

The Living Network: AI as the Pulse of Modern Telecoms

A woman with dark hair, wearing a light-colored sweater, is shown in profile, looking upwards. She is standing in front of a blurred cityscape at night, with various lights and buildings visible in the background. Overlaid on the image is a complex, glowing digital network structure. This structure consists of numerous small, colorful nodes (yellow, orange, pink, and blue) connected by thin, flowing lines that create a sense of movement and connectivity. The overall aesthetic is futuristic and high-tech, emphasizing the theme of a 'living network'.

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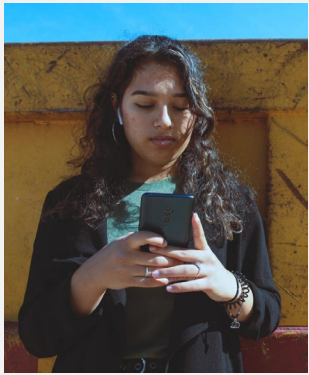
01 Market Trends

New World: Emergence Of Native Use Cases

AI & GenAI underpin many public indoor and outdoor use cases

Consumer Centric

Smart Phone



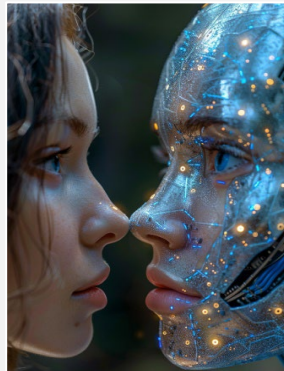
(Gen)-AI enabled hyper-personalized content may increase retention further.

XR Devices



Uplink-heavy compute offload; usage of AI Gaussian Splatting, etc.

AI Agents



Emergence of uplink-heavy video/ multi-modal LLMs and AI Agents / Assistants.

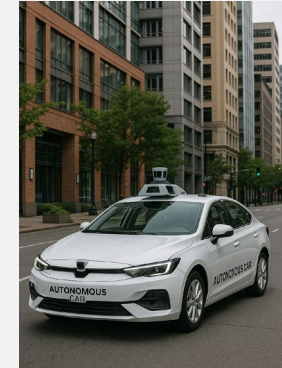
Industry-Centric

IoT



Embedded edge-(Gen)AI capabilities emerging in IoT, such as smart cameras.

AVs



Autonomous vehicles require UL & DL telemetry; effect of UL already felt!

Droids



AI autonomous droids with heavy uplink; industry and later consumer use.

UL and DL increase: 5G SA/ 5G-Advanced will provide initial capabilities; 6G will provide scale.

Impact: Large Impact Onto Telco Networks

Convergence of {networks, devices, applications} indicates disruption



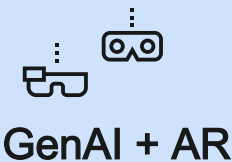
Emerging use cases to drive significant UL traffic

Short term



Early adopters of AI glasses / AI-enabled devices, providing proactive assistance.

Mid term



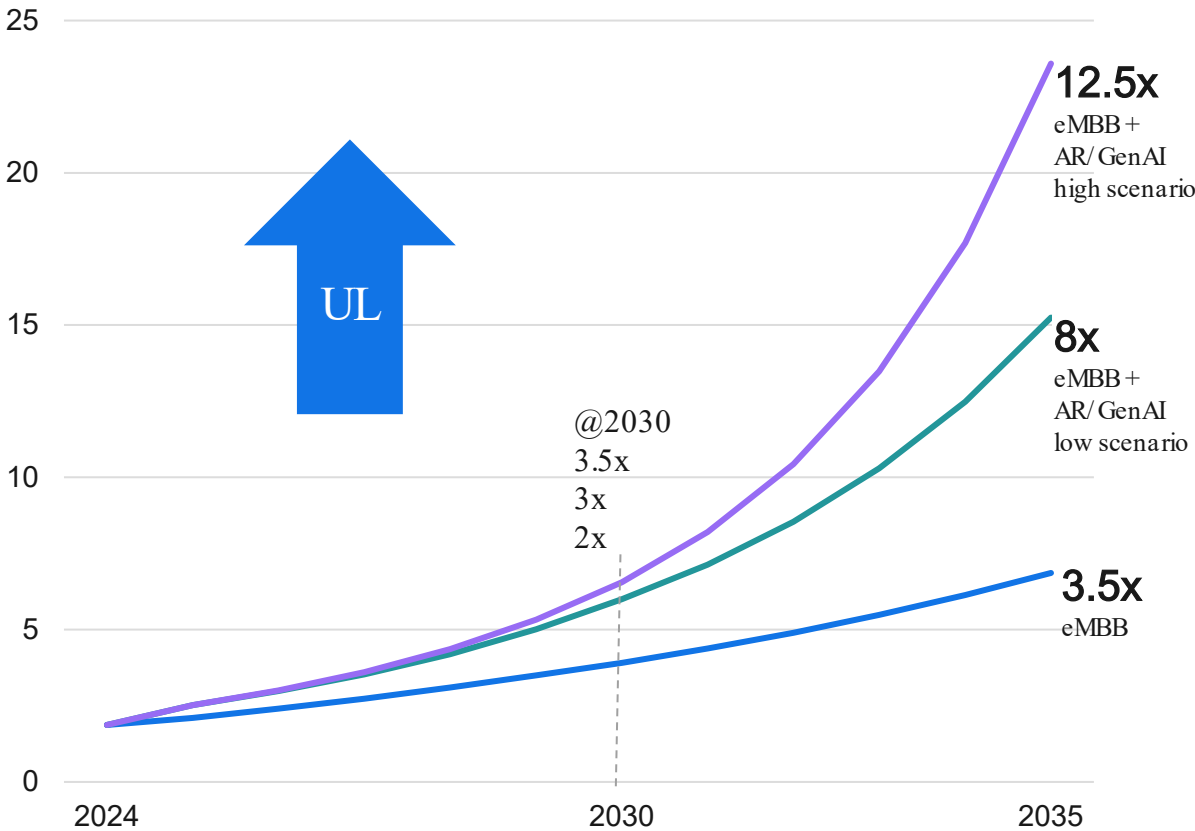
Scale of consumer usage of AI Assistants on smartphones, AI/ AR glasses, etc.

Long term



Emergence and scale of autonomous vehicles (AVs), humanoid droids, etc.

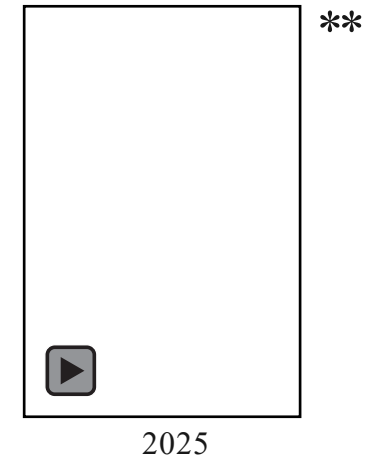
Consumers & enterprise to increase UL by 10x



02 Why Now?

AI Algorithms and Infrastructure

Large Strides in Short Time Window



* Ian Goodfellow, 4.5 years of GAN progress on face generation

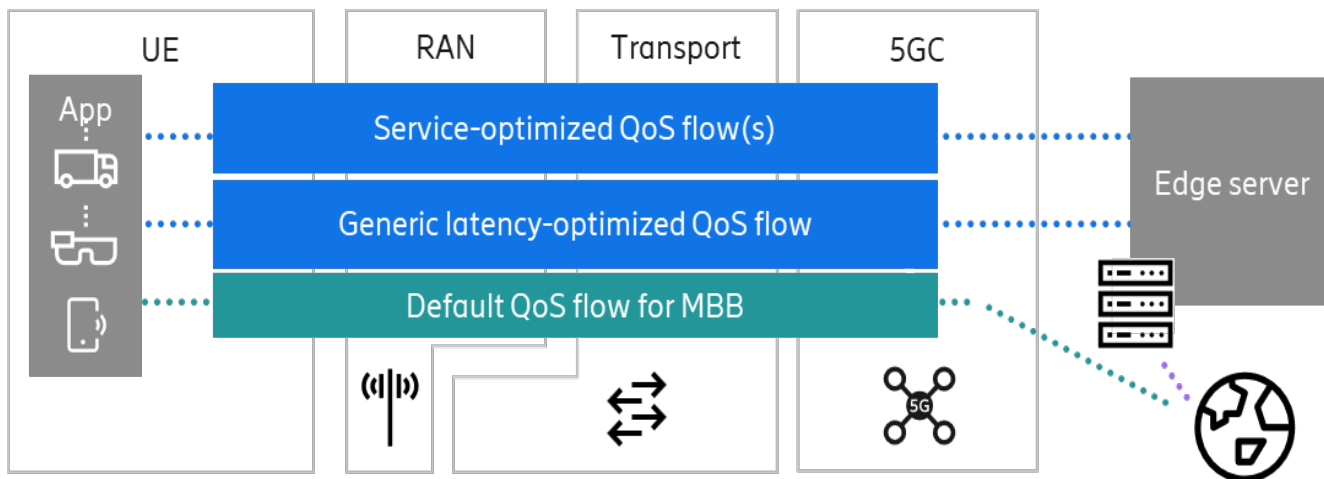
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Networks

Multiservice, uplink optimization

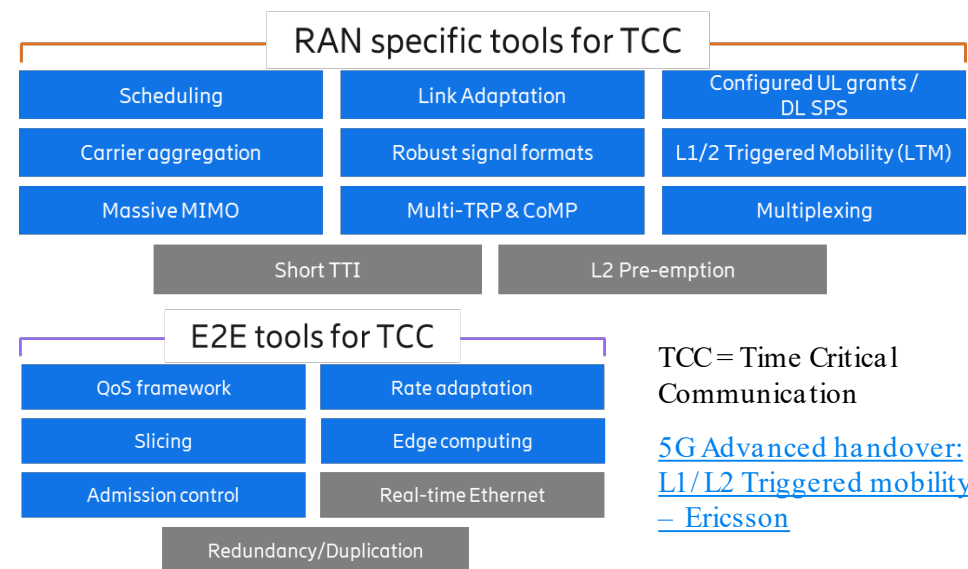
Multi-Service Networks

1. Diff connectivity, slicing, security
2. Operational efficiency & new revenues
3. Exposure & Programmability



UL-Optimized Networks



1. UL MU-MIMO/ Configured Grant/ CA/ etc
2. Latency-prioritized scheduling
3. Handovers w/ Low-Latency LTM



Devices: Notable Shift Among Consumers



Novel consumer devices are entering the market and enjoying a notable uptake

AI Glasses& AI Devices	AR Glasses
	
<p><i>“Hey Meta, tell me all about [...] you sèè.</i></p> <p>Live conversation using GenAI in the cloud, with voice & image/video in uplink; voice only in downlink.</p>	<p><i>“Hey Meta, visually navigate me to [...]”.</i></p> <p>Personalized AI Agent using GenAI in the cloud, with voice & image/video in uplink; video in downlink.</p>

Images & video are shown for educational purpose only, © is with Meta, [Smart Voice Studio](#), [Meta](#) and [Nathie](#).
Camerabuds is a [rumored product by Meta](#) & io has been [acquired by OpenAI](#).
[Smartglasses, SDKs & Controllers by Oscar Falmer - Last Update: Sept 22, 2025 - Google Drive](#).

Applications: Renaissance Of App Creation

Volumetric experiences can be created at scale using AI

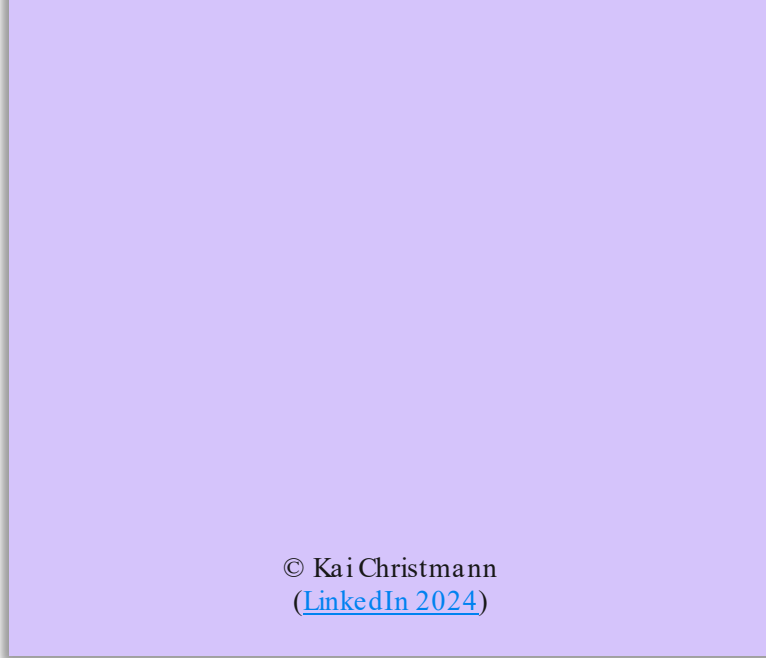


Real-time placement of assets:



© Gracia.AI (Jonathan Tiedtke)
([LinkedIn 2024](#))

Replacing entire environments:



© Kai Christmann
([LinkedIn 2024](#))

AI-generated experiences:



© M. Aghadi and C. Dashu
([X/ Twitter 2025](#))


XR App Growth 2023>2024: AR apps 20k->30k; VR 400->10k; 3D Scans 5M->10M

Call For Action

Unique Value Creation Window

5G/6G Network Design

 **High Performance**

 **Differentiated Connectivity**

 **Lower Energy Consumption**

Emerging Enablers

AI
Better efficiency & new business opportunities

API
Monetization, innovation and scale

AR
New use-case with societal benefits

