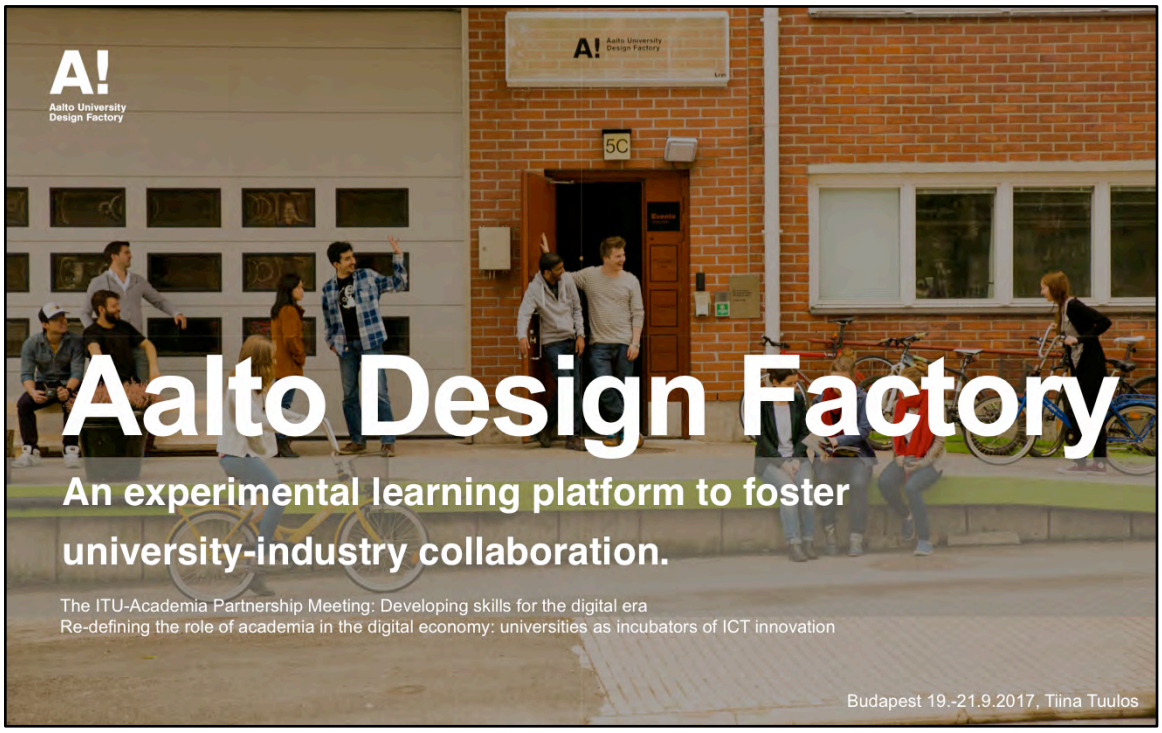
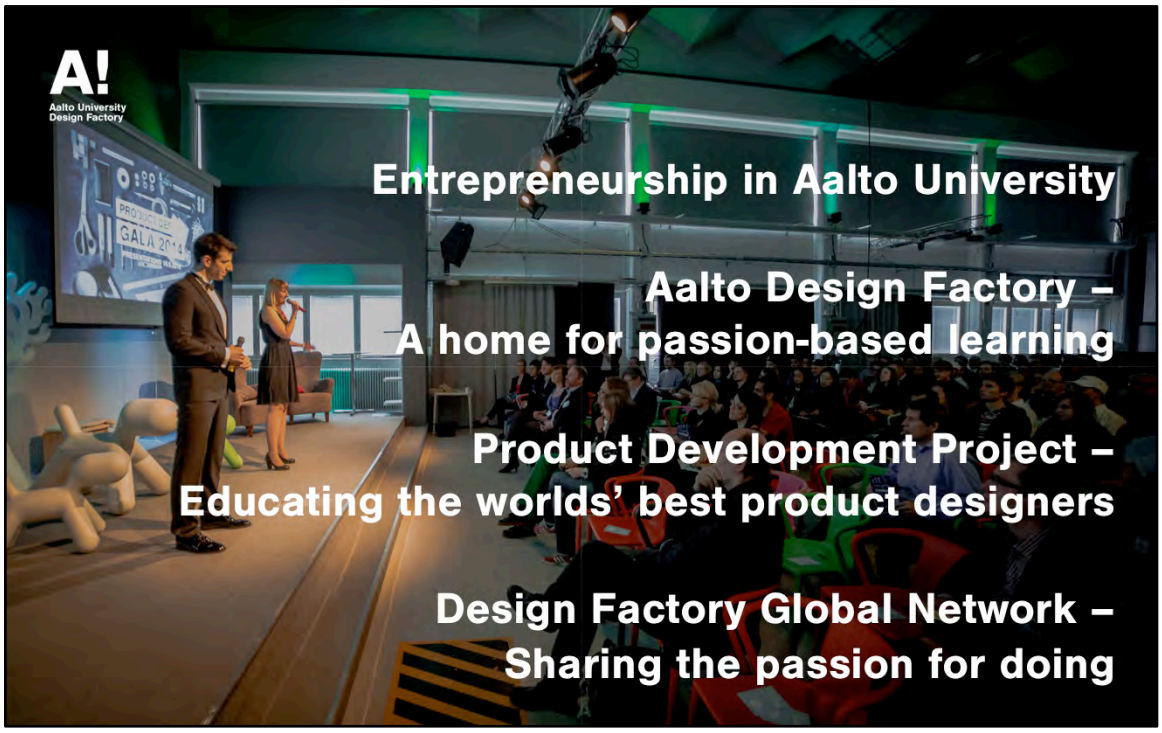
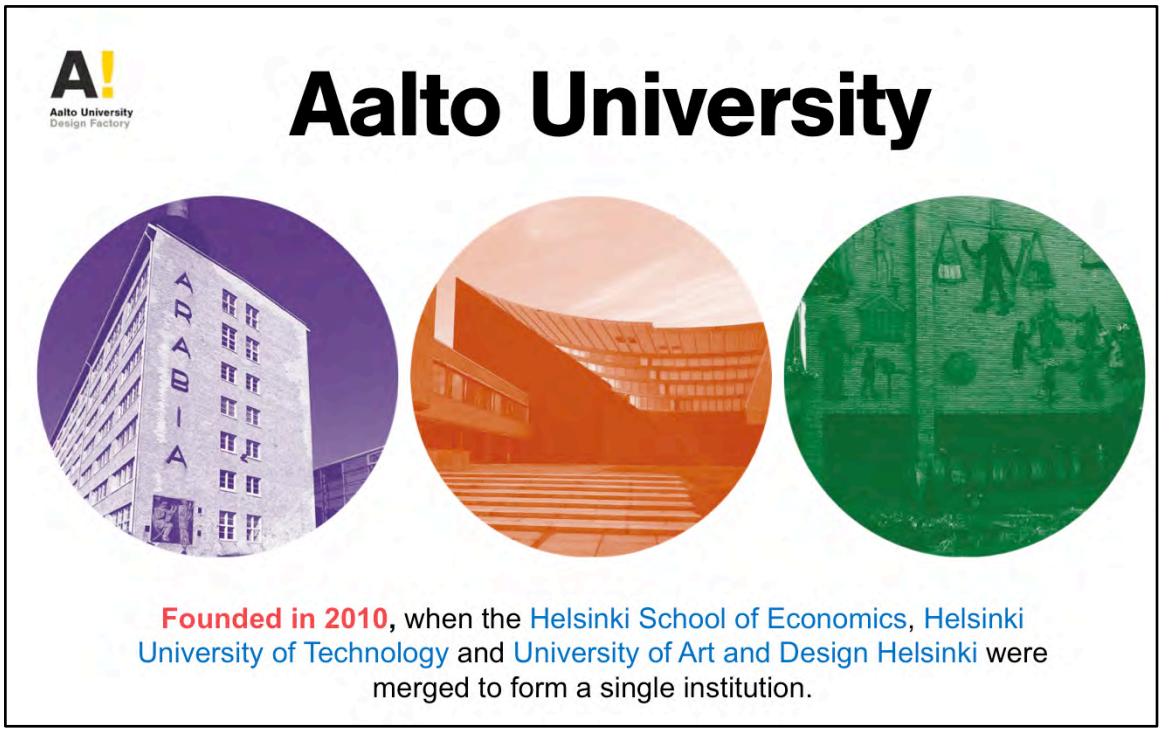

A!
Aalto University
Design Factory
A! Aalto University Design Factory
5C
Aalto Design Factory
An experimental learning platform to foster university-industry collaboration.
The ITU-Academia Partnership Meeting: Developing skills for the digital era
Re-defining the role of academia in the digital economy: universities as incubators of ICT innovation
Budapest 19.-21.9.2017, Tiina Tuulos


A!
Aalto University
Design Factory
Entrepreneurship in Aalto University
Aalto Design Factory –
A home for passion-based learning
Product Development Project –
Educating the worlds' best product designers
Design Factory Global Network –
Sharing the passion for doing




http://www.aalto.fi/en/

Aalto University was established as a priority project in the Finnish university renewal. The idea was to create a new innovative university merging science and technology, design and art, and business and economics.

The idea of a merger was first presented in autumn 2005 by the then rector of the University of Art and Design, Yrjö Sotamaa, in his opening speech for the academic year. A more concrete plan for the establishment of a new university was presented in February 2007, in the memorandum of the working group led by Secretary of State Raimo Sailas. The preparations for the university began later the same spring, when Prime Minister Matti Vanhanen included the new university into the Finnish government programme.

On 1 January 2010, the Helsinki School of Economics, Helsinki University of Technology and the University of Art and Design Helsinki merged and Aalto University started operating.


Aalto University is educating game changers

Entrepreneurship has a strong role and focus in Aalto University. Every student gets a touch point to entrepreneurship and entrepreneurial thinking

Aalto University's mission:

Shaping the future: science and art together with technology and business

"We are building competitive edge by combining knowledge from different disciplines to identify and solve complex challenges, and to educate future visionaries and experts."


Entrepreneurship is visible in Aalto in many levels. Most important are the student-driven activities.


http://www.slush.org/

Next slush in Nov 30 – Dec 1, 2017

The very core of Slush is to facilitate founder and investor meetings and to build a world-wide startup community.

Slush – biggest start up event in europe

17 500 visitors

1 100 investors

2 300 startups

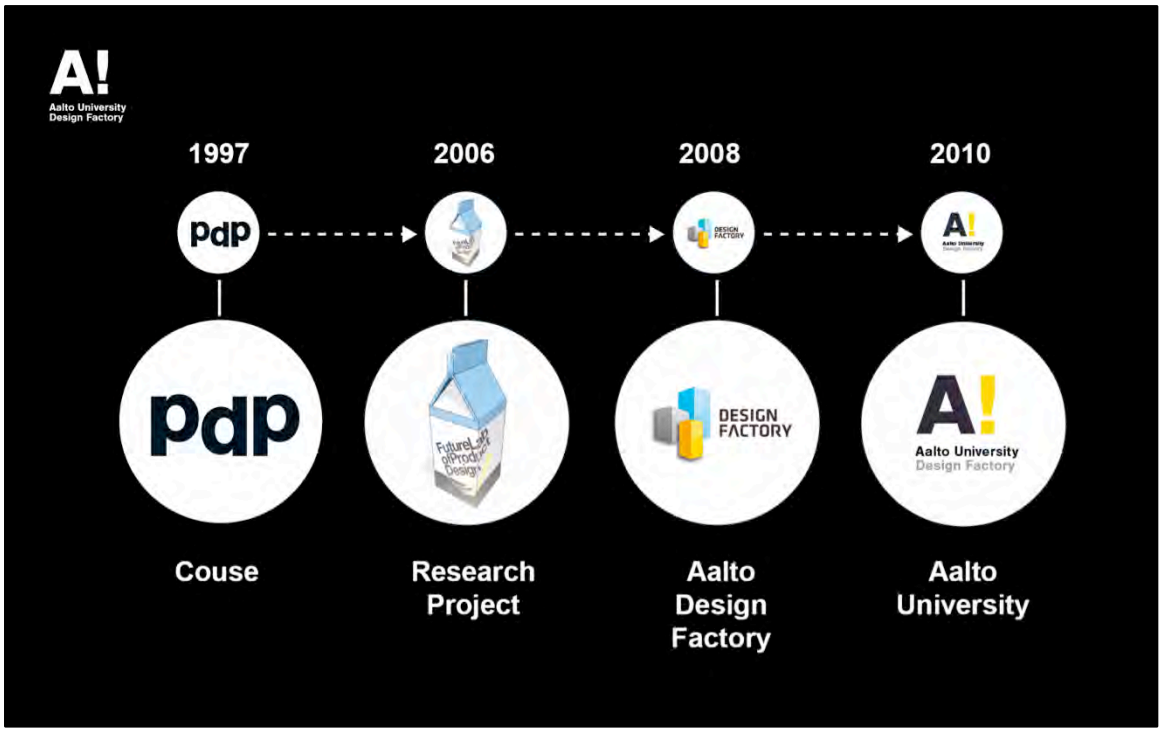
600 journalists

Started in 2011, has grown from 300 attendees event to a world-leading startup conference. Still mostly organized with volunteers.


So, what DF is?

3200 m2 old research lab

Flexible 24/7 space, a place that enables to be the best possible physical, social and mental working environment for interdisciplinary project-based learning.




Aalto Design Factory is a result of a long experience with project-based learning and research interests.

“Design Factory opened its doors, when the constitution of Aalto University was still in the making. The concept of Design Factory was built on long term research and development with very modest financial or human resources. The aim was to introduce an ideal operational environment for learning, research and application of product design and development.“


A!
Aalto University
Design Factory
An experimental co-creation platform for education, research and application of product design


- Theory education vs. Real-life projects, utilizing problem-based learning
- Testing your own skills, when working as a professional of your own discipline (no free-riding)
- Product development is one area you cannot learn without doing

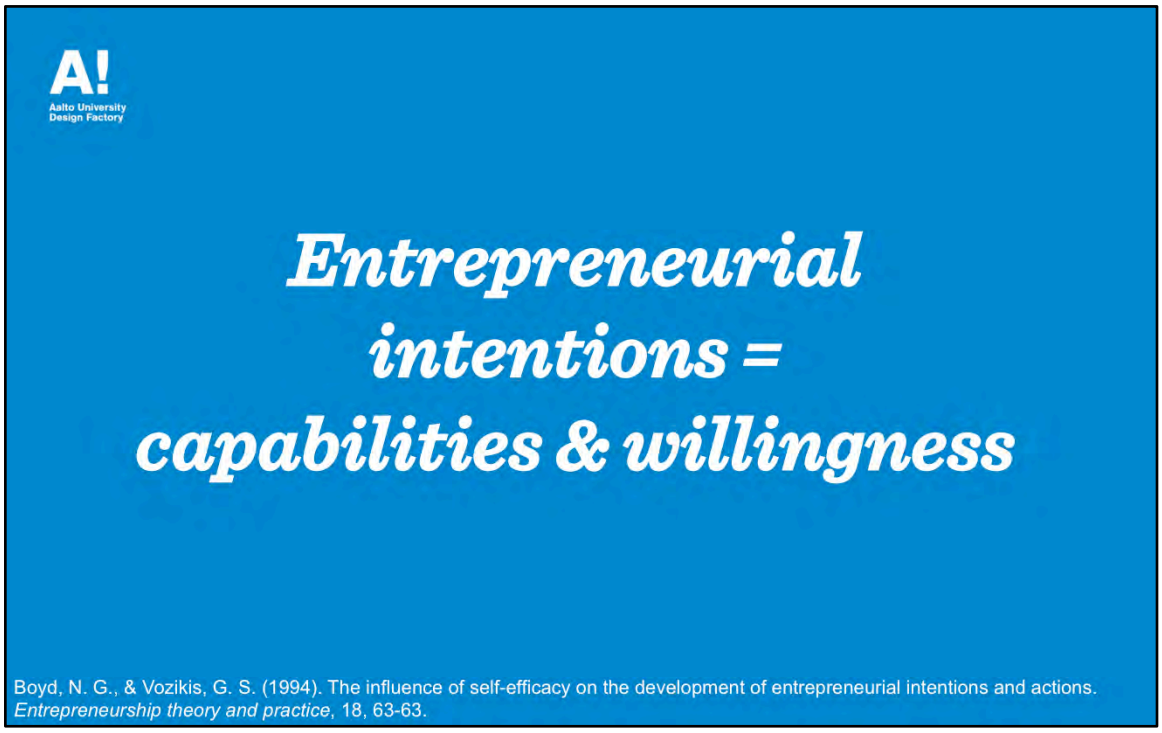
Change is the goal

PBL, Theory & Practice, Easy access, Interdisciplinary, Interaction, Flexibility, Open innovation, Passion


At ADF Students come first.

What can we enable as a learning platform? Culture that supports:

- Fail fast to succeed sooner
- Experiment, iterate, prototype, try things
- Learning by doing




Self-efficacy can be defined as one's belief on his or hers capability to succeed in different situations (Bandura, 1977).

**Self efficacy has a big influence on the development of entrepreneurial intentions.**

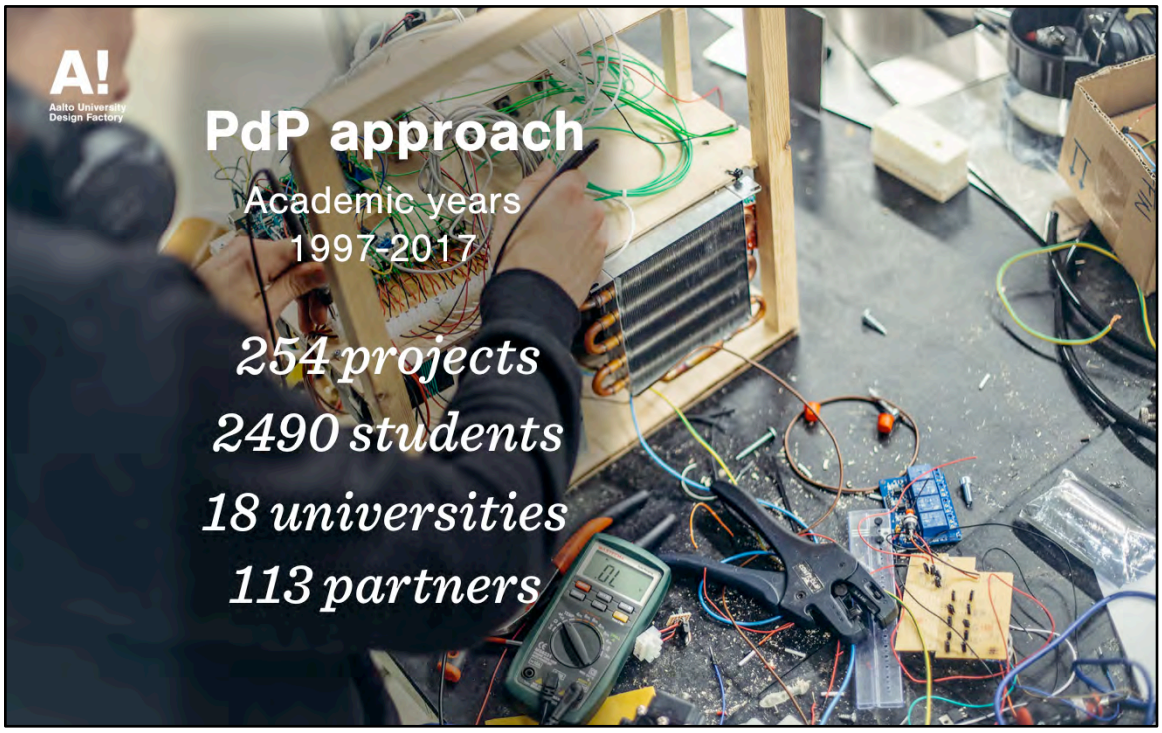
*"One's belief in one's own ability to complete tasks and reach goals"*

-Albert Bandura

Emeritus of Social Science in Psychology at Stanford University


In entrepreneurship there are no ready answers or standardized tests.

- What you do is a reflection of your capabilities.
- Starting with identifying problems and opportunities.


A!
Aalto University
Design Factory
PdP approach
Academic years
1997-2017
254 projects
2490 students
18 universities
113 partners

http://pdp.fi/


Partner companies of PdP course


**Examples of student projects in the Product Development Project course**

https://www.deftify.com/

Deftify – own project

Central multimedia control unit to cars, remote controller.


**Examples of student projects in the Product Development Project course**

http://www.nomo3d.com/

NOMO Technologies builds state-of-the-art 3D modelling for human body

NOMO Technologies is creating an extremely precise 3D model of human body that is technology independent. In May 2017, we launched our prototype 3D full body scanner that was developed in cooperation with Aalto University, as part of Aalto University's Design Factory Product Development Project.


**Examples of student projects in the Product Development Project course**

http://pdp.fi/portfolio-items/bed-bug-kill-2013-14/
http://luteidentorjuntahelle.fi/

Fighting against bed bugs with heat.


Readiness, willingness

- Openness, transparency
- Fail in a safe environment
- Entrepreneurial mindset grows unnoticed


Power of example, inspiring people in the community

- Students hear and see success stories, learnings, challenges and failures
- “I could do that too” –mindset


http://codebusafrica.com/

CodeBus Africa is a 100-day adventure into creative technology and youth empowerment.

We bring together African and Finnish innovators in tech and education to organise creative coding workshops for youth in 10 African countries in February–May 2017. Through the project, we hope to inspire youth to discover and make use of technology in their lives. We target especially girls, empowering them to explore technology's possibilities for their future.

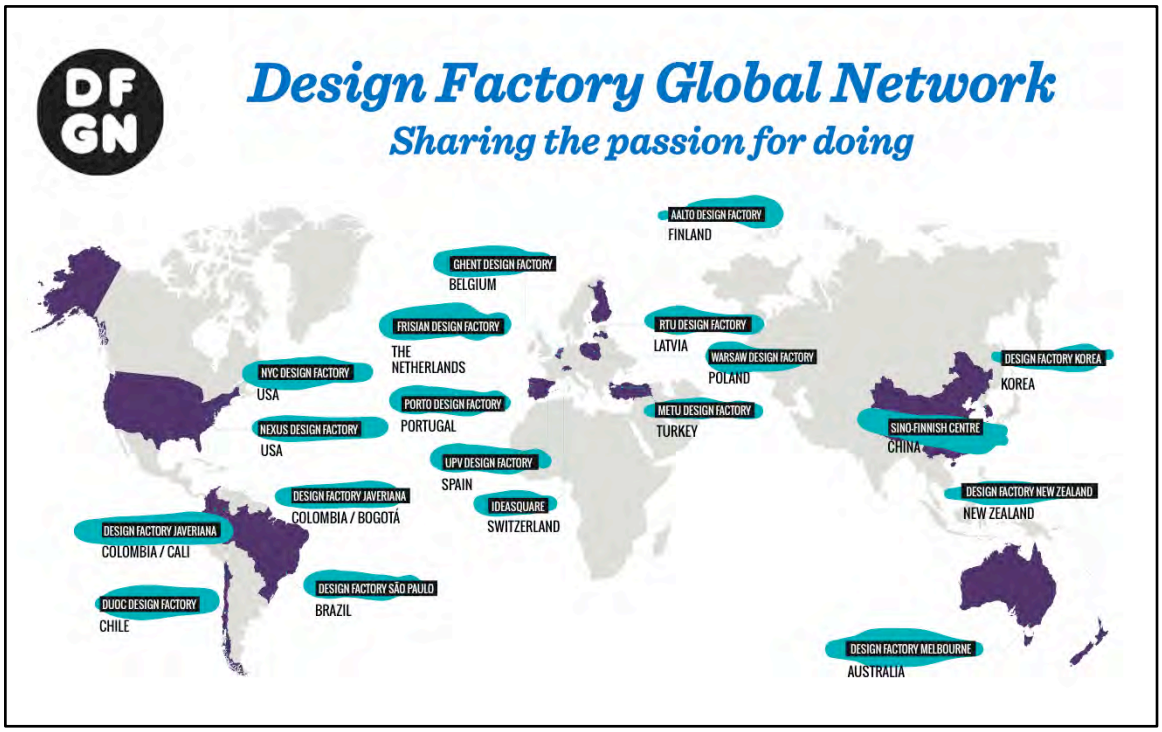

https://www.entocube.com/

Aalto-based startup growing crickets in a shipping container.

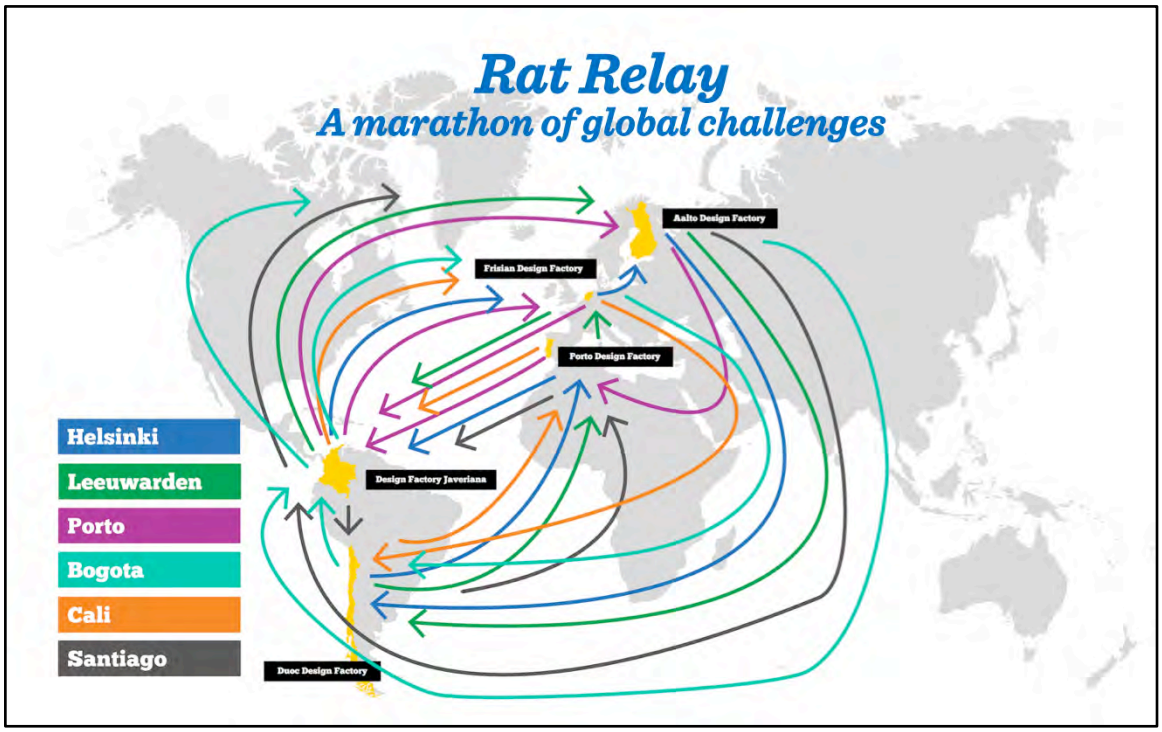
EntoCube offers the world a solution for a high quality protein. We do this in two ways: we offer the technology to farm insects for insect producers and vision a world where insect protein is a regular part of our diets.


https://eu.getcatchbox.com/

Aalto-based startup.
Engage Your Audience with Catchbox, the World's First Soft Throwable Microphone




Network of innovation platforms that **drive change in their own institutions** for a better learning culture, whether it is in a university or a research center.




An unique three-day global product design hackathon organized in the Design Factory Global Network. Rat Relay simulates real-world situation in industrial product development where very often one individual person or team is only working on a project for a limited time and not from beginning to the end. In Rat Relay projects rotate around the world in slots, and the projects are real-life challenges provided by sponsoring companies, startups or NGOs.

Last round of Rat Relay took place in April 2017 in six different Design Factories in the DF Global Network.


Why incubators / experimental learning platforms in universities?

- Unknown future – educating for the professions that don't exist yet and preparing for the future we don't know
- Academia vs. real life – bridging the gap between education and work life
- Drivers for change – support and driver for change in higher education
- Experiential learning – learning happens everywhere, learning by doing, PBL
- Show, don't tell – showing what we want to be and do, experimenting


Opportunities and challenges in being a part of a university

- How to leverage opportunities and address challenges

- Critical mass – new students each year
- Focus on long-term experiments and learning – focus not on short-term profits
- Objective evaluation – research integrated to activities
- Open innovation platform – everything shared openly, learning from others
- Informality enables serendipity – people who focus on making connections, facilitating serendipity
- Flexibility – of operating, of designing the spaces, of organizing activities

→ Challenges relate to bureaucracy → Trust, freedom to act, independence

→ Traditions, old habits → low hanging fruits, people with similar passion


It's about the mindset, ways of working.

"what is the value add of the design factory to Aalto University?"

# MIT University comparison

*In the ranking of 200 universities Aalto in top 5 of emerging entrepreneurship & innovation ecosystems.*

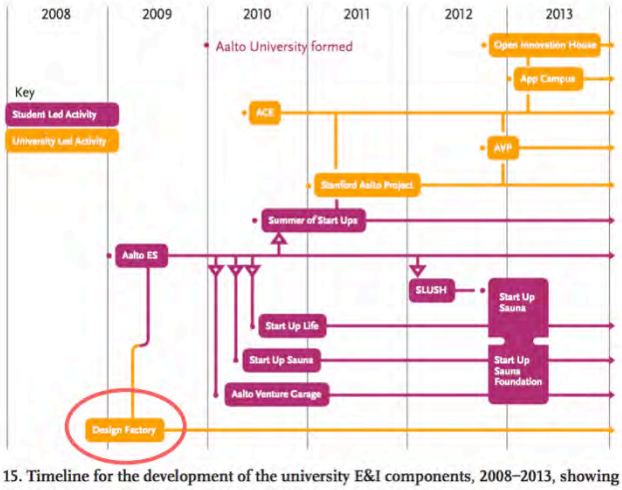



Figure 15. Timeline for the development of the university E&I components, 2008–2013, showing student-led activities in purple and university-led activities in orange.

http://www.aalto.fi/fi/current/news/2014-07-29/

Graham R. (2014), *Creating university-based entrepreneurial ecosystems evidence from emerging world leaders*, MIT Skoltech Initiative

Success factors: non-hierarchical grass-roots level & equal work, and atmosphere that strongly supports entrepreneurship, and the top management support of the university.

→ Student centeredness and student-driven activities

E&I = entrepreneurship & innovation


Every year, 70–100 new companies spring from the innovation ecosystem that has been created in Otaniemi, the campus where Aalto University is located.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