

19 June 2018

[Aerostats All Australia \(AAA\)](#) Submission to the
2018 Regional Telecommunications Review Secretariat
Department of Communications and the Arts
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For the first time we have an order of magnitude more affordable breakthrough technology to regional, rural and remote Australia mobile coverage.

[AAA](#) provides mobile coverage for as low as \$3 pa per square kilometer in comparison to mobile towers, aircraft and drones costing anywhere from \$100 to more than \$1,000 pa per square kilometer.

Reaching the remaining 65-to-70% of Australia without mobile coverage is not rocket science but about the ability to offer cost effective affordable solutions.

The Government redirecting USO from the 2020 completion of NBN to Universal Service Guarantee will release the funds which in any case will be less than one percent (1%) spent on NBN.

The Mobile Black Spot Program¹ has delivered for \$680m some 90,000 square kilometres of new and upgraded handheld mobile phone coverage and over 205,000 square kilometres of new external antenna coverage.

In comparison [AAA](#) delivers mobile coverage in excess of 5,000,000 km² for the remaining regional, rural and remote Australia without mobile coverage for less than \$450m.

In further comparison the cost of NBN's Sky Muster satellite service is more than \$4.7b.

We recommend a staged implementation of [AAA](#) over four years commencing with major highway coverage. For example, [AAA](#) provides mobile coverage to Adelaide to Perth, Adelaide to Darwin and Perth to Broome highways for \$14m CAPEX and \$3.5m pa OPEX to benefit SA, WA and NT.

Following Telstra's fiberoptic backhaul from Cairns to Weipa in Cape York Peninsula in Queensland is another priority route to provide mobile coverage to some of our most disadvantaged communities.

We estimate national coverage of A and B roads for \$65m to build and \$15m p.a. to operate and maintain.

We think regional, rural and remote Australia deserves this funding to realise the huge potential of our country and nation.

In this context may I also highlight the [Aerostats All Australia \(AAA\) response to Productivity Commission USO Inquiry](#)

[AAA](#) as a technology was proven and supported by the European Union \$18m Project FP7 ABSOLUTE with participation by England, France, Germany, Italy and Hungary is extensively referenced in our whitepaper.

Please find enclosed links of British Telecom BT's EE Helikite aerostats for rural and remote England mobile coverage.

¹ Regional Telecommunications Review 2018 Issues Paper Introduction

Kind regards

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EE's inflatable masts are powered by 'pre-5G' backhaul

EE's helium balloon, the Helikite, packs miniature antennas which link to a 'network in a box' on the ground via 26GHz millimetre-wave (mmWave) spectrum. Similar frequencies will be part of 5G when the standard is finalised next year, but EE is claiming the use of pre-5G technology is a first in Europe. BritishTelecom BT subsidiary EE has become the first British mobile network operator (MNO) to showcase 'pre-standard 5G' backhaul capability, using it to connect its 'air mast' mobile coverage solution. Known as 'Helikite', the platform uses mini mobile sites attached to a helium balloon to provide 4G mobile coverage where permanent sites have been damaged or in areas where there is no coverage. In the technology trial, EE employed pre-standard 5G backhaul technology using millimetre wave (mmWave) frequencies, with the mobile backhaul solution demonstration utilising 26GHz test spectrum to connect:

EE uses pre-standard 5G backhaul tech to support 'Helikite' in remote areas

EE earlier this year demonstrated how it can use a balloon and drone air masts to connect remote parts of the UK and keep communities online in the wake of disasters such as major flooding. The operator plans to use mini mobile sites attached to a helium balloon—which it calls a "Helikite"—to provide wide area 4G mobile coverage where permanent sites have been damaged or in areas where there is no 4G coverage.

EE, BT showcase 'pre-standard 5G' to connect air mast

EE, the UK's largest mobile network operator and part of the BT Group, has become the first UK provider to successfully demonstrate pre-standard 5G backhaul technology, using it to connect its unique Helikite 'air mast' mobile coverage solution.

Pre-5G' Backhaul Powers Inflatable EE 4G Air Masts for Disaster Zones and Rural Areas

EE is using pre-5G powered backhaul to power an inflatable air mast called 'a Helikite' to deliver 4G connectivity to areas affected by bad weather, natural disasters or poor general connectivity.

Eurobites: BT Soups Up Its Superchannel

BT-owned EE has been demonstrating the use of what it calls “pre-standard” 5G backhaul technology to connect to its helium balloon-based Helikite “air mast.” The backhaul demonstration uses 26GHz test spectrum to connect the Parallel Wireless small cell on the Helikite to a virtualized Evolved Packet Core on the ground using a link provided by millimeter wave specialist Phazr.

BT unveils raft of technology developments

In the technology trial, EE employed pre-standard 5G backhaul technology using millimetre wave (mmWave) frequencies, with the mobile backhaul solution demonstration utilising 26GHz test spectrum to connect the Parallel Wireless small cell on the Helikite to a virtualised EPC on the ground.

EE uses mmwave backhaul in mobile mast demonstration

The BT-owned company’s patent-pending Helikite solution, first trialled in February, contains a small cell from Parallel Wireless. Yesterday’s (12 June) trial involved technology from mmwave specialists PHAZR and a virtualised evolved packet core from Athonet to backhaul across the 26GHz band.

EE demos balloon backhaul system in pre-5G spectrum test

UK mobile operator EE announced tests of a new backhaul system that uses mini mobile sites attached to a helium balloon to provide 4G mobile coverage. The patent-pending ‘Helikite’ solution is expected to be used where permanent sites have been damaged by extreme weather and other disasters, or in areas where there is no 4G coverage.

EE and BT showcase ‘pre-standard 5G’ to connect Air Mast

EE, the UK’s largest mobile network operator and part of the BT Group, has become the first UK provider to successfully demonstrate pre-standard 5G backhaul technology, using it to connect its unique Helikite ‘air mast’ mobile coverage solution.