

HISPASAT carries out pilot project with Renfe to provide audiovisual and Internet services to AVE train fleet

- **The tested solution includes Wi-Fi access and live television, as well as a variety of the latest film releases on demand, among other services.**
- **Satellite will speed up the rollout of this solution for the Spanish high-speed rail network and guarantees a future of stable service throughout all routes.**
- **With this project, HISPASAT continues to strengthen its leadership role in satellite communications for high-speed trains.**

Madrid, October 29, 2015. Spanish satellite communications operator HISPASAT has successfully implemented a connectivity solution for audiovisual services and Internet access on an AVE train (Spanish high-speed rail system). This pilot project began at the end of May this year on a train from the Series 100 by Alstom that covers the Madrid-Seville route.

The solution offered to Renfe combines satellite and 3G-4G connections throughout the train's entire route, with the goal of offering the best possible user experience to passengers. It includes Wi-Fi access that offers connectivity to more than 400 passengers simultaneously and reaches a wide bandwidth by combining available technology, all while the train is travelling at 350 km/h. This solution also offers live television, a video system that provides information of the trip in real time, a video server with the latest film releases, as well as audio services and a virtual newsstand.

The project includes a gyro-stabilised antenna which allows for permanent connection with the satellite and is attached to the train chassis through an aerodynamic fitting. HISPASAT has made its broadband platforms and capacity of satellites Hispasat 1D and 1E available for this project.

A solution guaranteed by satellite

The use of satellite technology allows broadband services to be put into place more quickly in high-speed trains. In the medium and long term, satellite connection will guarantee continuous

service throughout the train's entire route, even in areas where terrestrial networks do not reach.

Since 2008, HISPASAT has been the main operator in satellite communications services for high-speed trains. Its experience in the European train fleets Thalys and Italo has allowed the company to develop a robust solution that is resistant to all interference produced in such a hostile environment for connectivity as that of a high-speed train. Moreover, thanks to the combination of 3G and 4G technology, high-quality connectivity is maintained without interruptions throughout the entire route, even in tunnels. This service, successfully tested on the AVE fleet, reinforces HISPASAT's portfolio of mobility solutions, which also include maritime and aeronautic applications.

On the basis of this pilot project, Renfe will provide entertainment and connectivity services on their high-speed trains, combining cellular and satellite communications through a contract awarded to Telefónica.

About HISPASAT Group

HISPASAT Group is comprised of companies that have a presence in Spain as well as in Latin America, where its Brazilian affiliate HISPAMAR is based. The Group is a world leader in the distribution and broadcasting of Spanish and Portuguese content, and its satellite fleet is used by important direct-to-home television (DTH) and high-definition television (HDTV) digital platforms. HISPASAT also provides satellite broadband services and other added value solutions to governments, corporations and telecommunication operators in America, Europe and North Africa. HISPASAT is one of the world's largest companies in its sector in terms of revenue, and the main communications bridge between Europe and the Americas.

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