Information Society Technologies

ATHENA

FP6-507312

Digital Switchover: Developing Infrastructures for Broadband Access

Project under Thematic/Stragegic priorities:
“Broadband for all"

Introduction to ATHENA project

ATHENA proposes **proper actions to be taken concerning the digital switchover**, to enable simultaneous development of broadband access networking infrastructures.

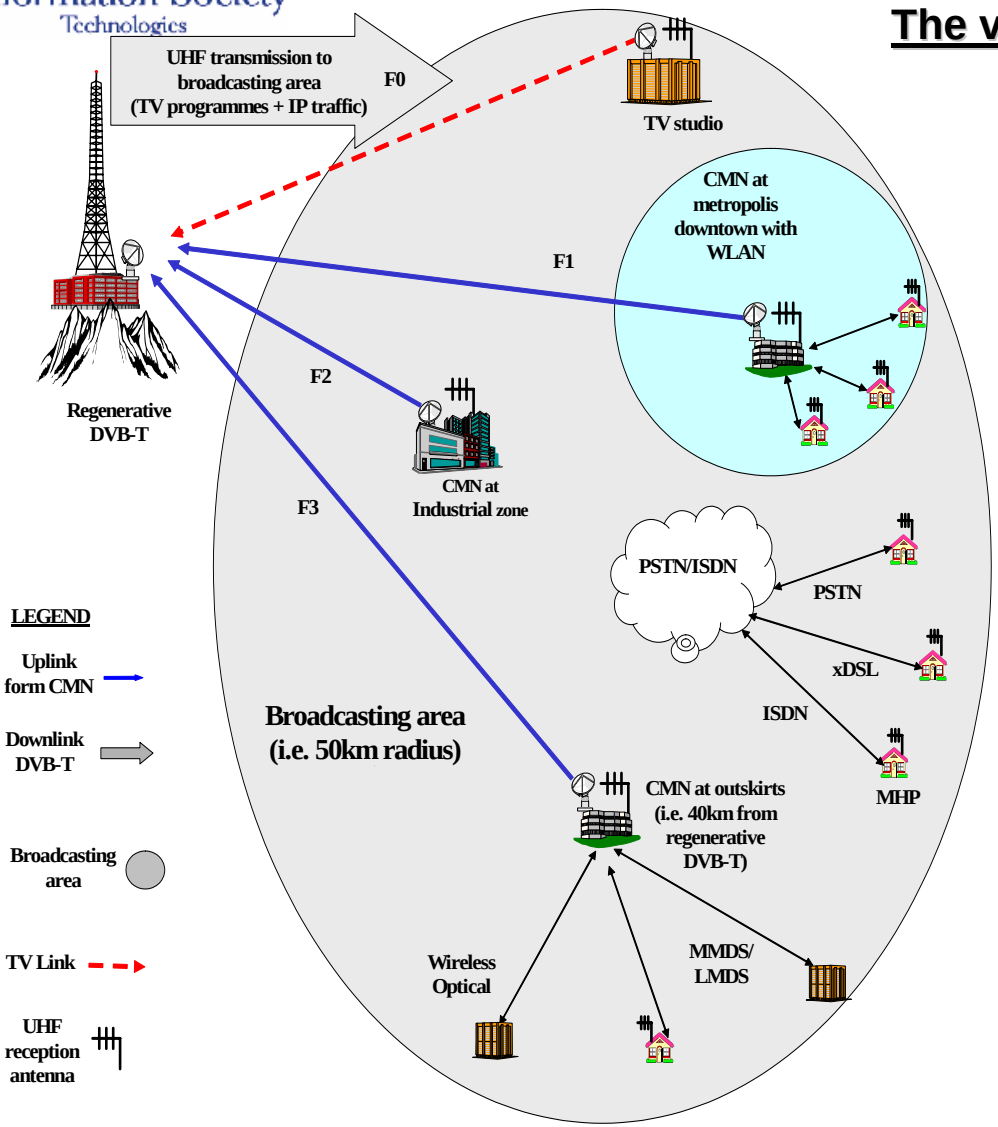
It presents **'Interconnecting Television',** as the solution of the digital switchover that comprises the use of the DVB stream in **regenerative configurations** for the realisation and interconnection of Next Generation broadband Networking (NGN) infrastructures, in Europeans cities.

Key objective of ATHENA

To explore and validate, the deployment/realisation of "digital switchover" through the design, implementation and evaluation of an infrastructure, which uses a regenerative DVB-T stream for the interconnection of distribution nodes, enabling access to IP services, and digital TV programmes.

The key objective of ATHENA is of strategic importance for many EU states and most Candidate Countries:
Digital switchover arises as **a unique opportunity to fill the gap in the deployment of broadband networking infrastructures**.

Overview of the ATHENA infrastructure



The virtual common Ethernet backbone:

✓ present in the **entire broadcasting area**, and accessed by both **active and passive users/citizens**.

✓ exploited **as common infrastructure** by 3G and B3G operators and broadcasters **having independent business plans and different users/clients**.

✓ **single access network physical infrastructure**, that can be **shared by multiple services** (i.e. TV programmes, interactive multimedia services, Internet applications, etc.).

Specific measurable objectives

- Design & development of **regenerative DVB-T infrastructure**
- Design and implementation of the **access network at the Cell Main Node**
- Specs & development of **bandwidth management system**
- Design & implementation of **traffic policy mechanism**
- **Adoption of IPv6**.
- Design & implementation of a **security mechanism** and safety algorithms/protocols,
- Design/implementation of an **interface between UMTS and DVB-T;**
- **Integration** of developed modules, tools and devices.
- **The final objective of ATHENA is the validation of such a broadband access for all citizens infrastructure based on the proper adoption of digital switchover.**

Potential impact and contribution to EU policies

ATHENA will develop a neutral regenerative infrastructure (DVB-T) in a city, which provides **not only a bouquet of television programs**, but (most predominantly) **creates a powerful broadband IP backbone** (60 analogue UHF/VHF are equivalent of an aggregate bit-rate of about 1.8Gbps).

This neutral infrastructure **does not belong to any broadcaster or 3G operator**, and can be used and **exploited by any potential service/content/application provider** (i.e. broadcaster, 3G operator, active citizens/users).

Raise the public/local/political awareness about the **networking** and **local** aspects of the new digital television and inform them about the **networking potentialities of the DVB stream**.

ATHENA's results will:

- be a useful feedback for the **existing service/content providers** and **the new type of businessmen** (potential/implicit service providers that can distribute their own content to the entire network).

- provide useful information to the **local and political authorities**, about the **networking dimension and the local aspect of the new digital television**. Affect decisions to be taken for the **digital switchover**, the **right-of-use of frequencies** and the **frequency legalisation procedures**.

Consortium description

Partners	Country
NCSR Demokritos	Greece
Space Engineering SpA	Italy
Thales Broadcast & Multimedia	France
Rohde & Schwarz GmbH & Co. KG	Germany
Centre for Technological Research of Crete	Greece
Telscom A. G.	Switzerland
Rundfunk Berlin-Brandenburg	Germany
T-Systems Nova GmbH	Germany
University Politehnica Bucharest	Romania
Laboratoire PRISM – CNRS – Universite de Versailles	France
Temagon Technology & Management Consultancy Services S.A.	Greece
University of Bournemouth	United Kingdom

Contact:
Rao@telscom.ch
Tel: +4131 3762033
www.ist-athena.org