

A!

**Aalto University
Design Factory**

AALTO

DESIGN

FACTORY

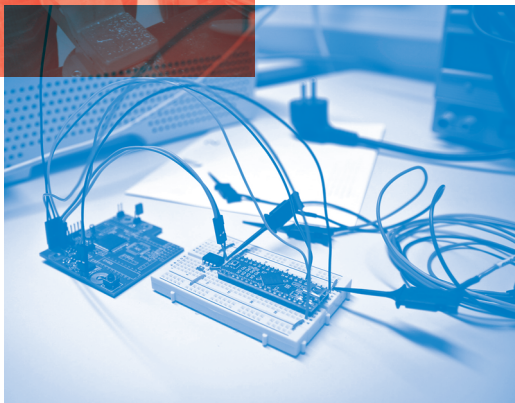
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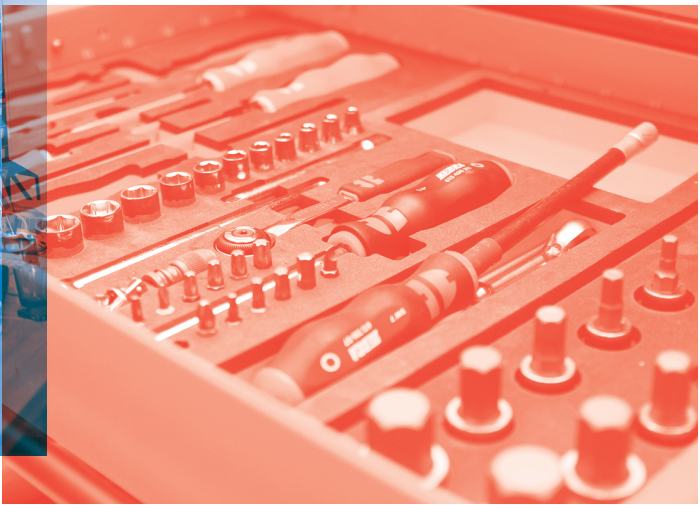
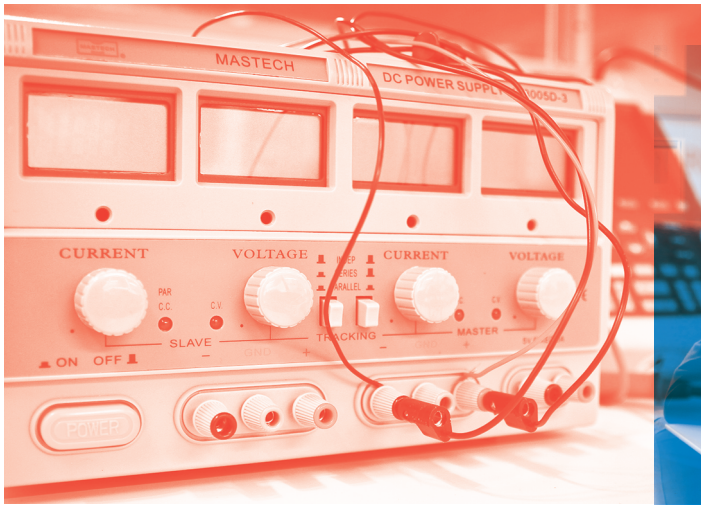
REPORT

2010

/

2011







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Dear Reader,

The most important message of this annual report is that Design Factory is an experimental co-creation platform for every single person of the Aalto University community, as well as for its partners. The only constraint is that the actions taking place here should promote better learning, better research, or better interaction between the university and the society. If you have such a dream, our passion is to help you in its implementation!

As usual, the report is designed and produced by our students. To capture all that hard work, the moments of insight, pressure, warm feelings, care, disappointments, learning, love and fun in one report really is 'mission impossible' – and once again it is accomplished by Aalto students. You are always welcome here, and the Design Factory taskforce can also come to you in order to co-create hands-on solutions for a better university.

All you need is love, design, engineering and business,

Kalevi "Eetu" Ekman

PROFESSOR
FACTORY DIRECTOR



**Aalto University
Design Factory**



AALTO DESIGN FACTORY

is

A PHYSICAL AND MENTAL SPACE,
DESIGNED FOR SUPPORTING
INTERDISCIPLINARY LEARNING
AND CO-CREATION

A PLATFORM FOR EXPERIMENTS
IN INDUSTRY-UNIVERSITY
CO-CREATION

A TEMPLE FOR EXPERIMENTAL
PROBLEM-BASED LEARNING FOR
BETTER LEARNING OUTCOMES

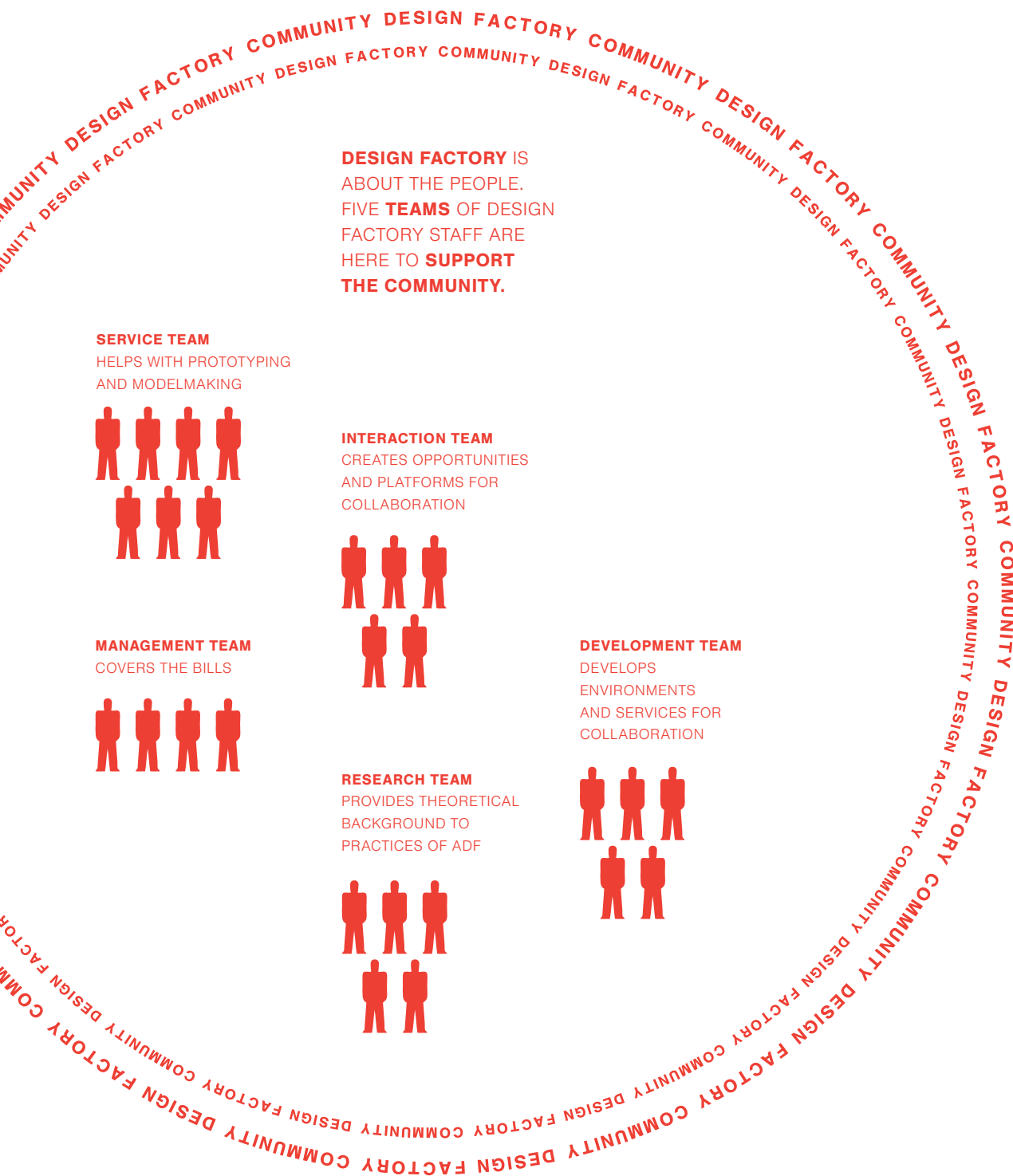
One of the three

Design Factory is one of three interdisciplinary platforms of Aalto University. Service Factory is located on the Töölö campus and Media Factory in Arabia.

A dear child has many names

Aalto University Design Factory
Aalto Design Factory
ADF
DF
DEFA





”

Design Factory is not just a working place; it is a community, a kind of family.



Design Factory Family

Design Factory is a great place, where you can learn so much from the people who study and work here, (and those who practically live here!). The people here are exceptional; you find gentle, passionate and dedicated people who will help you with any situation. Design Factory has been developing every single day and it feels good to be part of it. Later I can look back on the years and remember all the changes there has been, and how I took part in them.

Here I have learned a lot from different projects and colleagues. Sometimes you might think things won't work, but in the end they do, even if it had seemed almost impossible. The attitude people have makes it possible. Design Factory is not just a working place; it is a community, a kind of family.

You need many skills to work at Design Factory, but some things you should always have in mind are to be friendly, open minded and ready to work like crazy when it is necessary. You also need to be ready to give and receive hugs and love. A hug is always very important at Design Factory.

Sergio Hincapie

TECHNICAL ASSISTANT
AALTO DESIGN FACTORY

76

NUMBER OF DIFFERENT
NATIONALITIES AT
DESIGN FACTORY



”
*best part has been all the
random and less random
people I have met*

Coffee machine talk

The first year of IDBM master program was really intensive and I got to know a lot of new, awesome people by spending most of my waking hours with them. We had lectures around all of the Aalto campuses, but looking back on the year I realized I had spent most of my days in an old VTT research facility somewhere on the outskirts of Otaniemi. This might not sound so glamorous at first, but after four years of mass lectures in the TKK main building, trying to find my way in Arabia and looking for a working printer in Töölö, I have come to really appreciate the awesome settings Design Factory actually has to offer.

Of course working printers, cozy meeting rooms and big piles of building material are awesome to have freely available 24/7, but the absolutely best part of Design Factory has been all the random and less random people I have met there during the year. Talks around the coffee machine have given a lot of good ideas for school projects, helped me to find an awesome apartment and even taken me on a train trip through Siberia.

Joona Kurikka

STUDENT
AALTO SCHOOL OF ENGINEERING
IDBM

202

CUPS OF COFFEE, TEA AND
HOT CHOCOLATE CONSUMED
ON AN AVERAGE DAY

THE ANSWER KEY: b, a, b, b, b, b, a, a, a, b

Design Factory Trivia Quiz

Answer the questions to find out what the mission of Design Factory means in practice

DESIGN FACTORY IS

- a Only open during office hours
- b Open 24/7

DESIGN FACTORY

- a Is a place where international students can easily fit in
- b Will only accept English speaking people by formal application

DESIGN FACTORY IS IN OTANIEMI, SO IT IS

- a Only for engineers
- b The gateway for designers and business students into the new main campus

AT DESIGN FACTORY

- a We worship authority and detailed instructions
- b Everyone shares authority and responsibility

AT DESIGN FACTORY YOU

- a Are not allowed to talk to strangers
- b Must talk to strangers

IF YOU DO NOT KNOW WHAT YOU ARE DOING

- a Do it somewhere else
- b Ask for help

IN THE CORRIDORS OF DESIGN FACTORY YOU CAN

- a Bump into creative business people
- b Only see closed office doors

THE NAME IMPLIES THAT DESIGN FACTORY

- a Covers a wide variety of design perspectives
- b Is only for designers

DRINKING COFFEE IS

- a A recommended activity at Design Factory
- b Frowned upon as a bad excuse for slacking off

QUICK AND DIRTY IN PROTOTYPING MEANS

- a Taking the easiest way out
- b Succeeding sooner by failing faster



SPACES

Defining what Design Factory is or even what it looks like is a challenging task, because everyone experiences Design Factory in a different way. Design Factory's 3500 square-meter physical and mental environments are constantly under development and will never be ready. The physical environment accommodates people from diverse backgrounds and facilitates events that can be almost anything, from seminars and workshops to wine tasting, brainstorming or even falling in love. The idea is to support and develop new ways of working for the creative information society of the 21st century. We also think that work should be fun, that is why we are constantly trying to bridge the gap between work and leisure. Come and experience it for yourself, and form your own definition of what Design Factory is.

12400

VISITORS 2010 – 2011

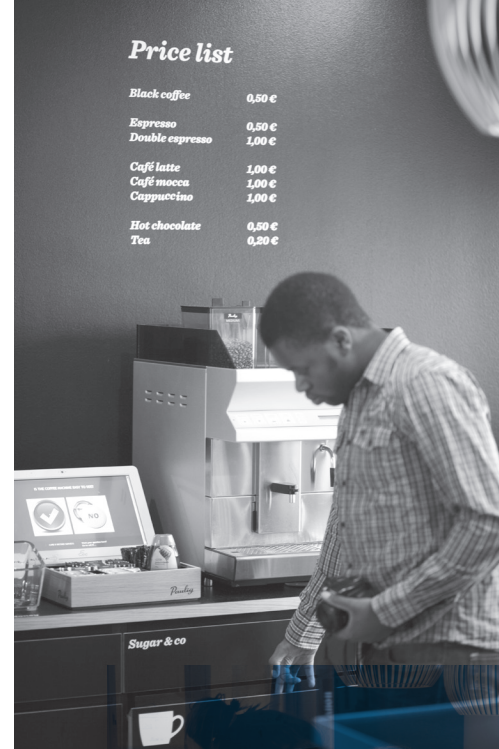


CAFE + OFFICE = KAFIS

At Design Factory we have researched how and where individuals work, meet new people and share information. They are more exposed to and willing for encounters, discussions and networking during coffee breaks. During brief face-to-face discussions, people make decisions more quickly and share information faster than using traditional communication tools. Without spontaneous meetings with strangers, it is hard to pass on tacit knowledge or to even know what other people at work are doing. The Kafis work-space concept is developed just for this purpose - making people more accessible.

In 2011 the concept, which had been in development for three years, saw daylight. Kafis provides our co-creation partners, Paulig, Vallila Interiors and Powerkiss, a testing environment for new products, services and tools. For example, the usability and quality of new Paulig coffee machines are being tested while the best places and activities for wire free charging is being researched.

Kafis integrates technology, services, moods and activities into one physical space. Everything is designed around coffee, people, cooking, relaxing and idea exchange. The space has 24/7 video windows to ATDF and Aalto Venture Garage. 'Let's meet over a cup of coffee' has now a completely new virtual meaning. The Kafis concept will be developed for commercial use during this year. Until then, come give and receive hugs at the Kafis in Design Factory.





NEW SPACES AT DESING FACTORY

The biggest development project of the year was the Kafis spatial and service concept, but also other exciting refurbishments were executed around the premises. Fun and inspiring computer rooms and meeting spaces with different themes and functions were implemented during the winter.

The re-designed lobby supports more working, hosting, interaction and exhibitions. Besides spatial development, IT-related developments were tested and executed during the year.

The new IDBM Corner in Venture Garage was created with the objective to give the student teams their own space to work on their industry projects, have company meetings and storage space. The IDBM Corner has been a great success with the students and staff, and it is in constant use. The corner was created based on ideas a team of IDBM students created after organizing co-creative workshops and an idea competition for the IDBM community.



81

NEW COFFEE CUPS
STOLEN IN 5 MONTHS

”

One of our key goals is to support the sharing of ideas and knowledge within an organisation.



Experimenting for opportunities

As a designer at Design Factory it's vital to have a deep-seated interest in the design process as a whole, and a weird sense of humor! These two things are the common points that tie our team together.

Working at Design Factory is always a challenge. In the Development Team we always strive to broaden our approaches to the problems we face by adopting a wide gamut of working methodologies; experimentation and pushing ourselves beyond the borders of our comfort zone is just one way in which we do this.

In order to support the Design Factory community, its visitors, students, researchers and industry professionals, we are constantly conscious of the need to expand our skills and expertise. The reward for this diligent approach to spatial development is an environment in which a wide variety of differing user needs can be easily catered for, whilst providing the flexibility for expansion where required.

One of our key goals is to support the sharing of ideas and knowledge within the organisation. This goal is evident in the opportunities we have created around Design Factory – harvesting tacit knowledge and connecting projects, organizations and people.

Iina-Karoliina Välilä

GRAPHIC AND SPATIAL DESIGNER
AALTO DESIGN FACTORY



” *just do it,
apologize later*

DIY (do it yourself) advice

Many visitors have asked me during the ADF tours: how could they have something like this at their office? They say that work would be more interesting and productive if they could do some spatial modifications. The fundamental question is why do we come to our workplace. To meet people, try out ideas, ask help or seek comments from our colleagues. However, 95% of normal office space is not designed to support any of this. Vice-versa, breaks are still monitored and people can't concentrate due to disruptions in open offices. Many seek privacy in home offices or cafeterias, making it even harder to interact. So change is needed, but where to start?

Change takes time and there is always resistance – so be patient, but start something small now. Getting started is hard, so start with a small meeting room, break area or an empty storage space, which doesn't belong to anyone. Do it outside office hours, and only do one space at a time. Invite people to use, feel and try the re-designed space. If they don't like the re-design it can always be returned to how it was. Fortunately, this rarely happens. After a successful small experiment it is easier to start larger modifications. My last advice for kick-starting your small re-design process is easy: “just do it, apologize later”.

”Esmi” Santamäki

CHIEF OF SPATIAL DESIGN
AALTO DESIGN FACTORY

225

TOURS GIVEN AROUND
THE PREMISES

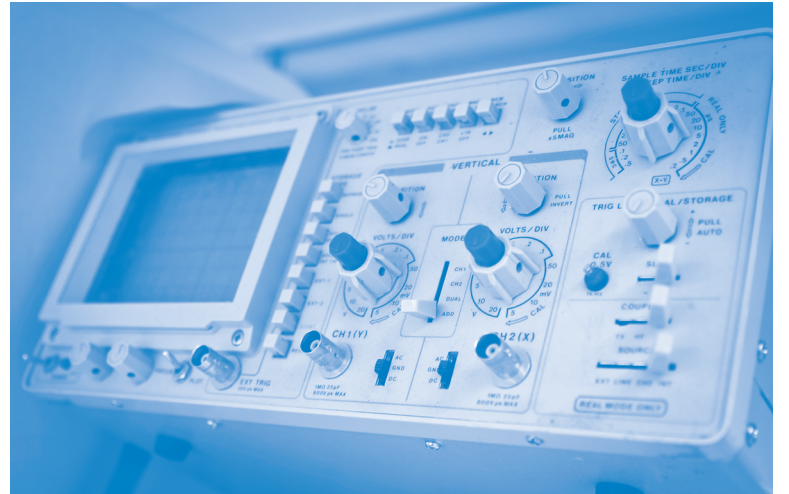
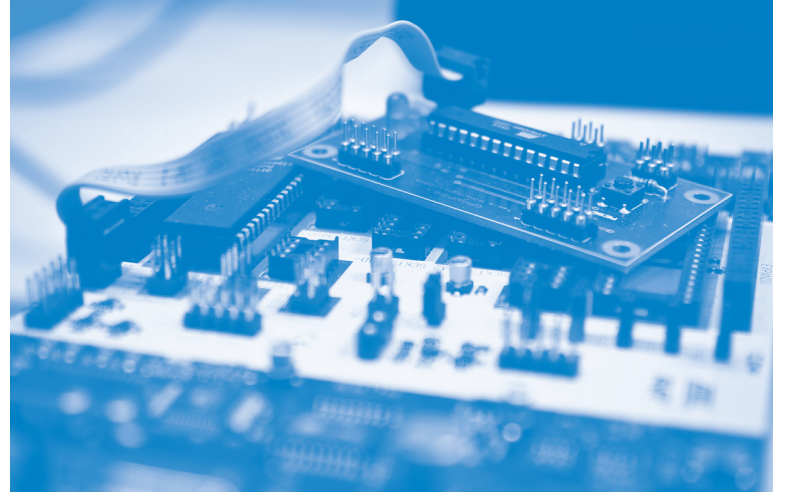




LEARNING

PASSION-BASED LEARNING

Throughout the year, Design Factory's hallways and working spaces are filled with passionate students having fun while working hard in their numerous academic fields. We encourage all students to challenge themselves in an interdisciplinary environment, have the guts to try new things and let ideas fly. Students are given easy access to materials, equipment, spaces and talented people in order to realize their visions through prototyping, as well as opportunities to experience autonomy, mastery and purpose – the crucial blocks of intrinsic motivation. Both interdisciplinary and subject-specific courses of Aalto University hosted at Design Factory aim at provoking child-like curiosity, independent thinking, and problem-based learning. On the other hand, by providing teachers the opportunity to get to know and experiment with the Design Factory ways of teaching and learning, we help to spread a new passion-based learning culture throughout Aalto University.



1756

HOURS SPENT USING
CNC MILLING MACHINE

”

I can't think of any other place where students keep smiling after doing a couple of 16-hour working days in a row.



Design Factory spirit

PDP really represents what Aalto University and Design Factory is all about – interdisciplinary and international teams working together on a challenging project, in collaboration with the sponsoring company and different experts from the university. PDP is a great opportunity for students to learn from their team members, but also from the members of the other teams, the project sponsors and the university staff. The Design Factory spirit encourages the students to be active, to ask questions and to challenge the traditional working methods. What surprised me was the Design Factory users' great willingness to help each other, for example by attending user tests, solving problems or having brainstorming sessions together. This spirit combined with a great environment and spaces makes Design Factory the perfect place for PDP. I can't think of any other place where students keep smiling after doing a couple of 16-hour working days in a row, which happened to many of us during the last weeks of the PDP.

Justus Reinikainen

STUDENT
AALTO SCHOOL OF ENGINEERING
MACHINE DESIGN



Courses at Design Factory

PRODUCT DEVELOPMENT PROJECT

The interdisciplinary Product Development Project (PDP) course is aimed at students of engineering, industrial design and marketing who are interested in product development of investment or consumer goods. The intensive one-year course entitles completing a project sponsored by manufacturing companies, who search for innovative cooperation with the next generation of product developers.

In 2010–2011, altogether 15 student projects were successfully completed. Participants included students from all Aalto schools, but also from the Indian Institute of Technology Kanpur, Munich University of Applied Sciences, Tongji University, Tallin University of Technology and Kungliga Tekniska Högskolan.

PARTICIPANTS **141**
CREDITS **10** ECTS
COMPLETED PROJECTS **15**



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...at times it felt like we lived at Design Factory, but that's the best way to experience the true power and possibility of the building



Intensive experiences

Taking ME310 was easily the best decision of my entire academic career. The course was extremely challenging yet rewarding, academic yet deeply social, and the sheer talent and passion of the teaching staff was without equal. Professionally speaking, the opportunity to network with the Stanford University community was priceless, not to mention the exposure to global brands and their exciting new product innovations that reach your hands before many others in the world. On my project we truly felt like product development partners with our client UPM — a level of closeness that I have otherwise found difficult to reach while in an academic environment. For us in the course, emerging from our long 9-month journey we weren't just classmates, we were family. And sure, at times it felt like we lived at Design Factory, but that's really the best way to experience the true power and possibility of the building — our “DEFA” served us well!

Tuomas Sahramaa

STUDENT
AALTO SCHOOL OF ECONOMICS
IDBM

Courses at Design Factory

STANFORD ME310 – GLOBAL TEAM-BASED DESIGN INNOVATION

Mechanical Engineering 310 (ME310) is an interdisciplinary course for master-level students from all Aalto schools. During one academic year the course teaches the students how to use the Stanford / IDEO design process in product development. Teaching is heavily 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. The final proof-of-concept prototypes were featured at Stanford EXPE Design Experience in June 2011 in California. Design Factory was the home base for the course's Finnish students.

PARTICIPANTS **18**
CREDITS **25** ECTS
COMPLETED PROJECTS **5**

855

HOURS SPENT USING
CNC TURNING LATHE



Courses at Design Factory

INTERNATIONAL DESIGN BUSINESS MANAGEMENT (IDBM)

IDBM program develops world-class expertise in global design business management through interdisciplinary research and learning that cuts across the areas of business, design and technology. The core of the IDBM program is a 9-month project. Within the industry project an interdisciplinary team of 3-5 students addresses problems related to the marketing operations, product development, logistics and/or design operations of a corporate sponsor. It permits students to engage in practical work utilizing their own skills and expertise.

During the academic year 2010–2011 the IDBM program offered a two-year Master's Program for the first time, organized three 'bottom of the pyramid' -development projects in Vietnam, India and Brazil, and made a double degree agreement with Tongji University in China. To celebrate the 15th anniversary of IDBM, Inspire 2011 was organized by current students. 300 people took part in the seminar, which included presentations, workshops by sponsoring companies, the official celebration and recognition to Markku Salimäki for 15 years of running the program.

INDUSTRY PROJECTS **13**

MASTER STUDENTS **31**
CREDITS **120**

MINOR STUDENTS **30**
CREDITS **6–15**

”

I have never enjoyed school as much as I have this past year in the IDBM program.



Expertise made fun

After completing my first year of master's studies, the IDBM program has provided me with a year full of notable learning experiences and valuable friendships and contacts. Coming from a business background I have been able to develop the knowledge and skills that professionals require for a rapidly evolving business environment.

The IDBM program and Design Factory offer an interdisciplinary learning environment, which allows for students to thrive and go beyond the limits of business, design, and technology as separate fields of study. More specifically, not only did IDBM allow me to put my knowledge into practice through industry projects which allowed for interaction with professionals in diverse organizations, but also enabled me to encounter new schools of thought while studying and working along with my fellow classmates. I have never enjoyed school as much as I have this past year in the IDBM program and at Design Factory, and the best part is that I was gaining new knowledge and skills each and every day!

Mari Terrio

STUDENT
AALTO SCHOOL OF ECONOMICS
IDBM

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The ability to share knowledge is one of the most rewarding features.



Sharing ideas

I came to Design Factory looking to develop my pedagogical skills. With the help I have received from Maria and the Opekumppani program, I've been able to get a lot of new ideas. Outside support and talking to like-minded people about my ideas helps me to grow as a teacher. Here I can try out new things and get instant feedback from colleagues and students alike.

What is great about Design Factory is the people. The community and the atmosphere of closeness and familiarity are amazing here. The ability to share knowledge, and I want to emphasize that it flows in all directions, is one of the most rewarding features. An idea is nothing if you're by yourself, but when you can share and develop the idea with others, it can become something great.

Tapani Honkavaara

ASSISTANT
AALTO SCHOOL OF ENGINEERING



MORE AALTO COURSES AND PROGRAMS 2010–2011:

Aaltoliike

Business Modeling and Management

Collaborative Innovation Management

Creative Sustainability

Doctoral Course in Innovation

GIS Application Development

Global Sustainable Technologies

Innovation and Project Management

Interaction Design and Evaluation

Interdisciplinary Product Development

MIND course – License to Act Differently

Product Development -course (Tuotekehitys)

Prosessiteollisuuden mikrobiologia

Strategic User – Centered Design

Theories in IDBM

Visualization of Geographic Information



BUSINESS

PARTNERSHIPS

One of the fundamentals of Design Factory is co-creation with companies. Design Factory is a platform where we support companies to make the most of the potential the co-operation with Aalto University offers. On the other hand it enables the university to gain knowledge and strong partners from industry. Design Factory is working closely with big international corporations to small start-up companies. Partners are selected according to their motivation for close collaboration and the mutual benefit potential within the vast community in Design Factory and Aalto University.

KONE

KONE Corporation, the global manufacturer of elevators and escalators, is a strategic partner of Design Factory. Using their own office as a home base to create a presence in the community, this academic year KONE sponsored two student projects, one for PDP and IDBM each. Design Factory and ATDF operated as a bridge for innovation in two continents as the IDBM project was partially conducted in China. KONE continued to make good use of the facilities for their own internal and international events, meetings and workshops. In addition, the Design Factory space has inspired KONE to transform some of their own working spaces in Keilaniemi.

ZETA DESIGN

The most recent addition to the list of companies is Zeta Design, which joined the Design Factory community during the academic year 2010-2011. Zeta Design develops and provides innovative stair models for residential and office use. Zeta stairs and handrails represent Scandinavian design and elegant structure. The Zeta value chain is optimized to provide the business and end-user customers with exceptional service. Design Factory provides Zeta Design an environment that enables them to develop a product and service offering that clearly stands out. In the summer 2011 Zeta Design contributed to the new lobby design. All are invited to collaborate with Zeta Design in Design Factory!

BRAVO MEDIA

Bravo Media and Higher Education Consulting (HEC) worked mostly in Higher Education export and co-operation related issues during in 2010-2011. The main focus area for HEC was in Persian Gulf and in creating future concepts for joint long-term education collaboration with universities and universities of applied sciences in Finland, Nordic countries as well as from the Gulf region. Bravo Media's main emphasis was in serving and taking care of gigantic national technology based projects for several national associations. The collaboration with Design Factory was especially important in creating learning-based concepts for the next generation's higher education. Love will give the answer!

SEOS DESIGN

2010-2011 in Seos Design was very interesting, yet challenging as international product development always is. The year has been full of different kinds of projects, revolving around the broad field of product development. Seos projects have varied from product to retail design, through furniture to concept design, all the way to ephemeral architecture. Also design research, something Seos have always had special interest in, has been on the menu together with product development related workshops.

Last year Seos became increasingly international. During the year around 20 different projects were conducted in countries as varied as Finland, Sweden, Germany, Italy, Spain and China. Seos strongly believes that this great variation between different focus areas of design, together with rich cultural blend has always been one of the strengths of the company. This mix allows expressing the cumulated 20+ years of work experience in the international arena and helps to face and respond the challenges clients present.

HOKIE TECHNOLOGIES

Hokie develops physical activity monitoring services for the wellness markets. The services are based on automatic tracking of human activities. Physical activity is converted into activity points in web or mobile applications that create fun and valuable benefits for users. Activities can easily be shared in social media. The technology is based on an IPR and research conducted at the VTT Technical Research Centre. The business idea was developed during a student project in the Global IPR Realization Race -course in Aalto University in the spring of 2009 and the company was established in November 2009.

In September 2010 Hokie moved to Design Factory. Working prototypes of the activity tracker were built during the fall term, and soon after the first functional version of the service was available. During the winter of 2011 Hokie conducted usability and user experience research with Aalto University around the product concept. The first service is in beta testing and will be launched in the fall of 2011.



” *The staff has been able to save us from many detours in our product development.*

A company's perspective:

Hookie has enjoyed residing at Design Factory because it has an encouraging and innovative atmosphere, as well as comfortable spatial solutions. And of course the amazing people need to be mentioned, who when needed offer help on any topic brought to the table, and often on other topics as well. Our company has benefited from being located at Design Factory especially in hardware development and the ability to use the prototyping facilities and tools. The knowledgeable staff working here has been able to save us from many detours in our product development. Being a member of the Design Factory community also gives us access to other opportunities Aalto University offers in terms service and business model development.

Teemu Haapala

DIRECTOR OF
PRODUCT DEVELOPMENT & FOUNDER
HOOKIE TECHNOLOGIES LTD



” *Murjottelu offers companies fresh and dynamic ideas as well as new working methods.*

Summer trainees for companies

Murjottelu is an interdisciplinary trainee program of Aalto University organized by Aalto Career Services. It has been run since 2004 and more than 200 students have been offered an internship through the campaign. It helps companies to recruit the most suitable trainees and students to find challenging internships in their own field of study. The internship takes place in a company as part of a working team consisting of two or more students from different fields of study – business, technology and design.

Murjottelu combines the knowledge and expertise of Aalto students, offering companies fresh and dynamic ideas as well as new working methods. By hiring a team of interdisciplinary interns, instead of just the usual engineer, the value increases exponentially. The students participating have a chance to work with challenging tasks and gain valuable work experience. Students also get to convert theory into practice while working in an interdisciplinary environment. Murjottelu is a valuable and unique working experience both for the students and the employers!

Riikka Kiljunen

MURJOTTELU COORDINATOR



RESEARCH

In the spirit of bringing together different disciplines and parties, part of the Design Factory community backbone is made up of a number of academic research groups and projects, each with their own specific research interests, academic backgrounds, and methodological approaches. In addition, Design Factory's own interdisciplinary research team, DFRT, aims at providing a theoretical background for the practices and development of Design Factory.

The working environment and spatial arrangements of Design Factory encourage fruitful informal collaboration and knowledge exchange across the boundaries of research groups of varying interests. Furthermore, all parties engaged in research activities are encouraged not to limit themselves only to the research community, but to embrace the co-creation opportunities offered by the community at large. The tradition of visiting international researchers and professors' "hot-desking" at Design Factory continued, further coloring the research landscape.

”

*having the passion,
guts, and knowhow
to cross boundaries*



Design Factory Research Team

Design Factory's own research team, DFRT, explores the central ideas of the Design Factory philosophy, supporting the development and transfusion of the passion-based co-creation and learning platform. During the academic year 2010–2011, DFRT conducted three major longitudinal studies within the ADF community with start-up companies as well as with student groups in the PDP and ME310 courses. Knowledge and experiences drawn from the research on the practices and perceptions promoting development were translated into practice in several different types of workshops and training organized for participants ranging from students and faculty at Aalto to Finnish product development professionals and Tongji University teachers in Shanghai.

The knowledge has also been transformed into pedagogical development concepts, and the implementation of these concepts feeds data to further research. ADF Opekumppani has been running for over a year, bringing a total of 15 courses to Design Factory. The program continues next year and welcomes new teachers interested in the Design Factory approach to teaching and learning. ADF Opefoorumi has been widely recognized at the Aalto University as an informal, participant-oriented way to encourage and support pedagogical co-development across different disciplines. The forum is going to continue next year as a central part of the new Aalto Teachers United network.

DFRT 2010-2011 in numbers:

*5 contributors representing 5
different academic fields*

Roughly 200 research interviews

*Around 20 academic papers in
development of which 9 published*

Over 30 workshops and events

*8 theses instructed, 2 teams
mentored in the ME310 course*

Linking theory to practice

My work is all about transforming academic knowledge into practice that in turn feeds further academic research. Developing new ways to communicate the research-based phenomena behind Design Factory, such as transformational learning, co-creation, and design thinking, benefits the wider Aalto University community. For me, linking theory to practice means eagerness to learn and adapt new knowledge, as well as having the passion, gut, and knowhow to cross boundaries when developing new practices in order to reach the next iteration round. Design Factory as a physical and mental environment provides an inspiring and loving test bed for the continuous dialogue between theoretical knowledge and developmental practices.

Maria Clavert

DEVELOPER, RESEARCHER
DESIGN FACTORY RESEARCH TEAM

212711

PRINTS AND COPIES MADE
AT DESIGN FACTORY

Product Design Research

Product Design Research group (PDR) focuses on product design and development activities in a wide perspective, the main emphasis being various aspects of integrated product development hosted by the department of Engineering Design and Production at Aalto University School of Engineering.

During the last year PDR's main focus was on three projects. Intelligent Monitoring focuses on health care technology and PDR's role is to bring user centered perspective into this project by facilitating workshops for project's other stakeholders. Creative Practices in Design (LUTUS) examines creative practices and their foundations in design. The project also aims to generate an impact in education by identifying approaches for universities to educate creative professionals to better meet their upcoming challenges. High Added Value Products in Demand Driven Business Model Development (InnoBusiness) is a large national project developing a system that helps firms to find new business opportunities and develop new products and services.

In 2010-2011, the following research groups and projects gave their contribution to the Design Factory community:

Inuse

Innovations and Users Research Group is a cross-Aalto University research group. INUSE creates in-depth knowledge on the role of users in socio-technical change. The group studies lead users, user-centered design, user experience and crowdsourcing, and the main interests go some steps further: user and designer practices, user innovation communities, and pathways of user innovativeness. Members at ADF engage mainly in three complementary cases: pathways of user contributions to innovation in the evolution of social media site, pathway of user-led innovation in producer-led organization and pathways of user innovations in greener energy generation and consumption.

Innope project from 2009-2010 continued and while testing Lead User Method in redesigning YLE's online resource portal for schoolteachers, five lead users were successfully identified. Using a modified version of the Participatory 3D Modeling method, a new concept was created and is currently implemented by YLE. The case continues at Inuse.

4D-Space

4D-Space project of the Multidisciplinary Institute of Digitalization and Energy researches and develops new types of services for the retail industry and opportunities to involve customers in the development processes. One of the aims of the project is to develop an application to monitor the flow of people in shopping malls. The applicability of different sensor technologies were investigated by testing nine different motion sensors at Design Factory in April 2011. Simultaneously, 4D Space develops software solutions for services that can be built on the smart indoor spaces. UbiqCloud is a cloud-based software solution, which aims to provide a platform that can be used by all the stakeholders in shopping malls. Social media is tightly linked in the projects. FeedThroat aims to provide retailer independent shopping assistance for customers through social media and user generated data. The two linked projects have been developed in spring and summer 2011 and beta testing begins at the end of the summer. Two master's thesis have been written as parts of the 4D Space project.



MIND – Managing Industry – Changing Innovations

MIND is a project of the multidisciplinary Decode Research Group. It is a national venture that builds a prototype of a world-class innovation mechanism by bringing together the 'movers and shakers' of the public and private sector with researchers and students to generate strategic innovations.

In September 2010 MIND organized a big seminar in Design Factory, focusing on strategic innovations and innovative concepts. In addition to several extensive research projects (the largest being Serve-MIND and Act Out of the Box Center) and seminars, MIND also presented the message on its multidisciplinary course, on hundreds of lectures and presentations as well as in education programs. During academic year 2010-2011 MIND had 15 academic publications.

MIND has licensed almost 1000 Agents with the License to Act Differently – creating innovations and truly new value requires not only thinking but also acting outside the box. MIND also participated in setting up Climateinfo, which helps city residents to reduce their carbon footprint, organized tens of gyms for companies and organizations in Design Factory and in August 2011 also the first Soita Mummolle Day (Call your Grandma) was held in Helsinki. Soita Mummolle campaign was first created in a MIND project and then taken forward by MIND researcher Stefania Passera. To read more about the MIND philosophy and strategic innovations, read Anssi Tuulenmäki's book *Lupa toimia eri tavalla*.

D-Force

D-Force is a research project that brings together futures studies, design and international product development to find how to best facilitate global design. The aim is to gather information, which will enable companies in Southern Finland to expand their markets to new areas. Experiences from ME310 product development course, run in Design Factory, offer valuable insights on how to facilitate a multidisciplinary project done in geographically dispersed teams. In the D-Force project Aalto partners with Lahti University of Applied Sciences, Finland Futures Research Center, Lahti Science and Business Park as well as Design Foundation Finland. European Regional Development Fund funds the project, and it involves eight staff members and researchers as well as almost 20 students from the Design Factory community.

29

LANGUAGES SPOKEN
AT DESIGN FACTORY

”

I have witnessed the true spirit of co-creation at work, where researchers, practitioners and companies all co-exist under the same roof.



Co-creation at work

A Latin phrase “Victoria Amat Curam” struck me hard while watching a Hollywood flick last year. If victory did love preparation then what kind of preparation was needed for me to succeed in my PhD? As a researcher, I had spent most of my last year working with only academics, and the interaction with practitioners and entrepreneurs was thoroughly missing. Where then could I find practitioners who understood researchers, and vice-versa? During a discussion with a Stanford alumnus, he suggested Aalto Design Factory, and boy, am I glad he did. During the last months that I have been here I have witnessed the true spirit of co-creation at work, where researchers, practitioners and companies all co-exist under the same roof, are experts in their fields and willing to collaborate assist researchers such as myself. Hence, DF, for me is a beamingly unique place, where experiments and mistakes are the order of the day and other friendly researchers are always willing to co-operate on a range of projects, thus paving the way for future success and providing an opportunity to grow.

Dhruv Bhatli

VISITING RESEARCHER
FROM IRG, UNIVERSITÉ PARIS EST



Aalto on Waffles

is a light Sunday brunch where fresh, hot waffles are served with delicious toppings such as ice cream, Nutella, chocolate sauce and various berries. In the cafe environment, you can relax, read, watch a documentary, play chess or cards, or even talk to fellow patrons if you feel so inclined!

The concept was born on a late morning in spring 2011, when a couple of researchers at the Aalto School of Science declared their home waffle brunches open to the public. As the goal was to bring people together in a casual way to chat about interesting topics, it was agreed that Aalto on Waffles and Design Factory is a match made in heaven. The rest as they say, is history in the making.

WDC Helsinki 2012

In 2012 Helsinki will become the World Design Capital (WDC) and Aalto University, as one of the two higher education partners, will use the project to call attention to the wide diversity of the design field and its importance as a national resource. Aalto University will have its own WDC program, which will also serve as a platform for presenting individuals, ideas and projects.

The program will be the sum of the work that people at Aalto University invest in it. Design Factory has been a natural space for the people to meet, has participated in communications for the project and will continue this relationship throughout 2012. The investment for WDC 2012 begun in 2011 and its rewards will continue far into the future.

Breakfast at DFfany's

was a huge hit again this year! Thanks to the lovely Melissa Arni-Hardén and the help of Design Factory staff Tuesday and Thursday mornings saw the Kafis filled with hungry people, devouring porridge, buns, eggs, fresh fruit and vegetables. It would not be Design Factory if there were not coffee brewing! The kitchen was a hive of activity – at best over 100 people had breakfast together. The event brings people together, chattering, eating, and sharing ideas. Numerous introductions and connections were made, ideas formed, and even a new workshop concept emerged over a bowl of porridge.

PLANNED COINCIDENCES

Soup's Up!

Three times a week Design Factory offered delicious soups for lunch. This warming lunch option also offered the opportunity to converse, listen and learn. Each day had a different theme; this was a prompt for diners, to start a conversation with those around them.

WHAT'S NEW

– tell us what you have been up to. On Mondays.

DTALX

– guest speakers from Apple, UNICEF and others came to Design Factory to share their wisdom. On Wednesdays.

FAIL FRIDAY

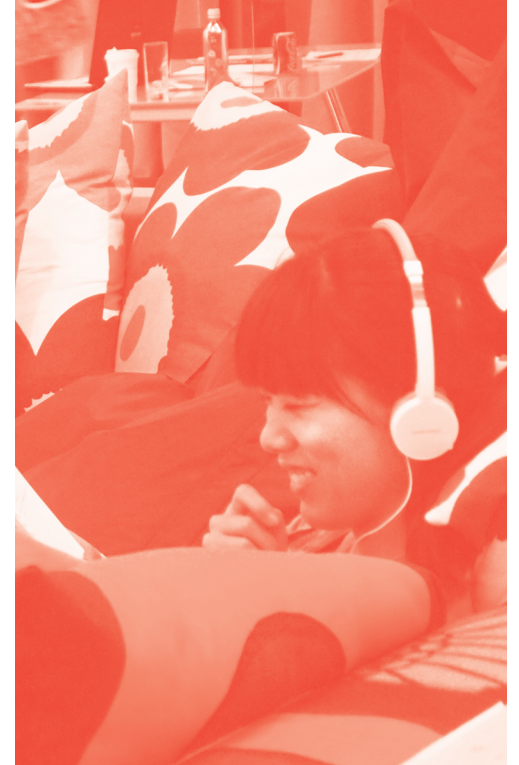
– did not get that project quite right? You are not alone! Fridays are for talking about our failures so we can start afresh Monday morning. On Fridays.

Audi Award for Design and Innovation

The Audi Award for Design and Innovation is a 14-month competition organized by Audi Finland and Aalto University. Student teams create future concepts of products and services for and around the new Audi A1 car. Sustainable design, technology, urban mobility and user value are key design drivers. 10 teams were chosen to develop their concepts and prototype, and in the fall 2011 3 teams will go on to the finals and build a 1:1 prototype. The winning team will receive a grand prize of 10,000 Euros. Students from all the Aalto University schools are participating, along with teams from Laurea University, Metropolia University, Lahti Design University and from Birla Institute of Technology & Science in Dubai. Design Factory has been a natural hub for Audi Award.

The Otakaari Hooping School for Men

Started in January 2011, as researchers, led by Cathy Nangini, were concerned about muscles being scrunched up from geeking it up in the lab all day. Wanting to offer the male dominated community at Otaniemi the opportunity to learn a new skill in an anonymous and supportive environment, and to create an event that joins exercise with socializing for a well-rounded experience, "Hooping Jams" were born. Design Factory is the perfect location, and Hooping Jams are held here every Friday evening.



DESIGN FACTORY EXPORTS

Inspired by the enthusiasm and interest by which the Design Factory concept has been received around the globe, joint projects with different universities are being planned and put into action. In these projects, Design Factory's ways of working will be implemented and tested in different environments and cultures in collaboration with partner universities and organizations. These joint projects hope to further develop and expand the Design Factory concept – all in the name of love, design, engineering and business.



SWINBURNE

2010–2011 saw the beginning of a big new undertaking. It takes place at the Swinburne University of Technology in Melbourne, Australia, where the groundwork has been laid for a new Design Factory. The project was set in motion when Dean of Design Professor Ken Friedman visited Design Factory during early winter 2010 and saw the potential of a partnership. Swinburne Design Factory, Australia's first design oriented 'Living Lab', will begin operation in August 2011, and will expand to a new purpose built AUD 100 million site in 2013. Design Factory will continue to consult on the new project and further develop the partnership. The new year will see staff exchange, visiting researchers, joint PDP projects and exchange students as part of the co-operation.

”

*Trust is major factor
in the running of
Design Factory*



Freedom and passion for creativity

Coming from Melbourne to work at Design Factory for the summer was such an adventure – I've never experienced a place like it. Being in a space that offers you the freedom to create and work in your own way is very different from most environments. Something that struck me as soon as I started was that trust is major factor in the running of Design Factory, that and also knowing that the people who surround you are equally as passionate as you.

It is such a unique place; I have definitely witnessed the benefits of this approach to learning and working. The Swinburne Design Factory in Melbourne I believe will be just as successful. We have already embraced interdisciplinary learning and I think this will take it one step further with a space dedicated to these activities. Knowing how much coffee Swinburne students drink I can't see how Design Factory in Melbourne could possibly fail!

Sofie Neilsen

SWINBURNE UNIVERSITY, AUSTRALIA
COMMUNICATION DESIGN (HONS)
MURJOTTELU INTERN 2011

AALTO-TONGJI DESIGN FACTORY

Aalto-Tongji Design Factory (ATDF) is a joint platform that was established in cooperation with Tongji University, and is located in Shanghai, China. ATDF acts as a base for the strategic co-operation between the two universities and countries, but also as a co-creation platform for testing and further developing the methods and ways of working of Design Factory in a different environment and context.

During the academic year 2010–2011, the first year of operation of ATDF, cooperation between the universities was initiated most strongly in educational activities. First industry sponsored student projects were carried out for both Finnish (KONE, Metso Paper) and Chinese (Haier) companies. Several other international partners from Sweden, Denmark, Germany, Italy, Scotland and Australia also joined in on the activities through different workshops and projects, transforming ATDF into an open, international platform and network of people.

Summer 2011 saw the planning and the beginning of execution of the ATDF expansion. More project and office space is built to match the increasing demands from researchers and industrial partners. On 3rd of November 2011 the extension premises are officially opened, expanding ATDF environment from around 900 m² to 1500 m².

During the second year of operation of ATDF, more emphasis will be put on research and industrial cooperation, building a community of more permanent users as well as to enhance the interaction and sharing of information. The first double degree Master's Program, IDBM, student exchange, cooperation in sustainable campus development and pedagogical training cooperation will broaden the community and activities even more.





” *Challenged with language and cultural barriers the team worked together at ATDF.*

Chinese Smart Homes

Along with the collaboration between Aalto and Tongji Universities came the possibility to participate in a joint product development project for the world's largest home appliance manufacturer Haier. As part of the international team I was asked to join in as a team leader and visiting professor of Tongji University.

The theme around which the activities in the project revolved was Smart Home for the Chinese market. Through the economic growth consumption behavior of Chinese consumers is changing, and the product manufacturers are challenged to offer ever more appealing products and product systems to the market.

The project itself consists of several different phases, starting from market and residential behavior research conducted in nine different Chinese cities. Followed by system definition and different concept and design phases, simply put this was strategic design.

To conduct this ambitious task an international team of product developers, industrial designers, engineers, interior architects, residential behavior researchers, ICT-experts, urban planners and more were invited to Shanghai. Challenged with language and cultural barriers the team worked together for three months at the ATDF located in the heart of Shanghai.

Pekka Kumpula

CREATIVE DIRECTOR
SEOS DESIGN



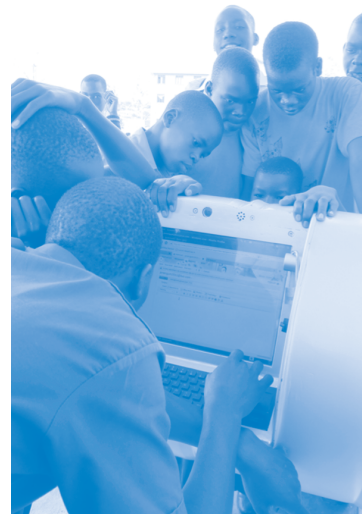
” *ATDF offers a front row seat to witness the innovation capacity of our Sino-Finnish collaboration.*

Rewarding Chinese challenges

ATDF has deepened my understanding about the whole Design Factory -phenomenon. Being a bridge between Design Factory and ATDF has offered me a front row seat to witness the innovation capacity of our Sino-Finnish collaboration. Despite many differences between the two countries, a lot has been accomplished in a short time. Consequently, this past year has definitely been the most challenging, but yet rewarding year of my life. I am looking forward to tackling the upcoming challenges in this exiting journey!

Ching – Yi Wang

AALTO SCHOOL OF ECONOMICS
INTERNATIONAL BUSINESS
ATDF MANAGER OF OPERATIONS



AALTO – UNICEF FINLAND IMPACT PROJECT

UNICEF Finland and Design Factory have entered into a collaboration to explore and support innovation for social impact. UNICEF Finland has made an effort to engage academia in a far more effective manner to bring new possibilities to deliver greater support and impact for their mission and donors. This novel approach will bring together highly motivated students with problem-solving skills in the fields of design, technology, and business, with UNICEF Finland and Uganda personnel including their respective partners. This alliance will facilitate the creation of innovative solutions that will have a greater impact on the lives of the most vulnerable and marginalized children and their communities.

UNICEF Uganda Country Office has been identified as a key initial partner. During the academic year the co-operation was formed and preparations were made for the second phase of the project. In 2011–2012 two pilot projects addresses real life cases for UNICEF. PDP and IDBM will have a joint project dealing with hygiene and sanitation, the former also teaming up with Makerere University, one of the oldest universities in Africa.





CHINESE WEEK IN AALTO

The Tongji on Tracks adventure took place in May 2011 in the spirit of Aalto on Tracks 2010. After a trans-Siberian train journey, the Chinese delegation of over 90 participants consisting of students and professors as well as Tongji and Haier Group leaders spent 10 days in Finland. The aim of the project was to strengthen the existing partnership between the two Universities and create new opportunities. The students had a chance to get acquainted with some of the leading Finnish companies such as Metso, Marimekko and Arabia. The start-up day at Design Factory introduced them to interesting companies including Rovio and Powerkiss. The company visits provided the students with a sense of Finnish business practices as well as the entrepreneurial society existing within Aalto. In addition, the program included a trip to Kouvolan National park in Repovesi and participating in the Masters of Arts'11 exhibition.

9876

PLASTIC BOTTLES
RETURNED PER YEAR

EVENTS

During the academic year 2010–2011 several memorable events took place in Design Factory. This broad cavalcade of events and visitors is the reason why you can never know who you might run into at Design Factory. Some highlights of the community's own events includes a Sibelius Academy concert which was streamed live on Second Life, Top Seminar by the Project Manager's Club and the Product Design Gala in April 2011.

Organizations and companies in, and outside Design Factory's network organize over 200 events every year. These events are often planned independently but located at the Factory to be inspired by the environment. Reoccurring events are held by such players as KONE, Sinerbrychoff, Fiskars, AYY, Aalto Camp for Societal Innovation, Aalto Social Impact, EK and Martela just to name a few.

Some interesting collaborations have been the Aalto Party with 2000 visitors to kick off the school year, AES Fair by Aalto Entrepreneurship Society in January and SoMeTime 2011 in June, which witnessed hundreds of social media professionals and enthusiast taking part in a two-day seminar. This year Design Factory also had the privilege to host many international minister-level guests such as Fredrik Reinfeldt the prime minister of Sweden.

History was made when the art exhibition URBAN HOMES was organized simultaneously on two continents, Design Factory and ATDF, in March 2011. The exhibition of photographs by Janne Kommonen comparing the two cultures was merged into one by the videolinks.

”

When you bring a group of people here, you're ready to go.



Aalto at its best

Personally, I think we use Design Factory firstly because it is Aalto at its best. It reflects well what the whole idea behind Aalto is about. Secondly, here we have the opportunity to meet professors, teachers and students in a fun and slightly different environment. What we actually do here is organize events like training days and events with guest speakers and the occasional party for the students. We come to the Factory, in addition to the fact that it's such a cool thing, because it such a nifty place with different types of spaces. It is easy to come to and easy to use. When you bring a group of people here, you're ready to go.

Teemu Peltokallio

BOARD MEMBER
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AYY

PUBLICATIONS

Björklund, T.A. & Laakso, M. (2011). *Idea advancement in new product development – a grass root perspective*. 18th International Product Development Management Conference, June 5-7, 2011, Delft.

Botero A., Karhu K. & Vihavainen S. (forthcoming). *Exploring the Ecosystems and Principles of Community Innovation*. In Lugmayr A, Franssila H, Näränen P, Sotamaa O, and Vanhala J (Eds.) *Media in the Ubiquitous Era: Ambient, Social, and Gaming Media*. To be published by IGI Global.

Brace, W., Cotanéa, E., Kauranne, H. & Heiska, M. (2010). *Formalization approach to early design synthesis*. International Journal of Design and Innovation, 5(2), 25-46.

Clavert, M. & Nevgi, A. (forthcoming). *Yliopistopedagogisen koulutuksen merkitys yliopisto-opettajana kehittymisen kokemuksessa*, Peda-forum – yliopistopedagoginen aikakausjulkaisu.

Hassi, L. & Laakso, M. (2011). *Conceptions of design thinking in the management discourse*. The 9th International European Academy of Design Conference. Porto, Portugal, May 4-6, 2011.

Hassi, L. & Laakso, M. (2011). *Making sense of design thinking*. In Karjalainen, T-M., Koria, M. & Salimäki, M. (eds.): *IDBM papers vol 1* (pp. 50-63). Helsinki: IDBM Program, Aalto University. ISBN 978-952-92-8641-6.

Hassi, L., Wever, R. (2010). *Practices of a “green” front end of innovation. A gateway to environmental innovation*. At Knowledge Collaboration & Learning for Sustainable Innovation ERSCP-EMSU conference, Delft, The Netherlands, October 25-29, 2010.

Hasu, M., Saari, E. & Mattelmäki, T. (2010). Enhancing service design and empowerment of employees in healthcare support services. Abstract in Fiscar conference proceedings. Aalto University publication series of the School of Art and Design B 100. p. 153

Hasu, M., Saari, E., Mattelmäki, T. & Koponen, L. (2010). Enhancing service innovations and the well-being of employees in healthcare support service. International Conference on Organizational Learning, Knowledge and Capabilities June 2010. Boston, US.

Heikkilä, A., Rosenqvist, D., Hassi, L. & Tuulenmäki, A. (2011). Design methods as the key to unlock the full potential of positional value. At European Academy of Design conference, Porto, Portugal, May 4-6, 2011.

Huttunen A., Kulovesi J., Brace W., Lechner L., Silvennoinen K., Kantola V. (2010). Liberating Intelligent Machines with Financial Instruments. Nordic Journal of Commercial Law.

Kirjavainen, S. & Björklund, T.A. (2011). *The central role of exploration in designing business concepts and strategy*. The 18th International Conference on Engineering Design, August 15-18, 2011, Copenhagen.

Kirjavainen, S. & Clavert, M. (2011). *Manifestation of design thinking in creating a business concept and strategy*. 18th International Product Development Management Conference, IPDMC, June 5-7, 2011. Delft.

Laakso, M. & Hassi, L. (2011). *Design thinking in the management discourse: Defining the elements of the concept*. 18th International Product Development Management Conference, June 5-7, 2011, Delft.

Liikkanen, L., Hämäläinen, M.H., Häggman, A., Björklund, T., Koskinen, M.P. (2011). *Quantitative Evaluation of the Effectiveness of Idea Generation in the Wild*. Proc. of HCI International 2011, July 9-14, Orlando, Florida.

Luukkonen, S. & Björklund, T.A. (2011). *Leadership practice differences in the front end and development phases of innovation process*. 27th EGOS Colloquium, July 6-9, 2011, Gothenburg.

Niinimäki, K., Hassi, L. (2011). *Emerging Design Strategies for sustainable production and consumption of textiles and clothing*. Journal of Cleaner Production, in process.

Passera, S. (2011). *Prototype-driven projects: lowering the threshold to innovation and enabling critical design*. At European Academy of Design conference, Porto, Portugal, May 4-6, 2011.

Tuulenmäki, A. (2011). *Lupa toimia eri tavalla*. WSOYPro. Teos on myynnissä kirjakaupoissa sekä WSOYpron internetsivuilla!

Tuulenmäki, A. (2010). *”Miten strategisten innovaatioiden syntymisen todennäköisyyttä voidaan merkittävästi parantaa Suomessa yliopistomaailman avulla? Case MIND”*. Kirjassa Strateginen ajautuminen, sivut 120-122. Armi Temmes ja Liisa Välikangas. WSOYpro

Tuulenmäki, A. & Hassi, L. (2011). *Design Thinking as an Enabler of Strategic Innovations – a discussion of the interrelatedness of the two concepts*. At European Academy of Design conference, Porto, Portugal, May 4-6, 2011.

Tuulenmäki, A. & Välikangas, L. (2011). *The art of rapid, hands-on execution innovation*. Strategy & Leadership 2/2011.

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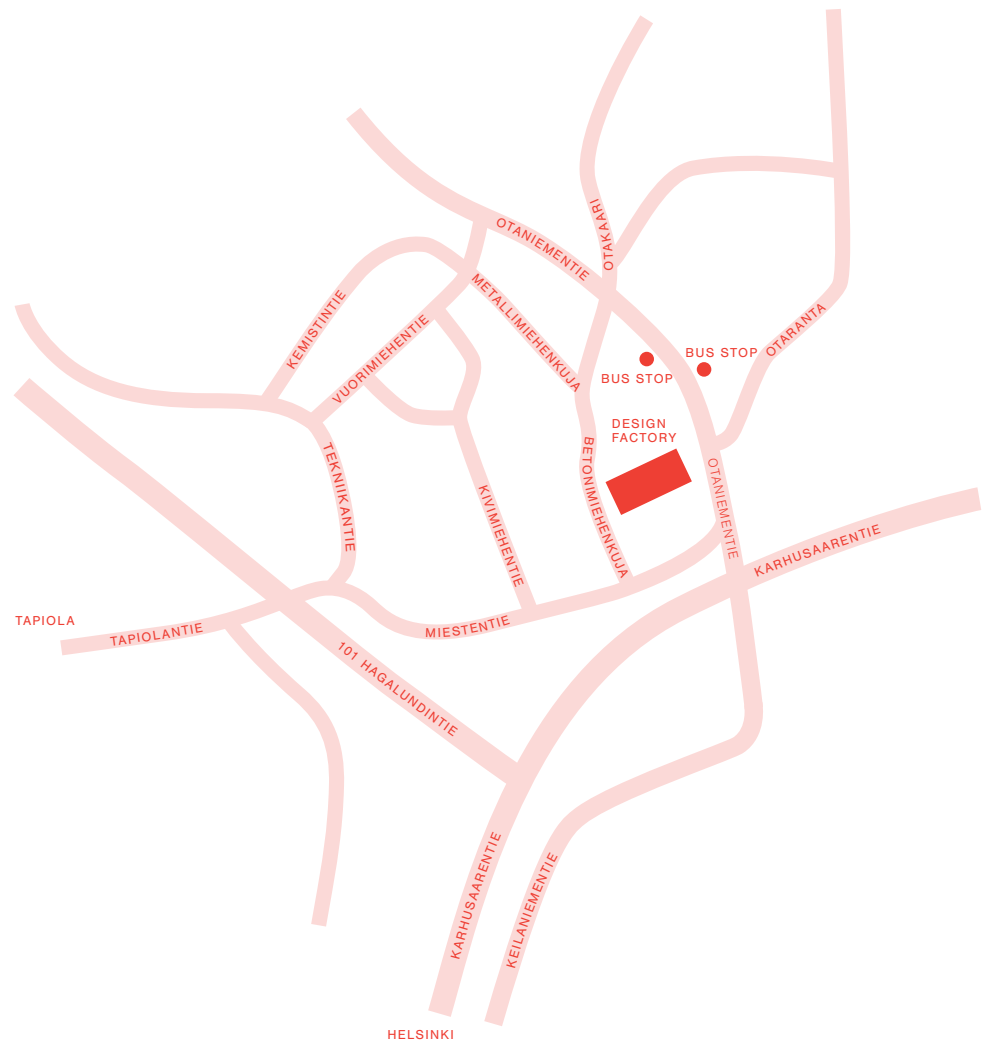
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