectrograph, and ESA's Gaia mission exquisitely accurate parallaxes.	<a href="https://cordis.europa.eu/project/cn/706562/factsheet/en">https://cordis.europa.eu/project/cn/706562/factsheet/en</a> <a href="https://etaearth-trng.iac.es/EtaEarth/">https://etaearth-trng.iac.es/EtaEarth/</a>	Dr. Alessandro Sozzetti sozzetti@oato.inaf.it	Dr. Emilio Molinari (Webpage contact) molinari@trng.iac.es	Archive and tools only team members	20/04/2021 (14:00-14:45 CET)
9	HELP	FP7-Space	"Cooperation": Space	FP7-SPACE-2013-1	SPA 2013.2.1-01 - Exploitation of space science and exploration data	Astrophysics	Herschel	University of Sussex	Cardiff Univ; CNRS; COMMISSARIAT A L ENERGIE; ATOMIQUE ET AUX ENERGIES ALTERNATIVES; Leiden Uni; COSMOS; INAF;	01-Jan-14	30-Jun-18	Understanding the evolution of galaxies across cosmic time is one of the great challenges of astrophysics. At the present day, galaxies found in different environments are very different from each other. To understand how this came to be we need to map a wide range of environments in the early Universe using telescopes that probe the different physical processes. Many	<a href="https://cordis.europa.eu/project/d/607254">https://cordis.europa.eu/project/d/607254</a> <a href="https://herchel.sussex.ac.uk/">https://herchel.sussex.ac.uk/</a>	Professor Seb Oliver - Sussex S.Oliver@sussex.ac.uk	Project Manager, Louise Winters l.winters@sussex.ac.uk	Herschel Database in Marseille For some of the final data products it is also possible to query the data from the Virtual Observatory database	20/04/2021 (10:00-10:45 CET)
10	VIALACTEA	FP7-Space	"Cooperation": Space	FP7-SPACE-2013-1	FP7-SPACE-2013-1	Astrophysics	Herschel (Others: Spitzer; WISE)	INAF	Leeds Uni; MPG; SEAMISTECHNIK AI ES AUTOMATIZALASI KUTATONTETEZ Hungary; Cardiff	01-Oct-13	30-Sep-16	VIALACTEA will bring to a down to earth the major new-generation surveys of the Galactic Plane from Turn to the radio, both in thermal continuum and in atomic and molecular lines, from Europe-funded space missions and ground-based facilities, to engage one of the fundamental challenges in Galactic astronomy: to quantify Galaxy-wide the relationship between the	<a href="https://cordis.europa.eu/project/d/607380">https://cordis.europa.eu/project/d/607380</a> <a href="https://vialactea.inaf.it">https://vialactea.inaf.it</a>	Project Coordinator INAF IAPS (IT) - Dr. Sergio Molinari molinari@iaps.inaf.it	Dr. Anna Maria Di Giorgio anna.digiorgio@inaf.it	Catalogues, tools are downloadable from the webpage TAP access	



- Project data products and SW tools:
  - Are they already part of an ESA Archive as User Provided Data Product (UPDP)?
  - are they public? What is the current/foreseen service/location?
  - Data/tools underlying infrastructure maintainance
- Considered ESA Astronomy Archives as the way to ensure long-term preservation and accessibility to a wider community?
- Provision of a prioritized list of data products
- Information and guidance to maximize usability
- Support for Digital Object Identifier (DOI) creation at a data product level? DOIs are created by ESA Archives at proposal level and UPDP level
- Consider Datalabs for software tools as a service and science use cases as Jupyter Notebook. Introduce the concept as Datalabs is not yet in operations. Could they propose a custodian?
- ESDC to echo the project's Community Communications



- **PI:** Thomas Mueller (MPE)
- **Meeting date:** 9 April 2021
- **Project timeline:** Ended in 31 March 2019
- **Data products:**
  - Observations are public and delivered to Minor Planetary Center (MPC), CDS and Planetary Data Systems (PDS)
  - User Provided Data Products for the Herschel Science Archive (COOLTNOs, SBNAF\_NEA, SBNAF\_MBA) as well as Herschel PACS data reduction special tools for SSOs
  - Occultation predictions (2016-2019)
- **Response:**
  - Data have made public via ESA and NASA archives and project is deemed closed as is now
  - User data products associated to more recent publications could be made public via ESA Archives
  - Interest in Datalabs examples, pending funding (ESA Archival Research Visitor Programme)



- **PI:** Stuart Lumsdem (University of Leeds) → deputy: Ignacio de la Calle (ESAC)
- **Meeting date:** -
- **Project timeline:** Ended in 30 November 2019
- **Data products:**
  - DEAVI Dynamic Evolution Added Value Interface
  - Catalogue
  - synthetic “simulation” data (Gaia and Herschel observations) for young stellar clusters
- **Tools:**
  - **GAVIP** Platform for Gaia data analysis
- **Response:**
  - Datalabs is already considered for GAVIP preservation as a service (specific license has been issued)
  - Readiness to use ESA Archives as a long-term vault



- Meetings have started and early AAUG feedback could be valuable at this point.
- Incorporating new projects to the list
- AAUG representatives to ping non-responsive projects
- As these are mostly past projects, we need flexibility
- Very different responses so far, but ESA Archives are involved at a different degree in the project definition
- EU Officers strive for data and tools long term preservation