



The Role of Satellite in ‘The Connected Journey’: From 2G to 5G and Beyond

PUBLIC

COMMERCIAL
IN CONFIDENCE

INTERNAL

RESTRICTED

SECRET

icomera
for the connected journey

The Role of Satellite in Providing 'The Connected Journey'

From 2G to 5G and Beyond

Speaker



Martin Shaw

Global Engineering
Director
Icomera

- Over 21 years as a IT lead within the transportation sector, initially within a UK Train Operating Company, before moving to Icomera
- Specialised in mobility solutions, such as Real-Time Information to front-line staff, connectivity is a significant barrier
- Responsible for managing the feasibility, trialling, and deployment of the UK's first on-train 2G+Satcom based Wi-Fi solution
- Today responsible for the engineering of Icomera solutions globally. Focused on the next generation of communication technology, use of IoT, edge computing, AI, Big Data and maximising real, quantifiable benefits to the transportation industry, the travellers, and the environment.

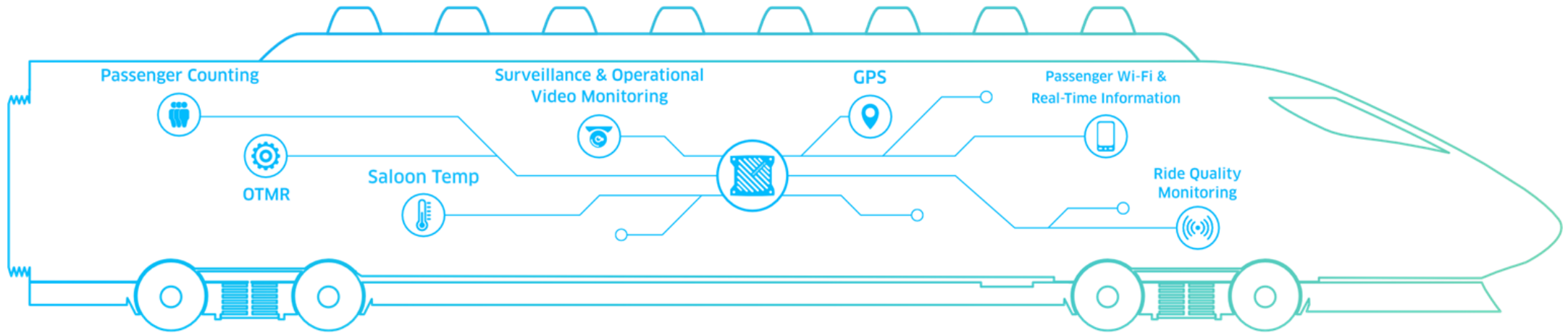
An Introduction to Icomera

- Established in **1999**
- Delivering Internet connectivity for public transport since **2001**
- Serving **millions** of Wi-Fi users and **tens of thousands** of vehicles every day across the globe
- A wholly-owned subsidiary of **ENGIE Solutions**



**“The Future of Public
Transport is Digital”**

The Modern Digital Train



- The number of onboard devices & systems requiring continuous internet connectivity is increasing, as is the bandwidth needed to operate them effectively
- Digital Trains require seamless connectivity in depots and stations and along their entire route – through tunnels and sparsely populated areas
- Digital Trains require a secure, managed and reliable network

SureWAN™ - Wireless Network Aggregation

- Icomera SureWAN™ algorithm intelligently **aggregates all available communications networks**
- Any **existing or future radio technologies** can be used: 3G, LTE, LTE-A, 5G, trackside, and satellite
- Maximises **stability, uptime, and data throughput**
- **Fast, reliable, secure** Internet connectivity, along the entire route
- This enables us to deliver **unrivalled connected capacity and coverage** for passengers, staff and onboard systems



Cellular Operator 1

3G[Ⓜ]

Cellular Operator 2

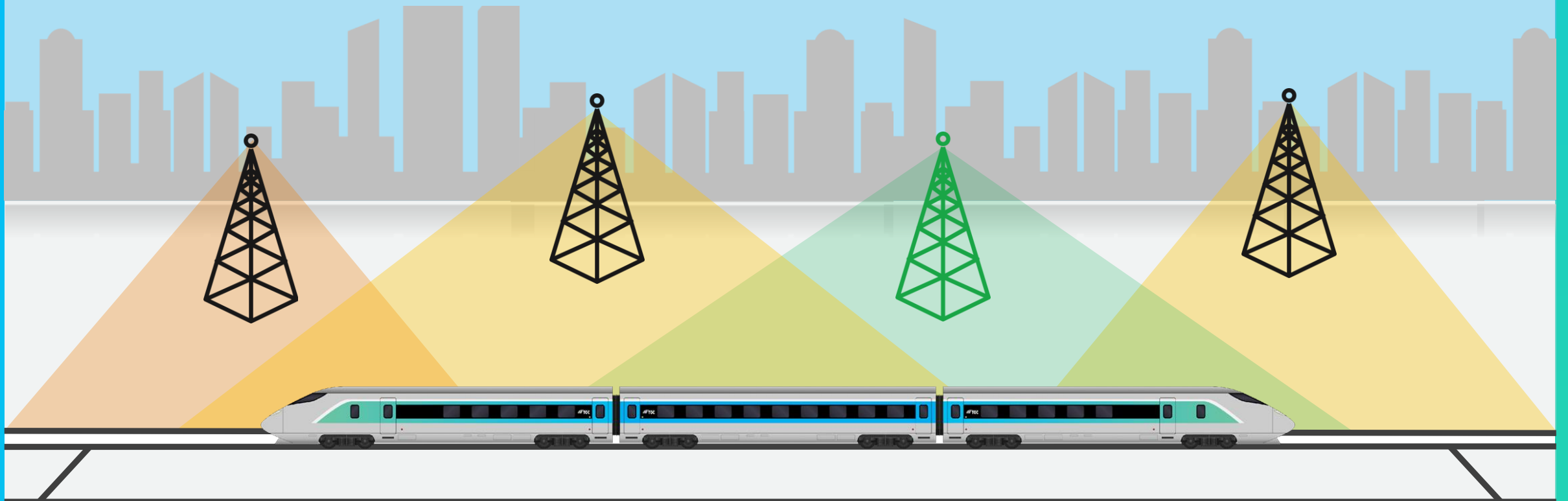
4G[Ⓜ]

Cellular Operator 3

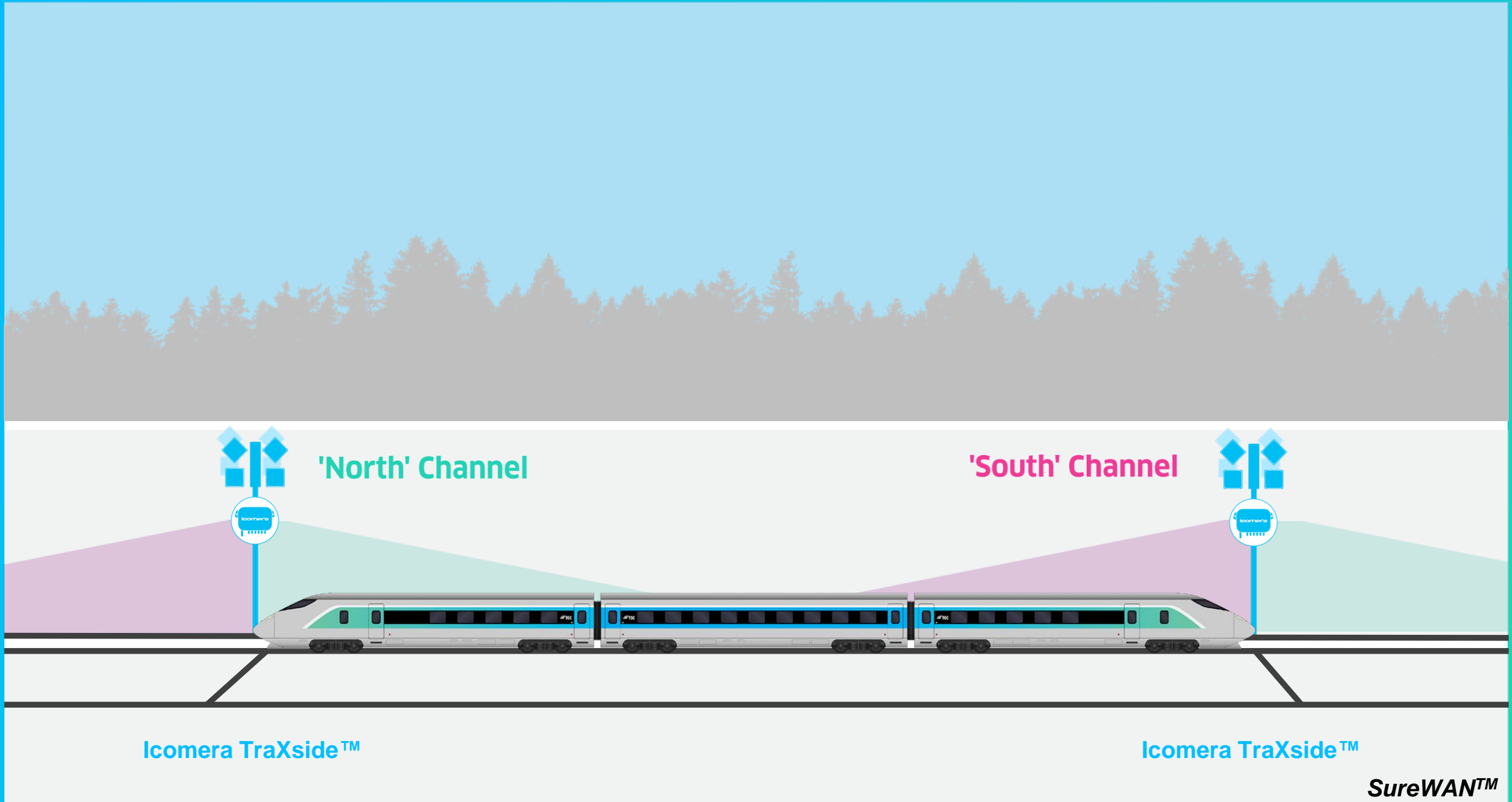
5G[Ⓜ]

Cellular Operator 4

4G[Ⓜ]



SureWAN™



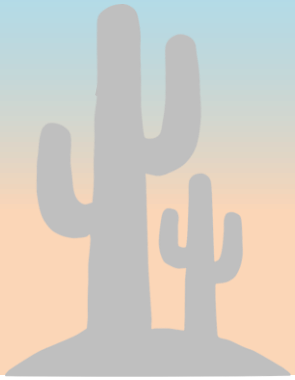
Icomera TraXside™

Icomera TraXside™

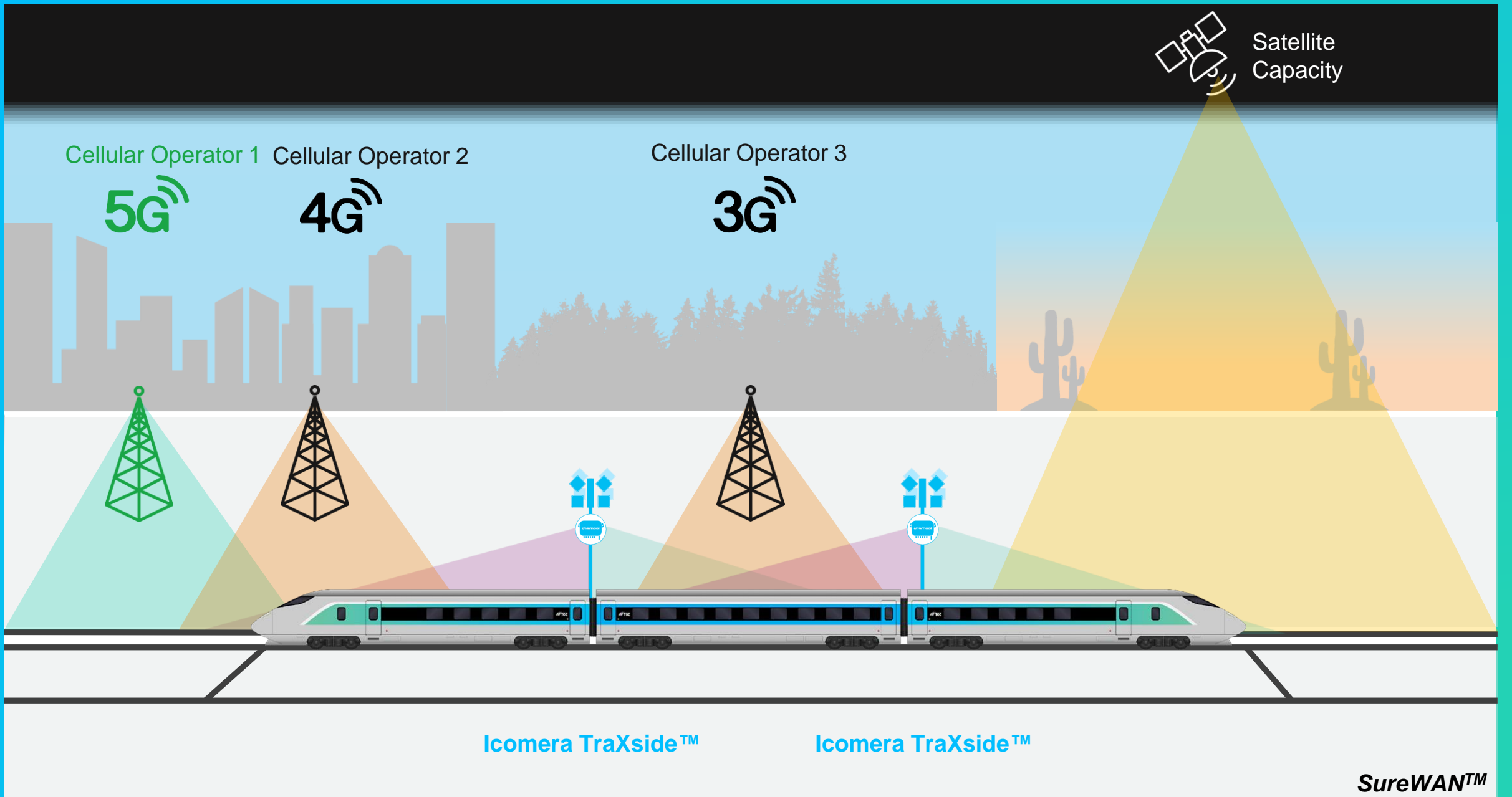
SureWAN™

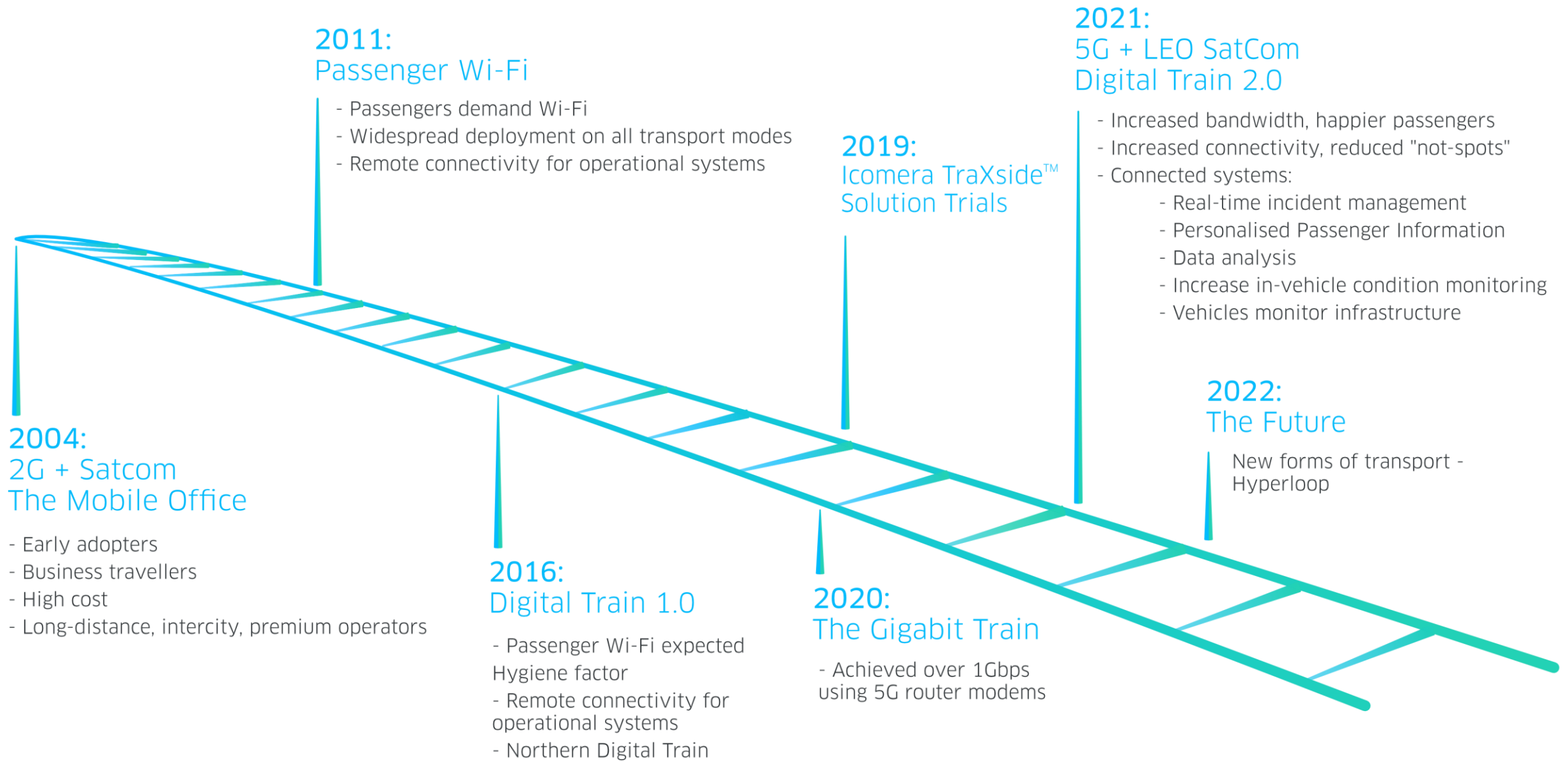


Satellite
Capacity



SureWAN™







Thank You

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icomera.com

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Solutions