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Carriers, gov't to be pitched on plan for remote balloon mobile network

A radical proposal to use tethered balloons – known as aerostats – to provide mobile service to the 70% of Australia without any coverage **EXCLUSIVE** will be circulated to carriers and the federal government today.

A feasibility study has been drawn up by an organisation known as Aerostats All Australia, which is headed up by consultant and Telstra veteran Ben Livson. Livson told CommsDay that the use aerostats could provide mobile coverage in remote and regional Australia that was "orders of magnitude" cheaper than any competing technologies, including the "Project Loon" balloon technology proposed by Google. He also noted that similar projects using aerostats have been trialled in Europe and also in Australia by the defence forces.

The initial feasibility study follows three to four months of reviews and contributions from a senior roster of telecommunications industry experts including noted consultants Reg Coutts, Maurie Dobbin and Robin Eckermann, as well as Ericsson Southeast Asia and Oceania



chief strategy officer Hakan Eriksson and former director of the Centre for Wireless Communications Ian Oppermann, among others.

An example of an aerostat in deployment

According to the proposal, AAA aims to open up most of the 70% of Australia not currently covered by mobile in stages over a multi-year plan. The immediate objective is to double mobile coverage from less than a third of the Australian land mass to two thirds by co-location of aerostats with existing mobile infrastructure.

The proposal would use tethered aerostats – balloons permanently anchored by a tether that carries capacity from base stations on the ground to radio integrated antennas forming the payload. According to AAA, the rationale for co-locating aerostats at existing mobile towers is the availability of access roads, electricity and fibre optic backhaul. An aerostat at 1,200 m altitude extends a typical cell site coverage 160-fold from 300 km² to 48,000 km².

However, the aerostat must have its own radio spectrum to avoid interference with existing cell sites. The need for spectrum is one of a number of potential hurdles that AAA has identified. Each aerostat will also need support for regular inspections, technology upgrades and to secure the unit if there is an approaching cyclone. Overall, the operating costs are estimated at around A\$85 million annually for a fleet of 250 aerostats.

Livson told CommsDay that AAA would like to see money from the universal service obligation redirected to help support the initiative, given that it can dramatically expand coverage in remote areas where coverage is most needed. He said that it would also need support from an existing mobile carrier, but that the coverage would be made available on a wholesale basis to all carriers.



He believes that an initial trial of the technology could be set-up for less than A\$10 million to prove that the technology can work and that it can be supported by a carrier. If the proposal can get buy-in from carriers and government, he is hopeful of setting up an initial trial within the next six to 12 months.

While the main market is for mobile consumers, Livson is also hopeful of interest from the Department of Defence and NBN, which he believes can play a future role and use the capacity to help alleviate excess demand on its satellites.

The proposal comes at a time of increased innovation in remote wireless communications. As well as Project Loon, Google has more recently been trialling 4G mobile services using drones in New Mexico.

The AAA feasibility makes reference to Project Loon, noting that the higher altitude of the solution reduces coverage in comparison to AAA aerostats. In addition, Loon's untethered approach means that it is impossible to develop a frequency reuse plan compatible with a telco's mobile network.

Geoff Long