## Knowledge Transfer Network
Creative Industries

# Avanti, Alcatel-Lucent, Docobo, Camvista
## Using satellite Broadband to bring 3G services to rural homes and businesses

### About the Project

The ORION project was originated by Avanti and builds upon results of two preceding projects. The first of these was partially funded through ERDF by the Department of Trade and Investment of Northern Ireland (DETI-NI) in 2008. The one-year trial established proof of concept, bringing mobile coverage and high speed broadband into rural areas using satellite broadband. The system used an A5-sized low-powered indoor base station, called a 'femtocell' (small-cell) connected to the cellular network using satellite technology to deliver indoor 3G network coverage. The projected market for femtocell and satellite had been deemed to be close to 700,000 households in the UK alone with significant opportunities on a global scale.

The second project, a study funded by the TSB, built a business case and identified key technical challenges. The favourable outcomes of the study prompted the submission of a proposal for the ORION Project to the TSB call to undertake further development and carry out further UK trials. The key innovation of the ORION Project is to extend the original concept to bring 3G mobile network coverage to the whole community.  The project team proposed deploying leading edge technology high power outdoor femtocells again using satellite backhaul.

The proposal was successful and the ORION Project was awarded a grant offer from the TSB of £412k and a small contribution from DETI-NI. This would be matched by the consortium comprising Avanti, Alcatel-Lucent (largest femtocell commercial vendor for the UK), Docobo (who provide an assisted living platform called doc@HOME with a HealthHub in the home) and, Camvista (providing remote video alerting systems and CCTV security solutions). By introducing core third party services in the Health and Security domains together with support for standard consumer 3G services the use of the bandwidth can be optimised to further strengthen the business case for the deployment of the new small cell base stations with satellite backhaul. A trial for the project will begin in early 2012.

### Benefits of Funding

Because the market for satellite broadband was thought to be relatively small in comparison with ADSL, the area of work had not previously been thoroughly investigated. With funding behind them, risk to the partners was reduced, and it was ascertained that there was, in fact, a significant market. The ongoing TSB funding has also been key in delivering a clear message of confidence: if they had not supported Avanti, the Northern Ireland Government may not have done so either.

## Fast Facts

**Sector:** Digital communications

**Funding Source:** Technology Strategy Board 'Collaboration Across Digital Industries' Mainstream

**Total Project Value:** £830k

**Duration:** Apr 2011 – Jun 2012

**Market Impact:** Significant in the UK alone, with even greater potential globally

**Creative Industries KTN input:** Delivered the 'Partnering for Innovation' event, enabling Avanti to gain critical exposure to connect with key partner Alcatel-Lucent.

"TSB's calls for funding can take a proposition through all the different development stages. It is so good: because it can take you from proof of concept to building the business case, to developing the technology and trialing."

Indran Sivarajah, ORION Project Manager Avanti

### Results

The next step is to engage with mobile operators who own or are about to procure femtocell gateways, demonstrating that the demand is there and their investment costs will be justified to that of ADSL broadband. Avanti believe once they show the operators what they can achieve, these companies will include satellite broadband in their offering in order to access customers they are not currently reaching. Once ORION is rolled across the UK, Avanti will be taking it to Europe and the rest of the world, enabling 3G mobile coverage to be extended everywhere through their satellite broadband service.

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