



Espoo as a digital launch pad





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The city of Espoo is today regarded as one of the high-tech hot-spots of Europe. The city was long heavily dependent on a limited number of technology flagship companies: Espoo was synonymous to Nokia. Hence, when Nokia's situation became tougher, Espoo had to face a major challenge: how to cope with a massive wave high-skilled, unemployed technology experts. This crisis was turned into new opportunities by Espoo, by creating a vibrant start up ecosystem. For example, Slush, Europe's leading startup event, originates from Aalto University of Technology. Today, Espoo is entrepreneurship and entrepreneurship is Espoo.

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Problem statement

A European high-tech hot-shop

The city of Espoo is regarded as one of the high-tech hot-spots of Europe. The city benefits from strong innovative roots deeply linked with the history of Aalto University and the headquarters of large companies such as Nokia.

Nokia is major contributor to Finnish economy

Nokia plays a major role in the digital economy of Espoo. During its peak, this Finnish multinational company employed more than 23,000 workers in Finland and accounted for ca. 4 % of the Finnish GDP.¹

Layoffs at Nokia are a big challenge on the national and local level

Over the past decade, the series of layoffs at Nokia and the acquisition of Nokia's mobile phone business by Microsoft have left the city of Espoo with a surplus of tech workers.

14,000 ICT professionals (14%) out of the approximately 100,000 ICT-workers in the country, have been affected by the mass layoffs of Nokia. A large majority these layoffs took place in Espoo.²

Nokia's initiative to turn layoffs into new opportunities

The city of Espoo and Nokia along with the national government and education providers have developed collaborative strategies to ease Nokia's strain and to turn it into Finland's benefit.

In 2011, Nokia launched the "Bridge programme" which aimed to provide new career opportunities to its laid-off employees.³

The Bridge programme led to the creation of about 1,000 business start-ups by former Nokia workers who benefitted from the entrepreneurship programs and the investments made by Nokia to (re)train its former labour force.

Public support complements Nokia's efforts to re-employ laid-off workers

The engagement of the city of Espoo was reflected by the creation of the "Task force for the structural change in the Metropolitan area".⁴

This network-based collaboration model gathered companies, educational institutions and career planning services.

The aim of this collaborative action was notably to survey the skill and recruitment requirements of companies in the metropolitan area in order to provide advice and trainings to Nokia's laid off employees.

The success of the initiative is illustrated by the high number of former Nokia employees who found new career paths and employment opportunities thanks to the program.

Despite Nokia shock, Espoo remains vibrant place for digital innovation

Despite the Nokia crisis, the city of Espoo managed to preserve its technology-driven prosperity.

The phenomenal success of the company and the rapidity of its decline act as powerful reminders of the negative impacts and knock-on effects likely to result from a digital disruption.

Over the past 10 years the vibrant start-up community in Espoo has been extremely active. Lately this digital start-up community has highly contributed to the digital transformation processes of local traditional companies.

The concentration of tech workers and the innovation and entrepreneurship spirit drove Espoo to a supreme burst of digital transformation.

Mass layoffs of Nokia in Finland



Out of 100,000 ICT-workers in Finland, 14,000 were affected by the layoffs

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Realised benefits and new opportunities

Abundance of highly skilled, laid-off workers attract foreign companies

The crisis of Nokia brought new opportunities to Espoo. Foreign tech companies struggling to find highly skilled developers and engineers moved to Espoo to benefit from the skilled workers made redundant by Nokia.

Continuing investments in Espoo further strengthen digital workforce

Leading global companies, such as Google, Microsoft and most recently the Chinese tech company Huawei and the Russian Yandex, have engaged in direct investments in Finland.

The attractiveness of the city of Espoo for new Foreign Direct Investments (FDIs), for start-ups and for major companies has increased the amount of digital jobs and business tax revenues in Espoo.

With this background, it is estimated that the population of Espoo grows by 24% within the next 20 years.⁵

Espoo's strong digital ecosystem enabled the instant recovery

The Nokia case and the new opportunities which resulted from the generation of highly skilled ICT professionals served as a prime evidence for the benefits arising from the creation of a digital ecosystem in Espoo.

As a result, an increasing number of traditional businesses in Espoo are engaging in a digital transformation processes. This digital shift of which was carried out by start-ups and traditional businesses in Espoo has revitalised the local economic fabric.

Digitalisation has also reached the public service in Espoo

The development of a digital economy has increased the wealth generation capacity of the city of Espoo. Consequently, this led to the creation of improved public services for the city residents.

The city of Espoo has increasingly involving local tech companies and students to develop innovative digital solutions to tackle local societal or environmental challenges.

Aalto University focuses exclusively on the skill-demand of businesses

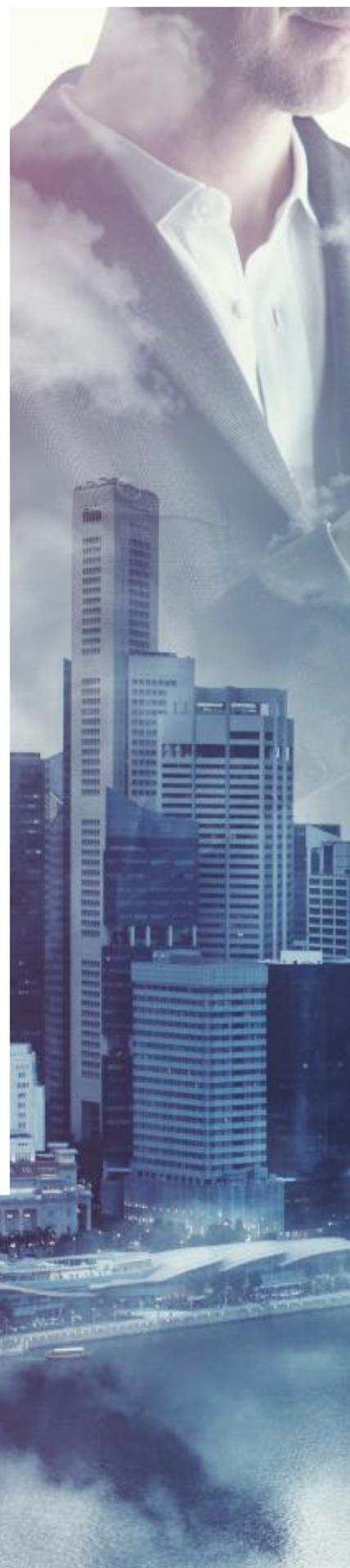
The creation of Aalto University and the recent strengthening of its digital competence form part of the academic strategy to meet the needs of the quickly digitizing economy in Espoo.

Aalto University announced the launch of a project to study the opportunities and impacts of digitalisation, robotics, the platform economy, and the energy revolution.

These strategic projects received over EUR 13 million of funding from the Academy of Finland's Strategic Research Council (STN).⁶

They will enable the creation of targeted policy solutions to accelerate the digital transformation of Finnish industries.

"Aalto University is phenomena of its own; combining technology, business, art and science under the one roof"
– Micke Paqvalen, CEO of Kiosked



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Drivers and obstacles

Key stakeholders

The City of Espoo actively fosters an enabling ecosystem

The Economic and Business Development of the city of Espoo acts as a facilitator in the digital ecosystem. For this, the local government has launched numerous initiatives such as the Espoo Innovation Garden.

By following these initiatives, the city intends to provide the required conditions for startups and firms to form networks as well as to create collaborative platforms between local stakeholders (businesses, the public sector, universities etc.) and the citizens.

“Digital ecosystem should foster the dialogue between large and small firms in the city.” -

Taina Tukiainen, Aalto University

Aalto University is a birthplace of innovative potential in Espoo

The University of Aalto is the “heart” and centre of the digital ecosystem in Espoo. The university started operating in 2010 as a result of the merger of the Helsinki School of Economics, the University of Technology and the University of Art and Design.

The creation of the new Aalto university has reinforced Espoo’s reputation regarding research excellence and innovation. Its establishment was well received across local businesses and brought renewed interest in industry-academia collaboration.

Aalto University has embraced the added value of industry-academia collaboration

The recent nomination of the former Nokia employee Henry Tirri as “Executive in Residence at Aalto University” reflects the institution’s commitment to better integrate the academic and business domains.⁷

His role is to strengthen the digital competence, which will definitely have a broader impact on society and on the digital transformation of local businesses.

Local businesses are largely focused on the high-tech industry

Espoo’s local industry with its huge amount of high-tech firms is the main driver of the digital ecosystem in Espoo.

The presence of the headquarters of large companies, such as Nokia, Kone, Fortum, and Neste and various market leading tech companies, like Kiosked and Rovio had a considerable impact in the digital transformation processes of the city of Espoo.

The existence of huge amount of software companies, the university as well as the start-up sauna have influenced the boom of the software and gaming industry over the last years.

Intermediary organisations fuel the digital transformation of Espoo

Intermediary organisations are the cornerstones for the change of mindset towards innovation and digital transformation.

The creation of new incubators and accelerators are mainly privately-led initiatives which proved essential to foster open innovation and digital entrepreneurship in the city.

The excellent reputation of Espoo in the software, gaming and health sectors is attracting different types of talents from all around.

Key initiatives

Creation of the biggest digital ecosystem in Northern Europe

The Espoo Innovation Garden is poised to shape Espoo as Europe’s digital star. The Keilaniemi-Otaniemi-Tapiola area is situated at the heart of the Espoo Innovation Garden and has become the largest innovation hub in Northern Europe.

The area connects businesses, firms and Aalto University with the Technical Research Centre of Finland (VTT).

“In Espoo, we have moved from closed to an open innovation” -
Tuula Antola, City of Espoo



“We, as a city, are a matchmaker between people, capabilities, talents and skills. We serve all; start-ups, large and small firms, universities, public sector and citizens” – Tuula Antola, City of Espoo

With a total of 5,000 researchers, 25 R&D centres, a vast number of Finnish and international companies bringing together workers from more than 100 nationalities; the Espoo Innovation Garden has created the biggest digital ecosystem in Northern Europe.⁸

Espoo Innovation Garden stands for fruitful co-creation and creativity

The launch of the Espoo Innovation Garden in 2014 illustrates the city's strategy to encourage collaboration between the local stakeholders of the digital ecosystem.

The term “Espoo Innovation Garden” refers to the creative working styles, the co-creation culture and the entrepreneurial mindset in the innovation ecosystem.

The concept was selected as a metaphor recalling the fruitful collaborations to build the best possible environment for start-ups and all size of firms.

Espoo offers numerous initiatives to accelerate digital transformation

The city of Espoo is launching several initiatives to accelerate the digital transformation of the city. As an example, 3D city model hackathons are used.

These hackathons activate the local community and citizens to solve societal challenges. In doing so, they serve as key enablers for citizen engagement and for the digital transformation processes.

Aalto University and its forerunner instruments for digitalisation

The Aalto University is a forerunner in the pursuit of digitalization and digital talent creation. It acts as a key player for the generation of digital and entrepreneurial skills and capabilities.⁹

Aalto is also a forerunner in the digital transformation of local and traditional businesses. In fact, the University campus is surrounded by business and residence areas alongside a multitude of intermediary organisations.

Since decades, the Aalto university and its predecessors maintained initiatives and projects that support the digitalisation and digital transformation of local and traditional businesses.

To achieve this, Aalto University uses a multitude of tools and platforms, such as:

- Aalto Digital Platform;
- Aalto Energy Platform;
- Aalto Living Plus;
- Aalto Design Factory;
- Aalto Start-up sauna;
- Urban Mill;
- Aalto Start-up centre; and the
- Aalto Camp for Societal Innovation.

Intensive coaching opportunities are available to the students

Successful serial entrepreneurs, investors and industry experts from Finland and other parts of the world are coaching the students in their start-up projects.

This accelerator is an evidence for the commitment of students in the digital ecosystem. Hence, it guarantees the continuity of the digital transformation process by future generations.

The Startup Sauna, a student operated accelerator

The Startup Sauna located at the Aalto University campus in Otaniemi is a prime evidence of the engagement of students in the digital transformation process of local businesses. The accelerator is totally operated by students and was awarded the prize of best accelerator run by students of the world in 2014.¹⁰



University students benefit from the support from coaches who represent some of the most successful serial entrepreneurs, investors and industry experts in Finland. The creation of this accelerator not only acts as a prime evidence of the commitment of students in the digital ecosystem but it is also a guarantee of the continuity of the digital transformation process by future generations.



Startup sauna accelerator

13 batches

194 start-ups

4,500+ applications

More than **EUR 100 million** funding raised



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Accelerators and incubators have high presence in Espoo

There are several accelerators and incubators in Espoo that were set up to support the digital transformation of businesses.

After having been set up recently, "Vertical" Accelerator focuses on human health technologies, smart living and well-being-related applications and innovations.

The accelerator, therefore, enables local companies to acquire and apply digital solutions which have the potential to disrupt the traditional health industry.

Strong ecosystem is complemented by sophisticated advisory services

Enterprise Espoo provides advisory services for local entrepreneurs. These services support all kinds of firms from international-growth oriented companies to potential digital entrepreneurs.

Thanks to these services, local businesses have the opportunity to acquire a diverse entrepreneurial skillset ranging from questions related to funding to digital capabilities.

The workshops offered by Enterprise Espoo are positively welcomed by the audience and reflect the high entrepreneurial spirit prevailing in Espoo.

"Focus of strategy, processes and operations are needed for successful digital public services" – Taina Tukiainen, Aalto University

West Metro Growth Corridor

- 13 new stations,
- 70,000 new residents,
- 100% growth in jobs.

Key infrastructure

Transport infrastructure: A growth and development corridor

The extension of the metro line in Espoo is expected to be finished in 2016. This new metro line is going to reduce the travel time between Espoo to Helsinki to 7 minutes. Thus, it will facilitate job creation, growth and vitality in Espoo.¹¹

In addition to this Metro, Espoo launched its biggest construction project in its history which aims to reform Tapiola, Otaniemi and Keilaniemi. In total EUR 4-5 billion public and private funds are being invested in the area.¹²

Among others, these investments include:

- an extension of the metro lines,
- the tunnel construction of a ring road,
- housing, offices and business buildings,
- public services,
- university buildings
- as well as sports and
- cultural facilities.

These new investments will contribute to making Espoo a more attractive place to live, work and innovate.

Obstacles

Simplifying and reducing the bureaucracy

The city of Espoo is a catalyst for the digital business and transformation processes.

However, the city still has to bear the burden of old working traditions which are preventing the administration from accelerating the initiatives in support of the digital transformation of local businesses.

The capacity to overcome this managerial challenge depends on the ability of policy makers to adapt to new forms of public management.

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Lessons learnt

Co-creation and networks are essential for digital ecosystem

Key findings have emerged regarding the role of networks and co-creation. More specifically, it is essential how different stakeholders in the digital ecosystem can complement each other, interact and cooperate by bringing forward win-win opportunities for all parties.

Non only private, but also public institutions can take action

Local governments have a key role to play in the creation of long-lasting partnering and trust-based relations between all the stakeholders.

The Espoo Innovation Garden is an excellent example of a city initiative aiming to connect existing local initiatives and to gather local stakeholders around a communal, inclusive and participatory way of thinking and acting.





The Finnish culture nurtures entrepreneurship

The existence of a flat hierarchy is part of the Finnish culture. The Finnish culture encourages everyone to share ideas. Everybody is aware that the targeted audience will listen and follow if the idea is well-formulated and thought-through.

Also, the passion to strive for a better future is a key driver for Espoo citizens' engagement in the digital transformation of the city.

Bottom-up mentality regarding innovation

The city government in Espoo does not only encourage innovation but also carefully details why the need for innovation in the city is so essential.

This approach creates the necessary awareness in the city, ultimately leading to a bottom-up innovation mentality. This mentality is reflected in the city's efforts to act as a moderator and a connector of stakeholders in the digital start up ecosystem.

The creation of the concept of "Bench learning" reflects the sharing culture of the city where collaborative thinking and open innovation have become integral parts of the working style.

The Aalto University closely links its curriculum to business needs

The key role of the university is driving forward a favourable digital ecosystem and to engage strongly in talent creation. This was repeatedly stated by different stakeholders of the city of Espoo.

Creating tighter linkages between universities and businesses, therefore, acts as a key success factor for the digital transformation of local businesses.

All the initiatives developed by the university to facilitate the digitalization and digital transformation are held in high regard by local businesses who are increasingly relying on them.

The creation of a business-friendly ecosystem is the first step towards digital transformation

The creation of a business-friendly ecosystem is a precondition for the success of any digital transformation strategy.

Cities can create the right framework conditions for the start-ups by investing in the required infrastructures, ensuring access to talent, education and science as well as by encouraging industry-academia collaboration.

Digital technologies as a driver for public sector innovation

Digital solutions have the capacity to make a breakthrough in the reduction of old and sub-optimal management styles in the public sector.

The city of Espoo decided to launch Digi Espoo, a crowd-solving tool for developers and SMEs. It consists of real life challenges which are intended to be solved by the participating parties.

Espoo raises awareness for value of digitalisation

The city of Espoo intends to enable management and policy makers to get a better understanding of the new opportunities driven by the digital revolution.

To do so, the city follows many initiatives to showcase how businesses and public services can use digital solutions to solve their challenges.

This initiative, thus, also serves to raise the awareness of policy makers on digital technologies. Mindful of this awareness, they will be better equipped to design policies in support of the digital transformation of local businesses.

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Key Recommendations

Category	Role of the stakeholder
Local government 	<ul style="list-style-type: none"> Act as moderators and facilitators of collaboration between local stakeholders Engage key stakeholders in long-term partnerships and build trust relationship between them Invest in key infrastructures for a business-friendly environment such as transport infrastructures, business offices, university buildings Open access to public infrastructure for technology and to develop projects Encourage open innovation
Universities/ Research centres 	<ul style="list-style-type: none"> Strengthen your digital competences (e.g. by seeking support from local tech champions) Develop institutional strategies for capacity building Retain and attract digital talents Be proactive in the creation of a digital ecosystem around the university and get involved in industry-academia collaborations Contribute to increase the livability of the city to attract and retain talents
Businesses 	<ul style="list-style-type: none"> Collaborate with other stakeholders from the digital ecosystem Innovate, create and apply digital technologies Traditional companies should seek support in the application of digital opportunities Tech companies should support traditional companies in their digitalisation efforts Invest in cybersecurity to ensure resilience against digital threats
Incubators/ Accelerators 	<ul style="list-style-type: none"> Provide inspiration, support, stimulation Connect businesses with relevant stakeholders to enable their digital transformation Provide spaces for people to meet, open space for cross-fertilization Develop a sound understanding of local paths to economic development to better advice local firms on growth strategies

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