

## Retrospective and Vision

In retrospect, since releasing [Aerostats All Australia \(AAA\) Mobile Coverage](#) white paper in January 2016, the following developments have strengthened our original vision:

- 1) High speed low-latency and low-cost backhaul will become ubiquitous with the massive constellations of tens of thousands of [Starlink](#) and [OneWeb](#) Low-Earth-Orbit (LEO) satellites being deployed from 2019 over some three-four years;
- 2) Photovoltaic-fuel cell-battery energy has become highly efficient, thus allowing placement of AAA-type solutions anywhere in Australia without any further reliance on the fixed electrical network;
- 3) Sadly, the mobile coverage has not significantly improved with almost two thirds of Australia still without mobile coverage and only served by slow high-latency geostationary satellites;
- 4) Multiple cost-efficient solutions are emerging for all Australia mobile coverage and low-latency highspeed broadband with the emerging LEO-constellations supporting backhaul anywhere for these solutions including:
  - a) The original [AAA Helikites](#) and [Altaeros](#) mobile towers in the sky;
  - b) High Altitude Platform Stations (HAPS) also called pseudo-satellites. These include [Google Loons](#) and [AeroVironment HAPSMobile HAWK30 stratospheric drones](#) – joint ventures with SoftBank.
- 5) The requirement for road access to cell-towers may be lifted with LEO-backhaul and highly efficient photovoltaic-fuel cell-battery energy solutions allowing placement of small low-height mountain-top cell-towers practically anywhere in Australia. Past claims by carriers (Telstra) having established cell-towers to all accessible mountain tops are no longer true. Vast areas of Australia may be opened for mobile coverage from locations previously thought too extreme to access.

Hybrid optimised solutions of mobile towers in the sky (4a) or stratospheric drones and balloons (4b) or cell-towers on mountain tops previously considered too difficult to access (5) will contribute to cost-efficient mobile coverage for all Australia no longer being 'rocket science'.

NBN approaching 30 June 2020 full national deployment is the ideal opportunity to plan the replacement Telstra Universal Service Obligation (TUSO) at potentially no cost to taxpayers by offering Telstra:

a) Relaxation of Telstra's foreign ownership restrictions boosting TLS share price for the long suffering 1.3m 'mom-and-pop' retail shareholders. The restrictions may be shifted to a separately ASX-listed InfraCo possibly merged with NBN; and/or

b) Telstra to build and operate the future USO for all Australia broadband and mobile coverage.

Telstra is keen to replace TUSO if they are not financially disadvantaged; if handled intelligently, this will not cost the Australian taxpayer one cent.

Finally, as a long-term vision we see the [convergence of both mobile and satellite](#). The ultimate will be high bandwidth low-latency broadband and mobile from any mobile device. In this vision the future LEO-constellations will offer both mobile services and broadband. Hence our solutions 4) and 5) may end-up being interim-only:

[Lynk Global](#) is in race with [AST SpaceMobile](#) to provide space-based cellular broadband network.

[Bloomberg](#) reported that Apple the iPhone maker "has a secret team working on satellite technology to beam internet services directly to devices, bypassing wireless networks."

Watch this space!

For further reading see:

[Aerostats All Australia \(AAA\) Mobile Coverage](#)

[AAA for Regional Telecommunications Review](#)

[AAA for Productivity Commission USO Inquiry](#)

[AAA News in the Press - Communications Day](#)



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