IOT & DIGITALIZATION – 5G & DISTRIBUTED CLOUD

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ERICSSON

IOT & DIGITALIZATION
EVOLVING WITH WIDE RANGE OF USE CASES AND REQUIREMENTS

Massive MTC

SMART BUILDING

LOGISTICS, TRACKING AND FLEET MANAGEMENT

SMART METER

SMART AGRICULTURE

CAPILLARY NETWORKS

M2M Today

- Electricity meters
- Connected cars
- POS terminals
- ETC

Critical MTC

REMOTE HEALTH CARE

TRAFFIC SAFETY & CONTROL

INDUSTRIAL APPLICATION & CONTROL

REMOTE MANUFACTURING, TRAINING, SURGERY

Massive IoT Access

LOW COST, LOW ENERGY
SMALL DATA VOLUMES
MASSIVE NUMBERS

- > 400 million cellular M2M connections
- Majority over GPRS

4G Evolution & 5G

ULTRA RELIABLE
EXTREM LOW LATENCY
VERY HIGH AVAILABILITY

5G FOR INDUSTRY DIGITALIZATION
HIGH EXPECTATIONS AS EVERY INDUSTRY GETS CONNECTED

5G FOR INDUSTRIES

- AUTOMOTIVE AND TRANSPORT
- MANUFACTURING
- PROCESS INDUSTRY
- SAFETY/SECURITY
- AGRICULTURE
- ENERGY AND UTILITIES

10Gbps peak data rate

10Mbps-100Mbps everywhere

10x-1000x data volume

1ms latency

10 years battery lifetime

10x-100x connected devices

Wide range of new opportunities, use cases, requirements, and stake holders
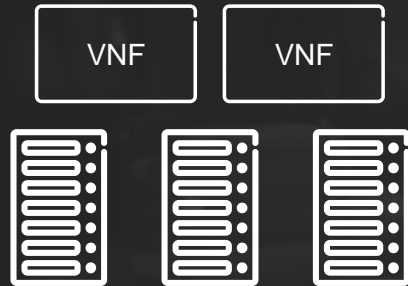
5G READY COMPONENTS FOR IOT AND DIGITALIZATION

Management & Orchestration, Analytics & Exposure
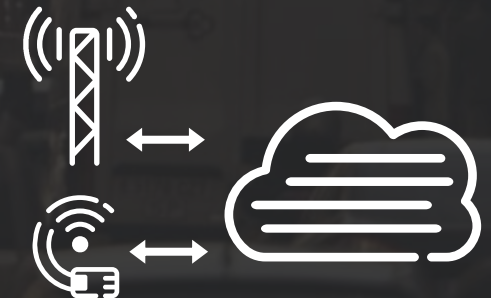
Virtualization

VNF   VNF
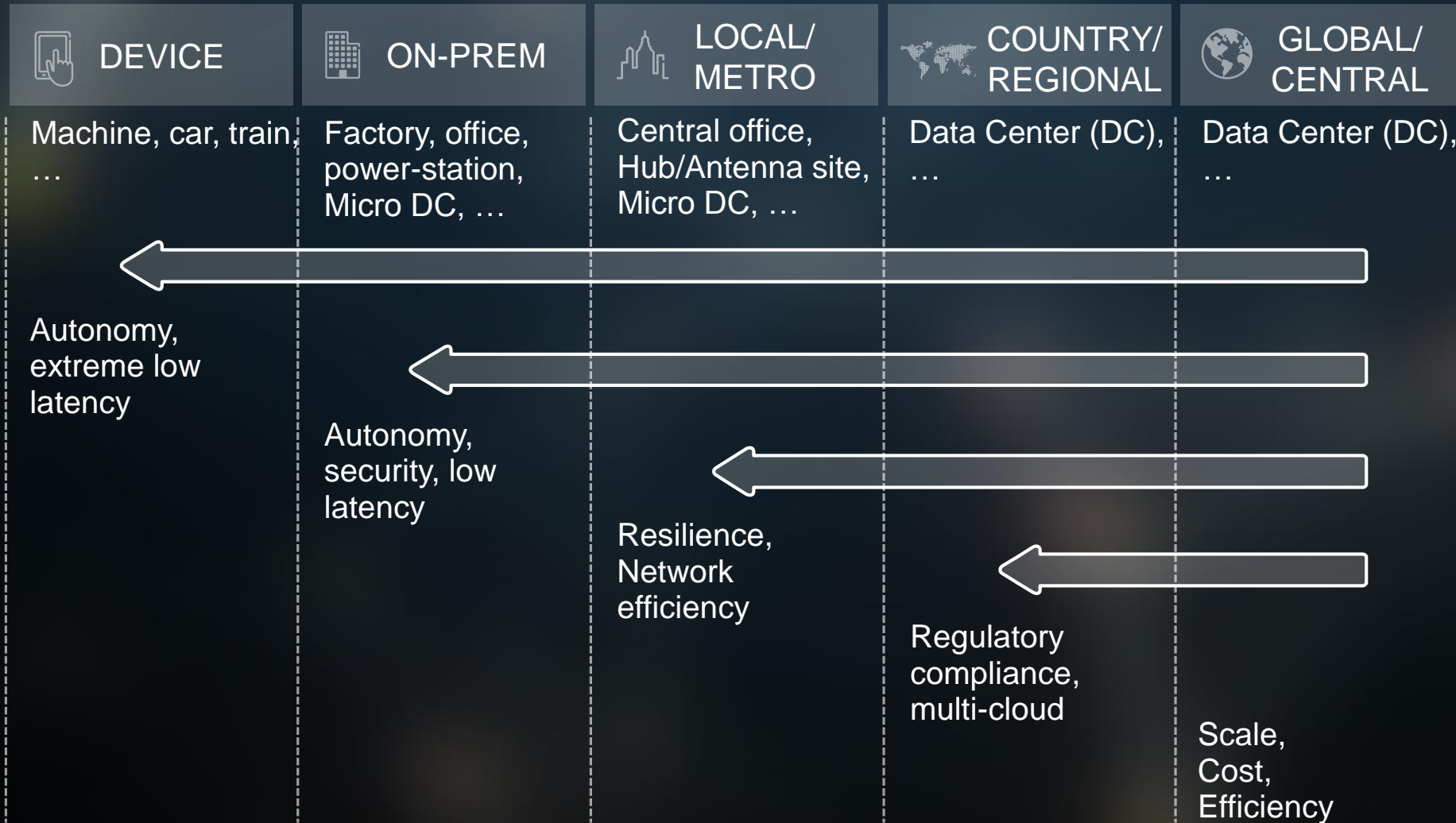
Software Defined Networking (SDN)
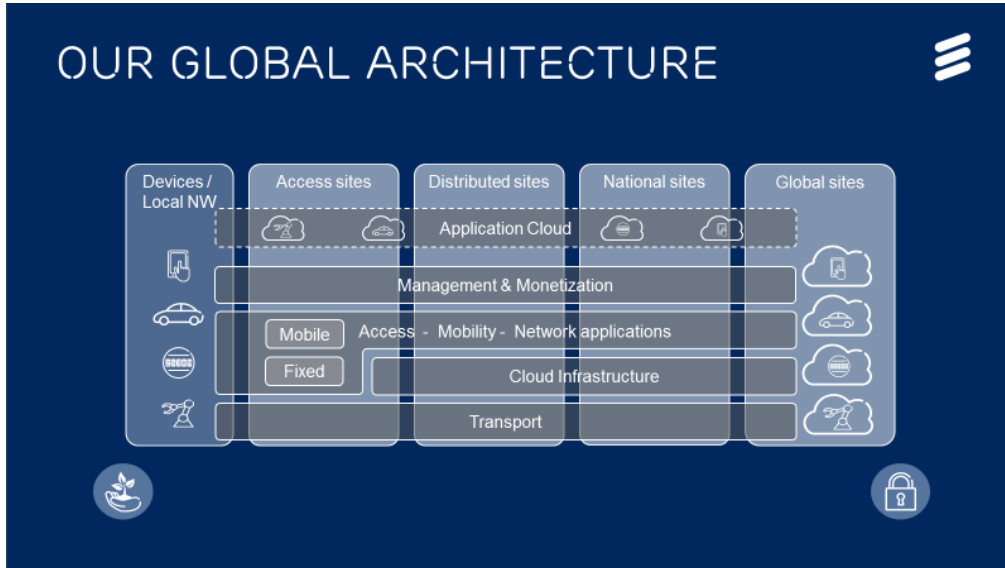
Distributed Cloud Infrastructure

Network Slicing

REQUIREMENTS FOR DISTRIBUTED CLOUD

DEVICE	ON-PREM	LOCAL/ METRO	COUNTRY/ REGIONAL	GLOBAL/ CENTRAL
Machine, car, train, …	Factory, office, power-station, Micro DC, …	Central office, Hub/Antenna site, Micro DC, …	Data Center (DC), …	Data Center (DC), …

Autonomy, extreme low latency

Autonomy, security, low latency

Resilience, Network efficiency

Regulatory compliance, multi-cloud

Scale, Cost, Efficiency

DISTRIBUTED CLOUD INFRASTRUCTURE DEFINITION

OUR GLOBAL ARCHITECTURE

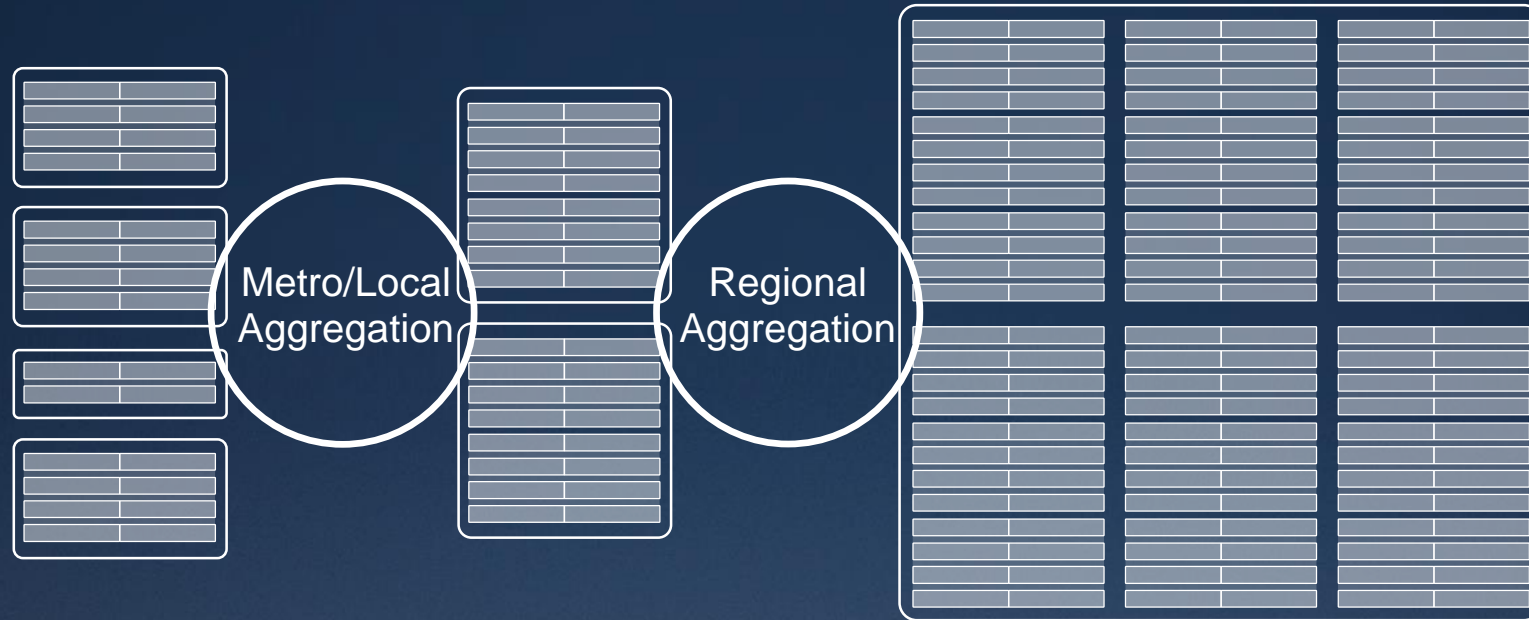DISTRIBUTED CLOUD AS KEY COMPONENT FOR 5G READY CORE & NETWORK SLICING

Distributed Cloud

An execution environment for Cloud applications across multiple sites, including required connectivity in between, managed as one solution and perceived as such by the applications also when it is heterogeneous.

Distributed Cloud as System Concept
- Requirements - All workloads, including
    - 3GPP network functions virtualization
    - Media and IoT applications
    - Data exposure, analytics, and management
    - Regulatory requirements
    - New applications
- Topology aware distribution model
- Unified Cloud execution environment with layered resource management

DISTRIBUTED CLOUD INFRASTRUCTURE, DEPLOYMENT SCENARIOS

Metro/Local Aggregation

Regional Aggregation

Software Defined Infrastructure (SDI)

Small Site
Edge Optimized
High Density

Medium Datacenter
Hardware Pool
NEBS /Small Footprint /High Capacity

Large Datacenter
Hardware Pool
RDS/Disaggregation/Accelerators

Optical Interconnect

INDUSTRY INITIATIVES

› Multiple complementing, overlapping and/or competing initiatives
- ETSI Multi-Access Edge Computing (MEC)
- OpenFog
- EdgeX
- IEEE Open Mobile Edge Cloud (OMEC)
- …

› Leverage innovation power of individual eco systems
- Honor separation of concerns
- Ensure convergence through customer engagements