

State of Open Source Networking & Edge

*5G+Cloud+AI+Edge+IOT
& Implications on Vertical Industries*

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GM, Networking, Edge & IOT











The Linux Foundation

 THE **LINUX** FOUNDATION

 **LF** NETWORKING

 **LF** EDGE

Today the Linux Foundation is More than Linux

Security	       
Networking	       
Cloud	      
Automotive	  
Blockchain	     
Edge/IoT	       
Web	       
AI	       
Film	      
CI/CD	        
Energy	       
Hardware	    
Standards	      

Building large, sustainable ecosystems requires collective resources

2000+

Members From
41 Countries



100%

of Fortune 100
Tech & Telecom



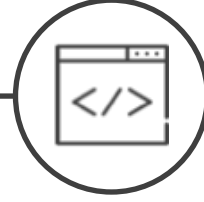
242,960+

Developers
Contributing Code



400+

Critical Open Source
Projects



\$54.1B

Shared
Value



The Linux Foundation is a critical part of modern technology



- 1 Open Networking, Edge & IOT are critical in the new normal across vertical industries
- 2 Open Compliance, Standards + OSS Harmonization & Use Case driven deployments gaining traction
- 3 Edge is the next Cloud

Open Industries

“Open-Sourcification”

Telecom at the forefront

+

Automotive

+

Motion Pictures

+

Fintech

+

Public Health

+

Energy

Software-defined vertical industries: transformation through open source

How open collaboration enables user-centered innovation, achieving faster development cycles, time to market, and increased interoperability and cost savings.

A Publication of The Linux Foundation | September 2020



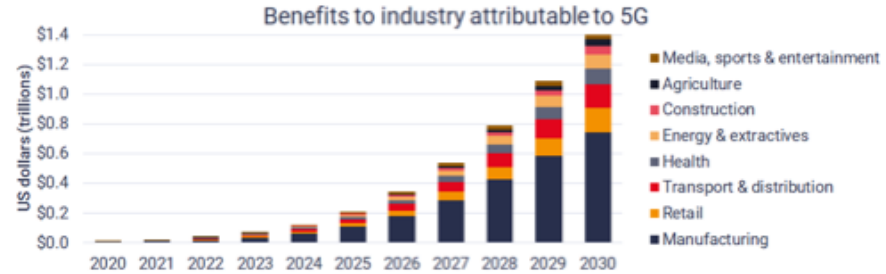
5G and Edge Critical in the Next Battle, a new normal!

Edge is 4X the Size* of Cloud Market !

“As businesses and governments establish their own new normal, **5G and Edge computing** will be necessary to deliver the automation, performance and cognitive insight required by many industries—including manufacturing, healthcare, energy and utilities, among others. Telecom operators will need to embrace open ecosystems to externalize innovation and accelerate new services.”



<http://www.chetansharma.com/publications/edge-internet-economy/>



The Diverse Potential of VR & AR Applications

Predicted market size of VR/AR software for different use cases in 2025*



How VR and AR will be used in 2025

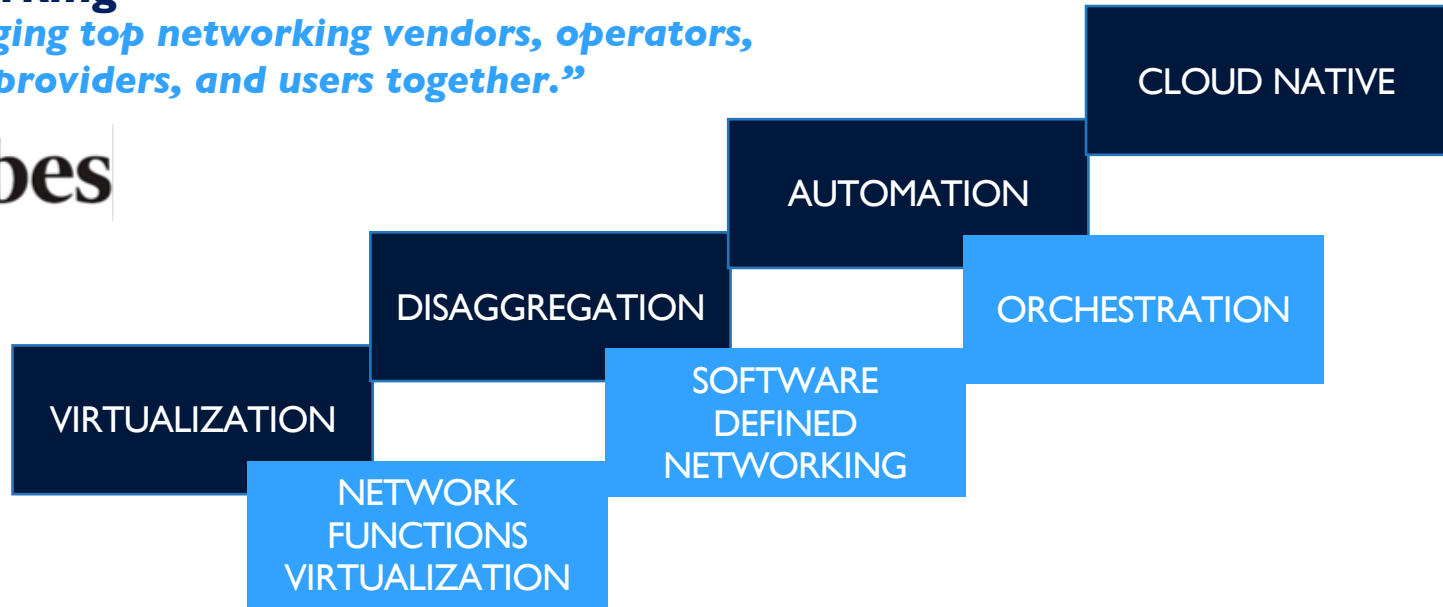
Image: Statista

Technology Disruption, enabled by Open Source

The LF is Changing the Fabric of Networking

“...bringing top networking vendors, operators, service providers, and users together.”

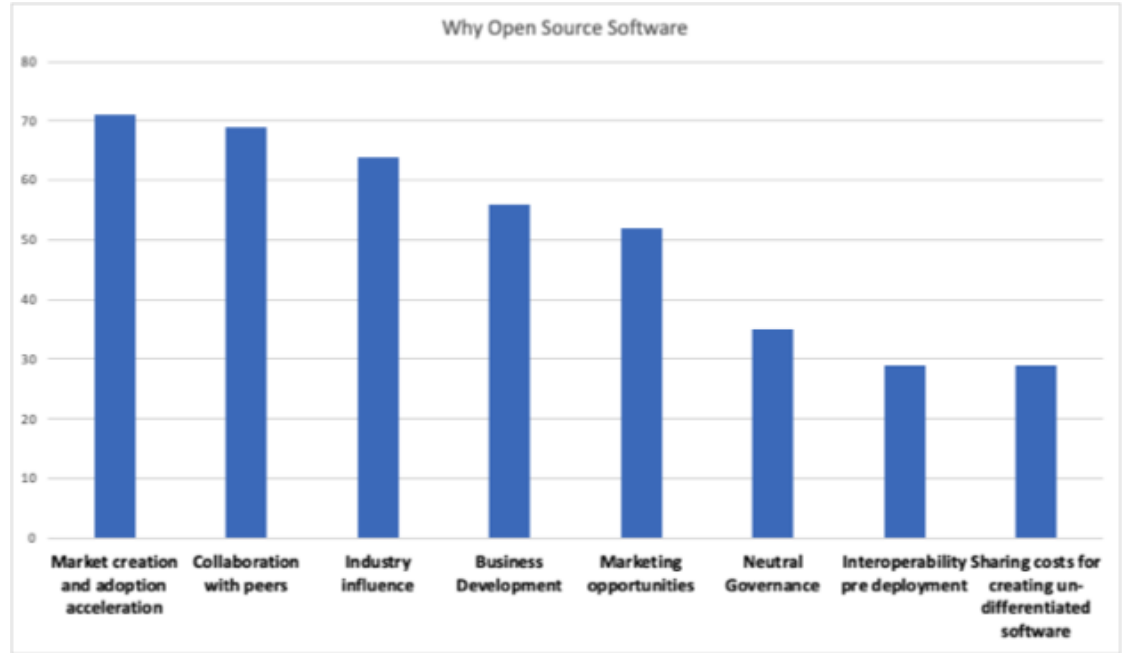
Forbes



Why Open

Networking & Edge

“From Cost Savings to
Market Adoption”



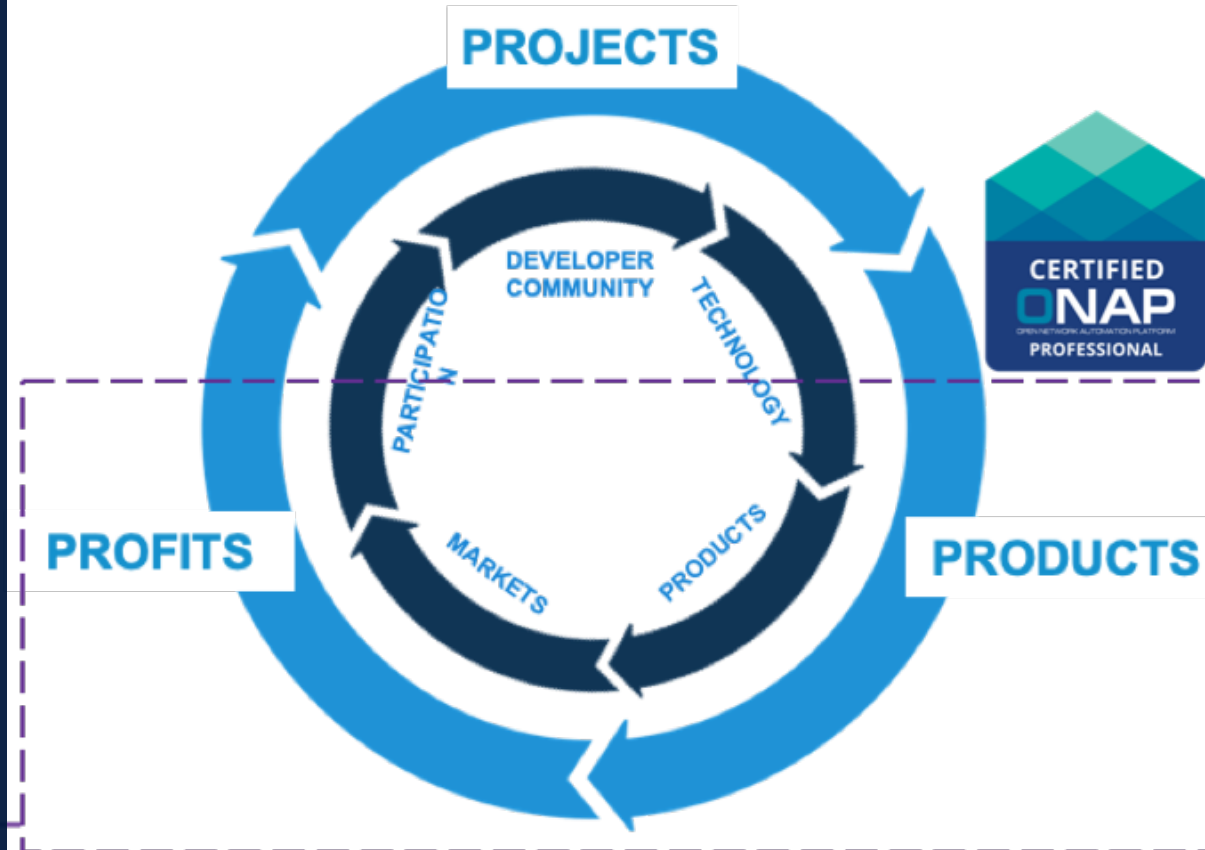
Source: LF Edge Community Survey, Sept 2020

Top Reasons
Market Creation, Adoption Acceleration & Collaboration

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Beyond Code POC to Production

Open Compliance & Verification
Open Interop & Testing
Open Training & Certification



Leading Open Interop & compliance
LF Networking's Anuket (OPNFV + CNTT)
LF Edge's Akraino Blueprints

SDO or OSS

Is it Standards OR Open Source?

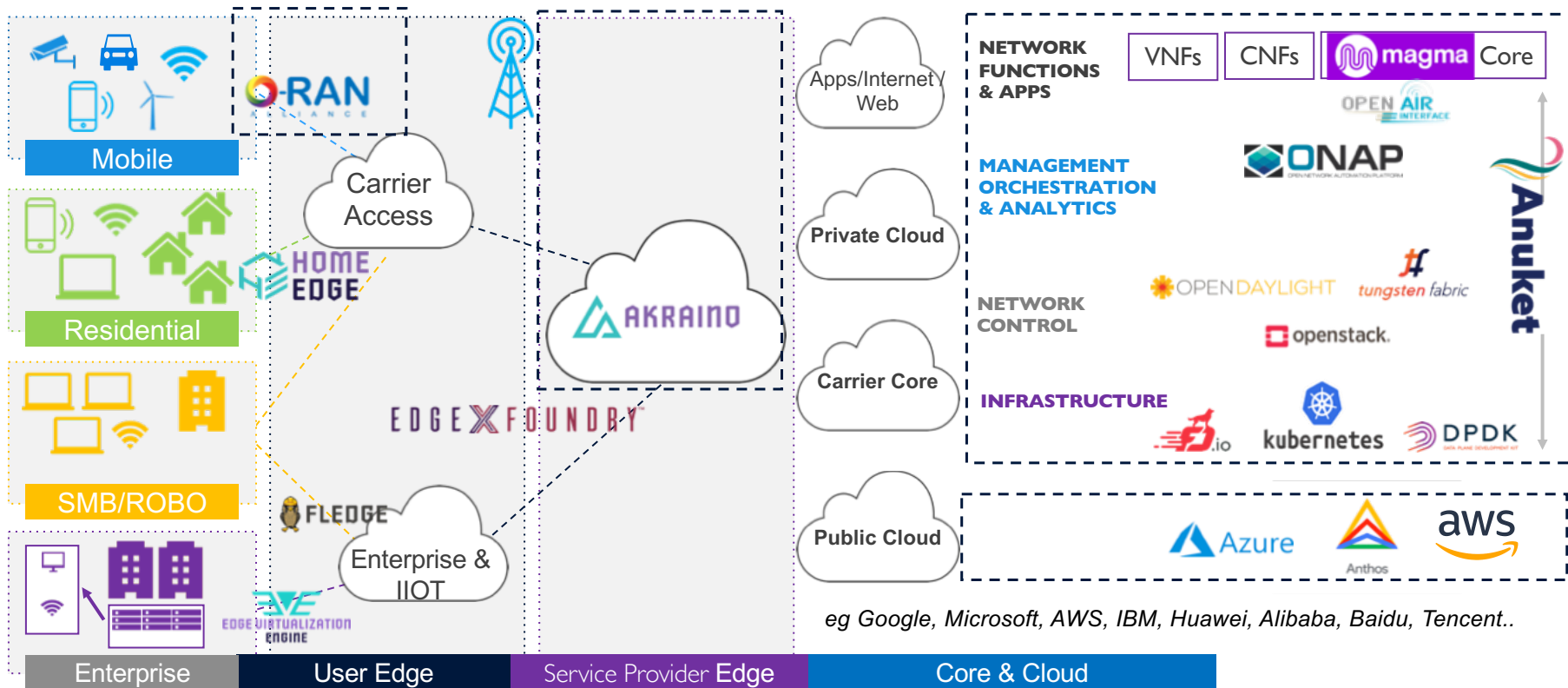
“Harmonize” was a hot word 3 years ago

Unification well beyond Standards - now Open Source communities, Markets, Verticals are taking direction from the LFN playbook

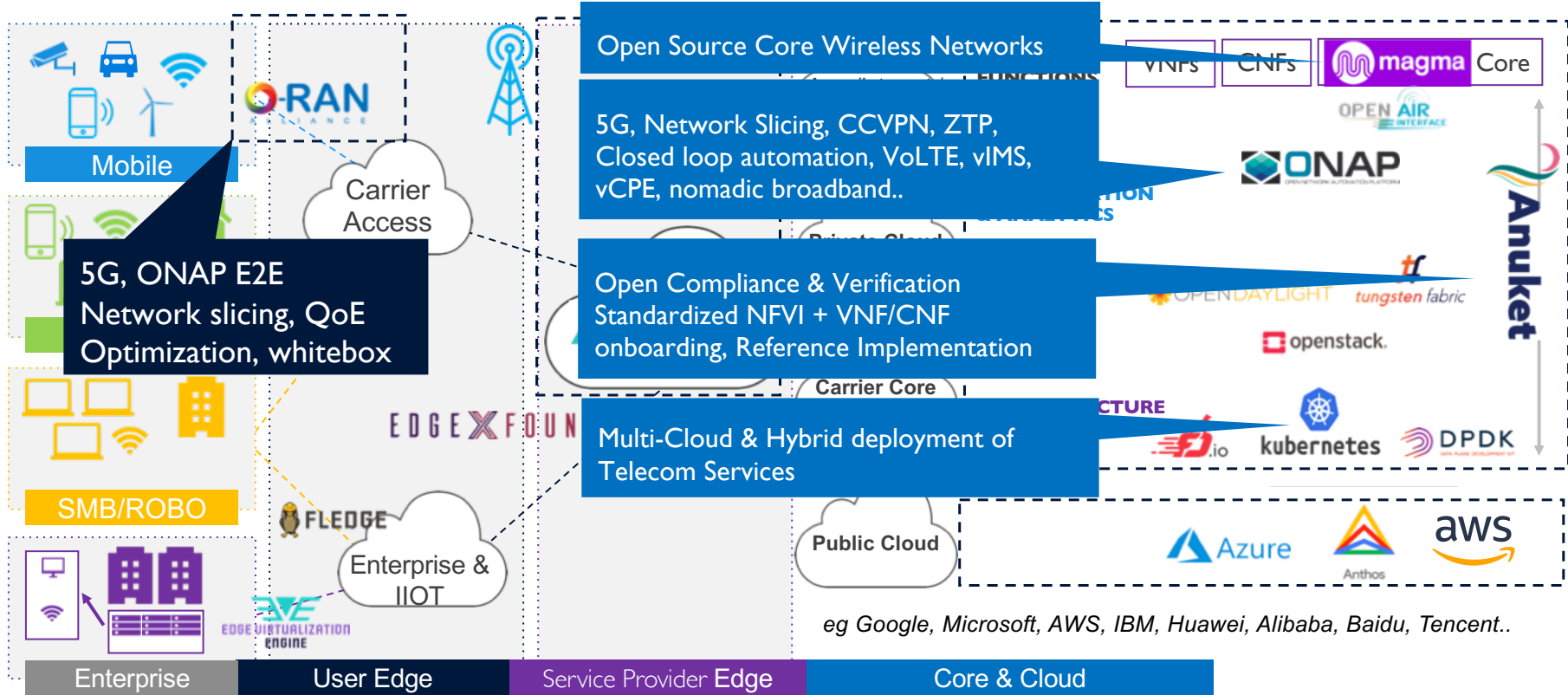


Linux Foundation Projects are harmonized with Standards

End to End Open Source Software Collaboration



End to End Open Source Software Collaboration



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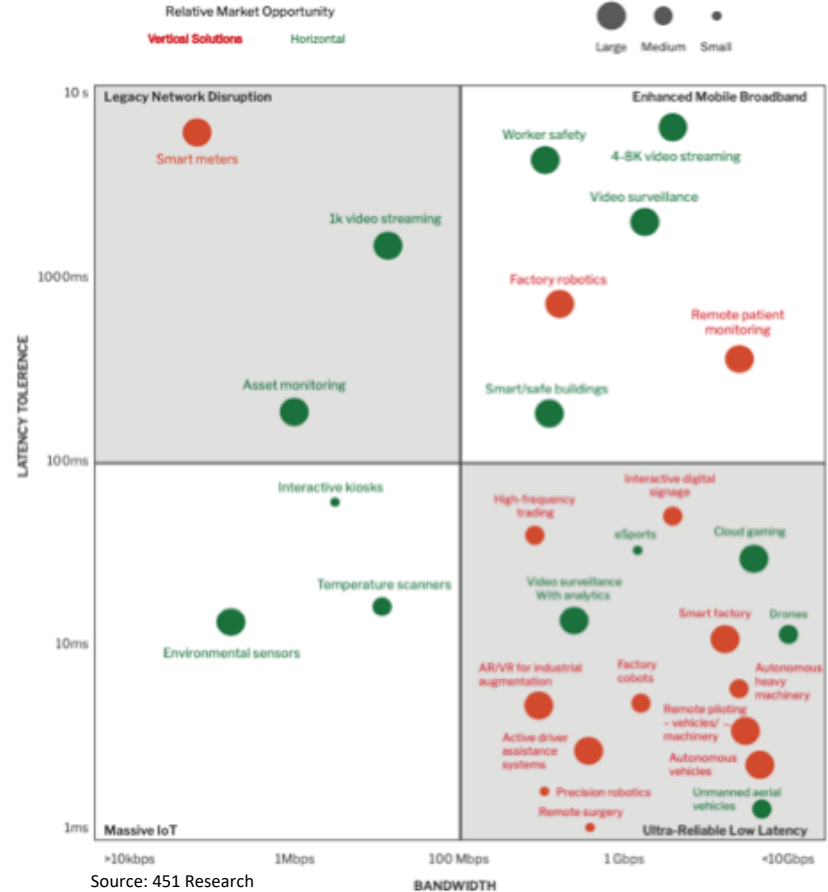
Edge Applications

New Vertical Industries Enabled by Edge

New Applications

New Revenue

New Use Cases



LF Edge Projects



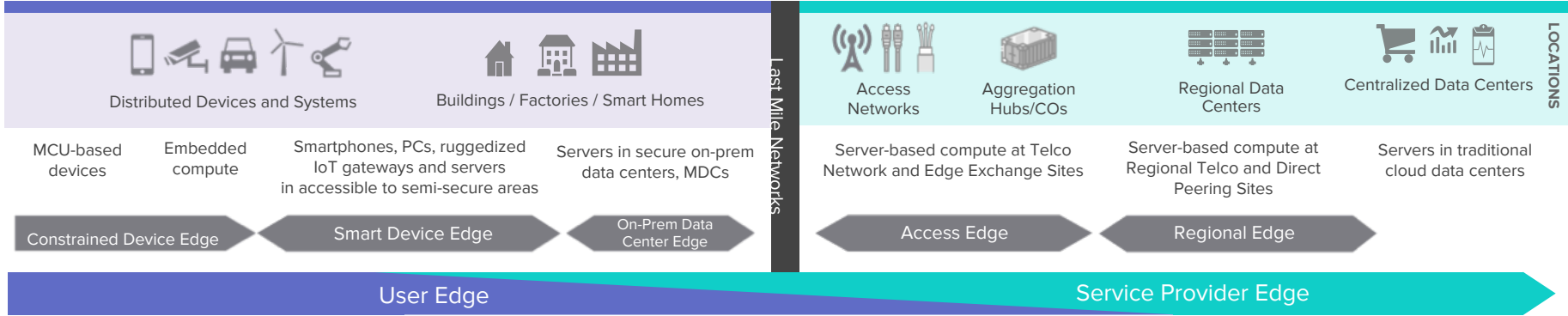
Stage 1: At Large Projects
Baetyl, Open Horizon, Secure Device

Stage 2: Growth Projects
Onboard EVE, Fledge, Home Edge, State of the Edge

Stage 3: Impact Projects
Akraino Edge Stack, EdgeX Foundry



Research and Reports



Last Mile Networks

LOCATIONS

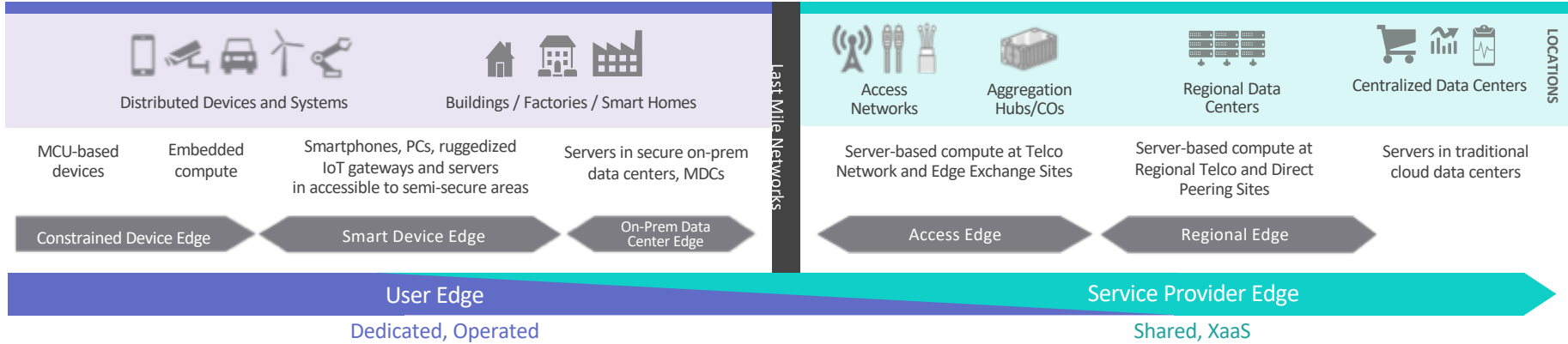
LF Edge Projects



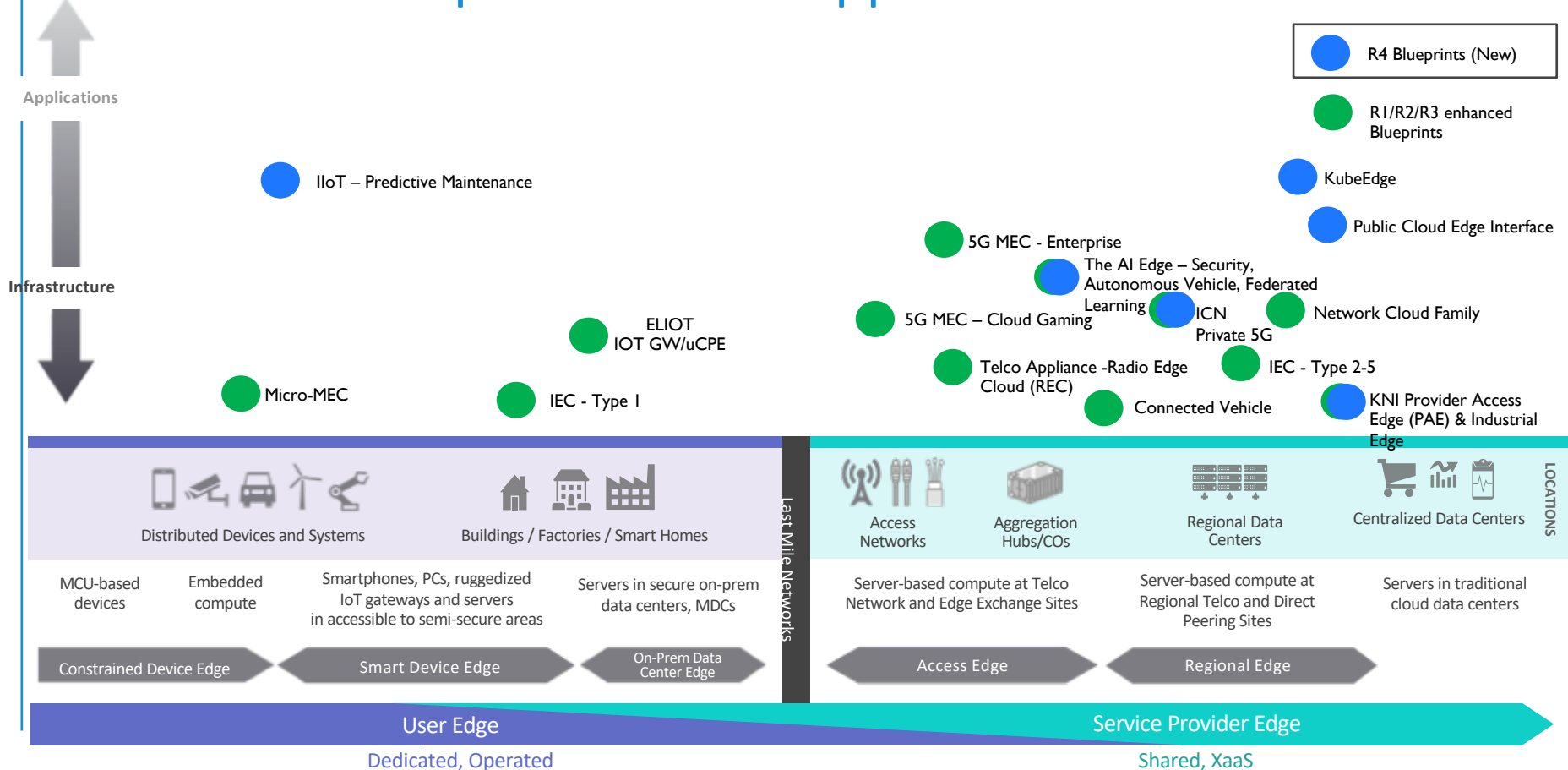
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EVE, Fledge, Home Edge, State of the Edge
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Akraio, EdgeX Foundry



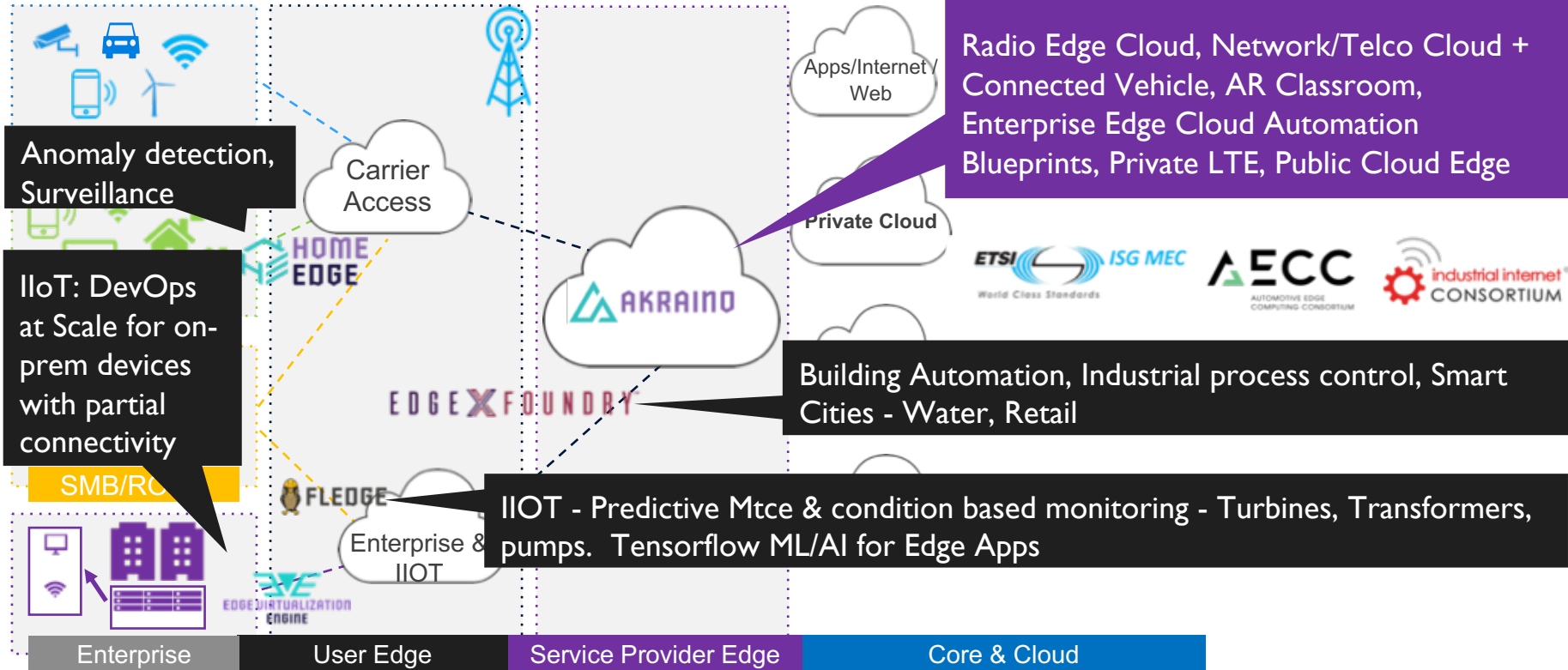
Research and Reports



Akraino R4 Blueprints – To be approved



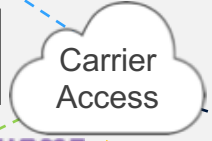
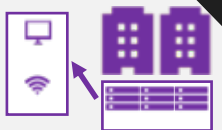
Edge Use Cases Driving Open Source Projects



Anomaly detection, Surveillance

IIoT: DevOps at Scale for on-prem devices with partial connectivity

SMB/RO



HOME EDGE



EDGE X FOUNDRY



Enterprise & IIOT

EDGE VIRTUALIZATION ENGINE



Radio Edge Cloud, Network/Telco Cloud + Connected Vehicle, AR Classroom, Enterprise Edge Cloud Automation Blueprints, Private LTE, Public Cloud Edge



ETSI ISG MEC World Class Standards

AECC AUTOMOTIVE EDGE COMPUTING CONSORTIUM

Industrial Internet CONSORTIUM

Building Automation, Industrial process control, Smart Cities - Water, Retail

IIOT - Predictive Mctce & condition based monitoring - Turbines, Transformers, pumps. Tensorflow ML/AI for Edge Apps



Observations

- 1. Network is even more important in the new world!** End Users (Enterprises, Governments, Countries) have a vast array of open options using “infra/software” right near their premises
- 2. Open Source Collaboration (beyond code) is the way to go.** Driven by faster innovation, security and time to revenue & deployment Use Cases
- 3. Edge is new Cloud** and is enabled with technologies like 5G+Cloud+AI+IOT

What's Next

- › Upcoming LF Events: ONEEF (Open Networking & Edge Executive Forum, March 10-12)
 - › <https://events.linuxfoundation.org/open-networking-and-edge-exec-forum/>

