



FRUCT program:  
Proposals and directions for cooperative work

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## Dtv group – in short

- Location: University of Turku / Department of Information Technology / Communication Systems
- Personnel: ~ 23 (management, researchers, software designers)
- Key partners
  - Industry: Nokia, Elektobit, Digita, Icareus
  - Academic: Åbo Akademi University, Tampere University of Technology, Turku Polytechnic, Valencia Polytechnic
    - Nowadays, also FRUCT
- Active participant of large European project consortiums (DVB Project, B21C, COST)
- Activities & Research topics
  - Performance analysis and optimization of DVB-H
  - Design and development of future mobile broadcasting systems, Active participation in standardization
  - System level simulator for hybrid networks, QoS and QoE analyses
  - Novel service distribution concepts exploiting network Convergence in application Level
  - Intelligent Transportation Systems (inc. location awareness)
  - Air interface techniques for e.g. WiMAX, 4G, etc.

## General aspect (personal point-of-view)

- City of Turku have very positive view on FRUCT
  - Financial support possible (not yet granted)
- What could be concrete outcomes (they are of course expected if funding is granted)?
  - Mutual publications
  - International education
  - Research groups evolving to
    - Start-up companies
    - Funded research projects (might be EU projects as Russia can participate in Framework Program 7)
- It is probably possible also to find instances or organizations, which support these kind academic and educational programs
  - To ease student and researcher mobility
  - To gain more publicity => more participating partners

## Possible points of co-operation between projects identified

- “Coding in 4G” vs. “Mobile Multimedia Broadcasting Systems”
  - Common component: LDPC
  - Unequal error protection are planned to be utilized in error correction of video streams
  - Transport level error correction could be applied for broadcasting application
  - DVB-H has three levels of error protection – cross-layer optimization should be performed
- OFDM and OFDMA projects
  - OFDM used is various systems inspected in other projects
- System level simulator for hybrid broadcast/cellular networks
  - “Laboratory of video transmission” could be used to validate results
  - Can be easily extended to WLAN or WiMAX networks