Broadband on trains

ESA initiative

European citizens are today demanding access to broadband networks, not just while stationary but also while travelling. Users are already able to access Internet at train stations and airports. Providing this access while passengers are aboard the trains is the logical next step.

In response to this demand, Train Operators have been evaluating available technologies and are launching development and pilot initiatives to validate different solutions.

Broadband on trains via satellite

Satellite Telecommunications technologies and its associated range of additional services and applications can be effectively applied for the provision of broadband access to trains. Satellite provides extended coverage, direct access to mobile users and fast deployment of the service. Integrating different services within IP technologies and/or with terrestrial networks to achieve full coverage can make satellite communications an excellent candidate in supporting broadband access from trains.

Triggered by the interest of Train Operators in Europe and Canada and promoted by service providers and technology manufacturers, a number of pilot projects and demonstration initiatives have been launched in the past few months.
Train operators Forum
To facilitate this uptake of the Broadband on Trains opportunity, ESA is hosting the “Train Operators Forum”. It is aimed at gathering experiences from Train Operators and elaborating a consolidated baseline of commercial, operational and regulatory requirements. A consensus based vision of the challenge will facilitate a coordinated approach and achieve a sensible economy of scale.

The Forum’s activities will help Train Operators to identify the most suitable solutions in the different contexts and to work out a coordinated approach for the development of the Broadband on Trains services in Europe.

The Forum now counts representatives of Train Operators throughout Europe and Canada: Trenitalia (I), SNCF (F), RENFE (E), Eurostar (UK, F), Thalys (F, B), GNER (UK), Virgin Trains (UK), NS (NL), HSA (NL), NSB (N), DSB (D), SBB (CH), ViaRail (CND) and UIC (International)

Furthermore, ESA is playing a pro-active role in facilitating exchange and co-operation between the supply-side (service and system providers) and the demand-side (Train Operators and Passengers).

ESA projects
Three projects have already started under the framework of the ESA Telecommunications ARTES (Advanced Research on Telecommunication Systems) programme:

- Satellite Internet Access for European Trains (SAET), lead by Alcatel Alenia Space with the cooperation of Trenitalia, Value Partners and University of Perugia, on board an ETR 500 train.

- Broadband to Trains, lead by the Anglo Belgium company 21Net on a Thalys train with a train travelling from Amsterdam to Brussels and Paris.

- Internet for High Speed Trains (iHST developed by the Spanish company INDRA Espacio for the Spanish High Speed railway.

ESA initiative in Broadband on Trains is addressed at enabling real broadband access service solution for European passengers throughout all European Railways.

More information: http://telecom.esa.int or telecom@esa.int