

Building a Mobile Edge-Cloud Solving for Application Mobility

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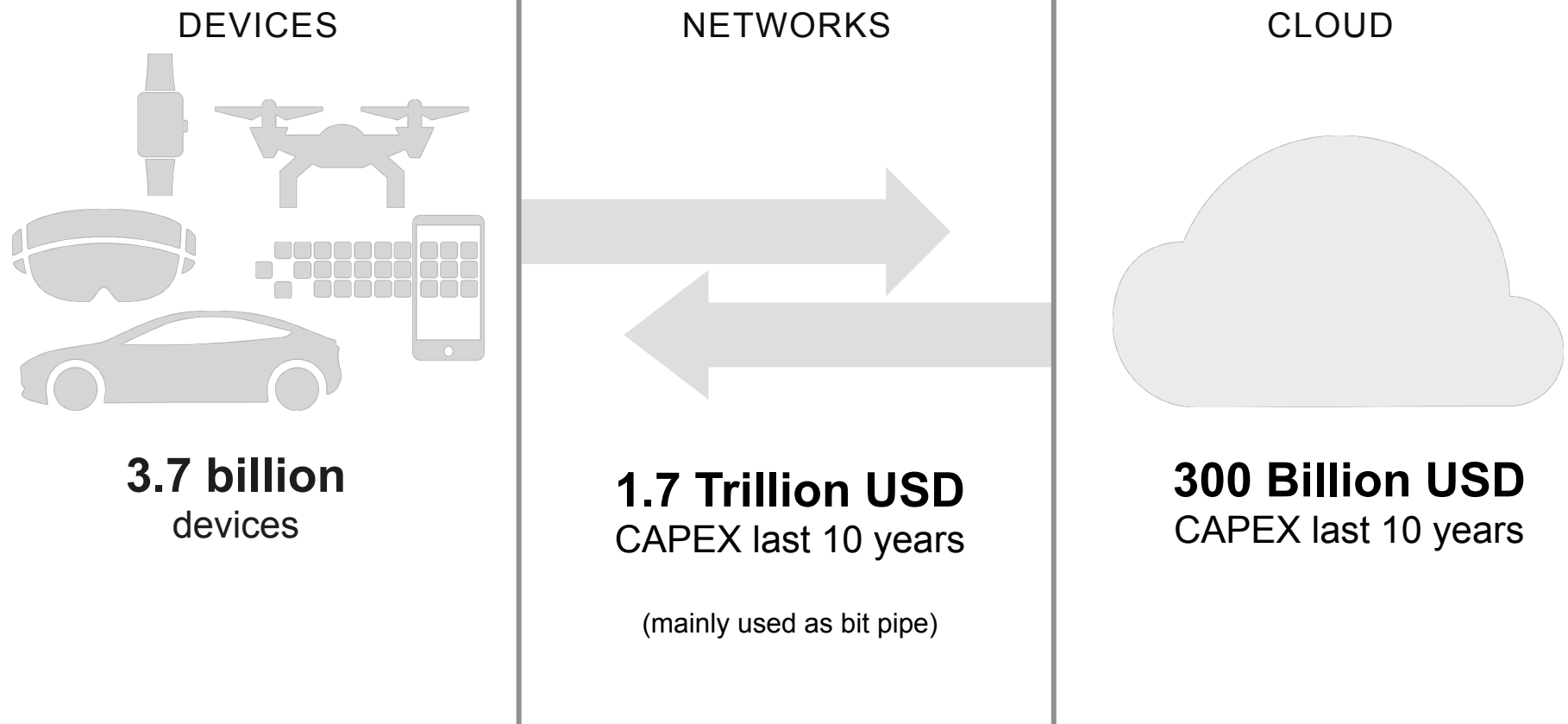
EXECUTIVE SUMMARY

- ❖ **What?** We are a **Deutsche Telekom-founded company** that has been operational since January 1, 2018.
- ❖ **Where and Who?** We're headquartered in "Silicon Valley" and run by a globally experienced, multi-disciplinary team that have been responsible for leading inventions in clouds and mobile networks.
- ❖ **Why now?** Mainstream operator investments now include the building of accessible infrastructure ("clouds").
- ❖ **Why?** We believe that **edge is the missing piece** in a **new value chain** that expands the types of devices on mobile networks, secures IOT, makes possible next generation content (AR/MR), readies mobile infrastructure for large scale handling of video ingress along with computer vision and machine learning services which are needed for autonomous devices.
- ❖ **How?** We do this through open source software and a new business and operational model where we aggregate highly distributed operator infrastructure on a global scale and deliver normalized, abstracted interfaces to application developers and device makers. We allow for unique access to previously inaccessible assets with mobile operator infrastructures.
- ❖ **Who is it for?** Our customers are application creators and device makers.

Problem Statement and Business Opportunity

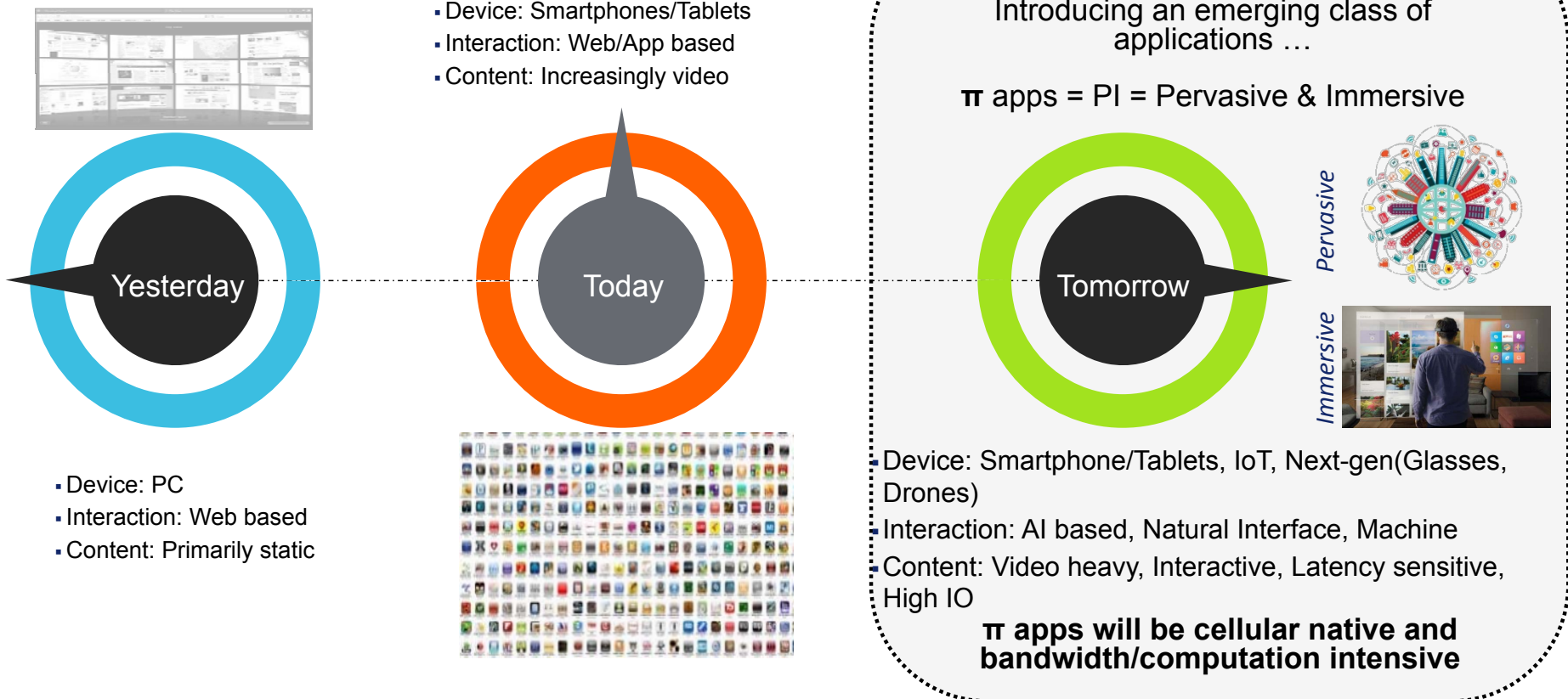


Current State

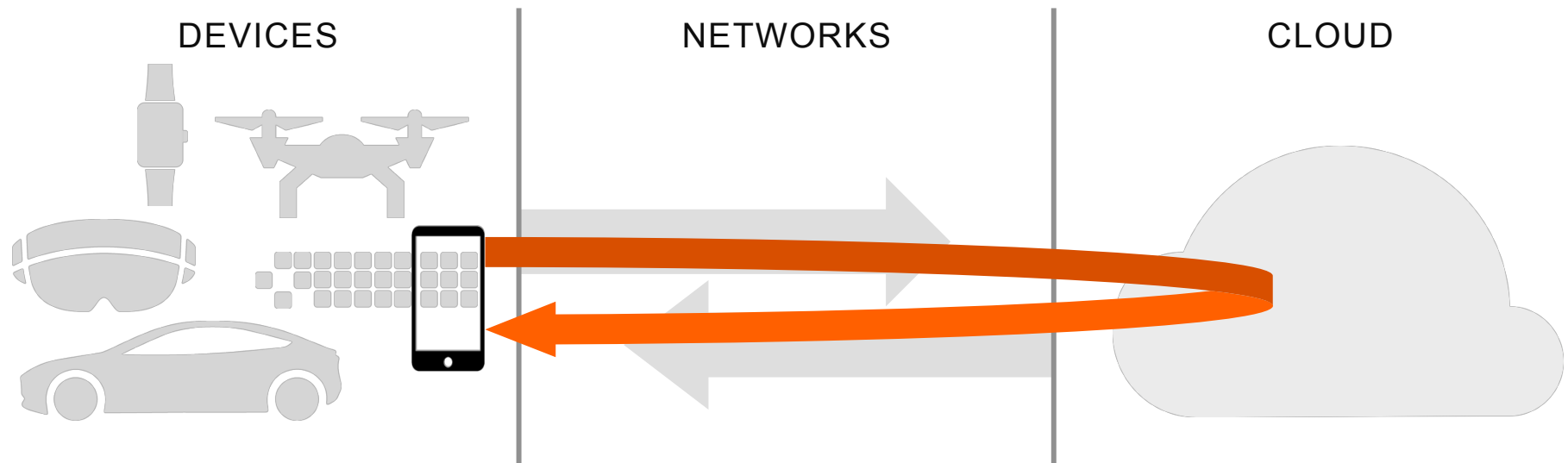


Emerging new class of applications

Pervasive and Immersive



Client is mobile – Cloud is static



Static and geographically distant cloud

Client has become mobile but backend is still location unaware and static

Bringing cloud closer to device

Make backend mobile - based on User's verified Identity and Location

<MobileedgeX>

SaaS

IaaS

Bring Cloud Closer to Device based on location and available cloudlet

Cloudlet X

Cloudlet Y

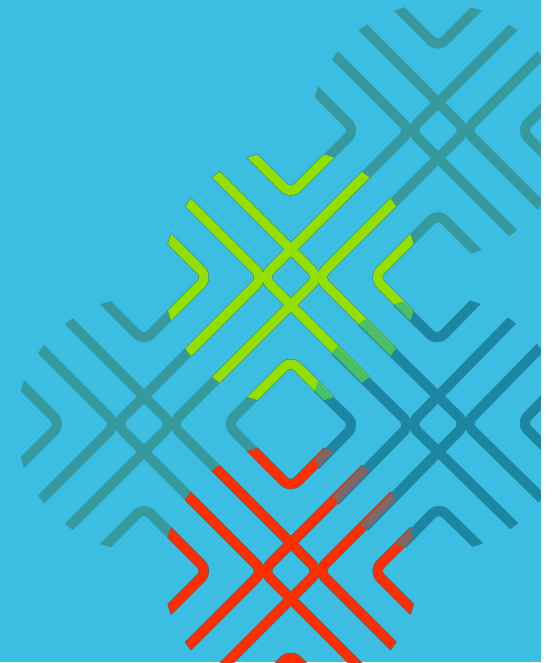
Devices are Dynamically Discovered and Grouped based on location

MobileedgeX Edge-Cloud Software Benefit for Operator Independent Edge

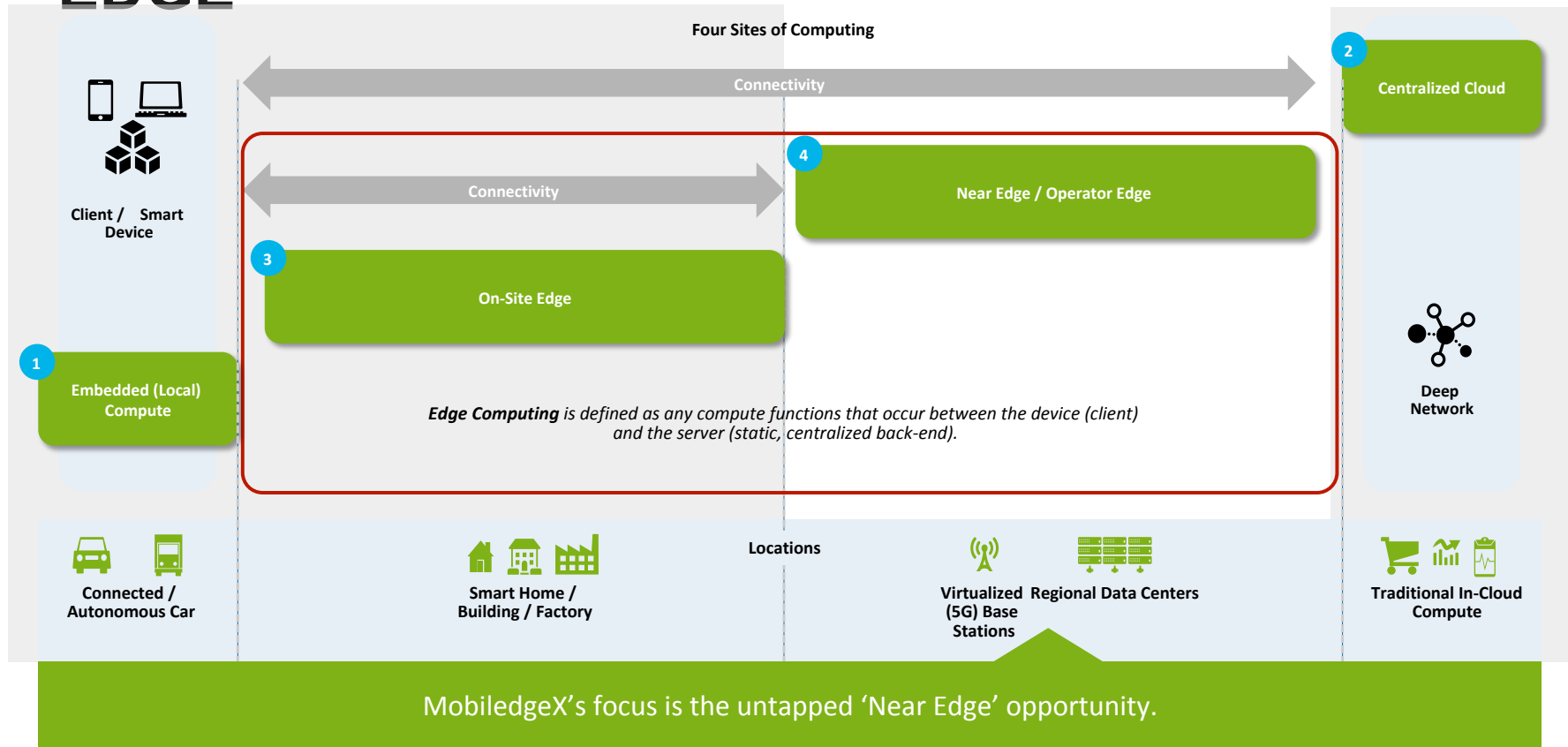
- Applications gets deployed in public cloud as before
- MobileedgeX control plane automatically scales applications from public cloud to appropriate cloudlets based on a user's verified identity and location by integrating an operator's OSS/BSS system
- Offers a per country architecture addressing country specific data privacy laws while offering a global marketplace in a single pane of glass to developers



Business Solution



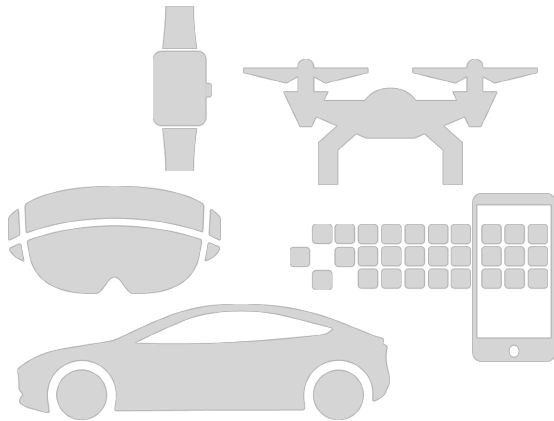
UNTAPPED OPPORTUNITY – OPERATOR EDGE



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Preparing for future state - “Day Zero”

DEVICES



2012 Handset – 76 Gflops

2017 Handset – 600 Gflops

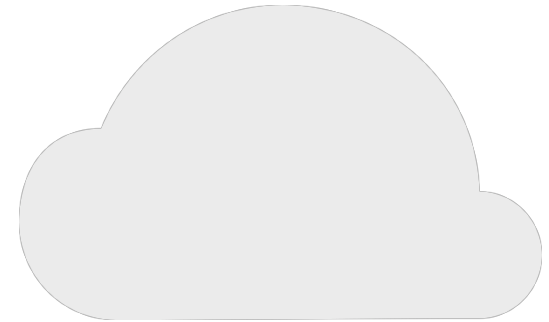
2018 Handset – 5 TFlops

NETWORKS



Should the
network provide
more than just
connectivity?

CLOUD

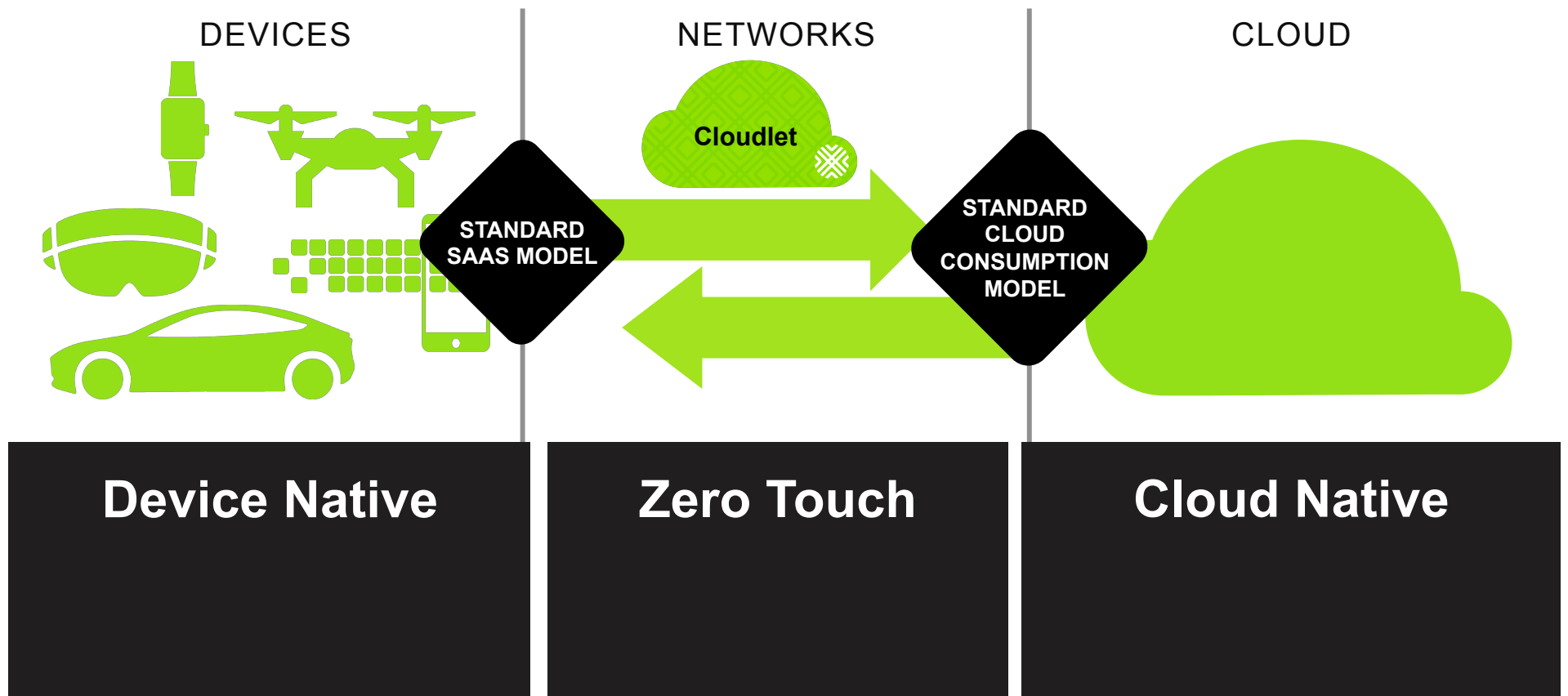


AWS CC2 – 333 Gflops

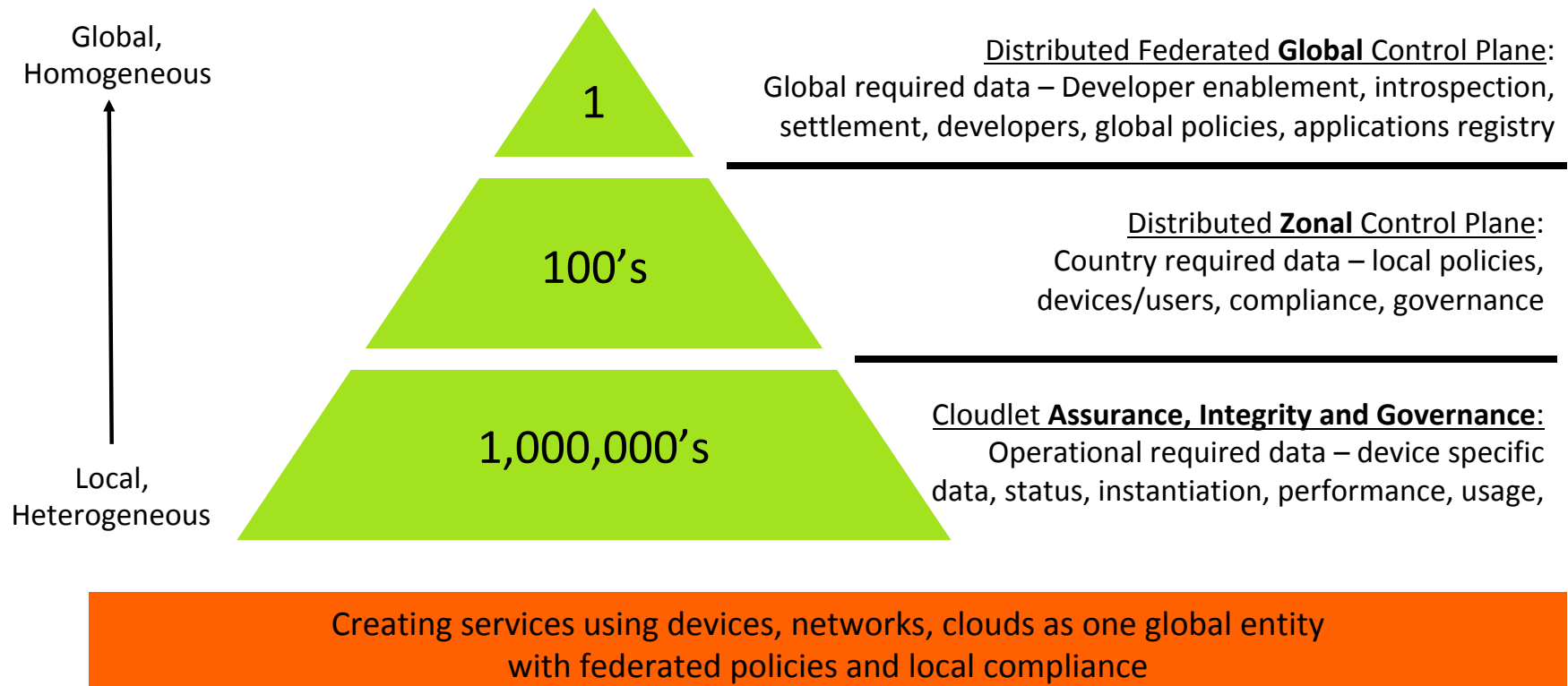
AWS P3 – 1 PetaFlops

Google TPU – 11.5 PetaFlops

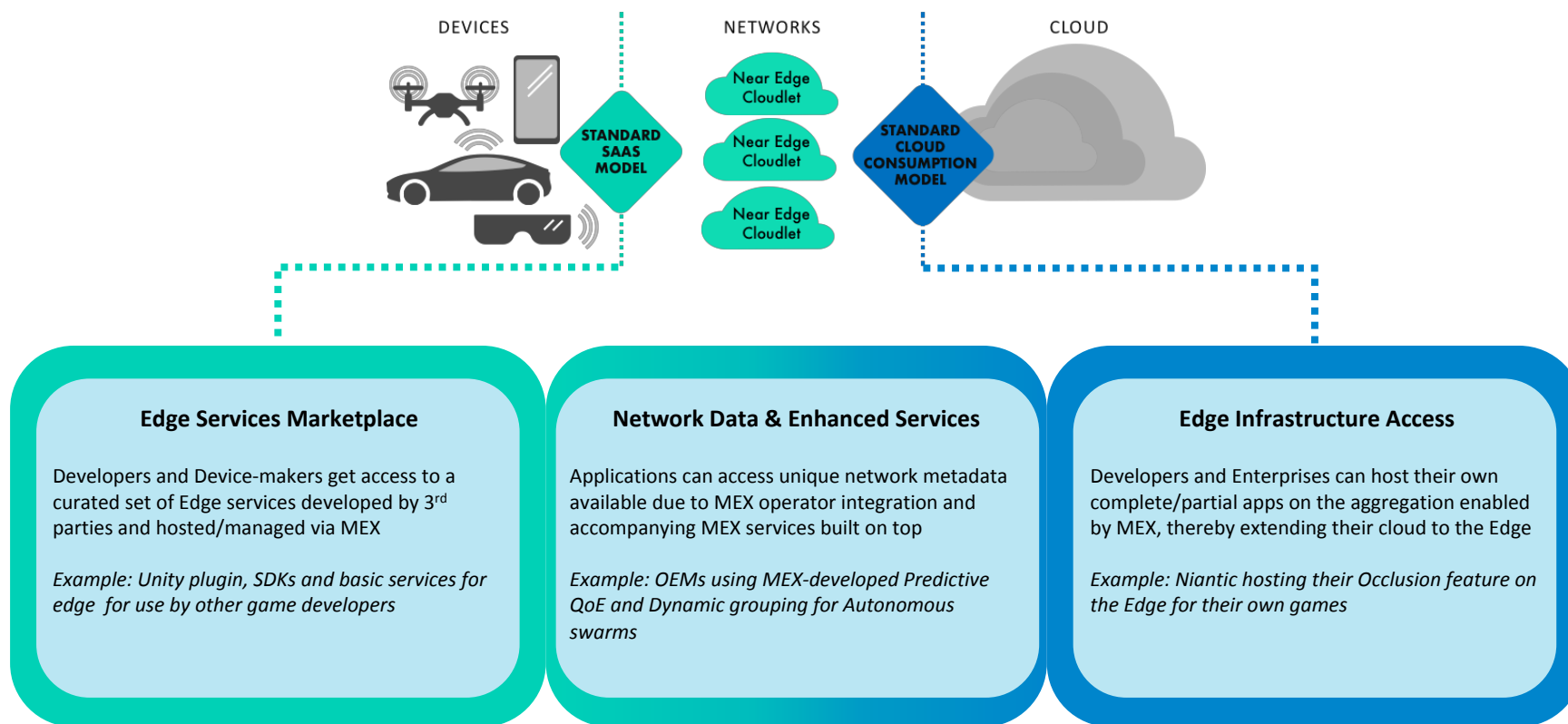
Wanted Consumption Model



Managing Privacy Federated Distributed Planet Sized Kubernetes

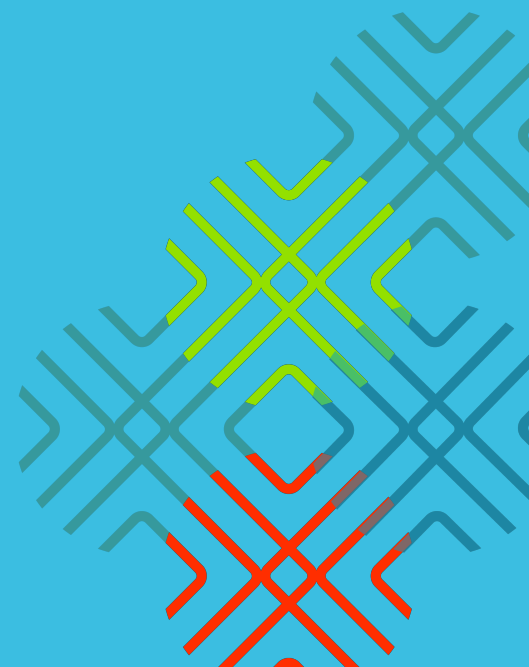


MONETIZATION STRATEGY

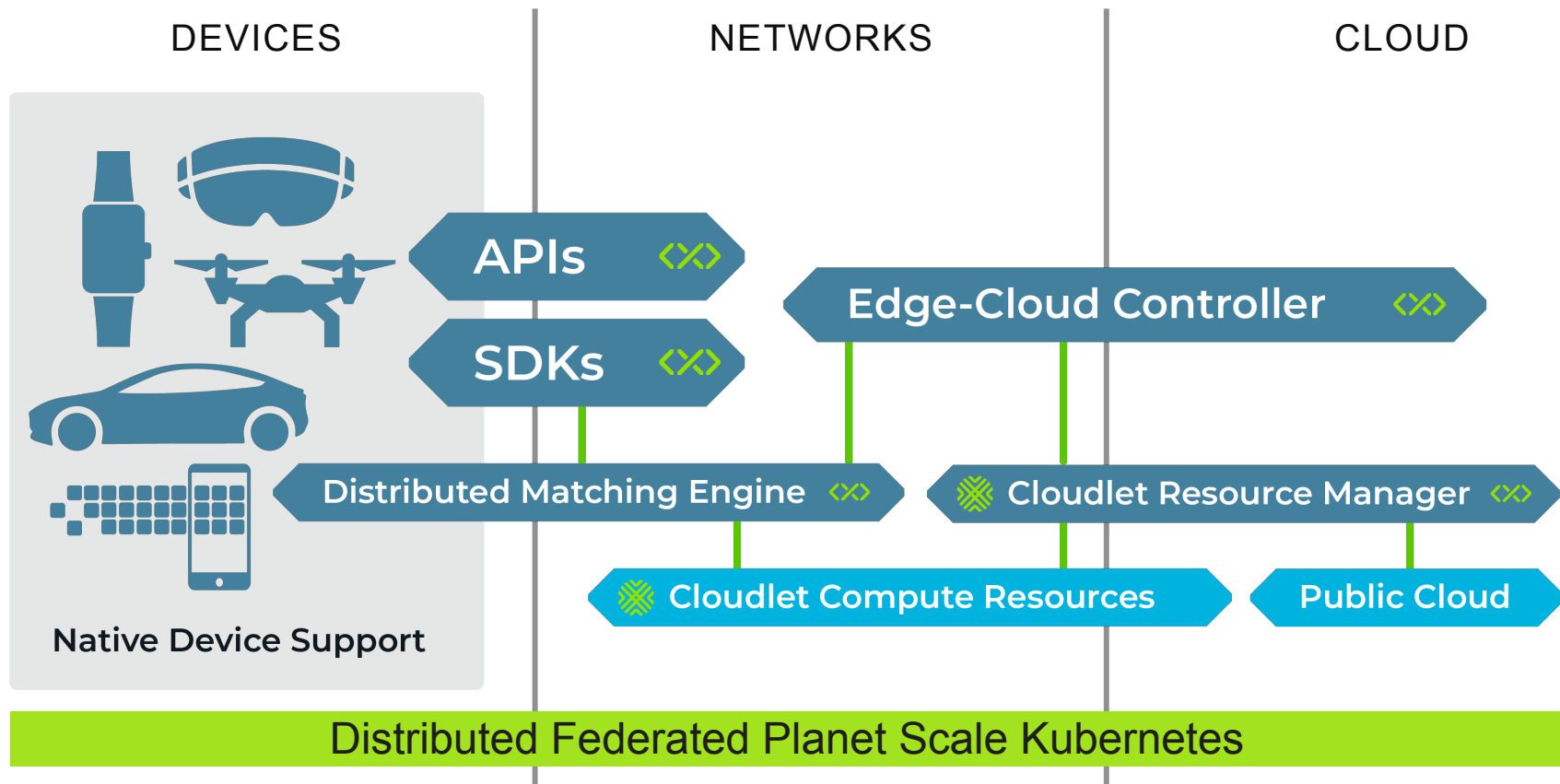


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Technical Solution



MobileedgeX Edge-Cloud

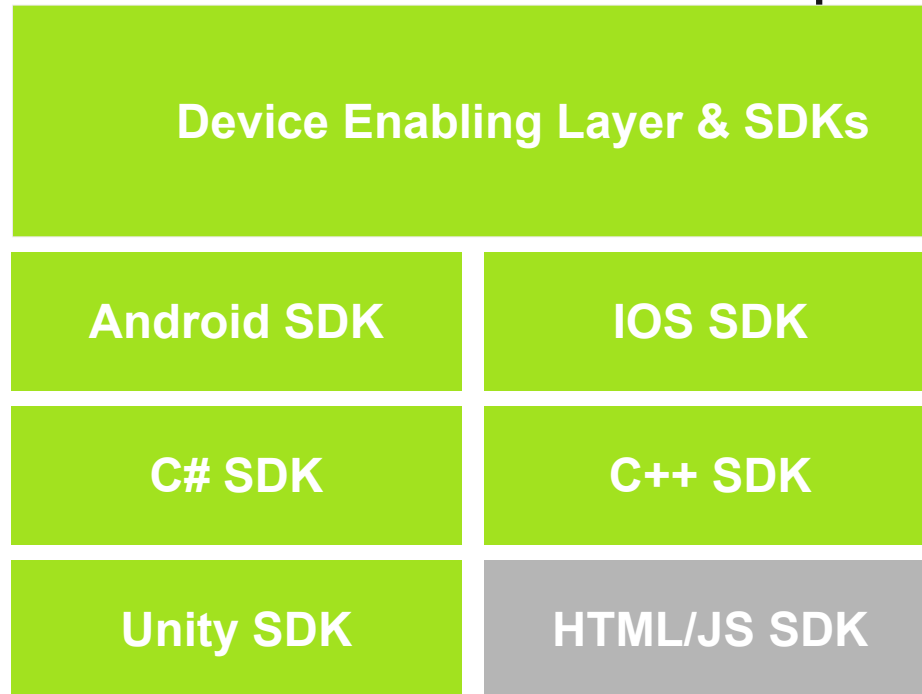


Key features of Edge-Cloud

- **Bringing Cloud Closer to Devices**
- **Temporal Location Based Grouping**
- **Federated, Distributed, Global Scale Application Container Orchestration**

Edge-Cloud Offers a per country architecture for addressing country- specific data privacy laws while offering a global marketplace and single pane of glass to developers

Device enablement – Operator independent



**Gray boxes are uncommitted roadmap

DEVELOPER COMMUNITIES & OPEN LABS



Why LF Edge? To consolidate disparate industry edge initiatives.

Why MobicedgeX? To drive the correct approach, delivery and industrialization of a distributed federated control plane.



TELECOM INFRA PROJECT

Why TIP? To drive innovation, financial performance and efficiency in all aspects of telecom infrastructure.

Why MobicedgeX? To ensure accessibility and maximum utilization potential from the perspective of market demand.

hub:raum

Why hub:raum? DT initiative to accelerate 5G and edge customer understanding and adoption potential.

Why MobicedgeX? To get early market access to potential demand and needs and ensure delivered edge services meet those needs.



MobicedgeX is not a direct member, but is participating via Deutsche Telekom to showcase certain edge use-cases with other operators.



openEDGEcomputing

Why OEC? Academic partnership and consolidation of industry players to best understand what is possible/needed.

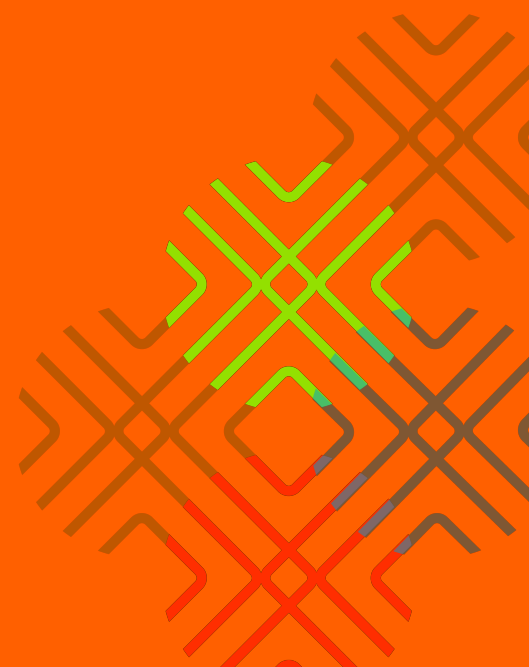
Why MobicedgeX? Access and participation in edge computing knowledge, value, learnings.



World Wide Technology

Why WWT/Advanced Technology Lab? Certify vendor infrastructure configs that can then be delivered with industrial scale and cost.

Current Market Status



Live in production in Germany



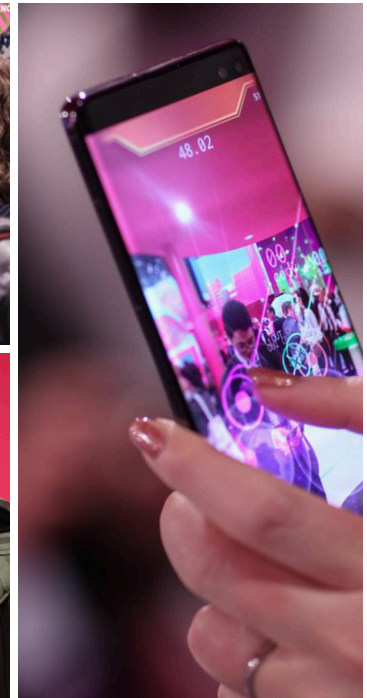
Introducing MobileEdgeX Edge-Cloud R1.0

MobileEdgeX Edge-Cloud R1.0 enables application containers to be deployed with the same simplicity as over-the-top, hyperscale datacenter-based cloud providers. The product powers compelling new use cases already live in networks today, including:

- Automatically deploying application backends close to users based on their Verified Location and Identity
- Augmented Reality and Mixed Reality Performance Support
- Video & Image Processing That Meets Local Privacy Regulations

MobilegeX, Samsung, Niantic, DT

- 2,000+ visitors to multi-player AR game demo with Niantic & Samsung (#1 traffic in Deutsche Telekom's booth)
- Executives from more than 15 operators played the game & experienced the developer console
- More than 25 articles mentioned the demo



PARTNER & MEDIA ACTIVITIES



MobiledgeX is engaging/targeting players across the Edge value chain. Many conversations ongoing which are not yet publicly disclosed.

Examples

Operators*



Apps / Devs*



Ecosystem*



MobiledgeX: Enabling New Immersive Experiences With Edge Computing

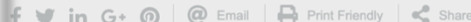
3/4/2019



MobiledgeX, Deutsche Telekom, Samsung and Niantic showcase the world's first edge-enabled, multiplayer augmented-reality demo at Mobile World Congress 2019. Geoff Hollingworth, CMO of MobiledgeX, explains how edge computing supports speed and scalability challenges to seamlessly execute edge-enabled experiences today.

World Wide Technology and MobiledgeX Partner to Validate Mobile Edge Computing Solution Readiness for Global Operator Edge Deployments

Partnership will enable customers to accelerate global mobile edge computing deployments at scale utilizing certified infrastructure that is immediately monetize by fulfilling next-gen application and device requirements for worldwide



DT, Intel, MobiledgeX Lead TIP's Edge App Developer Project



Dan Meyer
October 18, 2018
11:40 am MT



The Telecom Infra Project (TIP) launched a new group to produce vendor-neutral APIs and software tools focused on mobile functions running on edge infrastructure. This will tie

MobiledgeX & Sfara form a Global Technology Partnership

Addressing Driver Analytics and Mobile Assurance Services for the Reinsurance & Insurance industry arising from the introduction and ongoing development of semi-autonomous and fully-autonomous Level 3 through Level 5 automotive, trucking, transportation, mobility, fleet management and ride sharing services

MobiledgeX Revs Up & Shifts Into Gear



ANALYSIS
STRE,

BERLIN -- Edge Computing Congress 2018 -- Only nine months after formed, startup MobiledgeX has unveiled its suite of edge computing tools designed to bring third-party application developers on board generation networks, outlined its open source plans and ramped up operator charm offensive in an effort to get the entire carrier community by Mobile World Congress 2019.

The Deutsche Telekom AG (NYSE: DT)-backed startup is focused on what is effectively a middleware platform that will enable third-party to run their applications on edge computing platforms: Part of its platform

* Logos are only representative of target or potential partners; Not fully executed/disclosed partnerships

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Benefits for the whole community

DEVICES



Easier

NETWORKS



New Revenue Streams

CLOUD



Distributed Scale Faster

Developers have predictable access to unique edge resources and services

Faster Infrastructure modernization for Technology Suppliers

Thank You!

