

**Seinäjoen ammattikorkeakoulu**  
SEINÄJOKI UNIVERSITY OF APPLIED SCIENCES



# **EA adoption by Finnish network of Universities of Applied Sciences**

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# Introduction: Background elements and motives



# Introduction

- EA pilot on Finnish Higher Education Institutions (HEIs) between late 2009 – early 2011
- In this presentation:
  - Background elements/motives
  - Description of the pilot
  - Experiences and lessons learned
  - Preliminary results from PhD research



# Authors

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# Enterprise Architecture (EA)

- Four levels or domains
  - Business Architecture (BA)
  - Information Architecture (IA)
  - Systems Architecture (SA)
  - Technology Architecture (TA)
- Aims to
  - Achieving organisation's goals
  - Creating value to organisation



# The Finnish Higher Education Institutes (HEIs)

- System consists of two complementary sectors:
  - Universities of applied sciences, UASs
    - former "polytechnics"
  - Universities



# Background

- Structural development: Finnish Ministry of education and culture announced agenda to reduce the number of HEIs from 41 (originally 48) to 33 by 2020
- New types of co-operation among Finnish HEIs emerged on 2009
  - In Northern Finland a consortium of three HEIs
  - In Southern Finland two UASs merging
  - In Southern Finland four UASs cooperating on study programmes
- National law mandating compulsory EA adoption on public sector in Finland



# Description of the pilot



# EA Pilot

- Forerunners
  - Raketti -framework-program by Ministry of education and culture
  - Universities Handbook of EA by Helsinki University
- 2009 CIO network of Finnish UASs decided to start EA-pilot among 10 UAS and 2 universities
- Pilot aimed for:
  - Starting EA work among HEIs
  - Creating solid basis for continuous EA activities



# EA pilot participants

- **The consortium of three HEIs**
  - Kemi-Tornio University of Applied Sciences
  - Rovaniemi University of Applied Sciences
  - University of Lapland
- **Two UASs merging**
  - Tampere University of Applied Sciences
  - Pirkanmaa University of Applied Sciences
- **Four UASs cooperating on study programmes**
  - Helsinki Metropolia University of Applied Sciences
  - Hämeenlinna University of Applied Sciences
  - Lahti University of Applied Sciences
  - Laurea University of Applied Sciences
- **Other participants**
  - Seinäjoki University of Applied Sciences
  - Kajaani University of Applied Sciences
  - University of Oulu



# EA Pilot structure

- Steering group: HEIs' top management
- Project group: CIOs
- Operative sub-projects
  - Each focusing on a certain topic
  - Were formed from one or more HEIs having a common goal
  - Lead by CIOs
- Total reported working days of all participants were about 400
  - from 10 to 100 days per organization



# Pilot outcomes: EA-framework

- "KARTTURI"-framework
  - "co-driver" / "rally map reader" in English
  - Loosely conforms to TOGAF
- Including
  - EA-maintenance model
  - EA-maturity assessment
  - Document templates
- A special, short guide on EA was also edited for university top managers and rectors



# Experiences and lessons learned



# So, what we reached for...

- Orientating and familiarizing us with EA-concept
- Involving universities' top management in EA-work
- Testing EA -thinking against new organizational structures
  - merging, consortium, network...
- Improving common EA-framework on more suitable for universities
  - with maintenance model and maturity assessment
- Proposing to connect EA -thinking with universities' strategy work, quality assurance systems and enterprise resource planning



# ...and what else we got

- Practical tools to document, compare and measure our everyday environment
  - Even too wide selection of tools
- New odd terminology vs. new common language
- Proposals for new organizational structures and new personal roles to support EA-work
  - Executive board of data administration
  - Business architect, Data architect...
  - Co-operation with organization development and quality management group
- Reference architectures
- A lot of organizational learning occurred



# Lessons learned / What was good

- The networked peer group is an important strength
- While first adopting EA, focus to a narrow area
- One of the most essential points is mutual communication
- The EA-development work should be connected up to already existing continuous improvement practices, like to the university quality assurance system



# Lessons learned / Areas to improve

- EA understanding among top-management must be enhanced
- Understanding of data administration professionals' on HEIs "business" must also be improved
- Public sector architectural principles are composed of hierarchical structures
  - new type of silos should be avoided
  - data security policies will become more important
  - stakeholders' architectures must be taken in account



# Future in Finland...

- "EA law" will introduce a common public sector EA
- EA will be adopted by all of the HEIs
- Gradual, long term visions are needed when EA is wanted to be adopted
- Steering power of Ministry of education and culture points the way
  - Though, the shared architecture principles of universities must be formed by voluntary basis
- EA must be owned by university top management and develop managers, not CIOs
- A lot and lot more of organizational learning needs to be occur



# Preliminary results from PhD research



# PhD research on EA implementation

- RQ: How can EA be implemented successfully on HEIs?
- Qualitative, theory creating research
- During the pilot:
  - ~20 interviews on CIOs, top-management, and QA staff of participating HEIs
  - Attending on some of project and steering group meetings
- After the pilot:
  - www based survey on pilot's success for steering and project group members, and for HEI's EA pilot staff



# Preliminary results from PhD research

- Interviews:
  - Goals of the pilot perceived differently
  - Most popular goal was reporting
  - HEIs are organised in very different ways
  - HEI field is facing a lot of changes
- Questionnaire:
  - 22 responses from 9 HEIs (population ~100)
  - “I consider EA-pilot being successful”
    - Likert-scale 1-5 (totally disagree – totally agree)
    - Average: 3.6, Deviation 1,01
    - Successful: 10, neutral: 8, unsuccessful: 2



# Conclusions

- Communication about EA and it's goals should be enhanced
- EA is seen as an "ICT-project"
- Pilot is considered to be a success



Thank You!