Linux Foundation Edge Ecosystem and Practice

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March 29, 2023

THE LINUX FOUNDATION

LF EDGE

New Premier Member

› Welcome, Flexnode, joins LF Edge as new premier member!

Administrative

› LF Edge Website
  › https://www.lfedge.org/

› LF Edge Slack
  › https://slack.lfedge.org

› LF Edge Wiki
  › https://wiki.lfedge.org/

› LF Edge Email lists
  › https://lists.lfedge.org/

› LF Edge Calendar
  › https://lists.lfedge.org/calendar

THE **LINUX** FOUNDATION

LF EDGE

Amplifying Value of LF Edge: LF Edge Use Cases Progress Report

Published use cases

Using EdgeX Foundry, Open Horizon and SDO to Scale Retail Applications at Edge Locations

Build Edge Solutions with LF Edge Akraino blueprints & ETSI Multi-access Edge Computing APIs

Project Alvarium and EVE help to securely and accurately monitor the Carbon Footprint in the world's first BioGas Plant
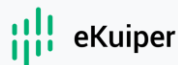
Work in progress

How **Eaton** uses **E**dgeX Foundry in its edge platform

eKuiper **adoption in Industrial Edge** scenarios in China

Using Open Horizon in **Resilient Edge** Computing - Smart agriculture in Rhineland-Palatinate

In the pipeline

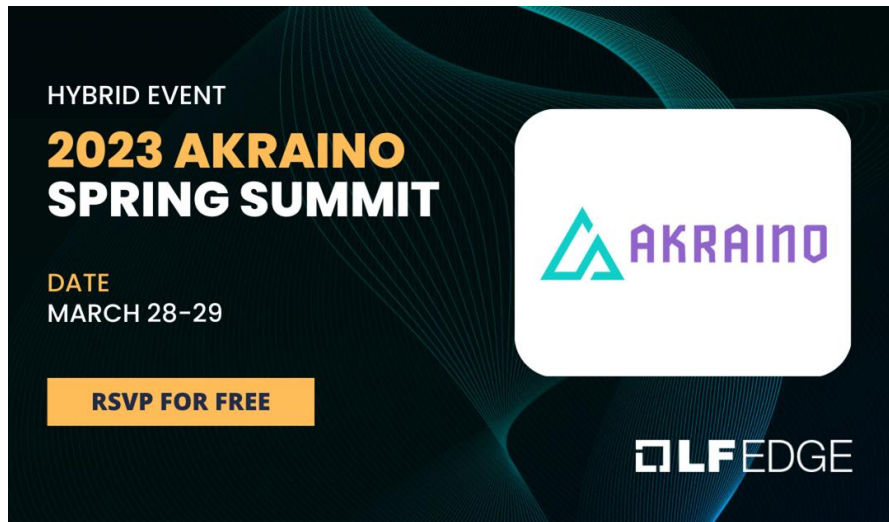Application of **Fledge at Neuman Aluminium**: An Industrial Use Case

More use cases from:

2023 Akraino Spring Summit

› Date & time:
  › March 28-29, 9AM - 3PM PT
› Topics:
  › Telco
  › Oil and gas
  › Manufacturing
  › Retail
  › AI
› Scan QR code below to register:

Vertical Market Adoption of End to End Open Source Software

OPEN NETWORKING, EDGE AND IOT MARKET ADOPTION

Industrial Manufacturing | Energy (Oil, Gas Utilities) | Commerce & Retail | Home | Automotive | Fleet & Transportation | Logistics | Building Automation | Cities & Government | Healthcare

ENTERPRISE NETWORKING
1. Private Networks 5G/LTE
2. Workloads across Multi-clouds
3. End to end visibility and monitoring

SERVICE PROVIDERS
1. Built on end to end open source 5G & edge
2. Developing countries with 5G and edge
3. Global connectivity

END USERS, GOVERNMENTS
1. Built on Open Source projects
2. Open Solutions and Blueprints
3. Unified Cloud, Enterprise, Telco

5G SUPER BLUEPRINTS BUILT ON END TO END OPEN SOURCE PROJECTS

O-RAN ALLIANCE | EVE | HOME EDGE | AKRAINO | EDGE X FOUNDRY | FLEDGE | Anuket

FD.io | ONAP | OPEN DAYLIGHT | kubernetes | DPDK DATA PLANE DEVELOPMENT KIT | tungsten fabric | magma

Edge Computing and IoT in **Healthcare**

Edge in the early stages, but growth ahead

The healthcare IoT market is expected to reach **$188.2 billion by 2024** (IoT in Healthcare Market report). A 2020 Dell survey found that health-care and life sciences data **grew almost 900%** over the previous two years.

This growth is driven by the **increasing demand for remote patient monitoring**, the need to **reduce healthcare costs**, and the increasing prevalence of chronic diseases.

Everywhere and anywhere healthcare

IoT is becoming increasingly important in **virtual visits**, **remote-patient monitoring**, and **consumer wearables** which creates more data than ever before.

Why open source in healthcare? Open exchange, de-centralized coding collaboration and peer review.

Developers must familiarize themselves with these regulations and **ensure the flexibility** and capability to meet those **compliance requirements** now and in the future.

Medical data growth: A snapshot

10 to 15 connected devices are in use per US hospital bed.

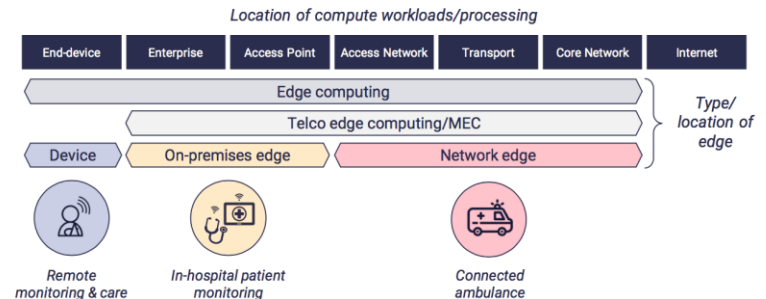**3 million** data points are generated by the average clinical trial.

30% of all global stored data is from health care and life sciences.

75% of data will be generated at the edge by 2025.

Source: Dell Technologies' Infographic "Edge and IoT Solutions"

Edge use cases in Healthcare

Location of compute workloads/processing

End-device	Enterprise	Access Point	Access Network	Transport	Core Network	Internet

Edge computing

Telco edge computing/MEC

| Device | On-premises edge | Network edge |

Type/location of edge

Remote monitoring & care

In-hospital patient monitoring

Connected ambulance

Edge Computing and IoT in **Agriculture**

Current trend

The global market for **precision farming (which includes IoT and edge computing)** is expected to grow from USD 7.0 billion in 2020 to **USD 12.9 billion by 2025**, at a CAGR of 12.9%. This growth is driven by the **increasing demand for food** and the **need to improve crop productivity** and efficiency.

How LF Edge plays a key role

› Rhineland-Palatinate in Germany uses **Open Horizon** in Resilient Edge Computing and smart agriculture
› Project **Alvarium** and **EVE** help to securely and accurately monitor the Carbon Footprint in the world's first BioGas Plant
› UC Davis and Opus One using **Fledge** to produce world class wine in safer conditions

2022 Year in Review Highlights

70K
Press Clip Mentions

5
Press Releases

215K
Twitter Impressions

2.5B
Potential Aggregated Reach

10
Media/Analyst Reach

TOP QUOTES

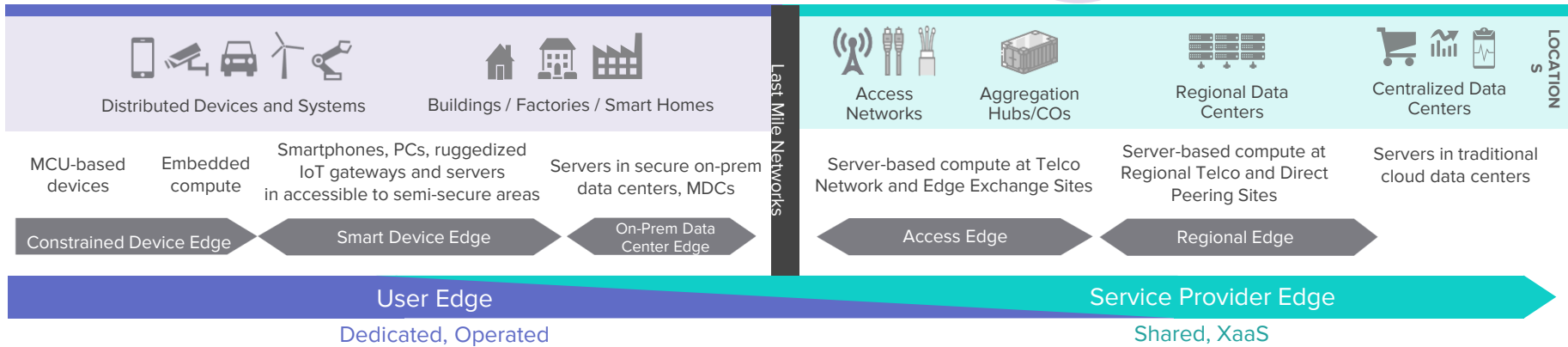"Edge computing has increasingly become a priority for a growing number of organizations… the LF Edge arm of the Linux Foundation expects edge spending to jump to $800 billion by 2028."

— TARYN PLUMB, VENTUREBEAT

LF EDGE
2022 YEAR IN REVIEW

Annual report goes **live at the end of January!**

THE **LINUX** FOUNDATION

LF EDGE

LF Edge Projects

Applications

Infrastructure

EDGE X FOUNDRY™

FLEDGE

PROJECT ALVARIUM

HOME EDGE

eKuiper

EVE

OPEN HORIZON

SECURE DEVICE ONBOARD

AKRAINO

BAETYL

Stage 1:
At Large Projects
Baetyl, eKuiper, Project Alvarium, Secure Device Onboard

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

Stage 3:
Impact Projects
Akraino, EdgeX Foundry

STATE OF THE EDGE

Research and Reports

Distributed Devices and Systems

Buildings / Factories / Smart Homes

Last Mile Networks

Access Networks

Aggregation Hubs/COs

Regional Data Centers

Centralized Data Centers

LOCATIONS

MCU-based devices

Embedded compute

Smartphones, PCs, ruggedized IoT gateways and servers in accessible to semi-secure areas

Servers in secure on-prem data centers, MDCs

Server-based compute at Telco Network and Edge Exchange Sites

Server-based compute at Regional Telco and Direct Peering Sites

Servers in traditional cloud data centers

Constrained Device Edge

Smart Device Edge

On-Prem Data Center Edge

Access Edge

Regional Edge

User Edge

Dedicated, Operated

Service Provider Edge

Shared, XaaS

Thank You