Sharing Unused Airwaves
Vienna Firm Earns Its Living in Broadcast Spectrum White Space

By Zachary A. Goldfarb
Washington Post Staff Writer
Monday, August 25, 2008; Page D01

An engineer, Mark A. McHenry litters his speech with dizzying terms like gigahertz and cognitive radio. But on one topic in the national news he is plain-spoken: the claim by the broadcast networks, the NBCs and CBSs of the world, that a new technology to provide Internet service over the air will interfere with TV viewing.

"They're wrong," says McHenry, the chief executive of Shared Spectrum, a Vienna technology company.

The Federal Communications Commission is weighing a proposal that would allow companies to share airwaves. McHenry said his eight-year-old, 30-person firm has already received $30 million from the Defense Department to develop the concept. The broadcasters' position is "not what the DoD thinks," McHenry said. "It works in the harshest environments."

At its core, the debate over sharing spectrum is about control of the airwaves. All sorts of organizations -- the military, TV stations, cellular companies, police stations -- are assigned specific parts of the spectrum, a potentially lucrative asset. But sometimes spectrum can go unused -- for minutes, hours or years. Shared Spectrum's technology, and that of other companies, finds unused spectrum in what the industry calls white spaces and assigns it to other purposes.

McHenry started Shared Spectrum just as the technology market started to slide in 2000. He thought about commercial uses back then, but heeded advice he received from Dale N. Hatfield, the head of the FCC's engineering and technology office at the time.

"I tried to steer him away from the broadcasters because of the difficulty you have in taking on broadcasters in spectrum matters," said Hatfield, who now teaches at the University of Colorado at Boulder and consults for

The debate over spectrum is a story of control, and Shared Spectrum's technology allows it to be shared among those companies that can pay for it. And it's one reason why McHenry says his firm is on a "wild ride."
Shared Spectrum. "They're strong politically."

Instead, Shared Spectrum turned to DARPA, the Pentagon's research arm, where McHenry spent several years researching the technology before forming the company. Over the years, it has edged out several big defense companies to win contracts to build next-generation radio technology for the military technology.

The military's spectrum is allocated to different purposes in advance, such as satellite signals or video feedback from unmanned aerial vehicles. If particular spectrum is not in use at a particular point, it is wasted. "What our next-generation communications program is looking at is developing the technologies that could dynamically redistribute the allocated spectrum, where the radios and equipment would listen to see if the spectrum is being used and if not, use it," said Jan Walker, a DARPA spokeswoman.

McHenry said he is happy that Shared Spectrum stuck with government contracting. He is not part of the debate over taking advantage of white spaces for other commercial uses, a dispute that flared last week when Google launched a campaign to urge the public to support an FCC proposal that would authorize the use of unlicensed airwaves between television signals to create a nationwide wireless network.

Supporters say the network will bring broadband to lightly populated areas and help satiate the demand for fast Internet access by a growing number of smartphones and other mobile devices.

Broadcasters have opposed the move, saying the shared airwaves would interfere with TV signals.

"The prototype tests up to this point have consistently shown failure," said Dennis Wharton, a spokesman for the National Association of Broadcasters. "That doesn't give us a whole lot of comfort when there's a potential of thousands or millions of these devices operating without any protection to ensure that our broadcasters are able to get clear picture to our viewers."

McHenry disagrees. But he also chides the tech giants who are pushing for access to white spaces for not asking for a strong enough signal to make a real difference in rural areas and across long distances. Others find merit in that argument.

"The truth of the matter is, if this were a straight engineering consideration, you could do substantially higher than" what's being asked for, said Ed Thomas, a former FCC official helping the alliance of tech companies. "This is a political situation as well as the question as to what is comfortable for the FCC."

Even with the government route, though, McHenry is not free of hurdles. As he urges Pentagon budget officials to factor his devices into their spending, he has had to persuade them to abandon radio programs they already have.

"It takes them a while to realize we have something here," he said. Of the Pentagon budget, he added, "it's like a freight train."
More in Local Business

Local Blog

Post's local business staff keep you informed on local business news.

Special Report

Our annual guide to the top businesses in the Washington, D.C. area.

More News

More information about business news in the Washington region.

© 2008 The Washington Post Company

Ads by Google

Video Asset Management
Take Control of Your Video! From video creation to publishing.
www.northplains.com

Broadcasting career
Break into broadcasting now! Professional hands on training.
www.bvsnair.com

FCC Notice of Violation?
Six key things to do before responding to the FCC.
www.TelemcomLawFirm.com

SEARCH: [Search Washington Post] [Search Archives]


http://www.washingtonpost.com/wp-dyn/content/article/2008/08/24/AR2008082401860.html?hpid=sec-tech