

TRADE MEDIA BRIEFING 2022

Zephyr's Next Chapter

Samer Halawi, CEO

Airbus HAPS Connectivity Solutions

During the summer of 2022, Airbus launched a HAPS-based services business as a standalone entity to become the next step in reimagining the future of connectivity, all enabled by Airbus' record-breaking Zephyr High Altitude Platform Station.

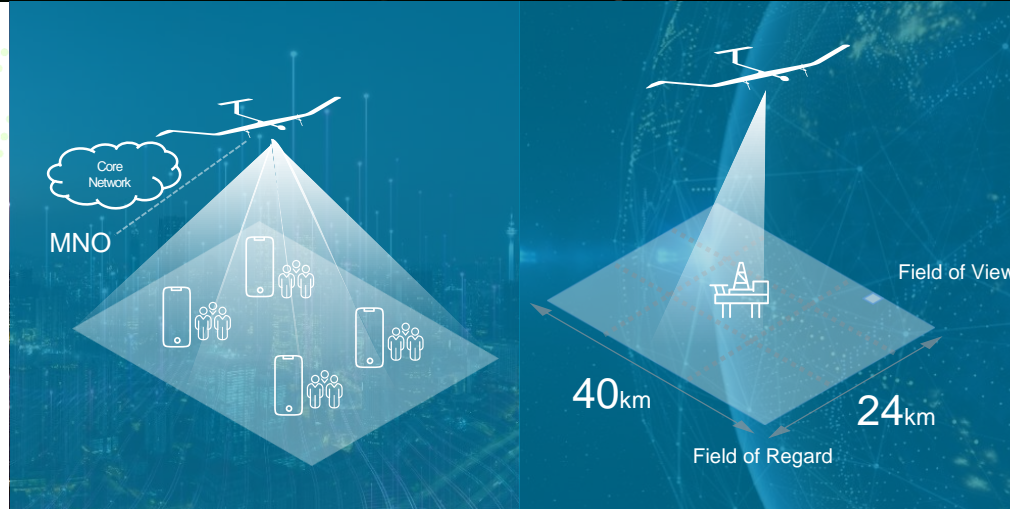
AIRBUS

Our Vision is to Save and Improves Lives

TRADE MEDIA BRIEFING 2022

1 Mobile Connectivity

Bridging the digital divide for the 3.9 billion unconnected and the hundreds of millions underserved, with **4G/5G low-latency direct-to-device services**



2 Earth Observation

Persistent high-resolution (18cm) images and 4K live video solutions for detection and management of forest fires, for increasing crop yield and food security, in precision agriculture, amongst many other applications



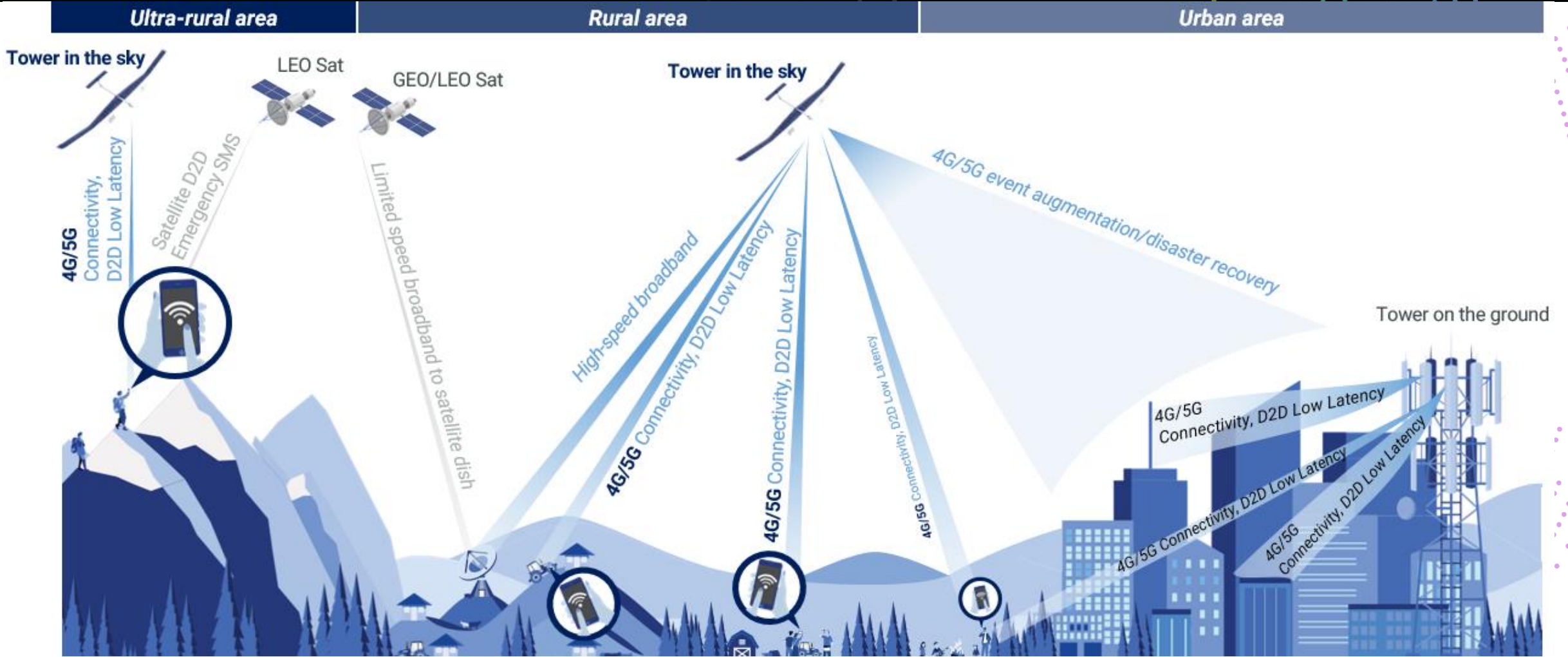
3 Government

Combined usage of connectivity and earth observation applications to support border protection, law enforcement, and disaster management

4 Platform Mobility

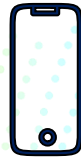
Connecting people and devices on land, at sea, or in the air. **Providing high-bandwidth ubiquity and augmenting coverage** for connected cars, drones, eVTOLs, trains, ships, yachts, and airplanes

Focus Area: Mobile Connectivity



Focus Area: Mobile Connectivity

All this direct to the end user's device



With a reach equivalent to that of:



80 towers
Flat terrain

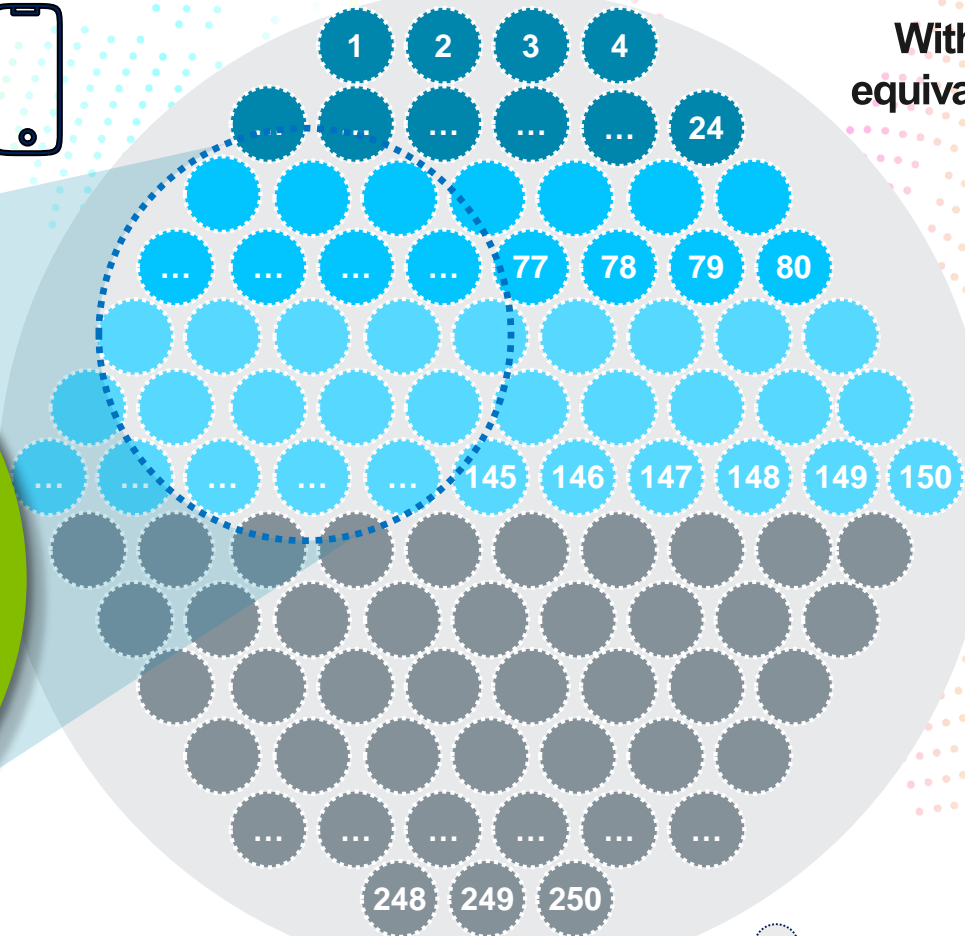


150 towers
Mixed (flat and mountainous) terrain



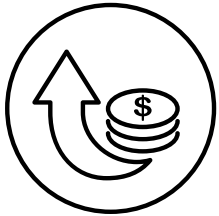
250 towers
Mountains / difficult terrain

A **Zephyr** is cost competitive in any region that requires more than 24 towers to cover⁽¹⁾, and where the population density is below 1.5m

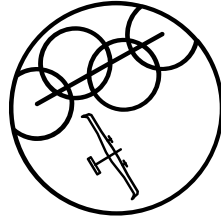


Terrestrial towers

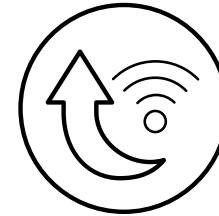
Zephyr will allow Mobile Network Operators to:



Meet universal service obligations, while generating profit



Provide needed coverage augmentation for 5G/6G as nodes in the multi-layer architecture



Reduce white spots and improve quality of service



Reduce churn and improve competitive positioning

Focus Area: Earth Observation

Zephyr features **OPAZ**, the Airbus in-house developed payload

18cm Ground Sample Distance quality





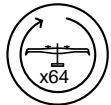
The Zephyr Advantage

vs. other HAPS



Most Advanced Fixed-Wing

Zephyr is the **only programme near final design**, ready for certification



Proven Performance

Only aircraft flown in the Stratosphere overnight, and **64 days straight in 2022**



Precision in Operations

Persistence and precision in coverage unlocks ability to **cater cost-effectively to multiple use cases**



vs. LEO D2D



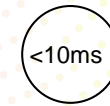
Seamless integration

Zephyr is an infrastructure offering to MNOs (not an add-on service), **integrating seamlessly in the network**



4G/5G capability

(not only SMS or emergency)
Same capabilities in terms of bandwidth and latency as terrestrial towers



Low latency

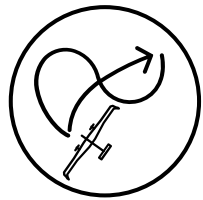
Under 10ms latency supports emerging applications such as video conferencing and access to cloud services and content



Complementarity to TowerCos

Zephyr extends the portfolio of tower companies to products **commercially attractive for rural areas**

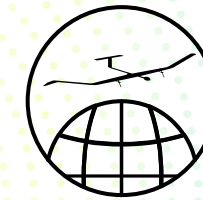
What's Coming up Next?



Continued flight trials and customer missions in 2023



Developing the standalone entity



Taking orders from potential customers for early market entry

Building the business for an EiS by end of 2024

Zephyr's Contributions to Humanity

Addressing The UN Sustainable Development Goals

Zephyr airframe and overall system

5 CLEAN ENERGY

Zephyr leverages renewable solar panel energy

7 AFFORDABLE AND CLEAN ENERGY

Zephyr uses solar power and is manually launched

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Zephyr develops aerospace industry know how and cutting edge technologies

11 SUSTAINABLE CITIES AND COMMUNITIES

One Zephyr – non visible to the naked eye – replaces 250 cell phone towers

12 RESPONSIBLE PRODUCTION

Zephyr is produced using environmental friendly facilities and process – EV charging points

13 CLIMATE ACTION

Zephyr is a reusable airframe, reused mission after mission, and carbon emissions neutral

Providing connectivity to under connected areas

1 NO POVERTY

Internet access transforms communities, brings knowledge, information and development

2 ZERO HUNGER

Bringing connectivity and imagery, increasing crop yields by up to 50%

3 GOOD HEALTH AND WELL BEING

Improving health literacy: 1 in 20 Google searches are health related

4 QUALITY EDUCATION

Bringing connectivity to remote areas enables worldwide education access

8 DECENT WORK AND ECONOMIC GROWTH

Enable and accelerate humanitarian assistance / event triggered assistance

10 REDUCED INEQUALITIES

Internet access enables economic independence and increase of female workforce

Zephyr Imagery and Earth Observation use-cases

10 CLEAN WATER AND SANITATION

Tracking of water current and illegal water pollution

14 LIFE BELOW WATER

Tracking of fish movements, illegal fishing surveillance

15 LIFE ON LAND

Monitoring and protecting wild life, ice caps melting monitoring, ocean current monitoring

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Immigration and people flow monitoring, supporting armed forces in territory protection...