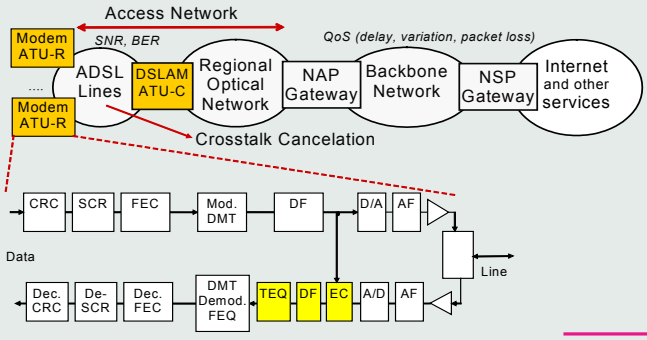
# Specification of Qualitative Criteria and Optimization of Resources for Broadband Access Networks

## Motivation

- Digital wideband communication is massively used (namely for Internet access)
- Network consists of many different technologies (optical network, CATV, RF and WLAN, xDSL etc)
- Recent networks still enable optimization of resources and innovation of terminals w.r.t. network throughput
- Most of the current data transfer is based on WWW technology – however there is absence of QoS assurance

## Project Goals

- Definition of qualitative criteria for different services (Data, Voice, Video…) and different user classes
- Specification of data flows for a specific service, influence of physical media
- Methodology of analytical synthesis of digital filters used in terminals
- Technical quality and price of terminals highly depends on quality of used DSP algorithms
- Study of existing equalization and echo cancellation methods for xDSL technology
- implementation of library containing selected algorithms on HW and/or SW platform (FPGA or DSP)




## Outputs

- Guidelines of advanced methods of the network infrastructure optimization
- xDSL toolbox for Matlab
- Library of DSP modules for terminals (equalization, filtering, echo cancellation)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