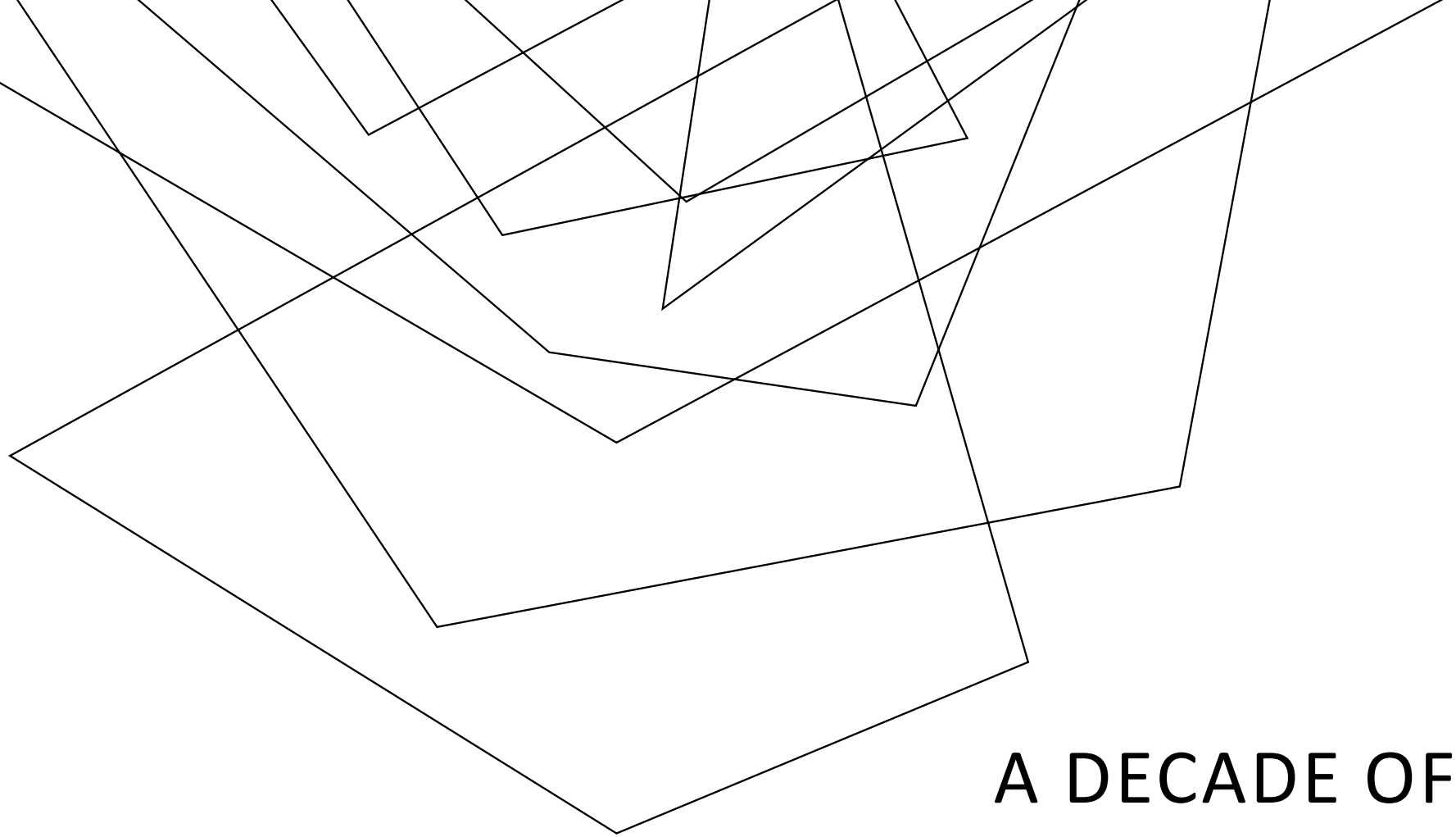


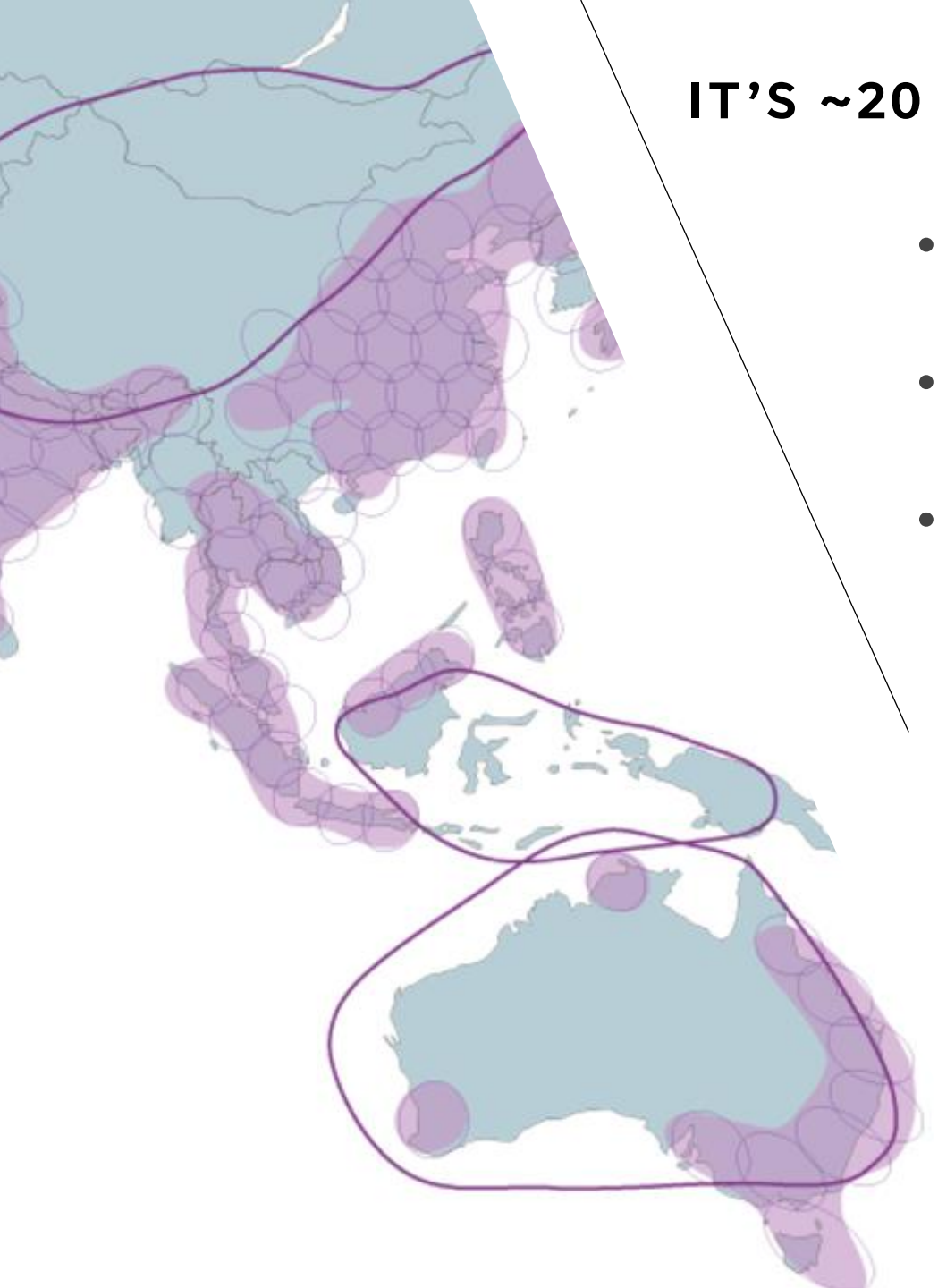
# A DECADE OF HTS: LESSONS LEARNED AND THE POTENTIAL OF EHTS

# VIVEK RAO

I AM BASED IN SYDNEY, NEW SOUTH WALES, AUSTRALIA.

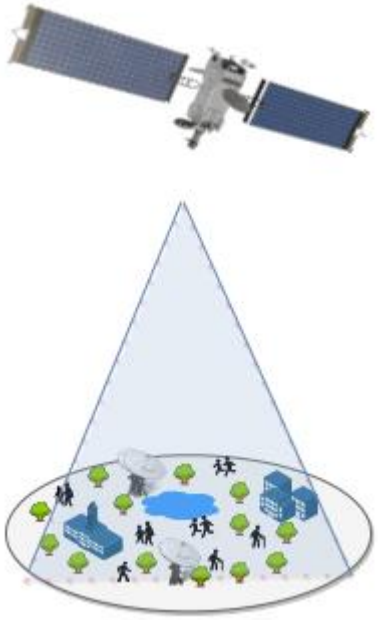
EXPERT IN SATELLITE AND TERRESTRIAL IOT CONNECTIVITY TECHNOLOGIES , WITH AN IN-DEPTH UNDERSTANDING OF OCEANIA , SE ASIA, AND JAPAN MARKET. I HELP MY CLIENTS ESTABLISH PRESENCE AND SUCCESSFULLY NAVIGATE THE MARKET TO UNCOVER GROWTH OPPORTUNITIES IN THE REGION.

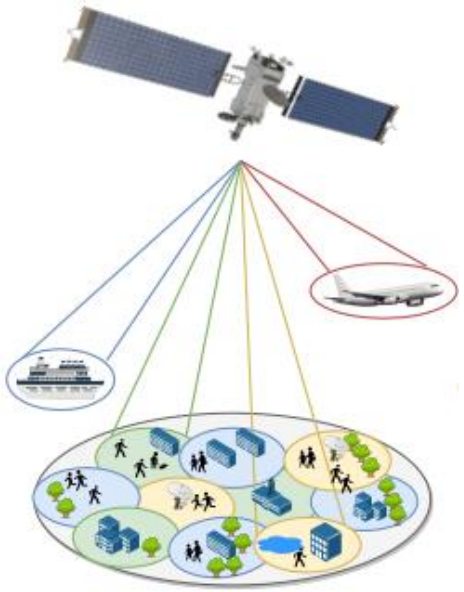
IN PAST I HAVE HELD PIVOTAL ROLES AT NOKIA AND ERICSSON, WHERE I LED SOLUTION CONSULTING AND BUSINESS DEVELOPMENT TEAMS AND WAS INSTRUMENTAL IN DRIVING DEVELOPMENT OF INNOVATIVE SOLUTIONS TO MEET THE UNIQUE NEEDS OF THE APJ MARKETS.



# IT'S ~20 YEARS SINCE HTS LAUNCH - 11TH AUG 2005

- Spot Beam Technology
- Frequency Re-use
- Higher Transmit/Receive Gain



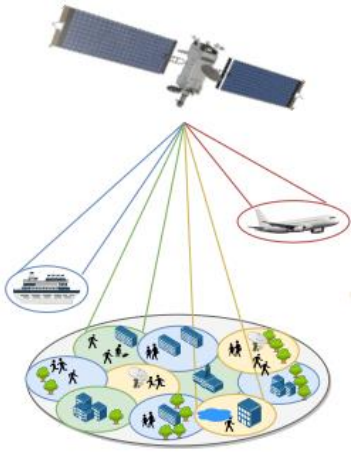


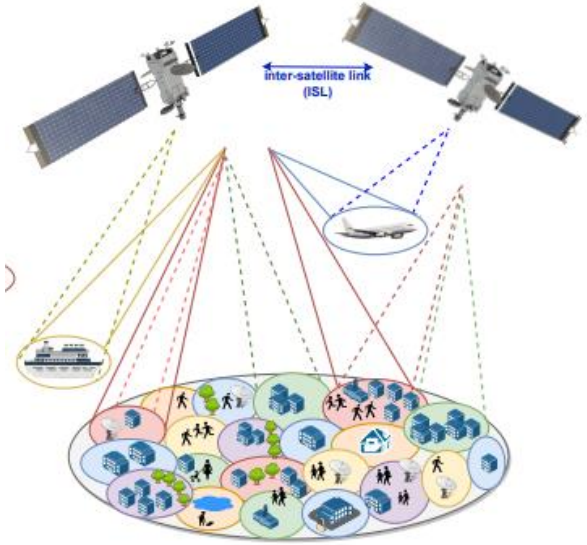
# HTS GROWTH AND CHALLENGES


- 50+ active HTS operators
- HTS supply tripled between 2021 and 2023 to 27 Tbps
- 2024-2028 forecasts of nine-fold growth in HTS supply

- Market Growth and Competition
- Regulatory Challenges
- Latency
- Interference Management

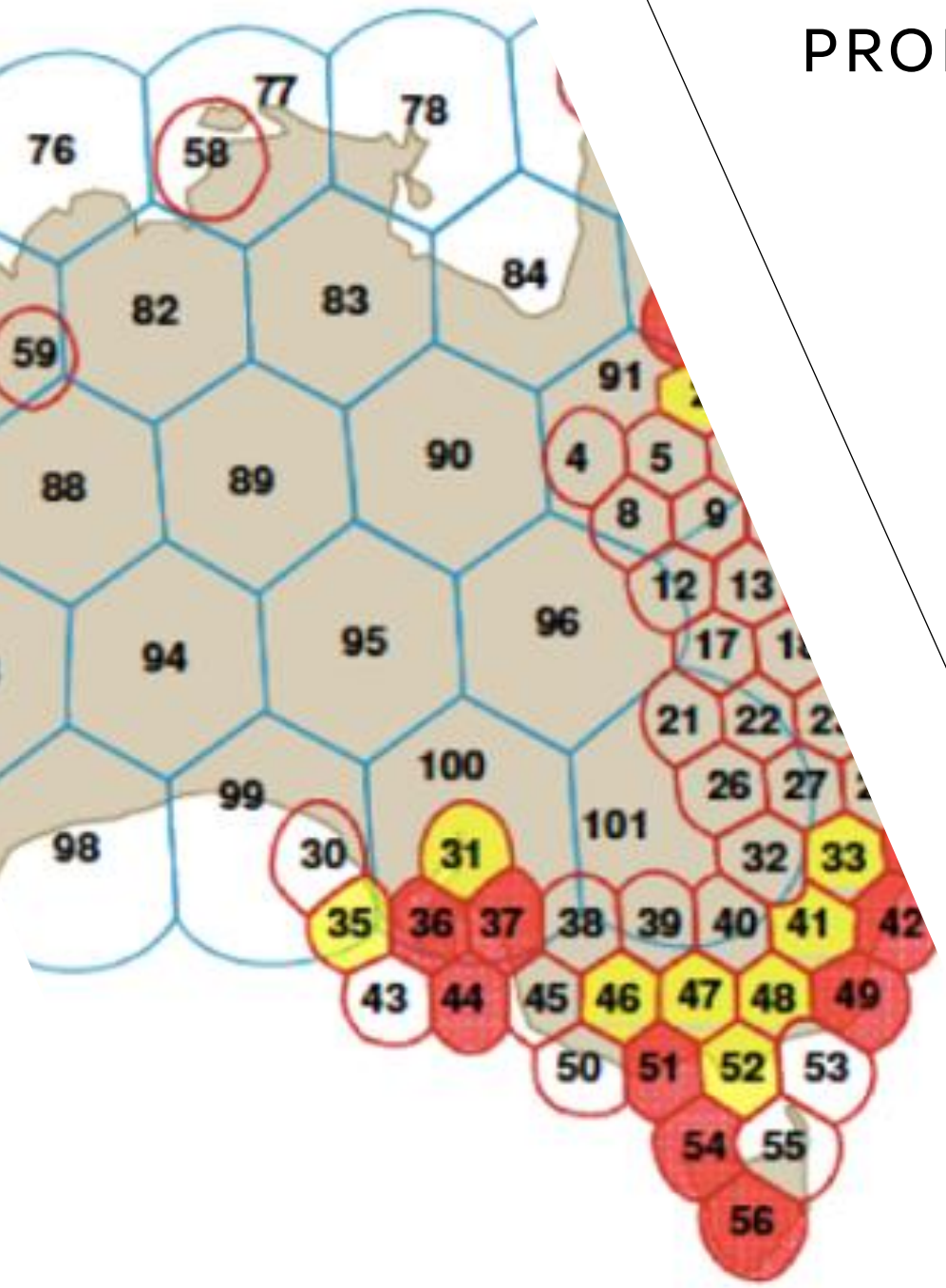
# EVOLUTION TO EHTS






| Feature | HTS | EHTS |
|---|---|---|
| Frequency | ku-band, ka-band | ku-band, ka-band |
| Data rate | Up to 300 Gbps depending on size and frequency. Up to 2 Gbps within a spot beam | Extremely High (Terabits) |
| Global coverage | remote areas, sea and air | Global coverage: space-air-ground-sea |
| Number of beams | Multiple narrow beams (limited) | Multiple narrow beams (significant increase) |
| Multiple Access Technology | MF-TDMA | Advanced schemes: NoMA & RSMA |
| Deployment | Broadband services, remote area connectivity, dedicated for mobility | Future broadband services, universal connectivity, dedicated for mobility and regenerative constellations |

# PROMISE OF EHTS




- Software defined networks
- Cyber security by design
- RSMA/ Grant free NOMA
- Massive MIMO
- Adaptive resource allocation
- Regenerative Onboard

# THANK YOU

Vivek Rao

+61- 0403–182-330

vivek.rao.n@gmail.com

https://www.linkedin.com/in/raovivek/