

CASE STUDY

Digital Terrestrial Television: Confidential

**RED-M: LEADING
ADVISOR ON
DIGITAL
TERRESTRIAL
TELEVISION**

RED-M HAS BEEN INFLUENTIAL IN THE PIONEERING WORK PERFORMED IN THE UK ON THE ROLL-OUT AND EVOLUTION OF DIGITAL TERRESTRIAL TELEVISION, HELPING WITH THE PROCESS OF PERMITTING THE SWITCHOVER FROM ANALOGUE TO DIGITAL TV BY 2012 FOR THE WHOLE OF THE UK.

Red-M was commissioned by the world's first terrestrial digital television broadcaster, based in the UK, to examine improved methods of predicting coverage for their network. The broadcaster was using transmission masts originally intended for analogue broadcasting and had to use frequencies which were very constrained in available powers as a result of the need to avoid interference to the existing analogue transmissions. As a result, the broadcaster's ability to market their services to a large customer base was highly constrained, and they wished to



make the best use of their transmission network without offering a service to users who would not receive an acceptable service.

The problem was that predictions of service were being performed using coverage prediction methods which were decades old and were created for analogue prediction, which is far more forgiving due to the 'graceful' failure of analogue TV compared with the abrupt failure characteristics of digital in low-signal areas. Red-M had expertise in the relevant skills of radio wave propagation, gained through many projects including particularly the [DigiPlan](#) project with the BBC and the University of Surrey.

Red-M designed a coverage planning system suitable for the broadcaster's needs, using new formulations of propagation over terrain and buildings in order to

take advantage of the high-resolution geographic data now available. The system was developed and tested via extensive field measurements, which showed that, using the new system, the broadcaster's could confidently market their service to approximately one million new households nationally. It also avoided the cost of marketing services in areas which the previous planning system incorrectly predicted as covered and the associated cost of unnecessary aerial call-outs.

In addition, Red-M is currently engaged in a project for Ofcom, investigating the extent and causes of coverage and reception problems likely to be experienced post-switchover and the best methods for overcoming these, to ensure that disruption experienced by the public is kept to a minimum.