



NGIOT WHITEPAPER: IOT & EDGE

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NGIoT: IoT and Edge Computing

We need your
input!

**NGIoT white paper IoT and
Edge computing**

October 2021



April 2021

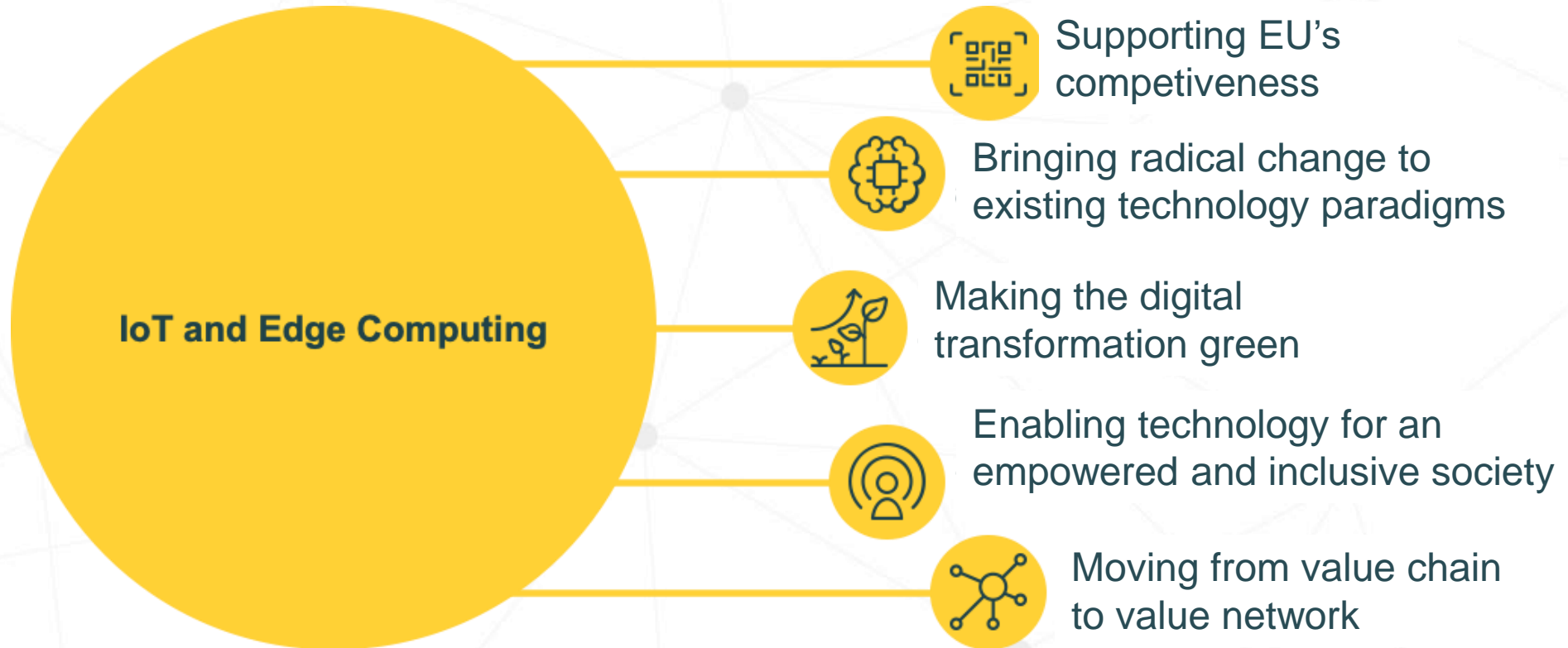
**NGIoT Roadmap for IoT
Research, Innovation
and Deployment**

EU IOT



ngiot.eu

[NGIoT whitepaper IoT and Edge computing: key messages and recommendations]



The background of the slide is a solid yellow color. Overlaid on this is a network diagram consisting of several small, semi-transparent yellow circular nodes. These nodes are interconnected by thin, light-yellow lines, creating a web-like pattern that spans the entire slide. The nodes are distributed across the frame, with some having more connections than others, suggesting a complex network structure.

MARKET ANALYSIS

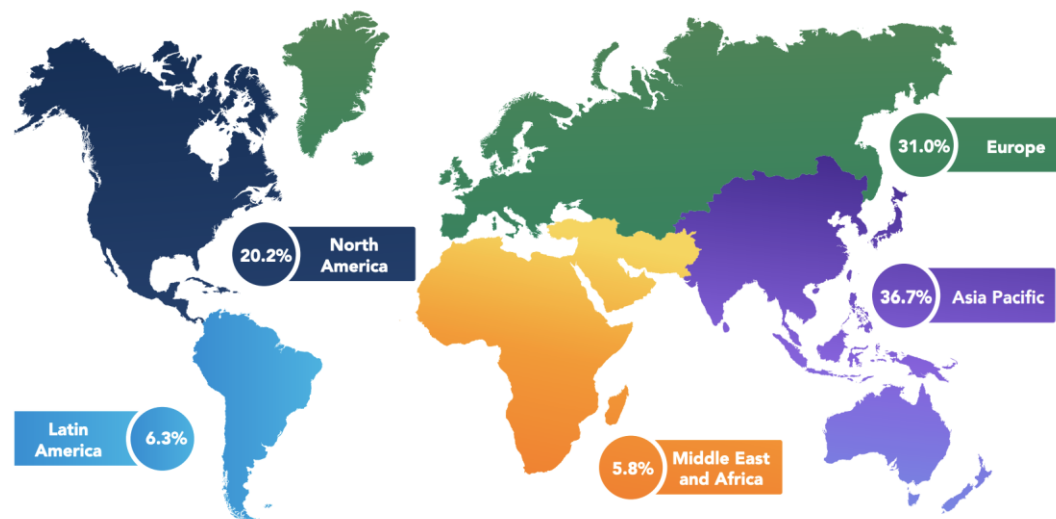
[MARKET DIMENSIONS]



UPDATED PROJECTIONS FOR EDGE COMPUTING

- Global CAPEX to reach ~100 USD Bn in 2025 with a CAGR of approximately 33%-35% depending on the study
- Operators are leading adoption with cloud providers most likely to provide platform environments in the future
- Europe at 31% of investments by 2028, with multinational network operators in western Europe as largest customers

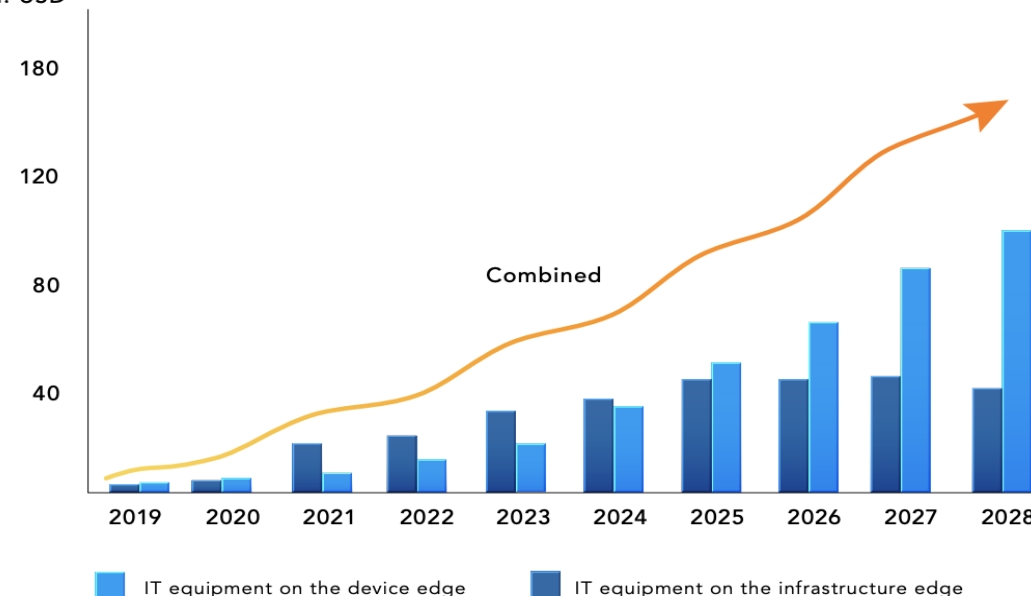
Global Edge Infrastructure Investments



Source: Tolaga Research / State of the Edge

Regional and Domain Potential

bil. USD



Global annual CAPEX on Edge

[Source: State of the EDGE 2020 - <https://www.lfedge.org/wp-content/uploads/2020/04/SOTE2020.pdf>]

[EUROPEAN LANDSCAPE

We need your input!

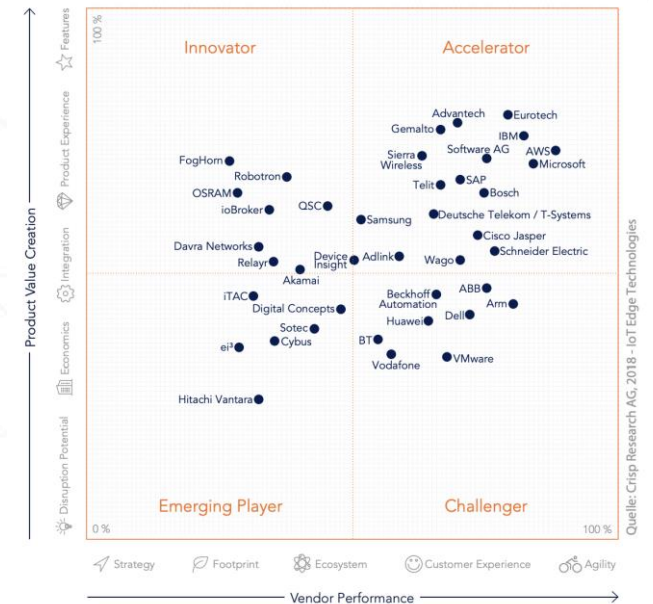


European front runners in Edge-IoT



- **Network operators** are front-runners in edge computing investments
- Europe has strong players in **hardware and service providers**. With accelerators "champions" like Eurotech, Gemalto, Software AG, SAP, Bosch, Deutsche Telekom, Telit, Schneider Electric, etc.
- Moving from **use cases towards platform-centric** environments leaders are non-european AWS, Microsoft

Main Alliances, Fora & Organisations active in Cloud-Edge-IoT



Edge Vendor Quadrants for DACH region

[EUROPEAN LANDSCAPE]



European Key Organisations Agrifood and Rural Communities

- CEMA
- ECPA
- AEF
- OASC
- AIOTI
- CELCAA
- COCERAL
- COPA-COGECA
- EFFAB
- Euroseeds
- FEFAC
- EIP-Agri

Relevant H2020 projects

- Smart Agrihubs
- IoF2020
- AGRICORE
- dRural
- DEMETER
- OPEN-DEI
- AURORAL

We need your
input!



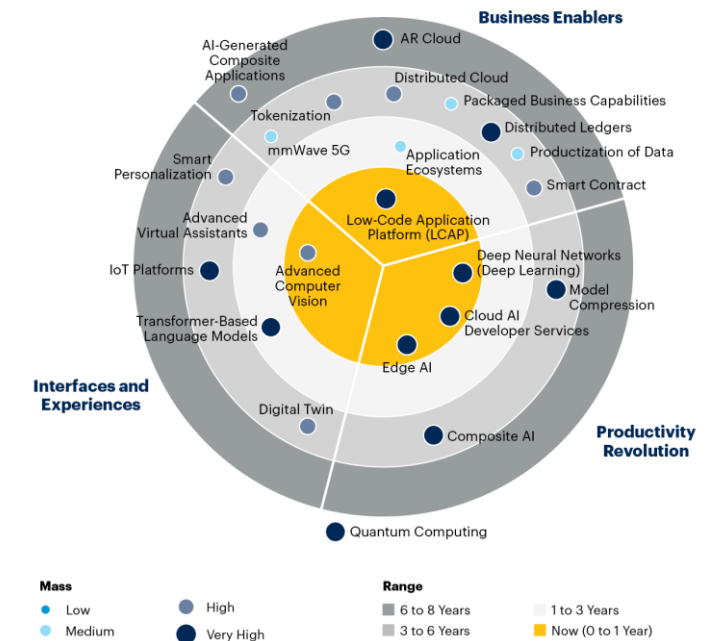
TRENDS & BARRIERS

[TRENDS]



- From cloud to edge
- From IoT to AIoTI
- From monitoring to intelligence
- From global/central to local/decentralized
- Towards a green transformation
- From Big Data to relevant data
- From IoT value chain to value network

Emerging Technologies and Trends Impact Radar



gartner.com/SmarterWithGartner

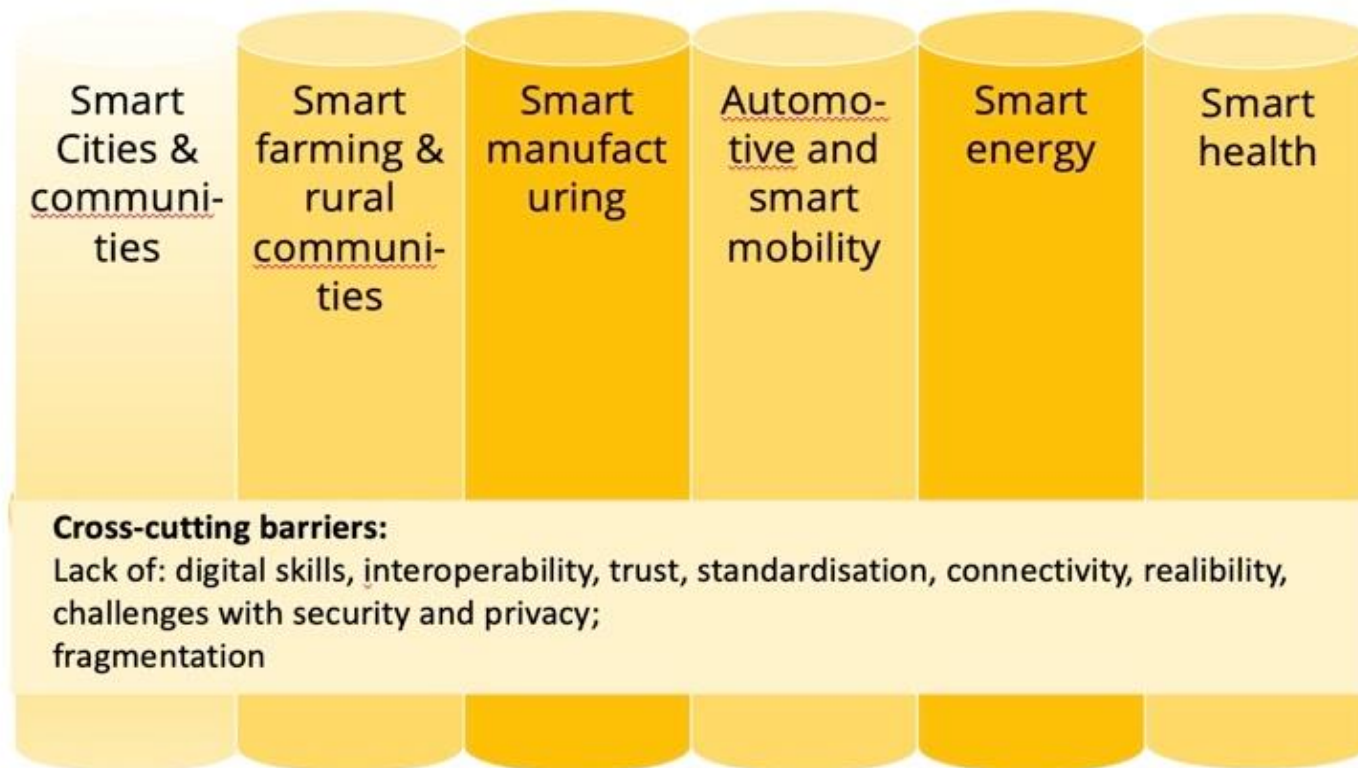
Source: Gartner
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Gartner

[HORIZONTAL BARRIERS AND CHALLENGES]



Barriers across the verticals



Agrifood and rural communities

- Connectivity
- Digital skills and specialised staff
- Limited adoption of IoT due to conservative stakeholders in terms of trust and reliability. Reluctancy of data sharing
- High costs & unclear benefits for a low-margin industry; investments have long payback periods
- Lack of infrastructure, knowledge and capacity
- Interoperability

ROADMAPPING AND RECOMMENDATIONS

[EU STRATEGY & MFF 2021-2027]



Technology that works for people

Strategy on
Quantum and
blockchain

Digital
Education plan

White paper
on AI

Action Plan on 5G and 6G

5G corridors for connected and automated mobility

EU Governments interoperability strategy

Improve work conditions for platform workers

A fair and

European
data strategy

Industrial
strategy
package

Digital
Finance
framework

Legislative
framework
for data
governance

Consumer
agenda

DATA governance
The European way

An open democ

Key strategies
related to Internet of
Things

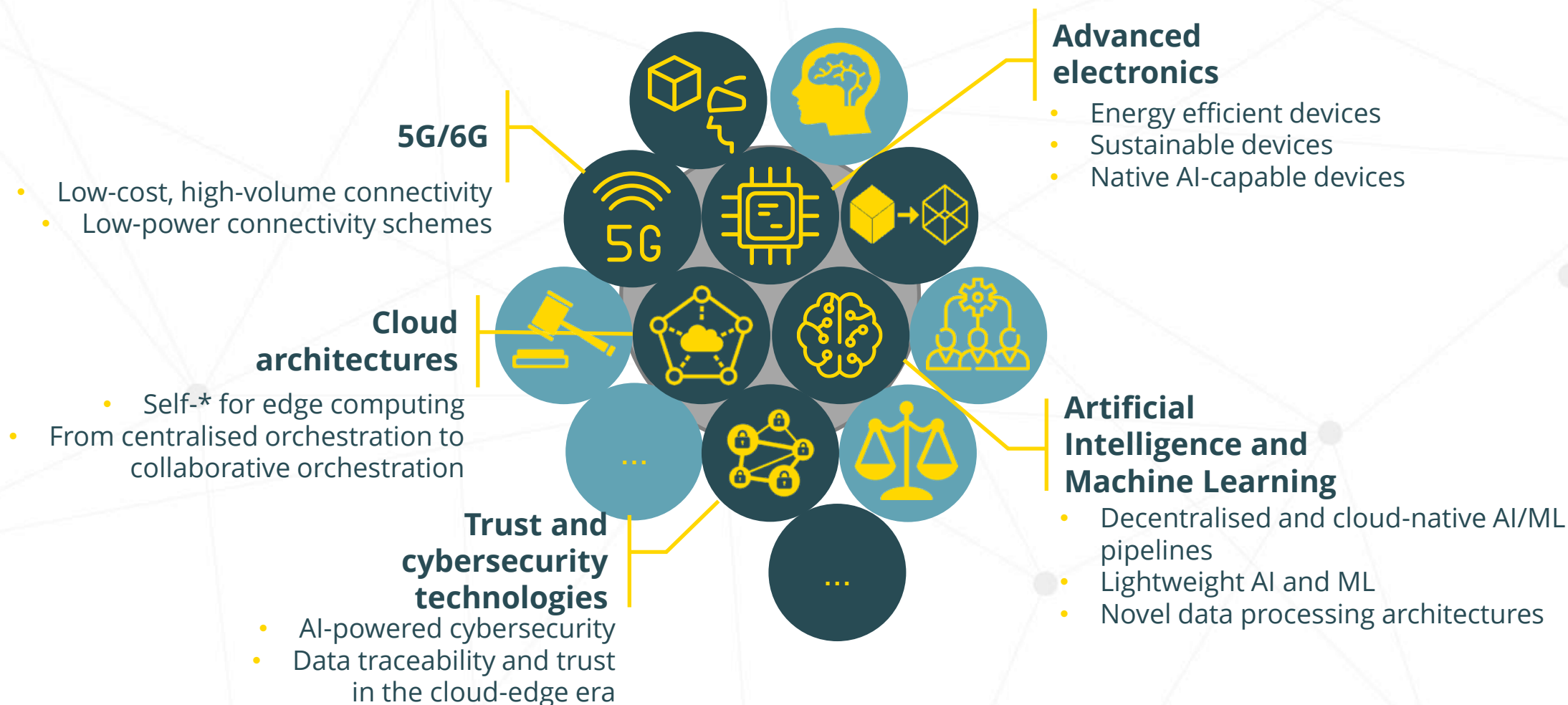
Revised IDAS
New rules for
Digital Market

Media action
plan

EU Democracy
action plan

#DigitalEU

[KEY ENABLING RESEARCH AREAS]



[KEY RECOMMENDATIONS]



- Go beyond “meta” Operating Systems
- Increase emphasis on AI and hardware convergence
- Go beyond state of the art data processing architectures for IoT
- Highlight relevance of IoT in the supporting sustainability goals
- Support large deployments of standard and replicable solutions
- Increase harmonisation of IoT cloud-edge standards
- Invest on experimental infrastructures to support testing and experimentation of cloud-edge solutions



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[THANK YOU FOR YOUR ATTENTION]



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