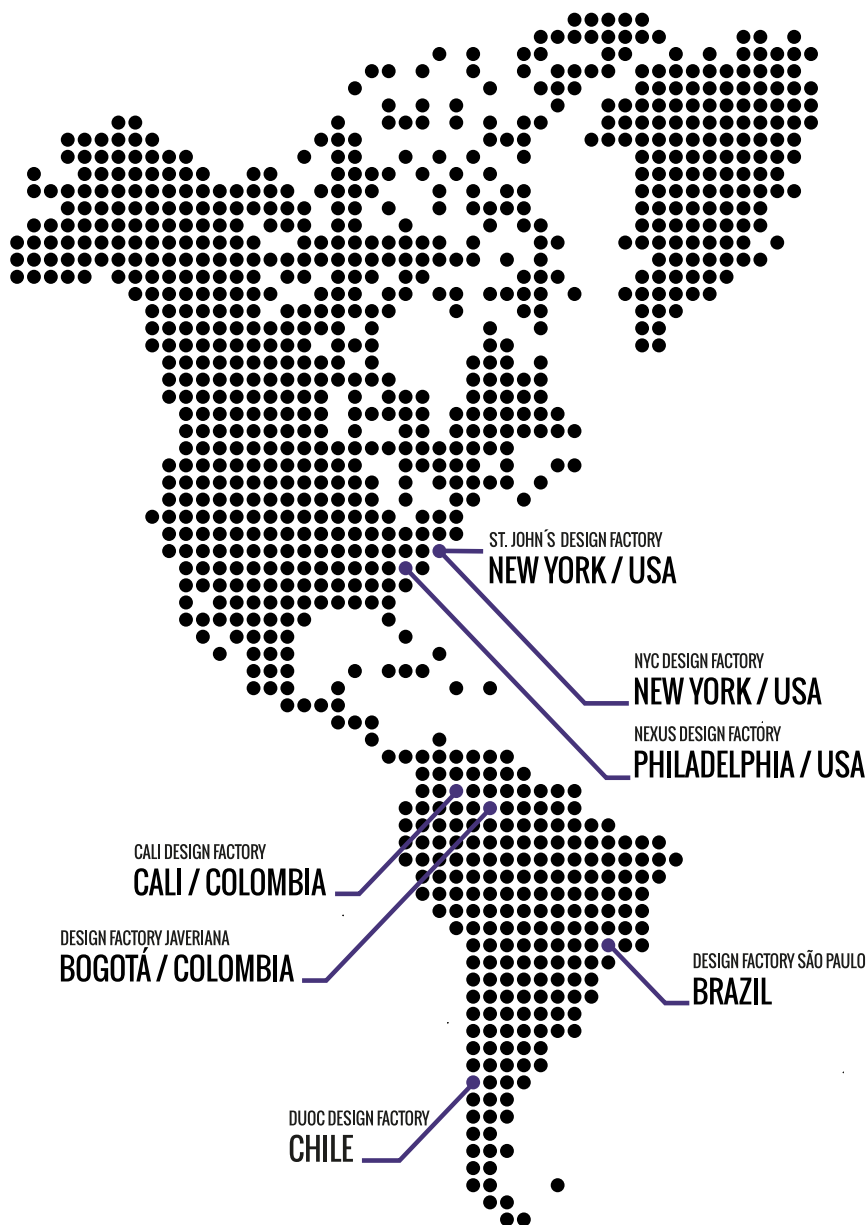


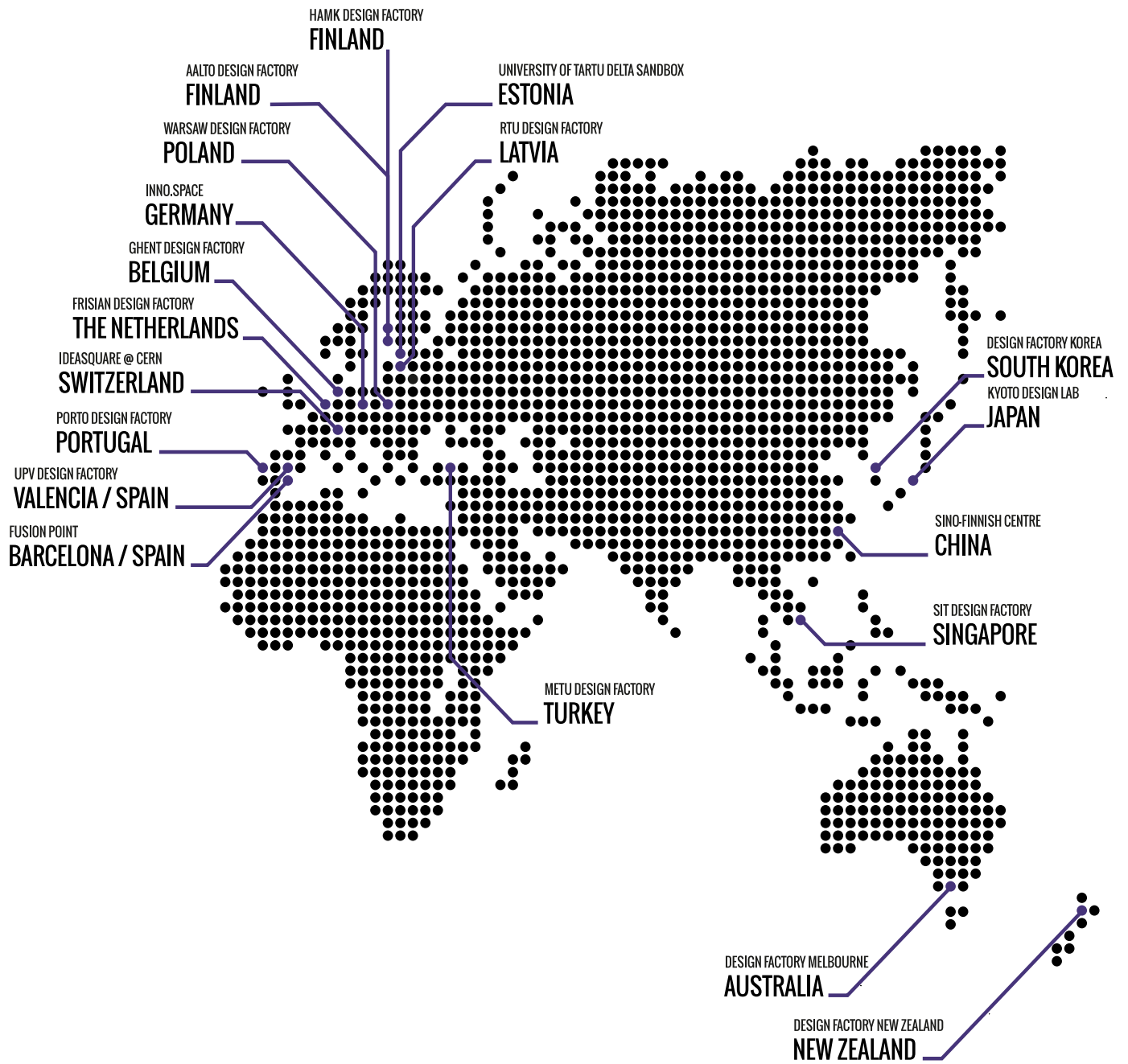


An Interstellar Family Album

Design Factory Global Network

DFGN





Flightplan

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06

**A word from the
Captain**

08

We choose change

11

The DF Solar System

24

Meet the travelers

52

Events & Milestones

A word from the captain



A word from the Captain

Throughout my career, I have been to many scientific conferences and academic events, in many corners of the world. Never ever have I felt the sense of belonging that I find within the Design Factory Global Network (DFGN). We share the same values and visions, oriented around our passion for problem- and project-based learning in inter- and transdisciplinary team settings. It's an informal, human-oriented network that puts its students first, and partners with industry and enterprises. That is why we call this publication the "Family Album."

There was never supposed to be a DFGN. In Aalto, we had our hands full with developing our own design factory during the furious first years of our university merger. But 10 years later – here we are, with 24 design factories making up a global network! It has grown by itself, spontaneously and organically. It is the vehicle for transformation, it doesn't need strategies or visions. The impulses for development come from our interaction with industries and academic partners, and seeing and experiencing how our students are able to tackle their learning challenges.

The students change. The industries are facing the Industry 4.0 revolution. We are the factories that should carefully and proactively follow developments and see what is worth preserving, and when we should take the first step or leap into the unknown. It is important to understand why something works. Change is always laborious, and it is as harmful to start unnecessary changes, as it is to avoid or postpone necessary ones.

**Kalevi Ekman,
Design Factory Captain**

We choose change

We choose change*

The Design Factory Global Network is on a mission to create change in the world of learning and research through passion-based culture. It is not the easiest of tasks, but it will be done.

Dear reader,

This publication is a result of a collaboration between the members of the Design Factory Global Network, edited and designed by Cali Design Factory.

In ten years, we have gone from one to 24 design factories across the world. That would not be possible without collaboration, experimentation, and passion. If these years have taught us anything, it is that design factory advocates, in their quest for knowledge and progress, are determined and cannot be deterred.

Those who came before us rode the first waves of the industrial revolutions, the first waves of modern invention, the first wave of nuclear power, and this generation does not intend to founder in the backwash of the coming age of change and experimentation. We mean to be a part of it – we mean to lead it.

We have all set sail on this journey of change because there is new knowledge to be gained, and it must be gained and used for the progress of education and pedagogy. But why, some say, change? Why choose this as our goal? And they may well ask why climb the highest mountain? Why, 100 years ago, fly the Atlantic? Why organize the International Design Factory Week?

We choose to drive change. We choose to drive change in this decade, not because it is easy, but because it is hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win!

With stardust and northern lights,
The DFGN team

*This editorial is heavily inspired by the "We choose to go to the moon"-speech, mainly written by Ted Sorensen, delivered by president John F. Kennedy at Rice Stadium in Houston, Texas on September 12 1962.



Finland, 2008 **Aalto Design Factory**

China, 2010 **Aalto-Tongji Design Factory**

Australia, 2011 **Design Factory Melbourne**

Chile, 2012 **Duoc Design Factory**

Switzerland, 2014 **Ideasquare @CERN**

Portugal, 2015 **Porto Design Factory**

Netherlands, 2015 **Frisian Design Factory**

Turkey, 2016 **METU Design Factory**

Colombia, 2016 **Design Factory Javeriana Bogotá**

Latvia, 2016 **RTU Design Factory**

Spain, 2017 **UPV Design Factory**

Belgium, 2017 **Ghent Design Factory**

Poland, 2017 **Warsaw Design Factory**

Japan, 2017 **Kyoto Design Lab**

Germany, 2018 **Inno.Space**

Estonia, 2018 **University of Tartu Delta Sandbox**

The United States, 2019 **St. John's Design Factory**

Korea, 2015 **Design Factory Korea**

The United States, 2015 **Nexus Design Factory**

The United States, 2016 **NYC Design Factory**

Brazil, 2017 **Design Factory São Paulo**

New Zealand, 2017 **Design Factory New Zealand**

Barcelona, 2017 **FusionPoint**

Colombia, 2017 **Cali Design Factory**

Singapore, 2018 **SIT Design Factory**

Finland, 2019 **HAMK Design Factory**





Collabo rative projects

In 2018, our **DFGN** community took part in some amazing collaborative projects, covering a wide range of areas and methodologies – all while seeking to have an impact on users all over the world.

The Rat Relay is an ever-changing global design sprint that takes place within the Design Factory Global Network.

Rat Relay

The DFGN flagship





Each year, the Rat Relay changes slightly based on the feedback from previous editions. However, the core always remains the same: a challenge, a design brief, travels between different design factories before returning back home, and tasks are split and shared between teams working together across the globe.

The 2018 version was a 36-hour design sprint. The organizing institutions created teams consisting of five to ten members with various backgrounds and roles such as students, company representatives, and university staff. Each team started off with a design brief

provided by a local industry sponsor, then that brief and its material made its way through a design process (empathizing, (re)defining, ideating, prototyping, testing), traveling to a new design factory for each step before returning to their home base for the final stage – pitching solutions.

This type of collaborative strategy gives partnering companies an opportunity to get input and feedback on a global level and eventually reaching a concept-based prototype. In true design factory spirit, all the challenges are based on open innovation and have some form of social impact.

CBI CERN Design + Science

○ ●

**Challenge Based Innovation is
where revolutionizing technology
meets human insights.**



Challenge Based Innovation (CBI) is a project course, where multidisciplinary student teams and their instructors collaborate with researchers from the European Organization for Nuclear Research (CERN) to discover novel solutions for the future of humankind. The projects are iterative and have an elaborate mixture, where the cutting-edge technologies from the high-energy physics field meet societal, human-driven needs.

The essence of this program is to create solutions that did not exist before, by harnessing human potential to solve everyday problems. The creative cycle follows three stages: the first one consists of exploring sustainable goals and previously existing CERN technologies; the second one dwells on developing conceptual design ideas and proposing well-defined solutions; and the third and final stage tackles the implementation of said solutions

within a sustainable prospect for 2020, 2025 and 2030.

Participating students come from a wide range of disciplines and cultures with a firm belief that the wildest combinations can lead to the most nurturing outcomes. So far, the program has been organized with students majoring in industrial design, electrical and mechanical engineering as well as a variety of economists and business students, architecture and robotics.

One of the most recent initiatives is the CBI A3 project from Design Factory Melbourne. From October 2018 to April 2019, participating universities explored, interpreted and researched topics related to clean water, sanitation and life in the underwater world.





SQUAD projects can only be considered to have an actual purpose once they have been properly tested and validated with customers.

SQUAD

As a concept, which was actually made famous by Spotify, a squad is a cross-functional team that acts as a small start-up within a company. In a market whose consumers have ever-growing expectations and where products are rarely just physical, the SQUAD program breaches the gap between designers and industry leaders by bringing them together to collaborate and solve real world challenges.

Based on Dan Nessler's Double Diamond process (2016), the SQUAD methodology follows four simple phases that alternate twice from unrestrained divergence (D) to condensed convergence (C): **Research** (gather insights - D), **Synthesis & Ideation** (focus on an area - C), **Prototyping** (define potential solutions - D) and

Implementation (choose the solutions that actually work - C).

Designers, engineers and business staff are empowered to take hold of the decision-making process and to research, question and prototype on their own – all while learning the different steps of the process. Meaningful results can come to fruition from an open-minded and diverse team in terms of cultures and disciplines.

With a user-centered philosophy in mind, SQUAD projects can only be considered to have an actual purpose once they have been properly tested and validated with customers. Anything developed in a closed environment without thinking of the end user has no actual worth.

Product Development Project (PdP)





Every now and then, companies must build the portfolios of the new products they wish to develop for the fiscal year. Unfortunately, some ideas are often left aside for being too far-fetched, risky or futuristic. These types of future-orientated and conceptual projects are ideal for PdP, seeking the commercialization of new technologies.

Working with over 150 different sponsors, 300 projects and 2,890 students have participated in the PdP course since 1997. Every academic year, around 16 projects are initiated and their results are presented to public audiences at the annual Product Design Gala.

Although project cycles last from September to May, the program is always looking for new sponsors. Those wishing to participate begin by pitching their idea for the project. It could tackle a problem faced by the company concerning one of their existing products or technologies, or an interesting idea that cannot be investigated internally at the moment.

After presenting their topic of choice to the staff, the sponsor candidates meet up with the multidisciplinary teams and, when the matching process is concluded, the project is officially launched. In the event there is no suitable team for the project, it does not go forward. Furthermore, sponsors are required to participate in certain meetings, events and milestones for the duration of the course.

With a strong technological component, some of the 2018-2019 projects were related to the following challenges: automated training of a dog's nose, using drone technology in underwater scenarios, and optimizing frictional losses in elevators.

SINCE:

1997

PROJECTS:

300

STUDENTS:

2890

DIFFERENT SPONSORS:

150

Social IoT

STUDENT TEAMS

18

STUDENTS

58



Throughout the project, students are nurtured and prompted to strengthen the skills that every social entrepreneur should have.



The Social IoT project from Design Factory Korea (DFK) aims to achieve sustainable development goals (SDGs) defined by the UN through technological innovation. The purpose of this initiative is to drive the potential of technologies such as IoT and artificial intelligence for the benefit of social groups.

A total of six Design Factories from the DFGN remotely collaborated in the Social IoT project: New York City Design Factory (USA), Design Factory Korea (Korea), Aalto Design Factory (Finland), Fusion Point (Spain), Cali Design Factory (Colombia) and DF Javeriana Bogotá (Colombia). Although these centers follow the same structure, they each have their own schedules mostly due to time differences and academic calendars.

Guided by coaches and mentors, participating students are encouraged to explore local interpretations of social issues as well as analyze and design IoT-based products and services. The

social business models derived from said outcomes are put to the test and validated in local contexts comprised of vulnerable user communities living in the cities of participating design factories.

The design process follows these four stages: training for hardware, training for software, developing a business model and building a social IoT device. Throughout the project, students are nurtured and prompted to strengthen the skills that every social entrepreneur should have, such as complex problem solving, critical thinking, creativity and social innovation.

At the end of the cycle, the Social IoT Student Gala was held in November 2018 at the NYCDF. The event featured 18 student teams (58 students in total) from the aforementioned design factories. After announcing the winners in different categories, an innovation development workshop was led by the DFK to further iterate on some of the solutions showcased at the gala.



Meet the travelers

Although they may come from different corners of the world, our travelers have all crossed the many paths leading to innovation and explored the endless possibilities that the creative outer space has to offer.



Aalto Design Factory

Aalto University



At ADF, we see experimentation and doing as a key ingredient for learning.

For the past ten years Aalto Design Factory has been operating as a flagship collaboration platform of Aalto University with a vision of educating the best designers in the world! Since the beginning of this unique nest of creativity, hundreds of student projects have been carried out in a close collaboration with industry partners with an initial idea of providing the students learning opportunities by combining theory and practice. At ADF, we see experimentation and doing as a key ingredient for learning. The students come first and rather than teaching, the aim is to facilitate the development process to enable the best possible learning experience.

The academic year 2018-2019 was very special for ADF. All the schools of the university have joined us on the Otaniemi campus, so has all the university's activities. In October 2018 we celebrated our 10th anniversary, and we are proud to be the cornerstones of Aalto's problem-

based education and supporting students in their wacky projects.

Over the last academic year, over 45 different courses and more than ten hackathons were organized in ADF. 500+ events from academic conferences and courses all the way to events such as the DF Bootcamp and TuKoKe science competition for youth took place on design factory premises. Additionally, over 230 delegations requested us to give them a tour at ADF to enlighten them about our activities and DF ways of working. Furthermore, a new framework for design thinking training was established as a joint collaboration between ADF teachers, researchers and the DFGN-team. This framework was run for the first time in January 2019 with the Design Factory Korea team and further iterated several times. Over the spring, the workshop was organized for our industry liaisons Sanoma & Airbus.

Sino-Finnish Centre

Tongji University



We believe that by bringing students, companies, and researchers together, we can create extraordinary outcomes.



Sino-Finnish Centre aims to create a strategic paradigm in innovative education, research, and practice. This hotspot for people who want to make their ideas into reality is the result of the joint effort of Tongji and Aalto Universities.

We believe that by bringing students, companies, and researchers together, we can create extraordinary outcomes. Through

our collaborations with leading industry actors, organizations and researchers, we forge international and interdisciplinary learning experiences. Among the activities we hosted in 2018 were the China-US Young Maker Competition, the reSOURCE Water Sino-German International Workshop, the Sino-Finnish Culture & Science Seminar, and the Design for Designers Forum.



Sino-Finnish Centre
Tongji University
同济大学中芬

Design Factory Melbourne

Swinburne University



We facilitate an innovation culture supporting the vital skills required to challenge the difficult, complex and unknown dynamics for success.

Design Factory Melbourne plays a key role in developing partnerships across the different departments and research centers of its host, Swinburne University of Technology, as well as building lasting relationships with external organizations. We facilitate an innovation culture supporting the vital skills required to challenge the difficult, complex and unknown dynamics for success.

In 2018, we ran several courses: Challenge Based Innovation, ME310, Product Development Project, OT/Design, Toolbox, Science and Technology, and Innovation Challenge. Our students worked on briefs tackling learning pods, kitchen solutions for people with special needs, solutions for people with disabilities, the periodic table, more customers for insurance, space activation in university, a device for putting sensors in high altitudes, and solutions using graphene. We worked with ten different sponsors, including names like TOM Melbourne and Australian Unity. Memorable events include the Design Factory Melbourne Gala and the CBI Showcase.



Duoc

Design Factory

Duoc UC

Duoc Design Factory is a collaborative innovation space hosted by Instituto Profesional Duoc UC. We seek to support our students in innovation by developing their skills, knowledge and mindset for collaborative, multidisciplinary work.

Some of the briefs we worked with in 2018 were related to mobility and accessibility such as improving the experience of the elderly with public transportation working alongside the Ministry of Transportation. With the Fundación Oportunidad Mayor, we faced the challenge of using technology to optimize longevity and maximizing social interaction for the elderly, thus reducing the risk of experiencing

social isolation or loneliness. With CIGIDEN – the Center for the Study of Natural Disasters – we worked on two topics:

- 1) Urban resilience and the aging population: How to incorporate the elderly in the design and execution of prevention programs for the effects of environmental phenomena.
- 2) Propose interactions and digital services to increase the intelligence of the city thanks to the elderly.

Throughout the year we collaborated with 14 different partners, among them the Transportation Ministry, Fundación Oportunidad Mayor, and Red de Parques Metropolitanos.

||

...we faced the challenge of using technology to optimize longevity and maximizing social interaction for the elderly.



IdeaSquare (CERN)

CERN



Idea^s



II

Our engineers, physicists and other CERN staff contribute to solving complex problems by mentoring, giving feedback and advice.

Here at CERN IdeaSquare we connect student teams working on societal challenges with advancements in high-energy physics research and development. Our engineers, physicists and other CERN staff contribute to solving complex problems by mentoring, giving feedback and advice, and helping the student teams to prototype their ideas for creating societal value. Our strength lies in the scientific community of CERN who operate the largest scientific experiment in the (known) universe, the Large Hadron Collider (LHC).

Since we are not a university, we do not offer courses per se. However, we have had between 12 and 20 universities participating in our activities at IdeaSquare, and in 2018 we hosted five Challenge Based Innovation (CBI) courses from other DFs using the sustainable development goals as a framework, as well as about 50 hackathons and such.

Design Factory Korea

Yonsei University



Our students created services and products around stress release, reducing subway doorway accidents, keeping track of your water intake.

In 2018, we held several courses including Capstone projects for Social Innovation and Techno-art, Social Network Analysis, Programming for Everybody, Photo and Books, different levels of design courses, Mind of Matter, Photography, Creative Thinking and Visualization, Applications of Technology and TAD Leadership Seminar.

Our students created services and products around stress release, reducing subway doorway accidents, keeping track of your water intake, providing on-the-go ordering for convenient food and beverage pickups, providing online and offline coding education, testing

STDs, aiding hands-only CPR for non-professionals, broadening the range of food choices that Muslims can consume in Korea, preventing child vehicular heat stroke, helping children with autism, solving food safety problem by using IoT technology in farming, and relieving stress from period for women.

Our sponsors at Vitcom and Root Impact also had the opportunity to experience some of the events and workshops we organized this year: "Designing Your Life Workshop," "Lego Serious Play," "Alumni Talk," "Graphic tools & prototyping machine," "Breakfast in Factory," or the "DFK Gala Night 2018."



Porto Design Factory

Porto Polytechnic



We have recently been striving to improve our entrepreneurship and research dimensions by establishing new partnerships with the Porto industrial and start-up ecosystem.

PDF has been evolving and re-shaping its core structure through its first years.

Besides the educational programs that we partake in every year globally, such as ME310, the PdP Product Development Project, SQUAD and A3CBI – Challenge Based Innovation, we have recently been striving to improve our entrepreneurship and research dimensions by establishing new partnerships with the Porto industrial and start-up ecosystem, as well as our own polytechnic of Porto research centers and facilities. Examples of this are events and

activities such as the Innovation 101 and In&Out Sessions, which are visits and conferences hosted by several industry partners, our PDF Files, which are lectures held inside PDF for the academic community, and even the Make-A-Thon, a product development marathon based on solutions for the sustainable development goals.

We see immense value in the DFGN and the experience of working with all the parties involved, and it is something that continues to support us in establishing ever more networks and valuable contacts in order to grow together.



**PORTO
DESIGN
FACTORY**

Nexus Design Factory



Thomas Jefferson University _____

II

We have hired our very own program manager, and we are developing new programs that will run independently of Nexus Maximus.



Strong winds of change have blown our way since the last Family Album. Philadelphia University has joined forces with Thomas Jefferson University, and the Nexus Design Factory now sails under the flag of the latter.

In 2018, we had the pleasure of organizing the fifth edition of our Nexus Maximus hackathon that gathered the most diverse group in the history of the event, including students from five different design

factories. Since then, we have hired our very own program manager, and we are developing new programs that will run independently of Nexus Maximus. Another significant change is that the design factory now operates under the Dean of Design and Engineering.

Nexus Design Factory is inevitably developing into a new and very different design factory. These are exciting times!

Frisian Design Factory

NHL Stenden University of Applied Sciences



The FDF found its place in the university and together with an enthusiastic team of colleagues, we teach students to have creative confidence to solve wicked problems.

2018 was a happy year for the FDF. We were able to provide Design Thinking workshops for students and staff of the university, and those students who chose the Minor FDF were able to participate in Circulair Design projects provided by real clients. Over 100 students participated that year. We tried some new concepts, for example a project week based on working with the worldbuilding method and our students participated in the 8th day project, building a Goldberg machine through the city, during the festivities of Leeuwarden

European Capital of Culture 2018.

Other projects our students worked on, or presented: Dutch Design Week – students showed their home-made Cargo Bike Recycle Unit for primary schools, a solar-powered wooden cart, the Litty, a cigarette butts collector for music festivals, and our BEE-street project.

The FDF found its place in the university and together with an enthusiastic team of colleagues, we teach students to have creative confidence to solve wicked problems.



METU Design Factory

Middle East Technical University



We serve internal and external stakeholders' education, research, development, implementation, and technology transfer needs.



Here in METU Design Factory, we aim to catalyze interactions among researchers and students from design studies, engineering sciences, social sciences, and other related fields in order to develop new and innovative products. Our main goal is to offer an inspiring and encouraging environment for interdisciplinary collaboration where both academics and students from various disciplines

work together using the space and production infrastructure provided. We serve internal and external stakeholders' education, research, development, implementation, and technology transfer needs.

Through METU Design Factory, the knowledge generated at the university is being transformed into prototypes and products!

Design Factory Javeriana Bogotá



PUC Javeriana



Design Factory Javeriana Bogotá is an academic platform established to support the development of products and services at Pontificia Universidad Javeriana.

In 2018, we held a Design for Sustainability and Design Project Course, and ran 20 projects around solid waste management, eco-productivity, building ecosystem services and employees' health issues regarding handling heavy loads. We helped coordinate the first Rat Relay of the year and we had Relámpago, which is one of the DFJ programs where our students get support from professors from different faculties and areas of expertise according to what they need in their projects.



We helped coordinate the first Rat Relay of the year.

NYC Design Factory



Pace University



Our doors are always open to play, collaborate, and welcome new members to our family!

We like to say that we are a playground where industry partners, students, staff, and faculty come together to develop next-generation products, exchange ideas, learn, and grow together – all while building and learning by doing. Our doors are always open to play, collaborate, and welcome new members to our family!

In 2018, NYCDF worked on eight projects including SQUAD, PdP and Rat Relay. Some of their briefs required a lot of user experience innovation concerning home brewing, HVAC systems, digital energy management, better aftersales and maintenance experience or a more personal standing desk experience. They were also asked to create a smart kitchen system and a more mobile city.

Some of the sponsors we interacted with last year were Porsche Family Trust, LOGICDATA, Ericsson, Safera, Tech Kids Unlimited, Capwatt, LBF Furniture and RACE.

RTU Design Factory

Riga Technical University



We provide access for researchers and students to facilities, tools, and services for prototyping that allow creating new and complex solutions.



RTU Design Factory is a lively place that brings together research, education, and industry, creating a new hands-on learning culture and opportunities for radical innovation. We provide access for researchers and students to facilities, tools, and services for prototyping that allow creating new and complex solutions. Together with interdisciplinary students and research teams, we work to solve real-life challenges from various industries. Among our more

recent projects are a hockey puck shooter that uses artificial intelligence, a new type of water treatment system, a training device for brass instruments, and customized equipment for researchers testing composite materials.

Our team combines a variety of skills in mechanical engineering, robotics, creative thinking and methodologies, product development, design, and business.

UPV Design Factory

Universitat Politècnica de València



Our objective is to stimulate the creativity of the students.

UPV Design Factory is a space where students from the Universitat Politècnica de València can come to carry out innovation and experiments. Our objective is to stimulate the creativity of the students, share knowledge on ways of working, and arm them with skills like leadership, teamwork, and project management.

Two courses were hosted at UPV DF this year: communication skills and financing. We had the pleasure of collaborating with sponsors like Leory Merlin, Istobal, Ansys, HP, RS Components, Mahle, MBHA, and many others. The projects revolved around topics like health, mobility, public speaking, sustainability, solar energy and architecture.

Design Factory São Paulo

Universidade São Paulo



In total, we collaborated with ten different project sponsors from different sectors and industries.



DF São Paulo offers a variety of different laboratories and workshops for prototyping and projects. In 2018, we hosted four courses: Product Development, Design of Healthcare Solutions, Entrepreneurship, and International Design Project I and II.

One of our courses had six projects focusing on healthcare solutions. We have also been working on an assistive technology development initiative for the aircraft industry. In total, we collaborated with ten different project sponsors from different sectors and industries. We were also sponsored by the School

of Engineering Endowment Fund, and hosted several hackathons, most of them organized by the university entrepreneurship club.

The highlight of 2018 was, like every year, the final presentation of our local development course, a presentation held for all the different project partners.





”

As a design factory, we want to empower people at Ghent University to transform the world through innovation.

Ghent Design Factory

Ghent University _____

Ghent Design Factory is like a beaver; we can build wonderful things from nothing, we are hardworking and efficient, and we wish to make an impact. On the surface, it might not seem like much, but underneath we are building a solid foundation for growth. As a design factory, we want to empower people at Ghent University to transform the world through innovation.

Some of the briefs discussed in this year's projects were: Reuse of wheelchairs that are taken out of service after five years, detection mechanism for lymphedema, and textile suits for babies with many sensors that measure their movements and possible limitations. We were sponsored by the city of Ghent, EIT InnoEnergy for this year's Rat Relay and Proximus for last year's Rat Relay. In addition, we had the pleasure of organizing and hosting a Legal Tech Hackathon, aiming to bring together students from the legal field and students of technology.

Design Factory New Zealand

Waikato Institute of Technology



We are excited to have doubled our student numbers this year and look forward to getting even bigger and better.

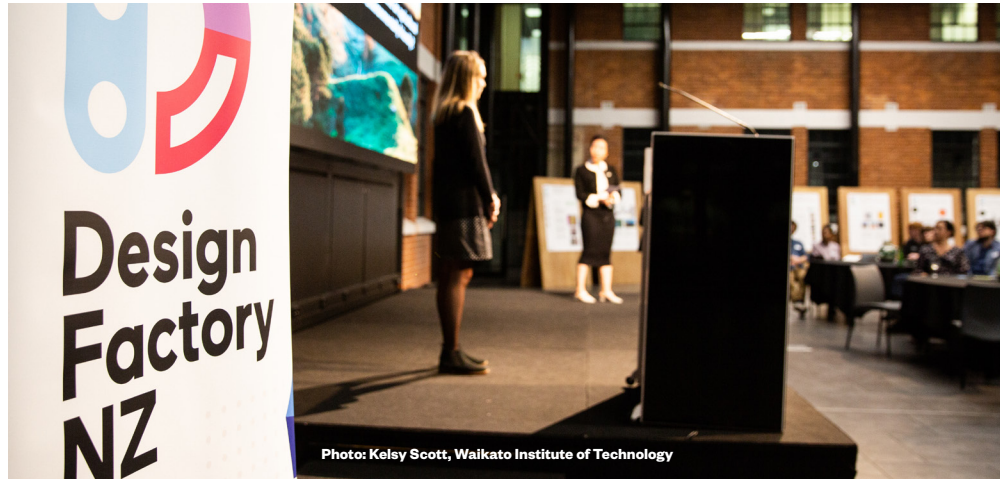


Photo: Kelsy Scott, Waikato Institute of Technology

Design Factory NZ is a small, boutique DF that draws on a diverse range of undergraduate students from across our institution. We have at least eight different disciplines studying with us who bring a rich variety of thinking and perspectives to our challenges. Our super passionate team of staff all teach in the Design Factory and in one other center here at Wintec. We team teach, love spending time together supporting each other and making changes and stretching our thinking. We are excited to have doubled our student numbers this year and look forward to getting even bigger and better.

We offer a 30-credit module called the Design Factory 1 and host a postgraduate level component in the Professional Practice program in Health where teams work together on challenges of the health sector. We also offer Design Thinking workshops for external partners.

In terms of briefs, we looked at how we might re-imagine a healthcare center and how Kapahaka (Maori action dance) can provide well-being for children in schools. Habitat for Humanity gave us two design challenges: one related to the

incoming goods problem of their second-hand store and another one focused on how aged residents of independent living facilities can have a stronger connection with their community. Other projects were aimed at finding solutions to improve the sharing process of water data collection and monitoring information of the public as well as seeking to build relationships between our institution and our alumni. We have developed a good relationship with our city council, which led to the development of two projects over the course of 2018: One revolved around the reduction of traffic congestion while the other focused on improving internal communication.

We also organized and hosted two gala events that were definitely our highlights. We started the "Lunchtime Learnings" activity where we invited innovators from local and regional businesses to share their projects or their thoughts on innovation. Our masters qualification was upgraded and received the approval of a name change – now Masters in Applied Innovation – that sets a very interesting path for co-creation in global projects!



Warsaw Design Factory

Warsaw University of Technology



We educate engineers of the future and global innovators that participate in international teams.



Warsaw Design Factory is a unique place at the Warsaw University of Technology. The WDF trademark was built based on many years of experience and activity of the Rector's Team for Innovative Methods of Teaching as well as the Department of Young Researchers' Innovation Development in the Center for Innovation and Technology Transfer Management of Warsaw University of Technology.

Our goal is to build an innovative university, interdisciplinary and creative teams of young scientists, as well as passionate and fully involved academic staff. We educate engineers of the future and global innovators that participate in international teams. We also develop the teaching

competencies of the academic staff.

This year, WDF worked on eight projects including the courses of Product Development Project, ME310, KSP (Creative Semestral Project), UniStartUp, Rat Relay and the Design Thinking Week. Students tackled challenges such as the development of a digital lure that can be altered on the fly and building a scale model of a construction site. Some of the sponsoring companies were PKO BP Finat, Willson & Brown, Rapalla, Trenox, the City Hall of Warsaw and the City Hall of Żuromin.

The highlight of the year was the official opening of our Design Factory on June 25th!

**Warsaw University
of Technology**

Fusion Point

ESADE, Universidad Politècnica de Catalunya and IED Barcelona



We are not only thinking about how to address the current demands facing academic learning, we put our thoughts into action through innovative pedagogical initiatives.

Fusion Point is prototyping the future of education! We say that based on both our core mission and activities, as well as our overall research efforts. We are not only thinking about how to address the current demands facing academic learning, we put our thoughts into action through innovative pedagogical initiatives. Every course and outreach activity give us the opportunity to implement and test novel tools and approaches whereby multidisciplinary student teams from business and law (ESADE Business and Law School), engineering and technology (Polytechnic University of Catalonia (UPC)) and design (IED Barcelona Design University) work together to generate creative ideas and concrete innovative solutions.

Some of the topics of this year's briefs

include: Smart fabrics, banking, food waste, blockchain, industry 4.0, legal design, customer experience, online shopping experience, and healthcare. We also worked on six different sustainable development goals: gender equality, quality education, good health and well-being, zero hunger, affordable and clean energy, clean water and sanitation. We ran over 14 projects including the CBI (Challenge Based Innovation) and I2P (Internship Innovation Project) courses. The briefs we received came from Accenture, Massimo Dutti, RACC, Festo, Computer Associates (CA), Boheringer, Caixabank and Yoomakeup.

The highlight of this academic year was our official inauguration on February 22nd, where we had the pleasure of welcoming Eetu to our DF!



Kyoto Design Lab

Kyoto Institute of Technology —————○

Our mission is to innovate through design. Kyoto Design Lab (D-lab) has been chosen by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to deliver its strategic vision for innovation and excellence in higher education in architecture and design.

Kyoto is a city with old roots and traditions, based on centuries-old knowledge and skills, but also forward-looking and home to new technology-based industries and up and coming start-ups. Through different practice-based programs, D-lab contributes to society in cooperation with a network that supports local industrial and economic activity as well as major companies. The lab enables students and other project collaborators to realize their ideas through traditional manufacturing processes, advanced digital fabrication techniques, or a combination of the two. In addition, we have access to the Kyoto Institute of Technology's papermaking and ceramics workshops.



Photo: Tomomi Takano, KYOTO Design Lab, Kyoto Institute of Technology



Through different practice-based programs, D-lab contributes to society in cooperation with a network that supports local industrial and economic activity as well as major companies.



**KYOTO
Design Lab**

Cali Design Factory

PUC Javeriana



We believe in the power of diversity, and resourcefulness while striving for sustainability and human development.

We are a platform for open innovation looking to have a positive and transforming impact in the city of Cali and our region through collaborative learning. We believe in the power of diversity, and resourcefulness while striving for sustainability and human development.

We are a work in progress so we are still figuring out how to fit the open innovation projects in our DF's structure and learning a lot as we go. We had 12 projects this year with briefs from local companies asking us to develop projects around new markets for traditional industries, improving user experiences with drugstore deliveries, gym attendance, university payments, increasing

employee loyalty (emotional salaries) for companies with many workers, de-stigmatizing shooting sports in Colombia, and improving current recycling and self-care habits.

We also worked with IoT on health, augmented reality for storage logistics, and gamification of sex education and territorial conflict resolution. Since October, our ME310 Engineering students are working with master's students from India to develop an IoT-based solution for ACL rehab therapy sponsored by Phillips. Our Rat Relay sponsors challenged us to think about keeping children away from violent groups and create the Colombian university of the future!

Inno. Space

inno space
DESIGN FACTORY MANNHEIM

Hochschule Mannheim —○



■ ■
We work with partners from corporate organizations to develop projects that address real-world challenges.

InnoSpace provides the environment for passion-based learning, co-creation across disciplines and industrial cooperation. We facilitate teamwork, prototyping and digital fabrication in an inspiring and open atmosphere. We work with partners from corporate organizations to develop projects that address real-world challenges, and support various educational concepts that foster complex problem-solving, innovation and entrepreneurship.

This year we ran DF-related programs such as CBI-A3, SQUAD, ME310 and Rat-Relay. Some of the challenges given by sponsors such as Valeo or Susi & Janes were related to mobility, water purification, circular economy and voice user interfaces. We also had the honor of hosting a visit from the Ministry of Education.

Tartu Delta Sandbox



University of Tartu



**In 2018, Tartu Delta
Sandbox worked on
three projects.**

Tartu Delta Sandbox is a co-learning and co-creation platform for connecting students, researchers and companies for experimental digital product and technology innovation. In 2018, Tartu Delta Sandbox worked on three projects, including the Software Product Management, Human Computer Interaction and Product Design Project courses. Participating students roamed their brains to ideate around smart cities!

In 2020, we will open our own space and can use the Robotics, IoT, VR and Computer Graphics labs. For now, we are a flying squirrel in a development process: small, yet agile and high flying, taking it step by step.



SIT

Design Factory



Singapore Institute of Technology



Photo: Nicholas Teo, Singapore Institute of Technology



Both partners have since worked with SIT on various collaborations and projects.

Over the past few years, the Singapore Institute of Technology has been laying down the foundation for SIT Design Factory, closely supported and enthusiastically championed by Design Factory Melbourne and Aalto Design Factory.

A total of three Bootcamps have been organized to build the innovation capabilities within SIT

and its ecosystem: one in 2017, one in 2018, and one in 2019. They have been created in tight collaboration with industry partners Singapore Accountancy Commission (SAC) and the National Library Board (NLB). Both partners have since worked with SIT on various collaborations and projects.



**We are already the
2nd largest DF in
all of Finland!**



HAMK Design Factory is located in Hämeenlinna, Southern Finland. You can remember us from the number 7: 7,000 students, 700 members of staff in total, and 7 campuses. That's why we have made sure to have 7 members of DF staff. Established in August 2019, HAMK DF is one of the youngest design factories, but we are already the 2nd largest DF in all of Finland!

What we have in common with all the nodes of the DFGN is passion

to learn and create something new. Despite the limited history of the HAMK DF, we have already been a part of creating interdisciplinary solutions for the epic challenges the local companies have. From the DFGN we also hope to gain insight on how to co-create a better future.

HAMK DF comprises the disciplines of Business, Design and Technology to a mix that creates passion for doing!

St. John's University Design Factory



St. John's University

Our mission is to develop a culture of passion-based learning at St. John's University.

The St. John's University Design Factory is an interdisciplinary product design and learning center that connects students, faculty, and industry leaders. Our mission is to develop a culture of passion-based learning at St. John's University that pays unique attention to strengthen highly-sought professional skills such as problem solving, innovation, and entrepreneurship for our students. We strive to develop innovative

solutions for social issues that impact the poor and marginalized.

Housed in the College of Professional Studies at St. John's University, Design Factory benefits from the multidisciplinary layout of the college. Students here major in various fields include communications, law, television, film, advertising and computer science.







Events & Milestones

These are some of the milestones achieved by our crew and the main events held for the DFGN network over the course of 2018.

ADF

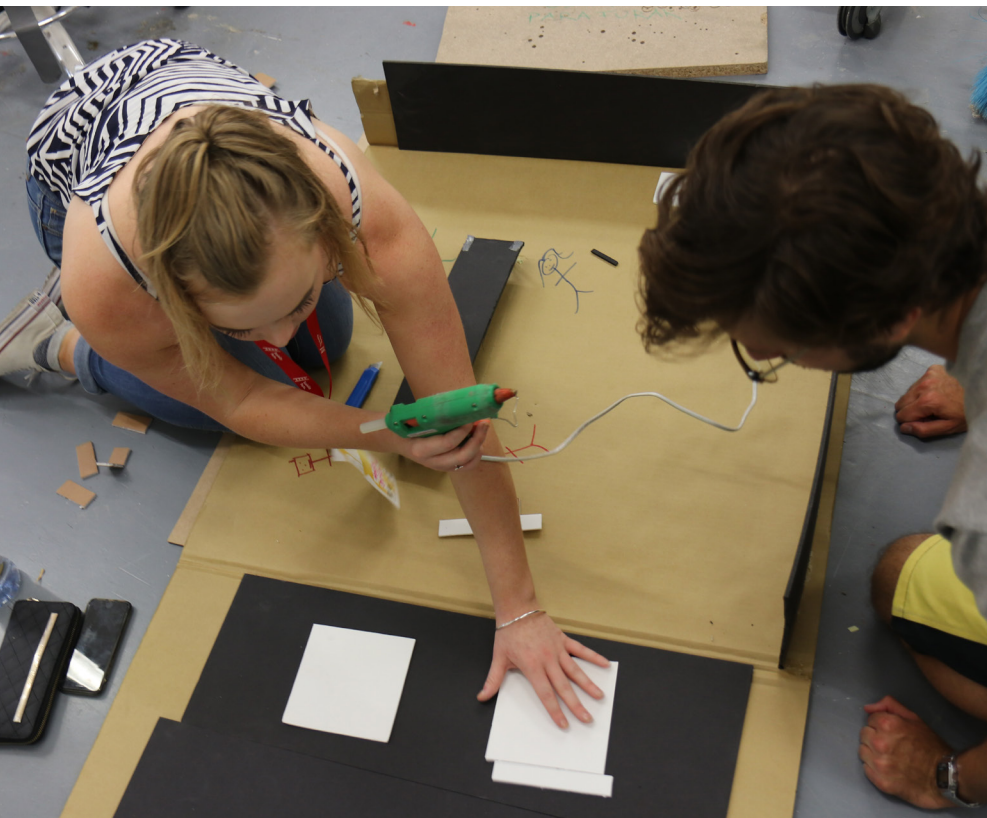
10 Years

On a cloudy Thursday in September, the Aalto Design Factory celebrated its first decade on this planet. In true DF-style, the aim was not to dwell on past accomplishments, but rather look forward: how can Aalto Design Factory broaden its reach and attract community members from an even wider range of backgrounds, disciplines and institutions? How can we add value to the extended community we are a part of?

From early Thursday morning until late Friday evening, we organized 28 events focusing on creating touchpoints with individuals who have not been in contact with ADF before. The different events attracted 728 participants – 531 of them had never or hardly been in touch with ADF until that point. The celebrations were focused around interaction: Visitors participated in workshops, they got to build their own bottle openers, or try soldering electronics. Some of the workshops were held for the first time, and have since become services we offer to visitors and collaboration partners.



RAW 2018



In June 2018, we invited students from all the design factories around the globe to work with us, and design the future!

Five workshop days of exploring possible futures, building scenarios, brainstorming, prototyping and testing with professors, coaches and experts gave rise to seven themes that are essential in developing the design factories and higher education of the future:

1. Co-creation through collaboration, cross-pollination and knowledge sharing.
2. Open innovation through transparent information sharing and international mobility.
3. Inclusiveness, being truly agnostic on who can participate, welcoming people of all kinds to join.
4. Holistic approach, sharing the skills of the future, learning system-level critical thinking, advancing human and planet centric design
5. Empowerment through motivation, creativity through playfulness.
6. Ecological, economic and social sustainability
7. Self-driven and customized life-long learning experiences

What does the design factory and higher education of the future hold for you?

IDFW 2018

International Design Factory Week (IDFW) is the annual opportunity for DFGN members to meet and learn more about the best practices in the network, and plan future collaborations. IDFW also serves as the main platform for the network's decision making.

Every year the week is organized in a new location. That gives the network the opportunity to learn more about the hosting design factory, and it gives the larger community of the hosting design factory the opportunity to learn more about the network. IDFW 2018, the 7th of its kind, was hosted by Porto Design Factory.

52 participants
21 DFs
19 countries
53 hours of program
5 hands-on demos

20 collaboration projects were formulated or improved.
Four of those projects had substantial participation in 2018, demonstrating the importance of joint planning, and the power of collaboration in every DF's goal: to become global, pertinent, and just plain cool.

PARTICIPANTS:

52

DFS

21

COUNTRIES

19

HOURS OF
PROGRAM

53

HANDS-ON
DEMOS

5







Join us

DFGN.ORG

Join a family of truly mad people, eager learners,
fearless experimenters and passionate innovators

THE END

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Concept Design: Cali Design Factory
Graphics: Cali Design Factory

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Design Factory Global Network is defined by the collaboration projects that we do. This Family Album is such a project. Thank you to all who have dedicated their time to make this a reality.

All the students, staff, coaches, professors
and pets at every DF around the world

The World Wide Web

And Eetu. Because this family is a
dream that came from his head.

**DESIGN FACTORY
GLOBAL NETWORK**



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