

Mobile Ku-Band Receiver Demonstrator

Applications: Digital Radio Services

"By offering not just radio but also multimedia, we're leaping the innovation barrier; this demonstrator has the potential to unlock a whole new industry for Europe"
Christophe Loeillet, Senior Manager Space Development, SES



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PROFILE:

This project demonstrates an innovative Ku-band mobile multimedia broadcast transmission system to vehicles. The project was motivated by a number of factors, not the least of which was demand from Europe's large automotive market for an "always-on" service. The total coverage offered by the existing European Direct-to-Home satellites will ensure that mobile users can be reached at the lowest cost. The current Ku-band space-segment infrastructure means that no terrestrial repeaters are needed and users only need a terminal with a small antenna compatible with normal cars.

The most innovative aspects of the project are:

- At transmission level: the information is transmitted using advanced low-level coding, and long interleaving. This method has significant proven advantages, such as the ability to cope with various independent sources of fading (line-of-sight interruptions, antenna mispointing and atmospheric conditions).
- At application level: unlike streaming, the transmission concept is a nonlinear, push and store based service giving users a quality service, even in difficult reception environments, such as urban areas. Meta information enables the reassembly of files at the user end.

Imagine driving down a country road anywhere in Europe and getting the latest news, weather or travel reports. Get crystal clear European wide reception, all the time. Upgrade navigation software, even while on the go. Enjoy short video clips. The flexibility offered is truly sensational. The service offers cost-effective transmission, with low set-up and transmission costs.

Extensive field trials have been performed in the areas around Munich and Copenhagen. The tests confirmed the expected performance of approximately 700-800kbit/s net throughput, for a typical transponder and interference environment, using a normal 10 cm x10 cm patch antenna. Now it is up to industry to market the car radio of the future.