



Measurement  
Methodologies for  
**Assessing Service Quality**  
**of Satellite Connectivity**

RedMango Analytics Pvt. Ltd.

# OUR EXPERIENCE

1

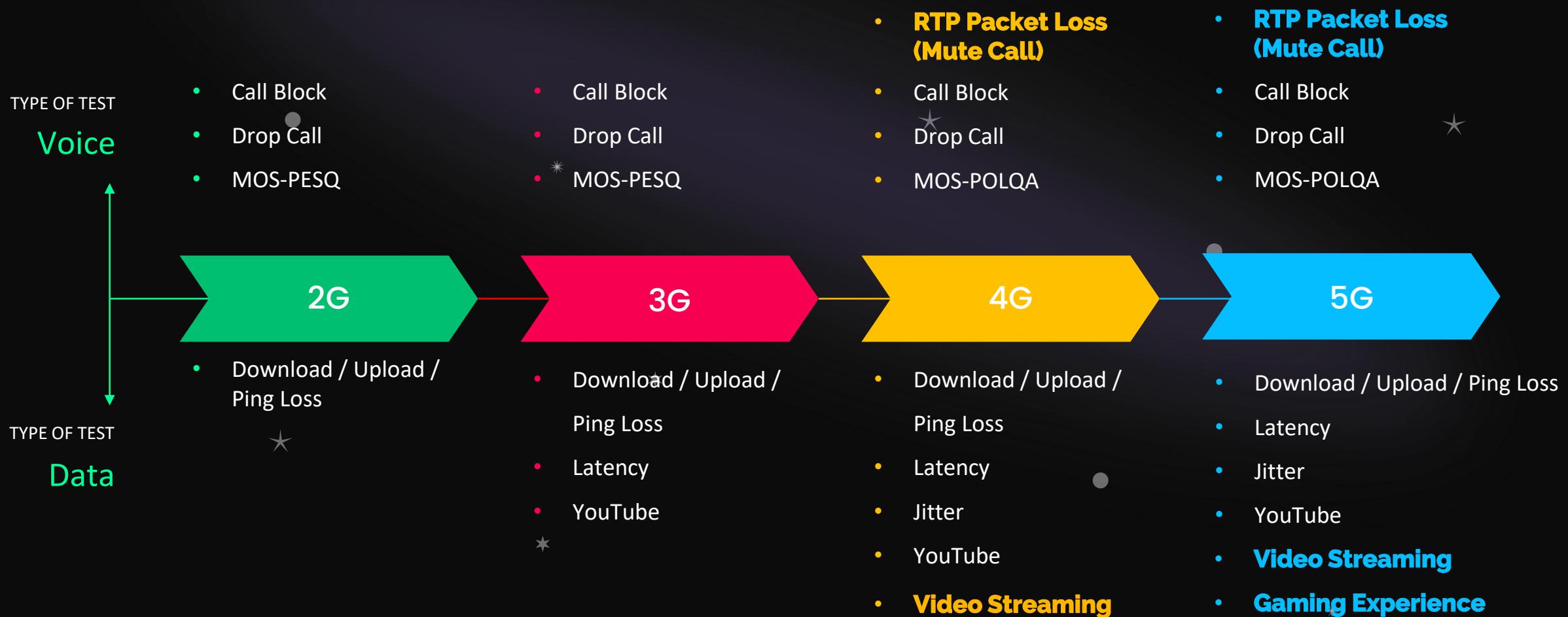
The trusted authority for Benchmarking Terrestrial Network QoS/QoE in India, serving operators, regulators, and critical infrastructure entities for a decade.

2

**The Gold Standard in Network Intelligence**

- **135,000+ km** of Annual Road/Rail Coverage
- **150+** Completed QoS Audits per Year
- **25,000+** Indoor/ Public hotspot QoS Audits
- **80 Million+** Data Points Gathered per Year

# EVOLUTION OF KPI's (QoS → QoE)



# BENCHMARKING SATELLITE QOS/QOE FOR MODERN APPLICATIONS

Dynamic, Use-Case Driven Performance Measurement

## Routine / Users

Remote Areas



Aircrafts



Ship Routes



## Special / Specific Users

War / Military



Disaster struck areas



# TYPES OF KPIs

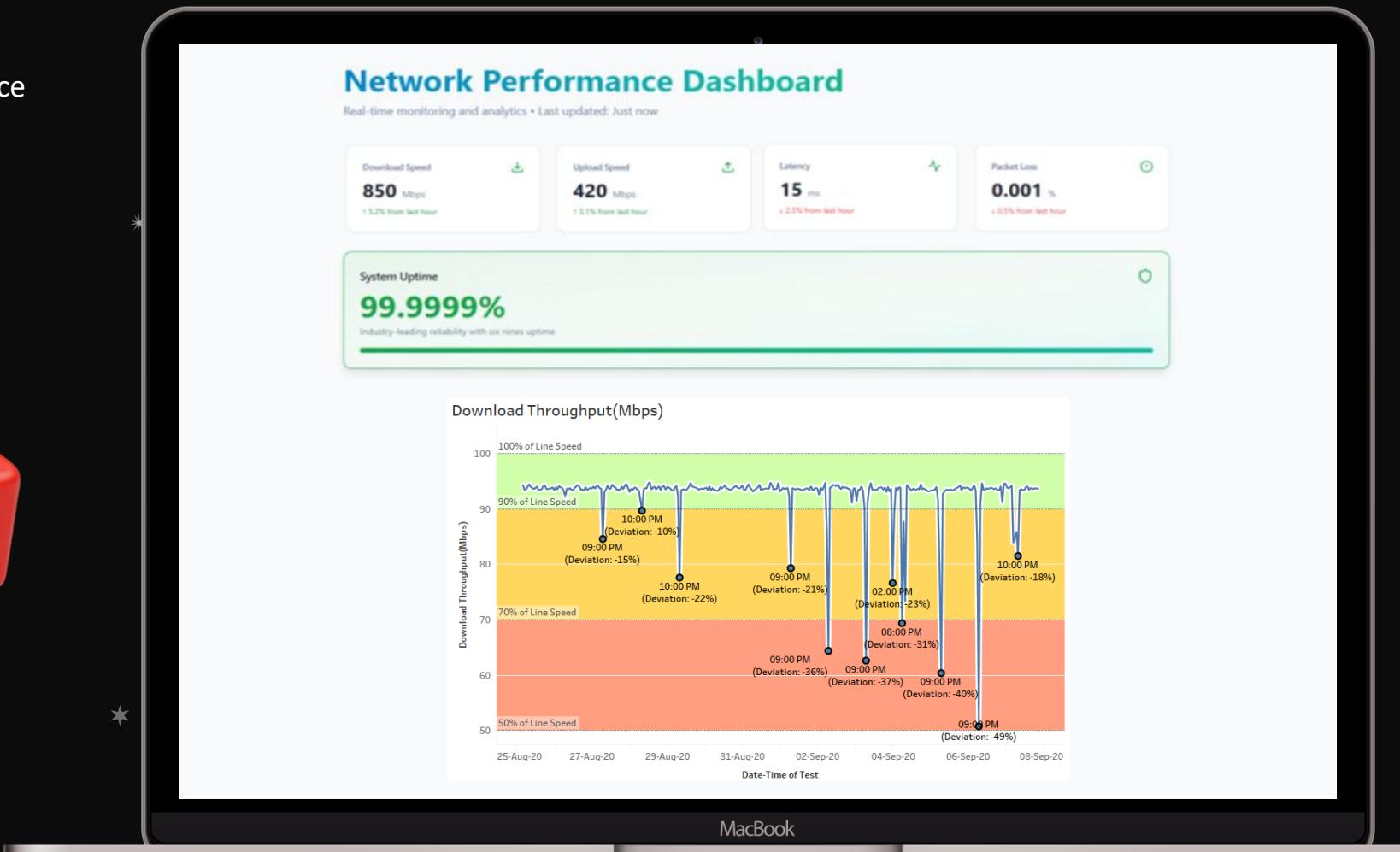


# TYPES OF KPIs



# QoS MONITORING PROBE & DASHBOARD

- Continuous Monitoring of Performance
- Real-Time Anomaly Detection for Early Warning



**Network Performance Dashboard**  
Real-time monitoring and analytics • Last updated: Just now

Download Speed: 850 Mbps (↑ 5.2% from last hour)

Upload Speed: 420 Mbps (↑ 3.1% from last hour)

Latency: 15 ms (↓ 2.3% from last hour)

Packet Loss: 0.001% (↓ 0.5% from last hour)

System Uptime: 99.9999%  
Industry-leading reliability with six nines uptime

Download Throughput(Mbps)

| Date-Time of Test | Download Throughput(Mbps) | Deviation (%) |
|-------------------|---------------------------|---------------|
| 25-Aug-20         | 90                        | -10%          |
| 26-Aug-20         | 85                        | -15%          |
| 27-Aug-20         | 90                        | -10%          |
| 28-Aug-20         | 80                        | -22%          |
| 29-Aug-20         | 90                        | -21%          |
| 30-Aug-20         | 60                        | -36%          |
| 31-Aug-20         | 65                        | -37%          |
| 01-Sep-20         | 60                        | -37%          |
| 02-Sep-20         | 70                        | -23%          |
| 03-Sep-20         | 65                        | -31%          |
| 04-Sep-20         | 70                        | -30%          |
| 05-Sep-20         | 60                        | -40%          |
| 06-Sep-20         | 70                        | -49%          |
| 07-Sep-20         | 80                        | -18%          |
| 08-Sep-20         | 90                        | -10%          |

MacBook

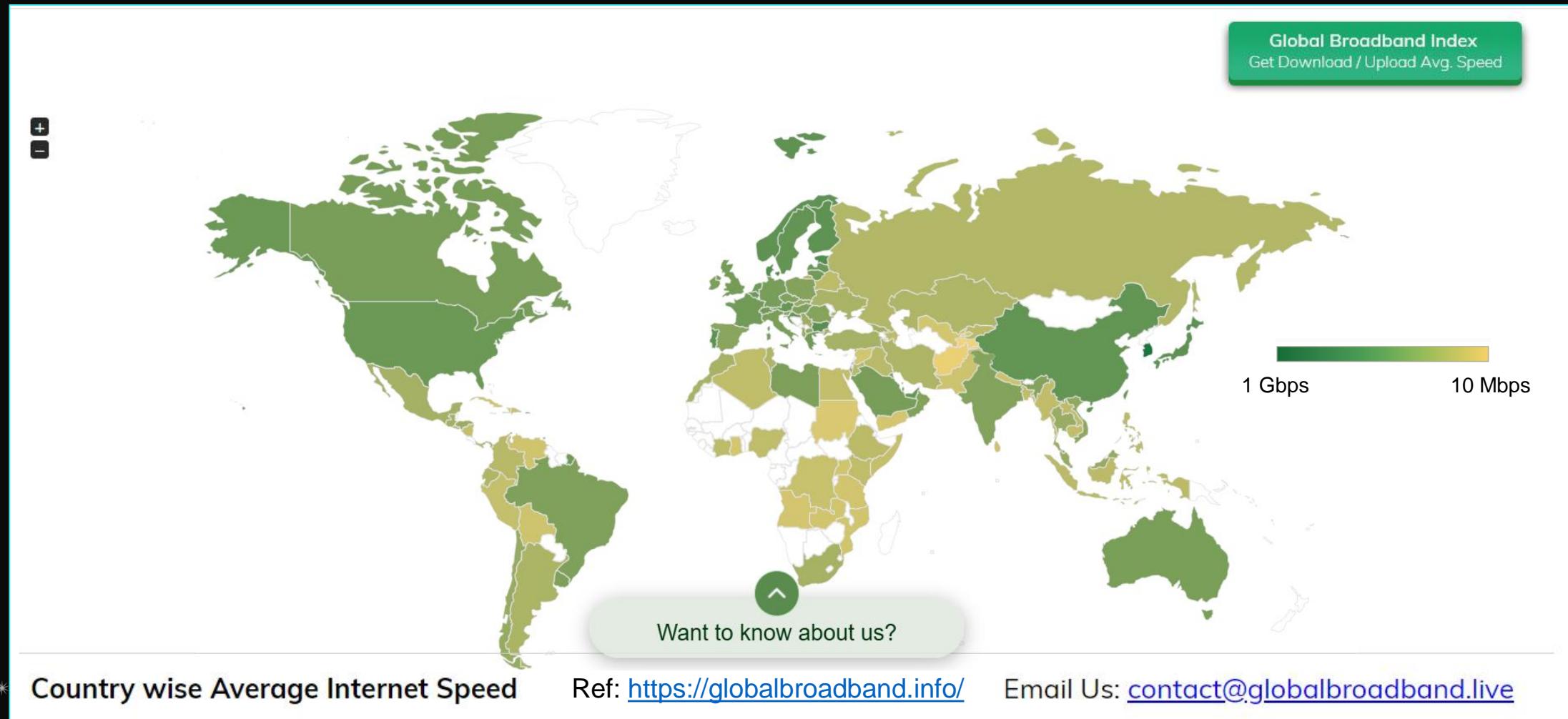
# SATELLITE NETWORK PERFORMANCE VALIDATION

Fully Automated Plug and Play – Ease Matters (No Configuration required)

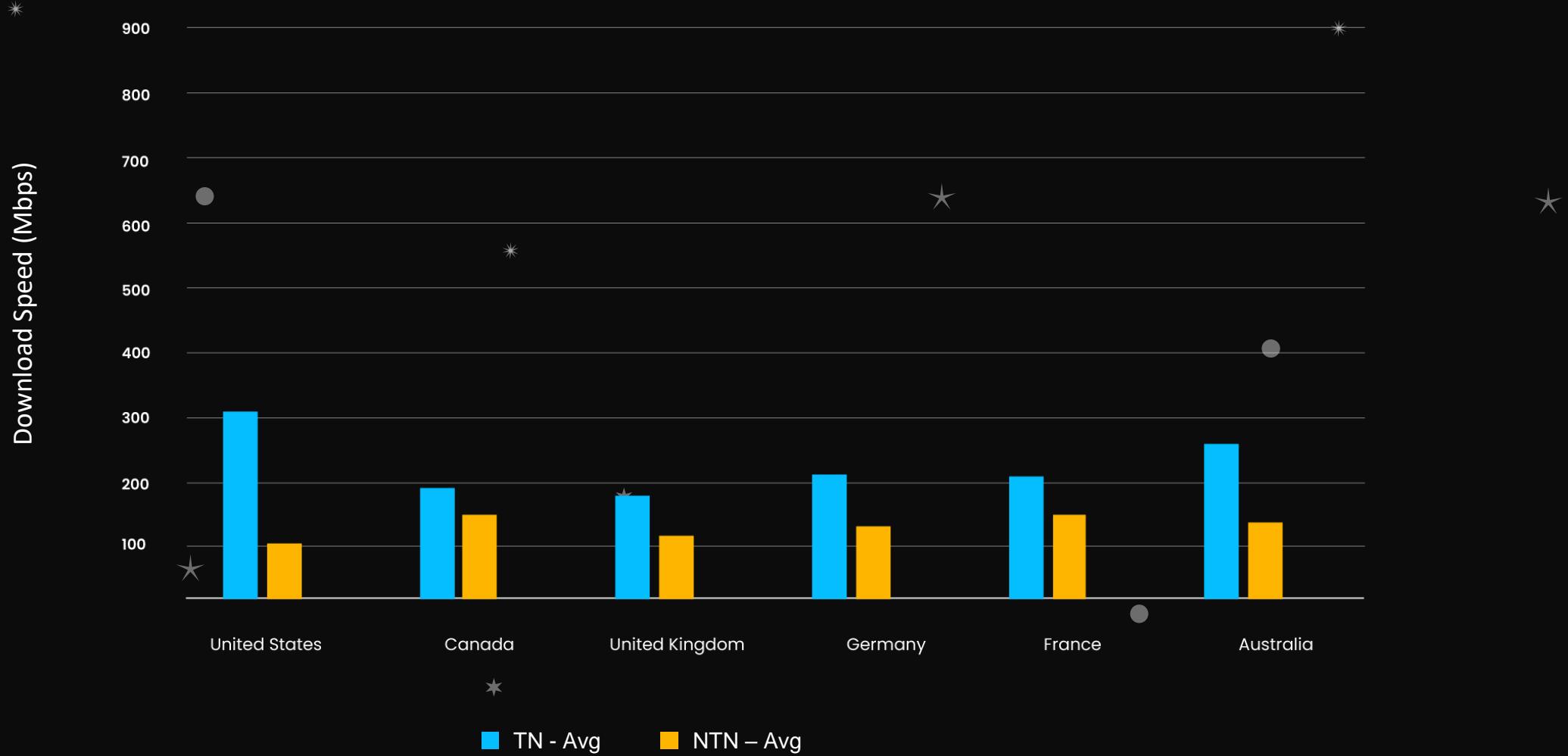
Layman UI yet diagnostic approach for concluding the broadband network service quality i.e. it simply has 3 tests ,



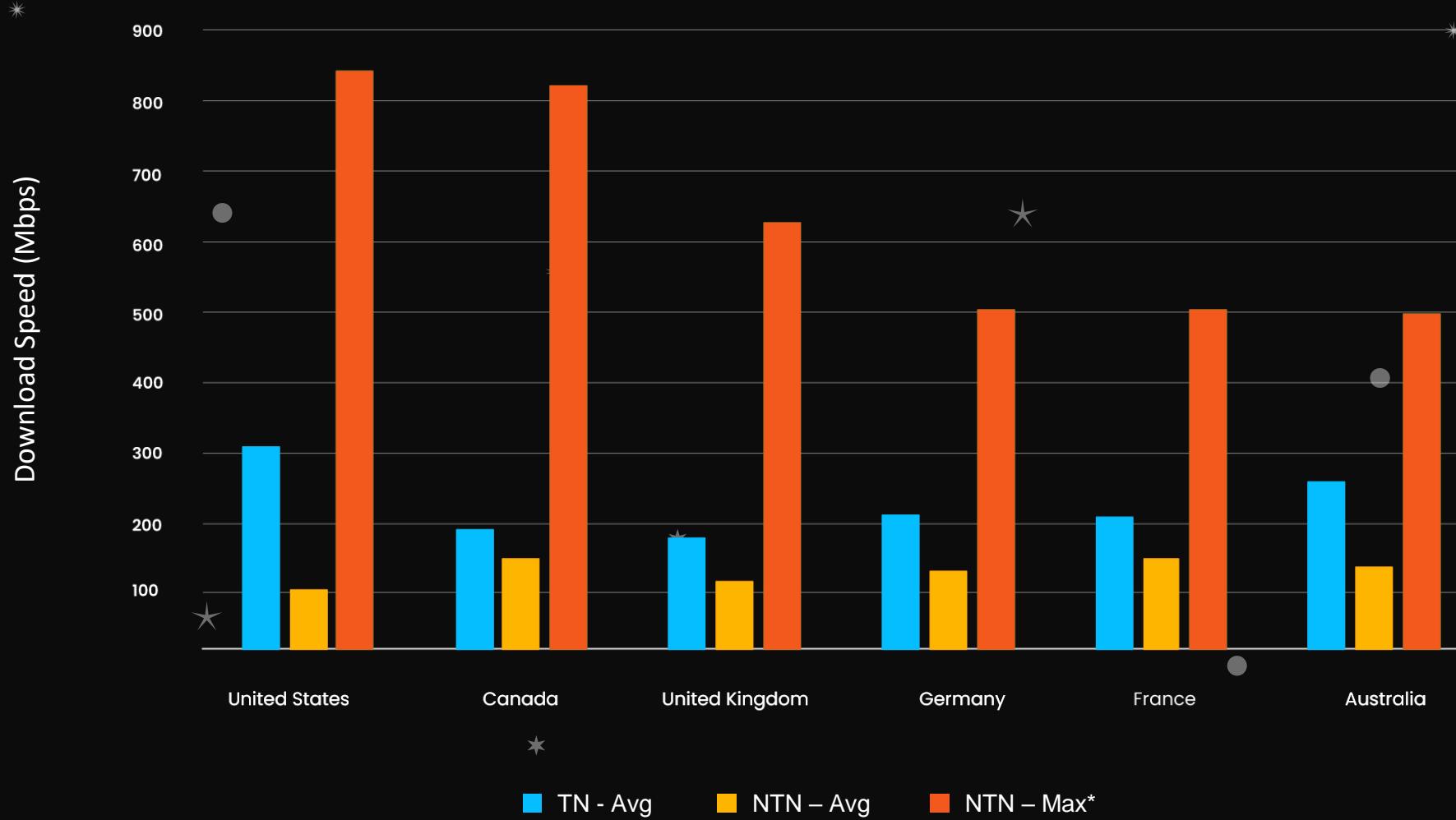
# GLOBAL PRESENCE



## Download Speed Avg



## Download Speed Avg TN, NTN v/s Max NTN





# THANK YOU