TOGETHER ON THE EDGE

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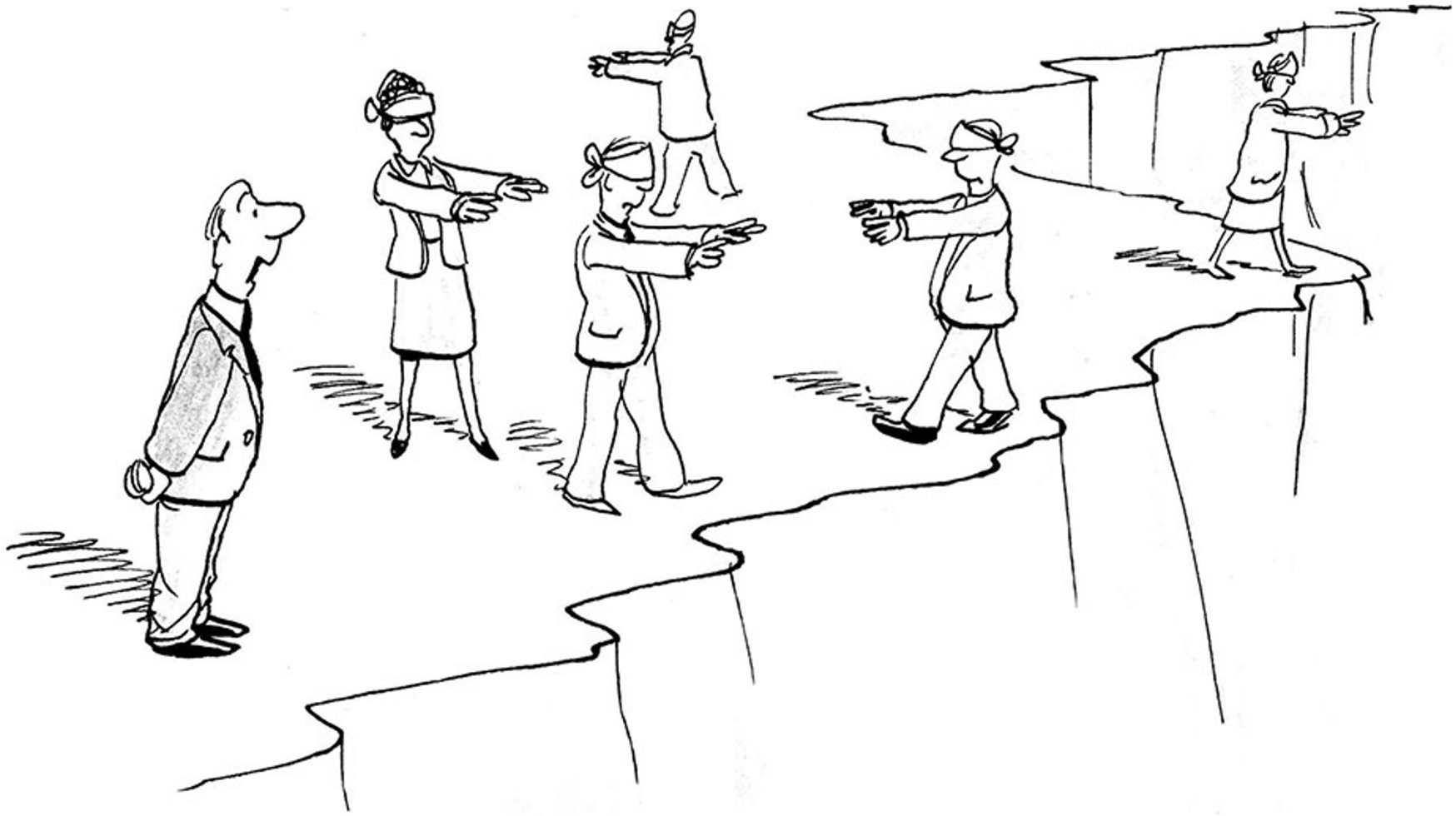


"The theme of this year's team meeting is, 'Take it right to the edge'."

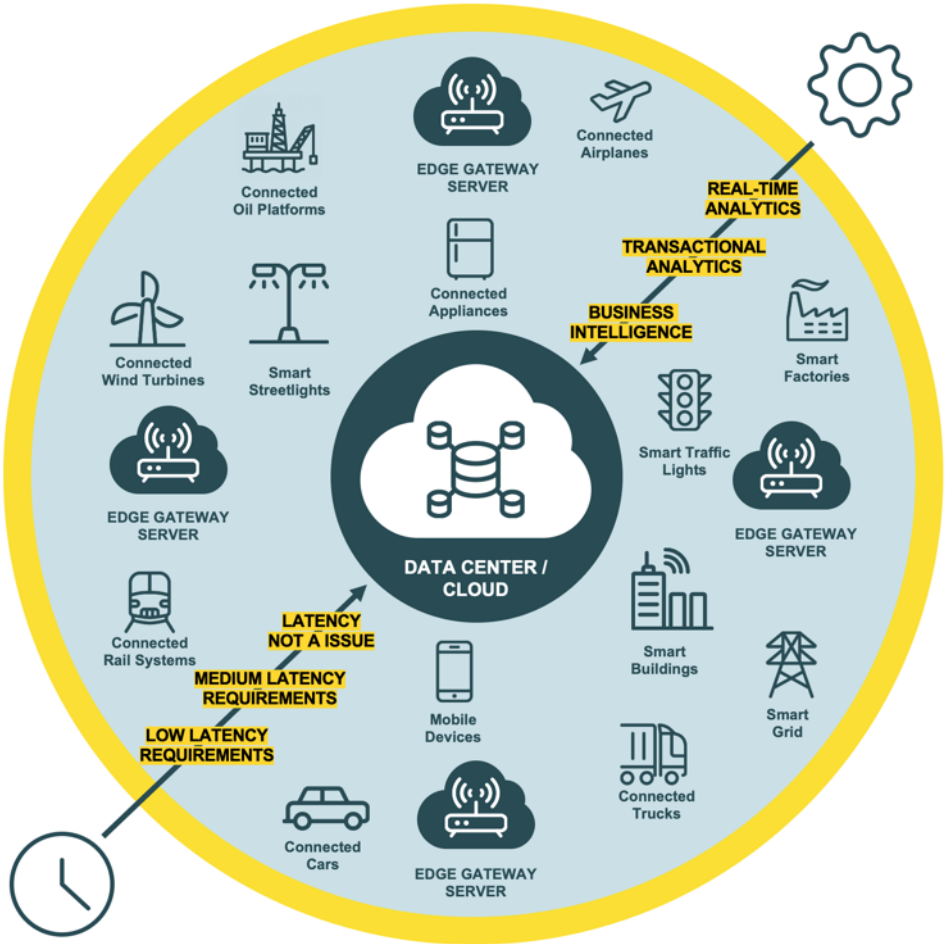
WHERE DATA, IOT,
AI, CLOUD, CYBERSECURITY,
5G/6G ARE CONVERGING

THAT'S THE EDGE

LIVING ON THE EDGE

MANY EXAMPLES OF EDGE COMPUTING

- **Internet of Things**
  - Motor vehicles
  - Mobile devices
  - Traffic lights
  - Home appliances
  - …
- **Industrial Internet of Things**
  - Automated industrial machines
  - Smart power grid technology
  - Smart streetlights
  - Industrial controllers (e.g., SCADA systems)
  - …

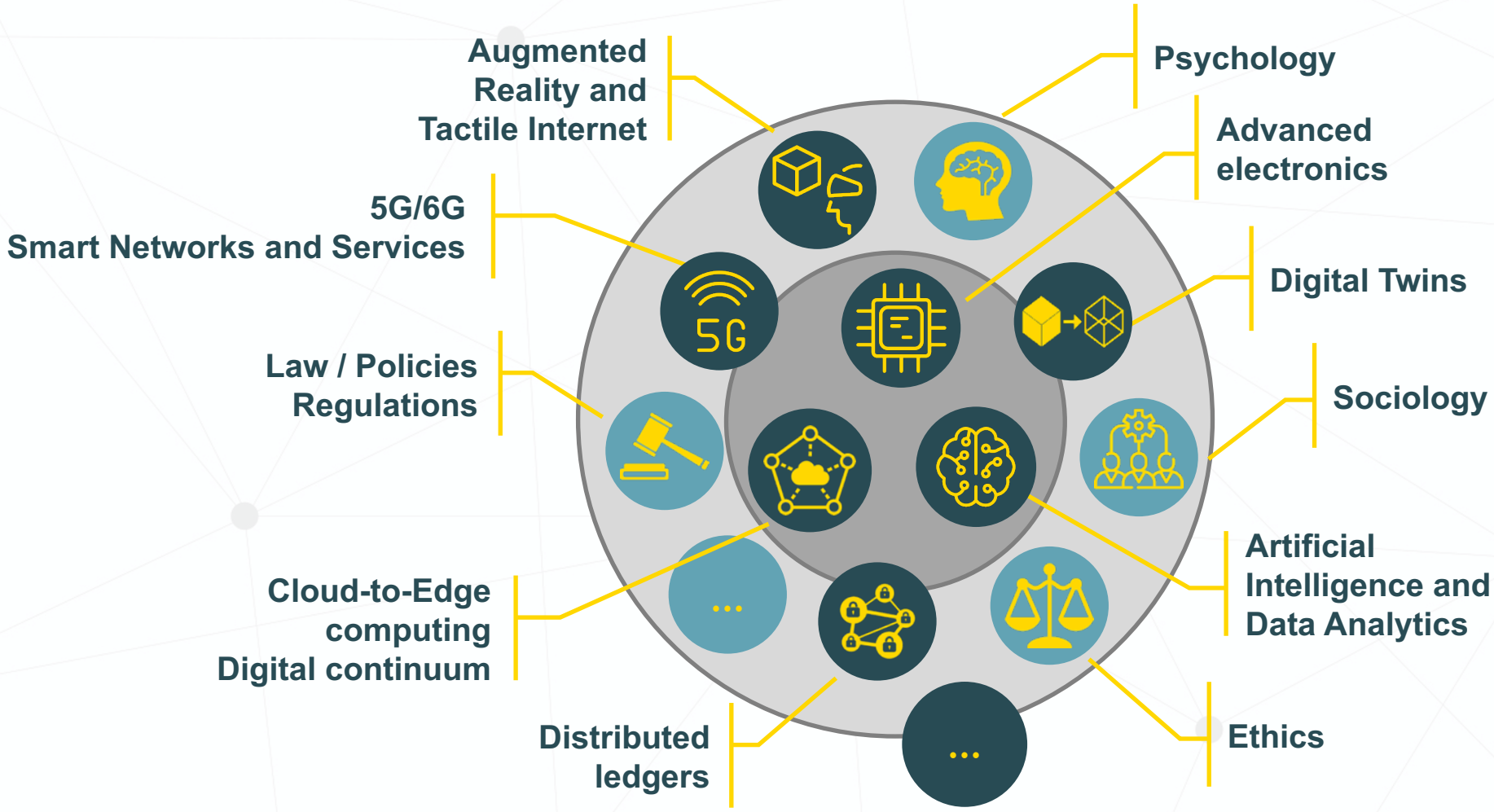


TODAY'S PERSPECTIVE

- **Five years from now**
  - Key Scenarios and Emerging needs in Edge IoT
- **Exploring Cross-cutting Issues**
  - Data, Architectures, Interoperability, Orchestration, Regulations
- **Technology: Hardware, Software, Systems**
  - Smart Sensors and Systems, Grid, Materials, Orchestration
- **Enabling technologies**

NGIOT (CURRENT) PERSPECTIVE ON FUTURE DIRECTIONS FOR IOT AND EDGE COMPUTING

NEXT GENERATION IOT SOLUTIONS ENABLERS



THE WAY AHEAD – MAIN PRIORITIES

Economic and Societal Priorities

1	2	3	4	5	6	7	8	9	10	11	12
Support for SMEs and start-ups	Accurate economic parameters estimate	Data and information as critical assets	Increase digital skills and competencies	Build Trust	Identification of the Key Regulatory and Legal Issues	Interoperability and Replicability	Security and Reliability by Design	Innovation procurement	Sustainability	Cohesion	Sovereignty

Research, Innovation & Deployment Priorities

1	2	3	4	5	6	7	8	9	10
Reliable, low-cost, sustainable and scalable IoT networks	Next Generation IoT data processing architectures	Futureproof security and trust	IoT, processes, and data Interoperability	IoT, Citizens, Privacy-by-design, and Ethics	Real time decision-making for IoT	Autonomous IoT solutions	Human and Sustainable Development in the loop IoT	IoT Data Sharing and Monetization enabling models and technologies	Sustainable and biocompatible devices

KEY R&I&D TOPICS LINKED TO EDGE

Priority	Timeline							Key enablers
	2021	2022	2023	2024	2025	2026	2027	
R2. Next Generation IoT data processing architectures								
R2.1 Novel data processing architectures								• Artificial Intelligence and analytics • Distributed Ledgers • Edge computing • Advanced electronics
R2.3 Highly scalable and low latency ledgers for IoT								
R6. Real time decision-making for IoT								
R6.1 Dynamic orchestration of decentralised AI pipelines								• Artificial Intelligence and analytics • Edge Computing
R6.2 Native AI-capable devices								
R7. Autonomous IoT solutions								
R7.1 Large IoT & digital infrastructures								• Artificial Intelligence and analytics • Edge Computing • 5G
R7.2 Semi-autonomous IoT infrastructures								
R7.3 Autonomous IoT infrastructures								
R8. Human and sustainable development in the loop IoT								
R8.1 Sustainable IoT by design								• Artificial Intelligence and analytics • 5G • Edge Computing • Augmented Reality and Tactile Internet • Digital Twins
R8.2 Augmented IoT								
R8.3 Tactile Internet								

Expected maturity

- research or TRL 2-4
- technology development and field test or TRL 4-6
- pilot tests or TRL 6-8

DOWNLOAD THE

IOT RESEARCH, INNOVATION AND DEPLOYMENT PRIORITIES IN THE EU WHITE PAPER

AND DROP US YOUR COMMENTS!

https://www.ngiot.eu/wp-content/uploads/sites/26/2020/09/D3.1.pdf

THANK YOU FOR YOUR ATTENTION

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