



Networks and Distributed Systems (ND)

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Networks and Distributed Systems (ND) – conducting cross disciplinary research

- **Networking**
- **Distributed Systems**
- **Energy Informatics**



Amir



Carsten



Michael



Omid



Roman



Sabita



Tor



Özgü



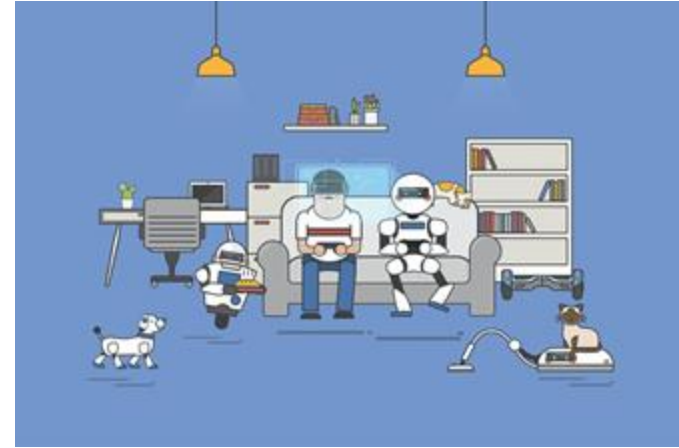
People

- 8 Professors
- 1 Researcher
- 7 Postdoc
- 25 PhDs

Networks and Distributed Systems (ND)

Networks

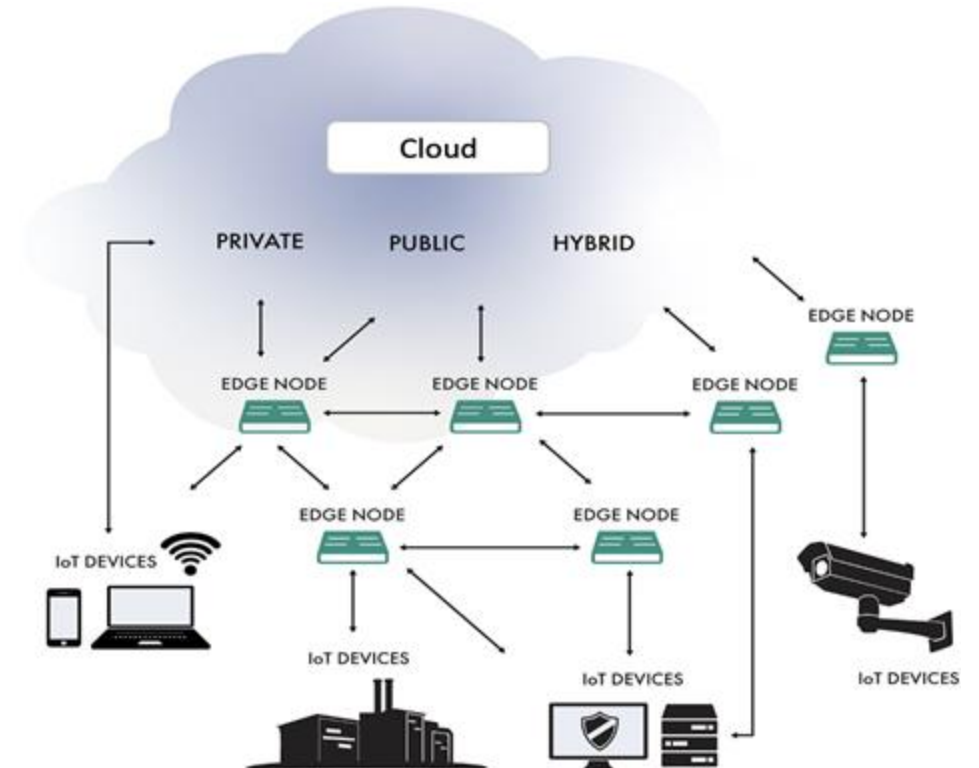
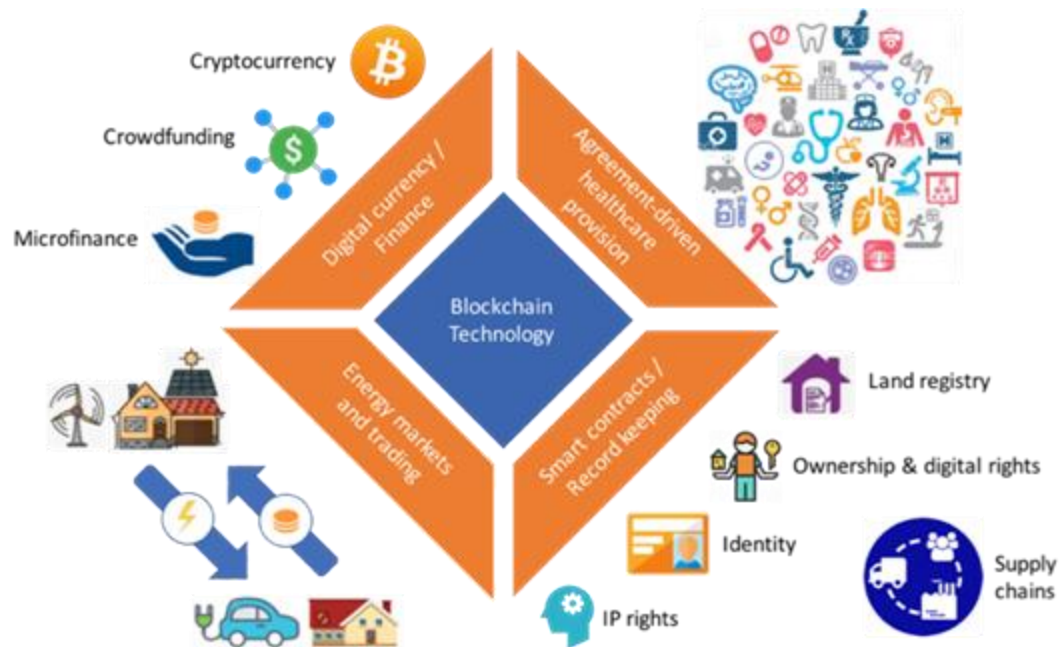
- enabling technologies (5G/6G, IoT, Tactile)
- performance (Multimedia, AR/VR/XR, EEG)
- scaling of enabling HPC technologies (SoC, PCIe, InfiniBand, Ethernet)
- network architectures (DCTCP, RINA)



Networks and Distributed Systems (ND)

Distributed Systems

- middleware
- dependability
- adaptivity
- data-intensive computing
- privacy
- network security



Energy Informatics for sustainable future



Smart Grids, e.g., P2P Energy Trading
/Energy Communities /Demand Flexibility



V2X/EV charging/
E-mobility



Blockchain/
Cyber Security



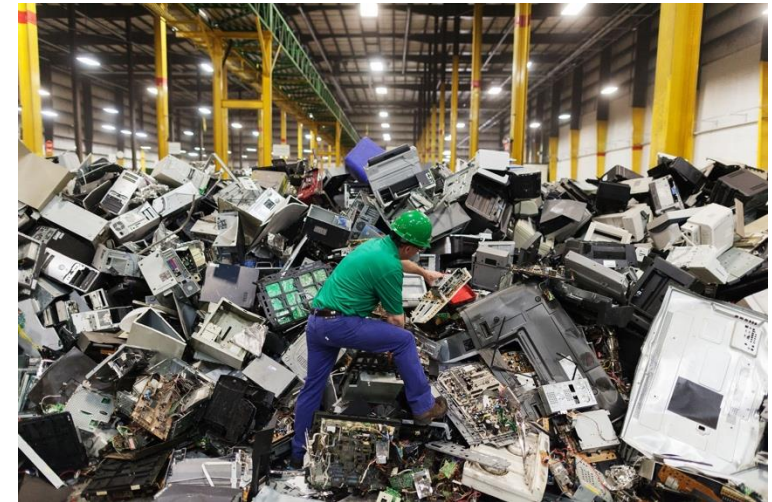
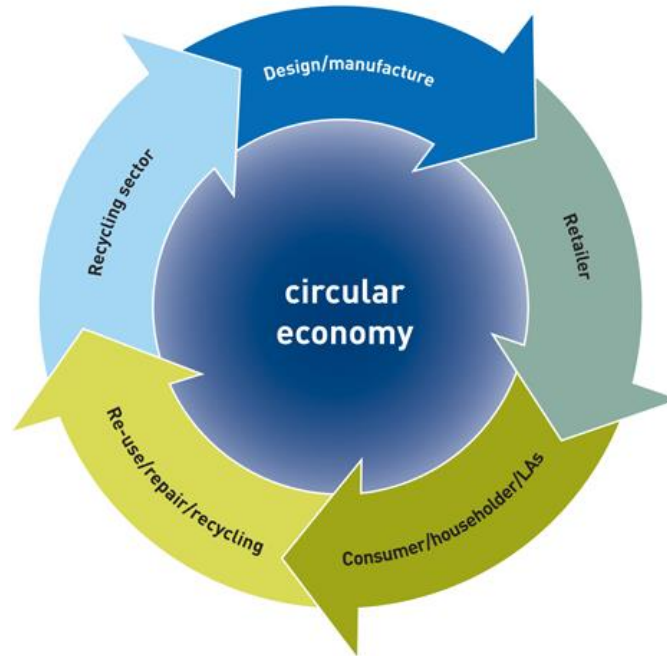
Green Computing with Edge/Cloud, e.g. Internet
of Vehicles, Industrial IoT



Machine learning for , e.g., Edge Intelligence,
Federated and Deep Reinforcement Learning

Other Ongoing Green Initiatives

- The Circular Economy Perspective
 - An integral part of the sustainability agenda
 - to close the loop: essential to reuse, repair and recycle materials from waste



Electronic Waste (e-waste)

Master courses / thesis projects

IN4230 (Autumn)

- Computer Networks (Michael, Özgü, Tor)

IN5020 (Autumn)

- Distributed Systems (Roman, Amir)

IN5030 (Spring)

- Protocols and Routing in Internet (Tor)

IN5050 (Spring)

- Programming heterogeneous multi-core architectures (Håkon (2er), Carsten)

IN5060 (Autumn)

- Quantitative Performance Analysis (Özgü, Carsten)

IN5150 (Autumn)

- Recent Advancements in Internet Protocols (Michael)

IN5410 (Spring)

- Energy Informatics (Sabita)

IN5420 (Spring)

- Distributed Blockchain Technologies (Roman)

Master thesis projects –

check ND's home page: <https://www.mn.uio.no/ifi/english/research/groups/nd/master-projects/>

IN5060 – Quantitative Performance Analysis

IN5060 – not going in autumn 2026!

(1) Designing and conducting studies
pre-considerations, avoid bias, select
measurement points and methods, reduce data,
draw conclusions

(2) Presentation and reporting
formulate a message, select relevant factors,
extract and interpret statistics, reduce dimension,
select presentation modes

(3) Specific approaches
Simulate, monitor and measure, conduct user
studies

Where needed?
From networks and operating systems to user
studies

IN5060 analyses **with** basic statistics and **without** ML

Relevant for your master's thesis?

Take IN5060 in autumn 2025