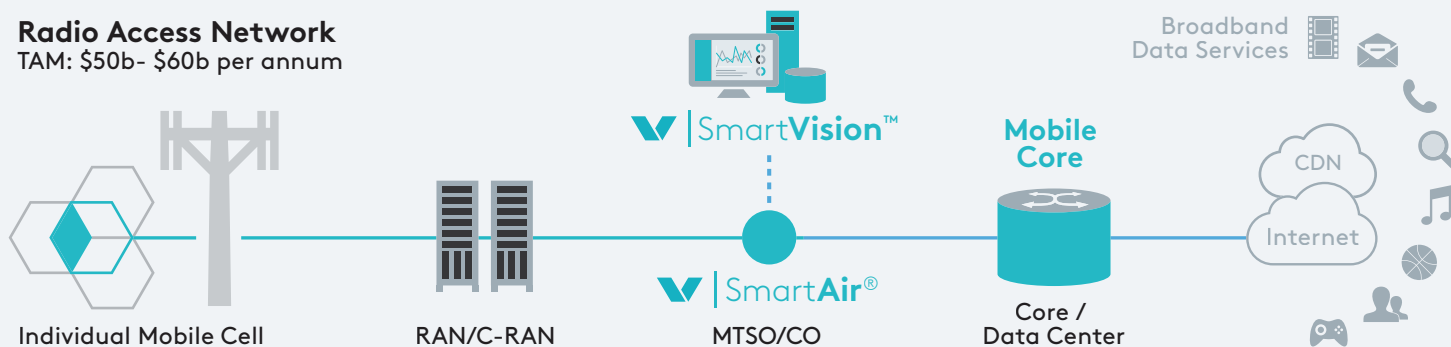# Exponential mobile growth presents major challenges for mobile operators

Unlimited tariff plans and the growing popularity of video content leads to mobile data congestion and increased Radio Access Network (RAN) latency. Subscribers become quickly frustrated with inconsistent service performance such as video start delays and stalls due to network buffering. 30% of mobile network cells carry up to 70% of traffic, resulting in congestion. Mobile operators face unprecedented network performance challenges in order to improve customer experience and reduce churn.

**Vasona** manages mobile traffic to deliver optimal subscriber experience. With our Multi-Access Edge Computing (MEC) based solutions, offering real-time insight and control of mobile data, operators achieve greater network resource efficiency, reduced capital expenditures and deliver better customer experience.

## Radio Access Network
TAM: $50b- $60b per annum



| | | | | |
|---|---|---|---|---|
| Individual Mobile Cell | RAN/C-RAN | MTSO/CO | Core / Data Center | Broadband Data Services |

SmartVISION™

SmartAir®

Mobile Core

CDN

Internet

## SmartAIR®Edge
**Located at the mobile network edge**

From an aggregation point between the Radio Access Network (RAN) and the core network, Vasona's **SmartAIR®** reacts quickly to end-user network demands and addresses threats to Quality of Experience (QoE), precisely where and when they are detected.

QoE is substantially improved during congestion, continuously analysing feedback from the network and automatically adapting to service impacting issues. It is the equivalent of adding 10-20% more network capacity at a fraction of the cost.

## SmartVISION®
**Measurement & analytics**

Data and visibility drive the management of emergency network issues as well as long-term planning. Vasona **SmartVISION** analytics software suite provides both real-time and historical insights into data service performance to support comprehensive RAN behaviour analysis. **SmartVISION** is deployed in Network Operations Centres to help teams visualise and analyse user activity, content sources and available bandwidth, guiding live troubleshooting and intelligent decision-making.
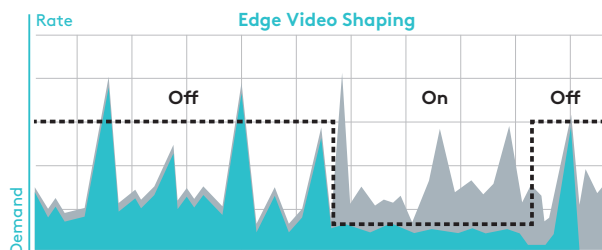
## Dynamic Rate Control
**(DRCF) traffic management**

Rate control traffic management handles congestion in real-time. Working at the sector-carrier (cell) level for both http and https sessions. Cells work at higher utilisation without additional capacity. Browsing downloads are faster and video QoE is significantly improved, with fewer stalls, less buffering and shorter start delay.
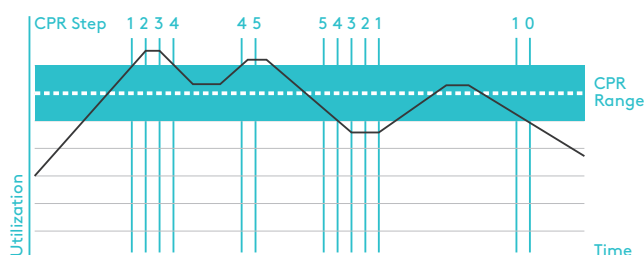
# Video Shaping

**SmartAIR** shapes video sessions, releasing packets to the RAN at target bitrates and controlling the time gaps between packets belonging to the same application session. Vasona can provide shaping when there are multiple separate TCP or UDP flows in the application session, even if the flows are encrypted. Video Shaping is licensed on a cell level with the option of Static or Dynamic.

**Static**



Edge Video Shaping — Rate / Demand — Off / On / Off

**Dynamic**



CPR Step  1 2 3 4   4 5   5 4 3 2 1   1 0 — CPR Range — Utilization / Time

## Benefits

### Supports Classification of Encrypted Flows

Strategically situated between the RAN and mobile core, Vasona solutions deliver:

20-40% improvement in application performance

5-10% in RAN efficiency

Optimised resources plus limited overbids and capex

Local traffic breakout and performance management

Real-time analytics

### Supports Classification of Encrypted Flows

Manage busy-hour network traffic, including HTTPS, QUIC, TCP and UDP

### Supports Granular App Performance

Precisely manage app performance by time and location demands at the cell level

### Allocates Resources Intelligently

Network slicing by classifying traffic flow, mapping it into slices and making sure each slice gets the resources it needs dynamically

### Achieves a More Flexible Network

Transition to an agile RAN via an edge (MEC) software platform to support multi-vendor 4G/5G technology and future low-latency services

### Delivers Best-In-Class Video

Improve streaming-media QoE, by shaping and guiding session rates to match current cell conditions

## Why choose Vasona?

### At the Edge

Provides leading solutions in network performance and edge computing software for mobile operators

### Availability

Available across Europe, the Middle East and the Americas

### Coverage

Our edge solutions are deployed in more than 150,000 3G & LTE cells

### Better customer experience

Providing enhanced customer experiences for more than 100 million subscribers

### Capacity

Managing more than 1 billion monthly video sessions

With **Vasona** you can benefit from...

**+30%** video performance

**+30%** browsing performance

**-20%** RAN latency

**5-10%** CAPEX savings

**(PRB-U)** **-10~20%** Physical resource block utilisation

# ZephyrTel