

TRY OUT!

PELTON INNOVATION CAMP TRYOUT TEAMS

TryOut is a **co-creational and experimentative platform** aiming at strengthening emerging business models in **cleantech, circular economy and smart city**. We bring together newly established teams, the city of Helsinki, existing business, and urban inhabitants to experiment new business models, products and services. The aim is to enable business model development in real urban setting together with people. The TryOut platform is a strategic development tool for creating solutions to climate change in Helsinki together with startups and established businesses. For more information, click [HERE](#).

List of teams:

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REMSOIL

SOLUTION:

In this particular case we will use an agricultural waste, abattoir waste, to biostimulate microbes in polluted soils. In detail, a part of the abattoir waste has little value since it's quality does not allow it to be burned or directly used as fertilizer. The product is milled and sterilized and as such safe to use. Moreover, it contains significant amounts of nitrogen, phosphorous and other minerals. In case of cleaning the environment, it can be used as a stimulant for soil microbes (bacteria and fungi). In soil, absence of nutrients usually inhibits soil microbial activities. After an addition of this material to contaminated soil, microbes are stimulated by nutrients and microbes start consuming organic material including e.g. oil hydrocarbons. Further, our product releases nutrients slowly and thus it doesn't affect surrounding environment (e.g. leaching to waters) or change pH-level of soil (such as urea). The method is intended to improve the process and to speed it up. As a waste material, our product is significantly cheaper than alternative solutions.

TEAM:

Team members have a background in ecology, environmental sciences, biotechnology, microbiology and environmental technology as well as entrepreneurship. We are able to plan, execute and analyze soil bioremediation projects from laboratory test scale to large case scenarios. Four of team members are PhDs in relevant fields for the project and one is a professor in environmental biotechnology.

NEED HELP WITH:

To get help for the business plan of forthcoming startup

ULTRAPHOTONS

SOLUTION:

Ultraphotons is a compact laser-based technology for simultaneous analysis of multiple compounds in the air. It enables a cost-efficient detection of polluting gases in real-time with maximum precision while being highly mobile with compact instruments. Air pollution kills 3.7 Mio people globally every year. The cost for air pollution related illnesses and deaths is 1.6 trillion USD in Europe alone. To combat this, different forms of pollution need to be effectively detected. The current solutions are expensive, fixed to a single location and lacking in accuracy.

TEAM:

Research spin-out from Helsinki University Physical Chemistry. The team has unique research insights into laser technology and its applications paired with international business experience: **Arne Hook** (attending), Commercial Lead: product management business development sales, finance; **Ville Ulvila** (attending), Technical Expert: laser engineering, optics design; **Markku Vainio**. Technical Lead: R&D management, laser applications; **Teemu Tomberg**. Technical Expert: electronics, mechanics, software development.

NEED HELP WITH:

Have not yet decided on the business model and in this experiment could test different approaches.

KURNIA

SOLUTION:

Kurnia is a startup that aims to revolutionize the way people learn to cook. In a nutshell, we are developing a game to teach young people better eating habits. Players will learn useful cooking skills and nutritional information in a fun, creative way, all the while sharing their progress with friends and other users in the game's built-in social media feed.

The game can supply players with individual recipes, but they can also opt for a longer quest, for example learning how to cook five different fish meals. To evaluate the healthiness of our recipes, we have developed our own health index system. In addition to important nutritional information, the player will receive encouraging medals and prizes to support them on their journey.

Kurnia is the winner of Helsinki Think Company's 4UNI Solution Competition 2016, which is an entrepreneurship contest aimed at university students.

TEAM:

We are a multidisciplinary team of five young professionals hoping to start a food revolution as a solution to diet-related health issues and the rising health gap. Our fields of expertise include nutritional science, coding, law, communications and social sciences. Together, we make eating healthy fun, social and easy.

NEED HELP WITH:

Gaining new contacts in relevant fields as well as help with planning the monetization of our game and applying for funding.

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MOPRIM

SOLUTION:

MOPRIM (www.moprim.com) turns motion sensor based data into meaningful information. Based on machine learning algorithms developed in University of Helsinki, MOPRIM can recognize the mode of transport (car, bus, train etc.) based on smartphone motion sensors and also analyze the data efficiently. Target market groups are humans, cities and vehicles. See video at <https://vimeo.com/187158168>

TEAM:

Petri Martikainen: 30 years of experience managing international high tech companies, <https://fi.linkedin.com/in/petrimartikainen> and **Julien Mineraud:** 10 years of experience of algorithm and sensor related research, <https://fi.linkedin.com/in/jmineraud>

NEED HELP WITH:

Challenging the business model, feedback on our idea/product and help getting in touch with potential piloting partners.

PASREA

SOLUTION:

They are developing a novel composting technology to fix the broken nitrogen cycle associated with centralised livestock operations and municipal waste management. The composting system allows to capture the evaporating ammonia from the compost and return it back to use instead of depositing it into natural ecosystems. As a synergistic benefit, the system also collects the excess heat from the composting process which can be coupled into local heating systems. The invention thus also acts as a sustainable local energy source, which will reduce the use of traditional energy sources for heating, such as fossil fuels.

The system is intended for the use of farmers willing to handle their own agricultural waste such as animal manure etc. efficiently by themselves and for the use of municipal waste management operators to handle wastewater slurries and other organic waste but is suitable for other related composting actions too.

The solution addresses global challenges associated with global warming, sustainable farming and waste management and thus the total value of the solution is really hard to assess. Nevertheless if the solution works and will be implemented on a global scale the positive effects for the community, society and even the planet will be immense.

The composting method addresses problems both at macro and micro level. At micro level the technology allows livestock producers to process their manure in-situ in an environmentally and economically sustainable fashion, while reducing heating and fertilisation expenses, which makes agriculture more sustainable and profitable for the farmers. At macro level they aim at repairing the broken nitrogen cycle associated with centralised livestock operations and municipal waste management, resulting in lower demand for industrially produced fertilisers and a decrease in environmentally harmful ammonia emissions from agriculture and composting actions. Extending the technology into processing of municipal wastewater slurries and organic wastes would conveniently connect human food consumption into the nitrogen cycle they aspire to create. Implementing our technology reduces the CO₂ emissions associated with agriculture, as the need for energy-intensive industrial production of ammonia decreases. In addition, livestock operators and municipal waste management operators can save on fossil fuels by coupling the composting into their in-house and/or district heating systems. As a

summary, the invention would solve problems associated with sustainability of livestock operations, agriculture and municipal waste management by transforming the source of problems into a source of possibilities.

TEAM:

The members of the team consist of students and graduated academic professionals from different universities. The team members with a common interest in environmental sustainability were brought together to bring the potential of the new invention into realisation. To transform the invention into technically and commercially viable innovation the team draws expertise from interdisciplinary set of core skills: microbiology, biochemistry, chemical engineering, environmental science, agronomy, information technology, economics, business and entrepreneurship. All team members are shareholders of the company and working for the company. The members and their responsibility areas in the company are as follow:

Eemeli Piesala is the main owner and initiator of the company. He is also the owner of Piesala Farm, which is in deep contact or collaboration with Pasrea Oy. He is a student of biotechnology in University of Helsinki. **Ilkka Fagerlund** is M.Sc, major in Biotechnology from University of Helsinki. He is responsible for the research project of composting. **Aleksi Karisalo** is M.Sc, major in Information Technology from Tampere University of Technology, he is responsible for project management and sensing systems of composting. **Sebastian Soidinsalo** holds a M.Sc Business Administration & Bioentrepreneurship from Copenhagen Business School and has scientific background in biotechnology from University of Turku. He is responsible for innovation management and business development. **Mikko Pyhäranta** is M.Sc, major in business and administration from University of Turku. He is responsible for business & administration and finance of the company. **Eero Kiviniemi** is a student of University of Helsinki. He represents environmental and microbial biotechnology and offers knowledge of fungal biotechnology and potential diversification of the technology to other applications considering environmental issues, such as bioremediation of contaminated soils. **Aapeli Piesala** is a student in the University of Helsinki and will bring the aspect of rural development and innovation significance for rural communities. **Peppi Seppälä** is a student in Aalto University and will bring to the company environmental knowledge in addition to connections to entrepreneurial and start up scene. **Juho Vihonen** is a student of Aalto University and will bring the team knowledge and knowhow on fields such as chemical and industrial engineering and bioprocessing engineering.

NEED HELP WITH:

Would like to get some information and mentoring on the waste business in Finland and abroad, advice and mentoring on the whole start up business too and especially get to hear about how it could be possible to expand your company globally in a successful manner. Also wish to get some help and advice in commercializing the system and in refining the business models and strategies. Since they don't at this point have a lot of money to further develop or commercialize the system, would also need some financial advice in how to do this - fundraising etc..

MUKULA

SOLUTION:

Many people in the Helsinki area would rather consume locally produced food. Still, locally produced food from smaller farms is not easily available. Mukula is easily approachable platform for both producers and consumers to tackle this problem.

In our platform the customer can see and order the products directly from the producer and handle the payment as well. We remove all the unnecessary middlemen and make the local food chain as short and flexible as possible.

Our business logic is based on providing a space for collaborative consumption where smaller-scale business and sustainable consumption meet. The revenue comes from the combination of monthly payments and provisions. Mukula helps producers to get more visibility and bigger share of sales income.

TEAM:

We have a great team to carry out our concept: we have the knowledge and the contacts of a farmer, competence in health sciences, academic expertise in economics and global trends and know-how in graphic design and marketing.

NEED HELP WITH:

Concrete and innovative co-creating, sparring with product design and marketing. Good contacts, excited and supportive atmosphere, real-life concrete examples and tips and somebody to boost the team up to the next level. To be encouraged to new ideas and methods. To see larger connections between customers and producers.

AIQU

SOLUTION:

The solution is air and environment monitoring system with control and alarm abilities. They focus their solution to customers who need environmental data. Starting with industrial and infrastructure level, developing towards consumer product. The total solution can also provide data sets for AI or neural networks, which can be enhance the data analysis and discovery process.

The customers will be able to use the solution for multiple purposes. One of the current use cases is early warning system of hazardous gases and detecting if infrastructure is under molding conditions e.g. schools, kindergarten, office buildings etc. Other solutions are control and optimization of heating, lighting, acoustics and home/office/environment automation.

Concrete changes in the world can be experienced as safer and more pleasant living environment with less unpleasant surprises. This can be also realized in euros as renovation and comparable costs go down when problems can be tackled early.

TEAM:

Background in Hardware development, Software and Cloud architecture development & Business analytics

NEED HELP WITH:

Would like to get information from customer cases where there are suspected or validated air quality problems in the premises.

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SMART-CITY SENSORS

SOLUTION:

The aim is to measure whole cities and our first product measures air-quality. Current air quality measurements are by governments for governments, which in most cases means sensors are too far away and not relevant to where an individual lives and is active. We aim to measure air-quality with sensors on public busses or such and provide this high resolution data in an easy to consume format to people, companies, governments and other organisations.

TEAM:

Background in business development, software development, embedded development, agile project management

VISIONAIR

SOLUTION:

Cities have effective means to reduce levels of street dust pollution however they are cost prohibitive. These expensive and harmful chemicals are applied nowadays ineffectively by the city due to the lack of real time widespread air pollution data.

We are developing a system which will help to optimise the spread of dust suppression chemicals based on real time data from low costs sensors located around the city. We believe the system will help reduce the operational costs for the city (estimated 7M EUR a year) by up to 50%.

By using our solution cities will be able to cost effectively combat high levels of street dust pollution especially during spring months and provide their citizens with better air quality, avoiding the harmful effects of dust pollution.

TEAM:

Ohad Shevily (Business & marketing), Evgeni Pajunen (UX & service design), Prof. Martti Juhola (Machine learning & image processing).

Ohad Shevily - Israeli entrepreneur with a background in systems engineering, currently working as facilitator at New Factory innovation hub in Tampere.

NEED HELP WITH:

Insights and critical thinking about the problem and our approach, contacts with other cities and road maintenance contractors.

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KLIFFA

SOLUTION:

Kliffa is an online booking platform for urban spaces. We offer space owners (such as housing companies, co-ops, cities etc.) a space reservation system for internal use. Additionally Kliffa enables an easy way to make space resources profitable – space owners can rent out the unwanted shifts to other registered Kliffa users. For end-users, people living in cities, we offer an easy & flexible solution for space reservation.

TEAM:

The team is a group of young academics who are super motivated and hungry for success! The key team is four people plus more people in their team pool.

NEED HELP WITH:

Good questions, genuine interest in challenging us & straightforward feedback.

PADURN

SOLUTION:

Padurn has developed tools that collect real-time occupancy data and this is sold to building owners. Our competitors, who calculate space efficiency in buildings, are still collecting this data manually and their data is not real-time. Ken has been working on this topic since 2010 and only now with developments in digitisation and buildings can the data be collected accurately. He is also working on this as part of his PhD.

Commercial problem: The British Council for Offices stated as recently as 2013 that occupancy levels are typically between 60-70%. This means that on average in office buildings 30-40% of the desks are empty during working hours. A study in Helsinki has shown that on average each desk in an office building costs €9225 per year. Our tools enable the understanding of usage patterns. This data optimises space efficiency which reduces rent and optimises controls strategies which reduces energy costs. Building owners can also rent out their unused space on websites that serve as the AirBnB of commercial buildings such as Eventup or Venuetastic. Another great thing is that when companies downsize from 1 desk per person office strategies to shared desks then the new office space usually has a much high budget and specification for furniture. These new fun, colourful and inspiring office spaces have been shown to be more productive.

Societal problem: The building sector consumes 40% of the primary energy consumption and emits 35% of the total CO2 emissions in Europe. The current method of benchmarking the environmental impact of buildings is to normalise the building consumption by building size. The simple reason for doing this is that buildings of different sizes can be compared with one another. The problem with this is that the influence of the occupancy patters are being overlooked when we only consider the amount of energy consumed and the building size. However, people are now calling for consumption to be normalised by occupancy and this is advocated by the new European Standard EN15643-1. Today an empty building gets a really good energy score. Whereas a full building gets a terrible score and this is totally contradicting our efforts to be more resource efficient. We want to totally flip this on its head which we can do with our data. Our long term goal is to change how energy efficiency / effectiveness is measured globally. The current method just isn't good enough as it ignores the huge influence of usage patterns.

TEAM:

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Energy and environmental expert + software developers

NEED HELP WITH:

Creating some reference cases and some validation from customers