



# EXPERIENCES IN DEVELOPING AND DEPLOYING STUDENT INFORMATION SYSTEM SISU

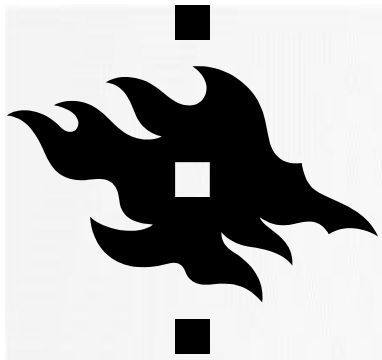
Universities Estonia Seminar 17.2. 2023

Kati Kettunen

Director

Learning Environment Services

University of Helsinki



# STUDENT INFORMATION SYSTEMS COLLABORATION IN FINLAND 2023

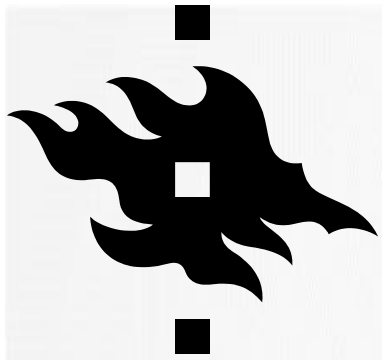
Funidata Inc provides SISU system

- 6 Universities: Helsinki, Aalto, Tampere, Jyväskylä, Lappeenranta-Lahti, Hanken
- 1 University of Applied Science: Arcada

PEPPI Consortium provides PEPPI system

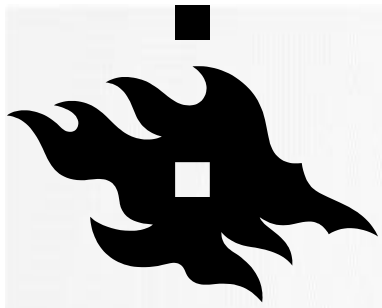
- Most of the Universities of Applied Science
- 7 Universities: Turku, Oulu, Itä-Suomi, Taide, Lappi, Vaasa, Åbo,

Very different operation models: SISU is SAAS system PEPPI INHOUSE system



# LATEST NATIONAL CO-OPERATION DEVELOPMENT IN FINLAND: DIGIVISIO 2030

- The Digivisio 2030 programme develops new services **to support the transition to the future of learning.**
- The services are developed together with **all higher education institutions** and the end users of the services.
- Digivisio's first implementation's working title is **the continuous and flexible learning tray.** The aim of the new digital service is to combine the continuous learning offering of Finnish higher education institutions so that learners can access it easily and effortlessly in one place.
- <https://digivisio2030.fi/en/frontpage/>



# DEPLOYING SISU AT UNIVERSITY OF HELSINKI

2014→  
Developing SISU system together with FD and other UNIs

2015-2016  
Planning of large reform of studyprograms

Phase 1 2017-2018

First new students start in new studyprograms

First part of SISU deployed: Planning of studies  
Using SISU and old SIS OODI at the same time

Phase 2 2019-2020

Project to replace OODI with SISU

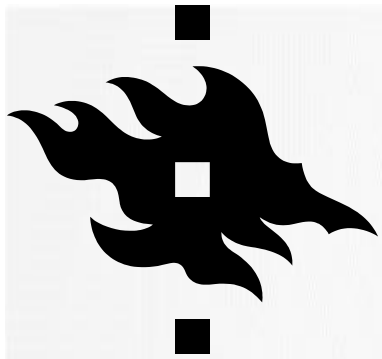
- 33 integrations
- Influences to over 25 processes
- Datamigrations eg. over 9 million credits, 450 000 persons
- Change management and communication

Phase 3 2021-2022

End of transition period of studyprogram reform

6th June 2021 OODI retired SISU to use

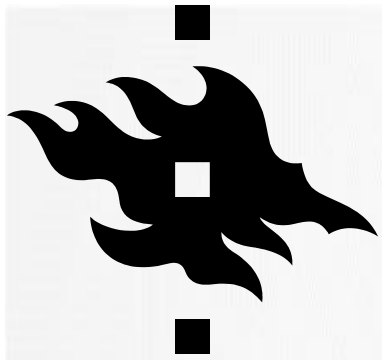
Stabilizing use and ensuring aimed benefits



## WHETHER AND TO WHAT EXTENT DID THE COMMON SISU ALSO CHANGE UNIVERSITY STUDY ORGANIZATION AND REGULATIONS?

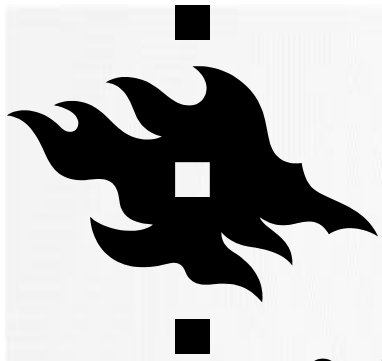
- It was our goal from the beginning to change to more efficient study administration
  - Process towards that is still ongoing and is happening slower than aimed, but many good results have already been reached
  - Eg. from 250 000 manual registration requests of credits to 10 000 / year, new assessment service for teaching staff
- Building SisU and planning the study program reform at the same time made it possible to have new regulations ready and fitted to SISU
- SisU is part of larger digitalization development of education and university services. There are several changes ongoing at UH.
- Common SISU with other universities have tighten co-operation to built common processes between universities and we will be soon able to support teaching co-operation much better.(eg. study offerings, credit transits)





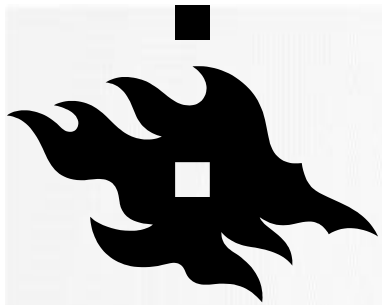
# REFLECTING GOALS FOR BUILDING NEW SIS

- Replaceing old SIS systems with modern solutions in tehcnology and servicemodel
  - Long lifetime
  - Controlled and cost effective maintainance
  - Supports primarily students and teachers processes
  - Enables processautomation. Goal 80% less routine in administration.
  - Enables further development in other areas of services (contains masterdata for many other services)
  - Effective governing model between user Universitues → in house corporation



# REFLECTING COLLABORATION MODEL GOALS FUNIDATA INC

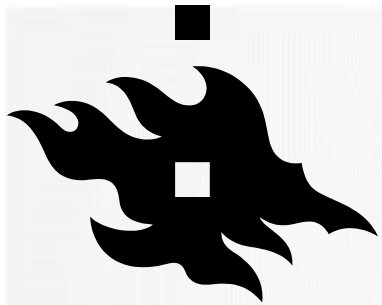
- Stable longterm serviceprovider in universities own control
- Effective decisionmaking model supported by corporative law
- Strong influence possibilities to the product (compared to commercial products)
- Savings in purchases and serviceproviders competition processes (in house inc)
- Volume benefits in purchases and competition processes
- Professional leadership and management of service - COO
- Using outside knowledge - Board
- Provides overall picture of the service and serviceintegration needs
- Service delivery as modelled SAAS service packages
- Preventing technology and development dept
- Ensuring best know how to universities use.
- Capitalisation and new pricing model reduces needs to large one time investments. Foreseeable costs
- Better ability to react to new service development collaboration needs
- Strategic development planning



# WHAT WERE THE MOST CHALLENGING TASKS

- • At first: to get development project started
  - financial commitment, understanding same way the goal, building mutual trust
- Long project – things change around you on the way
  - Key people, governments financial cuts, fusions and layoffs of universities, covid, focus changes in education policy, new or new interpretation of law (accessibility) → adjust and keep on going
- Deploying SISU to universitys everyday life is a huge changemanagement effort
  - commitment of leaders and involving stakeholders important
  - demands resoursses and strong project organisation.
  - Learning point: we should have invested more also in coordination between deploying universities – some kind of joint project
- Learning to work together between universities trough FUNIDATA INC and adapting SAAS (system as a service)





# PLANNED NEW PRICING MODEL 2016

- Founding universities have capitalized Funidata Inc by moving the investment building new SIS in to the company capital as support
- In service prices Funidata collects the investment back and has in the future own capital to make new investments to new modules or services.
- Other universities can become service users through ownership in the company.
- When joining new users also pay part of the investment through allowance in service price

Service maintenance  
SAAS

-direct cost of maintaining and  
delivering SIS

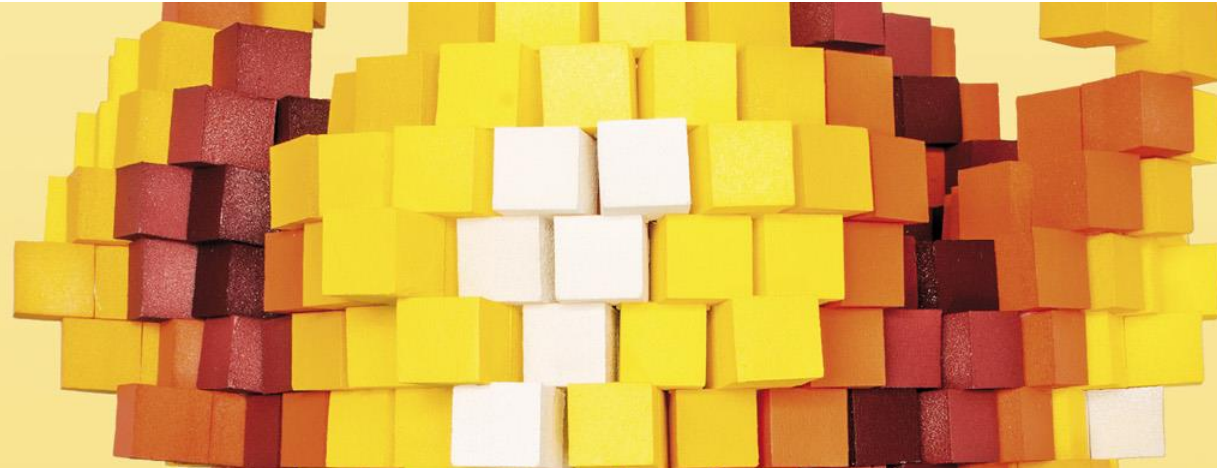
Maintenance development x %

Allowance of investment



# 3 BEST THINGS ABOUT SISU

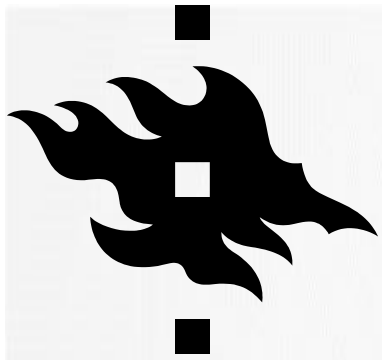
- SISU focuses on student progress - supporting planning and executing of studies
  - SISU is not a register!
- Funidata Inc has learned us universities that we are not software or service houses – we are good in teaching and researching
- Deploying Sisu has freed the universitys development resources to more pedagogical areas of digitalization of education. SISU supports and enables in a new level.



# LEARNING FROM FINNISH EXPERIENCE WITH THE JOINT DEVELOPMENT OF INFORMATION SYSTEMS

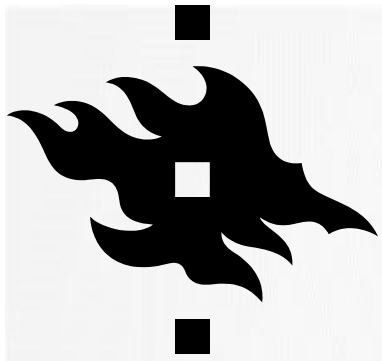
INTERNATIONAL WORKSHOP

Use of Business Intelligence Systems in Learning and Teaching  
Management Tartto 3.-4.9.2016



# NATIONAL DEVELOPMENT IN FINLAND

- Ministry of Education RAKETTI project (Supporting Structural Development of Universities by ICT governance) 2008-2013
- One initial goal of the projekt was to build in nationwide collaboration new SIS system for all Universities and Universities of Applied Sience
- In 2011 ministry realiced that the goal can not be reached (Universities became automous from goverment in 2010)
- Instead the RAKETTI project started to develop national referece architecture and shared terminology to enhance interoperability and commensurability of SIS systems
- Universities could start their own projects for renewing SIS



# REFERENCE ARCHITECTURE TERMINOLOGY VIRTA DATAWAREHOUSE

- Reference architecture was developed in collaboration between Finnish Universities and Universities of Applied Science
  - Includes main processes and services
- National terminology work of teaching and studying affairs → OKSA terminology
- VIRTA datawarehouse was built
  - Universities import every day in agreed form certain information from their SIS
  - Ministry uses the data in supervising Universities example in setting performance goals and allocating money for Universities

**Planning of Programs**

**Planning of Teaching**

**Planning of Teaching Offerings (Timetable)**

**Teaching**

**Admission**

**Support Services for Teaching**

**Maintaining rights to study**

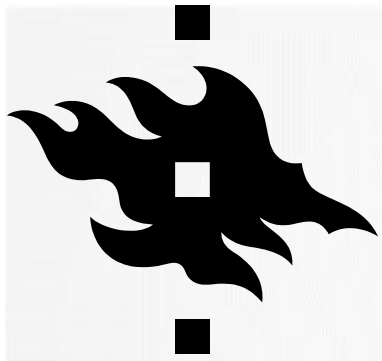
**Support Services for Studying**

**Applying**

**Planning of Studies**

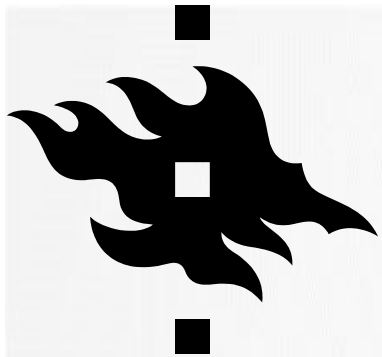
**Studying**





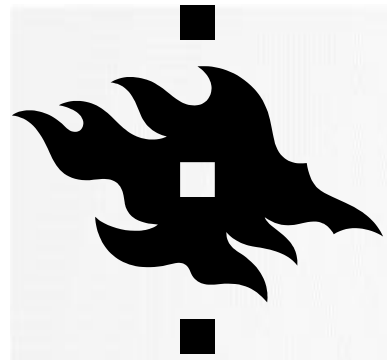
# COLLABORATION IN SIS SYSTEMS BETWEEN UNIVERSITIES IN FINLAND

- Since 1997 OODI consortium provides OODI SIS system
  - 9 universities including University of Helsinki and Aalto University
  - Our current SIS system in Uni Helsinki
- OPSU system built and maintained by Universities of Tampere and Turku
- WINHA system provided by private company CGI.
  - Used at the moment in most of Universities of Applied Science
- Funidata Inc provides "OTM / SISU" system
  - New system built by University of Helsinki, University of Tampere and Aalto University
- PEPPI consortium provides PEPPI system.
  - New system built by Universities of Applied Science Metropolia and TAMK.



# OTM PROJECT MODERNIZATION OF SIS

- Started 2011
- Partners Aalto University, University of Helsinki and University of Tampere
- University of Jyväskylä joined 2015
- Pre study 10/2011 – 6/2012
- Specification of system concept 1 - 12/2013
- System development 1/2014 – 12/2016
- Budget 2013 – 2016 6 m€ (total investment 7.3 m€)
- System will replace OODI system for Uni Helsinki and Aalto and OPSU system for Uni Tampere and ROTI and KORPPI systems for Uni Jyväskylä
- System use starts 2017 in founding universities. Negotiations for other Uni's to join in have started. SIS services will be provided by in house corporation Funidata Inc.

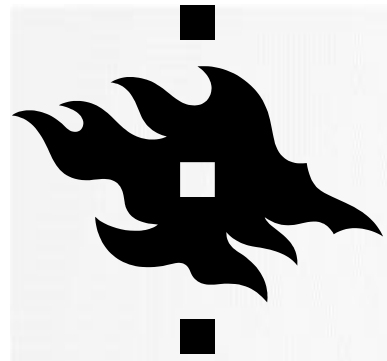


# PROJECT GOALS

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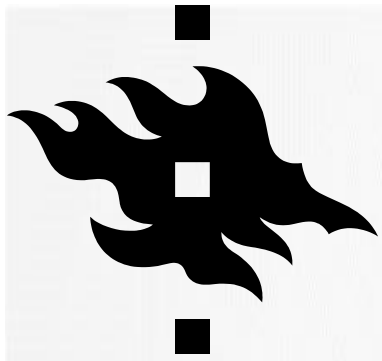
# REASONS FOR DEVELOPING THE SYSTEM OURSELF

- During the prestudy we did market analyses
  - Most of the products available are targeted to US market. The legislation and model of organizing education is different "students are paying customers"
  - → Needs for localization of existing product would have been enormous and expensive.
  - → We would have had minor influence to the further development of the product
  - It seemed that these products were also at the same point in their lifeline as our old system
- More expensive: in the beginning licence and localization costs and then maintenance and service payments plus licence costs.
- As minor client what would be service level for our new localization needs  
tex. legislation changes?



# GETTING STARTED

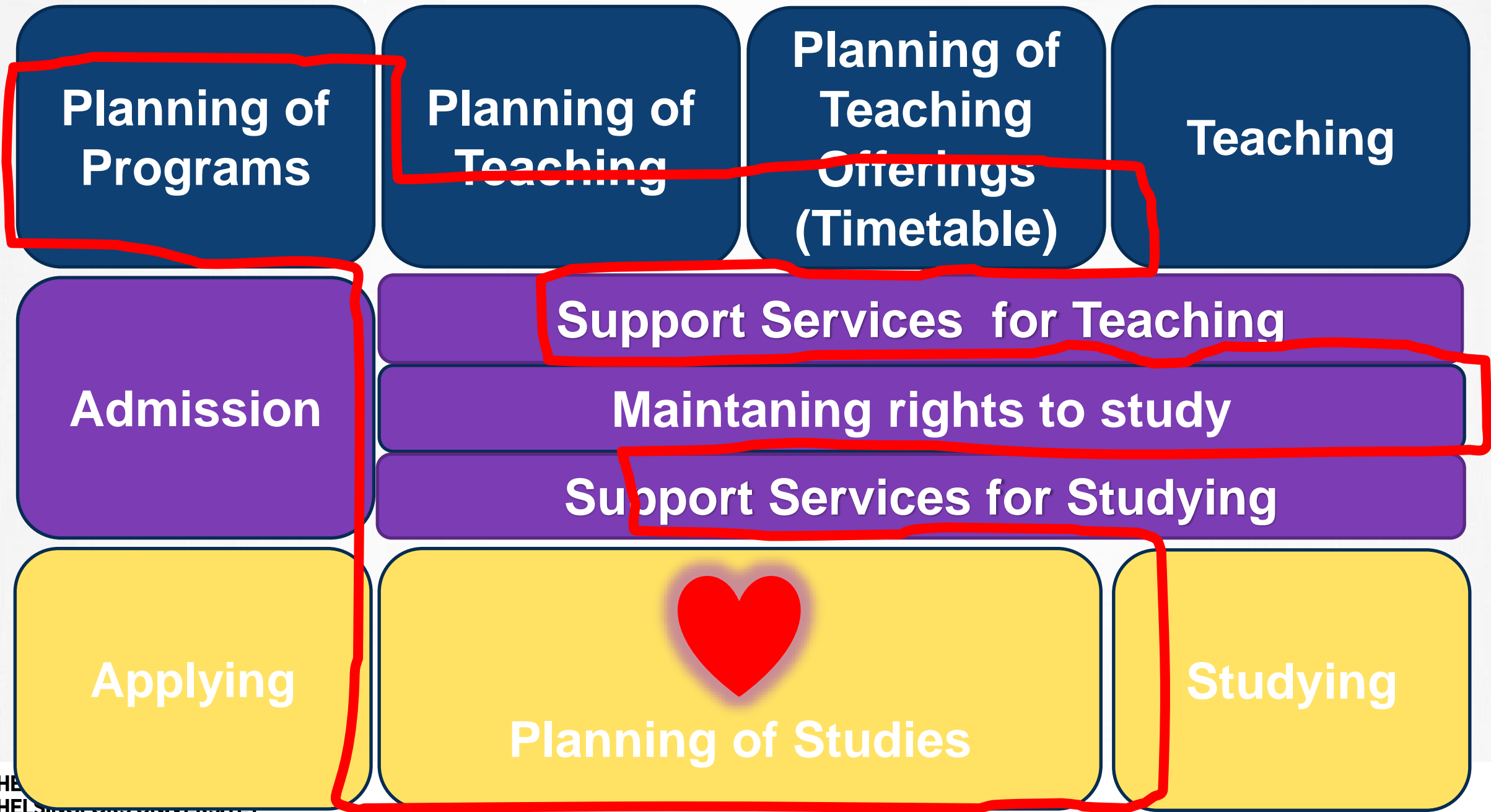
- Process studies
  - Critically evaluateing current processes
  - Harmoniseing processes bertween partner universities
    - createing the best process for students and teachers
- Ensureing know how
  - Best experts from the partner universities, best service providers
- Strong service orientation
  - Building up the system one service after another. "Student register" will form from the service pieces at the end of the project
- Students, teachers (and administrative staff) involved
- Own control (we buy workhours not products from service providers)



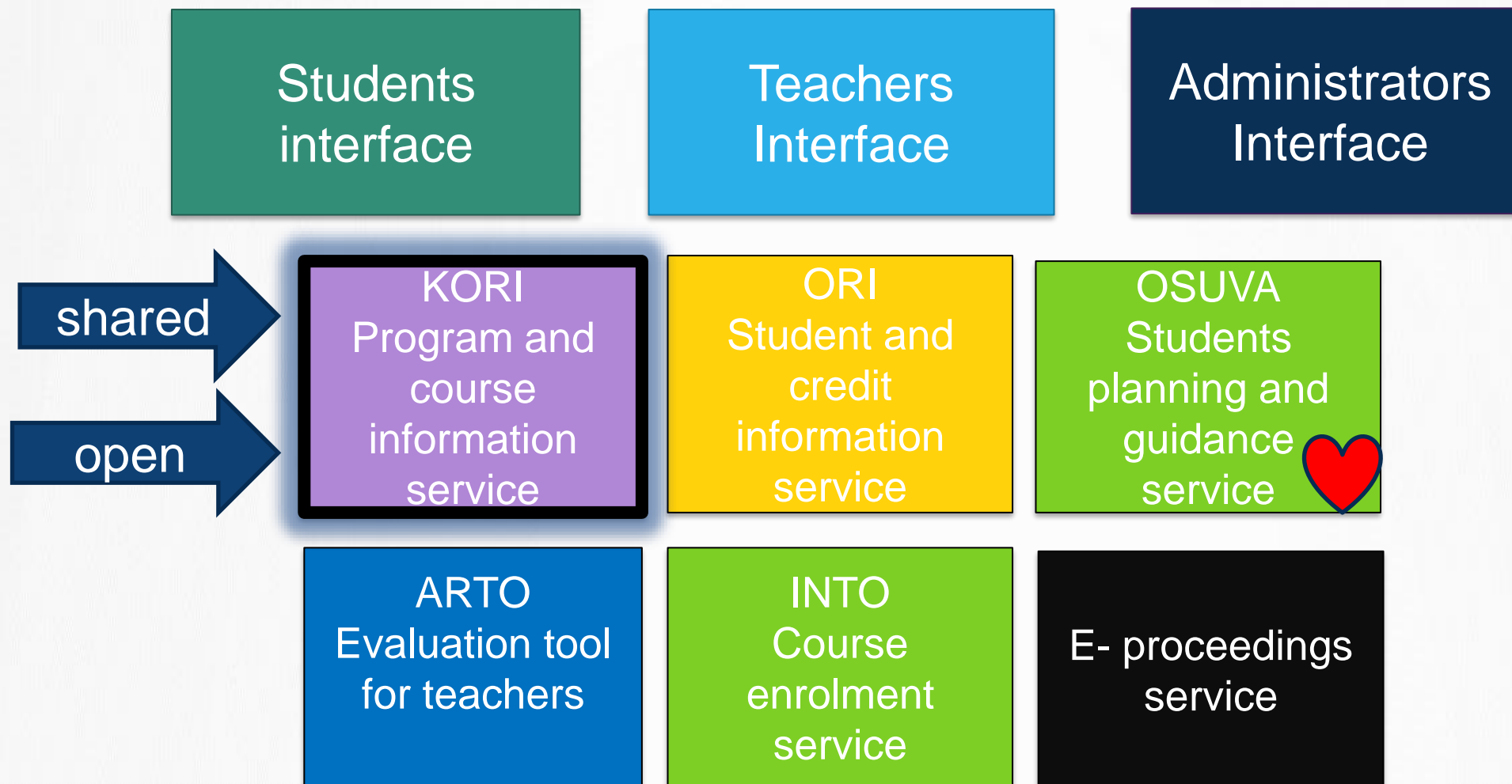
# CHOOSING TOOLS AND TECHNOLOGY

- Established tools without binding commitment to outside service providers
- Requirements for long lifetime
- Ensuring large knowledge base for tools and technology
- Open source tools preferred
- Outside consultation
- Regular outside audit





# STYSTEM STRUCTURE



[Create a new plan](#)

KAUPPATIETEELLINEN KOULUTUS (LASKENTATOIMI) 29.09.2016

[DELETE PLAN](#)

## ▼ Kauppatieteellinen koulutus (laskentatoimi)

PLAN.STATE.INCOMPLETE

### ▼ Kauppatieteiden kandidaatin tutkinto

PLANNED\_CREDITS

109 / 180 Cr

PLAN.STATE.INCOMPLETE

#### ▼ Liiketoimintaosaamisen perusteet

PLANNED\_CREDITS

55 / 60 Cr

PLAN.STATE.INCOMPLETE

6 Cr	22A00110 Introduction to Accounting
6 Cr	31A00110 Principles of Economics
6 Cr	71A00200 Introduction to Corporate Communication
6 Cr	23A00110 Introduction to Marketing Management
3 Cr	21A00410 Corporate Responsibility and Ethics
1 Cr	20A00601

6 Cr	32A00130 Introduction to Business Law
6 Cr	28A00110 Introduction to Finance
6 Cr	35A00310 Introduction to Operations Management
6 Cr	21A00110 Introduction to Management
1 Cr	20A00602 Real Case 2
1 Cr	20A00511

UNPLANNED.TITLE (5)

[ABOUT](#)[SEND FEEDBACK](#)



KAUPPATIETEELLINEN KOULUTUS (LASKENTATOIMI) 29.0...

Summer periods



Add personal note

autumn 2016		spring 2017			autumn 2017		spring 2018			autumn 2018		spring 2019		
I	II	III	IV	V	I	II	III	IV	V	I	II	III	IV	V
61A00... Business...	72A001... Swedish ...	22A001... Introduc...	28A001... Introduc...	22C002... Manage...	23A00... Introduc...	22C003... Manage...	22C999... Bachelor...	21A004... Corporat...	22C999... Maturity ...		21A001... Introduc...			
32A00... Introduc...	31A001... Principle...		22C001... Introduc...	30A020... Introduc...										
18 / 24 Cr		30 / 36 Cr			12 / 24 Cr		13 / 36 Cr			6 / 24 Cr		0 / 36 Cr		

Kauppatieteiden kandidaatin tutkinto Total 79 / 180 Cr

Kauppatieteiden kandidaatin tutkinto

Liiketoimintaosaamisen perusteet

Laskentatoimen erikoistumisalueen opinnot

Sivuopinnot

Kieli- ja viestintäopinnot

Vapaasti valittavat opinnot

6 Cr	71A00200 Introduction to Corporate ...	↔
6 Cr	35A00310 Introduction to Operations...	↔

6 Cr	22C00400 Financial Accounting	↔
6 Cr	22C99904	↔



ABOUT

SEND FEEDBACK



August 29 – September 4 2016

TODAY

WEEK

MONTH



In calendar

Teaching not selected

Week 36	Monday 8/29	Tuesday 8/30	Wednesday 8/31	Thursday 9/1	Friday 9/2	Saturday 9/3	Sunday 9/4
All day							
8.00							
9.00							
10.00	10.00 - 11.00 en: curwiz-2016-07-04 - en: random name - S111, Aqua (en)		10.00 - 11.00 en: curwiz-2016-07-04 - en: random name - S103	10.00 - 11.00 Ihmissutten historian tentti - Lectures - S36, Borealis (en)			
11.00							
12.00	12.00 - 12.00 - 12.00 - en: Ihmissutten curwiz-2016-07-04 - en: S111, Aqua (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	12.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)
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14.00	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	14.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)
15.00	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)	15.00 - 16.00 en: curwiz-2016-07-04 - en: random name - S51, Scorpius (en)
16.00							
17.00							
18.00							
19.00							
20.00							

KAUPPATIETEELLINEN KOULUTUS (LASKENTATOIM...

I / 2016 - 2017

- 3 Cr 72A00100 Swedish Business Communication 1
- 6 Cr 30A02000 Introduction to Statistics

II / 2016 - 2017

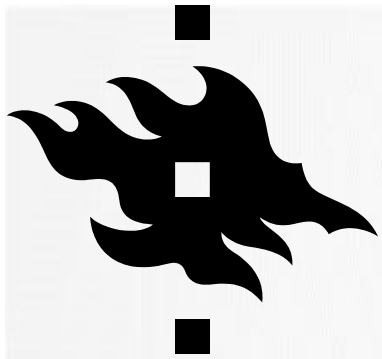
- 6 Cr 22A00110 Introduction to Accounting
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III / 2016 - 2017

- 3 Cr 61A00200 Business Communication Skills
- 6 Cr 22C00100 Introduction to Financial Accounting

ABOUT

SEND FEEDBACK

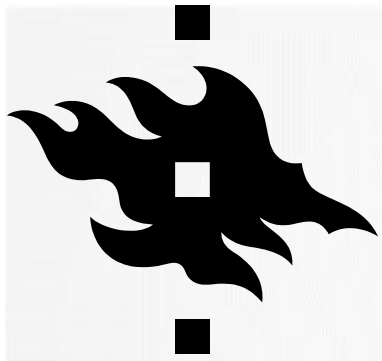


# COLLABORATION MODEL

## FUNIDATA INC

- Stable longterm serviceprovider in universities own control
- Effective decisionmaking model supported by corporative law
- Strong influence possibilities to the product (compared to commercial products)
- Savings in purchases and serviceproviders competition processes (in house inc)
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- Better ability to react to new service development collaboration needs
- Strategic development planning





- Founded in January 2016
- COO Mika Peura

**FUNIDATA**



Inter-  
rest  
group

Board

Customer  
steering  
group

COO

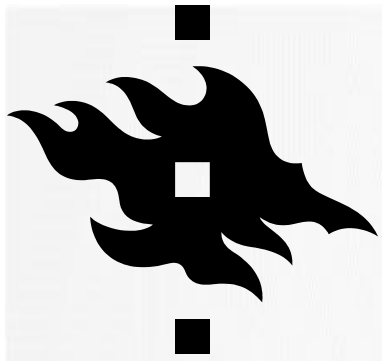
Staff

Developers  
Service  
providers

Aalto  
Project

Uni  
Helsinki  
Project

Uni  
Tampere  
Project



# OTM PROJECT ORGANISATION IN THE BEGINNING

Interest group

Steering group

Experts advice group

Project group  
-Project manager  
-Product owners

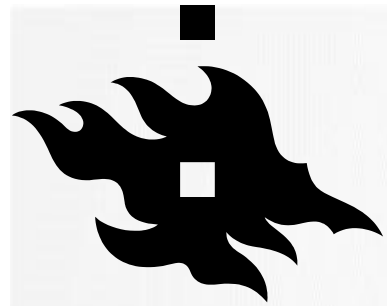
Developers  
Service providers

Reference groups

Aalto project

Uni Helsinki project

Uni Tampere project



# PLANNED NEW PRICING MODEL

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Service maintenance  
SAAS

-direct cost of maintaining and  
delivering SIS

Maintenance development x %

Allowance of investment





Uitgeverij - New journals



Uitgeverij - New journals





60° 10 1.2 N, 24° 57 18 E