A Cognitive Serverless Framework for the Cloud-Edge Continuum

D1.3 Data and Research Outputs Management Plan - c

Version 2.0

25 February 2025

Abstract

COGNIT is an AI-enabled Adaptive Serverless Framework for the Cognitive Cloud-Edge Continuum that enables the seamless, transparent, and trustworthy integration of data processing resources from providers and on-premises data centers in the cloud-edge continuum, and their automatic and intelligent adaptation to optimise where and how data is processed according to application requirements, changes in application demands and behaviour, and the operation of the infrastructure in terms of the main environmental sustainability metrics. This document provides updated information about how the Project is making its data and research outputs findable, accessible, interoperable, and reusable (FAIR). The most important takeaway in this report is the up-to-date catalogue of project data assets, classified in categories and fully identified following the data management methodology defined by the Data Management Plan (DMP) in Deliverable D1.1 (M6).

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Deliverable Metadata

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1.2	24/02/2026	Peer-Reviewed	Reviewed Draft
2.0	27/02/2026	Submitted	Final Version

Peer Review History

Version	Peer Review Date	Reviewed By
0.1	29/12/2025	Monowar Bhuyan (UMU)
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Summary of Changes from Previous Versions

Second Version of Deliverable D1.3

[1] A deliverable can be in one of these stages: Draft, Peer-Reviewed, Submitted, and Approved.

Executive Summary

Deliverable D1.3, the final version of the Data and Research Outputs Management Plan in WP1 (”Project Management”), describes how data management was performed by the COGNIT Project according to FAIR principles (Findable, Accessible, Interoperable, Reusable) and in adherence to the GDPR.

It is the intention of the Consortium to make all the data and research outputs openly available, following the principle “as open as possible, as closed as necessary”. As a general rule, the Project makes its data and research outputs publicly available and findable through **Zenodo**, given that this well-established platform follows the FAIR principles and is OpenAIRE-compliant. At a minimum, all scientific publications have been made available via Green Open Access. All metadata may freely be used under Creative Commons license CC0.

The project website lists all its publicly available data and research outputs, including links to the project deliverables and scientific publications on Zenodo, to other materials hosted locally or somewhere else (e.g. press releases, commercial publications, corporate news, standardization reports, screencasts, and webinars), as well as to the Project’s **GitHub** public repository. A Creative Commons license is used for the project website and its associated online contents.

A central aim of the Project is to provide value to as many European organisations and citizens as possible beyond the original Consortium. By default, all software produced by COGNIT is released as **open source** under Apache License, Version 2.0. All the source code produced by the Project, as well as all AI/ML models (and the relevant metrics used to train them) and datasets produced during the validation phases of the COGNIT Framework by its Use Cases are made available through GitHub. Apart from the use of the Zenodo and GitHub public repositories, all personal and research data collected during the execution of the Project have been stored and managed securely through OpenNebula Systems’ corporate account on **Google Workspace**.

The execution and regular updating of this Data and Research Outputs Management Plan has been performed by the Project Coordinator (OpenNebula Systems) as Task Leader of T1.5 (“Data, Legal, Gender, and Ethical Framework Definition”). As such, the company has defined the figure of a **Data Management Officer** (DMO), who is in charge of overseeing the successful execution of this Plan, along with a **Data Protection Officer** (DPO) for the purposes of this project.

This deliverable updates—when changes have taken place during the reporting period—the information provided in D1.1 (M6) and D1.2 (M18) and provides an up-to-date **catalogue of Research Data Assets managed by the Project**.

Table of Contents

Abbreviations and Acronyms

AI	Artificial Intelligence
API	Application Programming Interface
CDPA	Cloud Data Processing Addendum
CLA	Contributor License Agreement
DMO	Data Management Officer
DOI	Digital Object Identifier
DMP	Data Management Plan
DPO	Data Protection Officer
FFNN	Feed-Forward Neural Network
GA	Grant Agreement
GDPR	General Data Protection Regulation
GRU	Gated Recurrent Unit
HTTP	Hypertext Transfer Protocol
JSON	JavaScript Object Notation
LSTM	Long-Short Term Memory
ML	Machine Learning
NSGA	Non-dominated Sorted Generic Algorithm
OAI-PMH	Open Archives Initiative Protocol for Metadata Harvesting
REST	Representational State Transfer
SEM	Smart Energy Meter
SQL	Structured Query Language
TCN	Temporal Convolutional Network
URL	Uniform Resource Locator

1. Introduction

The general purpose of Deliverable D1.3 is to provide a revised description of the Data Management Plan (DMP) used in the COGNIT Project, updating when appropriate the contents in the previous version (Deliverable D1.2) submitted in M18, thus incorporating all significant changes to the Project's DMPthat have taken place during the reporting period (M19-M36).

Deliverable D1.3 is composed of seven main content chapters, including a Data Summary (Section 2), FAIR Data (Section 3), Other Research Outputs (Section 4), Allocation of Resources (Section 5), Data Security (Section 6), Ethics (Section 7), and Other Issues (Section 8).

Section 2 comes with an up-to-date **catalogue of Research Data Assets managed by the Project**, which have been tracked and registered during the reporting period following the overall methodology of the Data Management Plan defined in Deliverable D1.1 (M6). That catalogue is the main takeaway of this final report.

2. Data Summary

The COGNIT Project has been generating a variety of Research Data Assets during its execution namely:

- **Development and integration data assets** – Produced by the COGNIT Project and released as open source under Apache License 2.0 through its public Github repositories, including:
    - **Software (i.e. source code).**
    - **AI/ML models, plus the metrics to train them.**
    - **Datasets produced during the validation phase.**
- **Project deliverables** – Publicly available (unless identified as "Sensitive" on the GA) through the Project's website once submitted to the European Commission, and pending their final approval for publication on Zenodo too.
- **Scientific publications** – Produced by the COGNIT Project through Academic Journal and Conference Papers and gradually made available as Open Access.
- **Other publications and materials** – Produced by the COGNIT Project as a way to share research data in a variety of formats such as press releases, corporate news, reports describing the Project's contribution to standards, white papers, video tutorials, or demonstrators.

The following sections describe the Research Data Assets that are already public and those that are not public yet, or subject to an embargo:

2.1. Catalogue of public Research Data Assets

The following assets have already been made public by the COGNIT Project by M36:

ID	Title	Description
SOFTW-01	COGNIT Framework	*Public Github repository*
AIML-01	LSTM	*Long Short-Term Memory (LSTM) network for VM workload prediction*
AIML-02	GRU	*Gated Recurrent Unit (GRU) for sequential workload forecasting*
AIML-03	FFNN	*Feed-Forward Neural Network (FFNN) for non-sequential workload prediction*
AIML-04	TCN	*Temporal Convolutional Network (TCN) for long-range workload dependency modeling*
AIML-05	Keep K-means clustering	*Deep embedded clustering with autoencoder for workload grouping*
AIML-06	Time series based auto-adaptive ML	*VAE-LSTM for self-adapting approach to prevent data drift in workload forecasting*
AIML-07	NSGA-II	*Non-dominated sorting genetic algorithm (NSGA) for interference-carbon-cost optimization*
AIML-08	MOGA	*Multi-objective genetic algorithm for Cloud-Edge-Continuum resource optimization*
AIML-09	SPEA2	*Strength Pareto evolutionary algorithm for Pareto-optimal resource allocation*
AIML-10	ODE-LTC	*Neural ODE with Liquid Time-Constant for Denial-of-Wallet attack detection in FaaS*
AIML-11	MVMTL	*Multiview-multitask Learning for identifying attack in IoT devices and applications*
AIML-12	FL-MU	*Federated Learning framework for attack detection in distributed IoT devices and applications*
AIML-13	AdaptiveMLaaS	*Contextual bandit-based adaptive MLaaS service composition for cloud-edge*
AIML-14	inceptiononv1onfire	*Pretrained model for fire recognition in videos and images*
AIML-15	PPO model for home energy	*Architecture of PPO-trained actor-critic*

	management	*model making decisions about end-devices management to maximise local energy consumption*
AIML-16	Trained PPO Model	*Example of trained PPO model to make decisions about end-devices management to maximise local energy consumption for one SEM*
AIML-17	SUMO models of junctions in Granada	*SUMO models of junctions in the scope of this project to analyse delays in buses transit through junctions*
AIML-18	sentence-transformers/paraphrase-MiniLM-L3-v2	*A sentence embedding model provided by the Sentence-Transformers library (based on Hugging Face). Used for anomaly detection in Auth and GPS data.*
METR-01	PV Production Time Series	*Sample dataset of PV production time series for one SEM with generated actual and predicted data (distinguished by the "origin" column)*
METR-02	Temperature Time Series	*Sample dataset of temperature time series generated by mathematical model for the geographical location of one SEM*
METR-03	Uncontrolled Energy Consumption Time Series	*Sample dataset of uncontrolled energy consumption time series for one SEM with generated actual and predicted data (distinguished by the "origin" column)*
DATA-01	Cluster Metrics Dataset	*Simulated dataset of carbon emission, energy usage, resource utilization, and cost associated across multi cluster setup.*
DATA-02	TreeTalker Fire Testing Dataset	*The dataset contains data collected during the testing phase of TreeTalker Fire devices installed in the forest with complete sets of parameters measured by the devices for multiple days.*
DELIV-01	D1.1 Data and Research Outputs Management Plan - a	*Initial version of COGNIT Data Management Plan*
DELIV-02	D2.1 COGNIT Framework - Architecture - a	*First version of the Architecture Report (M3)*
DELIV-03	D2.2 COGNIT Framework - Architecture - b	*Second version of the Architecture Report (M9)*
DELIV-04	D2.3 COGNIT Framework - Architecture - c	*Third version of the Architecture Report (M15)*
DELIV-05	D3.1 COGNIT FaaS Model - Scientific Report - a	*Results of the 1st research cycle (M4-M9) under WP3*
DELIV-06	D3.2 COGNIT FaaS Model - Scientific	*Results of the 2nd research cycle*

	Report - b	*(M10-M15) under WP3*
DELIV-07	D3.6 COGNIT FaaS Model - Software Source - a	*Software generated as results of the 1st research cycle (M4-M9) under WP3*
DELIV-08	D3.7 COGNIT FaaS Model - Software Source - b	*Software generated as results of the 2nd research cycle (M10-M15) under WP3*
DELIV-09	D4.1 COGNIT Serverless Platform - Scientific Report - a	*Results of the 1st research cycle (M4-M9) under WP4*
DELIV-10	D4.2 COGNIT Serverless Platform - Scientific Report - b	*Result of the 2nd research cycle (M10-M15) under WP4*
DELIV-11	D4.6 COGNIT Serverless Platform - Software Source - a	*Software generated as results of the 1st research cycle (M4-M9) under WP4*
DELIV-12	D4.7 COGNIT Serverless Platform - Software Source - b	*Software generated as results of the 2nd research cycle (M10-M15) under WP4*
DELIV-13	D5.1 Use Cases - Scientific Report - a	*First version of the Use Cases Report (M3)*
DELIV-14	D5.2 Use Cases - Scientific Report - b	*Second version of the Use Cases Report (M9)*
DELIV-15	D5.3 Use Cases - Scientific Report - c	*Third version of the Use Cases Report (M15)*
DELIV-16	D5.7 COGNIT Framework - Software Source - a	*Software generated as results of the 2nd research cycle (M10-M15) under WP5*
DELIV-17	D5.10 COGNIT Framework - Demo - a	*Demonstrator of the first integrated version of the COGNIT Framework (M3)*
DELIV-18	D6.1 Communication and Dissemination Plan & Report - a	*First version of the D&C Plan and Report (M6)*
DELIV-19	D2.4 COGNIT Framework - Architecture - d	*Fourth Version of the Architecture Report (M21)*
DELIV-20	D2.5 COGNIT Framework - Architecture - e	*Fifth Version of the Architecture Report (M27)*
DELIV-21	D2.6 COGNIT Framework - Architecture - c	*Sixth Version of the Architecture Report (M33)*
DELIV-22	D3.3 COGNIT FaaS Model - Scientific Report - c	*Results of the 3rd research cycle (M16-M21) under WP3*
DELIV-23	D3.4 COGNIT FaaS Model - Scientific Report - d	*Results of the 4th research cycle (M22-M27) under WP3*
DELIV-24	D3.5 COGNIT FaaS Model - Scientific Report - e	*Results of the 5th research cycle (M28-M33) under WP3*
DELIV-25	D3.8 COGNIT FaaS Model - Software Source - c	*Software generated as results of the 3rd research cycle (M16-M21) under WP3*

DELIV-26	D3.9 COGNIT FaaS Model - Software Source - d	*Software generated as results of the 4th research cycle (M22-M27) under WP3*
DELIV-27	D3.10 COGNIT FaaS Model - Software Source - e	*Software generated as results of the 5th research cycle (M28-M33) under WP3*
DELIV-28	D4.3 COGNIT Serverless Platform - Scientific Report - c	*Result of the 3rd research cycle (M16-M21) under WP4*
DELIV-29	D4.4 COGNIT Serverless Platform - Scientific Report - d	*Result of the 4th research cycle (M22-M27) under WP4*
DELIV-30	D4.5 COGNIT Serverless Platform - Scientific Report - e	*Result of the 5th research cycle (M28-M33) under WP4*
DELIV-31	D4.8 COGNIT Serverless Platform - Software Source - c	*Software generated as results of the 3rd research cycle (M16-M21) under WP4*
DELIV-32	D4.9 COGNIT Serverless Platform - Software Source - d	*Software generated as results of the 4th research cycle (M22-M27) under WP4*
DELIV-33	D4.10 COGNIT Serverless Platform - Software Source - e	*Software generated as results of the 5th research cycle (M28-M33) under WP4*
DELIV-34	D5.4 Use Cases - Scientific Report - d	*Fourth version of the Use Cases Report (M21)*
DELIV-35	D5.5 Use Cases - Scientific Report - e	*Fifth version of the Use Cases Report (M27)*
DELIV-36	D5.6 Use Cases - Scientific Report - f	*Sixth version of the Use Cases Report (M33)*
DELIV-37	D5.8 COGNIT Framework - Software Source - b	*Software generated as results of the 3rd and 4th research cycle (M16-M27) under WP5*
DELIV-38	D5.9 COGNIT Framework - Software Source - c	*Software generated as results of the 5th research cycle (M28-M33) under WP5*
DELIV-39	D5.11 COGNIT Framework - Demo - b	*Demonstrator of the second integrated version of the COGNIT Framework (M27)*
DELIV-40	D5.12 COGNIT Framework - Demo - c	*Demonstrator of the third integrated version of the COGNIT Framework (M33)*
DELIV-41	D6.2 Communication and Dissemination Plan & Report - b	*Second version of the D&C Plan and Report (M18)*
DELIV-42	D6.3 Communication and Dissemination Plan & Report - c	*Third version of the D&C Plan and Report (M36)*
DELIV-43	D1.2 Data and Research Outputs Management Plan - b	*Intermediate version of COGNIT Data Management Plan (M18)*
DELIV-44	D1.3 Data and Research Outputs Management Plan - c	*Final version of COGNIT Data Management Plan (M36)*

PAPER-01	Latency and resource consumption analysis for serverless edge analytics	*Academic Journal Paper published in the Journal of Cloud Computing, Springer (2023)*
PAPER-02	Modelling the Green Cloud Continuum: Integrating Energy Considerations into Cloud-Edge Models	*Academic Journal Paper published in the Journal of Cluster Computing, Springer (2024)*
PAPER-03	COGNIT: Challenges and Vision for a Serverless and Multi-Provider Cognitive Cloud-Edge Continuum	*Conference Paper at IEEE EDGE 2023*
PAPER-06	Towards a Workload Mapping Model for Tuning Backing Services in Cloud Systems	*Conference Paper at DEXA 2023*
PAPER-08	Securing P4-SDN Data Plane against Flow Table	*Conference Paper at NOMS 2024*
PAPER-09	Detecting Denial of Wallet Attacks in Serverless Computing: A Neural ODE-LTC Approach	*Conference paper at IEEE JCC 2025*
PAPER-12	Securing IoT: Unveiling Attacks with Multiview-Multitask Learning	*Journal paper at IEEE Transactions on Artificial Intelligence, 2025*
PAPER-13	Taming Cold Starts: Proactive Serverless Scheduling with Model Predictive Control	*Conference paper at MASCOTS 2025*
PAPER-14	Reinforced Model Selection for Resource Efficient Anomaly Detection in Edge Clouds	*Journal paper at Future Generation Computer Systems, Elsevier, 2025*
PAPER-15	FL-MU: A Benchmark Dataset for Federated Intrusion Detection in IoT Networks	*Journal paper at IEEE Access, 2025*
PAPER-16	Adaptive Composition of Machine Learning as a Service (MLaaS) for IoT Environments	*Conference paper at IEEE ICWS 2025*
PAPER-21	Decentralized Multi-Agent Reinforcement Learning for the Green Serverless Cloud-Edge Continuum	*Conference paper at IEEE SOSE 2025*
PAPER-23	GreenContinuum: a formal model of a smart grid-aware edge-cloud continuum for carbon and energy management	*Conference paper at IEEE CloudCom 2025*
PAPER-25	Collaborative Cloud Resource Management and Task Consolidation Using JAYA Variants	*Journal paper at IEEE TNSM, 2024*
PAPER-27	A Combination Learning Framework to Uncover Cyber Attacks in IoT	*Journal paper at Internet of Things, Elsevier , 2024*

PAPER-28	TinySEED - A Lightweight Transformer Architecture with Channel Attention for DDoS detection	*ACM / SIGAPP Symposium on Applied Computing, 2026*
PRESS-01	European project COGNIT releases the Architecture of its AI-enabled Serverless Framework for the Cloud-Edge Continuum	*Initial press release announcing the release of the definition of the COGNIT Architecture. (2023)*
PRESS-02	traffictechnologytoday.com: New AI edge-computing pilot for traffic priority in Granada, Spain	*ACISA is testing a new edge-computing system in Granada, Spain, that uses SovereignEdge.EU/COGNIT project, to manage priority requests from public transport and emergency vehicles at intersections. (2025)*
PRESS-03	Lanciato il Tree Talker, un dispositivo di prevenzione incendi per la salvaguardia forestale	*Press release announcing the Tree Talker, the cornerstone device associated to wildfire management use case (2025)*
PRESS-04	Projekt COGNIT na finiszu	*Press release announcing project finishing and the value added it brings to the Energy sector (2025)*
PRESS-05	COGNIT concludes three-year-effort to advance cognitive cloud-edge orchestration	*Press release with a final overview of the Horizon Europe COGNIT project, highlighting its successful completion after three years of research and innovation.*
PRESS-06	Protecting the future of transport: a major technological challenge	*Press release on the cybersecurity use case applied to the transport by CETIC*
PRESS-07	ACISA impulsa la movilidad inteligente con su participación en el proyecto SovereignEdge.EU/COGNIT	*Newspaper article in the esmartcity.es media about intelligent mobility using COGNIT (2025)*
PRESS-08	ACISA impulsa la movilidad inteligente con SovereignEdge.EU/COGNIT	*Newspaper article in the ancisa.com media about intelligent mobility using COGNIT (2025)*
VIDEO-01	Energy Efficiency Optimisation for Cloud-Edge Orchestration	*Demonstrator (2023)*
VIDEO-02	Deploying the COGNIT Platform	*Technical tutorial (2024)*
VIDEO-03	Smart Energy Meter as Energy Assistant	*Presentation of Energy Use Case and summary of demo simulation (2025)*
VIDEO-04	EU Energy Projects Podcast: Revolutionising Edge Computing - Insights from Project Cognit	*Introduction to COGNIT and focus on Energy Use Case (2024)*
VIDEO-05	The COGNIT Project: Building an AI-enabled Cognitive Cloud based on OpenNebula	*Presentation of the COGNIT Framework and in particular how OpenNebula is at the core of its architecture (2024)*

VIDEO-06	COGNIT Use Case Smart Cities Demonstration ACISA	*Demo Video for UC1 on Smart Cities (2025)*
VIDEO-07	Thanks for visiting our booth at Cloud Expo Madrid!	*Compilation of pictures of different presentations taking place at the project booth in this event (2023)*
VIDEO-08	SovereignEdge.COGNIT Cybersecurity Use Case Demonstration	*Demonstrator (2025)*
VIDEO-09	COGNIT Kick-off Meeting	*Video from the meeting (2023)*
VIDEO-10	SovereignEdge.COGNIT Wildfire Use Case Demonstration	*Demo video for UC2 on Early Wildfire Detection (2025)*
VIDEO-11	COGNIT Day 2025	*Playlist with the sessions delivered at the COGNIT Day 2025 (2025)*
STD-01	Computing Continuum Scenarios, Proof of Concepts, Requirements and Optical Communication enablers	*Release 3.0 AIOTI WG Standardisation (2025)*

Software

DATA ASSET	SOFTW-01
Source	COGNIT Framework
License	Apache License, Version 2.0
Purpose of reuse	Access to the open source serverless technology developed by the COGNIT Project.
COGNIT users	All partners
Other users	Researchers, open source developers, industry, cloud engineers.

AI/ML models

DATA ASSET	AIML-01
Source	LSTM
License	Apache License, Version 2.0
Purpose of reuse	VM workload prediction.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-02
Source	GRU
License	Apache License, Version 2.0
Purpose of reuse	Workload forecasting.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-03
Source	FFNN
License	Apache License, Version 2.0
Purpose of reuse	Workload prediction.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-04
Source	TCN
License	Apache License, Version 2.0
Purpose of reuse	Workload prediction.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-05
Source	Deep K-means Clustering
License	Apache License, Version 2.0
Purpose of reuse	Unsupervised clustering of unlabeled workload.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-06
Source	Time series based auto-adaptive ML
License	Apache License, Version 2.0
Purpose of reuse	To prevent the impact of data drift (in cloud systems) from AIML models.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-07
Source	NSGA-II
License	Apache License, Version 2.0
Purpose of reuse	Multi-objective optimization of interference cost, CO2 emissions, and cost.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-08
Source	MOGA
License	Apache License, Version 2.0
Purpose of reuse	Multi-objective optimization of interference cost, CO2 emissions, and cost.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-09
Source	SPEA2
License	Apache License, Version 2.0
Purpose of reuse	Multi-objective optimization of interference cost, CO2 emissions, and cost.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-10
Source	ODE-LTC
License	Apache License, Version 2.0
Purpose of reuse	Attack detection on serverless systems.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-11
Source	MVMTL
License	Apache License, Version 2.0
Purpose of reuse	Attack detection in highly distributed systems.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-12
Source	FL-MU
License	Apache License, Version 2.0
Purpose of reuse	Federated attack detection in highly distributed systems.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-13
Source	AdaptiveMLaaS
License	Apache License, Version 2.0
Purpose of reuse	An adaptive MLaaS composition framework to ensure a seamless, efficient, and scalable MLaaS composition.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-14
Source	inceptiononv1onfire
License	MIT license
Purpose of reuse	Automatic recognition of wildfires in videos and images collected by remote applications
COGNIT users	Nature 4.0
Other users	Camera-based applications that detect fires without human intervention, in particular in IoT devices.

DATA ASSET	AIML-15
Source	PPO model for home energy management
License	BSD 3-Clause License
Purpose of reuse	Training a model that makes decisions about end-devices management to maximise local energy consumption for a single SEM.
COGNIT users	ATENDE, PHOENIX
Other users	Scientific groups working on similar topics to those of the energy use case Energy vertical stakeholders

DATA ASSET	AIML-16
Source	Onnx_model_v2.2.4_sem123456 ONX JSON
License	BSD 3-Clause License
Purpose of reuse	Using a trained model to make decisions about end-devices management to maximise local energy consumption for a single SEM.
COGNIT users	ATENDE, PHOENIX
Other users	Scientific groups working on similar topics to those of the energy use case Energy vertical stakeholders

DATA ASSET	AIML-17
Source	SUMO models of junctions in Granada
License	Apache License, Version 2.0
Purpose of reuse	Perform traffic simulations using SUMO
COGNIT users	ACISA
Other users	Researchers, open source developers, industry.

DATA ASSET	AIML-18
Source	sentence-transformers/paraphrase-MiniLM-L3-v2
License	Apache License, Version 2.0
Purpose of reuse	Anomaly detection in GPS and Auth logs
COGNIT users	CETIC
Other users	Open-source model

Metrics

DATA ASSET	METR-01
Source	123456_pv_production
License	BSD 3-Clause License
Purpose of reuse	Input for training and usage a model making decision in terms of managing end-devices to maximise local energy consumption for one SEM.
COGNIT users	ATENDE, PHOENIX
Other users	Scientific groups working on similar topics to those of the energy use case Energy vertical stakeholders

DATA ASSET	METR-02
Source	123456_temperature
License	BSD 3-Clause License
Purpose of reuse	Input for training and usage a model making decision in terms of managing end-devices to maximise local energy consumption for one SEM.
COGNIT users	ATENDE, PHOENIX
Other users	Scientific groups working on similar topics to those of the energy use case Energy vertical stakeholders

DATA ASSET	METR-03
Source	123456_uncontrolled_consumption
License	BSD 3-Clause License
Purpose of reuse	Input for training and usage a model making decision in terms of managing end-devices to maximise local energy consumption for one SEM.
COGNIT users	ATENDE, PHOENIX
Other users	Scientific groups working on similar topics to those of the energy use case Energy vertical stakeholders

Datasets

DATA ASSET	DATA-01
Source	Cluster Metrics Dataset
License	CC BY 4.0
Purpose of reuse	Develop and validate multi-objective models to optimize carbon emissions, energy usage, resource usage, and cost for orchestration.
COGNIT users	UMU
Other users	Researchers, open source developers, industry.

DATA ASSET	DATA-02
Source	TreeTalker Fire Testing Dataset
License	CC BY 4.0
Purpose of reuse	Data samples will be used to create wildfire risk maps and study the forest's conditions
COGNIT users	Nature 4.0
Other users	Researchers

Project Deliverables

DATA ASSET	DELIV-01
Source	D1.1 Data and Research Outputs Management Plan - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference Data Management Plan for other HE projects
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	DELIV-02
Source	D2.1 COGNIT Framework - Architecture - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the initial steps in the definition of the architecture, valid for both COGNIT partners and for other scientific groups
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-03
Source	D2.2 COGNIT Framework - Architecture - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the architecture during the first research cycle (M4-M9), valid for both COGNIT partners and for other scientific groups
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-04
Source	D2.3 COGNIT Framework - Architecture - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the architecture during the second research cycle (M10-M15), valid for both COGNIT partners and for other scientific groups
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-05
Source	D3.1 COGNIT FaaS Model - Scientific Report - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the FaaS Model during the 1st Research Cycle (M4-M9)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-06
Source	D3.2 COGNIT FaaS Model - Scientific Report - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the FaaS Model during the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-07
Source	D3.6 COGNIT FaaS Model - Software Source - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the FaaS Model during the 1st Research Cycle (M4-M9)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-08
Source	D3.7 COGNIT FaaS Model - Software Source - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the FaaS Model during the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-09
Source	D4.1 COGNIT Serverless Platform - Scientific Report - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the Serverless Platform during the 1st Research Cycle (M4-M9)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-10
Source	D4.2 COGNIT Serverless Platform - Scientific Report - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the Serverless Platform during the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-11
Source	D4.6 COGNIT Serverless Platform - Software Source - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the Serverless Platform during the 1st Research Cycle (M4-M9)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-12
Source	D4.7 COGNIT Serverless Platform - Software Source - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the Serverless Platform during the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-13
Source	D5.1 Use Cases - Scientific Report - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document for the description of the use cases and their goals and expectations with respect to COGNIT
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-14
Source	D5.2 Use Cases - Scientific Report - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document for the description of the work done on the use cases during the 1st Research Cycle (M4-M9)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-15
Source	D5.3 Use Cases - Scientific Report - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document for the description of the work done on the use cases during the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-16
Source	D5.7 COGNIT Framework - Software Source - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the integrated COGNIT Framework at the closure of the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-17
Source	D5.10 COGNIT Framework - Demo - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the demonstrations of the integrated COGNIT Framework associated to the closure of the 2nd Research Cycle (M10-M15)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-18
Source	D6.1 Communication and Dissemination Plan & Report - a
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference communication and dissemination plan for HE projects.
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	DELIV-19
Source	D2.4 COGNIT Framework - Architecture - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the architecture during the third research cycle (M16-M21), valid for both COGNIT partners and for other scientific groups
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-20
Source	D2.5 COGNIT Framework - Architecture - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the architecture during the fourth research cycle (M22-M27), valid for both COGNIT partners and for other scientific groups
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-21
Source	D2.6 COGNIT Framework - Architecture - f
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference documents including the final results of the definition of the architecture
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT European Commission.

DATA ASSET	DELIV-22
Source	D3.3 COGNIT Faas Model - Scientific Report - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the FaaS Model during the 3rd Research Cycle (M16-M21)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-23
Source	D3.4 COGNIT FaaS Model - Scientific Report - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the FaaS Model during the 4th Research Cycle (M22-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-24
Source	D3.5 COGNIT FaaS Model - Scientific Report - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document of the results obtained in the definition of the FaaS Model during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT European Commission.

DATA ASSET	DELIV-25
Source	D3.8 COGNIT FaaS Model - Software Source - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the FaaS Model during the 3rd Research Cycle (M16-M21)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-26
Source	D3.9 COGNIT FaaS Model - Software Source - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the FaaS Model during the 4th Research Cycle (M22-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-27
Source	D3.10 COGNIT FaaS Model - Software Source - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document regarding the implementation of the FaaS Model during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-28
Source	D4.3 COGNIT Serverless Platform - Scientific Report - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the Serverless Platform during the 3rd Research Cycle (M16-M21)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-29
Source	D4.4 COGNIT Serverless Platform - Scientific Report - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document of the results obtained in the definition of the Serverless Platform during the 4th Research Cycle (M22-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-30
Source	D4.5 COGNIT Serverless Platform - Scientific Report - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document of the results obtained in the definition of the Serverless Platform during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-31
Source	D4.8 COGNIT Serverless Platform - Software Source - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the Serverless Platform during the 3rd Research Cycle (M16-M21)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-32
Source	D4.9 COGNIT Serverless Platform - Software Source - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the Serverless Platform during the 4th Research Cycle (M22-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-33
Source	D4.10 COGNIT Serverless Platform - Software Source - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document regarding the implementation of the Serverless Platform during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-34
Source	D5.4 Use Cases - Scientific Report - d
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document for the description of the work done on the use cases during the 3rd Research Cycle (M16-M21)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-35
Source	D5.5 Use Cases - Scientific Report - e
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document for the description of the work done on the use cases during the 4th Research Cycle (M22-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-36
Source	D5.6 Use Cases - Scientific Report - f
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone Reference document for the description of the work done on the use cases during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-37
Source	D5.8 COGNIT Framework - Software Source - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the implementation of the integrated COGNIT Framework during the 3rd and 4th Research Cycle (M16-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-38
Source	D5.9 COGNIT Framework - Software Source - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document regarding the implementation of the integrated COGNIT Framework during the whole project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-39
Source	D5.11 COGNIT Framework - Demo - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Reference document regarding the demonstrations of the integrated COGNIT Framework associated to the 3rd and 4th Research Cycle (M16-M27)
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-40
Source	D5.12 COGNIT Framework - Demo - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone reference document regarding the demonstrations of the integrated COGNIT Framework that are the result of the work carried out throughout the project
COGNIT users	All partners
Other users	Scientific groups working on same or similar topics to those developed in COGNIT; European Commission.

DATA ASSET	DELIV-41
Source	D6.2 Communication & Dissemination Plan and Report - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Progress report of the communication and dissemination plan for HE projects.
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	DELIV-42
Source	D6.3 Communication & Dissemination Plan and Report - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Standalone document including both the Communication and Dissemination Plan and the report of the activities carried out within such a plan during the project
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	DELIV-43
Source	D1.2 Data and Research Outputs Management Plan - b
License	CC BY-NC-SA 4.0
Purpose of reuse	Intermediate version. Reference Data Management Plan for other HE projects
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	DELIV-44
Source	D1.3 Data and Research Outputs Management Plan - c
License	CC BY-NC-SA 4.0
Purpose of reuse	Final version. Reference Data Management Plan for other HE projects
COGNIT users	All partners
Other users	European Commission.

Scientific Publications

DATA ASSET	PAPER-01
Source	Latency and resource consumption analysis for serverless edge analytics
License	CC BY 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	OpenNebula
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-02
Source	Modelling the Green Cloud Continuum: Integrating Energy Considerations into Cloud-Edge Models
License	CC BY 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-03
Source	COGNIT: Challenges and Vision for a Serverless and Multi-Provider Cognitive Cloud-Edge Continuum
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	All partners
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-06
Source	Towards a Workload Mapping Model for Tuning Backing Services in Cloud Systems
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-08
Source	Securing P4-SDN Data Plane against Flow Table
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-09
Source	Detecting Denial of Wallet Attacks in Serverless Computing: A Neural ODE-LTC Approach
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-12
Source	Securing IoT: Unveiling Attacks with Multiview-Multitask Learning
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU, RISE
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-13
Source	Taming Cold Starts: Proactive Serverless Scheduling with Model Predictive Control
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-14
Source	Reinforced Model Selection for Resource Efficient Anomaly Detection in Edge Clouds
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-15
Source	FL-MU: A Benchmark Dataset for Federated Intrusion Detection in IoT Networks
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-16
Source	Adaptive Composition of Machine Learning as a Service (MLaaS) for IoT Environments
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-21
Source	Decentralized Multi-Agent Reinforcement Learning for the Green Serverless Cloud-Edge Continuum
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-23
Source	GreenContinuum: a formal model of a smart grid-aware edge-cloud continuum for carbon and energy management
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-25
Source	Collaborative Cloud Resource Management and Task Consolidation Using JAYA Variants
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-27
Source	A Combination Learning Framework to Uncover Cyber Attacks on IoT
License	CC BY License
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU
Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

DATA ASSET	PAPER-28
Source	TinySEED: A Lightweight Architecture with Channel-Attention for DDoS Detection
License	Creative Commons Attribution 4.0 International
Purpose of reuse	This work can be used as reference for ongoing activities of different research groups worldwide.
COGNIT users	UMU

Other users	Scientific groups working on the same topic/s or others close to the one/s addressed in the paper.

Press Releases

DATA ASSET	**PRESS-01**
Source	European project COGNIT releases the Architecture of its AI-enabled Serverless Framework for the Cloud-Edge Continuum
License	CC BY-NC-SA 4.0
Purpose of reuse	Show the progress of the EU-funded projects under the HE topic on Cognitive Cloud.
COGNIT users	All partners
Other users	European Commission.

DATA ASSET	**PRESS-02**
Source	New AI edge-computing pilot for traffic priority in Granada, Spain
License	Press law license
Purpose of reuse	ACISA is testing a new edge-computing system in Granada, Spain, that uses SovereignEdge.EU/COGNIT project, to manage priority requests from public transport and emergency vehicles at intersections.
COGNIT users	ACISA
Other users	General public

DATA ASSET	**PRESS-03**
Source	Lanciato il Tree Talker, un dispositivo di prevenzione incendi per la salvaguardia forestale
License	Press law license
Purpose of reuse	Press release announcing the Tree Talker, the cornerstone device associated to wildfire management use case
COGNIT users	Nature 4.0

Other users	General public

DATA ASSET	**PRESS-04**
Source	Projekt COGNIT na finiszu
License	press law license
Purpose of reuse	Information about COGNIT project finishing and the added value it brings to the Energy sector.
COGNIT users	PHOENIX
Other users	General public

DATA ASSET	**PRESS-05**
Source	COGNIT concludes three-year-effort to advance cognitive cloud-edge orchestration
License	CC BY-NC-SA 4.0
Purpose of reuse	Disseminate the conclusion of the project and a high level perspective of the results obtained.
COGNIT users	All partners
Other users	European Commission

DATA ASSET	**PRESS-06**
Source	Protecting the future of autonomous transport: a major technological challenge
License	CC BY-NC-SA 4.0
Purpose of reuse	Information about the cybersecurity applied to the transport case.
COGNIT users	CETIC
Other users	European Commission

Newspaper Articles

DATA ASSET	PRESS-07
Source	Link to esmartcity.es
License	press law license
Purpose of reuse	ACISA impulsa la movilidad inteligente con su participación en el proyecto SovereignEdge.EU/COGNIT
COGNIT users	ACISA
Other users	General public

DATA ASSET	PRESS-08
Source	Link to ANCISA
License	press law license
Purpose of reuse	Acisa impulsa la movilidad inteligente con Sovereign.EdgeEU/COGNIT
COGNIT users	ACISA
Other users	General public

Videos

DATA ASSET	VIDEO-01
Source	Energy Efficiency Optimisation for Cloud-Edge Orchestration (October 2023)
License	CC BY-NC-SA 4.0
Purpose of reuse	Show the behaviour of a cloud-edge orchestrator based on energy efficiency optimisation criteria.
COGNIT users	RISE, UMU
Other users	Scientific groups working on same or similar topics to those developed in COGNIT;

	European Commission.

DATA ASSET	VIDEO-02
Source	Deploying the COGNIT Platform (June 2024)
License	CC BY-NC-SA 4.0
Purpose of reuse	Show a step-by-step tutorial about how to deploy the first integrated version of the COGNIT Platform
COGNIT users	OpenNebula
Other users	Scientific groups working on same or similar topics to those developed in COGNIT;European Commission.

DATA ASSET	VIDEO-03
Source	Smart Energy Meter as Energy Assistant
License	Standard YouTube License
Purpose of reuse	Sharing the idea behind the added value that COGNIT framework brings to the Energy use-case
COGNIT users	PHOENIX
Other users	Scientific groups working on same or similar topics to those developed in COGNIT Stakeholders from the Energy Sector European Commission

DATA ASSET	VIDEO-04
Source	EU Energy Projects Podcast: Revolutionising Edge Computing - Insights from Project Cognit
License	Standard YouTube License
Purpose of reuse	Sharing the idea behind the added value that COGNIT framework brings to the Energy use-case
COGNIT users	PHOENIX
Other users	Scientific groups working on same or similar topics to those

	developed in COGNIT Stakeholders from the Energy Sector European Commission

DATA ASSET	VIDEO-05
Source	The COGNIT Project: Building an AI-Enabled Cognitive Cloud based on OpenNebula
License	CC BY-NC-SA 4.0
Purpose of reuse	The video provides the fundamentals of how OpenNebula can be used for the building of a cognitive cloud
COGNIT users	OpenNebula
Other users	COGNIT partners OpenNebula community users Scientific groups working on same or similar topics to those developed in COGNIT European Commission

DATA ASSET	VIDEO-06
Source	COGNIT Use Case Smart Cities demonstration ACISA
License	Standard YouTube License
Purpose of reuse	Show how to leverage edge computing capacity to make decisions requiring simulations, about traffic management
COGNIT users	ACISA
Other users	COGNIT partners OpenNebula community users Scientific groups working on same or similar topics to those developed in COGNIT European Commission

DATA ASSET	VIDEO-07
Source	Thanks for visiting our booth at Cloud Expo Madrid!
License	CC BY-NC-SA 4.0

Purpose of reuse	Project promotion
COGNIT users	All partners
Other users	European Commission

DATA ASSET	**VIDEO-08**
Source	SovereignEdge.COGNIT Cybersecurity use case demonstration
License	Standard YouTube License
Purpose of reuse	Show how to leverage edge computing capacity for enabling anomaly detection in smart mobility systems
COGNIT users	CETIC, SUSE
Other users	COGNIT partners OpenNebula community users Scientific groups working on same or similar topics to those developed in COGNIT European Commission

DATA ASSET	**VIDEO-09**
Source	COGNIT Kick Off Meeting
License	CC BY-NC-SA 4.0
Purpose of reuse	Video from the Project Kick-Off Meeting
COGNIT users	All partners
Other users	European Commission

DATA ASSET	**VIDEO-10**
Source	SovereignEdge.COGNIT Wildfire use case demonstration
License	Standard YouTube License
Purpose of reuse	Show how to leverage edge computing capacity to enable IoT sensors to detect wildfires using machine learning
COGNIT users	Nature 4.0

Other users	COGNIT partners OpenNebula community users Scientific groups working on same or similar topics to those developed in COGNIT European Commission

DATA ASSET	**VIDEO-11**
Source	COGNIT Day 2025
License	Standard YouTube License
Purpose of reuse	Playlist with the sessions delivered at the COGNIT Day 2025
COGNIT users	All partners
Other users	COGNIT partners OpenNebula community users Scientific groups working on same or similar topics to those developed in COGNIT European Commission

Participation in Standardization Working Group

DATA ASSET	**STD-01**
Source	Computing Continuum Scenarios, Proof of Concepts, Requirements and Optical Communication enablers
License	Original AIOTI content (General copyright)
Purpose of reuse	Further progress in different standardization WGs
COGNIT users	ACISA
Other users	AIOTI WG Other standardization groups COGNIT partners Scientific groups working on same or similar topics to those developed in COGNIT European Commission

2.2. Catalogue of non-public Research Data Assets

At the time of writing this report, the following assets still have to be made public by the Project as part of its Open Access commitment:

ID	Title	Description
PAPER-04	Anomaly Detection and Resolution on the Edge: Solutions and Future Directions	*Conference Paper at IEEE SOSE 2023*
PAPER-05	Formal Models for the Energy-Aware Cloud-Edge Computing Continuum: Analysis and Challenges	*Conference Paper at IEEE SOSE 2023*
PAPER-07	Cliffhanger: an experimental evaluation of stateful serverless at the edge	*Conference Paper at WONS 2024*
PAPER-10	Executing Mobile Edge Functions in the Cloud-Edge Continuum: Analyzing Threats to Location Integrity	*Conference paper at IEEE FiCloud 2025*
PAPER-11	Silent Failures in Stateless Systems: Rethinking Anomaly Detection for Serverless Computing	*Conference paper at IEEE SOSE 2025*
PAPER-17	Towards Mitigation of Flow Table Modification Attacks in P4-based SDN Data Plane	*Journal paper at Security and Privacy, John Wiley and Sons, 2025*
PAPER-18	Cooperative and Connected Mobility Services in the Cloud-Edge Continuum with Function As A Service Technology and AI-enabled Orchestration	*Conference Paper at Mediterranean Smart Cities Conference (MSSC), 2024*
PAPER-19	Mobility-Hub: Next Generation Traffic Light Controller Integrated into the Computing Continuum with Serverless Technology and AI-Enabled Orchestration	*Conference paper at the ITS World Congress 2024*
PAPER-20	GraphOpticon: A Global proactive horizontal autoscaler for improved service performance & resource consumption	*Journal paper at Future Generation Computer Systems, Elsevier, 2026*
PAPER-22	A Decentralized Microservice Scheduling Approach Using Service Mesh in Cloud-Edge Systems	*Conference paper at IEEE JCC 2025*
PAPER-24	A stable matching approach to energy efficient and sustainable serverless scheduling for the green cloud continuum	*Conference paper at IEEE SOSE 2025*
PAPER-26	Power Aware Cluster Orchestration: Taxonomy, Initial Results, and Challenges	*Workshop paper at ACM International Workshop on Cloud and Edge Computing and Applications Management (CloudAM)*
PAPER-29	Fast and Flexible Serverless CRDTs at the Edge	*19th Swedish National Computer Networking and Cloud Computing Workshop (SNCNW 2024)*

PAPER-30	Enhancing Machine-Learning Performance in Dynamic Cloud Environments with Auto-Adaptive Models	*15th IEEE International Conference on Cloud Computing an Science (CloudCom 2024)*

Scientific publications

DATA ASSET	**PAPER-04**
Source	doi.org/10.1109/SOSE58276.2023.00034
COGNIT users	UMU

DATA ASSET	**PAPER-05**
Source	doi.org/10.1109/SOSE58276.2023.00012
COGNIT users	UMU

DATA ASSET	**PAPER-07**
Source	doi.org/10.23919/WONS60642.2024.10449637
COGNIT users	RISE

DATA ASSET	**PAPER-10**
Source	https://doi.org/10.1109/FiCloud66139.2025.00010
COGNIT users	CETIC, OpenNebula, UMU

DATA ASSET	**PAPER-11**
Source	https://doi.ieeecomputersociety.org/10.1109/SOSE67019.2025.00006
COGNIT users	UMU

DATA ASSET	**PAPER-17**
Source	https://doi.org/10.1002/spy2.70008
COGNIT users	UMU

DATA ASSET	PAPER-18
Source	https://doi.org/10.1109/MSCC62288.2024.10697004
COGNIT users	ACISA, UMU, OpenNebula

DATA ASSET	PAPER-19
Source	https://doi.org/10.1109/MSCC62288.2024.10697004
COGNIT users	ACISA

DATA ASSET	PAPER-20
Source	https://doi.org/10.1016/j.future.2025.107926
COGNIT users	UMU

DATA ASSET	PAPER-22
Source	https://doi.org/10.1109/JCC67032.2025.00012
COGNIT users	UMU

DATA ASSET	PAPER-24
Source	https://doi.ieeecomputersociety.org/10.1109/SOSE62363.2024.00010
COGNIT users	UMU

DATA ASSET	PAPER-26
Source	https://umu.diva-portal.org/smash/record.jsf?pid=diva2%3A2019811&dswid=7607
COGNIT users	UMU

DATA ASSET	PAPER-29
Source	https://www.sncnw.se/2024/program.html
COGNIT users	RISE

DATA ASSET	PAPER-30
Source	https://doi.org/10.1109/CloudCom62794.2024.00024
COGNIT users	UMU

2.3. Catalogue of Research Data Assets under embargo

No assets have been placed under embargo during the project.

3. FAIR data

3.1. Making data findable, including provisions for metadata

Both the Project's website (COGNIT.SovereignEdge.eu) and its Zenodo repository remain the main channels for the COGNIT Project to make its publicly available data and research outputs traceable and locatable (e.g. allocating a unique DOI to each digital object).

3.2. Making data accessible

It has been the objective of the Consortium to make all data and research outputs openly available, following the principle "as open as possible, as closed as necessary":

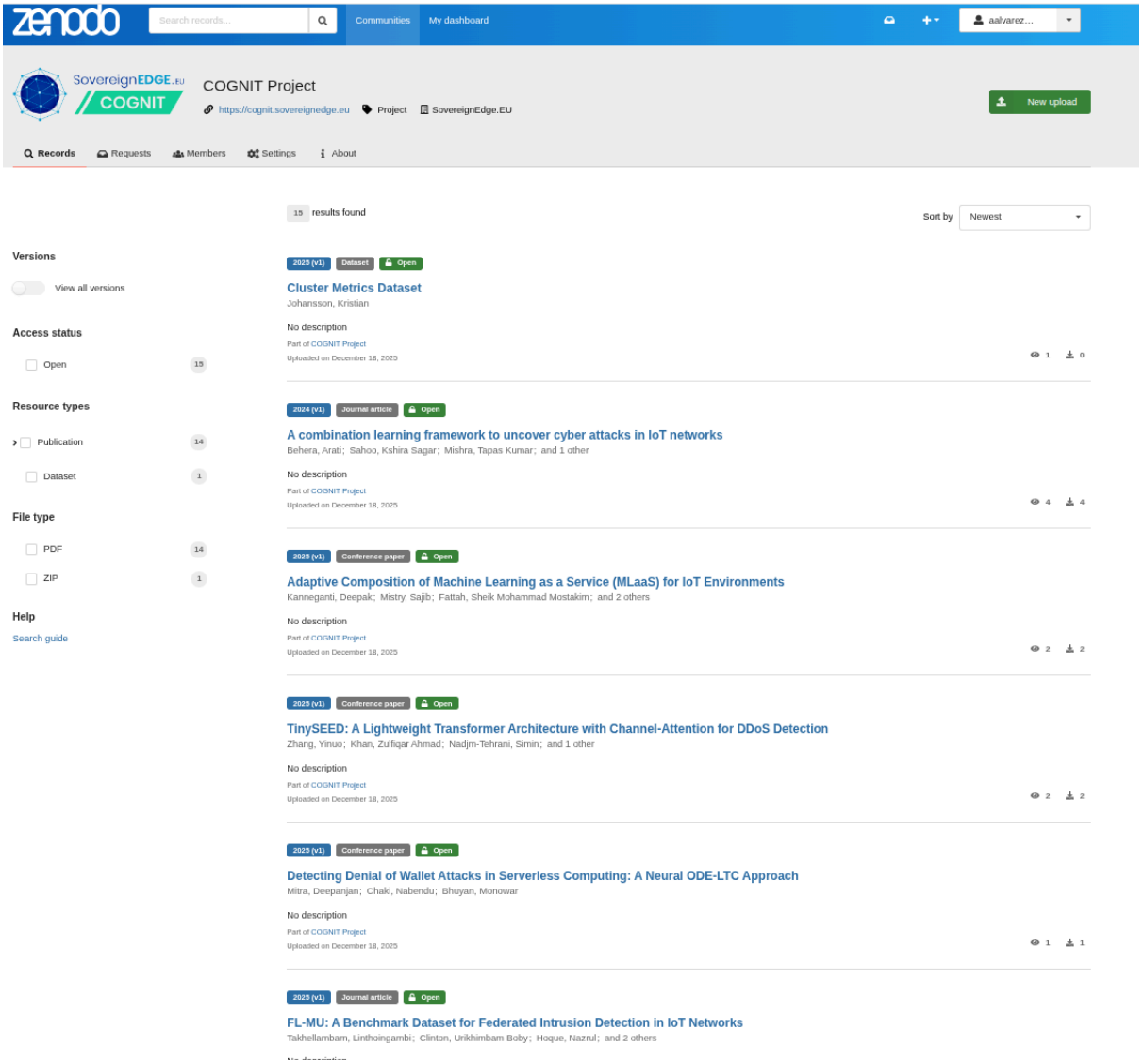

Figure 3.1. Zenodo repository managed by the COGNIT Project.

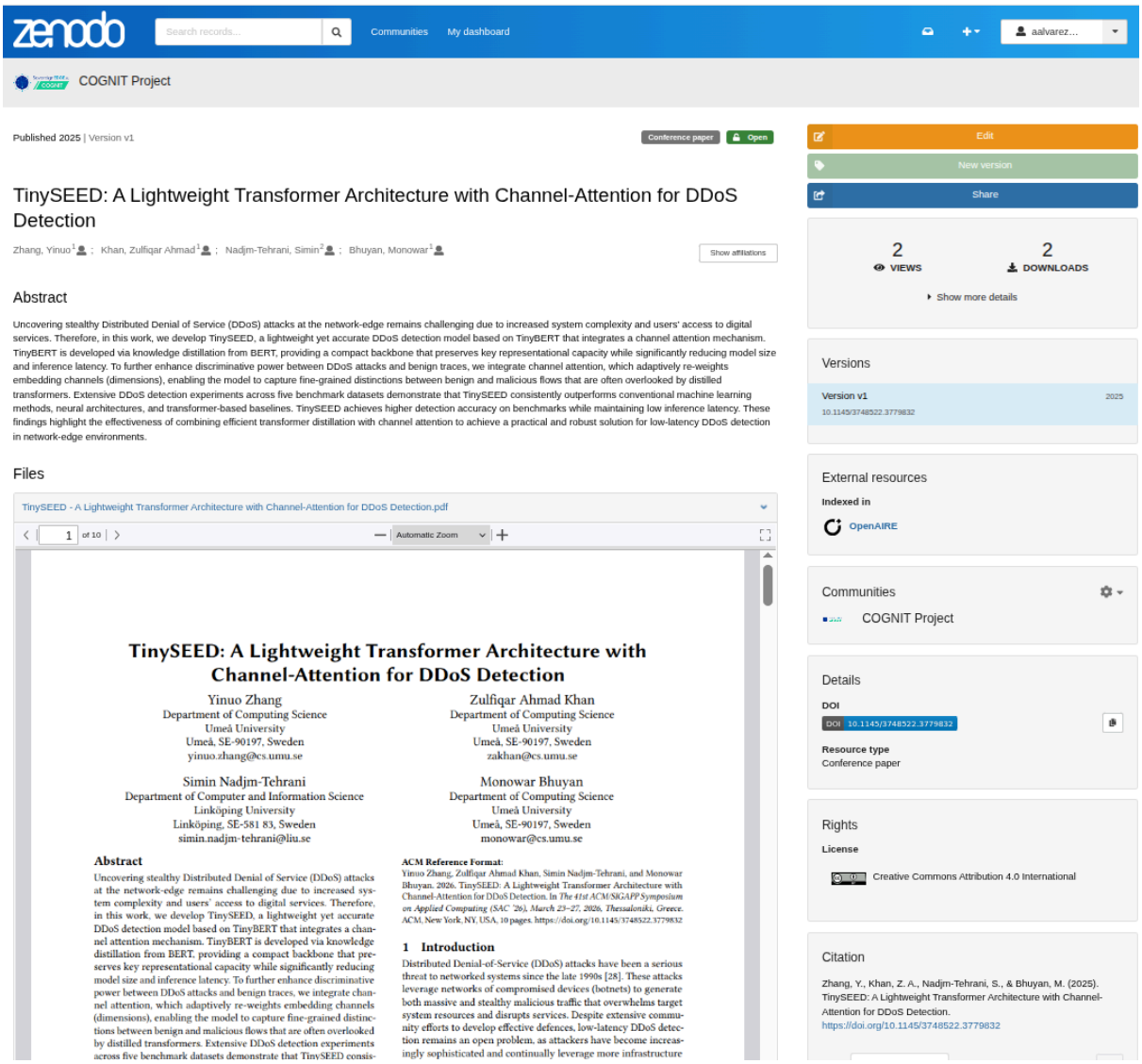

Figure 3.2. Detail of a paper in Zenodo.

Repository:

The COGNIT Project has kept gradually expanding the public contents available through open online repositories such as Zenodo for project deliverables and scientific papers, and GitHub for source code and the AI/ML models (and the relevant metrics used to train them) and datasets produced by the Use Cases for validation.

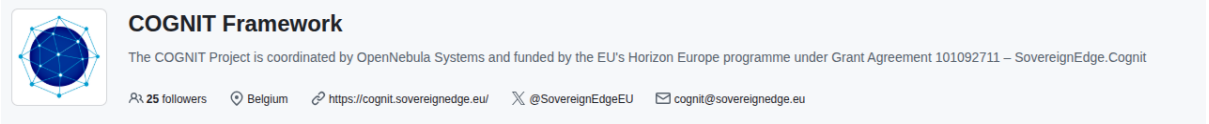

Figure 3.3. Project's GitHub repository header.

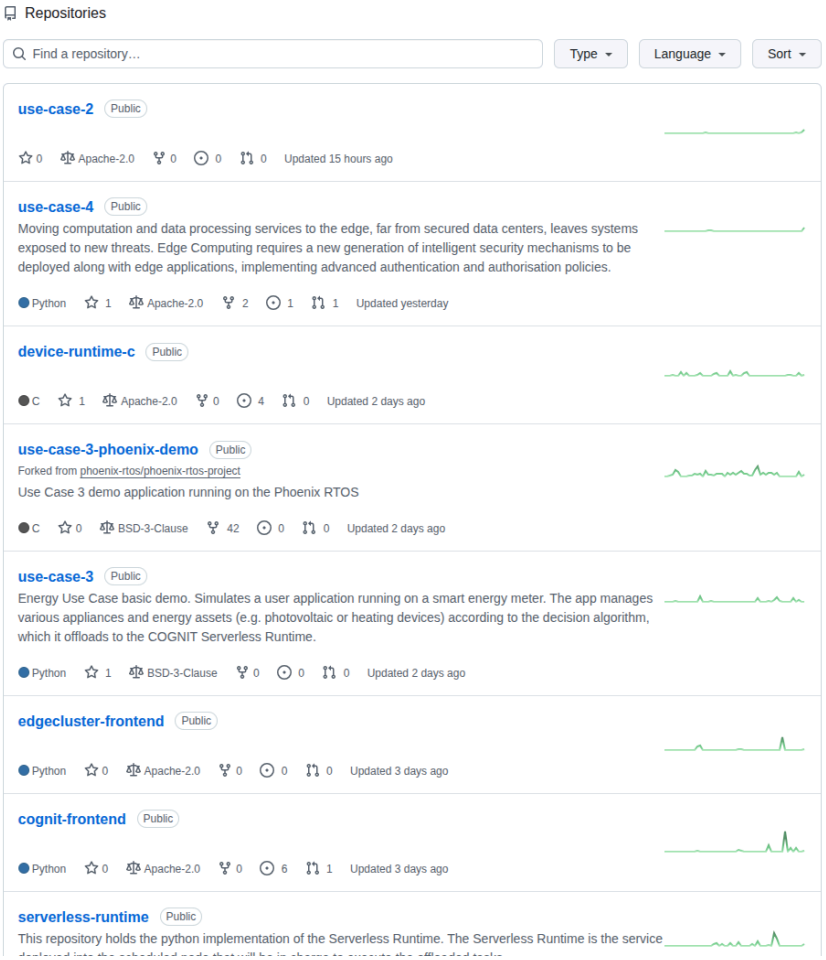

Figure 3.4. Current view of the Project's GitHub repository.

Data:

As established in the original Grant Agreement, only Deliverables D6.4 (M18) and D6.5 (M36)—which describe the Project's Exploitation Plan—are deemed as "Sensitive" and will not be released publicly. Any other report is being made available once submitted to the EC through the Project's website.

As defined in Deliverable D1.1 (M6), scientific papers produced during the execution of the Project are gradually being made available through Open Access.

As stated in Deliverable D1.1 (M6), all software artefacts produced by COGNIT are being released as open source under Apache License 2.0. Upstream contributions to relevant open source technologies are being done in accordance with the existing open source license and the Contributor License Agreement (CLA) of those projects.

A Creative Commons license (i.e. CC BY-NC-SA 4.0) is being used for publishing the Project's reports, website, and other online contents.

Personal data collected during the execution of the Project as part of its Communication and Dissemination actions (e.g. event registrations) keeps following the "data minimisation principle" and relevant regulations (e.g. GDPR), and is only available internally to relevant members of the Consortium.

3.3. Making data interoperable

This section of the DMP suffered no modifications since the publication of Deliverable D1.1 in M6. Recommended best practices and formats for data interoperability (e.g. JSON as the standard format for data exchange between the different components of the COGNIT Framework) remained the same.

3.4. Increase data re-use

This section of the DMP has suffered no modifications since the publication of Deliverable D1.1 in M6. No data embargoes are in place at the time of writing this report.

4. Other research outputs

All pilots have made available AI/ML models in FAIR conditions. In addition, UC3 on energy has made available three metrics files and UMU has shared a dataset used in the context of WP4 activities

5. Allocation of resources

The allocation of resources and roles defined by Deliverable D1.1. in M6 has suffered no modifications, apart from the update of the contact details of the **Data Management Officer** (DMO) that OpenNebula Systems, as Coordinator of the Project, has allocated:

Name	Dr. Alberto P. Martí
Company	OpenNebula Systems
Address	La Finca Business Park, Building #13 28223 Pozuelo de Alarcón (Spain)
Telephone	+34918298445
E-mail	innovation@opennebula.io

Table 5.1. Updated contact details of the DMO of the Project.

6. Data security

The Project's Data Security policy defined in Deliverable D1.1 (M6) suffered no modifications during the execution of the project.

7. Ethics

As stated in Deliverable D1.1 (M6), it is our understanding that the use of AI in this Horizon Europe project does not raise ethical issues nor has any impact on the data sharing policy of the Project as originally defined by the first version of its Data and Research Outputs Management Plan. This perspective remained unaltered during the whole execution.

8. Other issues

No other national/funder/sectorial/departmental procedures for data management were used during the execution of the Project.