Aalto-yliopisto
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Doctoral education pilots in Finland and Aalto University

Dr Minna Söderqvist & Dr Katri Eeva

Finnish doctoral education pilots: EUR 255 million to universities for piloting new practices in doctoral education in 2024–2027

- Established by the Finnish government to increase the number of doctors in the Finnish working life (National emergency supply) – with a great speed
- Chosen by the Research council of Finland
  - 1000 doctoral researchers, 800 from flagship fields, 200 from open call
- Doctoral researchers start between 1st Aug 2024 and 1st Jan 2025
- Funding for three years – In Finland the current target time 4 years, average more than 6 years
- UNIFI – the Council of Rectors of Finnish Universities gave recommendations for doctoral education in spring 2024
- MEC (Finnish ministry of education and culture) started an evaluation project in which data from ten different themes are collected from several target groups and reports are given to Ministry, universities and pilots even during the pilots

Doctoral education pilots' aims and objectives https://okm.fi/en/pilot-projects-for-doctoral-programmes

- Increase the number of doctorates in Finland with a view to **safeguarding that the supply of expertise remains sufficient**;
- Create pilots for **more flexible processes and better content** in doctoral programmes;
- Enable **more mobility** for doctoral graduates between universities, businesses, research institutes and other organisations and encourage them to pursue diverse research careers;
- **Produce information on doctoral programme processes** and **collect information on the possible need to regulate third-cycle degrees**;
- **Develop guidance practices** and **integrate** the completion of a scientific and artistic postgraduate degree **into previous studies**;
- Enable doctorates **to find employment across a broad range of sectors of society**.

Some promises from the doctoral education pilots

- Simplifying the administrative practices (timings)
- Stricter management of supervision & good governance principles taken into use, for example: improved onboarding, concentration on doctoral studies and research, clear milestones, stricter follow up, guided way to industry
- Checking the doctoral thesis criteria – what the learning outcomes/ objectives are and should be and how to attain those without loosing quality – definition of quality
- Improving based on learnings from existing good practices within and across sectors (supervision)
- Networking with industry in multiple ways and in multiple levels (work placements, supervision, topics, learnings from industry)
- A few radical changes proposed, examples
  - How to cooperate within a research field to find new doctoral students (AI-DOC)
  - How to proceed in sprints (SOFTWARE)
  - How to create a national curriculum (QDOC)

Aalto university and pilots

- https://www.aalto.fi/en/doctoralpilot
- https://www.aalto.fi/en/doctoral-education
- Aalto got funding for 178 pilot doctoral researchers in 11/15 national pilots. Aalto is coordinating three: AIDOC, CIMANET and QDOC
- All doctoral students study in our normal six doctoral programmes, one in each of Aalto's schools
- Testing in pilots: different issues relating to the content of doctoral education and to the processes of doctoral education

Operational challenges and enabling factors at Aalto University

- How to find 178 doctoral students in addition to the normal about 350 yearly starters?
- How to help pilots – bottom-up service logic?
- How to pass information to right places at right times – without too much burden?
- How to develop onboarding?
- How to organise company cooperation: funding, networking, mentoring, excursions, supervision, themes of research?
- How to organise pilot management – doctoral education management cooperation within one university and across universities?
- How could the same support and resources be extended for all doctoral students within a pilot project?

- Top management participation and enthousiasm
- Enthousiastic professors
- University-wide interest and enthousiasm → great interservice cooperation
- Biggest research funding Aalto has ever received – about 45,4M euros
- Great interest (already years at Aalto) to develop doctoral education content and processes

Planned changes in pilots Aalto coordinates

AI-DOC

- **Joint application procedure**
- **Development of supervision** (scheduled milestones, join supervision with companies, efficient start)
- **Improvement of university practices**
- **Dissemination of existing good practices**
- **Co-operation between different sectors**

CIMANET

- Close co-operation with wood industry and research organisations to enhance employment
- Joint application, good salary, awards if target times achieved
- Monografies in addition to article thesis
- Masters thesis integrated to doctoral studies
- Strict followup of personal study plans
- Increasing supervision (postdocs)
- Intensive courses and network seminars
- Ethics, open science and IPR obligatory
- **Improvements of evaluation and graduation processes**

QDOC

- **Joint national curriculum incl EDI, pedagogics, learning national languages**
- Admission, high quality research, supervision **incl non-academic interest groups, peer support strict followup, networking in a planned way, move to Finnish quantum ecosystems** (patents, dissemination of results to the public)
- **Integration of master studies**

Planned changes in other pilots

DREAM

- Admission
- **Enhancing the everyday:** scheduled milestones, research plan model, career plan model, decrease of credited studies, joint infra, network courses, open data, co-supervision incl company mentors, decrease of the size of summary plart, to 30-40 pages, decrease of other duties like teaching
- **Work placement/internships in industry of research 1-3months in stakeholder's premises, mentoring, active interaction during studies with companies to secure employment**
- New technologies and math innovations to industry
- Responsible science, open science, ethics, equality, nondiscrimination, sustainable developments

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DIWA

- **Joint career planning with many stakeholders**
- **Benchmarking nationally and internationally**
- **Direct from Bachelors and Masters to Doctoral studies**
- 4 **joint courses**
- **Reflection of requirements in comparison to degree target time** (amount of study credits, national languages, career planning)
- **Enhancing the start of studies + 6 month trial period**
- **Supervisor trainings**
- Peer support and alumni cooperation
- Joint infra, data, projects
- **Development of evaluation and graduation processes**

EDUCA

- Flexible, intensive, efficient cosupervision in **sector cooperation**
- **Mobility between sectors**
- **Clear milestones for career plan**
- **Reflection of content of education in relation to employment** (research skills, working life skills)
- Scheduled milestones in the education process in relation to the target time
- Usage of earlier studies in doctoral education cosupervision, mentoring, follow up practices
- Responsible science, EDI

Planned changes

IWM

- **Speeding up the studies so that doctoral students would not disappear to industries**
- **Benchmarking** supervision, follow-up, employment, industry cooperation -> development of good practices
- **Enhancement of everyday**: sufficient management of studies, admission, study credit requirements, peer support, new instruments as awards
- Academic and industry networking via mentoring, tutoring, **excursions**

MIELi

- **Joint apprenticeship**
- **Increasing the appreciation of doctoral studies**
- Strategic parntering with companies, incl **career models**
- Joint research and **team culture**
- ***One year in companies***
- **Analysing requirements in relation tot target time**
- **National and international benchmarking**
- **Enhancing everyday: clear research problems in relation to bigger pictures, scheduled milestones, network courses, personal study plans, improvements in supervision, improvements in evaluation processes, using joint infras**

PREIN

- **Research themes from the industry**
- **100 days efficient start**
- **Flexible plans with milestones in research, mobility, credit, publication, career, data handiling plans**
- **Updating requirements**: decreasing credit amount, decreasing the number of articls
- **Apprenticeship in national and international organisations and companies**
- Thematic cross-field **workshops**
- **Global industry cooperation** and networking ; mentoring programme
- **Manysided follow-up**: study progress, KPIs for industry cooperation and research results
- Responsible science

Planned changes

SOFTWARE

- Combination of industry and science objectives
- **FAST method 3month sprints (12 x 3 months), company cooperation: application, admission, kickoff, 1. paper , 2-3. paper, 4.paper**, summary, graduation
- Supervision, cooperation
- Themes from companies
- Joint trials, **emphasis on knowledge transfer**
- Flexible national practices
- Mobility between companies, universities, other organisations and **between studying and professional/scientific careers**
- **Benchamarked results given to decistion makers anonymised**

SUSTRA

- Enhancement of everyday: Academic cooperaation, admission, efficient cross-sectro supervision, **2+ 1 mentors, instructions on supervision, personal plans including integration to working life,**
- **Efficient mangement of doctoral studies**
- **Supporting identity growth in international networks**
- **Decreasing bottle necks: decreasing the amount of teaching and admin work from doctoral students**
- Joint seminars and workshops 10 + 3, joint courses
- **Peer mentoring to 3-6 doctoral students**
- Checking the criteria: decrease of study credits, new practices: short periods in different organisations, improving evaluation and admin processes, using articles and manuscripts as doctoral thesis chapters
- **Reflecting follow up in interdisciplinary supervison groups to support each student**

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Q & A?

Head of doctoral education services at Aalto University

Minna.soderqvist@aalto.fi tel +358 50 476 0884

Planning officer (especially higher-education policy issues)

Katri.eeva@aalto.fi tel +358 50 571 4473

Kiitos
aalto.fi