AC3

Seamlessly handling application life-cycles and underpinning IT and networking resources

On top of a federated infrastructure that includes Cloud, Edge, for edge, and data sources from multiple stakeholders

STAY CONNECTED WITH US!

Newsletter Issue 5 | June 2025

We are excited to announce the fifth newsletter issue of the AC3 HEU Project! The scope of our newsletter is to keep you updated with the lates activities of the project.
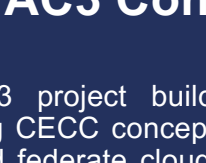
Through our newsletter you will be introduced to our project's latest advancements and you can follow up on the latest news and events of the AC3 project.

To always stay up to date and discover more about us, you can visit our website or follow us on Twitter and LinkedIn

Visit our website
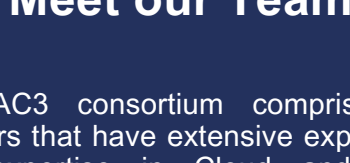
AC3 in a Nutshell

The AC3 Concept

The AC3 project builds on the emerging CECC concept aiming to unify and federate cloud and edge resources using common management components to support emerging applications needing low latency, data-intensive and using different data sources. The AC3 project innovates in the following key areas: (1) revisit the application definition and LCM, (2) zero-touch configuration and management of the CECC infrastructure including data, (3) and resource federation. These key areas consider AI/ML, security, energy, semantics and ontology, and trust as the key enablers.
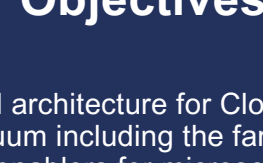
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Meet our Team

The AC3 consortium comprises 15 partners that have extensive experience and expertise in Cloud and Edge computing, Data management, IoT, Cyber Security, trust management and AI/ML algorithms and tools, which form a complete group uniting the necessary interdisciplinary knowledge, expertise, skills, and resources capable of achieving the demanding project goals. The consortium is multidisciplinary, encompassing 7 major large industrial companies, 4 innovative SMEs, along with complementary skills obtained from 2 research institutes, and 3 universities to help achieve the ambitious goals of the AC3 project.
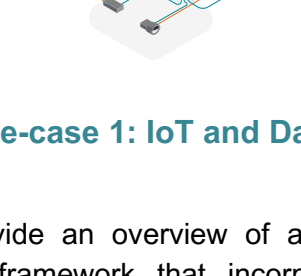
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Objectives

- A novel architecture for Cloud Edge Continuum including the far edge
- A new enablers for microservice-based applications deployment in CECC
- New federation model as well as trust and security enablers to accelerate resource sharing in CECC
- Integrate data management as a PaaS in CECCM
- Zero-touch management and configuration of application LCM
- Green-oriented zero-touch configuration and management of the CECC infrastructure
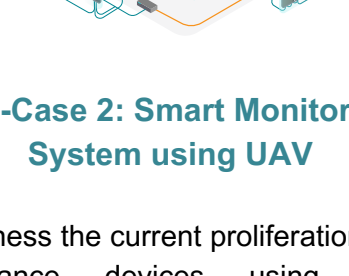- Towards end-to-end CECC network programmability

Learn more
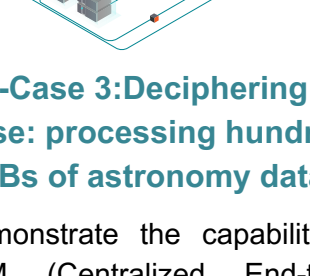
Use-Cases Objectives

Use-case 1: IoT and Data

1. To provide an overview of an IoT-based framework that incorporates edge AI provided by CECC infrastructure.
2. To highlight the purpose of the framework, which is to enhance performance and reliability of infrastructures through automation, smart sensing, and monitoring.
3. To emphasize the integration of the physical and digital worlds, leading to increased data processing for decision-making and triggering responses to sensed conditions.
4. To showcase the capabilities of the CECCM in deploying and running microservices at the edges of the monitored infrastructure.
5. To underline the benefits of leveraging CECC infrastructure, including lower latency in data processing, improved data security and privacy, and accelerated development and distribution of applications across the cloud-edge continuum.

Use-Case 2: Smart Monitoring System using UAV

1. To harness the current proliferation of video surveillance devices using enabling technologies and techniques such as UAVs (Unmanned Aerial Vehicles), far edge computing, AI (Artificial Intelligence), and ML (Machine Learning).
2. To demonstrate the flexibility offered by CECM (Centralized End-to-End Control and Management) to easily and seamlessly change the behavior of the application.
3. To showcase the ability of the application to adapt its behavior through a simple SOTL (Service-Oriented Technology Layer) based request. This includes variations in object tracking, movement detection, prediction, human activity surveillance, and unusual activity detection.
4. To demonstrate the capabilities of CECM in deploying and running micro-services on the far edge, such as UAVs.
5. To showcase the ability of the system to anticipate drone unavailability and migrate the micro-service from one drone to another or to the infrastructure edge, ensuring uninterrupted monitoring functionality.

Use-Case 3:Deciphering the universe: processing hundreds of TBs of astronomy data

1. To demonstrate the capabilities of CECCM (Centralized End-to-End Control and Configuration Management) in deploying and running astronomical software.
2. To enable the processing of large volumes of data cubes, potentially reaching hundreds of terabytes, utilizing the CECC infrastructure.
3. To integrate scientific applications within hybrid cloud-native infrastructures, optimizing the computation process through the use of smart AI algorithms.
4. To facilitate the analysis of novel data gathered from newer and additional instruments and data sources, such as the James Webb Space Telescope (JWST).
5. To provide an opportunity for the astronomy community, scientific teams, and research groups to accelerate their analysis of astronomical data, improving the efficiency and speed of their research activities.
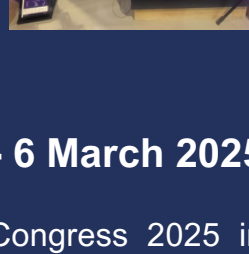
Learn more

Latest News & Events

AC3 at ISE 2025 — 4 - 7 February 2025

AC3 was present at Integrated Systems Europe (ISE) 2025, hosted by IQUADRAT at Fira Barcelona. This premier industrial event provided AC3 with the opportunity to showcase its latest innovations in 6G and immersive technologies, engage with industry leaders, and highlight our ongoing work in driving future connectivity forward.

A heartfelt thank you to everyone who visited our booth, shared insights, and supported the AC3 mission. Your enthusiasm fuels our progress as we continue shaping the next generation of cloud-edge continuum solutions. Stay tuned for more updates on our upcoming research and collaborations!

Learn more

AC3 at MWC25 Barcelona — 3 - 6 March 2025

AC3 made a strong impact at Mobile World Congress 2025 in Barcelona, the world's leading event for mobile and digital innovation. Hosted by IQUADRAT at the Fira Gran Via venue, AC3 was featured at booth CS220 in Hall 7—drawing attention from industry leaders, researchers, and tech enthusiasts exploring the future of edge-cloud continuum and 6G technologies.

Throughout the event, the AC3 team demonstrated key innovations in cognitive cloud-edge architectures, AI-based orchestration, and immersive applications. Visitors had the opportunity to engage with live demos, explore use cases, and discuss the project's potential to transform digital infrastructure across verticals.

The presence of AC3 at MWC25 emphasized its commitment to shaping Europe's digital future and fostering collaborations with stakeholders across the ecosystem. Thanks to all who stopped by—we look forward to continuing the conversation at upcoming events!

Learn more

AC3 at the University of Patras: Bridging 6G Theory and Practice — 10 March 2025

The University of Patras hosted the event "6G: From Theory to Practice" at its Science and Technology Museum. Co-organized by IEEE SB UPatras and the SMARTECH group of ISI Athena, the event provided students with insights into AI, explainable AI (XAI), and AI applications across the compute continuum. Attendees experienced hands-on demonstrations showcasing VR and Generative AI applications over 5G and beyond.

The event was supported by the SNS JU and featured contributions from several HEU projects, including AC3. Special recognition was given to organizations such as the 6G Smart Networks and Services Industry Association, Athena Research Center, European Commission, IEEE, and IEEE Communications Society, as well as contributors like Pavlos Fourmopoulos, Dr. Odysseas Pyrovolakis, Marinos Charalambides, PhD, and Tambiana Madiega.

AC3 was honored to participate in this collaborative effort to advance 6G technologies and inspire the next generation of innovators.

Learn more

AC3 at BEYOND Expo 2025 — 4 April 2025

AC3 joined the panel "Leveraging AI & ML for Next Generation 6G Networks" at BEYOND Expo in Athens. Organized by ISI ATHENA and GSRI, the session brought together leading experts to explore how AI is transforming the 6G landscape.

AC3's Project Coordinator Prof. Christos Verikoukis highlighted its role in enabling intelligent, secure, and autonomous edge-cloud continuum management—alongside key innovations from projects like 6G-BRICKS, Unify AI, and DAEDALUS. We're proud to help shape the future of AI-native 6G networks!

Learn more

AC3 at IoT Solutions World Congress — 13 - 15 May 2025

AC3 partners—IQUADRAT, Spark Works, and ISI ATHENA—presented the AC3 Use Case 1 (UC1) at the IoT Solutions World Congress (IOTSWC) in Barcelona. The event, held at Fira de Barcelona's Gran Via venue, brought together over 11,000 attendees from more than 100 countries, highlighting the latest advancements in IoT, AI, 5G, and edge computing.

At Hall 8, visitors experienced live demonstrations of AC3's Cloud-Edge Computing Continuum (CECC) manager, showcasing its capability to deploy and execute microservices directly at the edge of monitored infrastructures. This innovation underscores AC3's commitment to advancing data-driven solutions and enhancing the digital transformation of industries.

AC3's participation in IOTSWC 2025 not only highlighted its technological contributions but also reinforced its role in shaping the future of intelligent connectivity and edge computing. The event provided a platform for AC3 to engage with industry leaders, share insights, and explore collaborative opportunities in the evolving IoT landscape.

Learn more

AC3 Holds Successful 5th Plenary Meeting in Madrid — 20 - 21 May 2025

AC3 Consortium convened in Madrid for its 5th Plenary Meeting. The two-day event was filled with insightful presentations, collaborative discussions, and encouraging updates from across the Consortium. It was inspiring to see the innovative progress being made by our partners, showcasing the strength and synergy of the AC3 project. The meeting served as a platform to align on strategic objectives, share technical insights, and reinforce the collaborative spirit driving the AC3 initiative forward.

Learn more

AC3 co-organizes second Workshop on the Path Towards 6G — 12 June 2025

We are pleased to share that Prof. Rahim Tafazolli, CBE, delivered a keynote speech at the WS14: Second Workshop on the Path Towards 6G: Standardization and Research Vision, held in conjunction with IEEE ICC 2025. This impactful workshop was co-organized by several SNS JU and related projects, including AC3. We extend our sincere thanks to our supporting partners—the IEEE Communications Society, the 6G Smart Networks and Services Industry Association—and to our esteemed colleagues Pavlos Fourmoperakis, Dr. Odysseas Pyrovolakis, Tambiane Madiega, Marinos Charalambides, PhD, and Fabrizio Granelli for their valuable contributions to the event's success.

The path towards 6G: Standardization and Research Vision

Learn more

AC3 advances towards final phase with key technical and integration milestones achieved — 30 June 2025

The AC3 project has reached a key milestone with the completion of technical innovations under Work Packages 3 and 4. These advancements are captured in the submitted deliverables D3.2, D3.4, and D4.2, which will soon be publicly available on the AC3 website.

In parallel, the full definition of the three AC3 use cases has been finalized, including the integration of a complete framework to support validation and demonstration activities. Further insights into the integration work are detailed in the upcoming deliverable D5.2.

With these achievements, the project now moves confidently into its final phase—focused on the performance evaluation of all use case scenarios and the demonstration of the AC3 platform's capabilities across the cloud-to-edge continuum.

Learn more

Consortium