

- ▶ Topic Alerts
- ▶ Subscriber Services
- ▶ **FREE News Alert**

**Magazine**

Headline News  
Print Edition  
**New!** Digital Edition  
Announcements  
Events  
**New!** Online Product  
Showcase

**Resources**

Buyers' Guide  
Update Your Buyers'  
Guide Listing  
What's On  
Careers/Classifieds  
Industry Links

**Information**

Contact Us  
Media Kit  
Reprints  
Feedback  
eNewsletter  
Subscribe

**Daily News Tuesday, April 28, 2009****■ New Wireless Capabilities Up in the Air**





Don't get rid of that zeppelin just yet!

Lighter-than-air craft may have a new life in wireless content distribution.

The Wireless Applications and Systems Research group (WASR) of Communications Research Centre (CRC) Canada has been working with the Director Land Command Systems Program Management 3 (DLCSPM 3) of the Department of National Defence (DND) on the use of aerostats to enhance wireless communications. Essentially, an aerostat is a lighter-than-air object that can be raised significantly above ground while remaining in a relatively fixed position. It can then be used to greatly improve the line-of-sight coverage of a base station radio to a number of end users located at ground level.

"The Canadian Military continuously searches for new technologies that can lead to innovative approaches for modern day operations. In the area of wireless communications, the aerostat is one of these technologies that is showing promise," explained Cy Aiken, Senior Systems Engineer of DLCSPM, in a CRC publication. Researchers conducted the first phase of the study at Canadian Forces Base Suffield, Alberta in December 2008, where DND launched an aerostat for the first time. They chose a rapidly deployable 17-metre long tethered balloon. Researchers raised the aerostat to 180 metres above ground level while it carried a variety of wireless technologies in a payload container suspended beneath the balloon.

CRC researchers integrated a WiMAX base station and omni-directional antenna into the aerostat payload.

-  **PRINTER VERSION**
-  **EMAIL ARTICLE TO A FRIEND**
-  **COMMENT ON THIS ARTICLE**
-  **PERSONAL NEWS ALERTS**

## Related Items

**Articles**

- [Delivery/Distribution \(programming\)](#)
- [Government \(other than CRTC\)](#)
- [New Technology](#)
- [Wireless/Wi-Fi](#)



**JUNE 2009**

- Your Advertisement has six month exposure to industry decision makers
- The most cost - effective advertising buy you can make
- Targeted advertising to influential buying groups

**CLICK FOR MORE INFORMATION**

broadband & content  
**mediacaster**

CLICK FOR MORE INFORMATION

Once the aerostat was raised, they conducted a series of tests at ground level using up to 10 subscriber units that communicated with one another via the base station on the aerostat. Researchers were particularly interested in the increased range among subscriber units as a result of the elevated base station on the aerostat, the increased throughput amongst users as a result of improved line-of-sight conditions, and improved coverage ubiquity.

Military operations often require reliable, strategic and tactical long-range communications even in the most challenging environments where difficult terrain is the norm, researchers noted.

The Communications Research Centre (CRC) is the Canadian government's primary laboratory for research and development (R&D) in advanced telecommunications, with a critical mass and expertise in four major platforms that form the basic transport mechanism for information delivery across Canada: wireless, broadcasting, satellite and fibre optics.