



Vodafone Distributed Multi- access Edge Computing

Edge Computing change the game



**Cloud
computing**



Flexibility, agility and
pay-as-you-go cost efficiency

Multi-access Edge Computing

Combines the best of both worlds

Super-low latency
communications

5G

EDGE

Intelligent
computing
at the edge

MPN

MOBILE PRIVATE NETWORK

Guaranteed service levels and security
with both 4G and 5G options



**On premise or
on device edge**

Low latency, data volumes
and data privacy



AR/VR



Gaming



IoT



V2X

Transformed
experiences



Drones



Healthcare



Factory



Robotics

Delivering ultra-low latency communications and intelligent services in previously hard-to-reach places



Vodafone Distributed Edge Computing



Distributed MEC

Hosted infrastructure at the Edge, embedded in the wide area network (4G or 5G) and supporting multiple customers

- With the agility and flexibility of a public cloud
- Low latency and security of on premise gateways and compute
- Supports multiple customer workloads

Use cases: autonomous vehicles, AR & video analytics on the move

Combined with 5G, enables super-fast connection and super-low latency (<10ms between base station and application vs 50-100ms today)



Vodafone brings...

- Edge site locations
- 4G and 5G network
- Mobile telephony and data services
- Edge managed and professional services
- Edge solutions and low-latency applications



AWS brings...

- Access to developer ecosystem and ISVs
- Compute base services and storage
- Networking and management services
- Security services
- Support from certified AWS cloud developers



The benefits of Edge Computing – enabling digital innovation



Low latency for real-time operations and complex decision-making in seconds, new use cases and applications



Bandwidth efficiency as applications are hosted locally



As data processing moves to the edge, computing power increases (cheaper devices, longer battery life and improved UX)



Data privacy, security with resilient backup options



Regulatory compliance as data is stored in a physical location



Vodafone Business Edge Innovation Programme with AWS

The Vodafone Business Edge Innovation Programme with AWS **gives you the power to change the game.**

What's included?



Exclusive access to Edge training, technical workshops and hands-on developer labs



Be part of our growing Edge ecosystem, with early access to the latest news and training



Access to Vodafone MEC powered by AWS Wavelength to test your applications at the Edge

Register now for our **Building Edge Applications and Solutions Workshop** on the 25th May

Google **"Vodafone Edge Innovation Programme"** for more information



Edge Innovation Programme Programme

Vodafone Business Edge Innovation Programme

Phase 1

Technical Training

Edge Programme Briefing

Phase 2

Hands-on Labs

Virtual Lab Training for Developers

Phase 3

Pilots

20 projects to be deployed on MEC

Dedicated support from Vodafone and AWS

Edge Innovators Series

Learn from Leaders with the Edge

Building Applications and Edge Solutions – 25th May

VIP guests: Prof. Mahadev Satyanarayanan & Prof. Rolf Schuster



Some MEC use cases

Automotive, Transport, Logistics

- Assisted driving
- Autonomous vehicles
- Pedestrian safety shield
- Intelligent crossing driver assistance
- AR-based dashboard
- Intelligent perception: hazard auto-detection Emergency management
- Location/maps
- Protection and control

Utilities

- Remote connected engineer
- Drone detection as a service
- Worker safety
- Autonomous on premise vehicles
- Autonomous processes
- Live video streaming analytics
- Drones for remote management

Manufacturing

- Remote video analytics
- Remote operations with AR/VR
- Video streaming analytics
- Worker safety
- Autonomous on premise vehicles
- Autonomous processes
- Live video streaming analytics
- Drones for remote management
- Connect offices and offer low-latency apps and services

Media, Entertainment, Gaming

- New gaming experiences for sports and other gaming events
- Handheld device becomes console
- New broadcasting experiences
- Developers developing new AR/VR gaming applications

Public Sector

- Safer smart cities through:
- Drone control
 - Crowd control
 - Transport hub security & surveillance
 - Digital traffic

Ports

- Drone detection
- Connected shipment
- Video surveillance and analytics
- Autonomous vehicles for transport
- Optimising ports

Retail & Consumer

- Connect offices and offer low-latency apps and services
- Store apps with AR

Healthcare

- Connected ambulance
- Remote surgery



Success & Learnings



Most use cases required significant throughput values.
Consider DL / UL ratios and deployments thoroughly. Also look at regulatory impacts.



Great balance between use cases targeting end consumers and
businesses/enterprises value chains.
Plan vertical industry reach accordingly.



Positive society impact on data protection through anonymisation and
analytics at the Edge.
Lots of potential for MEC/Edge services in the space.



Future ahead & Industry landscape



Plenty to be learned still

- Lots more Use Cases to trial and industries to target
- How to develop Edge-native applications

How will the whole ecosystem work?

Avoiding common pitfalls

Finding synergies

Challenges

- Multitude of Edge operators
- Highly distribution of end devices
- Ubiquitous geographical presence

Challenging industries

- Automotive
- Autonomous devices/vehicles
- Cloud Gaming & consumer AR/VR
- Healthcare & Safety services





Thank You.