



# *How STI policy instruments affect science and business cooperation in the Estonian ICT sector?*

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## We are aiming..

- ...to explore how STI policy instruments affect science and business cooperation and overall the development of research groups based on Estonian ICT sector case
- ... to evaluate the mix of measures systematically and give policy recommendations
- The scope:
  - ICT sector
  - research groups
  - Knowledge competence building (quality of research, infrastructure, mobility schemes) and knowledge transfer (clusters, competence centres , innovation vouchers, spin-off related activities) measures

## Background

- Cooperation between actors is set on a key position
- EU paradox : European science development level vs transforming science inventions into practice/ innovations (Bonaccorsi 2007, Dosi et al 2006).
- Overall, CEE states have experienced vast EU influence:
  - CEE policies and instruments are similar or same (Suurna, Kattel 2010)
- CEE is applying policies that might not be suitable for specific context (Radosevic 2011)

# Methodology and data collecting

- Qualitative literature review
- Instruments mapping & evaluation
- Research groups background mapping:
  - from Estonian Research Portal - all ICT projects since 1998
  - background research about every ICT project and its responsible person
- Based on background mapping the most different research groups were selected out and interviewed (from 12 researchers 8 agreed to be interviewee)

## Estonian context: development of instruments

- In 1990s: not the priority issue
  
- In 1997 the first science policy reform was launched ->
  - target financing and research grants
  - + baseline financing + excellence centers
- In 2004 EU Structural Funds (competence centers, mobility schemes, clusters, ICT Programme)
  
- Basically excellence based view of science support and at the end of 2000s slight move towards more applied approach
  - Science excellence vs ICT sector developments (economic terms)

## Estonian context: main characteristics of instruments

- Goals
  - Internal measures: focus more on competence building than knowledge transfer
  - Few knowledge transfer measures
- Funding criteria
  - Internal measures: mainly excellence based
  - Foreign measures: mix-type
- Funding method
  - Competition (open calls), project-based, short-term,

## Main findings: ICT research groups mapping results

### Description:

- Approximately 15-18 active ICT research groups in Estonia
- mainly operate in public universities and the number of members in group is often defined on the level of institute or department in university (no mix-type groups)
- Very different research groups: research group sizes, working-age, research topics and the results are very various
  - from 5 members in team working together 4-year period to 40 members in team working together over 30-years
  - fundamental vs applied/ practical research

### Problems:

- excellence based system
- high fragmentation
- few stability, few sustainability
- competition vs cooperation
- high independency

## Main findings & policy lessons

- **Cooperation patterns have changed** - overall improvements noted, but research groups cooperate mainly with foreign enterprises and internally few Estonian enterprises interested in R&D
    - internal measures vs EU measures (SF, FP)
    - “formal cooperation”
    - different evaluation criterions
    - project-based system
- Take into account:
- Internal knowledge transfer mechanisms were launched rather late
  - Accumulation of resources – main internal measures are granted to the same research groups -> expected impact and results are limited

### Main policy lessons:

- Reduce the project-based system effects - > increase the proportion of institutional financing
- Incorporate cooperation mechanisms -> change evaluation criterions



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Thank You!

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