

## PROJECT PARTNERS



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## GENERAL INFORMATION

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<b>Title of the case</b>	Demola			
<b>Sales pitch</b>	Fostering curiosity			
<b>Organisations</b>	Demola Network			
<b>Country</b>	HQ in Finland, operating in 17 countries			
<b>Authors</b>	Fernando Fernandez			
<b>Nature of interaction</b>	Open innovation network			
<b>Level of mechanism</b>	<input type="checkbox"/> Government policy (e.g. law, funding framework) <input type="checkbox"/> Organisational strategy (e.g. university/business/agency) <input type="checkbox"/> Structural element (e.g. centre, lab, office) <input checked="" type="checkbox"/> Operational level (e.g. activity or programme)			
<b>Length of programme</b>	<table border="1"><tr><td>Short – 8 weeks</td><td>Formality</td><td>Informal</td></tr></table>	Short – 8 weeks	Formality	Informal
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<b>Curricula-bound, co or extra-curricular?</b>	<table border="1"><tr><td>Co-curricula</td><td>Level of initiative</td><td>Cross-disciplinary</td></tr></table>	Co-curricula	Level of initiative	Cross-disciplinary
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<b>Summary</b>	Demola is a co-creation programme between students and external organizations to deliver challenge-oriented ideas. It was created in 2008 within the innovation ecosystem of Tampere, Finland, thanks to the collaboration of municipality, local universities, and the private sector. After experiencing significant success at a regional level, the network expanded across Europe and is now also present in North America and Asia.			

The Demola Team act as an intermediary between university students and companies, both private and public, offering the provision of professional facilitation services for the completion of creative challenges that are attractive for students and relevant for enterprises.

Building on a question or concept brought forward by the organization, Demola makes use of its extensive network of universities to select a multidisciplinary team of students that will complement the company's current expertise. The pre-defined stages and roles facilitate a very clear communication pattern, and the regulation of intellectual property rights. After eight weeks of constant communication between the organization and students, a proposal is presented, allowing the challenger to purchase the exclusive usage rights to further develop the concept.

Demola offers the externalization of facilitation functions to access a larger collaborative network. Present in 17 countries and with over 50 universities as part of the framework, it can benefit organizations by delivering highly effective, co-creative projects with multidisciplinary groups that improve the quality of the research. For students, it allows them to experience high pressured environments with the added recognition in the form of university credits.



## CASE STUDY PROFILE

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### BACKGROUND

The creation of Demola is closely linked to the commitment of the city of Tampere, Finland to reach the highest levels of collaboration. Despite the moderate size of the city (around 200,000 inhabitants), a very potent innovation culture has been nurtured, facilitating the relocation of research and product development centres for a variety of businesses not only related to IT and telecommunication industries, but also to more traditional activities, such as life sciences.

The creation and growth of such a strong, innovative ethos required the engagement of local and regional governments, as well as the optimization of the talent available in the local universities. The former are heavily invested in the delivery of services and products that will benefit the local population and will help achieve more inclusive governance. Continuous

financial commitment and a supporting role complemented the initiative by private organizations and facilitated communication with HEIs.

As well as government bodies, local universities have always played a very important role in the generation of a successful innovation ecosystem in Tampere. Historically divided into the University of Tampere and Tampere University of Technology, these institutions merged in January 2019, and now operate as Tampere University. This new organization incorporates a wide range of faculties from IT and communication technologies to social sciences and medicine with a total of over 20,000 students.

In 2007, the Nokia Innovation Centre was established in Tampere (1) with the intention of capitalizing on the ingenuity of students from local universities to produce real innovation and answers to the latest industry challenges.

Later iterations of this commitment include the following innovation platforms in Tampere:

- TreStart: a networking and innovation platform that aims to kickstart the creation of jobs through the collaboration between companies in the region and experienced job-seekers (2).
- Oma Tesoma: an urban district-based innovation platform that operated between 2013 and 2018. The district of Tesoma, built in the 1960s, was used as a testing ground for public and private stakeholders to generate innovative concepts and develop attractive places that will improve living conditions and services to citizens with the objective of finding solutions that benefit the wider local and regional context (3).

## CONTEXT

Created in 2008, Demola embraces the need for multidisciplinary approaches for the educational community, as well as public and private enterprises. Evolving around the concept of global megatrends, Demola reckons no organization can succeed without connected thinking. These trends affect all areas of business in different ways and it is important to ask the right questions for enterprises to remain relevant.

In this context, Demola offers a comprehensive service that can benefit students, as well as organizations. The dedicated facilitators help companies identify issues that require innovative thinking and deliver a group of students with a range of expertise that will instigate a productive conversation. One of the priorities for Demola is to provide a co-creative ecosystem that is fair and reasonable for students. In order to achieve that, proposals from the challenges belong to the team, with the possibility for organizations to invest in the development of those concepts.

Demola was first established in Tampere thanks to the cooperation between the municipality, HEIs, and business fabric (especially Nokia and Hermia Group) (1). Results from the first round of projects triggered the interest of more companies. The succession of feedback and internal assessment culminated in the development of a New Factory in 2012, which operates as a hub for open innovation activity and Demola's local co-creation centre.

The continuous success of its structure and the transferability of the concept allowed for consistent growth through the last decade. It is currently present in 17 countries with over 50 universities participating in the Alliance and with a pool of potential participants of more than 750,000 students.

The multidisciplinary nature of the creative teams allows Demola to welcome participants from any academic background. These include the following 10 core topics (4):

- Business
- Software
- Design and Art
- Education
- Engineering
- Environment
- Governance
- Healthcare
- Media and Communications
- Social Science

## OBJECTIVES AND MOTIVATIONS

The objectives of the Demola program is to:

- Offer professional facilitation for companies to participate in co-creative activities, encouraging existing employees of public and private enterprises to experiment through co-creation with university students.
- Develop a wider understanding of complex urban challenges, exposing the municipality to different perspectives and diversifying their approach through innovative thinking.
- Offer a structure for students to access development opportunities outside the standard channels offered by their institutions, including new work methods and a different range of professional expertise, in order to cultivate skillsets that will equip them for their future career.
- Provide a platform that connects the interests of companies and universities, allowing employees of enterprises to grow their skills while enhancing the teaching activities of the HEI.

## STAKEHOLDERS

The main stakeholders of the challenges are:

**Demola Team:** normally represented by the facilitation team and supporting staff, it assists with the development of the creative process from the definition of the challenge to the delivery of workshops and presentations.

**University:** the HEI's engagement can be divided into three main components:

- At an institutional level, by becoming members of the Demola Alliance, HEIs access the benefits of challenges complementing the traditional educational model. This also allows the university to explore potential for cooperation with other institutions and businesses.
- Academics: through their support to students with their knowledge on specific challenges, academics discover new opportunities to improve their research. Also, the Alliance offers the possibility to engage in new cooperation with other national or international researchers.
- Students: their participation in the Demola challenges through multidisciplinary teams allows for a more diverse discussion of topics, considering a wide range of scenarios and offering organizations a holistic vision on how their concept can be further developed.

**Public and private organizations:** known as challengers, it consists of businesses, entrepreneurs, and government bodies that bring forward specific questions that are important for the future of their activity. Representatives of these organizations engage with students in the co-creative process, evaluate the quality of the final proposal, and make a decision on the potential applicability of concepts.

In the case of local and regional government, their support to the Demola Network can also be triggered by the wish to encourage a more significant, collaborative ecosystem. The potential increase in competitiveness for businesses and universities is perceived as a desirable outcome that can develop into other benefits for society.

## PROCESS

### INPUT

The organization of Demola projects starts with the formation of a co-creation centre that will act as an anchor for HEIs and organizations to engage in more permanent cooperation. There are over 15 co-creation centres already established, and an increasing interest to develop the concept in new locations. These centres, with an estimated yearly cost of €150,000 to €300,000, include facilities for meetings, workshops, and presentations, and are usually financed between universities, businesses, and local governments to kickstart a more prominent, collaborative culture.

Partner organizations (public or private entities) provide the funding for specific challenges. The cost of one project is €7,500 + VAT and that includes facilitation, assistance with the definition of goals and research questions, recruitment of students that match the requirements of the challenge, and global, non-exclusive license of the results.

For universities, the financial investment to become a member of the Alliance grants their academics and students immediate access to all existing challenges. Once their membership is established, universities provide access to their current students. They use their internal communication channels to promote the Demola events, which are also supported by ECTS credits.

## ACTIVITIES

Before involving students, the Demola team engages with the challenger. These meetings and workshops aim to define the institution's approach, focusing on the accuracy of questions instead of the provision of answers. Representatives of Demola and the partner organization arrange a starting point that is meaningful for student growth and for the corporative objectives of the company. For example, the City of Tampere proposed the potential for implementation of smart city concepts from other locations, adapting them to the peculiarities of the Finnish context (5).

Once the main question is decided, the challenge is published for students to sign up. There is no geographic restriction in the application process, representatives from any university of the Alliance can be selected. However, each challenge includes a series of events with compulsory attendance, which needs to be considered when applying. Students have to show their interest in the topic, regardless of their discipline. The selection of members of the team can be organized by the university, but the Demola team can assist with the process. Available challenges are presented around 6 main themes:

- Sustainability
- Better life and wellbeing
- New technology
- Society and culture
- Future insights and markets
- Disruptive services

Students from all disciplines are invited to apply with the project aiming to form a multidisciplinary team of between 4 and 6 members. They will collaborate with 1-3 representatives of the organization to develop suitable concepts that aim to answer the main challenge.

The co-creative process runs for a total of 8 weeks in both semesters of the academic year (September to December and February to May). **Once formed, and after a first briefing, the team undergoes three main stages:**

- Preliminary sessions with Demola facilitators and academics from their university to complete their research on the topic. This allows for future co-creative sessions to be more efficient.
- A series of Demola Jams, creative workshops between the student team and members of the organization. With the assistance of Demola facilitators, the conversation addresses potential lines of research, finetuning the existing proposals and reframing the study.
- Final demonstration from the student team, presenting their findings and final recommendations. These ideas can be in the form of services, products, or concepts.

After this last presentation, organizations can express their interest in the product or service and whether they want to acquire the rights to commercialize it. Demola provides a platform to determine the financial compensation, allowing students to be rewarded for their ingenuity while enabling companies to capitalize on the success of the co-creative process.

From the first selection, teams run a publicly accessible blog to keep track of their progress and reflect on the challenges and peculiarities of the project. An example of this is the publication for the Ylöjärvi project, working on the design of a municipal mobile application for citizens (6).



## OUTCOMES AND IMPACT

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### OUTPUTS

The outcome of the process can be a new concept, a demo, or a prototype (7) referring to the proposed challenge. The intellectual property of concepts and ideas belongs to the students while organizations own the background information that led to the development of proposals.

The nature of open innovation processes creates a wide range of potential outputs. Demola projects do not evolve around the need to produce specific solutions within the given timescale. Instead, the concept can get reframed based on findings throughout the process and can lead to a change in research priorities.

### IMPACTS

The standard fee for a Demola project gives organizations global, non-exclusive license of the proposals. In addition to this, enterprises have the opportunity to purchase exclusive usage rights of the results of the project. This distribution of ownership reinforces the direct relationship between students and organizations with Demola providing a framework to regulate their negotiation for the usage of intellectual property.

Students often use the events to secure internships with the partner organization, expanding their professional networks and strengthening future employability. They also enhance their presentation and teamwork skills. In addition to this, students that participate in Demola projects are awarded credits by their university. For example, Luleå University of Technology allocates 7.5 ECTS credits to their Demola challenges (8), while the University of Helsinki awards 5 ECTS credits (9).

HEIs can use the Demola Global Network to develop international connections and engage in cooperative research with other Alliance partners. Academics connect with members of different industries, as well as other universities that carry out appealing lines of investigation.

The network also facilitates higher levels of international mobility. In conjunction with Erasmus Plus initiatives, there have been a variety of students and academics that have spent time with other university partners, engaging in more productive collaboration and increasing their understanding of other disciplines and markets.

Besides, the structure of Demola relies on the renewal of membership by HEIs and the presentation of challenges by organizations in order to maintain the financial stability of the network. The continuous growth within Europe and recent expansion to other regions generates

sufficient demand to assume that there is enough security in the framework to maintain its activities through a prolonged period of time.

## SUPPORTING ENVIRONMENT & SYSTEM

### SUPPORTING MECHANISMS

The structure designed by the Demola team presents clear roles of students and organization through the process. The nature of this framework protects the engagement of students and enhances the impact of their input into the project. By encouraging this equality in the dynamics within the group, Demola creates an environment that optimizes outcome via lack of hierarchy.

Thanks to the internationalization of the programme, students from any university member of the Demola Alliance are invited to attend challenges in a different location. The homogeneity of processes that applies to all university partners facilitates the transferability of students and the recognition of activities between HEIs.

### BARRIERS AND DRIVERS

Demola often encounters the idea that collaboration between universities and companies is received with scepticism by public and private enterprises. This is influenced by the traditional perception of co-creation as a unidirectional exchange, in which HEIs benefit from the exposure for researchers and students without creating a noticeable return for the municipality.

It is also possible for companies to get involved in the challenges with inaccurate expectations. Enterprises sometimes assume the Demola challenge will deliver final ideas or products, which differs with the original intent of the co-creative process. However, final presentations are not always complete products or services. The iterative process and the dialogue between organizations and students can often modify the question, which also alters the potential outcomes of the project.

With regards to universities, it is frequent to encounter difficulties to translate the initial commitment into action. Due to the size and structure of HEIs, the intent to engage in co-creation activities with companies and the internationalization of researchers and students can be hindered by the difficulty to release the necessary resources and to reach approval from decision-makers.



## LESSONS LEARNED

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### CHALLENGES

The main challenge for Demola is to capitalize on the potential impact that an extensive network can bring for organizations and universities. The concept includes not only the completion of challenges, but also the establishment of consistent collaboration networks. Maximizing communication between academics, entrepreneurs, and municipalities is a key objective for the future of Demola.

### KEY SUCCESS FACTORS

Conceptually speaking, Demola sets itself apart thanks to the priority given to the relationship between students and organizations. This direct communication facilitates a greater focus on the specific challenge proposed by the partner.

The Demola Alliance and its international reach allows companies to access a much larger pool of talent. This range of expertise strengthens the relevance of challenges and promotes universities as local anchors for regional cooperation. It is also a cost-efficient solution for companies to develop innovative ideas outside of their traditional area of expertise.

The externalization of facilitation services provides a homogeneous co-creative process optimized to the expectations of municipalities and businesses. By joining the Alliance, universities benefit from the dedication of Demola resources to the continuous growth of the network.

Also, the allocation of different contact points increases the levels of trust between students and challengers, enhancing communication and strengthening the quality of the outputs (10).



## FURTHER INFORMATION

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### AWARDS AND RECOGNITION

In 2010, the Tampere Chapter of Demola received the Assembly of European Regions (AER) Innovation Award, highlighting the potential to establish collaborative networks across sectors and the provision of a neutral ground for students to explore innovative ideas (11).

Other accolades include the 2012 Baltic Sea Region Innovation Award (12) while the CEO Ville Kairamo was awarded the Nokia Foundation Recognition Award 2013 (13).

## TRANSFERABILITY

Due to the flexibility of the challenges, and the possibility to incorporate students and academics from any discipline, the opportunities to transfer the Demola ecosystem to new contexts are numerous. There is a clear interest from HEIs and industries to take part in the challenges with the potential to expand the existing network.

There are several examples of universities and other institutions replicating the Demola model. This is the case of InGenious, a Swedish enterprise offering project-based learning focusing on collaborative environments. Their model has now been integrated into the curriculum of Linköping University where the course 'InGenious - Cross Disciplinary Projects' amalgamates the activities and processes of the Demola method (14).

## PUBLICATIONS

- Lamminmäki, K. and Salminen, V. (2014) Demola: Open innovation platform.
- Kilamo, T., Hammouda, I., Kairamo, V., Räsänen, P. and Saarinen, J.P. (2011) Applying open source practices and principles in open innovation: The case of the demola platform. In IFIP International Conference on Open Source Systems (pp. 307-311). Springer, Berlin, Heidelberg.
- Törnqvist, E. (2015) Cross Disciplinary Projects: A Cooperation Between Linköping University, Demola and the Surrounding Society. In Proceedings of the 11th International CDIO Conference, Chengdu University of Information Technology, Chengdu, Sichuan, PR China, June 8-11, 2015.
- A short presentation on the basic structure of Demola challenges can be found in the following link: <https://www.youtube.com/watch?v=sTNGHarMRdI>

## LINKS

<https://www.demola.net/>

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## RESOURCES

- 1) Business Tampere. Demola – how did it actually come about? Available at: <https://businesstampere.com/demola-how-did-it-actually-come-about/>
- 2) TreStart. Available at: <https://www.trestart.fi/>
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- 5) “Smart City” and “Find Projects.” Demola Tampere—Open Innovation Platform for Students and Companies. In Lamminmäki and Salminen, 2014, pp. 4
- 6) Digital Upward Spiral of Ylöjärvi. Available at: <https://digiupspiralylojarvi.wordpress.com/>
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- 9) University of Helsinki. Apply to Demola co-creation working life project. Available at: <https://guide.student.helsinki.fi/en/news/apply-demola-co-creation-working-life-project>
- 10) Science2Society. DEMOLA – facilitating co-creation projects between university students and companies. Available at: <http://science2society.eu/content/demola-facilitating-co-creation-projects-between-university-students-and-companies>
- 11) Assemble of European Regions. Tampere (FI) wins the AER Innovation Award. Available at: <https://aer.eu/tampere-fi-wins-the-aer-innovation-award/>
- 12) Baltic Development Forum. Call for nominations – BSR Innovation Award 2013. Available at: <http://www.bdforum.org/call-nominations-bsr-innovation-award-2013/>
- 13) Nokia Foundation. Nokia Foundation Award 2013. Available at: <http://nokiafoundation.com/archives/nokia-foundation-recognition-award/2013-2/>
- 14) Linköping University – InGenious, Cross Disciplinary Project. Available at: <https://liu.se/en/education/course/799g52>