Turn on 5G with Ericsson 5G Platform

Launch presentation

5G platform meeting the future

Increased capacity and lower cost/bit
5G NR is the path to large scale capacity increases and reduced cost per bit transferred

Seamless evolution to 5G
eMBB will be the main starting point in the initial phase of 5G

Enable new use cases and business models
Capture new revenue streams from emerging industry use cases

5G

Evolution of mobile broadband content
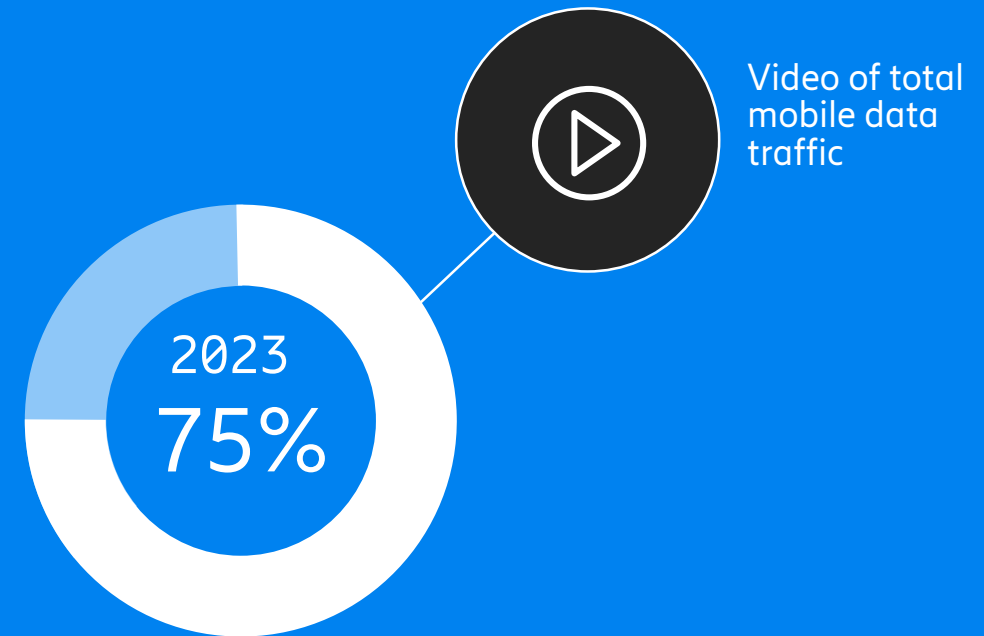
User behavior changing
Users spend more time on watching and sharing video

On-line content increasingly video
Embedded in most online content (news, ads, social media, etc)

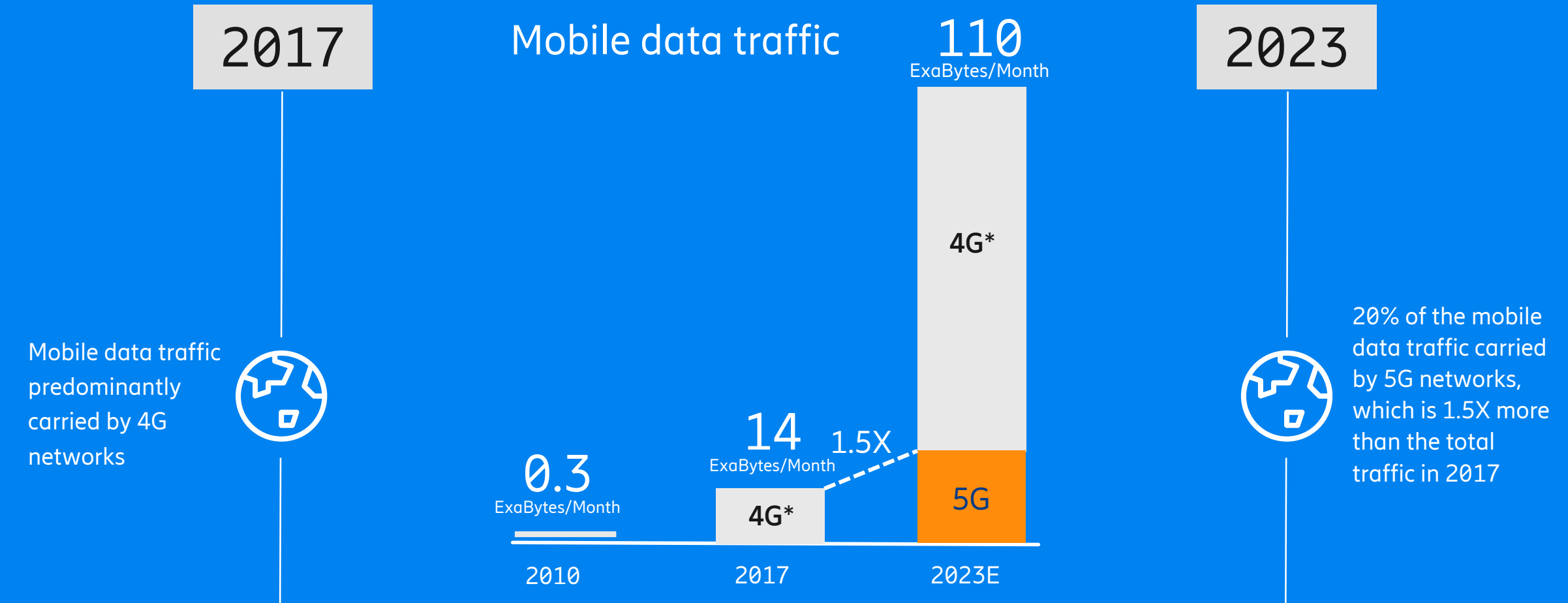**Emerging immersive media formats and applications**
HD/UHD, 360-degree video, AR/VR

Video of total mobile data traffic

2023
75%

Video increasingly dominant

Driving MBB traffic growth

Continuous mobile broadband traffic growth

2017

2023

Mobile data traffic

110
ExaBytes/Month

4G*

Mobile data traffic predominantly carried by 4G networks

20% of the mobile data traffic carried by 5G networks, which is 1.5X more than the total traffic in 2017

14
ExaBytes/Month

1.5X

0.3
ExaBytes/Month

4G*

5G

2010

2017

2023E

Growth potential from expanded opportunities

Total service revenue potential for operators in 2026 (USD Billion)
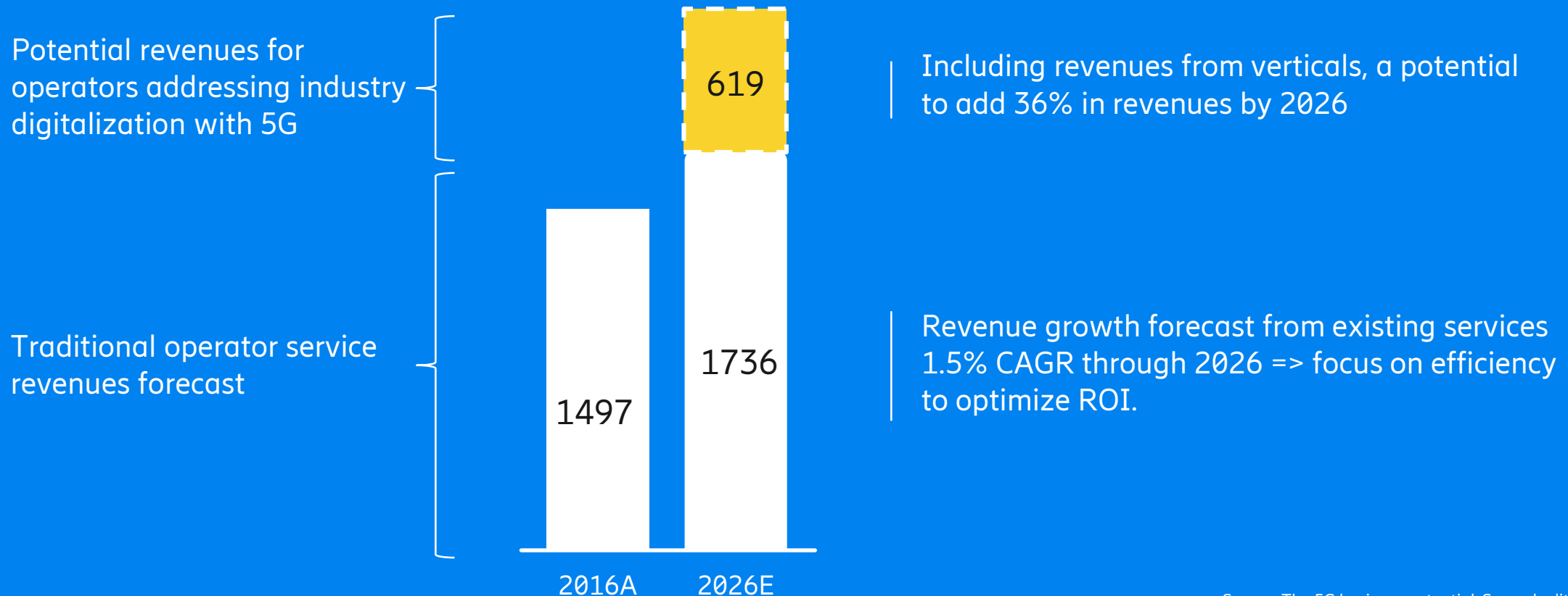
Potential revenues for operators addressing industry digitalization with 5G

619

Including revenues from verticals, a potential to add 36% in revenues by 2026

Traditional operator service revenues forecast

1497

1736

Revenue growth forecast from existing services 1.5% CAGR through 2026 => focus on efficiency to optimize ROI.

2016A

2026E

Operator's needs

Performance

Efficiency

Growth

Making 5G a reality

Ericsson Radio System

World´s 1st 5G NR Radio

5G NR Radio Massive MIMO (TDD)

First 3GPP-compliant 5G NR multi-vendor interoperability

First version of 3GPP 5G NR standard completed

5G Network services

First 5G contracts

5G NR Radio Massive MIMO (FDD)

5G Platform

Network slicing

5G Core System

NFV

5G Plug-Ins

NFVi

SDI

5G

First commercial 3GPP 5G SW for radio access and core networks

5G NR Radio portfolio expansion

Distributed Cloud

2016

2017

2018

Ericsson 5G platform

Metering

Medical

Transport

Industry

Media

Ericsson OSS and BSS
with automation, orchestration & monetization

Ericsson
Radio System
with enhanced
5G access & transport

Ericsson
5G Core System with
cloud native sw, SDN
Distributed cloud &
network slicing

Ericsson Network Services
using network intelligence & automation

Network clouds

Operator new opportunities with Ericsson Radio System
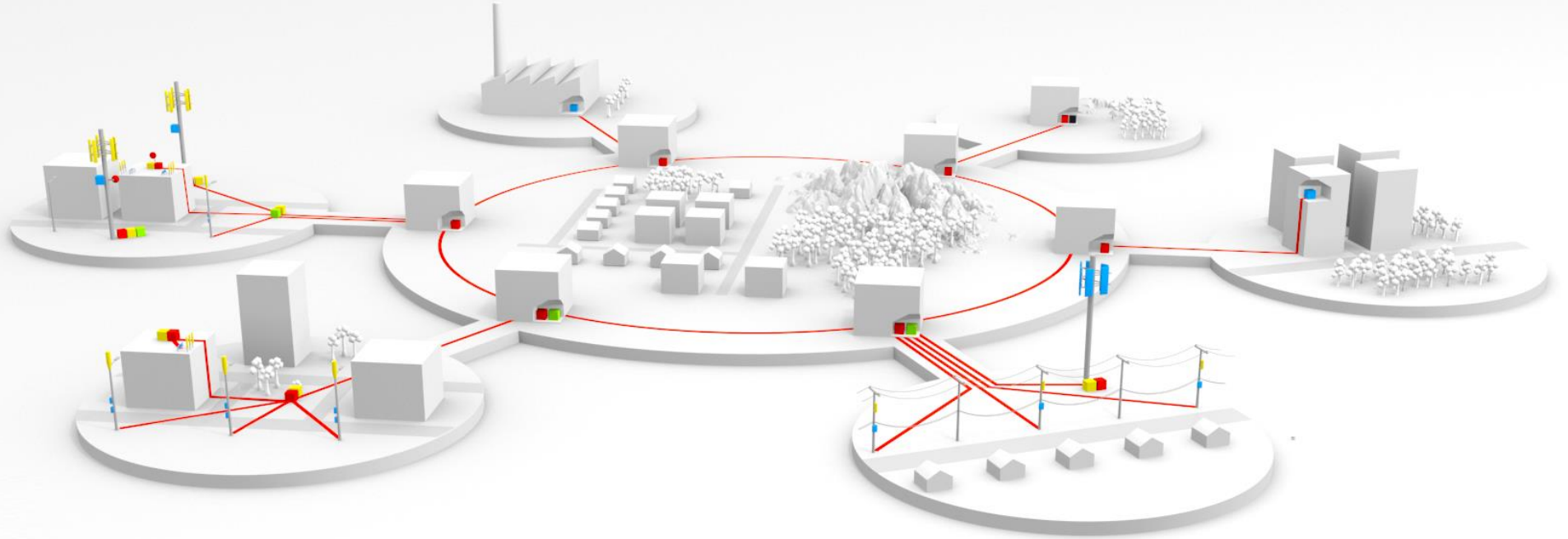
| First with 5G | Grow 4G now with 5G-proof products |

New products in Ericsson Radio System

Turn on 5G
Become 5G NR first-mover

Ericsson's first commercial
5G RAN software:

5G 18.Q4

3GPP 5G NR
capabilities

On Ericsson
Radio System

Multi-band
support for
global
deployment

5G 18.Q4 release highlights

Add new spectrum

Additional frequency bands with wider bandwidth

Ultra-lean design

Reduce interference and energy consumption

Next step in antenna technology

From network-centric cells to user-centric beams

Low latency

Faster network response allowing new use cases

Tight interworking with 4G

Using 5G Plug-In towards 4G network

17 new products for performance, efficiency and growth

Street Macro

AIR 1281 · Streetmacro 6701 · AIR 4455

Massive MIMO

AIR 3239 · AIR 5331 · AIR 3252

Massive MIMO + Passive Antennas

AIR 6479 · AIR 8828

Multi-band

AIR 4488 · Radio 2238

Mid-band

Radio 8823

Small Cell

Radio 4402 · Radio 4408 · 5G Dot

Baseband

Baseband 6318

Fronthaul

Fronthaul 6322 · Fronthaul 6622

Grow 4G now with 5G-proof products

Global mobile data traffic

110
ExaBytes/month

4G

8x

14
ExaBytes/month

1.5x

4G*

5G

2017

2023e
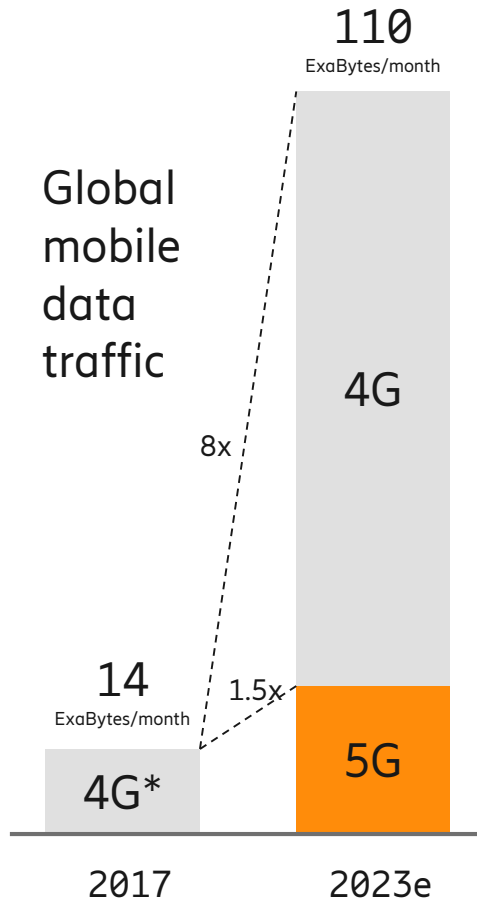
Ericsson Radio System radios since 2015

Add 5G NR with remote software installation

Easy migration to 5G in existing bands

>150 radio variants in more than 190 networks

* Includes a small proportion of other 3GPP traffic
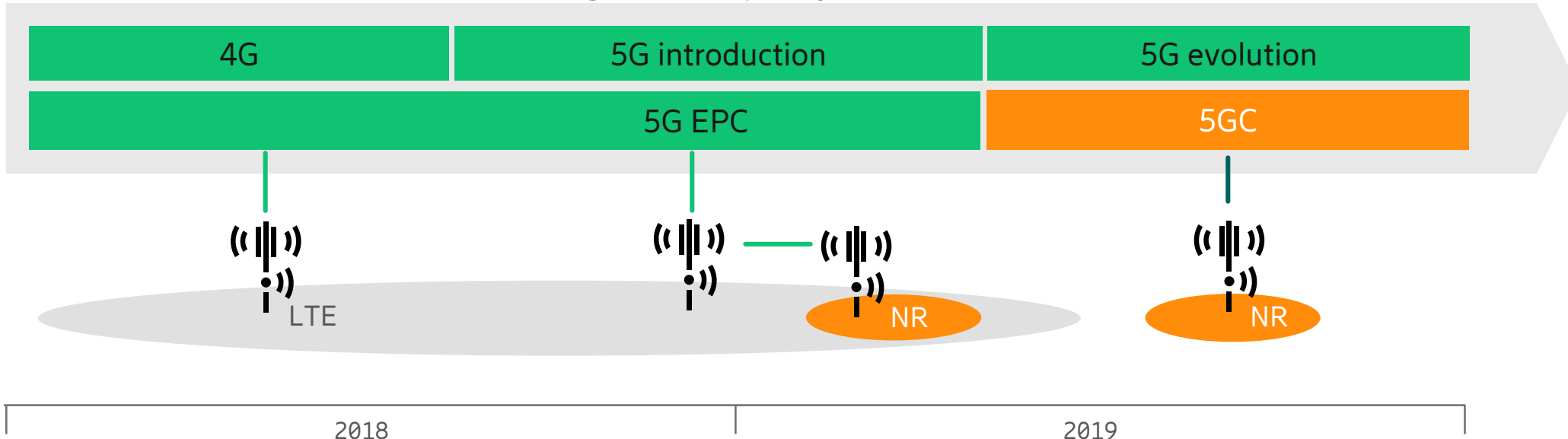
Ericsson 5G Core system updates

Optimized for 5G throughput, network capacity and scalability

Commercial 5G EPC software enhanced through-out 2018 to support 5G services enablers including
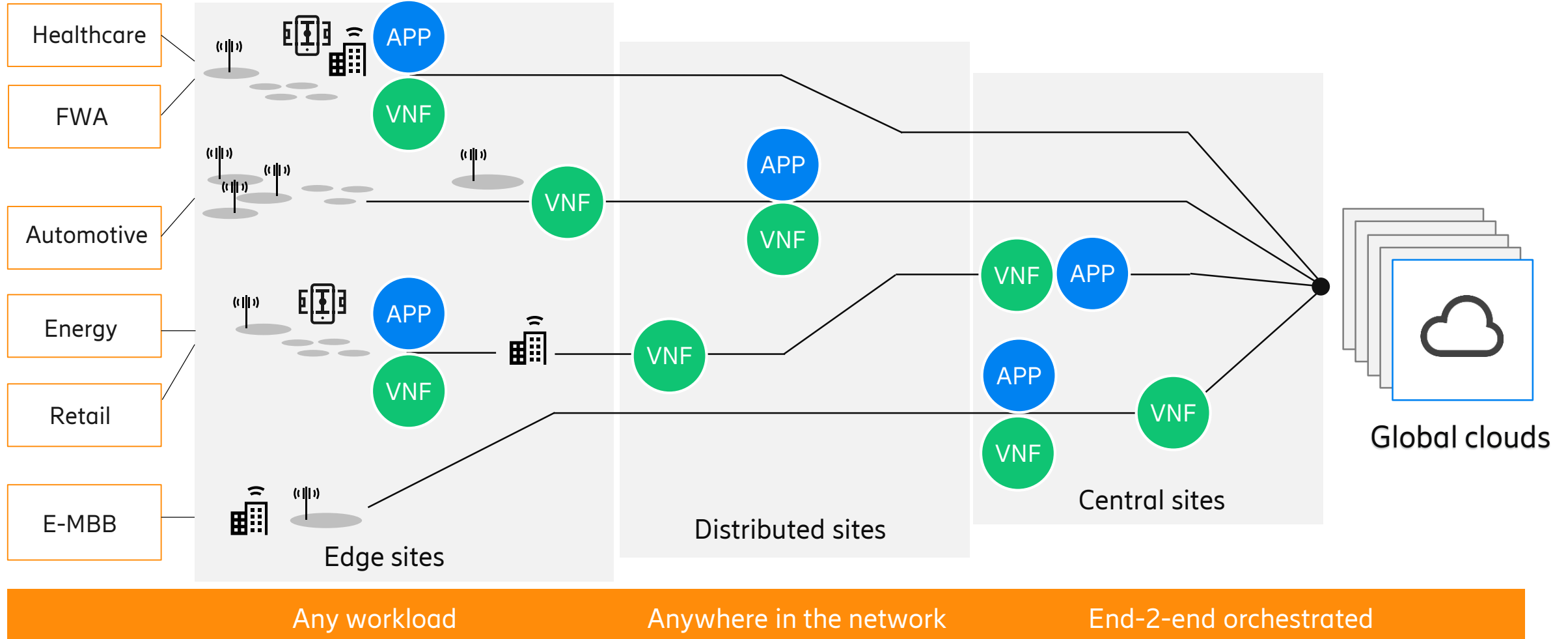
Network slicing, Distributed Cloud, CUPS, DECOR and 5G peak rates

Packet core and unified data management & policy control evolution

4G	5G introduction	5G evolution

5G EPC	5GC

LTE

NR

NR

2018

2019

What is a Distributed Cloud

Healthcare

FWA

Automotive

Energy

Retail

E-MBB

APP

VNF

VNF

APP

VNF

APP

VNF

VNF

APP

VNF

APP

VNF

Edge sites

Distributed sites

Central sites

Global clouds

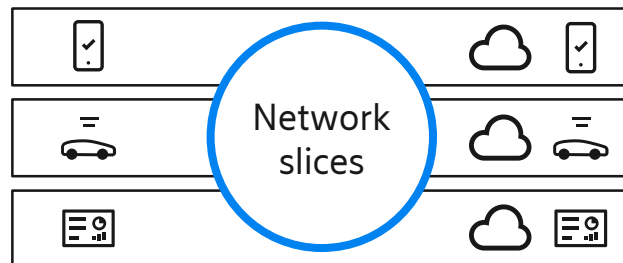**Any workload** **Anywhere in the network** **End-2-end orchestrated**

Distributed Cloud journey

Deploy and scale NFV
– Multi-site SDI and NFVI with SDN interconnect
– Workload distribution, e.g., packet core
– Prepare for Network Slicing, Critical IoT & Enterprise Services

Grow ecosystem
– Expose APIs
– Support service creation
– New multi-sided business models
– New offerings for IoT media acceleration

Implement Network slicing orchestration
– Greater flexibility & elasticity meeting fast-changing customer demands
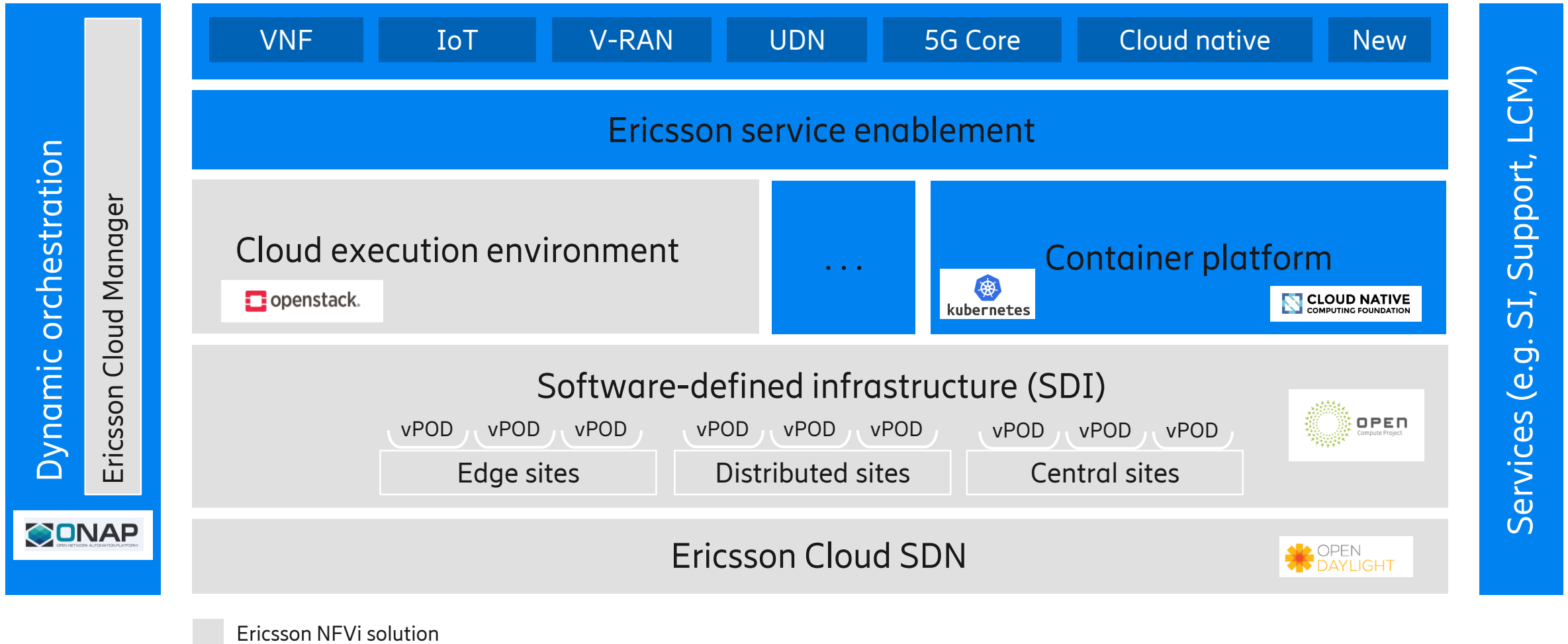– Distributed user plane

Network slices
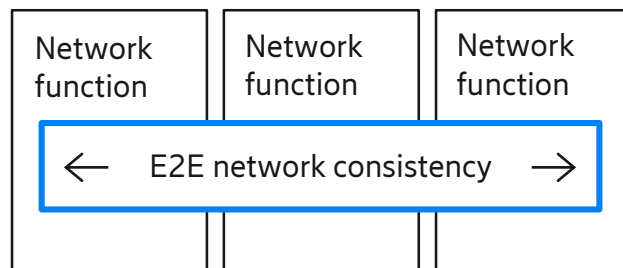
Embrace Cloud Native
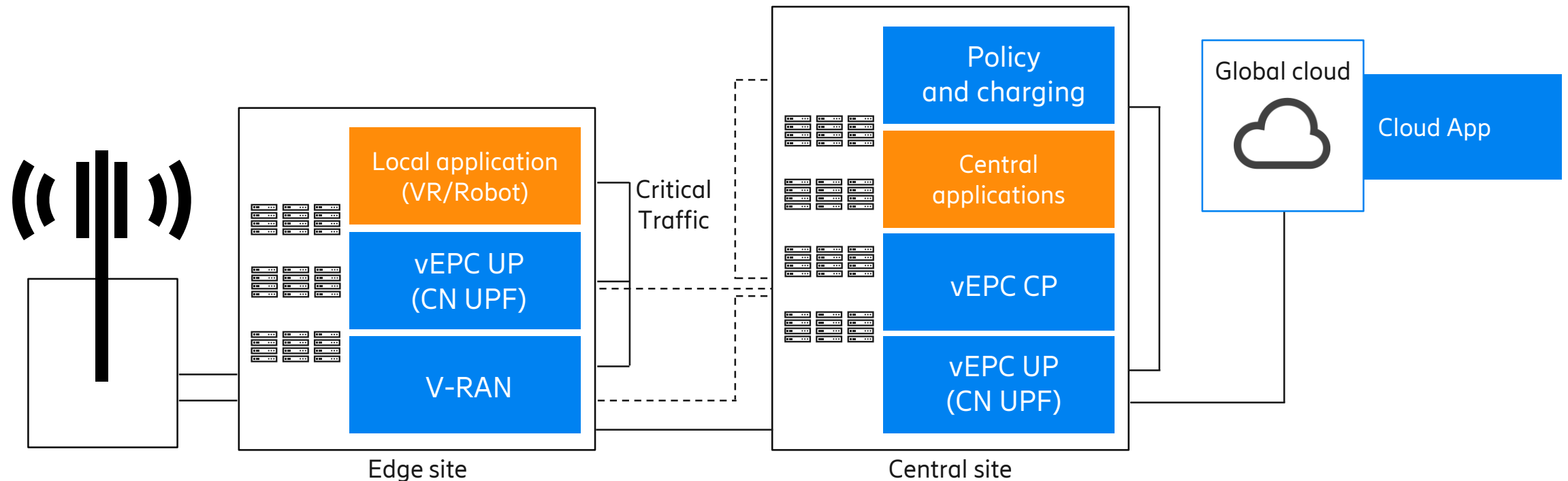– Efficient and flexible infrastructure usage for demanding future 5G services

Network function Network function Network function

← E2E network consistency →

Ericsson Distributed Cloud

Dynamic orchestration	Ericsson Cloud Manager							Services (e.g. SI, Support, LCM)

VNF	IoT	V-RAN	UDN	5G Core	Cloud native	New

Ericsson service enablement

Cloud execution environment
openstack.

…

Container platform
kubernetes
CLOUD NATIVE COMPUTING FOUNDATION

Software-defined infrastructure (SDI)

vPOD	vPOD	vPOD		vPOD	vPOD	vPOD		vPOD	vPOD	vPOD

Edge sites	Distributed sites	Central sites

OPEN Compute Project

Ericsson Cloud SDN
OPEN DAYLIGHT

ONAP
OPEN NETWORK AUTOMATION PLATFORM

Ericsson NFVi solution

Distributed Cloud enables new applications

Local application (VR/Robot)

vEPC UP (CN UPF)

V-RAN

Edge site

Critical Traffic

Policy and charging

Central applications

vEPC CP

vEPC UP (CN UPF)

Central site

Global cloud

Cloud App

Latency – bandwidth – security – availability – transport/compute/data offload – scalability - regulations

Value to operators

Open platform for new business
– Drive eco-system for common framework for new applications
– Shorten TTM for service introduction
– Develop new business models

Solutions to manage end-to-end complexity
– Manage virtualization and telco cloud deployments challenges
– Industry aligned solution, management, orchestration, and automation
– Cost efficiency life cycle management

Unique Ericsson value added

Open
Industry aligned solution based on SDN, NFV, and 3GPP Edge Computing leveraging open source

Modular
Modular E2E solution, with open integration interfaces spanning products and services

Unified orchestration
Unified orchestration and management for multi clouds