

Eight European associations and projects commit to the TransContinuum Initiative to promote cross-domain collaboration for EU R&D programmes

The **TransContinuum** is the unison of related digital technologies which offers solutions for the operation of complex data workflow systems. In this continuum, HPC plays a central role as the engine propelling AI, Big Data, IoT, Cybersecurity, and Mathematical components to work together.

The Transcontinuum Initiative, or TCI, is developing a vision of the characteristics of the infrastructure required for the convergence of data and compute capabilities in many leading edge industrial and scientific use scenarios. A paradigm change is needed: we will have to design systems encompassing millions of compute devices distributed over scientific instruments, IoT, supercomputers and Cloud systems through LAN, WLAN and 5G networks.



The ambition of TCI is also to become a meeting place of experts representing various disciplines in both science and industry – an asset that Europe can apply in the resolution of its other challenges such as healthcare, climate change or smart cities.

The TransContinuum Initiative will focus on collaboration towards five objectives:

1. Elaborate joint recommendations for R&D to be carried out in EU- or JU-funded work programmes addressing challenges in the digital continuum.
2. Engage with EU Research & Innovation funding entities to promote our recommendations.
3. Generate and foster an interdisciplinary network of experts in science and industry.
4. Contribute to Strategic Research [and Innovation] Agendas or any other road mapping documents issued by participating partners, specifically on interdisciplinary technical aspects, with a view to extend the concept of co-design to cover the entire continuum.
5. Contribute to the 5 Horizon Europe missions (adaptation to climate change including societal transformation, cancer, healthy oceans, seas coastal and inland waters, climate-neutral and smart cities, soil health and food.) One of the first pragmatic actions will be to design the contribution of the Digital Twin enabler to the Horizon Europe missions.

The foundations of the work to be carried out by the TCI have now been defined in a [Vision document](#) signed by eight organisations:

- [5G IA](#), the 5G Infrastructure Association,
- [AIOTI](#), the Alliance of Internet Of Things Innovation,
- [BDVA](#), the Big Data Value Association,
- [CLAIRE](#), the Confederation of Laboratories for Artificial Intelligence Research in Europe,
- [ECSO](#), the European Cybersecurity Organisation,
- [ETP4HPC](#), the European Technology Platform for High-Performance Computing,
- [EU-Maths-In](#), the European Service Network of Mathematics for Industry and Innovation,
- [HiPEAC](#) project (High Performance Embedded Architecture and Compilation).

Quotes

“The TransContinuum Initiative has the ambition to bring global solutions encompassing a number of digital technologies with the aim to support any digital use cases and to offer a ‘single door’ to any vertical sector. The 5G IA fully supports this goal and approach and is therefore a partner of the TransContinuum Initiative. Digital infrastructures are one of the main pillars of the Digital Economy and our sector has to work together with other domains to maximise impact to the benefit of the economy and society at large”, said Dr. Colin Willcock, Chairman of the Board of the **5G IA**.

“AIOTI is working on several initiatives that are at the heart of the connectivity, IoT, data, edge and cloud computing and AI continuum. Our collaborative efforts will shed light on how the TCI can be smoothly integrated into practical applications across sectors and across Europe.” explained **AIOTI** Chairman of the Management Board Jurgen Sturm.

"The future competitive position of Europe will be based in the capability to extract data insights from next-generation digital infrastructure combining communications networks, HPC/processor technology, Cloud, IoT, Big Data, Cybersecurity, Edge Computing and AI. A holistic view is needed in Europe to develop a strong AI and Data-driven ecosystem. Europe can build on strong industries (small and big, established and new) and excellence research. After years working with ETP4HPC in the convergence of data and compute capabilities, we very much welcome this wider collaboration with other communities in the context of the TransContinuum initiative aligned with BDVA mission and objectives, the upcoming AI, Data and Robotics partnership and key cloud/data initiatives such as Gaia-X" stated Thomas Hahn, President of **BDVA**.

“ECOSO is proud to be part of such an important initiative which endeavours to strengthen inter-disciplinary collaboration and provide harmonisation across European R&D&I priorities including cybersecurity. The launch and establishment of this cooperation sets an important milestone in the development of a common European vision for capability building", said Luigi Rebuffi, Secretary General of **ECOSO**.

“We are delighted that the collaborative work initiated with five other associations to prepare the latest edition of our [Strategic Research Agenda](#) now lives on and develops into the TransContinuum Initiative. This is a first step towards the necessary synchronisation of European efforts across domains.” said Jean-Pierre Panziera, chairman of **ETP4HPC**.

“We live in an era of mathematics. Its influence permeates economic and social activity and its influence and impact are profound. Yet its role is not well understood, we are not using it as well as we could and should, and we are investing too little. We are delighted to be on board of the TransContinuum Initiative where, together with the other seven associations, we can work on strengthening the role of Europe in mathematical modelling and algorithms as well as the HPC, IA, and Data area using mathematics as a key enabling technology.” said Prof. dr. Wil Schilders, President of **EU-MATHS-IN**.

“HiPEAC is the premier network for researchers and industry in computing systems. Our members are developing computing systems for the whole continuum, and therefore the TransContinuum concept is familiar to us. We are very pleased to see that the TransContinuum initiative will enhance the collaboration between eight associations and strengthen the position of Europe in computing systems.” said **HiPEAC** coordinator Koen De Bosschere.

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