

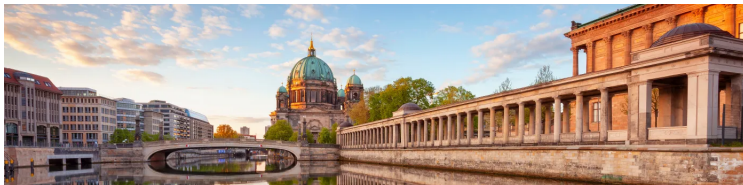
# ADeCoS 2026

The First International Workshop on

## Agentic and Decentralized Coordination for Softwarized Networks

Co-located with IEEE NetSoft 2026

Berlin, Germany | June 29, 2026



- ① Opening Session
- ② Keynote Session
- ③ Technical Session 1
- ④ Technical Session 2
- ⑤ Discussion and Closing

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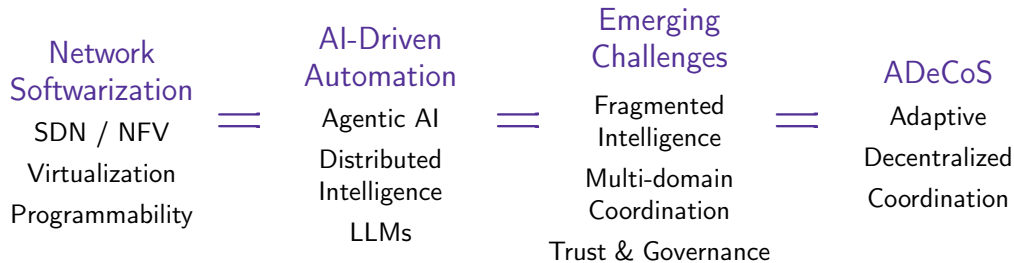
**Welcome to the first edition of ADeCoS 2026!**

- First edition of the Workshop on **Agentic and Decentralized Coordination of Softwarized Networks (ADeCoS)**
- Co-located with IEEE NetSoft 2026
- Bringing together researchers and practitioners from academia and industry to discuss emerging directions in Agentic AI and autonomous networking.

## Acknowledgements

We would like to express our sincere gratitude to the **IEEE NetSoft 2026 General Chairs and Workshop Chairs** for making the first edition of ADeCoS possible.

We also thank the **Technical Program Committee members and reviewers** for their valuable efforts throughout the review process.



**Moving beyond isolated autonomous components  
towards coordinated autonomous networks**

| Time        | Session                        |
|-------------|--------------------------------|
| 09:00–09:05 | Workshop Opening               |
| 09:05–09:40 | Keynote Session                |
| 09:40–10:30 | Technical Session 1            |
| 10:30–11:00 | Coffee Break                   |
| 11:00–12:15 | Technical Session 2            |
| 12:15–12:30 | General Discussion and Closing |

Please keep presentations within the allocated time  
to allow discussion after each talk.

## Technical Session 1

### Decentralized Control and Agentic Orchestration of Softwarized Infrastructures

#### Infrastructure-Level Coordination

- Distributed SDN controllers
- Edge/service deployment
- Programmable infrastructures
- Secure and resilient execution

How can **network infrastructures** coordinate  
to securely execute autonomous operations?

## Technical Session 2

### Intent-driven Agentic Coordination for Network Management

#### Intent and Service-Level Coordination

- User/operator intents
- Multi-agent reasoning
- Explainable decisions
- Adaptive Network management (automation)

How can AI agents understand high-level objectives  
and **coordinate network decisions**?

Together, these sessions address complementary aspects of Agentic AI coordination :  
**autonomous execution (TS1)** and **intelligent decision making (TS2)**.

- ① Opening Session
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## Speaker

**Badii Jouaber:** Full Professor, Telecom SudParis - Institut Polytechnique de Paris

## Current Roles

- Deputy Director, RS2M Department, Telecom SudParis
- Head of the NeSS Research Team (SAMOVAR lab)
- Co-leader of the IMT National Center Axis *"AI for Networks and Networks for AI"*
- Former Research Engineer at Alcatel Research & Innovation

## Research Interests

- AI-native wireless and mobile networks
- 5G/6G and edge-cloud networking
- Orchestration of Intelligent network systems

## Keynote

**Agentic AI for Networks:** *Architectures, Challenges, and Research Frontiers*

- ① Opening Session
- ② Keynote Session
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## Decentralized Control and Agentic Orchestration of Softwarized Infrastructures

- 09:40–10:05

***Blockchain for SDN Control: Exploring the Trade-off Between Security and Performance***

*Andrei Danila, Loïc Desgeorges, Guilain Leduc, Dongyu Zhang, Jean-Philippe Georges*

**Speaker:** Loïc Desgeorges (Associate Professor, Université Claude Bernard Lyon 1, France)

- 10:05–10:30

***Edgent: Towards an Agentic AI Framework for eBPF-based Service Deployment and Orchestration at the Edge***

*Raffaele Di Tommaso, Gianluca Davoli, Pietro Spadaccino, Walter Cerroni*

**Speaker:** Raffaele Di Tommaso (PhD Student, University of Bologna, Italy)

- ① Opening Session
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- ③ Technical Session 1
- ④ Technical Session 2**
- ⑤ Discussion and Closing

## Intent-driven Agentic Coordination for Network Management

- **11:00–11:25**

### **A GenAI-Driven Multi-Agent Framework for Explainable IntentBased Slice Recommendation**

*R. Ferreira, R. F. D. Barbosa, M. Araujo, P. Georgieva, S. Sargento, A. P. Tereso, P. Novais, et. al*

**Speaker:** Rui Ferreira (PhD Student, University of Minho / Researcher, Capgemini Engineering, Portugal)

- **11:25–11:50**

### **LLM-Assisted Design and Analytics of Next-Generation Optical Transport Networks**

*I. C. Dipto, S. Zeb, M. U. Masood, I. Khan, N. Costa, J. Pedro, A. Napoli, V. Curri*

**Speaker:** Imran Chowdhury Dipto (PhD Student, Politecnico di Torino, Italy)

- **11:50–12:15**

### **IntentNEF: LLM-Driven Natural Language Automation of 5G Network Exposure**

*H. You, C. Galkandage, N. Magaia, M. Nekovee, S. Davies*

**Speaker:** Haoyu You (PhD Student, University of Sussex, United Kingdom)

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## Keynote vision: **Agentic Distributed AI for Networks**

Agentic AI is emerging as a fundamental architectural paradigm for future AI-native and autonomous networks.



### Lesson 1: Infrastructure-Level Coordination (2 papers in TS1)

Autonomous network infrastructures require **decentralized, secure, and programmable coordination mechanisms** to achieve scalable, resilient, and adaptive network operations.

Distributed infrastructure coordination

### Lesson 2: Intent-Driven Network Intelligence (3 papers in TS2)

LLMs and Agentic AI enable the **coordination** of multiple intents, and higher-level operator objectives, while requiring autonomous decisions to remain **explainable, trustworthy, and verifiable**.

Distributed intelligent reasoning

From **isolated optimization techniques** to **coordinated intelligence** spanning user intents, AI agents, and distributed network infrastructures.

## 1. Adaptive Multi-Level Coordination

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How should autonomous entities coordinate across multiple abstraction levels, domains, and stakeholders?

### Open challenges

- Cross-layer and cross-domain coordination
- Horizontal and Vertical 3D convergence
- Heterogeneous/administrative domains
- Adaptive coordination across dimensions

Can autonomous networks **adapt not only their decisions**, but also **the way intelligent entities coordinate**?

## 2. Balancing Centralized and Distributed Intelligence

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How should future networks dynamically adapt the degree of centralization for reasoning, coordination, decision making?

### Open challenges

- Global optimality vs. scalability
- Consistency vs. responsiveness
- Cloud–edge–distributed reasoning
- Adaptive degree of centralization

## 3. Trust and Governance of Autonomous Agents

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How much autonomy should we delegate to AI agents while ensuring trust, accountability, and human oversight?

### Open challenges

- Explainability and verifiability
- Trust, accountability, and governance
- Human-in-the-loop vs. autonomy
- Secure and robust agent behavior

Achieving **fully autonomous networks** is not only about **making agents more intelligent**, but it is also about enabling them **coordinate intelligently** at **Internet Scale** !

## 4. Towards an Internet of Agents

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What foundations are needed for large-scale cooperation among autonomous AI agents?

### Open challenges

- Interoperability (heterogeneous systems)
- Agent communication and negotiation protocols ((e.g., MCP, A2A))
- Common semantics and standards
- Emergent and adaptive cooperation

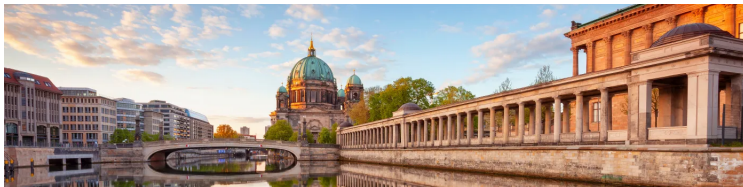
- Thank you to our keynote speaker, Professor Badii Jouaber.
- Thank you to all authors and presenters.
- Thank you to the Technical Program Committee and reviewers.
- Thank you to the IEEE NetSoft 2026 organizers.
- Thank you to all participants for joining ADeCoS 2026.

We hope today's discussions will lead to new collaborations  
and future research directions.

# Thank You

for participating in  
**ADeCoS 2026**

Questions & Discussion



**An IEEE NetSoft 2026 Workshop**

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