
Mobile television

The Kudelski Group has gained the leadership of the conditional access market for DVB-H (Digital Video Broadcasting – Handheld) mobile TV thanks to large-scale commercial deployments of the first integrated systems with various mobile phone technology partners and suppliers.

Television on mobile phones is an emerging market but its recent successful take-off shows its strong development potential in particular thanks to the DVB-H standard which, together with 2G or 3G services, delivers much better performance than UMTS (Universal Mobile Telecommunications System) technology alone.

DVB-H standard

DVB-H is a European Telecommunication Standards Institute (ETSI) standard for the broadcast of digital terrestrial television services to portable telephones and receivers. DVB-H broadcasting technology is based on the terrestrial DVB spectrum. The quality of the signal and of sound and images delivered through this technology bears no comparison to the UMTS technology still used for broadcasting television images to portable devices through cellular networks.

Nagra Mobile – first commercial deployment in DVB-H

Launched in 2005, Nagra Mobile solutions are gaining momentum within the mobile industry, emerging as the preferred solution of top tier mobile network operators and technology partners.

The Group has completed the integration of its conditional access with DVB-H mobile phone suppliers, unconnected device suppliers and SIM card suppliers, providing already at this early market development stage an open platform supporting a great variety of devices.

In June 2006, the pioneer mobile network operator, 3 Italia, launched the world's first DVB-H commercial service just in time for the World Football Cup. 3 Italia offers top Italian content from Mediaset, SKY Italia and RAI and has broadcast all 64 World Cup matches to Italian mobile consumers. After six weeks of service, 250 000 customers had subscribed.

Also in 2006, Telecom Italia TIM, the largest mobile network operator in Italy, selected Nagra Mobile for its DVB-H mobile TV service. Targeting TIM's 26 million Italian subscribers, the TIM service secured by Nagra Mobile was sold as from autumn 2006 on a subscription basis.

At the beginning of 2007, Nagra Mobile was selected by Vodafone Italy to protect the content rights of its DVB-H mobile TV service, Vodafone SKY TV. Vodafone Italy, the country's second largest mobile operator, also uses Nagra Mobile TV to protect access to 9 television channels including Fox 1, Sky Sports and Disney Channel – and to the premium service that broadcasts A-series football matches. The solution enables Vodafone to propose a wide variety of business models ranging from subscription to pay-per-view and pay-per-time.

Vodafone is the third operator to deploy a mobile TV solution. To date, the first three mobile television operators – all in Italy – have chosen the Nagra Mobile solution to protect access to their DVB-H services. Italy has become the flagship DVB-H mobile TV market, setting the benchmark for the rest of the industry.

In Spain, the Kudelski Group has successfully collaborated with abertis telecom to integrate its conditional access technology into the operator's DVB-H platform for mobile TV technical tests.

In the Czech Republic, the mobile network operator T-Mobile began in October 2006 its Mobile TV test in partnership with leading mobile industry players. The service is secured by Nagra Mobile.

In Asia, Maxis Communications Bhd, Malaysia's largest cellular operator, selected the Nagra Mobile TV solution for a three-month DVB-H trial to test wireless television services. Full mobile TV commercial launch is expected at the end of 2007.

In the United States, Nagra Mobile was selected by Hiwire LLC, a division of Aloha Partners (the largest 700MHz spectrum owner in the United States) to secure the deployment of its DVB-H multimedia platform delivery system.

CNN/Turner/Time Warner, one of the world's leading US content providers, has purchased an end-to-end DVB-H Nagra Mobile solution for the development of its mobile TV offering.

Abilis Systems

Abilis Systems, which joined Kudelski in 2005, strengthens the Group's expertise in mobile TV.

Abilis Systems specializes in the design of low-power, small surface (<90 nanometres) integrated circuits that are particularly well adapted to mobile devices, especially mobile phones, but also portable digital video players, portable DVD players and portable computers.

Abilis is the first semiconductor fabless company to propose a single-chip mobile TV solution, integrating both the RF tuner and the demodulator.

In July 2006, Abilis Systems announced a manufacturing agreement for its chips with IBM Microelectronics, enabling Abilis Systems to meet its customers needs in terms of quality, volume and continuity of supply.

In addition, at the beginning of 2007, Abilis entered into a partnership with CyberLink Corp., a world leader in digital solutions, for the joint development of a secure end-to-end mobile TV solution integrating the Nagra Mobile TV conditional access system.

The Abilis chip – a complete TV receiver

- The Abilis chip is a complete TV receiver that fits into a 9x9 mm case.
- It employs a 90-nanometre CMOS (Complementary Metal Oxyd Semi-conductor) manufacturing process. Given that a hair has a diameter of one micron, each element of the chip (a transistor) has the size of one tenth of that of a hair.
- The chip contains 40 million transistors and as many electrical copper connections on 8 vertical layers, shared amongst 4 embarked processors.
- The chip receives the analog signal directly from the antenna and converts it into a digital video stream that can be read by a television receiver, a decoder or a PC, but also, thanks to its low consumption, by portable devices such as telephones, USB keys, multimedia players or other navigation systems.
- It supports all the TV frequency bands available in the world. Unlike other suppliers' solutions, it can be reprogrammed, particularly to support new standards.



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