

NEWS

PROJECT

NextGen Microcities - Next Generation Micro Cities of Europe

Ventspils & Valmiera, Latvia

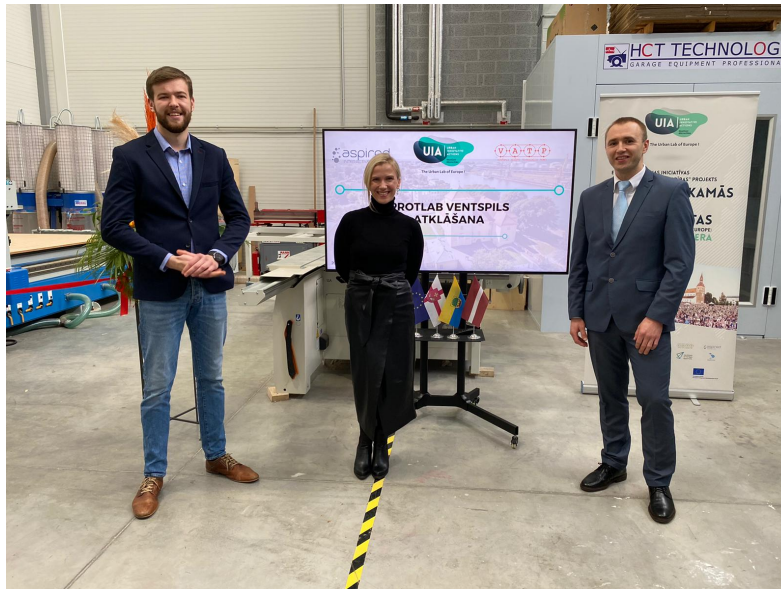
TOPIC

Jobs and skills in the local economy

EDIT 15 JUNE 2021  
BY FABIO SGARAGLI

## Prototyping innovation: enabling the future one step at a time

See on UIA website 



Digital and physical are blending through a transformation of atoms in pixels and vice versa. Cities can play a role in enabling this transformation for the benefit of economic development and social inclusion. One of the many activities developed in the context of the NextGen Microcities project is the creation of a Prototyping Lab. The aim of the lab is to promote the development and production of new products in Ventspils, and Latvia in general, through the adoption of a “lean innovation” and “lean start up” culture.

Digital and physical are blending through a transformation of atoms in pixels and vice versa. This transformation applies to the whole spectrum of human activity: from entertainment to education, from mobility to finance, from culture to fabrication. Cities can play a role in enabling this transformation for the benefit of both economic development and social inclusion, by taking the long-term view of policy design, whilst fostering the development of their local ecosystems for innovation.

This is very well the case for Ventspils and Valmiera though their visionary Urban Innovative Action named NextGen microcities. The main feature of this initiative is to test out a holistic approach to jump start their local economies right into the eye of the storm of the digital transformation. One of the many activities developed in the context of the initiative is the creation of a Prototyping Lab, which was opened in Ventspils towards the end of 2020, and it is now open for use to the general public. The aim of the lab is to promote the development and production of new products in Ventspils, and Latvia in general, through the adoption of a “lean innovation” and “lean start up” culture.

**Lean innovation** is a management process focused on increasing efficiency and shorten time to market of new products and services. In lean innovation customer feedback is captured early and often, therefore minimizing waste of time and resources in the product development cycle. The process prioritizes experimentation over elaborate planning, and celebrates continuous, incremental improvement. In a rapidly evolving market, where the speed of change is increased by the adoption of digital technologies, what is needed is a smart process to get from idea to product on a fast lane, the risk being too late in the market with the wrong product or service.

Lean innovation is widely adopted globally as a sound approach, tested by some of the largest start ups and fastest growing companies in the world.

One of the most famous versions of lean innovation is the popular “Lean Start Up” method, popularized by Silicon Valley entrepreneur Steve Blank. It enables companies to “*quickly, and with fewer resources, develop, prototype, learn, validate, and improve business solutions*”. The Lean Startup approach is based on a “build, measure, learn” feedback loop. The goal is for companies to build a **minimum viable product (MVP)**, or the most basic version of a product or a digital service that early adopters can test. Testing assumptions with potential buyers early on in product development means two things:

1. minimizing risks associated with products or services not in tune with clients’ needs and aspirations;
2. minimizing costs as the features get added and refined progressively.

Therefore, an MVP should serve as a guide for future development, rather than as a finished market offer. In order to develop MVPs, you need prototyping labs.

A Prototyping Lab is a physical production laboratory specifically set up with the aim of improving the design process. By bridging the gap between the digital world and the physical world, the prototyping lab enables to effectively translate ideas from CAD data to lifesize prototypes for testing and evaluation. This results in faster iterations of prototypes for a more fluid and robust design process. This kind of facilities are built to work closely with the industry to explore new possibilities in design, fabrication and manufacturing. The aim is also to develop new capabilities through the process of collaboration in research and development, and through dedicated education and training activities.

The NextGen Microcities project identified in the application process some missing links in the local ecosystem for digital innovation. One of those was the absence of a bridge between SMEs and aspiring entrepreneurs on one side, and physical facilities able to serve them with flexible, tailor made design and digital fabrication technologies and competences. The result was the decision to include in the project the development of a Prototyping Laboratory in Ventpils.

Based in the city’s industrial park, the equipment was purchased in the summer of 2020, allowing time for set up and test of the machines, and for the lab staff to get acquainted with and learn how to operate them. The Lab is now open for access, albeit only by appointment due to COVID-19 restrictions. In the workshop, it is possible to receive technical consultations for the development of whole prototypes or parts of them. The team at the Lab is happy to help, and to do it for you free of charge for the time being. One additional big advantage: the machines require specific technical skills to be operated, because they are somehow dangerous and complicated, so the team does it for you. It basically really is an R&D workshop ready to support your idea of a product to become “real” enough to be tested in the market. And can help anyone with a solid idea to fasten the process, because a competent staff makes it for them.

This ability to think innovation comes, as always, from a diversity of human and technology factors. First of all, the tools and machines available in the Lab can work from electronics to molding, which comes very handy in a time paradigm in which every product in the market has an electronic (and software) component. Second, the Lab 10 people team is very interdisciplinary: it encompasses competences spanning from IT to electronics, from design to materials etc. After all, products are unique to each other when they represent innovations, and therefore need specific attention by a team with complementary skills.

The team is completed with internships from technical schools, as it helps youngsters to develop professional skills and become creative forces in the innovation process.

The Lab is therefore an enabler for new and innovative products, and, in the ambitions of the project, the first of its kind in Latvia. It is indeed a place to make your idea for a product become physical, thanks to the equipment certainly, but mostly thanks to the multidisciplinary skills of the team that operates the Lab. The ideal target of the Lab are students, entrepreneurs and companies, and they all can get a ride for free as long as the UIA project is on.

The goal for now is to test the idea and attract as many people as possible, showcase some initial good results and display interesting projects, so that more people in the future will want to use it.

The interesting aspect of the operation is that it is physically placed in the premises of one of the project partners, Aspire Ltd, whose core business is to produce interactive installations for exhibitions. For them, running the Prototyping Lab can help to develop better partnerships for their core business, and that has an important effect when it comes to the sustainability of the project. In fact, if fixed costs are already taken care

by the core business of the company, the variable costs associated with prototypes development can be covered by small series fabrication (from the low hundreds to the low thousands) if the product gets to the market.

The plan then is to find a sustainable business model for when the end of the UIA funding will come, and the plan could include an additional mix of revenue streams: machine rental, consulting services and professional training.

The key to sustainability then, is to use the UIA funding to demonstrate the effectiveness of this new facility, and promotion is essential for that. For the time being, a landing page with all information has been created, and the Ventspils High Technology park promotes the Lab through its network of companies and associated partners. In addition to that, this May the Prototyping Lab will launch a monthly series of virtual training workshops. These workshops will cover a range of topics, from software for modeling to use of machineries like CNC (Computer Numeric Control), and will be delivered by the Lab staff to show what is possible today in industrial design and fabrication thanks to digital technologies, to inspire potential users of the Lab's services. Moreover, in turn these workshops will help to improve the skills in this domain of the city's human capital, a welcome contribution to the general impact of the NextGen microcities project.

With this new facility in place, a welcome addition to Ventspils' local ecosystem for digital innovation, this UIA initiative demonstrates how local administrations can perform the role of enablers of digital transformation for the benefits of their local economies.

<http://prototype.lv/>

---

Jobs and skills in the local economy

---

See on UIA website

