Skybridge Spectrum Foundation
Telesaurus Holdings GB LLC
Environmentel LLC
Verde Systems LLC
ATLIS Wireless LLC
Intelligent Transportation & Monitoring Wireless LLC

2649 Benvenue Ave, Berkeley CA 94704
2509 Stuart St, Berkeley CA 94705

510.841.2220 - phone
510.740.3412 - fax

Warren C. Havens
President

Ex parte presentation

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Marlene H. Dortch
FCC Office of the Secretary
445 12th Street, SW
Washington, DC 20054

Wireless Telecommunications Bureau:
Paul D'Ari: paul.dari@fcc.gov
Jim Schlichting: jim.schlichting@fcc.gov
Paul Murray: paul.murray@fcc.gov
Nese Guendelsberger: nese.guendelsberger@fcc.gov

Office of Engineering and Technology:
Julius Knapp: julius.knapp@fcc.gov
Ira Keltz: ira.keltz@fcc.gov
Alan Stillwell: alan.stillwell@fcc.gov
Ronald Repasi: ronald.repasi@fcc.gov
Bruce Romano: bruce.romano@fcc.gov

Re: WT 06-49: the *LMS-M ITS Radio Service* NPRM.

The following supplements the April 2010 filing in this docket by the entities listed above.

Attachment 1 below is a paper by Professor Chris Rizos,[1] a leading international expert in GPS, GNSS and terrestrial location technology and networks prepared for this FCC presentation.

Nationwide High Accuracy Positioning Infrastructure and Services,
Including for Intelligent Transportation Systems:
Background, Technology, Uses, Developments and Challenges

[+] Professor Chris Rizos, Head of the School of Surveying & Spatial Information Systems at the University of New South Wales, Sydney, Australia. Chris has been researching the technology and applications of GPS since 1985, and established over a decade ago the Satellite Navigation and Positioning group at UNSW, today the largest academic GPS and wireless location technology R&D laboratory in Australia. Chris is the Vice President of the International Association of Geodesy (IAG), and a member of the Executive and member of the Governing Board of the International GNSS Service (IGS). Chris is also the Chair of the joint IAG/IHO Advisory Board on the Law of the Sea (ABLOS).

Attachments 2, Parts 1 and 2, are other papers by Chis Rizos and colleagues on the same topic as Attachment 1, provided by Mr. Rizos to the undersigned to augment Attachment 1.

These reports discuss the ***enormous future benefits***, starting now, of nationwide high accuracy positioning service—based on dedicated N-RTK GPS augmentation and 2-way communication wireless, just as SkyTel is developing—*and the need for nations to seriously act now* to establish these: their public and private sectors working together. In sum:

> The benefits of a National CORS Network *[based on N-RTK wireless]*[2] ....GNSS CORS networks are emerging as a powerful means of boosting efficiency within a variety of businesses. Precise positioning has emerged as a critical new capability for the agriculture, mining, engineering and construction sectors, and will progressively become important to many other sectors. Accurate positioning is also a cornerstone of asset management, logistics and navigation for public and private *transport* and is a key element for counter terrorism and emergency management. … increasing interest in a range of diverse applications including meteorology and position/time certification.
>
> By delivering a nationally coordinated CORS network positioning would become the fifth largest infrastructure after transport, telecommunications, water and power.
>
> A nation the size of Australia [or the US] cannot afford to miss …[the] opportunity to raise productivity and our ability to compete globally through [the proposed nationwide high-accuracy positioning infrastructure and services].

Attachment 2, part 2. Emphasis and item in brackets added.

We have previously indicated the benefits and provided summaries and links to expert cost benefit studies. The projected benefits are *in the many-percent of GDP, on a par with Internet commerce*, as the Allen report cited in Attachment 2 part 2, notes-- *even considering only* agriculture, civil engineering and construction, and mining *and not considering the greater* combined benefits of: social, health and environmental benefits, and benefits to emergency response, national security (including backing up and augmenting GPS) and telecommunications (precise location will enhance wireless telecommunications in many ways).

SkyTel has good cause to think that even this projected huge benefit is a big underestimate: precise constant location of real things *in real space* will be as critical as the Google and Internet which locate and communicates things in cyber space.

Just as the FCC has experts in some areas important to various form of wireless, it should obtain expertise in this area of wireless dedicated to high accuracy location, since as summarized herein it will be one of the most important forms of wireless. (This lacking is shown by the fact that the FCC believed the facile assertions of Progeny that GPS "obviated" the need for LMS for augmenting GPS for vehicle location and monitoring: that could be immediately seen as incorrect even by educated laymen in these areas.

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[2] "CORS" means Continually Operating Reference Stations, of which N-RTK will predominate, to augment GPS-GNSS. This is explained in detail in the attachments.

However, *the FCC got it entirely right when establishing the LMS service:* It was *not* for the then-current AVL but was for the ITS of the future as the FCC often explained in the relevant reports and orders of the 1990s. That can proceed now, as our recent filings document in detail.

That future of ITS and the future of many other industries and sectors will be, in large part, built upon wireless dedicated to nationwide high accuracy location and tightly integrated communications.

M-LMS can be the core for this in the US. No other nation but Japan as an ITS-dedicated wide-area radio service yet (others are working on this).

For this purpose, as the core technique, M-LMS can provide for N-RTK wireless (see our past filings), with other forms of GPS augmentation as well. N-RTK implementation is spreading across the world rapidly, including in some US States.

As previously noted, we also plan in-person presentations on these matters to FCC staff this year once we can line up experts and other arrangements. These will be coordinated with meetings with member of Congress on these and other FCC related matters.

Respectfully,

/s/
Warren Havens
President
Skybridge Spectrum Foundation (M-LMS licensee)
Telesaurus Holdings GB LLC (M-LMS licensee)
And associated LLCs indicated above[3]

Two Attachments

[3] Skybridge Spectrum Foundation is an IRS-recognized tax-exempt 501(c)(3) organization. These other LLCs hold FCC licenses in lower 200 MHz and MAS 900 MHz. All of the captioned LLCs are managed by Warren Havens, who is also Director (and trustee in the public interest) of Skybridge Spectrum Foundation. The Foundation (on a nonprofit basis) and these LLCs (on a combined profit and supportive charitable basis) have cooperative plans to use their respective FCC licenses for public-interest wireless, principally, "intelligent" or "smart" transportation, energy, and environment radio systems nationwide.