Concertation and consultation on the Computing Continuum: from Cloud to Edge to IoT

Opening

Brussels, 10 – 11 May 2023

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European Commission
Pearse O’Donohue
Manuel Mateo Goyet
The European Data strategy

EU Data Strategy

**Cloud actions:**
- Cloud Rulebook
- Co-Investments in Cloud / Edge Middleware Platform, services & marketplaces

**Data actions:**
- New legislation (Data Act, Data Governance Act, etc.)
- Co-investments in common European data Spaces

**Coordination**
- Data Spaces Support Centre
- Coordination and governance

**DIGITAL EUROPE PROGRAMME**

**Federation & interoperability standards**
- European Alliance for Industrial Data, Edge and Cloud

**IPCEI* on Next Generation Cloud**
*Important Project of Common European Interest*

**Use cases; technical architecture**
- Complementing & integrating private and public initiatives, e.g.:
  - European Alliance for Industrial Data, Edge and Cloud
  - IPCEI* on Next Generation Cloud
  - Federation & interoperability standards

**Common European data spaces**

*European Commission*
Digital Decade objectives for the cloud & edge computing continuum by 2030

- ✔ >10,000 edge nodes by 2030
- ✔ 75% of cloud uptake by EU enterprises in 2030
Max Lemke
Industrial Internet of Things: the strategic picture for Europe

Next-generation IoT in the Cloud-Edge-IoT computing Continuum

- Power to the edge, where the data is
  Seamlessness connectivity
  AI/Decentralised reasoning and Real-time decisions

- Next-generation operating systems
  Decentralised/swarm intelligence
  Part of the Cognitive computing continuum Cloud-Edge-IoT

Semiconductor chips made in Europe

Common Open Digital Platforms & Ecosystem

- Standardisation, interoperability
- Vertical, horizontal, x-sector integration

Chips Act

- Next-generation chips powering intelligence at the edge

Data and AI Strategies

- Data legislation:
  - Data Act: access & fairness on data market
  - Data Governance Act: foster trust in data sharing & intermediaries
  - AI Act

Next-generation operating systems

Transition pathways towards resilient, innovative, sustainable & digital ecosystems

Open, dynamic ecosystems for EU tech businesses

The EU Policy Context:

- NextGenerationEU
- REPowerEU
- Twin Transition:
  - Digital Compass
  - Green: Fit for 55

New Industrial Strategy

Dr. Max Lemke, CNECT E4
Horizon Europe Work Programmes 2021/22, 2023/24
Innovative technologies for the next generation Cloud-Edge-IoT continuum

Software technologies
IoT Research
IoT and Digitising Industry Pilots
Cloud Computing

Open Source for Cloud based services
Environments & tools for Decentralised Intelligence at edge
Future European Platforms for the Edge: Meta OS
Cognitive Cloud Framework: AI-enabled Computing Continuum

Cognitive Computing Continuum: Intelligence & automation for more efficient data processing:
- Management of the CCC
- Swarm computing and decentralised intelligence
- End-to-end security and identity management
- „Green“ optimisation of data processing across the CCC

Open Source for Cloud/edge Digital Autonomy:
- Open architectures for Cloud/Edge processing
- Complementing on SW-level EU semiconductor projects
- Enabling EU HW data-centres
- Stimulating open source comm.
- Increase strategic autonomy

Piloting emerging Smart IoT Platforms and decentralised intelligence (IA):
- Mature and customise emerging smart IoT technologies
- Validate reference architectures and open platforms in application context
- Foster innovation scenarios in CCC
- Consensus and ecosystem building
- Bridging between research & adoption through piloting in/across verticals

WS Report Nov 21: Digital Autonomy in the Computing Continuum
Opening of the Consultation Meeting on Day 2

Max Lemke
Develop the Vision for Research on the Cloud-Edge-IoT Continuum: 2025 and beyond

Further convergence from components to the full Cloud-Edge-IoT continuum

Powered by AI

Open Source

Open Digital Platforms

Decentralised Intelligence

Open ecosystem: no vendor lock-in

Climate Change

Geopolitical tensions

Strategic Autonomy

Semantic Language Tools

Security Challenges

Virtual Worlds Immersive Environments

Open Source HW and SW

Convergence of IT and OT

Consultation:
- WP 2025 – 27
- Next Commission