

“Your Path to Edge Computing with Akraino Edge Stack”

May 6, 2020

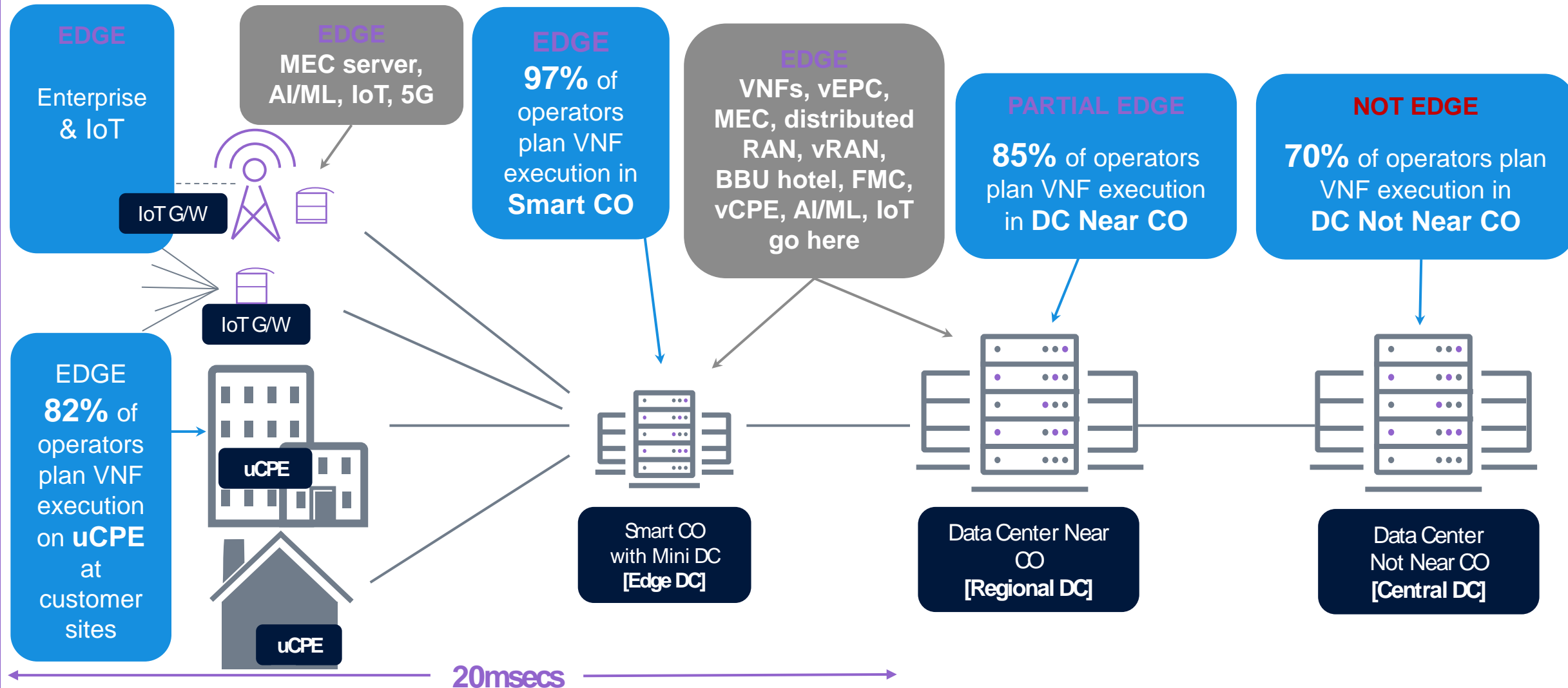
Kandan Kathirvel – Chair, Akraino TSC & Director, AT&T Labs

 **LF** EDGE

 **THE LINUX** FOUNDATION

Where are the edges?

Distributed cloud, edge compute, AI/ML, IoT, 5G, VNFs/NFV, FMC



LF Edge – Harmonizes Open Source Edge Communities across IOT, Enterprise, Cloud & Telecom



Aims to create an open source software stack that supports high-availability cloud services optimized for edge computing systems and applications.



Baetyl offers a general-purpose platform for edge computing that manipulates different types of hardware facilities and device capabilities into a standardized container runtime environment and API, enabling efficient management of application, service, and data flow through a remote console both on cloud and on prem.



Highly flexible open source software framework that facilitates interoperability between heterogeneous devices and applications at the IoT Edge, along with a consistent foundation for security and manageability regardless of use case.



An open abstraction engine that simplifies the development, orchestration and security of cloud-native applications on distributed edge hardware. Supporting containers, VMs and unikernels, EVE provides a flexible foundation for Industrial and Enterprise IoT edge deployments with choice of hardware, applications and clouds.



Fledge is an open source framework and community for the Industrial Edge. Architected for rapid integration of any IIoT device, sensor or machine all using a common set of application, management and security REST APIs with existing industrial "brown field" systems and clouds.



Interoperable, flexible, and scalable edge computing services platform with a set of APIs that can also run with libraries and runtimes.



Uses common dictionary-making techniques to maintain a database of canonical definitions for components and concepts important to edge computing. By advocating for industry-wide adoption of common terms, the project seeks to improve dialog and understanding. The project also maintains the [Edge Computing Landscape](#).

Akraino Executive Summary



Zero Touch
Edge Cloud
Automation

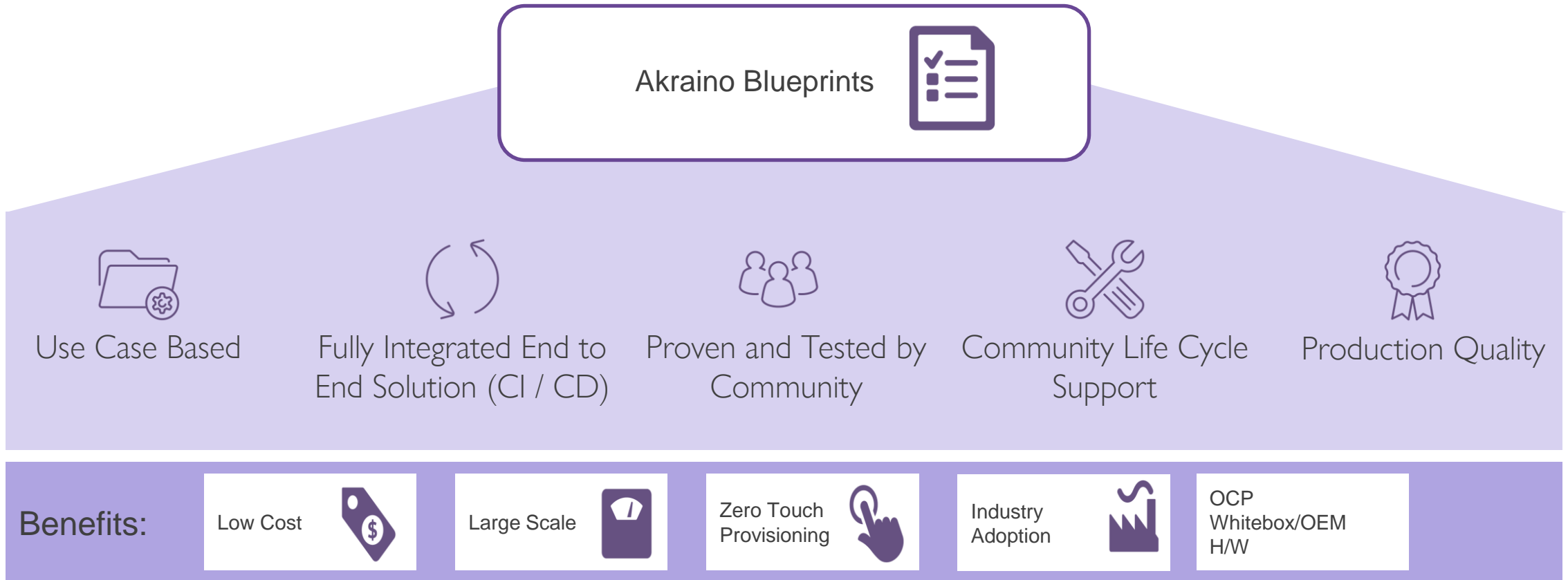
Akraino addresses Telco, Enterprise and Industrial IoT use cases

Mission:

- › **Create end to end configuration for a particular Edge Use case** which is complete, tested and production deployable meeting the use case characteristics {Integration Projects - Blueprints}
- › **Develop projects to support such end to end configuration.** Leverage upstream community work as much as possible to avoid duplication. {Feature Projects}
- › Work with broader edge communities to **standardize edge APIs** {Upstream Open Source Community Coordination}
- › Encourage Vendors and other communities to **validate Edge applications and VNFs** on top of Akraino blueprints {Validation Project - ensures the working of a Blueprint}

What is Akraino Edge Stack Blueprint?

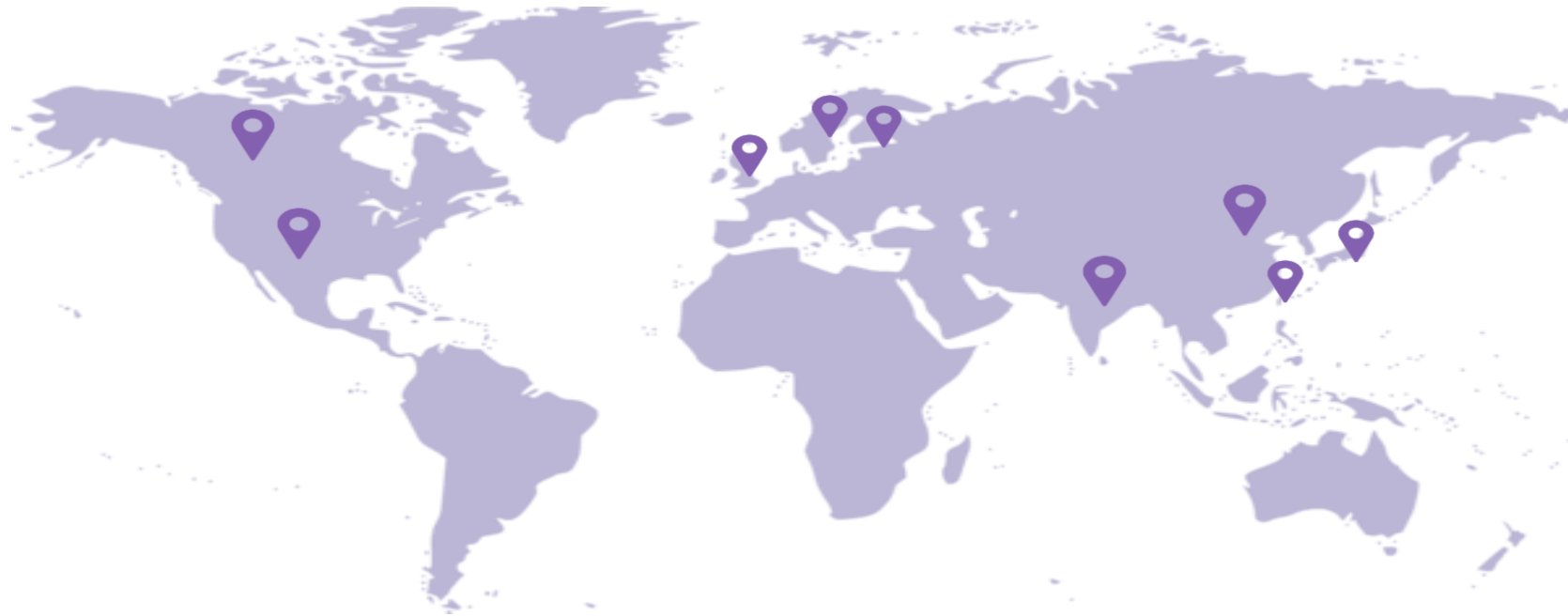
Community Integrated, tested, deployable, end to end Edge Stack



Since launch in 2018, Akraino continues to gain community support for collaboration and validation with **24** Blueprints and **8** feature projects

Robust Community Contribution

Deployable and fully functional edge stack for use cases across IIoT, Telco 5G Core & vRAN, uCPE, Provider Access Edge, SDWAN, Edge Media Processing, and Carrier Edge Media Processing



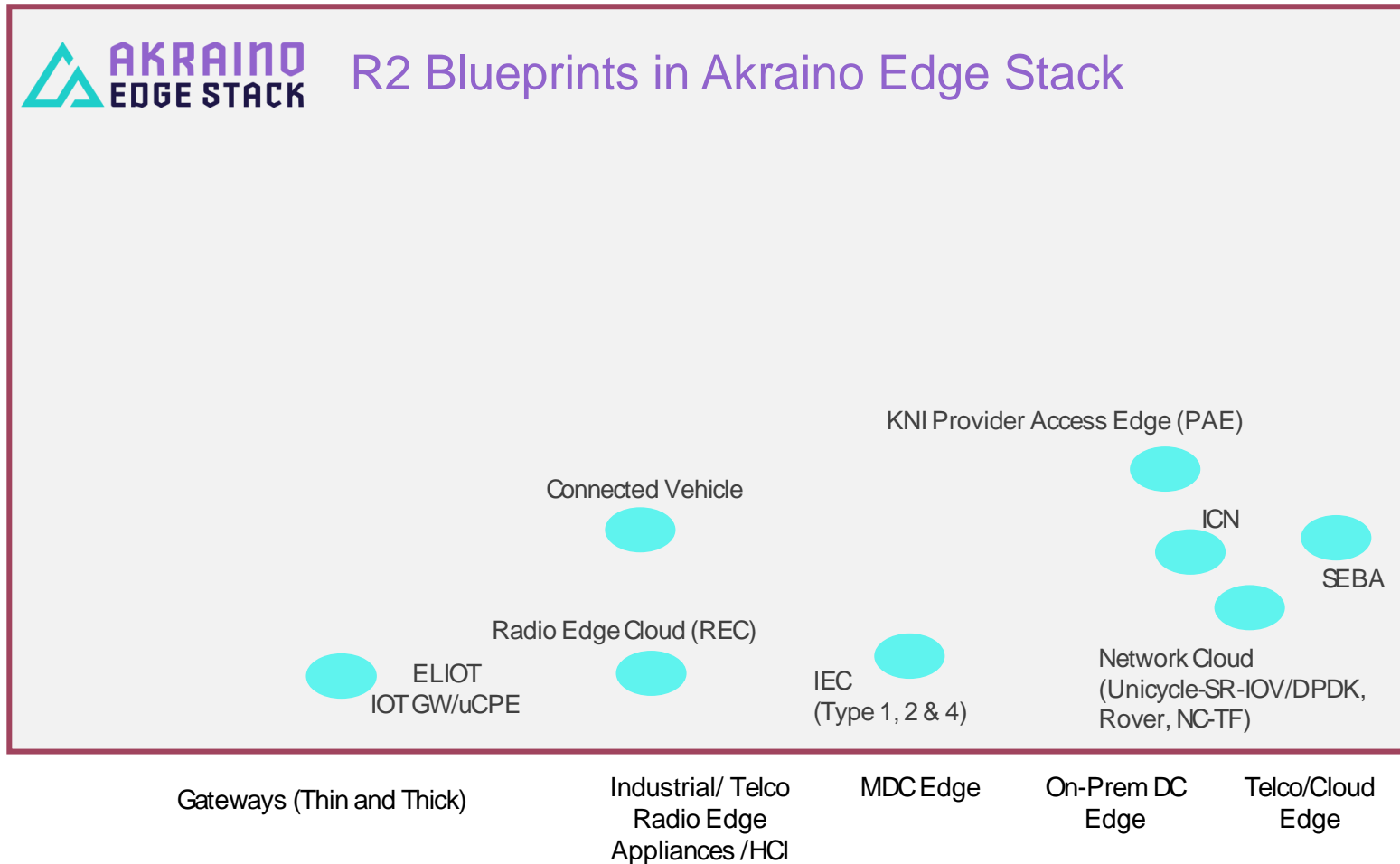
- ✓ **40+ companies are engaged across the globe**
- ✓ **70% of LF Edge Premier Members are active in Akraino**

Akraino Community Accomplishments – Key Highlights

- 2 releases – R1 in June 2019 and R2 in January 2020
- Akraino is setting up a shared community lab for all LF Edge projects
- Introduced tools for automated Blueprint Validations, security tools for Blueprint Hardening and Edge API's in collaboration with LF Edge projects
- Akraino's process includes introduction of new rules for post transition election based on meritocracy, establishing criteria for “mature” release
- Hosted several industry meetups, hackathons and F2F meetings that foster collaboration and engagement on edge projects across the entire ecosystem



Akraino R2: Unifying the Edge



Deployable blueprints for every edge use case.

R2 enhanced the edge stacks delivered in R1 for cross-disciplinary edge use cases and new edge stacks to support connected vehicles, AR/VR, NFV, Telco Access, integration with SDN solutions

R2 Blueprints - Highlights

New Blueprints for R2



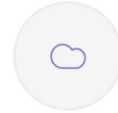
Connected Vehicle

[Read More](#)



IEC type 4: AR/VR-oriented
Edge Stack

[Read More](#)



Integrated Cloud Native
NFV/Application Stack (ICN)

[Read More](#)



Network Cloud and Tungsten
Fabric

[Read More](#)



SDN-Enabled Broadband
Access (SEBA)

[Read More](#)

Akraino R2 is comprised of 6+ blueprint families that includes 14+ specific blueprints all tested and validated on real hardware labs supported by users and community members.

<https://www.lfedge.org/projects/akraino/release-2/>

How to get involved..

- › Join the projects' mailing lists and participate in the discussions
- › Join Akraino Community Events and Project calls
- › Akraino project, TSC and community calls are open to all (no membership needed).
- › Community calls are conducted every Thursday 6-7 AM, PST

Website:

<https://www.lfedge.org/projects/akraino>

Wiki:

<https://wiki.akraino.org>

Mail Lists:

<https://lists.akraino.org/g/main>

Blueprints:

<https://wiki.akraino.org/display/AK/Approved+blueprints>

Calendar:

<https://wiki.akraino.org/display/AK/Akraino+TSC+Group+Calendar>