



A!

Aalto University
Design Factory

Aalto Design Factory Uncovered

ANNUAL PUBLICATION 2012-2013

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BACKGROUND

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Dear reader,

Welcome to the world of Aalto Design Factory (ADF: designfactory.aalto.fi)! You are looking at our annual publication, which presents the variety of projects, international activities, stakeholders and everyday happenings at ADF during the academic year 2012-2013.

This publication is like a set of keys, which will open the doors of ADF for you and give an overview of this 5-year-old Aalto University's project. The publication consists of seven different sections which all present one side of the purpose of ADF. In each section you'll find a short introduction, one in depth case example, a few shorter project examples and a spread full of data and information related to the topic. Since the academic year 2012-2013 was the busiest in the ADF history so far, we had many projects and examples to choose from, but for this publication we chose those cases and numbers, which depict the variety, nature and intensity of ADF activities in the best way.

The data and material for the publication is gathered from questionnaires* sent to students from product de-

velopment courses in 2012-2013, ADF based researchers and ADF staff. Some data was gathered from measurement devices around the building and own tracking systems of the staff members. Since not all data existed or was in a usable form, in order to fill in the blanks and information gaps we interviewed the community members in accidental encounters in Kafis, conducted a short questionnaire during the community's Breakfast at DFfany's and did lots of detective work on our own.

This publication serves all Aalto University's stakeholders as well as externals, who like to be informed of the happenings at ADF and understand the purpose of the project. We hope you get inspired and interested when working your way through these pages!

*The targeted questionnaires were answered by 38 students, 14 researchers and 19 staff members. These symbols below guide you through the publication and show which stakeholder group has provided the data.



STUDENTS



STAFF



RESEARCHERS



Descriptions of Aalto Design Factory

Environment for
learning

Platform for
organizing courses

Focused on product
development

Supporting Aalto
culture and spirit

Spaces
12-17

All you need is love,
design, business and
engineering

Support
32-37

Hosts various
activities throughout
the academic year

Community
06-11

Center for education
development

Research
24-31

Aalto University's
project, founded in
2008

Jungle Drum
44-49

Is a home for students,
researchers, teachers
and entrepreneurs from
various fields

We focus on
mentoring rather
than teaching

Aiming to educate
world's best product
designers

Experimental learning
platform

Place for passion,
project and problem
based learning

Learning
18-23

Home for ca. 35
university courses
annually

Greenhouse
38-43



Creating new paths together with students

When founding Aalto University we knew that we want to combine three different disciplines together, bring students to the focus and increase industry collaboration. As Aalto Design Factory was hosting and developing these activities already before the birth of the university, it was no surprise that we saw it as an example for the whole process. In my opinion ADF is the flagship of our university, which has gotten even more possibilities to flourish and develop with the support of Aalto University.

Nowadays, our education doesn't only prepare students for specific fields of work – rather education is becoming more generic and universal and we should actively think what are the skills that innovative professionals need in the future. Seems like the students at ADF are learning exactly those skills that are needed and this is something I want to incorporate to the whole university. Our students already hold the talent before they have set their foot to university and our task is to support them and make their talents flourish. In order to do this, we first need a new mentality of trusting the students and asking them for feedback.

There has been and will still be some challenges due to the big changes. In my experience the students are the ones who are executing the new ways of working and as ADF has been experimenting with student involvement and new ways of working already, it is a good foundation to build on in the whole university. For example now that we are developing the new Aalto campus we use ADF as an example

in organizing the spaces and activities. We want to utilize the same ideology of having spaces for multiple purposes, which can flexibly host various activities.

For the future I wish to see more systematic approach for measuring and evaluating the success and activities of ADF. Since the usual academic metrics aren't most suitable, we should focus on getting feedback and data about the impact of ADF in the university, in the society and on a global scale by measuring among others the industry collaboration, paths of the ADF alumni and variety of visitors.

My dream is that Aalto University educates doers who are visionaries and have endurance, and creates such possibilities for the students, which would have never been available for them in the old systems. We have some great examples of these paths and good results from ADF, which have developed without even asking for them. I believe in bottom-up -policy in executing things and making new ideas real, and exactly those ideas we should also support! Nothing is really meant to last for eternity but I see a need and a long future for ADF. We are really proud of the fact that the new and creative Design Factory -concept is something that raises interest not only in Aalto University but also on a global scale.

**Interview with Tuula Teeri,
President of Aalto University by Tiina Tuulos**



The art of Design Factory

In Aalto University, Science and Art shall meet Technology and Business. And Design Factory, as an experimental platform and remarkable investment, shall help the university to become what it wants to be. Thus unbiased observations and systematic experimentation must take place there, as well as application of scientific knowledge to the practical aims, and exploring of economic systems where goods and services are exchanged. How well these objectives have been met – this report aims to assist your judgment. I am so much grateful to the editors Tiina and Maria for their creativity and ideas for visualizing our work.

But what does Art mean for Design Factory then, in addition to science, technology and business? There is quite a list of hosted events, short courses and exhibitions related to art: e.g. intensive courses in Indian folk painting or creative short film making, Sibelius Academy live performance experiment within Second Life, and Aalto on the Move or Urban home in China and Finland exhibitions. The new spring term course Crystal Flowers in Halls of Mirrors brought students of mathematics, architecture and design together, and kept the factory operators busy and happily surprised. It has been a pleasure to support and follow ambitious projects by young talents, like Mirror (www.mirrorbyjoksu.co) or Päiväunen paikka (www.paivaunenpaikka.fi) until their successful launch. New experiment will soon take place with art teachers and students, in order to combine their learning project and interaction with Design Factory users and visitors.

As a summary, Art has meant asking questions, learning, experimenting, exhibiting, doing something differently, risk taking, and often experiencing strong feelings from misery to pleasure. But isn't that exactly what Design Factory is doing now and will continue to do full steam ahead? An experimental platform for education, research, and application of product design is the definition of Design Factory. Educating the best designers in the world is the challenge. Passion, curiosity, courage and capacity to realize ideas and plans are needed, in addition to expertise and knowledge. That is the art of Design Factory.

Old people say that until the 17th century, art referred to any skill or mastery and was not differentiated from crafts or sciences. At Aalto University I would love to see the word art to refer not only to the School of Arts, Design and Architecture, but also to the interdisciplinary, fun, ambitious and hard-working art of learning and doing academic work, the art of Aalto University.

Finally, warmest thanks to my people at Design Factory. I truly love to see the everyday passion in working with the most important people of Aalto University – the students.

**Kalevi “Eetu” Ekman
Janitor, Father & Chief of Aalto Design Factory**

Community

Our community consists of various people from different backgrounds. Usually on everyday basis the people at ADF are Aalto University's students, teachers, researchers and other staff members, company representatives and partners or visitors from all over the globe. The community consists of anyone who wants to belong to the community and who stays shorter or longer time at ADF. Being a part of the ADF family is more about the mentality than the official status!

I.n.t.e.r.d.i.s.c.i.p.l.i.n.a.r.y. – that's what we are all about here at Design Factory. Different backgrounds, different fields, different experiences all working together and enriching the outcome.

If you are a community member or other stakeholder dealing with interesting activities, you are welcome to utilize the benefits of ADF, most importantly the other innovative and creative people around you. Do you want to organize breakfast buffet, make pizza together or invite others to a sauna evening with your team to get to know each other? DF is a good platform for all of these activities and it encourages the community to interact and share ideas with each other.

If you are stuck with your ideas or have a bad day, just head to Kafis – it's by the coffee machine that ideas are hatched, partnerships are formed and spontaneous meetings occur. You might also end up standing in the middle of the purple circle and get hugged – there is a lot of hugging that happens at our Hugging Point, so get ready! We understand that sometimes everyone needs a hug.

It's the people, who are the most valuable resources of ADF.

What does ADF community mean to you?*

"Friends, co-workers, inspiring people, new ideas and insight. Freedom to be who you are."

#STAFF

"Relaxation."

#COMMUNITY

"DF community is the most fantastic place in the world. Excellent teachers, open-minded and creative students and great facilities."

#COMMUNITY

"Group of people who challenge you to try out different things and develop your skills. The environment forces you to stay hungry for learning!"

#STAFF

"DF community is fun and inspirational."

#RESEARCHER

"It's a place where creative people come together. It's more a family: everyone helps another and there are lots of teambuilding activities."

#STUDENT

"DF community means people driven by the same interests for design, innovation, collaboration."

#TEACHER

"The DF community takes care of DF as their home, like being a family."

#RESEARCHER

"If you don't know something or need a piece of advice, ask anyone and you'll be helped out with a smile."

#STAFF

"DF community is better than Google search."

#STUDENT

"Source of inspiration and laughter."

#RESEARCHER

*Gathered during Breakfast at DFfany's by asking questions and providing people with post-its and pens while they were enjoying their breakfast.

INTRODUCING ADF COMMUNITY



715

STUDENTS

30

STAFF
MEMBERS

30+

TEACHERS

22

RESEARCHERS

35

COLLABORATING
INDUSTRY PARTNERS

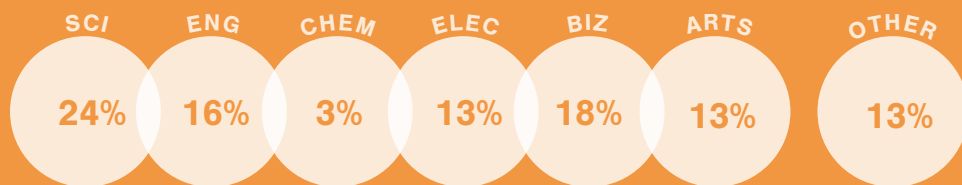
5

IN-HOUSE
COMPANIES



BACKGROUND OF THE STUDENTS

(students mainly from product development courses)

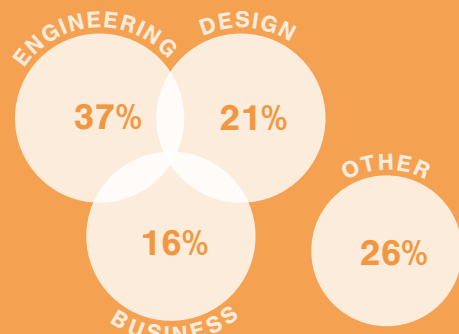


4

DESIGN
FACTORIES
ABROAD



BACKGROUND OF THE STAFF MEMBERS



42%

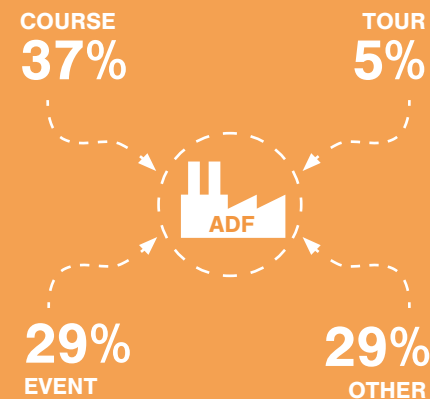
Masters students
while working

26%

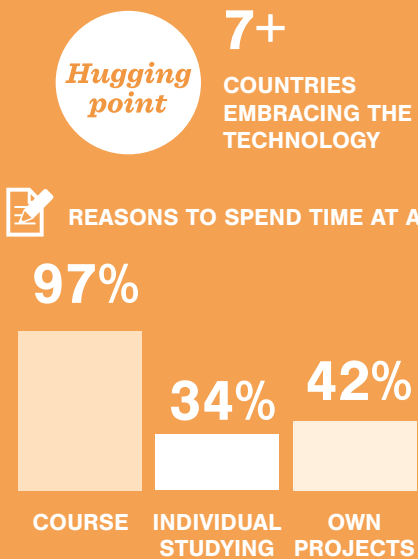
PhD students or researchers
besides working



REASON TO COME TO ADF FOR THE FIRST TIME



REASONS TO SPEND TIME AT ADF



10000

UNIQUE VISITORS AT
ADF ACCORDING TO THE
FRONT DOOR
TRACKING
SYSTEM

4100

VISITORS HOSTED
BY ADF STAFF

37956

CUPS OF
COFFEE
CONSUMED

44.5%

BASIC
COFFEE

55.5%

SPECIAL
COFFEE

+ Events have their own coffee

37

COMMUNITY BREAKFASTS
AT DFFANY'S ON TUESDAYS

42%

STUDENTS JOINED THE WEEKLY
COMMUNITY BREAKFAST ON
REGULAR BASIS

84%

PARTICIPATED TO OTHER
ADF COMMUNITY EVENTS

50%

STUDENTS USED KAFIS
ON REGULAR BASIS FOR
COOKING

EMBODYING THE ADF SPIRIT



being available
open for ideas
being excited
sharing ideas
search knowledge & learn
keep up the good spirit
connecting people
giving feedback
being interested
not fixed to one work task
talking to strangers
make things happen
have fun
make things possible
willing to help
share your skills & knowledge for common goal
willing to listen
openness
supporting adf community in any possible way
yes we can

*Describe ADF in 3 words?**

Passion
Unhierarchical **Awesome**
Breakfast *Experiences* Support
Warm **Mindset** Creativity
Curiosity *Collaboration* **Future**
Learning **Fun** Family
Surprising Dynamic *Accessible*
Meeting point *Functioning*
Connections Continuously developing
Insightful Hands-on approach Freedom
Interesting *Way of living*
Love *Socializing*
Respect Station Energetic
Community *Helpful*
Addictive *Revolutionary* Open
Lovely people **Inspiring**
Ideas come real
Good facilities *Always on the roll*
Home

*Gathered during Breakfast at DFany's by asking questions and providing people with post-its and pens while they were enjoying their breakfast.



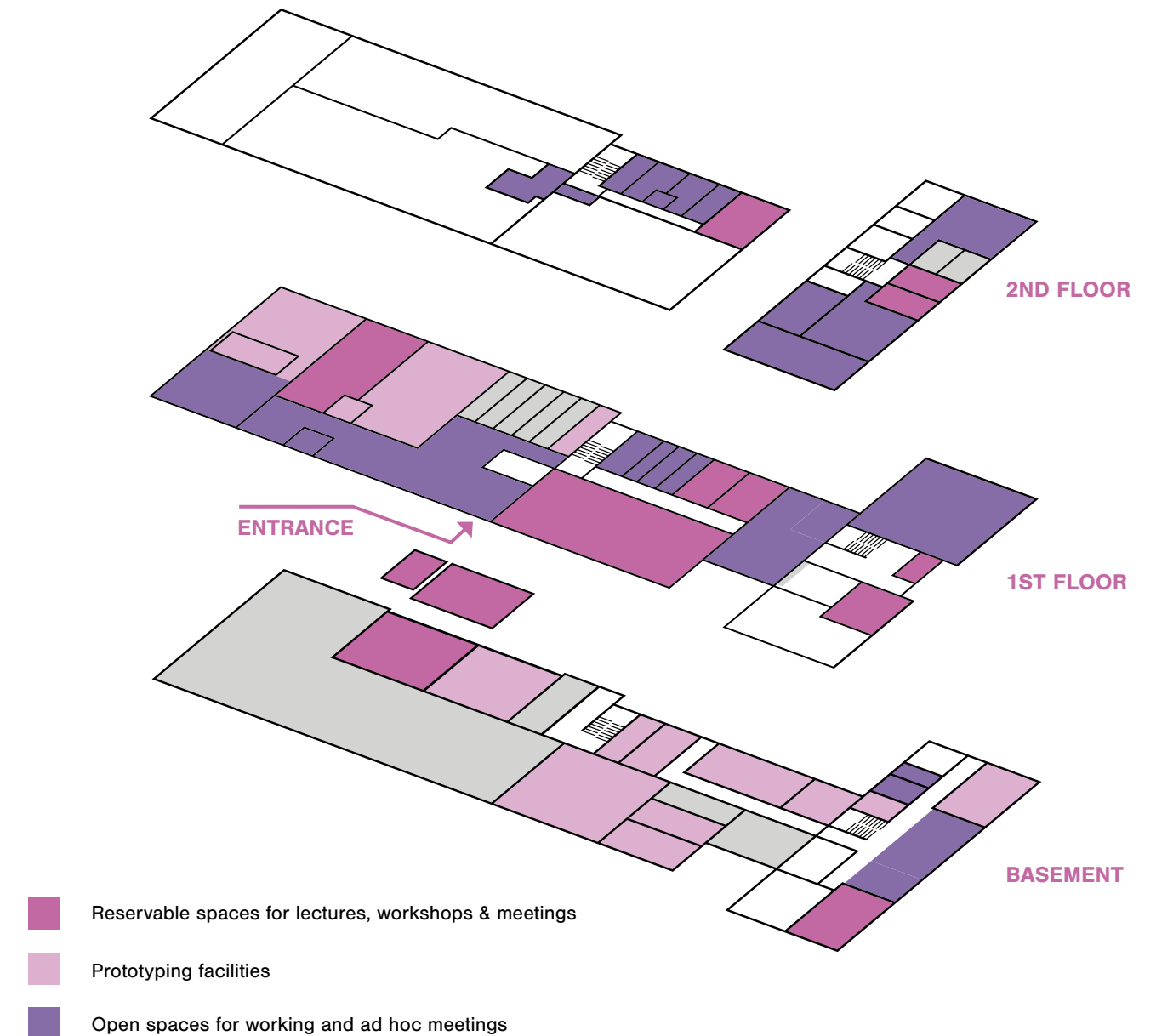
Spaces

ADF facilities are developed all the time to meet the users' needs and serve the community in the best possible way. The spaces support individual working, teamwork, lectures, events, workshops, team building and prototyping. Since the spaces are meant for multiple activities, none of the rooms are designed just for a single purpose. The multi-purpose nature of the spaces makes it possible to maintain a higher rate of use and it keeps things flexible.

We also host bunch of hot desks, which are working stations for everyone. They work as first-come, first-served basis, and anyone is free to work in a place they choose for a day. Only few of the DF people have an assigned workstation or an office, so basically everyone chooses a space most suitable for the specific task at hand from the 3200m² that is the Aalto Design Factory.

If you are interested in building, breaking, soldering, milling, bending, tooling, generous use of hot glue or any type of creative activity, you might like it here. In addition to teamworking and lectures, spaces at ADF support each step of building full working prototypes for the purposes of Aalto University's product development courses and other projects.

Distribution of ADF spaces



USING ADF SPACES

AALTO DESIGN FACTORY FACILITIES (~3200M2) CONSIST OF

1/3
PROTOTYPING
FACILITIES

PUUHABUNKKERI	114M2
MACHINE SHOP	104M2
ELECTROSHOP	26 M2
CUT & INK	15 M2
MODELSHOP	22 M2
KNITTING FACTORY	58 M2
PAINTSHOP	26 M2
WOODSHOP	19 M2
SUPPLY CAVE	22 M2
AC DC	25 M2
THE CAGE	77 M2

1/3
RESERVABLE SPACES
FOR LECTURES,
WORKSHOPS &
MEETINGS

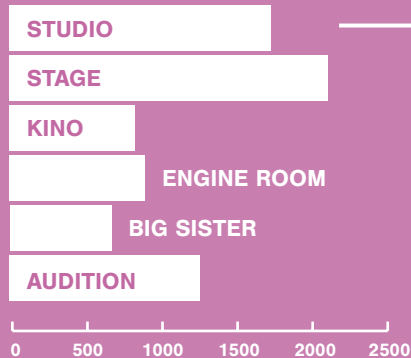
STAGE	189.5 M2
STUDIO	79.5 M2
BIRCH & BRAINSTORM	36 M2
KINO	30 M2
AUDITION	35 M2
ENGINE ROOM	33 M2
BIG SISTER (2013)	25 M2
SAUNA & BACKYARD	100 M2
JAFFA	16 M2

1/3
OPEN SPACES FOR
WORKING AND AD
HOC MEETINGS

LOBBY & BAR	241 M2
KAFIS	90 M2
PUUHAMAA	161.5 M2
BLACK & WHITE	18.5 M2
FATBOY LOUNGE	9 M2
LIBRARY	47 M2
COMPUTER ROOMS	43 M2
GREEN ROOM	13 M2
AQUARIUM	33 M2
STAFF WING	122.5 M2

Casting Programming
Plugging Etching
Gluing Waxing
Melting *Milling*
Burning Painting
Welding *Sanding*
Soldering Embedding
Printing *Cutting*
Assembling
Masking *Hammering*

SPACE RESERVATIONS IN HOURS



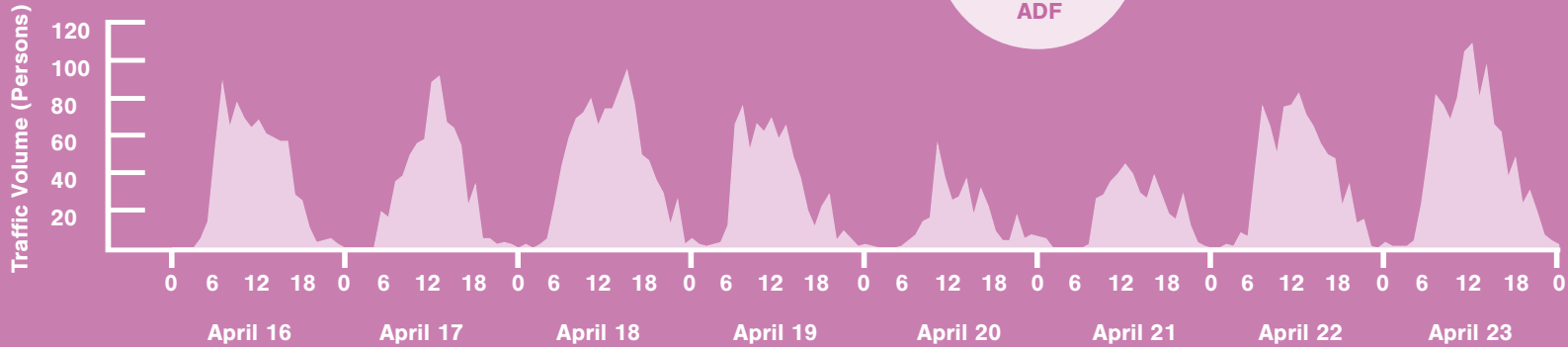
TOTAL 7548.3 HOURS

“Students like working at ADF, because it offers spaces also outside the lectures for meeting other students and doing homework. For teaching purposes, mainly at Stage and Studio, it’s great that there is a possibility to modify the space by moving chairs and tables. We also got all necessary equipment and enough room for visitors when arranging final presentations. During the course the teams engaged in hands-on activities such as the building of paper or Lego structures to help visualize new ideas and to create a shared language within the team both during the lectures and between the course hours.”

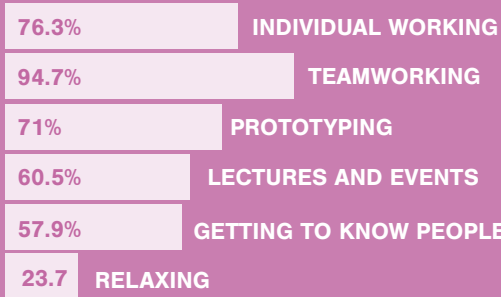
Kirsi Polvinen & Pekka Berg

Courses:
Innovation and Project Management
Collaborative Innovation Management

TRAFFIC VOLUME FROM CORRIDOR TO KAFIS /
DATA FROM 4D SPACE MIDE-PROJECT REAL SENSE LOGGER



PURPOSES FOR USING THE SPACES



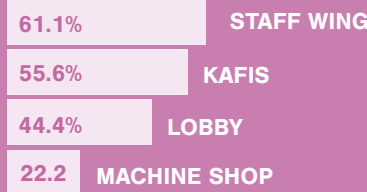
SPACES THAT WERE USED THE MOST



Kafis: “Best place to meet new people and share random ideas.”



FAVOURITE PLACES TO WORK

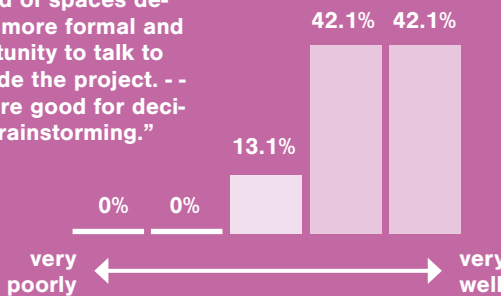


Staff wing: “Necessary tools available - - enough privacy and silent time but also help available.”



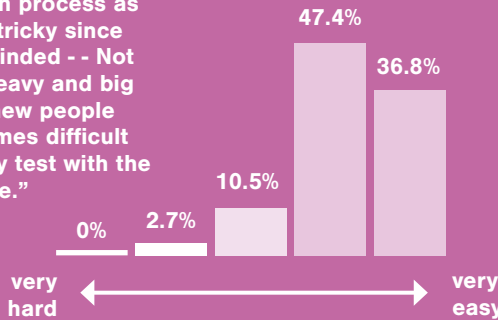
SPACES SUPPORTING IDEA GENERATION

“Enough tools available and help from the staff for idea development. Different kind of spaces depending the need, more formal and informal. - - Opportunity to talk to other people outside the project. - - Big white boards are good for decision making and brainstorming.”



SPACES SUPPORTING TESTING

“Possibility to involve the community members to our ideation process as well as testing. - - A bit tricky since all people are similar minded - - Not suitable when testing heavy and big prototypes. - - Finding new people to test with was sometimes difficult because you can’t really test with the same people all the time.”



ME310

ME310 (me310.aalto.fi) is an interdisciplinary course for Master-level students from all six schools of Aalto University. During one academic year, the course teaches students how to use the Stanford d.school and IDEO design process in product development, and is concentrated in practice-based learning. The global student teams prototype, test and iterate in order to develop and implement innovative solutions to real world design challenges posed by multinational corporate sponsors.

A day at ADF

Process in product development is focusing on practice-based learning, learning from mistakes, testing and iterating. The work is intensive and the different tasks require different environments – sometimes messy, which feeds the creative mind, and sometimes clean and well organized in order to finalize and fine-tune.

A creative way to utilize different spaces was seen at ADF in the ME310 course. Due to the hectic nature of this course, the students need a home base, a place where they can work intensively on their projects, build and develop ideas 24/7. Aalto Design Factory served as a second home during the intricate product development process – the students got advice, mentoring and instructions from the teaching staff and they were active in using ADF's facilities supporting the different phases of the process.

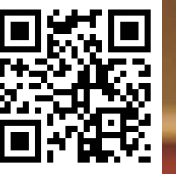
During the intensive product development year the students go through a complete process from creating ideas, testing, prototyping, building robots, organizing SUDS (Slightly Unorganized Design Sessions) to developing concepts. The Dark Horse Challenge is one of the prototyping challenges given to the teams in the middle of the year. With that challenge, the teams are instructed to prototype their wildest ideas and test them with users. The Dark Horse Prototype is not likely to be a “winner” in the sense that it would be developed further to the final concept but it usually brings many valuable insights for the project.

Here is an example of the journey of one of the teams tackling the Dark Horse Challenge:

- Ideation on Dark Horse in **Fatboy Lounge** since it is a quite inspiring and comfortable room, which works well for brainstorming.
- Building the first prototype in **Puuhabunkkeri** because it is a good place for quick & dirty prototyping in MacGyver style; out of cardboard and duct tape.
- Testing the prototype with users in **Kafis**, especially on Tuesday morning during Breakfast at DFfany's, since it is a great opportunity to get feedback from people who come from different backgrounds.
- Iterating the prototype in **Puuhamaa**, which is the perfect place for fine tuning and getting feedback from other students.
- Testing again in the **Lobby** to meet random visitors who might have a different perspective than regular ADF community members.
- Building a higher resolution prototype based on observations and tests results in **Machine Shop and Electroshop** with the help of the Service team.
- Taking a break from the challenge and getting feedback from the ME310 community by organizing a SUDS in the **Backyard Pool** with its sauna and relaxed atmosphere.

Maud Bocquillod
ME310 Teaching Assistant

LINK TO ADF INTRODUCTION VIDEO
MADE BY ME310 STUDENTS



Learning

As the world is becoming increasingly complex and interconnected, university graduates need to be able to utilize their disciplinary knowledge effectively in varying situations. They need to step out of their disciplinary silos to efficiently collaborate with people representing a multitude of disciplines and cultures, as well as to adopt a holistic view to confront the challenges presented by the working life. In order to do so, they need more soft skills, such as social intelligence, communication skills, and design mindset. The development of these skills is explicitly targeted in the passion-based learning philosophy of ADF.

At ADF community, the students participate to real-life projects in an interdisciplinary setting. Their work typically reflects elements of design-based learning through student-centeredness, problem orientation, project setting, and hands-on design exercises. This approach challenges the traditional ways of organizing teaching and evaluating learning. ADF provides physical spaces and practical support for meaningful experimentation with passion-based learning.

We welcome all Aalto students and teachers to learn together at ADF!



Elina Kähkönen

I've held all my courses at ADF ever since I learned that I'm allowed to do so. All kinds of group work are possible here, tools are available and help is easily found. The spaces for different group sizes and needs can be easily reserved. However, the most important issue in teaching here is the visible mindset, which tells that learning is fun even when it is laborious. And I want my students to be infected with this idea. Finally, here the ambition for being a better teacher is fully accepted and supported.

Post. Doc. Researcher
Microbiology, Chemical legislation

Courses:
Industrial Microbiology 2012
Bioethics 2013



Tuomas Paloposki

Teaching at Design Factory was a great experience. The environment has been built to encourage creativity, initiative and sharing, and it really worked. The students adapted very well to the working style at DF and they produced excellent results showing high ambition level and deep commitment both to learning and to their projects. The staff were always friendly and helpful. It was great fun to everybody.

Senior Lecturer
Energy Technology

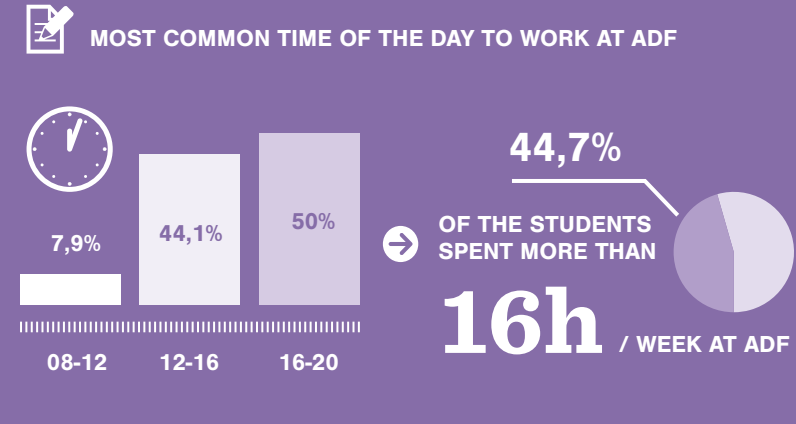
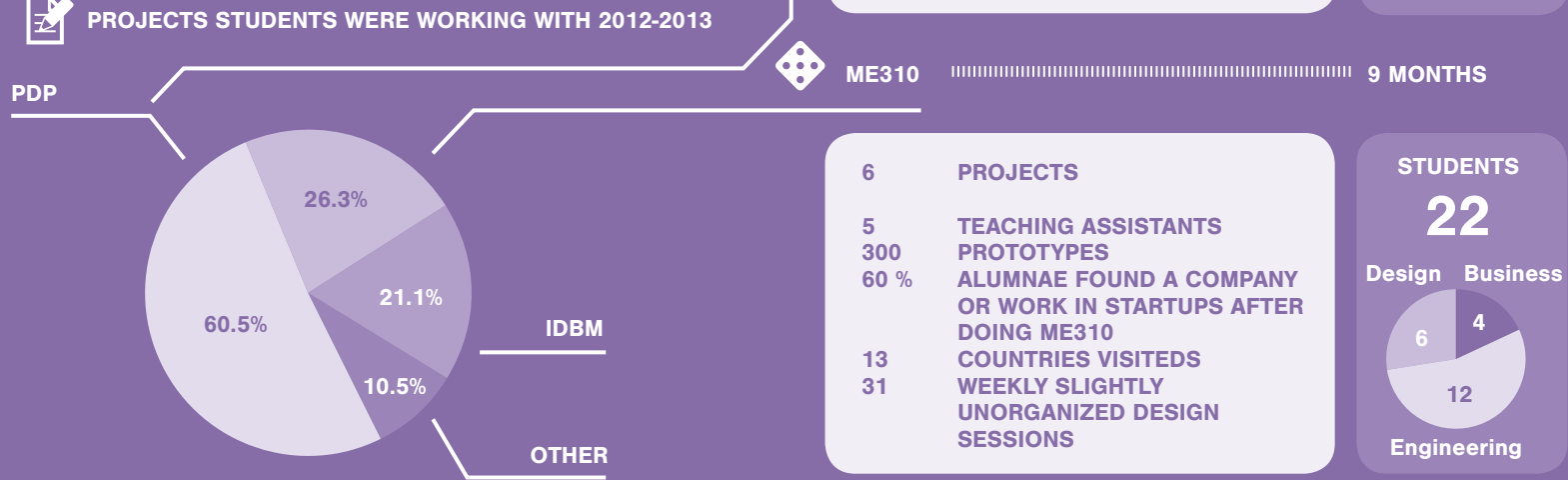
Courses:
Combustion and Gasification Technology I
Combustion and Gasification Technology II

ADF Opekumppani [ADF Pedagogical Partner]

According to previous research, lack of social support can hinder development efforts after pedagogical training. The shared attitudes of ones sociocultural environment, such as department or research group, typically aim at preserving the status quo. ADF Opekumppani is a research-based mentoring programme for Aalto teaching faculty. It aims at providing mental and practical support for experimenting with new pedagogical ideas. The programme consists of three meetings (orientation, planning, and reflection) and one practical teaching experiment within Design Factory facilities. The meetings and developments are documented for research purposes, and the teachers themselves can use the material as well. The experiments have typically been student-centred, activating and design-based. Most Opekumppani teachers have continued developing their courses after the programme.

Maria Clavert
Ph.D. Researcher in Education Development

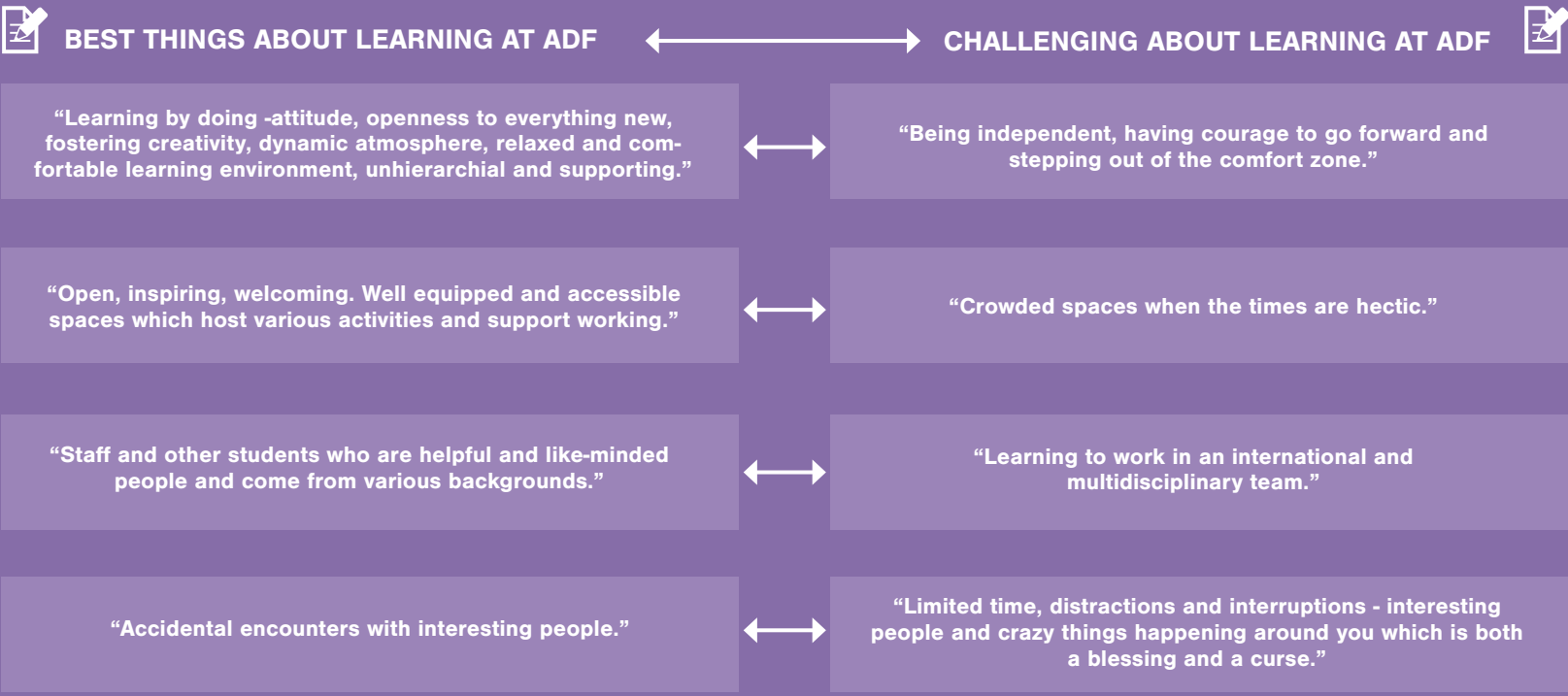
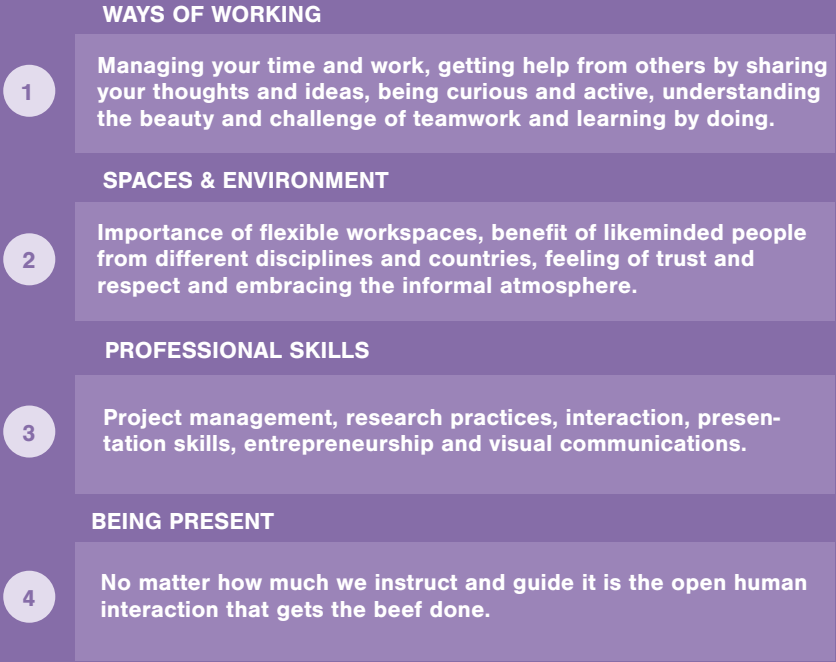
LEARNING AT ADF



MOST VALUED SUPPORT



KEY LEARNINGS



Aaltonaut - Rethinking Bachelor's studies

Aaltonaut (aaltonaut.fi) is Aalto University's new Bachelor's minor in interdisciplinary product development. The program starts in earnest in the Fall 2013. Its goals are reinforcing an entrepreneurial attitude and refining teamwork and communication skills by utilizing problem based learning in hands-on projects.

Challenge Breakers

"Are you ready to break the challenge?" This was the phrase bombarded into consciousness of Aalto students in the beginning of May 2013. It was used as a call for students to participate in Challenge Breakers, the first course carried to fruition in a brand new Aaltonaut Bachelor's minor program that would start in all of its glory in the Fall 2013. This summer marked the only time that also the Master's level students of Aalto could participate in Aaltonaut courses. The first dry run was starting and 15 students took on the challenge.

Ideas for myths came from the students themselves inspired by popular culture, studies or whatever they wanted to

Idea of Challenge Breakers came from popular TV series "The Myth Busters": interdisciplinary team of students would identify and test myths or urban legends utilizing scientific methodology. Course teacher David Leal provided tools for effective myth debunking (or confirming) by arranging series of lectures whose topics ranged from project management to video making.

Ideas for myths came from the students themselves inspired by popular culture, studies or whatever they wanted to. Ideas varied from "Sherlock scan" to cell-phones ability to stop bullets. At the start of June the students, armed with knowledge, were released to other summery activities to hone their ideas to project plans.

After the summer, the empirical part of the course began when detailed project plans and risk assessments were turned into vigorous field tests. The hard work of the student teams resulted in entertaining videos of the research process from hypothesis formation and planning to actual breaking of the challenge. The video premieres and open feedback session were held at Design Factory at the end of the course in August.

The fall brings with it also the actual start of Aaltonaut program as 30 students are selected to participate and the courses start in earnest. Explosions are less likely, but perhaps some fireworks are in order after three years work really begins to bloom.

Kati Penttinen
Aaltonaut Team



5

NEW COURSES

3

YEARS FROM TWINKLE OF
AN IDEA TO CONCRETION

30

STUDENTS WILL PIONEER IN
AALTONAUT PROGRAM

3

THEMES: PRODUCT DEVELOPMENT,
INTERDISCIPLINARY TEAMWORK AND
ENTREPRENEURIAL ATTITUDE

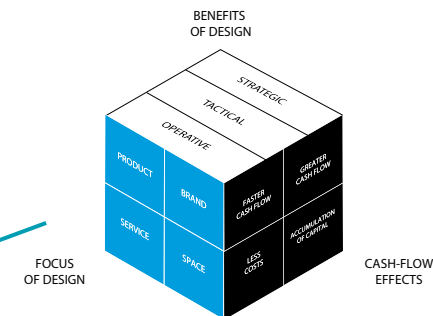
Research

The Design Factory research community consists of researchers from various disciplines, universities and nations. On one hand, members of the ADF staff conduct research on the phenomena related to DF, such as design practices, design thinking and university education, while on the other, the community at large explores design, development, and innovation from a wide variety of disciplinary perspectives and with diverse methodological approaches.

A common denominator for all research at ADF is its practice-oriented nature. Researchers within the ADF community work in close collaboration with students, teachers, industry and the public sector often adopting action research -oriented approaches that generate impact already during the research process.

ADF staff researchers aim at putting their experience to practice in fast iterative cycles through various ways, such as the Opekumppani teaching support program, the we.learn.it-initiative, and providing support for the development of activities of the sister Design Factories in the Global DF Network.

The research community is an ever-changing and developing group of enthusiasts from different fields who have a passion for design and innovation. Our aim as an informal community is to provide the researchers with inspiration, peer-support, opportunities for international collaboration, and ways of putting their know-how in to practice. The community is always open for researchers and research groups dealing with relevant and exiting issues, so do not hesitate to contact the ADF staff if interested.



Design ROI

The Design ROI (www.designroi.fi) project was a research project with the aim of developing a model and a set of metrics for measuring the return on investments in design. The project was funded by Aalto University, the Finnish Funding Agency for Technology and Innovation and fifteen member agencies of the Finnish Design Business Association. Design ROI was conducted by a multidisciplinary team of researchers from different schools of Aalto University and lead by Antti Pitkänen from Seos Design. Since the publication of the final Design ROI - Measurable Design, the research project gained significant interest from national and international audience which has led to various invitations to conferences and to write academic and professional articles on the subject. As a direct result also a Design ROI 2.0 is in now in the planning, and we are looking to deepen and widen our understanding on the subject.



We.learn.it – Supporting exploration and creativity at schools

We.learn.it (<http://we.learn.it>) is an initiative to promote inquiry-based learning opportunities for young learners. We.learn.it aims to support the development of creative thinking skills by allowing learners to find different ways to answer a question, learn something new, or solve a problem. This takes place through “Learning Expeditions” – learning journeys that are motivating, experiential, and collaborative between different schools and outside experts.

We are utilizing the research insights, experiences and expertise at ADF in creating a toolkit to support teachers and learners developing these Learning Expeditions in schools around Europe. The toolkit will be a continuously updating resource pool for inspiration and information on different approaches and tools produced primarily by the teachers and students themselves.

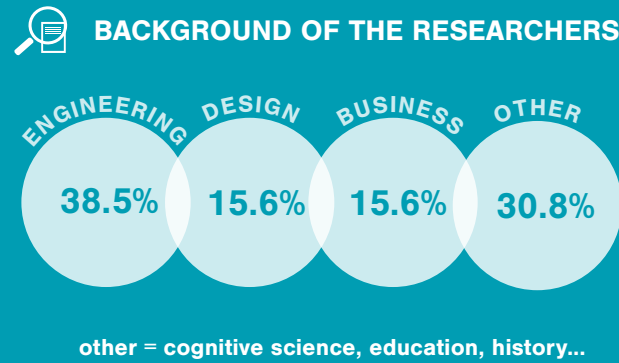
MINDexpe – Development through experimentation

The significance and benefits of early experimentation have been long recognized in certain specific fields such as engineering and industrial design, both representing work featuring complexity and uncertainty. The key in these activities is the idea of “failing fast”, that is, learning through low-cost, iterative trials, in order to “succeed sooner”. However we still lack deeper understanding of the possibilities and practical applicability of this approach to the domains of innovation and business development. MINDexpe is a two-year Tekes-project that aims to shed light on these issues.

Through facilitating and exploring the outcomes of organization-wide experimentation challenges and smaller scale experimentation sprints within the involved organizations – K-kauppiaaliitto, Kirkkopalvelut and Kehitysvammaisten palvelusäätiö – MINDexpe means to identify the critical elements and organizational prerequisites in fostering an experimentation-driven approach in organizations. Read more: www.mindspace.fi/en/mindexpe-tutkimusprojekti.



ACADEMIC ACTIVITIES



RESEARCH TOPIC / FIELDS OF STUDY

Collaborative R&D projects

Human-computer interaction

User innovation **Design thinking**

Transfer of Design Factory concept to other cultural contexts

Interactive systems design Knowledge visualization

University pedagogy

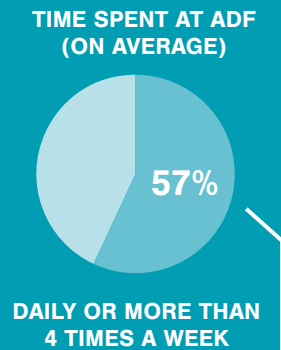
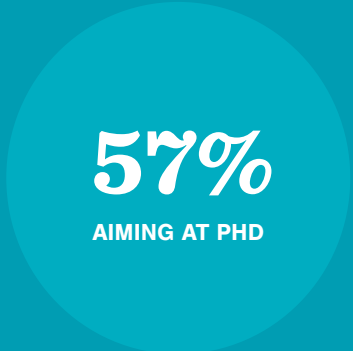
Chemical regulation Managing innovative projects

Laser additive manufacturing

Innovation psychology of development

Design practices

User involvement in product and service development



MAIN ACTIVITIES OF RESEARCHERS

Helping students with design challenges, user involvement & development challenges and sharing personal experiences on the past projects.

Teaching, organizing lectures, mentoring, coaching, training, developing new programs and planning courses.

Conducting own research, managing research projects and coaching research.

Applying research to practice and participating or managing different projects with global partners, schools, Tekes & business.

20+
DIFFERENT CONFERENCES ATTENDED

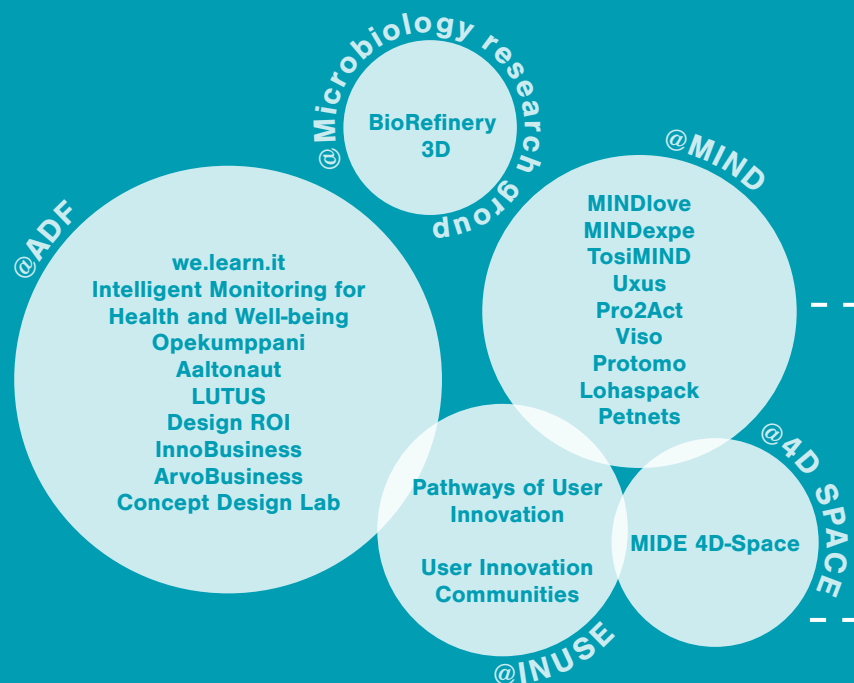
14 BACHELOR'S **19** MASTERS'S **1** DOCTORAL

FINALIZED THESIS SUPERVISED OR INSTRUCTED BY ADF STAFF*

*In total twice as many were supervised or instructed but not finished during this time period.

"Given help to two PDP-teams in their design challenges. The other challenge was closely related to my field of expertise (user involvement) and this type of student-researcher interaction totally makes sense!"

RESEARCH PROJECTS



➔ **2** DOCTORAL DISSERTATIONS TAKING PLACE AT ADF


MIND SOCIAL IMPACT

123	Talks
7940	People reached
3300	Licence to Act
	Differently -agents
29	Media: Magazines
23	Media: TV & Radio

MIDE 4D SPACE

The project develops embedded software and service prototypes by combining both physical location and context information in evolving the scale of next generation site-specific data generation.

ACADEMIC ACTIVITIES

**MOST VALUABLE THING AT ADF**

ENCOUNTERS WITH HELPFUL & LIKE-MINDED PEOPLE


“It is great to have a place that gathers like-minded people together like this and creates chances for spontaneous interaction. - - I’ve been very happy to be able to connect to new people easily and informally.”

MULTIPLE PERSPECTIVES & CONNECTIONS WITH STUDENTS

“Despite the differences in everyone’s core expertise, design or fields related to it are the common denominators which means that, considering my research, the community knowhow truly hits the sweet spot.”

PHYSICAL ENVIRONMENT & NETWORKING

“Being at ADF has given me the opportunity to develop a project in a very different environment to the ones I was used to study and work, more open, relaxed and participative, all in a very welcoming and kind community. I have been able to develop a project specifically for a real place and needs, and have been provided with the necessary tools and equipment to learn and develop a prototype for it.”

**WOULD LIKE TO HAVE MORE AT ADF**

MORE PRIVACY & SPACES FOR SILENT WORK

“The best part of ADF is the social environment, something I would not want to give up, but for a researcher a space where interruptions are limited is essential to be able to accomplish something. For this a few small rooms only for research use with flexible reservation that would allow for example half a day slots would be ideal.”


MORE INTERACTION, PEER-SUPPORT & COLLABORATION AMONG THE RESEARCHERS


“I think that there would be more potential for collaboration between researchers but it would require someone who would be leading it and who is experienced in doing research, has interest in it and visions.“


APPLYING RESEARCH TO ADF DAILY LIFE


“I find it motivating if students can benefit from our expertise although this type of interaction is still very limited. The challenge here lies in the role of “external researchers” as we aren’t always allowed to use too much time to other activities as our funding comes from somewhere else and we are held responsible to that direction.”


CHECKLIST FOR INTERDISCIPLINARY TEAMWORK*


**BE AWARE OF THE CAPABILITIES OF THE TEAM AND UTILIZE THEM**


**MAKE YOUR SKILLS AND KNOWLEDGE EXPLICIT IN THE EARLY PHASE OF THE PROJECT**

**CREATE COMMON WAYS OF WORKING AND TEAM CULTURE AT THE BEGINNING OF THE PROJECT**

**REMEMBER TO GIVE POSITIVE AND CONSTRUCTING FEEDBACK TO YOUR TEAM MEMBERS**

**BE OPEN TO EVERYONE’S CRAZY, FUNNY AND IMPOSSIBLE IDEAS WITHOUT JUDGING THEM IMMEDIATELY**

**MAKE SURE THAT THE ATMOSPHERE IS APPRECIATIVE, ENCOURAGING AND SUPPORTIVE**

**ORGANIZE INFORMAL GATHERINGS WITH YOUR TEAM**

*Based on a longitudinal study conducted by Satu Rekonen on Product Development Project (PDP) and Mechanical Engineering 310 (ME310) -courses during the academic year of 2010-2011

BITS AND PIECES OF RESEARCH ON PDP PROJECT MANAGERS

DIFFERENT PHASES OF THE PRODUCT DEVELOPMENT PROJECT*

	Front-end Phase	Development Phase
Managerial Emphasis	The importance of getting to know the team members and creating a common vision and understanding of the project highlighted.	Allocation and scheduling of resources emphasized.
	Ideation challenges resulting from the diverse approaches of the heterogeneous team members beings a key challenge.	The integration of the off-site team members the most pressing challenge.

THE INFLUENCE OF TECHNICAL EXPERTISE ON MANAGERIAL APPROACH**

	Technical	Non-Technical
Decision Making	More courageous in making bigger decisions independently, such as changes in the product concept, even in the later phases of the project.	Preferred to stick to what had been agreed upon with the team and emphasized team member autonomy more in the late phases.
	Appeared to by purpose assign tasks also outside the core skills of team members.	Aimed to divide the tasks according to the backgrounds of the team members.
Role and Task Division		
	Had a central role in the hands-on execution of the development project, participating in the building of prototypes and making changes independently in the physical products.	Had a more hands-on role in the front-end phase e.g. by possessing expertise of ideation and user studies. However, they needed to find and fine-tune new roles for themselves in the development phase when they were no longer able to participate in the execution of the development work.

* Rekonen, S & Björklund, T. A. & Laakso, M. & Liikkanen, L. (2013). Evolvment of Managerial Activities and Leadership Style of New Product Development Project Managers. Proceedings of 11th International Research Network on Organizing Projects, IRNOP 2013.
** Rekonen, S. & Björklund, T. A. & Liikkanen, L. (2013). The influence of technical expertise on managerial activities throughout the innovation process. Proceedings of International Conference on Engineering Design, ICED 2013.

*Finding needles in haystacks
and seeing the forest from the trees*

Design and development problems can be quite tricky. They tend to be vague or ill-defined, with no clear cut, limited options for solving them. As a result, how the initial problem is understood or framed can vary significantly, leading developers to different paths in their efforts. A study published this year in the prominent journal, *Design Studies*, compared professional product developers and students with a few years of product development experience in how they approached design briefs, in hope of identifying leverage points for improving product development training.

Students expected more ready answers and clarifications from the clients

Several differences were revealed already between the initial reflections of expert professionals and students, confronted with a number of real design briefs for various products. Experts were able to draw more interconnections in the presented information, identifying for example more information needs, product requirements and sub-goals. They were also able to identify more varied sources for finding the needed information, such as analogous product domains and non-

stakeholder professionals. In contrast, students expected more ready answers and clarifications from the clients. Thus development experts were able to gain more leverage from both the limited information provided and their own experience, laying the groundwork for identifying more fruitful potential solution directions.

The results highlight the need to change the current paradigm of presenting students with simplified, de-contextualized problems during their studies. This is hardly news at the Design Factory, where real problems and industry collaboration are the norm rather than exception in teaching. Being able to differentiate between irrelevant and relevant information, find information sources, and define the task at hand are key skills in the professional world, and students should get the opportunity to practice these skills already during their studies. The research at hand helps to explain what development expertise is based on, and suggest that one effective focus for honing development skills is improving seeing interconnections of information to promote proactivity and help to discover better solutions.

Tua Björklund
Head Researcher at ADF

*Björklund, T. A. (2013). Initial mental representations of design problems: Differences between experts and novices, *Design Studies*, 34, pp 135-160, at <http://dx.doi.org/10.1016/j.destud.2012.08.005>



Support

People, spaces and ways of working – they sum up the support of Design Factory. ADF support means everything from providing ideas and inspiration for projects to offering facilities that support prototyping, teamworking and getting to know people. The staff members are in a vital role in helping teachers with developing their courses, advising students choosing the right materials and directions to their prototypes and in bringing people together who might benefit from each other's knowledge. Also, at ADF not only teachers teach, but also the ADF staff and community professionals offer their expertise to the students. All in all, the support arises from the whole community, from anyone working and spending time at ADF.

Design Factory is also much about the mental support and ways of working. We believe that soft skills are vital in order to meet the high requirements and challenges in our work. We emphasize communications, passion, love, hunger for learning and curiosity, and try to support our DF community to stay inspired and have all necessary skills to be able to work hard and go forward.

What is support at ADF all about?

Trying new things, working like crazy, creativity, learning, cultivating interdisciplinary activities, bringing different people together, individual development, new initiatives, interaction, prototyping, sharing information & knowledge and fun. Spaces that support accidental encounters, people that challenge you to think differently, events where you meet interesting people, attitude that makes you try again even if you would fail and energy that keeps us all going forward.



Everyone gets a taste of electronics

This year we tried to go beyond giving support only to technology students and tried to give everyone a taste of what working with electronics and programming is all about (specially non engineers). We created a series of crash courses spanning from 10 minutes up to 6 hours, not for the sake of turning our attendants to the path of technology development, but for the sake of showing that it is not black magic, and as with all the other disciplines, all you need to do is to be willing to put some effort and a bit of your time, and you can achieve anything.

David Leal
Head of Electroshop



Expertise value = hard x (soft)²

People usually ask me where to buy some item, I always ask them how they will use it. It's important to understand the big picture in product development activities and that's where the most interesting conversations are as well. We don't tell people what to do, but we want to give them the best possible options to choose from. This makes things easier and keeps the experimentation rolling. I tend to think of learning as a byproduct of having fun in an engaging environment while working on interesting projects with good people.

The core competences of each individual in an interdisciplinary team are the building blocks for product development work but the salt of teamworking and succeeding is in the end the appreciation of the soft skills: passion & love, curiosity & hunger for learning, managerial & leadership, language & cultural as well as communication. These we value at ADF!

Peter Tapio
PDP Course Assistant



Supporting open communication in interdisciplinary student teams

I have been organizing facilitated feedback sessions to interdisciplinary student teams since 2011. The need for this type of support arose from the longitudinal study conducted on ME310 and PDP courses during the academic year of 2010-2011: team's internal communication and feedback were identified as one of the most important issues affecting the functioning of the team, yet also one of the most challenging. I believe that tools for developing soft skills in interdisciplinary teams are needed in order to benefit from the potentially heightened ability to solve complex tasks through the broad array of expertise, skills and knowledge. If the teams develop structures that support open communication right at the beginning of the project, they are able to better utilize all the capabilities within their team as the quality of interdisciplinary teamwork depends on how freely team members are willing to share their thoughts and perspectives.

The purpose of these feedback sessions is to encourage teams to provide both positive and constructive feedback to each other as well as to offer a tool for the team members to support open communication throughout the project. Students have found these feedback sessions very useful and benefitted from them in creating a more open culture in their team. As the facilitator, it has been great to see how empowered the students become after receiving positive feedback and how the feel of togetherness increases during these session.

Satu Rekonen
MIND & ADF Researcher

FACES OF ADF SUPPORT

PROTOSHOP NUMBERS

MACHINE SHOP



1372 Milling machine operating hours
849 Lathe operating hours
1400+ Estimated manual machining equipment operating hours
1600 Hours of mentoring help from experienced students to others
1 Production serie size

ELECTROSHOP



25 Litres of acid used to create printed circuit
120+ Non-engineers got enlightend in the arts of electronics
150+ Learned to program a microcontroller without any previous experience
7800 Euros spent on electronic components
6 Robots brought to life from scratch

CUT & INK



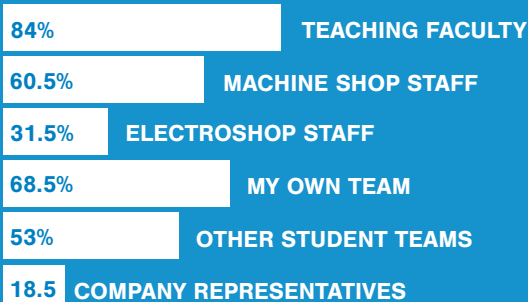
250 Metres of cutting
240 Metres printing posters
2 Kilometres distance how much the knife on the cutter has moved

50+

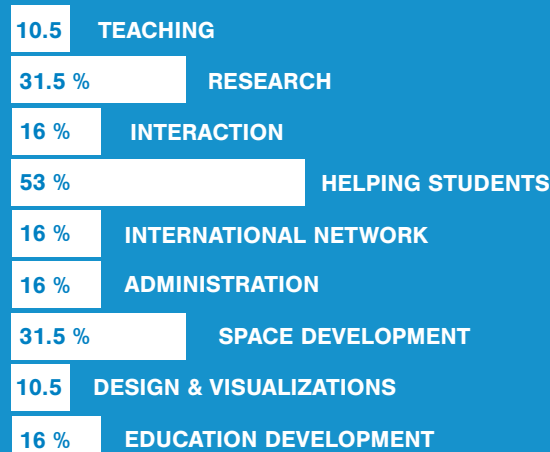
Advanced prototypes built and manufactured in Machine Shop with the help of ADF staff



MOST HELPFUL PEOPLE SUPPORTING THE PROJECT AND TEAMWORKING



MY WORK IS MAINLY ABOUT...



Coaching & Sharing experiences

Administration & Instructions

Courses & Lectures

Prototyping

Thesis support



HELPING STUDENTS



GETTING SUPPORT FOR WORKING

1.

COMMUNITY

“People are the most precious and valuable asset of DF. During the project we got help from all stakeholders at DF: from what to do when you got stuck to where to buy the stuff for a prototype, how to make research, how to work with electronics, how to use milling machine etc.”

2.

ENVIRONMENT & ATTITUDE

“Unplanned encounters with different people, interesting visitors who can provide you valuable contacts and make you rehearse your pitching and endless support from the place as such – the atmosphere of action and everything is possible.”

3.

TEACHING TEAM

“Coaching help and instant feedback from the teaching team and DF staff. There is always someone ready to discuss and brainstorm with you.”

4.

STUDENTS

“When other student teams shared their experiences and challenges we were able to get something to our project and also reflect our working. Peer support was extremely valuable.”

5.

SERVICE TEAM

“Service team has the best prototyping advice and if they don’t know the answer they’ll find a person who does.”

800

LITERS/WEEK

WOOD, PAPER AND OTHER
PROTOTYPING GARBAGE
CARRIED OUT



13000

BOTTLES RETURNED



0

NUMBER OF TIMES THE FIRE
ALARM WENT OFF

Mathematics meets Art and Architecture

Crystal Flowers in Halls of Mirrors

This course grew up from various needs to bring up-to-date research knowledge in mathematics, especially in geometry and low-dimensional topology, available to broad audience. Mathematics provides systematic approaches and practical tools to study our environment not only from point of views from broad fields in engineering but also from more artistic perspectives. The central goal of this course was to increase awareness of possibilities of modern mathematics and also bring relevant material accessible. Together with professionals in mathematics and arts the topics of the course were approached from diverse perspectives. Approximately a year was used for planning before the actual implementation of the course. Kalevi Ekman generously helped and encouraged us from the very beginning: from the early steps to the very end.

Altogether 31 students from 5 schools of Aalto found their ways to the course. Freshmen as well as more advanced students from the School of Science, Engineering and Chemistry together with those from Arts and Architecture made the course a rich experience not only for the students themselves but also for the teachers. Design Factory provided a beautiful platform for the course. Some students were already familiar with the surroundings and also the rest of our group found the comfort of the place really quickly. We had intensive 3 hour meetings twice a week in Studio during the

spring 2013. Group works of 5-6 students from diverse backgrounds as well as more traditional lectures were fluently implemented in Studio and around DF.

Goal of this course was to increase awareness of possibilities of modern mathematics and also bring relevant material accessible

During the spring we had also distinguished visiting lecturers from US. Jeff Weeks provided lectures on orbifolds and 4D, and George Hart built together with the students so called Aalto sculptures (www.georgehart.com/Aalto/aalto). ADF staff was incredibly helpful in various steps of this concrete building process. Also at the last part of the course, when student groups started to work with their own project works for the exhibition at the TUAS-building, we got valuable help and support from the experienced staff of DF.

Kirsi Peltonen
Ph.D. & Docent / Senior Lecturer at Department of Mathematics and System Analysis

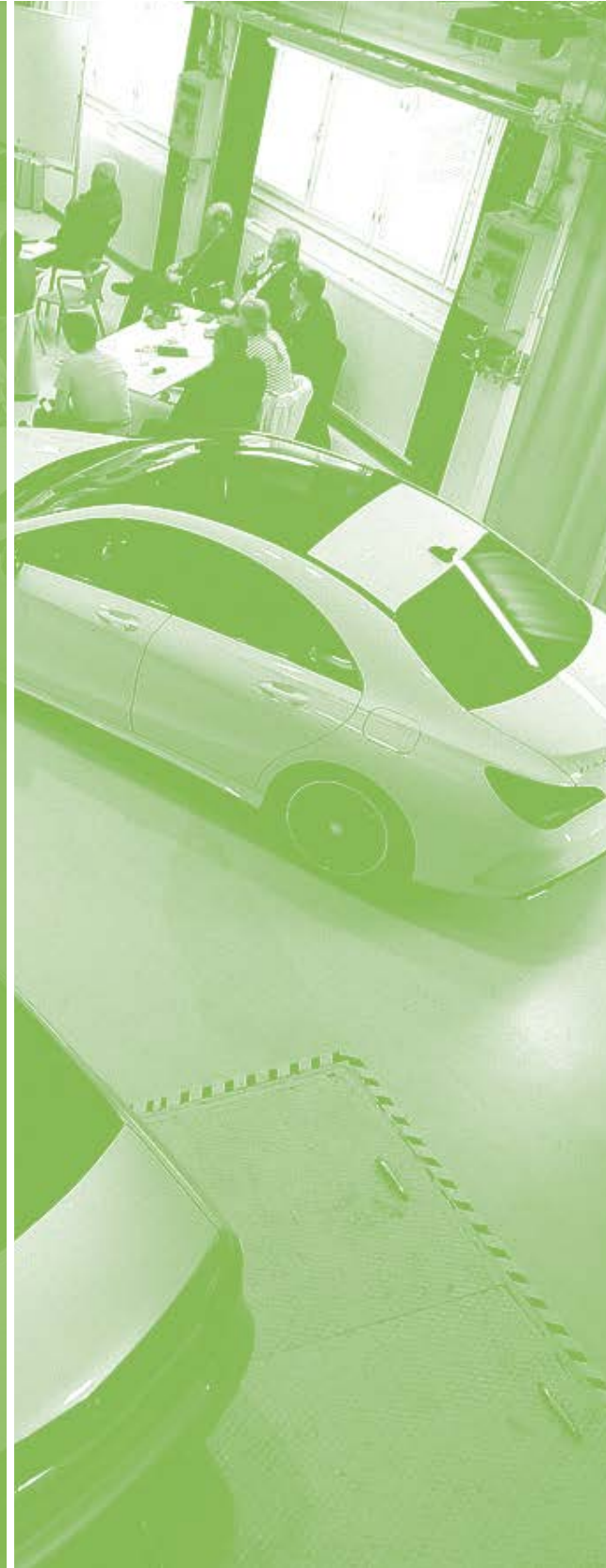


Greenhouse

By definition Design Factory is an experimental co-creation platform for education, research and application of product design – where design has a broad meaning. Experimentation is the art of trying things out in real life and what could be a better place to experiment than ADF, which gives both smaller and bigger projects training wheels and a safe playground. In addition to hosting Aalto University's courses and educating product designers, ADF is like a greenhouse where big things are developed and grown from small seeds. During the academic year ADF is a home for everything from nonacademic, student driven and ambitious projects to early phase startups and already well-established companies.

Design Factory is also an active player in several modes of industry co-creation. We have in-house partner companies with mutual benefits for them and eco-system diversity. Current In-house partners Seos Design and Zeta Design have their whole business located in our premises. We also support companies in their early or pre-stage which we call Venturing partners. Currently there are throwable microphone The Catchbox and surf wave generator called Artwave being developed into new success stories under our loving care and attention. Biggest users in Design Factory are courses working with several companies doing projects ranging from tiny to huge in size. Most of the courses are working globally having partner universities and sponsoring companies from all over the world. During the academic year we host around 30 projects in few different courses. All together these courses collect around 0.6 - 1 million euros in sponsor fees for products development budget.

We actively support courses and companies to find each other and create best possible ways to collaborate.



Seos Design

Seos Design (<http://seos.fi>) is a design and research agency founded in 2007. We help our clients define, design and deliver successful design solutions that add business value. We transform user needs, technologies and market insights into desirable products and inspiring spaces. We work with global reach, through our localized business and academic partner networks. Seos is based at Aalto Design Factory and as a key partner, Seos has been involved in the development of the Design Factory concept and network by leading research and product development projects, as well as teaching and mentoring students at the Design Factories in Finland and China.



Artwave

The Artwave project is about exploring waves. Simply put: we do waves. We combine our knowledge in technology, design and art of surfing to create sensational experiences. Artwave project will be lasting for 1,5 years and it is funded by Tekes and Aalto University.

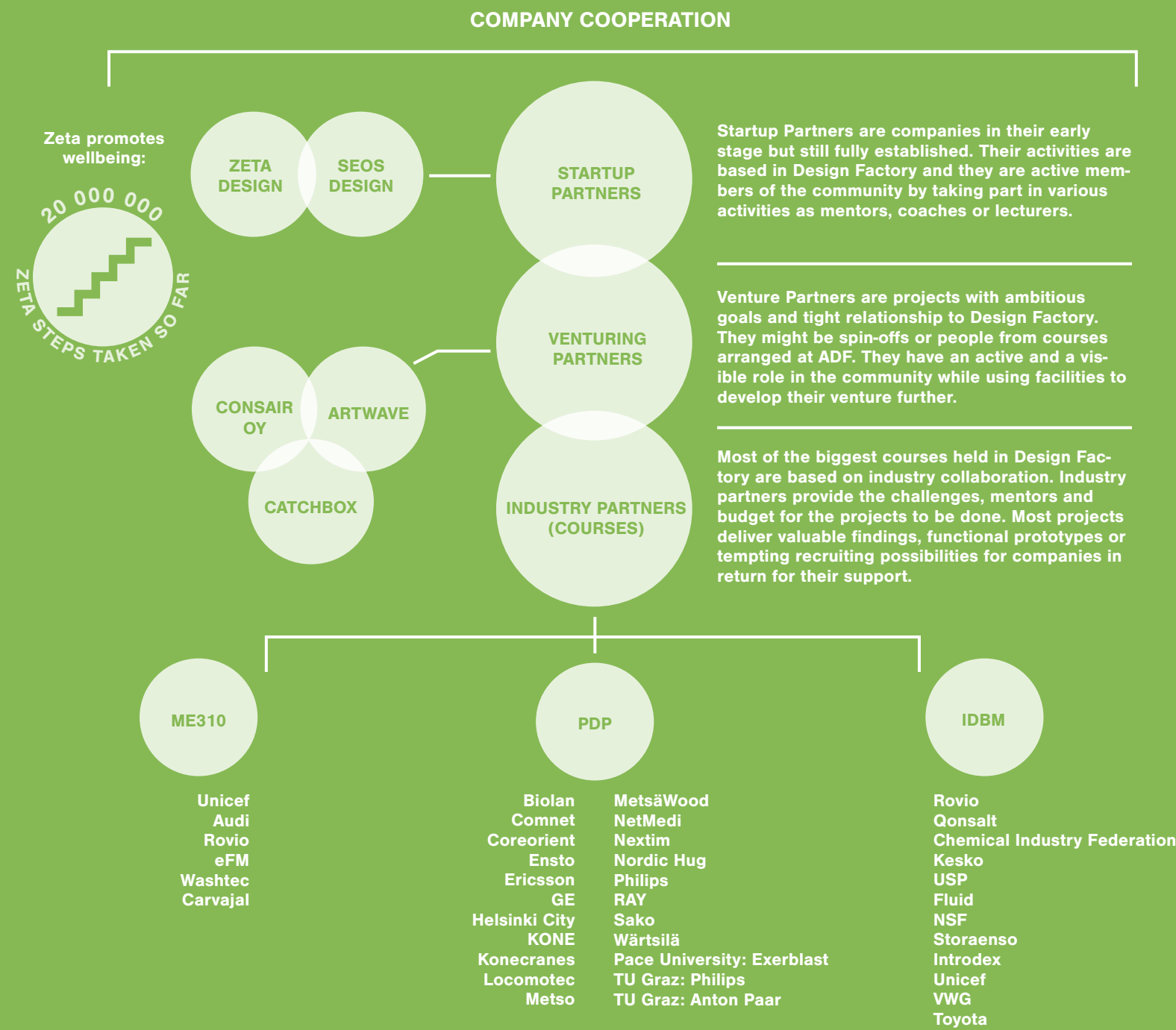
What we do: You know that Finland is a country of thousands of lakes. But no waves whatsoever, except in November during that freezing winter storm. On top of that, our shoreline is solid rock. Surfing is hardcore in Finland. Some say it is impossible. Some of us just do it. So we will create a wave from what we have been given (which is often nothing). Some say our project is impossible and unthinkable. Well, for us it is an irresistible call. The best project ever.

UKK - Uudet Koekäytännöt

During summer 2013, UKK (Uudet koekäytännöt) -project piloted digital exams in Aalto University. The project team (Juhana Suhonen, Antti Korpelainen & Oula Antere) built two prototype exam spaces, one in Design Factory and one in Arkadia, Töölö, where students were able to do exams at a time of their choosing. The project was initiated and funded by two Aalto University schools: School of Business and School of Science, while Design Factory provided the premises and lots of support for the project. The aim of the project team is to make digital exams a commonly used assessment method in Aalto University during the upcoming academic years.



COLORFUL LIFE INSIDE ADF



HOW DID YOU EXPERIENCE WORKING AT ADF?

“I liked very much working at ADF, it is something that I consider that every university should have, because you can learn a lot from other people by working there and sharing your experiences.”

“Freedom and responsibility go hand in hand there. It really works for me.”

“I think the way we worked as a team was more of something new for engineering and business students.”

“The people and the different working spaces create the atmosphere that encourages to experiment and be creative.”



Prototyping a bike center

The HoT Bike Center started as a PDP project, sponsored by the City of Helsinki. The challenge they wanted us to tackle was to develop further the existing Bicycle Center 1.0 in Kamppi, and to think about how Helsinki could be a better city for cyclists.

Helsinki on Tires

Our interdisciplinary team of nine students worked on this given problem, to design and develop the existing Bicycle Center further, during the course. After all the research, brainstorming, workshopping and prototyping, the result was our own version of the bike center, which we built at the Urban Mill. Urban Mill is a platform for co-creating urban innovations and is located next to Design Factory. This space permitted us to create an actual modular bike center, which demonstrates what elements this kind of service should have and how they can be organized in the space.

The center offers tools and a space for fixing your bike and a possibility to wash it. We wanted the space to also create a sense of community, that people would want to stay and hang out, while helping other visitors with their bikes.

The facilities, spaces and tools of Aalto Design Factory made it possible for us to try out different kinds of testing methods, for example organizing two bike maintenance events. The last one was organized a couple of weeks before the PDP gala, and it really was an ultimate test for our concept, as more than 100 people came to fix their bikes.

The end of the PDP course was fortunately not the end of the HoT project. Design Factory as well as the City of Helsinki were interested in continuing the cooperation and the development of the concept. Our HoT Bike

Center got to stay at the Urban Mill and I got myself a summer job working on the project. This included hosting the HoT Bike Center and planning how this concept could be implemented in a suburban area in Helsinki.

During the summer the Bike Center was open twice a week in the afternoons and it was promoted in the Aalto communication channels as well as in the Espoo local newspaper Länsiväylä. This way the center had different kinds of users – mostly students and staff of Aalto University, but also people from all over Espoo and Lauttasaari. Altogether the center was visited by 110 users by the 6th of August. Observing and talking to the users was a very important way to collect useful information for the development process of the concept. After all, the center was only the prototype we built for the PDP course, even though it can be used as an actual bike repair workshop.

Aalto Design Factory has been a great place to work on the project, as there are so many enthusiastic people who are willing to contribute with their ideas and problem solving skills. It felt natural to continue the project in the open and creative ADF atmosphere, as it also started there. What happens with HoT project next, it remains to be seen!

Veera Suomalainen
Bike Center Planner
University of Helsinki



A green-tinted photograph of a group of people in a professional setting, overlaid with white text. The image shows several individuals, including a man in a suit and tie in the foreground, looking towards the right. The background is slightly blurred, showing other people and what appears to be an office or conference environment. The overall tone is professional and collaborative.

Jungle Drum

Throughout the year, ADF hosts various different events, which are organized by different entities from Aalto University or by third parties in collaboration with Aalto. In addition, as a unique tangible university project, ADF also attracts visitors on a daily basis from all around the world. Visitors and events are something that can be seen in our physical venue but our societal impact goes also beyond the activities in the building – many projects are also done in co-operation with some of our partners in the Global Design Factory Network, which is a network of four Design Factories around the globe.

Jungle Drum -section is showing the wide-spread nature of the ADF story and impact in press, in visitors, in events, in invites, in travels and in social media. We have collected some of the main events, visits and co-operations, which should give an overview of the nature of the ADF safari, where there is constantly something innovative and new happening, and where you can't know whether you'll bump into well-known politicians or elementary school children on your way to Kafis.

This is about spreading the love and word about ADF.

Jungle Drum -section is showing the wide-spread nature of the ADF story and impact in press, in visitors, in events, in invites, in travels and in social media. We have collected some of the main events, visits and co-operations, which should give an overview of the nature of the ADF safari, where there is constantly something innovative and new happening, and where you can't know whether you'll bump into well-known politicians or elementary school children on your way to Kafis.



Picture by Mikko Raskinen

ADF staff impacting internationally

PALO ALTO
#RESEACRH COLLABORATION
#MEETING
#COURSE
#PROJECTS
#WORKSHOPS

MIT
#RESEARCH COLLABORATION

NEW YORK
#MEETING
#WORKSHOPS
#GDFN

MONTERREY
#MEETING
#PDP COLLABORATION

CALI
#COURSE
#PROJECT

VALPARAISO
#MEETING

SANTIAGO DE CHILE
#GDFN
#LAUNCH
#COURSE
#WORKSHOPS

CONCEPCION
#MEETING

São PAULO
#LECTURE

CANCUN
#CONGRESS

GLASKOW
#CONFERENCE

DELFT
#CONFERENCE

BRUSSELS
#SEMINAR

BERLIN
#DESIGN
#CONFERENCE
#PROJECT

VALENCIA
#CONFERENCE

MODENA
#COURSE
#PROJECT

STOCKHOLM
#COURSE
#PROJECT

GÖTEBURG
#CONFERENCE

OSLO
#CONFERENCE

PRAGUE
#MEETING

ESPOO
#GDFN
#INTERNATIONAL DF WEEK

TALLINN
#WORKSHOP
#MEETING
#CONFERENCE

WARSAW
#MEETING
#CONFERENCE

ST. GALLEN
#COURSE
#PROJECT

ISTANBUL
#WORKSHOP
#PROJECT

GENEVA
#GDFN
#PROJECT
#CERN

GRAZ
#PDP COLLABORATION

UGANDA
#COURSE

BEIJING
#RESEARCH
#COURSE
#STUDY TRIP

HARBIN
#MEETING

SEOUL
#CONFERENCE

KYOTO
#COURSE
#PROJECT

SHANGHAI
#WORKSHOPS
#GDFN
#COURSES
#EVENTS
#PDP COLLABORATION

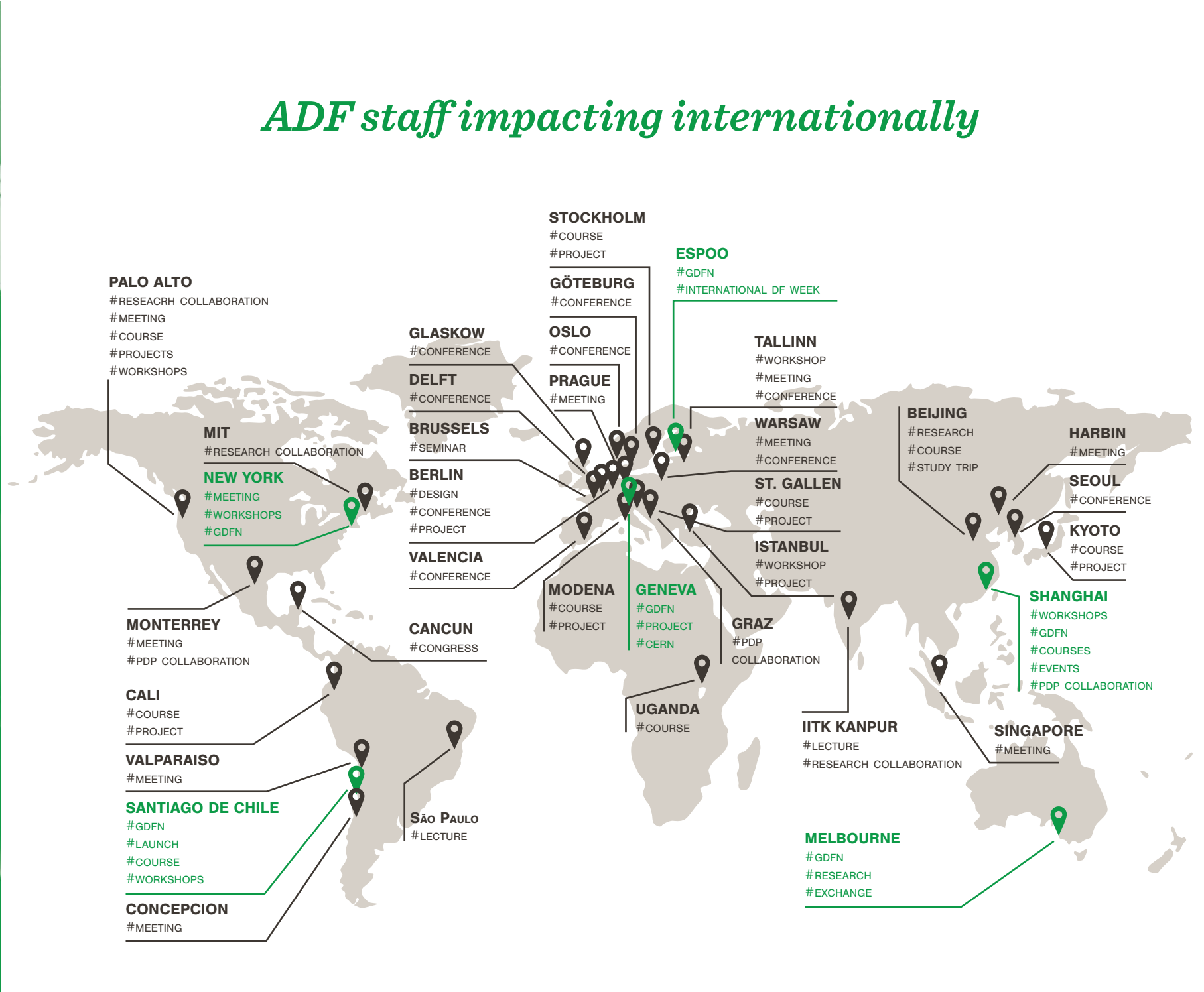
IITK KANPUR
#LECTURE
#RESEARCH COLLABORATION

SINGAPORE
#MEETING

MELBOURNE
#GDFN
#RESEARCH
#EXCHANGE

#GDFN = GLOBAL DESIGN FACTORY NETWORK

45



#GDFN = GLOBAL DESIGN FACTORY NETWORK

ADF IMPACT

ADF IN MEDIA

MENTIONS IN MEDIA

72

According to Aalto University's media monitoring



SOCIAL MEDIA PRESENCE



NEW FB LIKES

1200

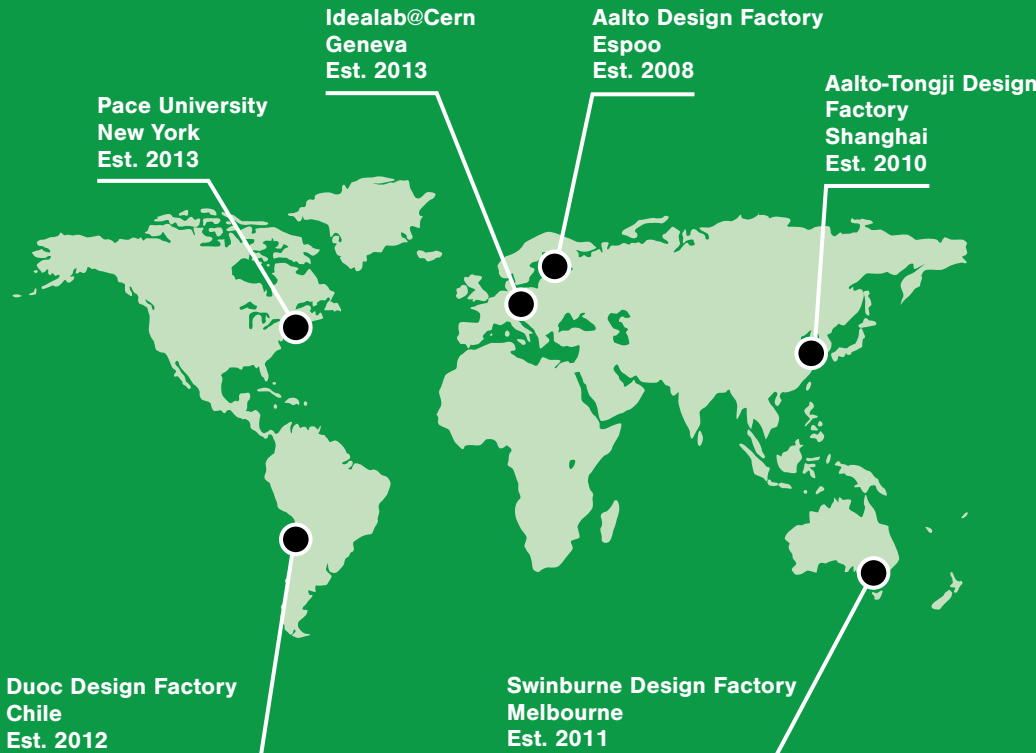


3802+ IN TOTAL

GLOBAL DESIGN FACTORY NETWORK

Research-based co-development, DUOC Design Factory visit:

As a part of the development of the newest member of Global Design Factory Network, DUOC Design Factory, six research-based workshops and open conferences were organized in Chile 6.-15.8.2013. The aim was to support the implementation of Product Development Project course to the local context, as well as to attract teachers towards the Design Factory concept. The workshops were related to DF ways of working, and product development education. The open conferences presented Aalto University, Design Factory concept, passion- and design-based learning, and ADF Opekumppani -program. During the week, a total of approximately 200 DUOC teachers participated to the DF activities. The DUOC activities provide a basis for further research on the pedagogical approaches of Design Factory.



OVERVIEW OF EVENTS AND VISITORS AT ADF

SEPTEMBER

Academic: Round Table for Entrepreneurship Education Conference
Event: British Embassy, Designing a People Centered Future
Event: Aaltoes Talk with Peter Vesterbacka

OCTOBER

Event: International Design Factory Week in Finland
Milestone: ADF 2.0 launch and 4-year birthday
Event: Aaltoes Build It. - hackathon

NOVEMBER

Visitor: Russian Prime Minister Dmitry Medvedev & Finnish Prime Minister Jyrki Katainen
Milestone: Launch of Design Factory in Duoc UC, Santiago de Chile
Event: Microsoft Faculty Day
Event: Project Managers Club, Top Seminar

DECEMBER

Milestone: Launch of Idea Lab in CERN
Academic: Product Development Project Christmas Seminar

JANUARY

Event: CTO Forum

FEBRUARY

Academic: Visiting lecturers Karen Farfan and Andrea Ordenes from Duoc UC, Chile

MARCH

Event: ADF Experience Day
Academic: Visiting professor Christine Thong from Swinburne University, Australia
Event: Nordic Sustainable Campus Network seminar

APRIL

Academic: Product Development Gala
Event: Aalto in the Game
Event: Veho Group, Mercedes Benz Press Conference
Visitor: Governors of Europe

MAY

Visitor: The President of the Republic of Finland Sauli Niinistö
Event: SomeTime 2013
Academic: ME310-course Sugar Expe
Event: Closing seminar of GRAFiT project
Academic: OpeVeivit 2013
Event: Aalto Strategy Case Competition

JUNE

Academic: "Mini-Paphos" Seminar
Event: Kone Oyj Technology Event 2013

AUGUST

Visitor: Mayor of Shanghai Yang Xiong
Visitor: Delegation of the Mayor of Hamburg
Academic: BEST course
Academic: Helsinki Summer School

57

REQUESTED TALKS BY ADF STAFF IN EVENTS OUTSIDE OF ADF

50+

VISITING INTERNATIONAL PROFESSORS & TEACHERS

Throwable Microphone for Audiences

The Catchbox (<http://thecatchbox.com>) is a soft throwable microphone meant for audience engagement. The soft wireless mic can be thrown around effortlessly and creates a fun way to involve audiences in a presentation or larger event.

The Catchbox

Catchbox has come a long way since its inception one year ago, when 4 students got together at the Kafis and decided to start a company.

Knowing each other through events and courses held at the Design Factory, each had already learned a great deal about product development and had come to love the thrill and excitement of being able to create something new. After some thought, the team decided the world needed a throwable microphone and that's exactly what they decided to do.

Expertise of people at the DF in usability and manufacturability can be a godsend

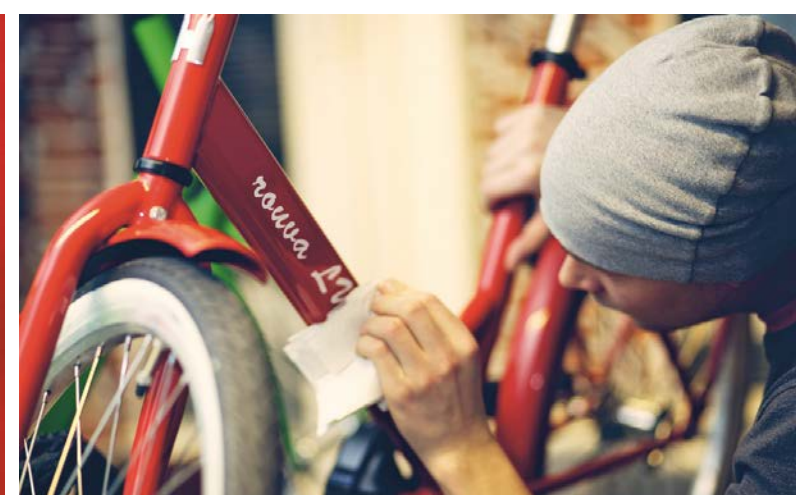
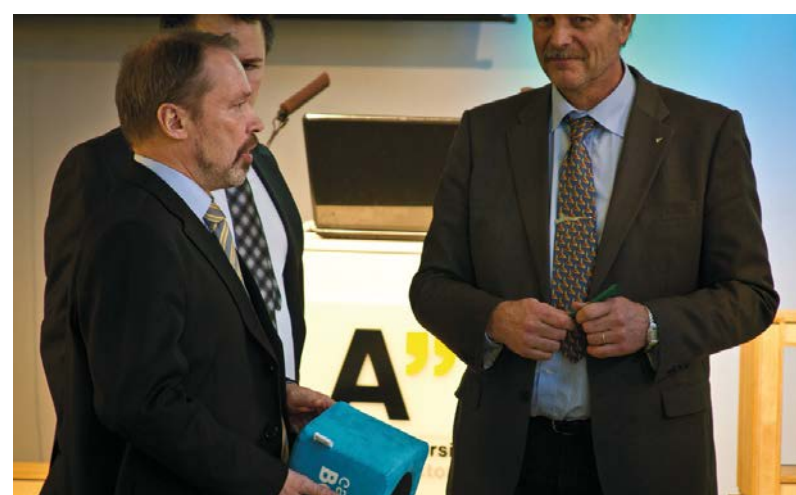
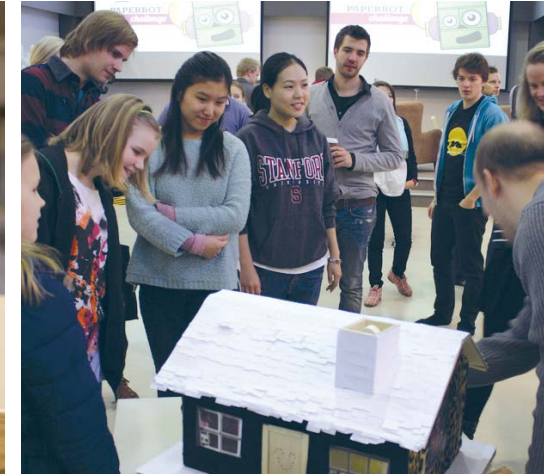
The task was in no way an easy one. The team spent months perfecting the concept, trying to understand what future customers wanted, and what the problem really was. This in turn meant building several prototypes and testing them out at different events at the Design Factory, getting lots of feedback on ways to im-

prove the user experience. Naturally, to build the early prototypes, Machine Shop, Puuhabunkkeri, and all the expertise at ADF came in handy. Not only would the tools, equipment and space be too costly for an early stage startup, but also the expertise of people at the DF in usability and manufacturability can be a godsend.

Now that the product has finally been produced, Design Factory has come to help out in another matter besides product development and testing; that of finding a global customer base. With dignitaries and business people from around the world visiting Design Factory, it has been easy for the company to spread the word and get customers from around the world excited about the product. This in turn has led to event organizers renting out the product for events in England, Germany and several other countries. The device was even used by the European Commission in Brussels, simultaneously being highlighted as a way in which universities can successfully nurture and help startups.

Timo Kauppila
The Catchbox





Final words and thanks!

This year we did things a bit differently and we must say it wasn't the easiest road. We wanted to show you the impact of ADF, the variety of the activities and nature of everyday life in forms of data, facts, figures and numbers, and started from the point where we had almost nothing quantitative, only lots of qualitative data. This is the challenge we accepted and we wanted to show that at least a part of all the chaotic and awesome activities at ADF can be quantified and visualized.

We hope that this publication serves as a tool for anyone who wants to justify and explain the purpose of ADF. We also hope that we can learn for this process and begin to figure out what are the relevant ADF metrics that tell about the everyday life and success in the best way. In addition to the wonderful cases and examples, which come out in this dynamic environment, we would like to see more quantitative data which would clearly show another viewpoint of the ADF life.

Even though we worked as a team throughout the project, we couldn't have done this without the help of the wonderful ADF community! Big thanks to everyone who helped us by answering the questionnaires, the ADF staff who provided us with additional data, the President of Aalto University Tuula Teeri who provided her insight, everyone writing news, stories and case descriptions to the publication, ADF based researchers, and last but definitely not least our dear Eetu, who never stopped believing in our different and long-lasting project.

With love,
The Power Duo Tuuska & Make, also known as Tiina & Maria

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