

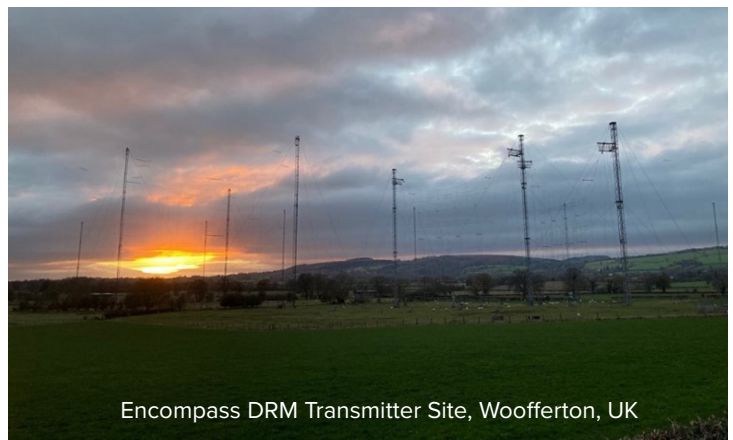
SHORTWAVE RADIO CASE STUDY

DISTANCE LEARNING WITH DIGITAL RADIO MONDIALE

Encompass Digital Media, working closely with the BBC and DRM consortium members, has delivered maths lessons to schools in The Gambia using **long-distance DRM digital radio**. This makes a **compelling case for the ongoing use** of long-distance digital radio in education, particularly where **no internet access is available**. Applications include **solo study** and **group learning** and could apply to a number of fields such as core curriculum, religious education, further and higher education, and technical training. **Graphic elements and supporting text materials** are transmitted by radio alongside an audio programme. **Receivers are supplied as part of the project**, removing barriers to entry caused by cost or access to technology.

OBJECTIVES

- There is a particular need to support education in regions where internet access is poor but smartphone ownership is high. Deliver multimedia teaching via digital radio for students to access on their mobile phones.
- Limits the financial burden on educators by supplying receivers as part of the project. The receiver should be as feature rich as possible and easy to use.
- Reach an entire country or region from a single transmitter to keep transmission costs low. Make the lessons available 'on demand' to students after the broadcast.



Encompass DRM Transmitter Site, Woofferton, UK

SOLUTION

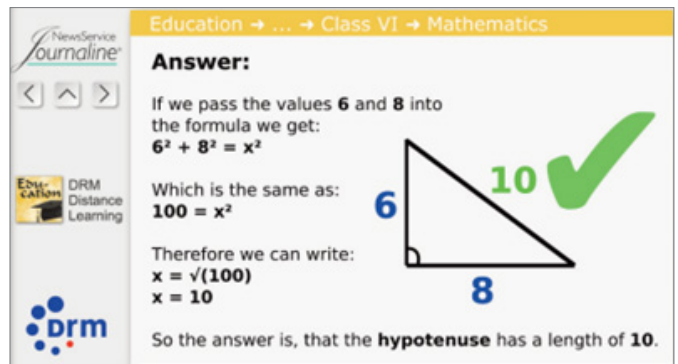
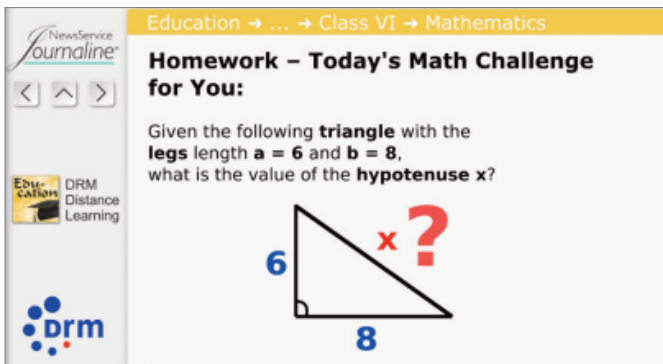
Encompass worked closely with teaching staff at a primary school in The Gambia to understand their needs and those of the pupils. We developed maths lessons with the teachers and arranged to record the lessons and produce the supporting materials. The accompanying textbook information and graphical elements are based on DRM's powerful advanced and interactive text technology Journaline, developed by DRM Consortium partner Fraunhofer IIS.



These initial transmissions were carried out with the lessons received and decoded using software-based receivers in the region. Encompass partnered with receiver manufacturer Starwaves to deliver their W293 receiver to schools as part of the final project package.

The receiver runs a web server and generates a Wi-Fi hotspot, which students connect to from their mobile phones. Then, they download the lesson materials and homework, transmitted via DRM digital radio, to their handset.

The lesson materials are stored on the receiver and can be accessed even after the broadcast is over.



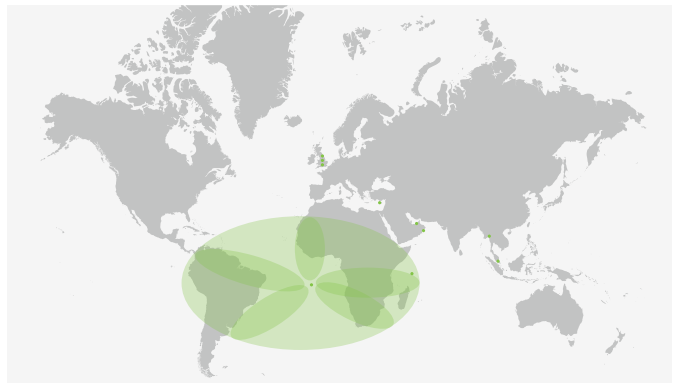
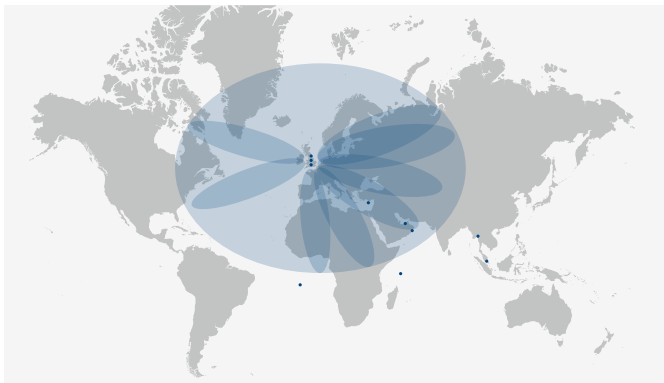
DRM maths lesson textbook screenshots

IMPACT

Encompass' broadcasts enable students in The Gambia to have a **richer learning experience** than would otherwise be possible and receive supporting materials electronically **without an internet connection**. Through the use of shortwave transmission, a large geographic area can be covered from a single transmitter. DRM transmission is **extremely power efficient**, which also helps keep costs low.

The use of shortwave DRM broadcasts for distance learning has received coverage in the trade press. Interest has been shown not only from schools and colleges but also from **international Christian ministries** interested in using the technology for **bible study in unreached areas**. Applications extend to **technical training** schools with a need to distribute technical materials to areas without reliable internet coverage. Through the use of Journaline, this technology could also be used to broadcast a "walled garden" style of multimedia service comprising of news, weather and cultural content broadcast to DRM receivers and accessed locally by the audience.

Talk to Encompass about how we can help you **realise your distance learning goals** using DRM Digital Radio.



Encompass Woofferton and Ascension Island coverage maps

CONTACT US FOR MORE INFORMATION

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