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DESIGN +

*Organizational renewal and innovation
through design*

The products, services, technologies, ecosystems, and networks of today are much more interconnected and complicated than ever before. As a result, private and public organizations alike are turning to design to find new ways to create value, manage uncertainty and innovate in a sustainable manner. Design can play a variety of roles on different levels in organizations, with different effects. The Design+ book offers an overview on how design and design thinking can change our organizations, drawing from academic research and company experiences in different industries. We showcase different perspectives and approaches, and hope to inspire you to explore the opportunities through which design can help to renew your own ways of working.

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Passionate about cultural differences and tensions resulting from varying ways of being, Floris is experienced in designing, facilitating and researching design practice. As a researcher at the Design Factory, he combines participatory design and research practices to amplify unheard voices and challenge power imbalances and normative hierarchies.



Cultural change in education

Floris van der Marel, Aalto University

Knowledge hubs in educational institutions experiment with exploring new forms of education, challenging established ways of preparing students for the world. For the teams running the hubs, this is a balancing act, as they need university resources and legitimacy to operate effectively, while seeking autonomy to design freely. This causes representatives of these hubs to employ various strategies, at times pulling away from their institute, shielding their initiatives from existing procedures or norms, while simultaneously building traction across the university for their alternative ways of providing education.



Adapting to changing societal complexity is a key challenge for higher education¹. To explore new ways of delivering education, design thinking is often mentioned as a valuable approach, as it is effective in opening up fixed mindsets and increases collaboration². By taking advantage of the various perspectives and knowledge present in interdisciplinary teams, design thinking has been found to support people with diverse backgrounds to push for innovation in their field. Traditional norms and regulations at large higher education institutions however, can stand in the way of nurturing a creative culture that is both innovative and supportive.

In the past decade, innovation and knowledge hubs have been popping up in educational and research facilities³. While the way they operate depends on the context of these hubs, typically they include at least a physical environment, resources and facilitation⁴. These hubs facilitate the exchange of experiences and information between students, teachers, researchers and industry representatives, less constrained by existing ways of delivering education. Knowledge hubs

at universities thus have the capability to act as design studios offering space for different types of knowledge and interest communities, with core activities revolving around designing and experimenting with new forms of education with different parties.

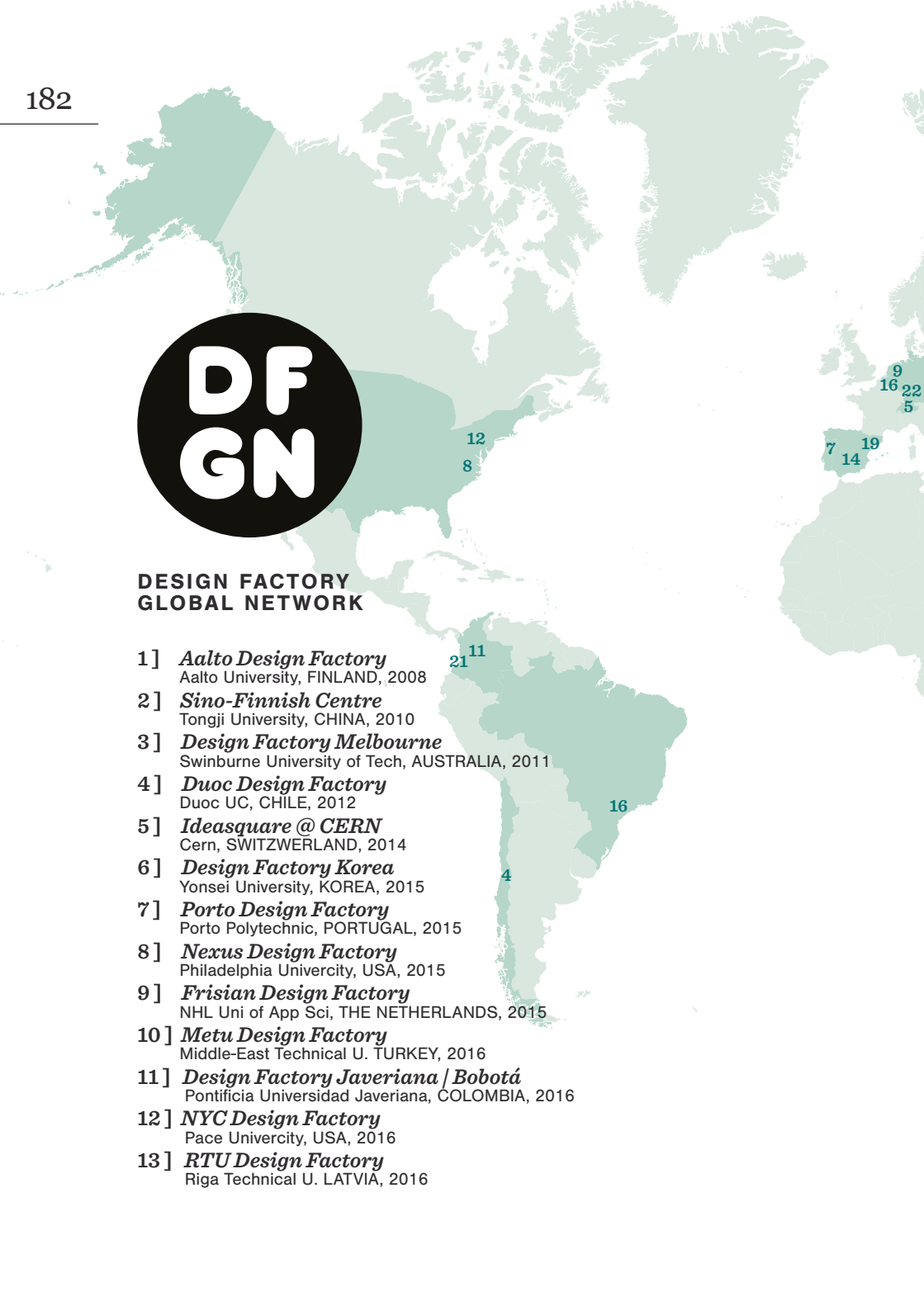
One example of a design-oriented network of knowledge hubs within education and research institutions is the Design Factory Global Network (DFGN). Identifying as platforms for passion-based co-creation driving change in their local context, the first Design Factory was established at Aalto University in 2008 and has since then spread to 25 institutions across the world, creating a network of autonomous yet connected Design Factories. These entities bring together students, educators and academia with a larger community of businesses, government bodies and non-profits, to co-create and design solutions to wicked problems. Each entity is based on similar values and ways of working, yet largely influenced by the local context - the surrounding society and culture, institutions, and design, business and engineering disciplines. Key activities of Design Factories target both the host organization and the wider ecosystem it operates in⁵.

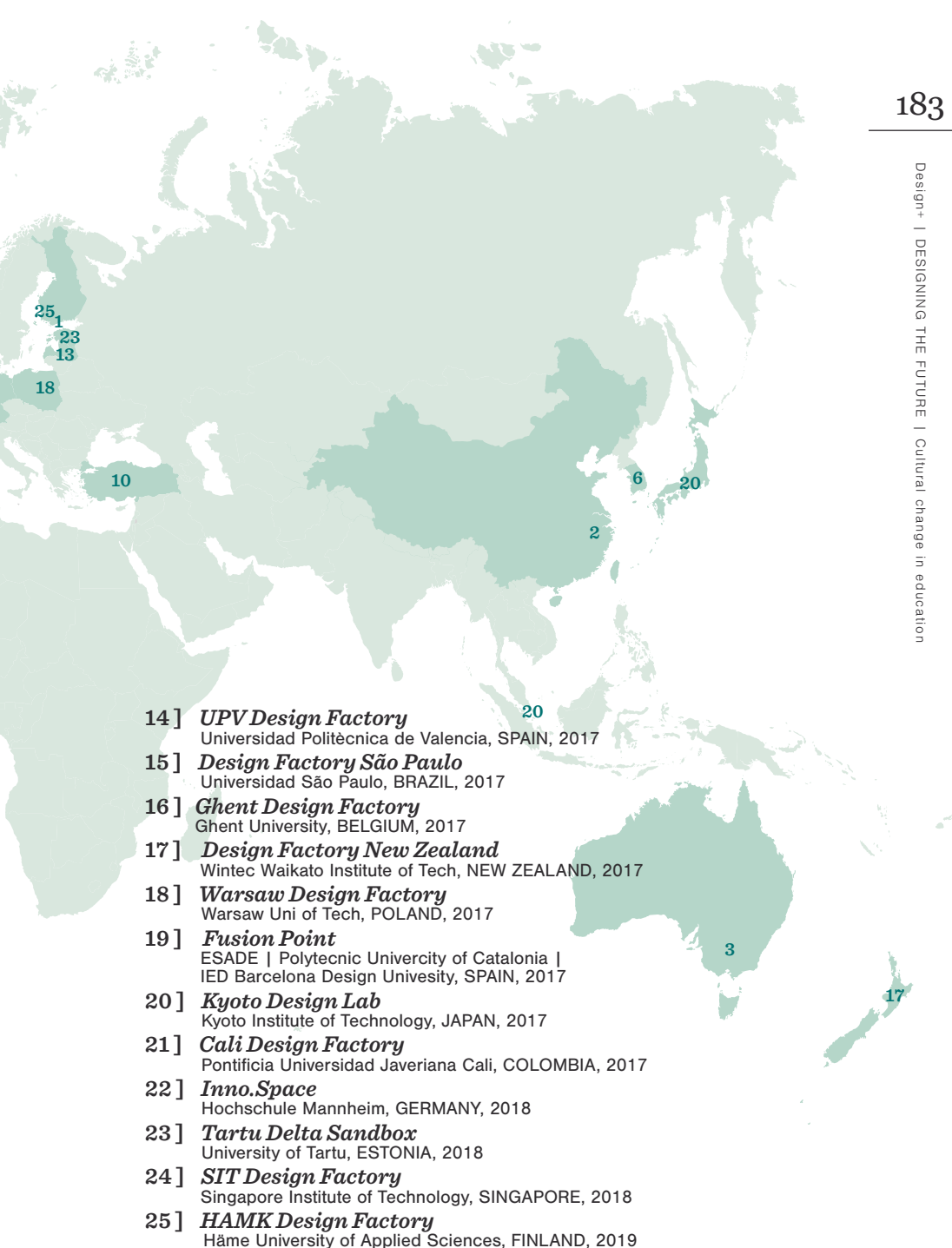
Design Factory representatives shared stories describing the essence, struggles and future plans of their Design Factories. Many discussed the complex relationship between the host organization and the knowledge hub, especially in regards to challenging the existing norms, striving for autonomy, while relying on resources and legitimacy from the host to get students from across the university for interdisciplinary collaborations. The shared challenges are often experienced by various Design Factories across the world, and occur at different times, sometimes even in reversed order due to organizational changes in support.



DESIGN FACTORY GLOBAL NETWORK

- 1] ***Aalto Design Factory***
Aalto University, FINLAND, 2008
- 2] ***Sino-Finnish Centre***
Tongji University, CHINA, 2010
- 3] ***Design Factory Melbourne***
Swinburne University of Tech, AUSTRALIA, 2011
- 4] ***Duoc Design Factory***
Duoc UC, CHILE, 2012
- 5] ***Ideasquare @ CERN***
Cern, SWITZERLAND, 2014
- 6] ***Design Factory Korea***
Yonsei University, KOREA, 2015
- 7] ***Porto Design Factory***
Porto Polytechnic, PORTUGAL, 2015
- 8] ***Nexus Design Factory***
Philadelphia University, USA, 2015
- 9] ***Frisian Design Factory***
NHL Uni of App Sci, THE NETHERLANDS, 2015
- 10] ***Metu Design Factory***
Middle-East Technical U. TURKEY, 2016
- 11] ***Design Factory Javeriana / Bobotá***
Pontificia Universidad Javeriana, COLOMBIA, 2016
- 12] ***NYC Design Factory***
Pace University, USA, 2016
- 13] ***RTU Design Factory***
Riga Technical U. LATVIA, 2016





- 14] ***UPV Design Factory***
Universidad Politécnica de Valencia, SPAIN, 2017
- 15] ***Design Factory São Paulo***
Universidade São Paulo, BRAZIL, 2017
- 16] ***Ghent Design Factory***
Ghent University, BELGIUM, 2017
- 17] ***Design Factory New Zealand***
Wintec Waikato Institute of Tech, NEW ZEALAND, 2017
- 18] ***Warsaw Design Factory***
Warsaw Uni of Tech, POLAND, 2017
- 19] ***Fusion Point***
ESADE | Polytecnic University of Catalonia | IED Barcelona Design Univesity, SPAIN, 2017
- 20] ***Kyoto Design Lab***
Kyoto Institute of Technology, JAPAN, 2017
- 21] ***Cali Design Factory***
Pontificia Universidad Javeriana Cali, COLOMBIA, 2017
- 22] ***Inno.Space***
Hochschule Mannheim, GERMANY, 2018
- 23] ***Tartu Delta Sandbox***
University of Tartu, ESTONIA, 2018
- 24] ***SIT Design Factory***
Singapore Institute of Technology, SINGAPORE, 2018
- 25] ***HAMK Design Factory***
Häme University of Applied Sciences, FINLAND, 2019

CREATING A SAFE SPACE FOR UNICORNS

MOTIVATION - A quest for craziness

“A big collection of different and special personalities”, in one way or another, this is how many Design Factory representatives label their community. Students, educators, researchers and other staff share a passion for having fun while working like crazy. Working at Design Factory is about exploring your interests, enjoying what you do, and celebrating each other’s evolutions and successes. Design Factory gives space to the *“unicorns”* that could be considered misfits in other places of their organization.

Student-oriented attitudes are often considered the greatest asset of a Design Factory, the ultimate goal being student autonomy, personal development and meaningful experiences. Inspiring, motivating and *“life changing”* ways of teaching equip students struggling with failing due to perfectionism with methods to be innovative and make big ideas come true in every workspace.

Design Factories focus on community and team spirit irrespective of whether people are students or staff. Closeness is among other things achieved with *“open DF Slack, having meals together, helping each other with the different problems, celebrating each other’s successes and just spending time together outside of DF activities.”*

BARRIERS - Battling against bureaucracy

Bureaucracy is most often mentioned as a hindrance towards running a Design Factory, *“forcing to do many things in a tiring and roundabout way”*. Design Factory ambassadors need to be willing to push for change, since acting *“differently from others in the university”* results often in a lack of fit with existing structures. Convincing the board or

managers can be time-consuming, and can stand in the way of receiving a budget *“to do all the things they would like to do”* and *“make more opportunities available to students”*.

Strong regulations demand requesting approval for activities outside of existing protocols, and can hinder rapid experimentation. Many therefore advocate for more financial autonomy and less dependence on the school calendar and varying priorities. However, attempts to go around the bureaucratic processes can cause Design Factories to become more detached from the university, complicating collaboration with teachers, who are employed in faculties and not in Design Factory, as well as keeping enthusiastic students, dealing with demands from their curriculums.

DESIGN SOLUTION - Community first

In response to these challenges, Design Factories often opt to focus on building the community, adapting to changes, and be welcoming and accommodating to anybody who wants to join.

“We have grown based on people’s desires and capabilities. In an organic, not so predefined way. So our development is more a journey, more than a schedule.”

One of the most effective ways to make people feel welcome has been creating a space that is cozy and encourages prototyping. Additionally, the adaptability of the space is often a key component, both on a daily basis to make sure different activities, such as workshops, presentations and meetings, can be run, and throughout the year responding to changes in the team and way of working.

Another way people feel at home is through designing welcoming rituals, such as a homecoming party where students are given access

cards, Design Factory t-shirts and a hug; or fun, informal events with music to keep everybody engaged. Both staff and students are also given the freedom to develop ideas, for example *“to move forward with ideas as long as they relate to Design Factory in some way”* and to *“do something crazy every now and then”*. Additionally, Design Factories show they care about their community by training staff so they can excel, shielding them from bureaucracy and supporting them in challenging rules.

GETTING DIFFERENT DISCIPLINES INVOLVED

MOTIVATION - Inclusive growth

Co-creation being at the core of the Design Factory, many aim *“to get interdisciplinary teams of students working together with industry and professors”*. Design Factories want *“inclusive growth”* and increase diversity in their collaborative projects by involving students from different departments all over the university and beyond. Different ways of advertising are explored to invite students and staff to come to the Design Factory space, to *“educate all new users to the DF culture and spirit”*, and to have them *“join the family”*.

BARRIERS - Proving value again and again

Many experiences were shared where it has been hard *“to encourage other people to join, due to the silo structure of the university.”* When Design Factory projects are not accepted for credits, it is difficult to promote its benefits in other faculties. Faculty outside of the Design Factory might not *“understand the purpose or function of Design Factory”*. Convincing university authorities and academic staff that also students without a design background can come to Design Factory, and that it is *“a very valuable thing for their students to do”* can be challenging. The validity and legitimacy of the Design Factory might



be discussed over and over again due to “*confusion and politics*”. This causes unexpected changes in resources, financial, human, or spatial, and spending time and energy to continuously “*prove our existence*”.

DESIGN SOLUTION - Hosting existing courses

In order to gain legitimacy at the host institute, Design Factories collaborate with or integrate existing university activities into the Design Factory space, for example by “*hosting several courses*”, “*running existing modules*”, and by enabling “*every undergraduate degree in our institution to offer the Design Factory module in their programme*”.

Additionally, by “*hosting several courses, but also external events, like hackathons, and workshops in collaboration with industry, we often get compliments for how great the spaces are for this kind of activities: well-designed and well-equipped in terms of technology, tools, furniture and design*”. Almost every Design Factory organizes events related to research, education and design, such as prototyping and testing workshops, student entrepreneurship coaching sessions, technology talks, and hackathons in which students and professionals come together to tackle wicked problems.

Furthermore, Design Factories also engage potential new users in informal ways. Popular examples include a shared breakfast, games to boost interaction, a news wall, weekly tours, all supportive of getting more people to see and experience the Design Factory way. This is supported by a dedication “*to making it very open to students from all the university. If they need to build something, they can just pass by and ask for help.*”

SPREADING THE DESIGN FACTORY WAY

MOTIVATION - Becoming part of the core

Design Factory representatives share a vision of their Design Factory growing, expanding and integrating into the entire university, making its way of working accessible for all students from all different programs. To do so, they want to raise awareness amongst university staff and higher levels in the university, so that their way of working will be accepted by the host at the core, to *“be more of a service to the whole uni”*. Some explore setting up *“multiple physical spaces in different dependencies”*, others focus on *“a bigger team and more infrastructure”*. The majority, however, shared initiatives to *“cultivate Design Factory culture to other departments”* through *“bespoke workshop courses”*, so that more people see and feel the value. When faculty, communities and businesses have a better understanding of the Design Factory culture, it is believed, more *“resources, ideas and synergies”* may be made available to contribute to the development and embedding of the Design Factory.

BARRIERS - A disrupted community

Some Design Factories focused on spreading of the Design Factory culture across campus experience a *“general lack of presence, support and shared excitement in the team”*, since *“some days there is barely anyone from the team in the office”*. This decreases opportunities for collaboration, communal activities and fun, despite everybody working very hard.

Simultaneously, other faculties start implementing similar ideas. Spreading new ways of working is a core goal and can lead to valuable collaboration. However, sometimes space and course solutions can be copied without acknowledging or collaborating with the Design

Factory or its community, resulting in competing for scarce resources rather than learning from each other.

DESIGN SOLUTION - Finding allies near and far

Various Design Factories engage more with other Design Factories in the network. Sharing experiences both in terms of success stories and struggles supports local Design Factories to advance new ways of working and collaborating more successfully. When local team members are spread out, the network also offers much needed understanding and team spirit.

Alternatively, some Design Factories invest more in their own university structure and make themselves an indispensable component of other initiatives at the university, for example at disruptive *“activities that are not so common in our university”*. Another representative mentioned they decided to expand their advisory committee to other disciplines and schools, to *“be more open to our students.”*

Design Factories also secure their position by becoming a vital part of the ecosystem around the university. They involve elementary school students, researchers, scientists outside their host institution, and people of all ages to co-develop startup ideas and co-create new education with the industry. Additionally, they show off by highlighting that Design Factory *“students stand out in job interviews because of the experience they have had working with international teams, communication, learning on our feet, conflict resolution, business plans, etc.”* and taking part *“in an official parade at the culture capital of Europe project”*. This way they show they have an *“influential role in their surroundings”*.



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