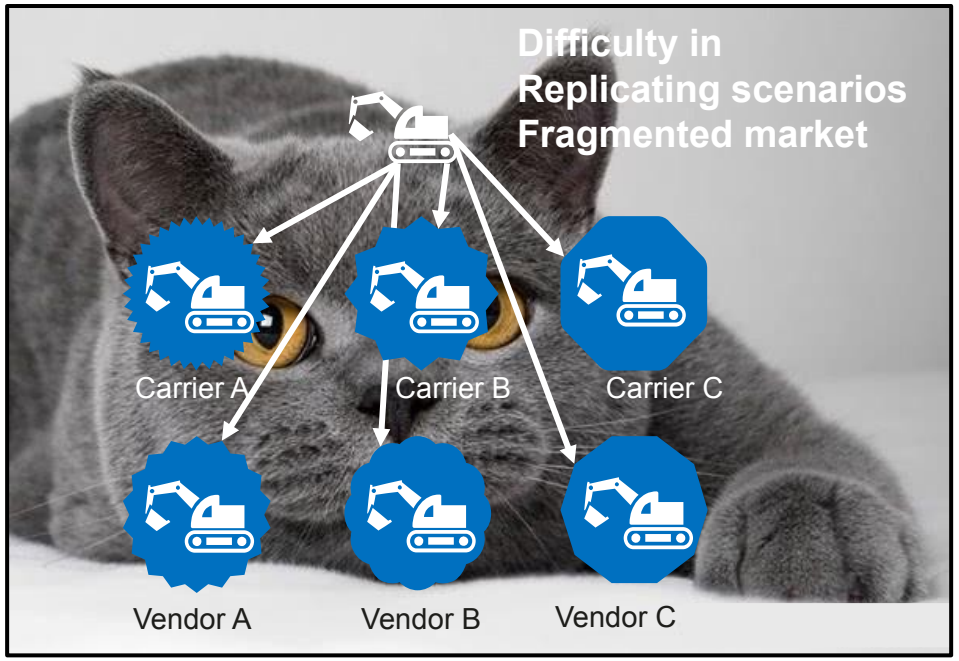
EDGE GALLERY

EdgeGallery

Building OpenSource 5G MEC Eco-System

Industry Application Ecosystems with Unified Market and Shared Applications

Small-scale Application Ecosystems of Vendors and Carriers



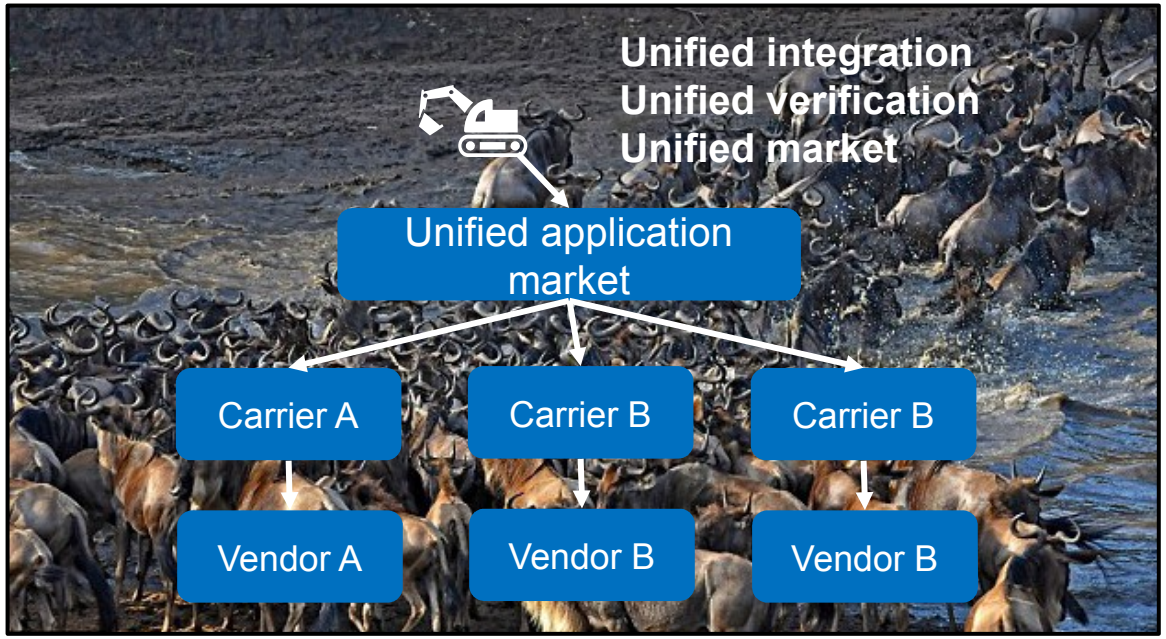
Manually integrated growth mode

Focus on Few application types

Hundreds of applications

- There is no **unified platform** for innovative achievements in the industry. Everything is reorganized from scratch, every year.
- No **closed loop of business** is formed, and projects are almost impossible to replicate.
- There is no drive for innovation, and the **technology growth is slow.**

Large-scale Ecosystems of Edge Computing Industry



Self-reproduction growth mode

Diversified application types

Millions of applications

- **New Ecosystem:** Building Industry Application Ecosystems with Unified Market and Shared Applications
- **The open and unified market**, unified integration, and unified verification enable convenient circulation of an application across vendors and carriers, reduce application replication costs, and build a large-scale, self-growth, and diversified new ecosystem

EdgeGallery: Open source, Developer Centric, 5G MEC Application Ecosystem

Apache 2.0

Positioning

- Build de facto standards for the 5G edge computing architecture and enable openness in the telecom field.
- Lower the threshold for bringing enterprise applications onboard, form a large scale, and build a B2B business ecosystem.

Value

5G Connection Capability
make 5G accessible

- ✔ **Interconnection with the 5G network:** interconnected with 5G NEs to implement multi-dimensional dynamic traffic distribution.
- ✔ **5G capability invoking that complies with the ETSI standard:** wireless information, location, terminal identity, and bandwidth management.
- ✔ **Efficient network data plane:** Supports multiple network planes and latency sensitive network (TSN).
- ✔ **Built-in value-added network:** integrates network capabilities such as DNS, FW, NAT, and LB.

Edge Native Platform Architecture
make edge services trustworthy and manageable

- ✔ **Open platform framework:** plug-in framework, unified governance of applications, services, and APIs.
- ✔ **Lightweight resource management:** lightweight container/VM management, compatible with heterogeneous hardware accelerations.
- ✔ **Full-stack security mechanism:** multi-user security isolation, data security, application security, and network security.
- ✔ **Highly reliable management and operation:** MEC Mesh, blockchain ledger and self-service management.

Diversified and Open Edge Ecosystem
easily bring applications onboard and make business replicable

- ✔ **Simplified application development:** Agent codeless integration, online IDE tool, online CI/CD, and ARM migration.
- ✔ **Convenient application verification:** online simulation sandbox and online community 5G trial network.
- ✔ **Unified application portal:** unified authentication and application sharing for application markets.
- ✔ **Diversified ecosystem sharing:** integration and interconnection with the public cloud, compatible with the commercial platform.

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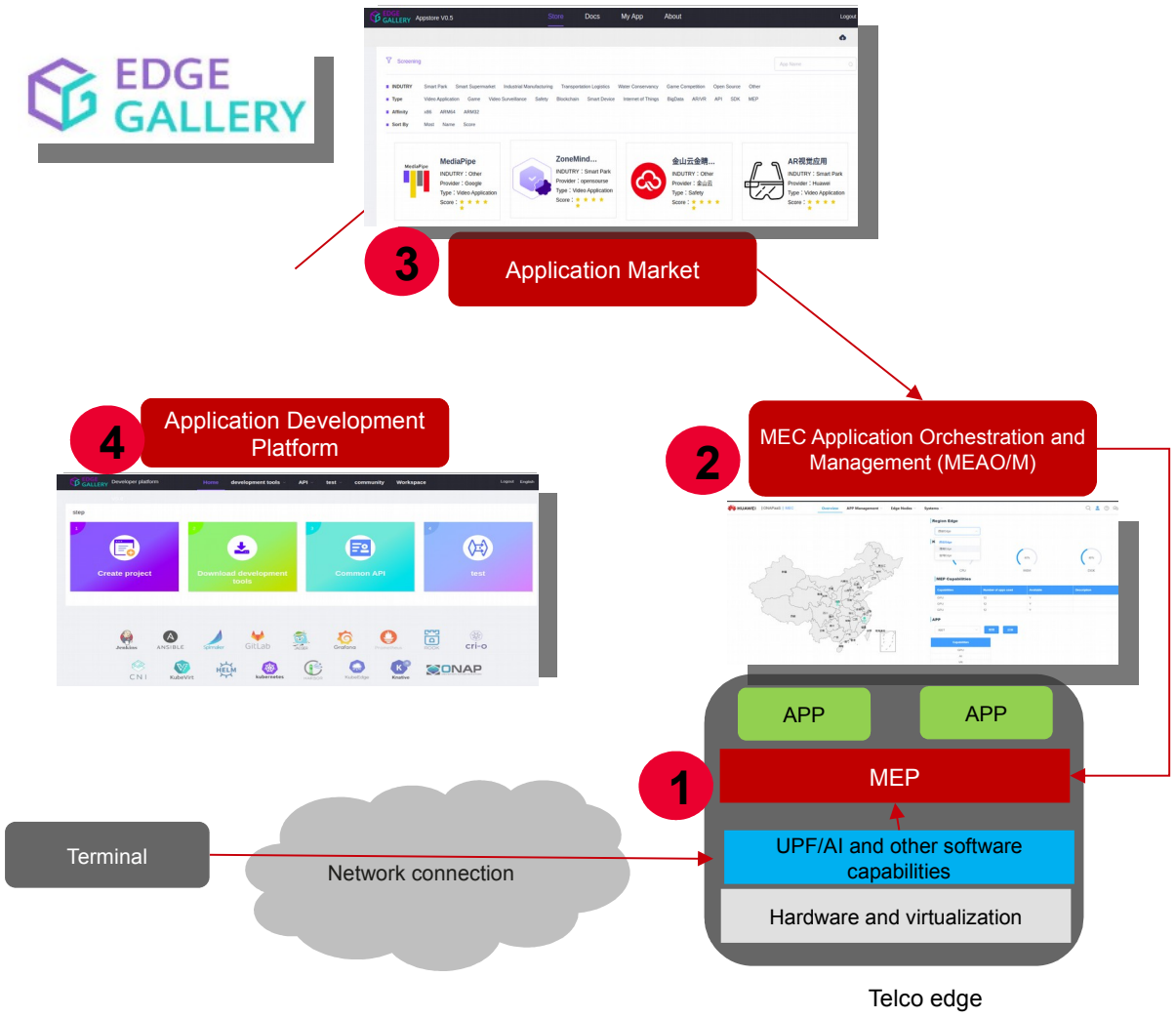
EdgeGallery Building Blocks



MEP: Autonomous, Rich in Platform & network capabilities, Support heterogeneous architecture

MECM: Application orchestration, Application LCM, FCAPS, Policy driven closed Loop

MEC Developer Platform: Provides Tool Chain, SDKs, APIs & Sandbox features for application development, packaging and testing.

MEC App Repository: Unified App Package Format, Standardized API Between Operator App Store and MECM

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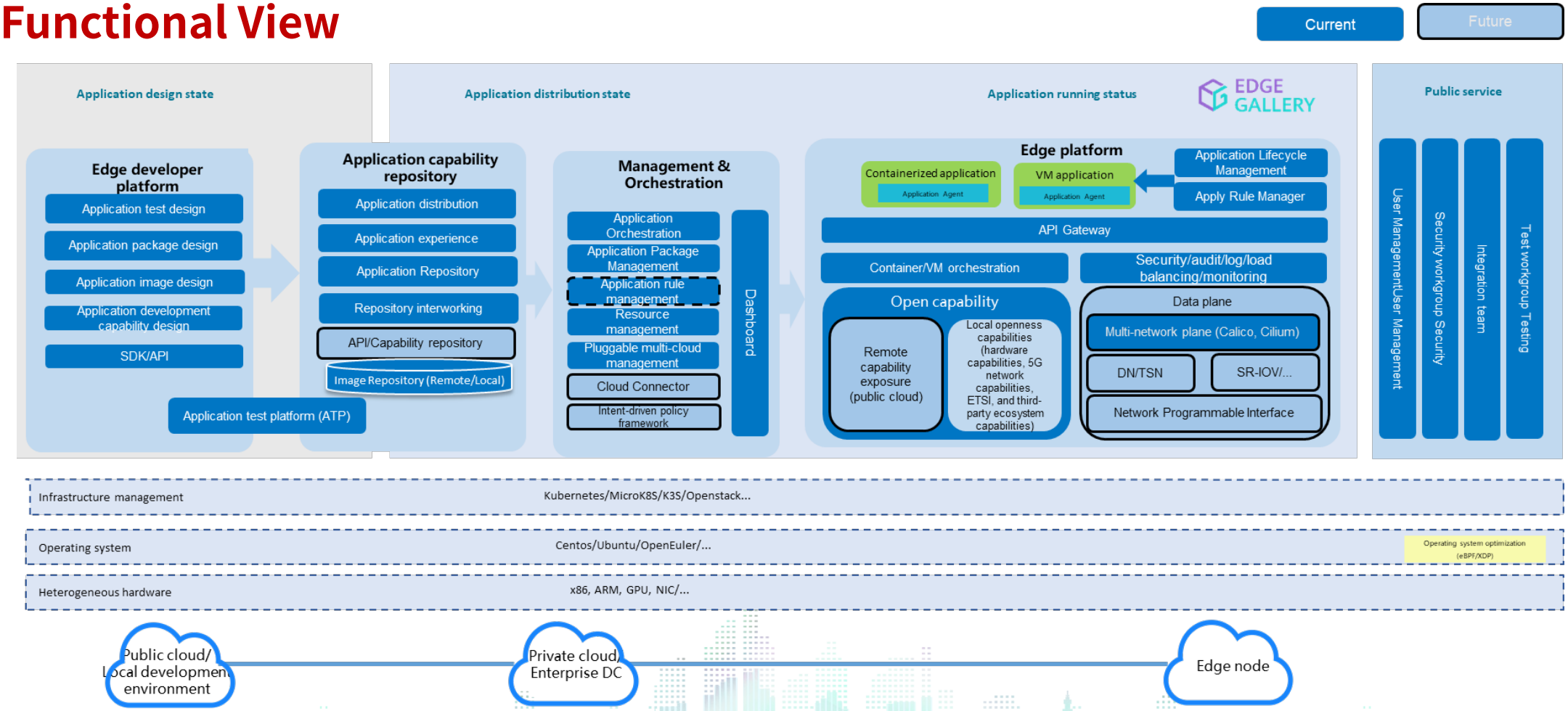
Functional View



- ✔ **Industry-friendly: model-driven, scenario-specific, and codeless/low-bit-rate applications** - Resolve the problem of application replication.
- ✔ **Developer-friendly: full-journey design, development design, deployment, commissioning, and installation for developer experience-oriented applications**
  - Resolve the problem of high development requirements.
- ✔ **Business-friendly: unified authentication, distributed federation, and integrated development and O&M of DevSecOps edge security**
  - Resolve the issue of difficult commercial monetization.
- ✔ **Friendly deployment: Infrastructure independent, modular design, and on-demand deployment, meeting different application scenarios**
  - Resolve diversified industry deployment issues.

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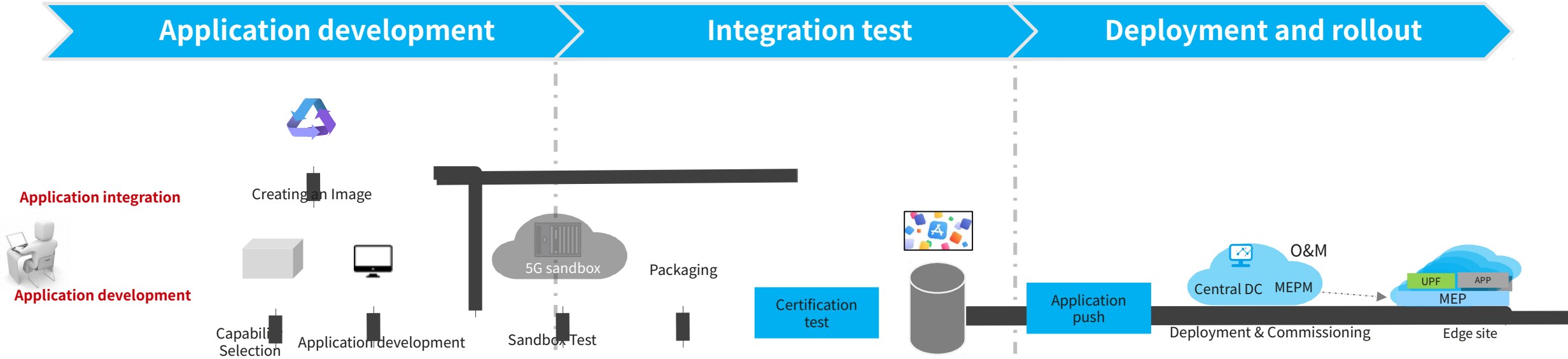
Wizard-based Application Development, Test and Deployment



Optimized app development and deployment process.

- Provide an E2E tool chain for existing application integration and new application development scenarios.
- Provides 5G environment to meet different development and test requirements.

App Verification/Certification tool chain

- Provides an app test and certification platform for carrier partners to customize certification test cases.
- App certification reports are provided to verify the compliance between apps and carriers' live network specifications.

Deployment & Rollout

- Provides the distributed federation capability of app repositories to implement interworking with third-party app repositories.
- Visualized deployment & commissiong of application to desired edge(s).
- Monitoring of deployed application(s)

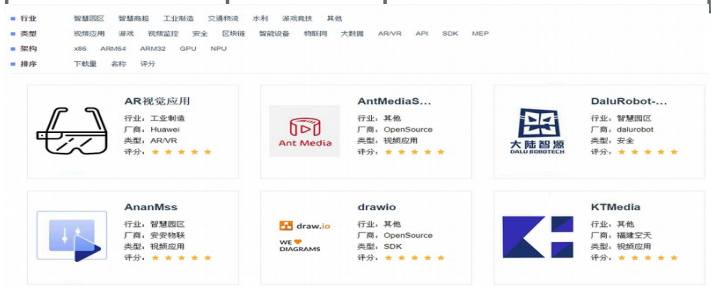
GALLERY

EdgeGallery Community

25+ Participating companies

40+ Applications

categorization	Quantity	Scenario
B2B enterprise	20+	Security, categorize, traffic, robot
B2C consumers	20+	Game, VR



Focus on five industry scenarios

- Smart campus
- industrial manufacturing
- Transportation and logistics
- gaming
- Security and others

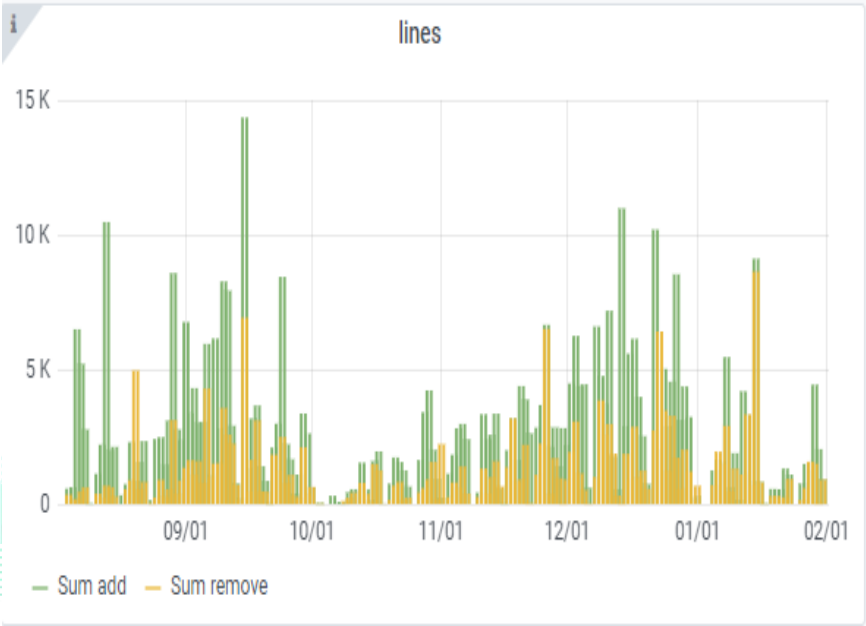
EdgeGallery Contribution (200+Kloc)

30 Project

2.9K PR

527 Star

397 Fork



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EdgeGallery and Industry Collaborations

- Huawei, China Mobile, Tencent, and ARM have initiated the 5G MEC BP in Akraino.
- The EdgeGallery is the upstream project of the BP.

- This function is used as the reference implementation of the Operator Platform.
- Defines the MEC NBI.

- The only open source project that complies with the ETSI MEC architecture.
- Compatible with ETSI API standards
- Participate in ETSI Plugtest 2020

- Work with CAICT to deploy EdgeGallery on the 5G trial network in Shenzhen.
- Jointly incubate the 5G MEC application ecosystem.

- Jointly recommend the 5G MEC application verification lab.
- Cooperation on MEC cyber security topics.

- EdgeGallery is an innovative platform for 5G NDA.
- Reference implementation of the 5G DNA deterministic network capability.

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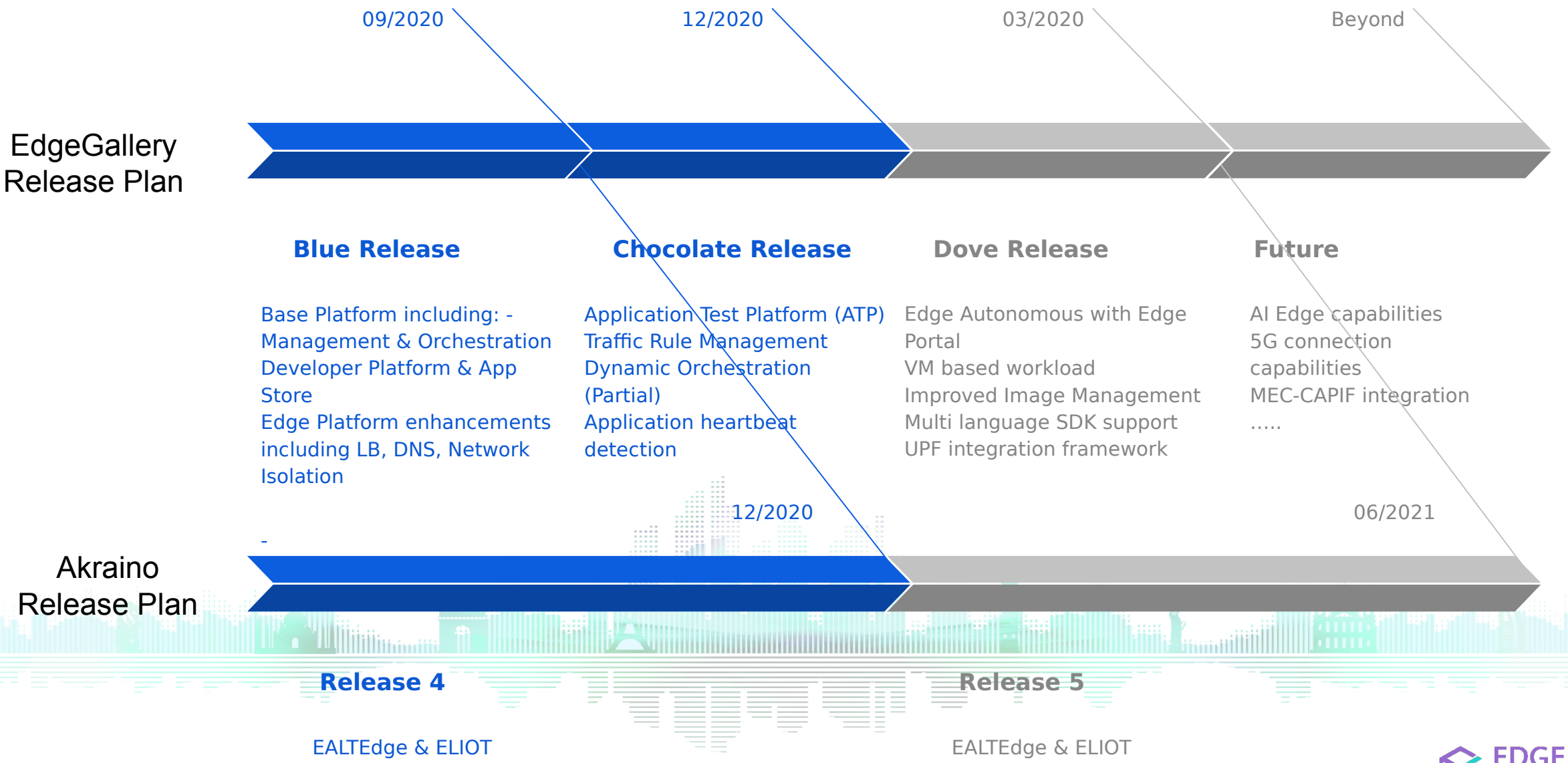
EdgeGallery & Akraino Release Mapping



Lets Build a unified 5G MEC industry platform!

Official website

https://www.edgegallery.org

Code Repository

https://gitee.com/EdgeGallery

WeChat assistant

Welcome to the EdgeGallery community.

Making EdgeGallery a de-facto 5G MEC Platform by collaborating with APP Vendors, Operators, SDOs, Open source communities globally.

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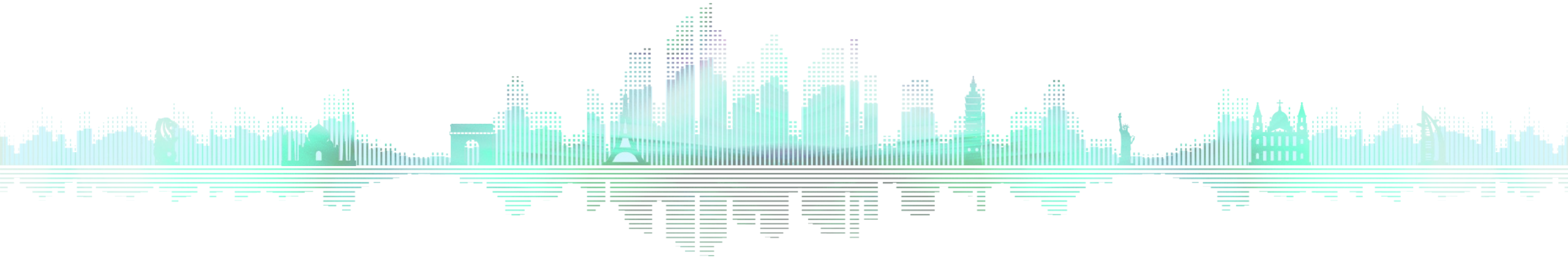
Thank you.