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reveals his winning recipe

● **TECHNOLOGY**
Eliminating waste in
a circular economy

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The character
of Finnish films

THIS IS FINLAND

2016

ISSN 2343-2624



FINLAND
team

Smart cities call for
innovative technologies &

BRIGHT THINKERS

By Maarit Niemelä
Photo Pekka Nieminen

THE MATERNITY BOX

A warm sleeping bag, a hat with tiny pompoms and animal-themed baby clothes, all spread out on a living room that will welcome a small baby bringing great change. These are familiar images in Finnish homes where a mother is preparing for the birth of her child. In Finland the social security system provides a maternity package to every expectant mother as a starter kit for the family. The box contains children's clothes and other necessary items, such as nappies, bedding, muslins and child-care products. The box even comes with a light mattress, which means it can be used as a baby's first bed.

The emphasis is on promoting the health and well-being of the mother and the child. The first maternity packages were given to low income mothers in 1937, and since 1949 it has been available to all. The maternity package is only one example of how every mother and child, regardless of the family's income, is well taken care of. The infant mortality rate is one of world's lowest, thanks to the high-quality, free public healthcare. ●

Mother is wearing a Samuji Finch dress (www.samuji.com). On the table Iittala Ruutu vases in grey, copper and salmon pink. On the floor Iittala Leimu lamp in copper (www.iittala.com/home).



In Finland and other Nordic countries it is completely normal to let babies have their afternoon naps outdoors, even in sub-zero temperatures.

"All Finnish parents know that babies sleep better outdoors. This is a very long tradition. It's all about the right clothing: the colder it is, the more layers you need", says Specialist in Paediatrics **Erik Qvist** of Pikkujätti Medical Centre for Children and Youth.

About the Magazine

This is FINLAND Magazine is available in English, Chinese, French, German, Russian and Spanish. To read the magazine online or order free paper copies, please visit toolbox.finland.fi. For paper copies you can also contact the nearest Finnish embassy.

FINLAND
team

EDITOR-IN-CHIEF Petra Theman
EDITORIAL BOARD Mika Hammarén, Mervi Liukkonen, Outi Torniainen, Sari Tuori, Jyri Lintunen, Anna Korvenoja
EDITORIAL STAFF Otavamedia PRODUCER Maarit Niemelä LAYOUT DESIGN Linda Halenius ENGLISH EDITOR Nouveau Language COVER PHOTOGRAPH by Ari Heinonen/Otavamedia PRINTED BY Erweko Oy PUBLISHERS: MINISTRY FOR FOREIGN AFFAIRS formin.finland.fi MINISTRY OF EMPLOYMENT AND THE ECONOMY www.tem.fi SITRA www.sitra.fi INVEST IN FINLAND www.investinfinland.fi FINNFACTS www.finnfacts.fi ISSN 2343-2624

Stories illuminated

This magazine is printed on Finnish LumiSilk - a woodfree, multicoated silk paper. It is made of virgin wood fibre from Finnish woods and produced in StoraEnso's Oulu mill in northern Finland. LumiSilk has PEFC certificate and fulfils the Nordic Swan criteria.



EDITORIAL

PROBLEM SOLVERS

Jari Gustafsson
Permanent Secretary,
Ministry of Employment and the Economy



It is not an easy task to squeeze Finland into 40 pages. Luckily, Finns tend to make things work, even when restricted by paper. So, we have hand-picked topics that we find important on a global scale, next to easy-read snapshots of Finnish society and culture.

For your entrée, you are invited on a delicious tour of Finnish food culture. Finland's very distinct four seasons have always determined of what Finns eat, and the harsh climate cultivates top-notch ingredients. Please meet the master of Scandinavian flavours, a Michelin-star chef Pekka Terävä (starting page 6).

During the hearty main course, we present Finnish cures for major climate problems and resource scarcity. With no major natural resources of our own, we have been forced to create clever processes that promote the sustainable use of what we have. Good showcases of Finland's ingenuity include the concept of "circular economy", where all materials are fully utilized and recycled, and Finnish meteorological excellence, which helps in tackling climate change.

Resource scarcity is not the case with high-class engineering talent. Rapid structural change in the telecom industry has created a well-educated talent pool. Finland tops global rankings in both innovations and IPR, which, added to the booming start-up scene, make Finland a perfect place to invest in.

For dessert, have a look at the dynamic new generation of Finnish fashion talent. And when you finish the magazine, I hope your journey with Finns has only just begun. Meet Team Finland as it networks across the world, and ask us for help or challenge us to solve your problem at hand. Finns are famous for making it work. ●

*The Mademoiselle chair, made of painted solid birch, was designed by Ilmari Tapiovaara in 1956. Mademoiselle represents Finnish design classics of the 1950s, and its design is based on the traditional Finnish spoke chair.

SHE MAKES IT WORK

PICTURE THIS

The world map on pages 12-13 was illustrated by **Eili-Kaija Kuusniemi**, who creates her loose, feminine style with ink, pencil and watercolours, finishing them digitally. A graduate from the Aalto University School of Arts, with an MA in Graphic Design, Eili-Kaija has taken on many roles in the industry: illustration, art direction and graphic design. Her clients include various fashion brands and other global brands.

eili-kaija.com



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Antti Leinonen captures a magical moment to win Finnish Wildlife Photo of the Year.

MASTER OF SCANDINAVIAN FLAVOURS

Keep it simple. That is the recipe for any good dish, argues **Pekka Terävä**, a Michelin-star chef and restaurateur.

Simple is also his answer for describing his most memorable food experience of late: self-caught fish, freshly cooked over an open fire, with the silence of the Finnish wilderness as a side dish.

"The overall experience comes first. That is also what I wish to provide for the people I cook for. It's quite okay to work around the clock, if you have a customer who is so happy with the food and the experience, he or she almost cries," Pekka Terävä muses.

I interviewed Terävä at his restaurant Olo, right next to Helsinki Market Square

and the Presidential Palace. The large windows are opened out to reveal a picturesque alley as the city awakes to a new morning. Every now and then he flashes a welcoming smile and waves to someone walking by, even inviting an old acquaintance in for a brief chit-chat. It seems he is well connected, well-travelled and a much liked person.

INGREDIENTS ARE EVERYTHING

And he is clearly a magician in the culinary arts, too. Terävä and his team at Olo serve a menu encompassing 22 dishes, and he still claims that the guest will feel good after eating it all. Again, the key is simplicity.

"Let the ingredient talk. Everything superfluous has to be taken away, so that, what we have left in every dish are the essential ingredients. There is variety in the consistency – something crispy and something soft. And it needs to taste good."

SURPRISING AND DELICATE

Scandinavian flavours have brought the restaurant one Michelin star. The star is the well-earned result of years of work: Terävä's experience has been gained by establishing numerous restaurants and participating in the advancement of Finnish food culture: a culture which has taken giant leaps towards becoming a culinary hot spot because it draws from Finland's untainted nature and four seasons.

"Helsinki, for instance, is now a culinary city that is worth visiting just for its food."

INSPIRING SEASONS

The four Nordic seasons; summer, autumn, winter and spring have always determined what the region eats. The long, cold winter is when a chef's creativity is truly put to the test. Anything green and fresh is a distant memory, and ingredients produced in greenhouses just taste bland. But that is why Terävä finds this an utterly interesting season.

"There is no easy solution, and we really need to concentrate on the ingredients we use, be it, for example, root vegetables such as carrots or parsnips. Traditions are important, and we get to utilize the traditional fermentation methods of yesteryear," he says.



"Let the ingredient talk. Everything superfluous has to be taken away."



But as the summer gets closer, Finns become spoiled. One of the first indicators of summer is the arrival of new potatoes. They are found on every plate from homes to restaurants. Rather boring at a first glance, but an ingredient that is constantly mentioned in Terävä's conversation.

"Finnish potatoes are the best in the world. The short season keeps the land rich in nutrients and makes the potato fight for its existence, which generates the superior taste. The same is true of everything that grows here, up north, like delicious summer vegetables."

Finnish nature comes with an overwhelming array of excellent ingredients. Thousands of lakes provide first class fish such as lake perch, pikeperch and northern pike. The cold waters give the fish a unique consistency and a positively neutral taste, Terävä explains.

In the forests, there are elk, chanterelles, berries and wild herbs, just to name a few. Many of them are only freshly available for a short period.

"If I was to peel asparagus every day, I would get bored very soon", Terävä says and continues: "The strong seasonal changes inspire my work, I can always use what's best at the moment." When the first layer of ice appears on Lake Inari in Lapland, we see reindeer on Olo's menu. When the first snow blankets the Kustavi archipelago in Southwest Finland, we get venison.

A FAMILY MAN

Michelin stars don't come easy, admits Terävä, who works long days. This father of two sons has his priorities and scarce spare time is spent with the family and coaching football teams – as one could expect from

"THE STRONG SEASONAL CHANGES INSPIRE MY WORK."

an avid football enthusiast and a formerly active player.

Whenever Terävä is given the chance, he acts like every other Finn and escapes to the summer cottage. The quietness of the natural world provides a balance to life in the fast lane.

However, Terävä sees airports more than his summer cottage. Travelling comes with the job, though Terävä often takes his family along.

"When abroad, me and my wife get to choose the restaurant one day and the kids the next", he laughs. "But it is not just about the food, it is about gathering people together to enjoy the food and the company."

TEAM OF TOP CHEFS

One of Pekka Terävä's passions is the Bocuse d'Or, a biennial world chef championship that is considered one of the world's most prestigious cooking competitions. Terävä is the President of the Finnish Bocuse d'Or team and has previously competed himself.

Now Terävä is coaching an ambitious young chef **Eero Vottonen**, who will represent Finland in the 2016 European semi-finals in Budapest, Hungary. From there, the best twelve countries continue to the final, held in 2017 in Lyon, France.

"It is a huge effort. The whole team spends thousands of hours practicing the winning dishes."

But a top chef would not be a top chef without a competitive spirit and a passion for food. Attributes that have brought Pekka Terävä quite far in his culinary career. ●



PIKEPERCH BY PEKKA TERÄVÄ

Picture on previous page
Serves 4

2 pikeperch fillet
4 pcs Jerusalem artichokes
50 g vendace roe
Borecole
Baby leek
Whey butter
Dill
Salt
Oil

1. Cut the pikeperch into a few slices. Add only a hint of salt to the pikeperch. It has a delicate flavour and doesn't need much else.
2. Soak the baby leek in cold water for 10 minutes.
3. Wash the Jerusalem artichokes thoroughly and grill them in the oven for 15 min.
4. Prepare the sauce: Mix dill into the whey butter and add salt. Taste.
5. Fry fish on little oil until nicely brown. Check that the fish is cooked, but don't overdo it. Fry also the leek and add salt.
6. Quickly fry borecole in salted butter, with few spoonful of water.
7. Check the flavours and create the portions.
8. Finish with vendace roe.

Watch the video recipe:
finland.fi/life-society/master-of-scandinavian-flavours/



WILD AND WONDERFUL

Wild food is a big international trend, but only in a few places is nature as accessible as it is in Finland. Pick or catch your own food and enjoy.

"Wild food is local, organic, seasonal, healthy and free. It includes plants, berries, mushrooms, honey, sap, fish and game. It's the best kind of Finnish food, and it's accessible even in Helsinki", says wild food expert and enthusiast, Chef **Sami Tallberg**.

He's a wild food ambassador for the ELO Foundation, which promotes Finnish food culture. Tallberg takes groups of food lovers into their local natural environment and teaches them how to gather their own food.

"The best time to go is in the morning, when the plants are at their best to be picked. By roaming in forests we also keep our bond with nature alive. Plus, it's good for your health to exercise in fresh air and eat food consisting of wild plants, berries and mushrooms. It's a great activity for the whole family."

For tourists, a foraging course is a wonderful chance to see the richness of Finland's nature.

"For many it's unbelievable to find food growing in the wild so near to the city centre, for instance, in Central Park in Helsinki. This closeness to the forest is really unique to the Nordic countries. After two hours, the tourists just want to stay in the forest! It's astonishing to see how many plant species you actually can eat," Tallberg says.

There are more than 75 edible and tasty wild plants in Finland, and with many regional differences in that variety.

"Every season has its own delicacies. Our summer is short, but it's possible to find edible plants from April until October. You can also dry and freeze plants and berries for the winter," Tallberg concludes. ●

www.samitallberg.com

EVERYMAN'S RIGHTS

YOU MAY:

- walk, ski and cycle freely, except near people's homes or in fields and gardens
- pick wild berries, mushrooms and flowers as long as they are not protected species
- fish with a rod and line
- set up a camp temporarily, at a reasonable distance from homes

YOU MUST NOT:

- disturb people or damage property
- disturb animals and birds
- cut down or damage trees
- leave litter, light open campfires
- collect moss, lichen or wood on other people's property
- let your pets off their leash
- fish or hunt without the relevant permits

Download a booklet in English:

www.nationalparks.fi/hikinginfinland/rightsandregulations

By Sampsa Haapio, Kaisa Alapartanen, Maarit Niemelä
Photos 123RF, Tiia Ahjotuli/Otavamedia, Aleksandr Slyadnev



STUNTED GROWTH, SUPERIOR QUALITY

The short Finnish summer and low sun give our produce certain unique features, such as intense flavour and various health properties.

“Many of the foods produced in Finland are not found anywhere else on the planet. Although the yield obtained from vegetable and fruit produce and animal products can be quite low, the growing conditions can create exceptional quality. As a result, our food plants offer not only intense aromas but also numerous immunity-boosting compounds,” says Professor of Food Chemistry **Heikki Kallio** from the University of Turku.

The reason can be found in Finland’s unusual geographical position. The country lies on latitudes which, in places like Canada and Russia, are usually covered by tundra. Finland is “shifted” south by approximately 2,000 km by the Gulf Stream, which warms the whole of Scandinavia. However, the Gulf Stream has no effect on daylight conditions: The Finnish growing seasons are short and punctuated by severe winters. In the summer, the sun is low and days are long.

In Lapland above the Arctic Circle, the sun doesn’t set at all during a certain period. The warmth of the Gulf Stream combined with the low-intensity daylight and long daylight hours create unique conditions for food growth.

SEA BUCKTHORN IS A SUPERFOOD

Each year, Finnish woodlands produce millions of kilos of wild berries. The Finnish bilberry is particularly popular in Japan and South Korea. One of the reasons is its intense colour and flavour.

Bilberry and certain other berries, such as sea buckthorn, have been found to be beneficial for cardiovascular health. Sea buckthorn oil reduces the coagulation of platelets and dry eye symptoms.

“In Finland, sea buckthorn grows from north to south, from Kittilä in Lapland to Turku over 800 km away. Sea buckthorn grown in the north contains twice as much vitamin C, one and a half times the amount of sugar, and more phenolic compounds which protect human health. We have also studied sea buckthorn growing at different altitudes in the Himalayas and found that the high-low axis has the same effect on

growth as the north-south axis,” Kallio explains. In the world of spices, caraway is one of the most profitable crops in Finland. “Finnish caraway is in demand around the world due to its high concentration of carvone, which gives caraway its distinct flavour. In the past, we have compared the roots of Angelica archangelica plants grown in different locations. The plant is used to flavour various products, including the Chartreuse liqueur. We found that A. Angelica grown in Inari in Northern Finland was unrivalled in terms of quality, even though the yield was lower. It looks like stunted growth could actually mean superior quality.” ●

“THE CLIMATE
CREATES UNIQUE
CONDITIONS
FOR FOOD
PRODUCTION.”

TOP CHEFS’ PICKS

WHAT ARE YOUR FAVOURITE FINNGREDIENTS*? [*Finnish ingredients]

Helena Puolakka is an international culinary super star, who has worked for various Michelin star restaurants and judged for the Top Chef Finland TV series. Currently she works as the Culinary Director at the Company of Cooks.



Venison: “One of world’s finest meats. It has a strong and sophisticated game taste. The meat is tender and can be creatively used for many different purposes and dishes.”

Chanterelle: “An amazing mushroom that embodies the taste of the Finnish forest. It works in salads, sauces or as a side dish on its own. Chanterelle with smoky bacon over a brioche makes a superb main course for a crayfish party. Tastes best when self-picked!”

Jaakko Sorsa works as the Executive Chef at restaurant FINDS in Hong Kong, introducing true Nordic flavors to Asia. He has over 20 years of experience in working in the most demanding restaurants around the world, winning culinary awards and even cooking for royalty.



Spruce shoots: “Whilst in Finland, I love picking them in the forest, and then serving them here in Hong Kong. Our customers are amazed to be served tiny Christmas trees. It creates a perfect opportunity for sharing stories from back home.”

Perch: “Perch is a sophisticated ingredient, and fishing for perch brings back many memories. It has always been favourite pleasure on our family island, located in one of Finland’s 187,888 lakes. If we caught a 100 fish, Grandma Ida baked two big kalakukkos, a traditional Finnish food where fish is baked inside a loaf of bread.”

BEST SERVED WITH FRIENDS

DIY restaurants and street food festivals spice up the Finnish food culture - and are here to stay.

A new kind of communal vibe has swept through the Finnish restaurant scene. Restaurant Day, held four times a year, allows anyone to set up a restaurant for a day. We have seen some creative ideas: food is served from windows, from cars, or even on a quay at the lake front. Launched in Finland in 2011, Restaurant Day is now one of the world’s biggest food carnivals. One-day restaurants have so far popped up in 72 different countries. In May 2015, people set up 2,497 restaurants in 34 countries.

Another recent foodie heaven is Streat Helsinki, an annual street food festival that gives food trucks and traditional Finnish night bite stalls (“snäggari” in Finnish) the place they deserve in Finland’s culinary scene. In 2015, 55,000 street food portions were sold during the event. ●

www.restaurantday.org/en/
streathelsinki.com/en/

Photo: Roy Backström



Restaurant Day at Helsinki. A welcoming salute from the staff of Keittöpäivä! (transl. Soup Day!): Paul Kernick (left), Noora Virtaniemi and Mia Lehto. Customers are enjoying the soup.

By Maarit Niemelä
Illustration Eili-Kaija Kuusniemi

MEET WITH A FINN

Pick one of these events and
meet&greet with Team Finland in 2016.

AUSTIN, TEXAS, USA
11-20 MARCH

SXSW®

The South by Southwest® Conferences & Festivals offers a unique convergence of distinctive music, independent film, emerging technology and vibrant Finnish start-ups.

🌐 www.sxsw.com

NEW YORK, USA
SPRING

Samuji Store

Samuji, a Helsinki based creative studio and design house, will open in New York. Uncover inimitable items, elegantly designed and crafted from quality materials sourced from European and Japanese suppliers.

🌐 www.samuji.com

BUDAPEST, HUNGARY
10-11 MAY

Bocuse d'Or Europe

The Crème de la crème of European chefs will compete in the most prestigious gastronomic competition, Bocuse d'Or. The Finnish representative, chef Eero Vottonen, will put his heart and talent into winning a place in the final, which takes place in Lyon, France, in 2017.

🌐 www.bocusedor.com/selection-europe-2016-1

RIO DE JANEIRO, BRAZIL
5-21 AUGUST, 7-18 SEPTEMBER

Olympic and Paralympic Games

Did you know that the Finn dinghy was originally designed for the Helsinki Olympic Games in 1952? Watch Finnish athletes compete in sailing and other sports. And win or lose, they will also be stylish in their blue and white kit!

🌐 www.rio2016.com

NÜRNBERG, GERMANY
10-13 FEBRUARY

Biofach Trade Fair for Organic Food

Over 2500 exhibitors, but be sure to check out the Food From Finland stand and discover the taste, style and nutrition available from the Finnish organic food producers. An appetizing visit is guaranteed! See other food hot spots

🌐 www.foodfromfinland.com

HELSINKI, FINLAND
2-4 MAY

World Press Freedom Day Conference

The Finnish government is honoured to co-host the international World Press Freedom Day's main event with UNESCO. This is the first time the event will be held in Scandinavia.

🌐 www.unesco.org/new/en/wpfd

CAPE TOWN, SOUTH AFRICA
8-11 FEBRUARY

Mining Indaba

Finnish knowhow in the mining sector is strong and will be present at the Finnish pavilion during the world's largest mining investment event.

🌐 www.miningindaba.com

SHANGHAI, CHINA
5-7 MAY

SIAL China

The Finnish food industry will be present at Asia's largest professional food and beverage exhibition.

🌐 www.sialchina.com

ACROSS CHINA
SPRING 2016

Air Quality Roadshow

The Beautiful Beijing Growth Program brings Finnish Cleantech knowhow to Chinese markets. Finland's world class expertise in Indoor Air Quality (IAQ) will be introduced through an Indoor Air Quality roadshow that will visit Chinese cities.

🌐 www.cleantechfinland.com/content/beautiful-beijing-1

TOKYO, JAPAN
APRIL

SLUSH

This leading start-up conference, based originally in Helsinki, promises to arrange the biggest entrepreneurial event in the history of Asia. Check the latest locations and details.

🌐 www.slush.org

By Fran Weaver
Photo Tero Pajukallio / Diaidea and Ari Heinonen

WEATHERMAN FOR THE WORLD

The global reputation of Finnish meteorological excellence is reflected in the appointment of the head of the Finnish Meteorological Institute **Petteri Taalas** as Secretary-General of the World Meteorological Organisation from January 2016.



oreigners in Finland are often amazed to find that everything still seems to work here even in the worst Nordic winter weather. One key factor

behind this miracle is the expert forecasting work done by the Finnish Meteorological Institute (FMI) – one of the world's oldest and most professionally respected national meteorological offices.

"About half of FMI's staff of 720 work in R&D, but we also produce a wide range of practical forecasting and warning services for our clients, especially in the transport sector," says Petteri Taalas, who will now lead the Geneva-based World Meteorological Organisation (WMO) for the next 4-8 years, after serving as FMI's Director General for 11 years.

SNOW BUSINESS

Taalas lists FMI's specialties, including snow and ice monitoring, assisting icebreakers and other ships on the frozen Baltic Sea each winter, and providing services to support Finland's effective winter road maintenance. "We're proud to have built up strong expertise in many areas. Among meteorological

institutes we are number two in the world in terms of published scientific articles."

Taalas now hopes to help the WMO reproduce Finland's achievements around the world by transferring advanced knowhow to help other meteorological agencies provide high-tech customer-oriented services, especially in developing countries.

The FMI itself currently works in more than 50 countries around the world. In Nepal, Finnish experts are leading a major World Bank funded project aiming to improve national weather observations and create forecasting and warning services that will benefit everyone from airport managers to Himalayan farmers.

"THE FMI ITSELF
CURRENTLY WORKS
IN MORE THAN
50 COUNTRIES
AROUND THE
WORLD."

Petteri Taalas at the FMI's weather station at Pallas fell in Finnish Lapland.





THE SHADOW OF CLIMATE CHANGE

“Such work is now more urgently needed than ever, due to climate change and the associated increasing risk of extreme weather events,” explains Taalas. “Though climate change won’t mean the end of the world, the undisputable scientific facts show it will give mankind major problems over the coming decades – and for much longer if we don’t act decisively.”

Taalas is worried that more frequent floods or droughts in regions still dependent on subsistence farming could eventually result in large numbers of climate refugees, while global sea level rises may mean that low-lying regions or even entire island countries will have to be abandoned.

As a meteorologist with a global remit, Taalas emphasises the need to effectively communicate scientists’ concerns to decision-makers. This means complementing the climate assessments and scenarios produced by the WMO-appointed Intergovernmental Panel on Climate Change with evaluations of the massive economic costs of unmitigated global warming.

COST-EFFECTIVE METEOROLOGICAL SERVICES

“At FMI we have our own economists focusing on the economic impacts of climate change mitigation and adaptation measures, as well as on the economic benefits of our own work to society,” says Taalas. “We’ve found that national investments in meteorological services can produce 5-10-fold economic benefits, due to savings resulting from better weather information and early warning systems.”

Global efforts to mitigate climate change must include a major switch from fossil fuels to renewable energy sources as well as energy-saving measures. Another hot topic for FMI is to provide new services to help optimise the use of wind power, solar energy and hydropower.

Some of the most dramatic impacts of climate change are already being felt



“INVESTMENTS IN
METEOROLOGICAL
SERVICES CAN
PRODUCE 5-10-FOLD
ECONOMIC BENEFITS.”

in the Arctic region, where warming is gradually opening previously frozen sea routes. Shipping is expected to intensify in Arctic waters, and Finnish experts have plenty to offer when it comes to producing services to boost navigational safety in icy seas.

SILVER LININGS

The intensification of global efforts to combat climate change brings opportunities for businesses producing technologies and services that can help their clients mitigate climate change or adapt to its consequences.

Finland’s Climate Leadership Council brings together many leading Finnish businesses and research organisations keen to respond to the threat of climate

change. According to a study recently conducted by the Confederation of Finnish Industries, as many as 3,000 businesses in Finland see climate change mitigation as a business opportunity.

“Finland’s strengths in relation to mitigating climate change include many

technologies that improve energy efficiency, as well as expertise on the sustainable use of forests and the generation of energy from renewable forest-biomass,” says Taalas.

In spite of the clear risk of catastrophic climate change Taalas sees room for optimism, as long as the international community finds the political will to act concertedly. In the 1990s his own PhD studies focused on the depletion of the ozone layer – a global threat that is now thankfully under control. “In combatting acid rain and ozone depletion we already have two success stories where the world has responded to urgent problems in our atmosphere pointed out by scientists”. ●

www.fmi.fi

WATCHING FOR WORLDWIDE WARNINGS

The Finnish Meteorological Institute’s work on climate change involves the detailed monitoring of the increasing atmospheric concentrations of the greenhouse gases that are causing global climate change, including carbon dioxide and methane.

“In addition to our measurement stations around Finland we also collect data from FMI stations located in Antarctica, Siberia, South Africa and the Indian Himalayas,” says Petteri Taalas.

The FMI’s state-of-the-art stations at Pallas and Sodankylä in Finnish Lapland also form a crucial link in a worldwide network of atmospheric measurement stations contributing data to the World Meteorological Organisation’s Global Atmosphere Watch (GAW) programme. Taalas emphasises the importance of the programme as a global watchdog constantly surveying the atmospheric concentrations of greenhouse gases.

“But to find ways to mitigate climate change effectively it’s not enough just to measure the amounts of greenhouse gases in the air, since we also need to understand the whole carbon cycle – and exactly what happens to additional carbon emissions,” explains Taalas. This means measuring fluxes of carbon between the atmosphere and carbon sinks such as the sea and forests.

The FMI’s marine and atmospheric research station on Utö, a remote island in the Gulf of Finland, uses ultramodern devices to collect real-time physical, chemical and biological data above and beneath the waves. Utö is one of four Finnish atmospheric stations that form a key part of the Integrated Carbon Observation System (ICOS), a Europe-wide research network focusing on greenhouse gas balances and carbon cycles. The ICOS network, consisting of 50 stations in 15 countries, is run from FMI’s Helsinki headquarters, reflecting Finland’s keen interest in contributing to international action on climate issues. ●

“WE ALSO COLLECT DATA
FROM THE ANTARCTICA,
SOUTH AFRICA AND THE
INDIAN HIMALAYAS.”

THIS IS HOW WE DO IT



Photo Vaisala

TOP METEOROLOGICAL INSTRUMENTS

Accurate real-time meteorological data is today more urgently needed than ever, especially in cities and regions vulnerable to extreme weather events. The Finnish-based global environmental and industrial measurement specialists Vaisala offer a wide range of meteorological instruments from wind, rain or lightning sensors to weather radars and entire automatic weather stations. Vaisala’s key customers include airports, road and rail transport agencies, maritime operators and renewable energy producers, as well as national meteorological agencies around the world.

www.vaisala.com



Photo Arctia Shipping

SAFETY FOR ARCTIC SHIPPING

Climatic warming is rapidly opening up the Arctic region to shipping and trade – including the controversial exploration of its resources. Finland and the other member countries of the Arctic Council want to make sure that the region is developed safely and sustainably. The Helsinki-based Arctia Shipping has more than 100 years of experience running Finland’s icebreaker fleet in the Baltic Sea, ensuring that shipping traffic can continue through the winter. Conditions along newly opening arctic routes are similar to those in the Baltic. Arctia Shipping is already active in the Arctic region providing environmentally-friendly, safe and efficient ice-breaking services. This work is all based on a detailed understanding of the behaviour of sea ice.

www.arctia.fi

By Fran Weaver
Illustration Linda Halenius

ELIMINATING WASTE IN A

CIRCULAR ECONOMY

When it comes to making the most of materials and minimising waste, Finland already has plenty of expertise on how innovative technologies can be used in crucial sectors.

The concept of a “circular economy”, where all materials are fully utilised and recycled, is becoming increasingly appreciated as a vital goal in a world facing critical problems such as climate change and dwindling natural resources.

The European Union is finalising an ambitious Circular Economy Strategy, while the Finnish Government has prioritised investments promoting the circular economy among its new spearhead projects.

“Building a circular economy will involve much more than recycling wastes. It will mean radical changes ranging from the choice of raw materials, through product design and new service concepts, to the wider use of sidestreams from industry as raw materials for other businesses,” explains **Mari Pantsar**, Ecological Sustainability Director at the Finnish Innovation Fund Sitra.

MATERIAL AND ENERGY EFFICIENCY IN INDUSTRY

“Finland’s pulp and paper industry is a prime example of a major industry where almost all the materials and sidestreams generated during wood processing are already utilised in many kinds of products or to generate renewable energy,” says Pantsar. Finnish firms are rapidly finding new applications for innovative biomaterials derived from wood – enabling the enhanced utilisation of biomass from Finland’s sustainably managed forests, where much more timber grows than is harvested each year.

Improved raw material use typically comes hand in hand with energy savings. As a country with a cold climate and no fossil fuel reserves of its own, Finland has long recognised the need to

maximise energy efficiency in industry and buildings. Such exportable expertise is now more important than ever considering the need to reduce emissions and mitigate global warming.

In addition to building up a sustainable carbon-neutral bioeconomy by making better use of forest biomass, Finland is actively bringing the concept of the circular economy into other key areas.

Pantsar explains how machinery and electronic equipment should increasingly be designed to enable them or their different materials and components to be recovered for reuse. “The Finnish forestry machine manufacturers Ponsse have pioneered the concept of product modularity by integrating multi-purpose parts in machines that they can easily take back for maintenance and reuse – also through their international sales network,” she adds.

WHAT GOES AROUND COMES AROUND

Households can also help to eliminate waste and recirculate goods and materials through the economy by increasingly opting for leasing services, sharing schemes and second hand goods. In conventional recycling Finnish

families have long led the way when it comes to drinks containers and paper. Improvements in collection, sorting and processing will next focus on other reusable materials including plastics, metals and textiles.

Finland’s food producers and distributors are meanwhile aiming for radical reductions in food waste. The Finnish energy company St1 is pioneering the production of biofuel from food industry residuals.

Down on the farm, Pantsar explains that recycling the nutrients needed for growing crops is another crucial goal for Finland – not least because surplus nutrients in runoff from farmland worsen ecological problems in the Baltic Sea. “Instead of using imported chemical fertilisers, farmers are being encouraged to apply recycled organic wastes on their fields, or include nutrient-binding crops in cultivation cycles,” she says.

Sitra’s experts are helping to create an ambitious road map aiming to get goods and materials circulating smoothly throughout the Finnish economy. They have identified potential savings amounting to billions of euros a year in key sectors.

“POTENTIAL SAVINGS AMOUNT TO BILLIONS OF EUROS A YEAR.”

“Our plans emphasise close cooperation between industry, researchers, government agencies, legislators and local authorities,” says Pantsar. “Through R&D work new business models and modular product designs can be created that take into account the need for easy maintenance, multiple reuse and recycling right from the start.” ●

NEW CLOTHES FROM OLD

Worn-out clothes can now be turned into new fashions, thanks to an innovative process devised by VTT Technical Research Centre of Finland and Ethica as part of the Finnish Circular Economy of Textiles project.

In the first step of this groundbreaking recycling demonstration scheme, the Helsinki Metropolitan Area Reuse Centre separates cotton clothes that contain reusable fibres, even though their fabric may be too worn out for them to be resold second hand.

Cotton fabric crushed by recycling specialists Suez is then dissolved in alkali to form a cellulose solution. New fibres are then formed by spinning this solution in pop-up facilities located in a disused viscose mill. New

knitted fabrics are then manufactured from the recycled fibre by the Finnish firm Pure Waste, and made into new clothes designed for the high street fashion chain Seppälä.

The first new clothes created through the scheme will go on sale during 2016 in Seppälä’s stores. They may also be purchasable online and delivered in reusable RePack packaging – eliminating another layer of waste and enabling consumers to return old clothes, completing the cycle. ●

www.vttresearch.com

Manufactured from recycled fibre

THIS IS HOW WE DO IT

By Fran Weaver Photo Ari Heinonen

JOINED-UP TRANSPORT SOLUTIONS FOR SMART CITIES

Residents of smart cities will in future be linked through their smartphones to mobility integration services that enable them to travel conveniently wherever they wish, switching flexibly between different transport modes. Finland is a global forerunner in the piloting of such services.

The concept of a smart city involves using existing and innovative technologies to make life easier for everyone. We can especially get smarter when it comes to getting around town. A pioneering programme run by Finland's Ministry of Transport and Communications and Tekes aims to realise the concept of Mobility as a Service (MaaS).

"The idea is that a single smartphone app will look after all your mobility needs,

finding the best way to get where you want to go using any combination of transport modes – and letting you pay for all your mobility needs conveniently through a single system," explains **Sonja Heikkilä** who coordinated Tekes's MaaS programme in 2015, and now works at OP Financial Group, leading a project developing new mobility services.

MOBILITY ON DEMAND

According to Heikkilä, it is already feasible to expand the journey planning services run in many large cities to encompass options like taxi services, shared car rides or even free city bikes, as well as public bus and rail services.

These bundled options will be provided by "mobility integrators". Working in a

whole new business area, these competitive service-providers will run hi-tech systems that display information on timetables, real-time vehicle locations and journey fares on user-friendly interfaces, while enabling you to instantly book all parts of your trip.

"Depending on your agreement with your chosen mobility integrator, you might pay-as-you-go for whatever mode of transport you use, pay in advance for a fixed time period package, or pay afterwards just like the way we pay our telecom bills," adds Heikkilä.

Such schemes depend on transport operators giving mobility integrators access to their information and payment systems. The Finnish Taxi-Owners' Federation and national rail company VR are already open to the idea.

"As a small and agile market Finland is an excellent test-bed for such solutions. Finns tend to be open to new technologies, while we also have plenty of people with expertise in smart mobile communications, as well as government agencies keen to support such initiatives," says Heikkilä.

Heikkilä's vision of future integrated mobility services in Helsinki, as set out in her Master's thesis for Aalto University, has

attracted international interest. Foreign Policy magazine listed her among their 100 Leading Global Thinkers in 2014.

After developing apps and services through the MaaS Programme during 2015, budding Finnish mobility integrators including MaaS.fi, Tuup, Tziip and TeliaSonera aim to expand their pilot schemes with real users during 2016. Interested cities include Helsinki, Tampere, Seinäjoki, Hämeenlinna and Turku, while the ski resort of Ylläs in Finnish Lapland is planning a unique scheme to help tech-savvy visitors get to, from and around the resort.

TRAINS AND BOATS AND PLANES

"Though it takes time to change attitudes and behaviour, such systems could become large-scale within a couple of years," says

"AS A SMALL AND AGILE MARKET FINLAND IS AN EXCELLENT TEST-BED."

Heikkilä. "There's been a lot of international interest in how we're pioneering the MaaS concept in Finland. We believe such schemes can be scaled up and replicated through international cooperation to enable travellers to use similar interoperable services anywhere in the world through 'roaming' mobility services like those we already use for telecoms."

Airlines and shipping companies can be integrated, while in some localities vehicles delivering goods or the post could also carry passengers attracted through mobility integrators.

Heikkilä believes the time is ripe for such schemes, since attitudes towards mobility among the smartphone generation are changing fast. "Young people in cities no longer feel it's so important to have their own car," she says. "Instead they appreciate the flexibility of switching between private and public transport modes, as well as the economies of crowdsourcing solutions such as sharing a car or a ride."

Though such multimodal mobility trends may mainly be driven by demands for convenience, they will also mean cleaner air and more space for pedestrians and cyclists on city streets. ●

Foreign Policy magazine listed Sonja Heikkilä among their 100 Leading Global Thinkers in 2014.

SMARTCLEAN HELSINKI METROPOLITAN

By 2020, The Metropolitan Area aims to be the world's leading test-bed and reference area for Smart & Clean solutions. The project supports Finland's objectives to be a global leader in bio-economy, cleantech and digitalisation.

"The combined will and actions of the cities, government, universities and companies will make the capital region a genuine pioneer in sustainable growth," says **Jussi Pajunen**, the Mayor of Helsinki.

By applying smart, cutting-edge technologies and services to all aspects of the city's operations, the project will enable sustainable lifestyles and healthier, happier lives.

The project's spearheads include smart- and low-carbon transportation and mobility; an urban environment that has a positive environmental impact; smart and sustainable energy systems; smart water and waste management, and consumer cleantech. ●

KEEP IT SHORT

By Ilpo Salonen, Jaana Kalliokoski, Maarit Niemelä



Photo 123RF

GROUND-BREAKING BIOPRODUCT MILL

Metsä Fibre, part of Metsä Group, will build a new bioproduct mill in Äänekoski, Central Finland. This is the first next-generation bio-product mill in the world, and with a value of EUR 1.2 billion it is the largest investment in the history of the Finnish forest industry. It will create more than 2,500 jobs. In addition to high-quality pulp, it will produce bio-products, such as tall oil, turpentine, lignin products, bioelectricity and wood fuel, while the production side-streams have the potential to create a variety of products. The mill will begin operating in 2017. ●

www.bioproductmill.com

FLY WITH EASE

Finnair is the first European airline to receive the new Airbus A350 XWB (Extra Wide Body) aircraft. Flights to Shanghai have begun, while Beijing, Bangkok, Hong Kong and Singapore are set to follow. The eco-smart design brings more than 25% improvement in fuel efficiency compared to the previous generation of aircraft. Helsinki is already the smart place for a stopover or catching your connecting flight to Asia, and with the A350 it is more comfortable than ever. ●

www.finnair.com



Photo Finnair



THE CHALLENGER

Solu is a Finnish start-up revolutionizing the way we use mobile devices for social interaction, leisure and work. Solu means "cell" and it is the first operating system to use a cloud system as a key component. With its unique, zoomable, graphic interface and a powerful 2.3 GHz processor, it can be paired with a keyboard and a display or used on its own. Solu is a refreshing challenger to ordinary computers and mobile devices. ●

www.solu.co

Photo Solu



SUPER-FAST UNDERSEA CABLE

The first direct cable link between mainland Europe and the Nordic region will be put into operation in 2016, providing super-fast telecommunication connections. Finland has already attracted major data center investments, thanks to its location between east and west, first-rate infrastructure, cool climate and low energy costs. The new cable will add to these advantages. For example, data center operator and an investor in the cable, Hetzner Online will be using it to connect from its data centers to the Nordic countries. ●

Photo Sakari Piippo



KIDS THAT CODE

Coding becomes part of the core curriculum for students at Finnish comprehensive schools in 2016. Whether you're making an animation film, developing a self-parking system for cars or building new applications for mobile phones, it is all based on simple bits of code. No wonder Finnish education experts feel that coding is a bright idea for raising computer-literate school kids. ●



EXPLORE WITH A STYLE

The Finnish watchmaker Suunto is known for its pioneering innovations for adventurers, from compasses to dive computers and sport watches. The new Suunto Kailash, part of a Suunto World Collection, is named after the holy Tibetan peak. Handmade in Finland, this watch combines quality, innovation and reliability. "The design of Kailash watches aims for purity and modernity. Premium detailing complements a discreet, classic form," says **Timo Yliluoma**, lead designer. ●

www.suunto.com

Photo Suunto



By Maija Kajanto
Photos from the interviewees

A PENNY FOR YOUR THOUGHTS

We asked five foreigners for their views on Finland,
their new homeland.



RUGGERO VALSECCHI

Originally from Italy
Sales manager

"I like the Finnish work mentality. There is a general respect and trust between employers and employees. Time is not spent on formalities – people cut straight to the point and finish things on time. Also, affordable public day care for our daughter is a good benefit."



SHUO YANG

Originally from China
Software engineer

"There are so many things people take for granted here: fresh air, clear blue skies, to be able to go to the forest and pick mushrooms and blueberries. In China you would have to pay for that! My Finnish boyfriend does not understand when I tell him that we should appreciate these things."



JOSEPH KNOWLES

Originally from the USA
PR manager and senior writer

"Generally I would say people are outward looking. Finns know a lot about the outside world. You can spend your whole life in New York and think that whole world evolves around NY because it is big enough. But Finns have this awareness of the outside world. Everyone speaks at least two languages."



ALLEN BROWN

Originally from the UK
On disability pension

"From personal experience, I'd say that if you are going to get cancer, get it in Finland. Also, the Finnish mentality suits me. Here, people respect you for telling the truth."



EVON SÖDERLUND

Originally from Malaysia
Entrepreneur, CEO

"When I started my studies in Finland, I was amazed at how informal the culture was. The teachers wouldn't respond if I called them 'teacher'. Then I would use their first name, and their head turned immediately!"

**STORIES
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a-penny-for-your-thoughts](http://finland.fi/life-society/a-penny-for-your-thoughts)

FINLAND'S GREATEST ASSET:

TALENTED R&D ENGINEERS

R

apid structural change in the Finnish telecom industry has created a unique opportunity for companies looking to hire high-class engineering talent. Today, Finland is a perfect place to set up a research and development unit.

Continuous growth between 1990 and 2009 turned the Finnish telecom industry into a nationally important sector – with ICT regarded as the cornerstone of the national economy. In those days, Nokia was the jewel in the crown that all Finns were proud of.

THE RISE AND FALL OF NOKIA'S MOBILE PHONES

But the new decade saw a structural change brought about by the maturization of the telecom industry, new players, a new global model and

changing market shares. In 2009, Nokia started to downsize its mobile operations, making more and more people redundant. Confronted with plummeting sales figures, Nokia eventually decided to sell its mobile phone business to Microsoft in 2013. This caused a radical contraction in the large Nokia ecosystem.

Further bad news followed in summer 2015, when Microsoft announced it was scaling down its mobile business and laying off roughly 2,300 employees in Finland. The R&D site in Salo was to be closed down and major redundancies were expected elsewhere in Finland.

End of the story? A discouraging final blow for Finnish ICT? No, Finns do not give up that easily. This is where a new story, a new vision, of determined recovery begins.



By Leena Koskenlaakso

“HELSINKI IS LISTED AS ONE OF THE TOP FIVE TECH CITIES IN THE WORLD.”

A NEW START

Extensive and rapid change is painful, but also a strong driver for renewal. Major mobile players have exited the stage, but today’s Finnish ICT arena is alive with new energy and an ambitious can-do attitude.

Telecoms, radio technology and mobile technology remain strong, the ICT subcontracting industry is competent and lean and the Finnish gaming industry has been booming. Hundreds of new technology startups have created a vibrant startup scene. And new players such as Intel, Huawei, LG and Zalando have set up R&D units in Finland to utilize the available talent pool and to tap into the local tech community. In a recent study for innovative capital cities, Helsinki is listed as one of the top five tech cities in the world.

“This rapid change has created a unique opportunity to utilize world-class Finnish R&D expertise. You could say Finnish engineers are amongst Finland’s greatest assets,” says **Minna Matinaho**, Head of Customer Process at Invest in Finland.

“In Finland the price to quality ratio of technology professionals is excellent. The R&D engineers are innovative problem-solvers and committed to the task and to the job,” Matinaho highlights.

FINNS GO THAT EXTRA MILE

Creoir is a Finnish startup providing design and engineering services. Winner of the iF Design Award 2015, Creoir specializes in designing user interfaces for consumer brands, most notably designing the Marshall London smartphone and the Ibis smartwatch. Most of Creoir’s employees have a Nokia background. **Pekka Väyrynen**,



Photo Jussi Hellsten

In 2015, the leading start-up conference Slush brought 1,700 startups, 800 venture capital investors and 630 journalists to Helsinki.

CEO of Creoir, is convinced that the way Finns work makes a real difference.

“Before joining Creoir at the end of 2012, I headed the product development of Nokia’s N9 Meego phones in Oulu. During my business trips across the world I got to see various working cultures, and realized how naturally it comes to Finnish employees to show initiative and always walk the extra mile,” Väyrynen says.

“You may be able to outsource work overseas at a lower price, but Finnish workers are extremely flexible. If quality and adhering to schedules are important to you, choose Finland,” he urges.

LEGACY NETWORKS AND GOOD LANGUAGE SKILLS

Part of the Nokia and Microsoft legacy are the professional networks born during those years.

“Looking back, the thing I appreciate most is the professional competence we accumulated while working for Nokia. Old networks are crucial to the current success of our company. They enable us to scale up

our production. And they allow potential cooperation partners to learn about us,” Väyrynen says.

Another valuable legacy is the ability to use English as a working language.

“Finns speak English really well. We are used to working in an international multi-site environment and we have existing contacts around the world. This means we can always find a solution to any problem that may arise.”

Other benefits for international companies establishing themselves in Finland are a very low employee turnover rate and a culture of straightforward communication.

“Personnel don’t change twice a year, as happens in certain countries. This means you don’t have to use valuable working time for training new employees or getting trained. Also Finns can admit their errors. Problems can often be solved quicker if you do not have to think about saving face,” Väyrynen notes. ●

ZALANDO CHOSE HELSINKI

Attracted by Helsinki’s huge talent pool and the strong mobile sector, rapidly growing German e-commerce giant Zalando set up a tech office in Finland’s capital.

Headquartered in Berlin, Zalando is an e-commerce company that maintains a cross-platform online store selling shoes, clothing and other fashion items. It operates in 15 European countries and has more than 16 million active customers.

Wanting to transform itself from a retail company to a technology company that connects brands, retailers and consumers, Zalando realised it needed to increase its tech team significantly.

LOOKING FOR THE RIGHT CITY

Zalando began to research various European cities to find out which ones would have enough high-class talent and the right type of dynamic mental chemistry for setting up a new tech office.

After a couple of months of intensive talks with local people and authorities and meeting up with local tech companies and startups in spring 2015, Helsinki turned out to be a perfect match for Zalando.

Zalando’s Helsinki office, the company’s second tech hub outside of Germany, was up and running by the end of August. By late November, it had hired some 25 talented and passionate software developers.

“But in the long-term perspective, we see the potential for several hundred people,” says **Tuomas Kytömaa**, Site Lead for Zalando Finland.

WHY HELSINKI?

According to **Marc Lamik**, Zalando’s Head of Tech Expansion, the main reason why Zalando chose Helsinki was the huge available talent pool. There is an ample supply of engineering, user experience and design talent to hire. Other important factors were Finland’s strong mobile sector and the e-commerce friendly atmosphere.

Zalando’s Head of Tech Expansion, Marc Lamik, speaks at the opening of Zalando’s Helsinki Tech Office.



Photo Zalando

“We received significant help from local authorities and organizations like Helsinki Business Hub and Finpro. They assisted us with recruiting staff and finding premises, and they put us in contact with all the right people. The more local knowledge you have, the smoother it is to set up operations,” Lamik notes.

Zalando’s Helsinki unit is focusing on developing consumer-facing products.

“We are building a new fashion application that connects customers, brands and retailers. Our development work touches all areas of modern software architecture. We have cross-functional teams that work on everything from the user interface on your mobile phone to the code that runs on servers, supporting millions of customers,” explains Kytömaa.

CONTRIBUTING TO THE LOCAL TECH COMMUNITY

Zalando wants to engage and interact with the local tech community.

“We are organizing events at our premises with various meetup groups almost every week. In addition, we just launched our Tech Startup Residency Program, and will be hosting selected startup teams in our office for three months, offering expertise, guidance and resources to help them build up their business,” Kytömaa says.

“These are two concrete activities that are already in place. They are helping us to become a contributing member of the local tech community.” ●

“OTHER IMPORTANT FACTORS WERE FINLAND’S STRONG MOBILE SECTOR AND THE E-COMMERCE FRIENDLY ATMOSPHERE.”



The Oulu-based Polar Bear Pitching is literally the world’s coolest stage for start-ups: They get to pitch to top-tier international investors as long as they can!

www.polarbearpitching.com

THE OULU SUCCESS STORY

The city of Oulu managed to turn a tide of massive ICT redundancies into new beginnings and new hope.

Oulu is a city of close to 200,000 inhabitants in Northern Finland. It used to be a bustling tech hub and home to several top ICT companies’ R&D sites until it was hit by a tsunami of downsizing and closures. After several downsizing rounds Microsoft (formerly Nokia) closed down its mobile handset R&D site, forcing the Nokia cluster subcontractors to downsize as well. Broadcom closed down its cellular modem development site and the local semiconductor cluster followed suit. A total of 4,500 people were made redundant between 2010 and 2015.

This could have been a major catastrophe, but Oulu has managed to reverse the negative trend and turn it into a positive, hope-inspiring challenge.

RECOVERY ACTION PLAN

The local government reacted promptly, joining forces with the Finnish state, the

local business accelerator BusinessOulu, Invest in Finland and other actors to devise a recovery action plan.

Further training, entrepreneurial guidance and networking opportunities were provided to unemployed professionals. Since then, more than 400 startups have emerged, existing companies like Nokia Networks have hired new staff, and the available engineering and R&D talent has lured many international ICT companies to establish a presence in Oulu.

THE FUTURE IS BUILT ON EXISTING EXPERTISE

“The key to the upward trend was realizing that our professional competence is the rock that our future can be built on. We saw that our expertise is what attracts new companies and generates new business,” says Kari Kivistö, former innovation manager at Nokia Mobile Phones in Oulu, and now CEO of Oulun Yritystakomo, a networking and innovation forum for ICT professionals. ●

WIRELESS & VISIONARY

An excellent engineering team with visionary ideas have made Haltian, a 3-year old startup, a promising Internet of Things supplier.

In June 2012, the employees at the Emerging Products Unit within Nokia in Oulu heard that their unit was to be shut down. Later that day, they got together to consider their options.



“We realized we had an excellent team, visionary ideas for smart products of our own, and the quality of our engineering was exceptionally good. Having purchased design services previously, I knew the market and saw we

would be able to provide high-class premium design services,” recalls Pasi Leipälä, CEO of Haltian.

It took them a couple of months to set up Haltian, spread the word about it to their global networks and get their first customer projects. Today, Haltian has 80 employees, several patents and a sales office in Silicon Valley.

FROM PRODUCT IDEA TO SALES PACKAGE

“We are able to deliver finalized devices in sales packages based on any new idea for a wireless product. Among the items we have designed and productized are the Ōura wellness ring and the Asmo charger,” Leipälä says.

Trust is a crucial asset in the service business, according to Leipälä. Thus, new customers have come through existing global networks; half of Haltian’s customers are located in the US and Central Europe, the other half in Finland.

LAUNCHING THE THINGSEE ONE

“Currently we focus on design services for the Internet of Things. Volume production and shipments of our Thingsee One IoT developer device started in August 2015.”

The Thingsee One is a device equipped with many programmable sensors that can measure air pressure, humidity, temperature, direction, speed, distance, light and acceleration. It wirelessly transfers the measured data to a cloud service via a telephone network or WLAN. Then, using a mobile application, the user can remotely adjust the measurement patterns and reporting interval and see the data in visualized form.

“The device is aimed at three user groups: professional business developers who develop IoT services and applications, private firms and user communities developing their own web applications, and individuals who use it in their homes or hobbies to measure and monitor ambient conditions,” Leipälä explains.

The Thingsee One is not a mass consumer product, but an innovation platform that liberates its users from having to design an entire customized device. It is a patented product that comes complete with service and connectivity. ●



The Thingsee One wirelessly transfers the measured data to a cloud service.

By Maarit Niemelä
 Photos Sini Juutilainen, Jonne Sippola,
 Seppo Saarentola/Otavamedia,
 Paul Williams/Visit Helsinki



THE ARCTIC MOVIE

Imagine a relaxed movie festival in an exotic setting with a sunlight round the clock. Welcome to The Midnight Sun Film Festival, where top directors, up-and-coming talent, an international audience and everyday folk come together under the midnight sun. No frills, just pure love for cinema. This festival takes place in Sodankylä, a village located in the heart of Finnish Lapland, some 120 kilometers into the Arctic Circle. Films are shown in four venues for 24 hours a day – timeless masterpieces are presented alongside the most engrossing contemporary films, and music films are taken to a new level in the karaoke screenings.

In 2015, a year before turning 30, the festival was acknowledged with the first EFFE Award as “one of the twelve trend-setting festivals in Europe”. It was said to boast one of the most unusual atmospheres of any festival in the world, which is understandable when you consider that the famous **Kaurismäki** brothers are amongst the festival's founders. ●

 www.msfilmfestival.fi

“FILMS ARE SHOWN IN FOUR VENUES FOR 24 HOURS A DAY.”



As dark as it gets.



UNIQUE FILM LOCATION

It is not just likeable festivals that Finland offers the international movie industry. As a film location, Finland provides diverse landscapes, four distinct seasons and unique natural conditions; everything within easy reach of cities and accessible. The seasons boast midnight sun and a cold winter with guaranteed snow. In the north, the low angle of the sun creates a unique lightning ambience and magical hours. Known for its thousands of lakes,

picturesque archipelago and long coastline, there is no shortage of locations close to water and forests. But nature is not all Finland offers. The efficient working culture, problem solving attitude and excellent infrastructure promote smooth creative work, even in the most demanding conditions. ●

 www.filmfinland.fi

FINNISH FILMS TO WATCH

EDITORS' PICK



Photo Making Movies

The Fencer

In the early 1950s, an ambitious young fencer, fleeing from Stalin's secret police, finds himself teaching rural children in an Estonian coastal village. Director **Klaus Härö**'s touching drama premiered in Finland in March 2015, and has been nominated for the Golden Globe Award in the Best Motion Picture – Foreign Language category. The only other Finnish film nominated for a Golden Globe Award was *The White Reindeer*, which was triumphant in 1957.



Photo Iron Sky Universe

Iron Sky: The Coming Race

Iron Sky 2 is a dark science fiction comedy inspired by conspiracy theories. It is a sequel to the 2012 cult hit *Iron Sky* and includes both new and familiar characters. The movie is directed by **Timo Vuorensola**, who is a firm advocate of crowdsourcing. The film is written and produced together with its future audience, making the production process and outcome one of a kind. The clever crowdfunding campaigns had raised near to one million dollars by the end of 2015. The release of *Iron Sky: The Coming Race* is scheduled for 2017.

By Katja Pantzar
Photo Mirva Kakko/ Otavamedia

“FINNISH FASHION IS CHARACTERISED BY A DARING TO BE ORIGINAL AND FOLLOWING ONE’S OWN VISION.”



SHAPING THE FUTURE

A dynamic new generation of Finnish talent is attracting the attention of top fashion houses, the international press and scouts. Many of the rising stars have one thing in common – they have all been influenced by the pioneering work of Aalto professor **Pirjo Hirvonen**.



hen Vogue Italia’s head of talent **Sara Maino** attended Pre Helsinki fashion week, the seasoned senior fashion editor and scout told Finnish daily Helsingin Sanomat

that she was “amazed.”

In addition to the bright new talent, what astonished Maino was the exceptional quality of the fashion design programme at Aalto University School of Arts, Design and Architecture. In the past five years, graduating Aalto students have been snapped up by leading fashion houses ranging from Lanvin and Maison Margiela to Marimekko and Balenciaga, have won prestigious industry awards, and garnered attention in magazines ranging from W and Wallpaper to Vogue Paris.

Yet ten years ago Finnish fashion – with few exceptions – was not a headline-grabbing story in the international design press. What has happened?

“It originated from us,” answers Aalto professor of fashion design Pirjo Hirvonen. “We’ve developed a bold new culture in which we’re constantly renewing and developing the way we think and operate,” says Hirvonen, who

was the head of Aalto’s design department from 2008 to 2015 and led the fashion and textile design programme from 2003 to 2008.

In addition to a strong network of alumni who hold key industry positions around the world and work closely with the school, there’s a strong learning-by-doing focus that sets Aalto apart from other high-ranking schools in the field such as New York’s Parsons and London’s Central Saint Martins.

“Our students design and make their own materials whether it’s the printed fabric for a collection or something else,” says Hirvonen. “Students know that if something isn’t available, they can make it. This model is worth gold: not just for this industry, but also as a way to solve problems in any field,” she says.

NECESSITY IS THE MOTHER OF INVENTION

Hirvonen’s vision was born largely out of her own experiences as a young designer. After graduating from the University of Art and Design (a predecessor to Aalto University), Hirvonen worked as an in-house women’s wear designer in the ’80s and ’90s.

“At the time we were trained to create clothing for the Finnish clothing industry.”



“AT THE BEGINNING OF A DESIGNER’S CAREER, CREATIVITY AND VISION WITHOUT BORDERS MUST BE ENCOURAGED.”



With globalization, that domestic textile industry has all but disappeared. Yet Hirvonen says that change was actually a blessing in disguise.

“It has forced all of us to think in new ways and understand that this is an international playing field – what’s good in Finland is simply not enough,” says Hirvonen.

As a young creative with many ideas for the international market, Hirvonen was told that her ideas were great, but wouldn’t satisfy domestic customers.

“That response was terribly narrowing and crushing,” she says. But it filled her with resolve to turn that kind of thinking around.

“My core goal when I started with the fashion programme was that the mindset and way of teaching needed to be renewed. Creativity and vision without borders must be encouraged,” she says.

LEARNING HOW TO SELL

But good ideas are not enough. A strong business understanding of the global marketplace is crucial. To that end, Hirvonen has been responsible for instituting business management courses as part of the fashion programme, and taken on significant EU projects with other design schools, initiated multidisciplinary studies within the design department, and paved the way for a new sustainability Masters programme.

“We have many visiting instructors who work internationally in the field – all of our work needs to be strategic and operative,” says Hirvonen. “And it’s important to remember that not only the students are the talent – the teaching staff are, too. Talented teachers who understand this industry are essential.”

The programme’s rigorous selection process features one week onsite, during which applicants tackle a range of assignments.

“It’s a skill to know how to read the right signals – a student may be tired or nervous – but it’s important to see the overall picture,” says Hirvonen. “This field demands an authentic and passionate attitude, drive, and talent – without those it’s impossible to succeed,” she says.

DARING TO BE ORIGINAL

Finnish fashion is often characterised in broad strokes as bold yet sensible, minimalist, sustainable, and environmentally- and socially-aware.

Hirvonen says that while some of those descriptions hold true, she sees an underlying theme of courage: “Finnish fashion is characterised by a daring to be original and following one’s own vision.”

“This young generation has had it very easy way compared to previous generations. Yet they have seen the dangers of consumerism and are very ecologically and politically aware and think about all of the big questions. This shows in their designs, which are not throwaway clothes but long-term creations not tied to fleeting trends,” says Hirvonen.

When asked to offer up the names of the next set of future stars, Hirvonen is characteristically mum: “I never favour any one of my students over another. They’re like sweet buns baking in an oven: there’s always exciting new talent rising.” ●

ONES TO WATCH

Three of the much-buzzed-about names in Finnish fashion include Sasu Kauppi, R/H, and Satu Maaranen, freelance designer and Pre Helsinki co-founder.

Helsinki-based **Satu Maaranen** graduated from Aalto University School of Arts, Design and Architecture in 2012, and her graduate collection won the first prize at the esteemed Hyères Fashion Festival the following year.

Four years ago Maaranen co-founded Pre Helsinki, a platform that features a five-day international event in Helsinki each spring showcasing and promoting the most interesting names in Finnish fashion. The event also maintains a significant presence at the most important Fashion Weeks around the world.

“We founded Pre Helsinki because we felt that we really needed to have this type of vehicle to promote Finnish fashion and help emerging designers make the right international connections,” says Maaranen, who is also Pre Helsinki’s creative director.

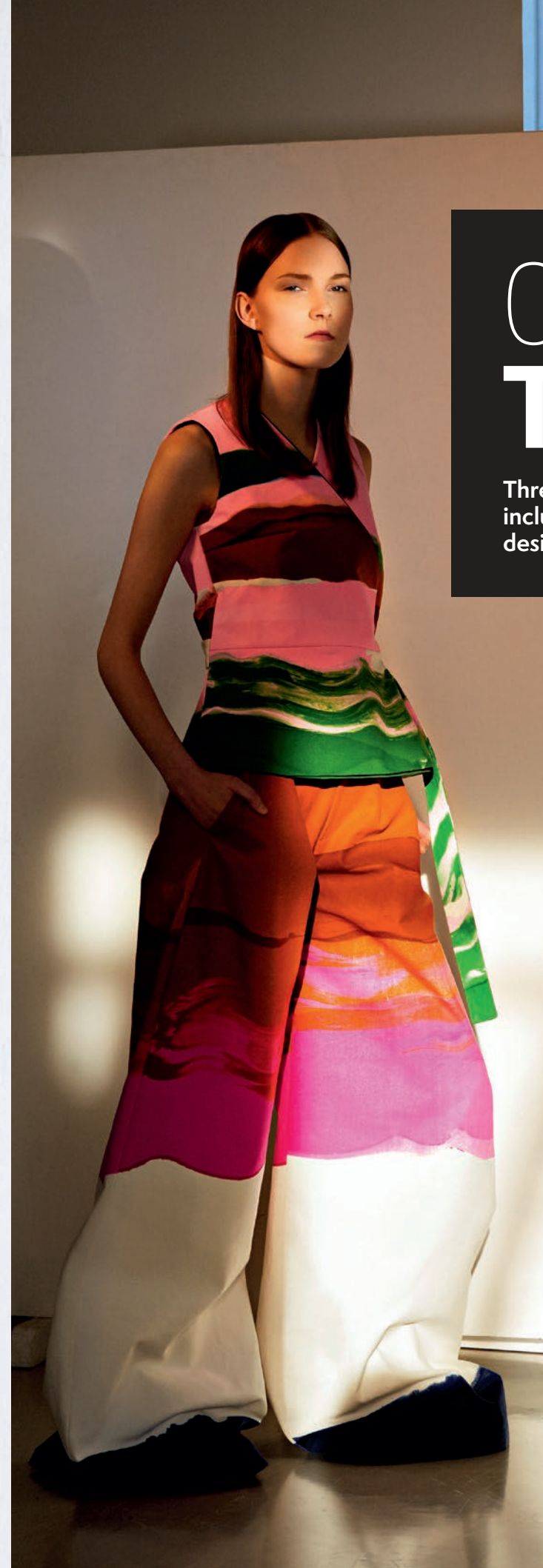
An award-winning freelance designer, Maaranen is known for her elegant, almost futuristic creations that feature colourful hand-painted prints on silk, cotton and viscose in dramatic sculptural forms. In addition to working with design icons such as Marimekko

and Petit Bateau, she has collaborated with the Italian textile house that designs prints for clients including Prada, Max Mara and Dolce & Gabbana.

“What sets Aalto’s programme apart is that traditional craftsmanship is taught,” says Maaranen. “There are few places that do that. I know students at top schools such as Central Saint Martins and Parsons who need to use their own bathtubs for dyeing fabrics because those types of facilities simply don’t exist at their schools.”

According to Maaranen, the secret to success is to stand out from the crowd and be true to your own vision. ●

🌐 www.satumaaranen.com





R/H

designers **Hanna Riiheläinen** and **Emilia Hernesniemi** met while studying at Aalto University. After graduation, Riiheläinen worked at Zac Posen in New York and Hernesniemi worked in Berlin at Agency V before the duo founded R/H in 2010.

Their collections for women feature a delightfully whimsical world of handmade prints embellishing a collection of dresses, skirts, tops and trousers, as well as accessories.

"We're inspired by our mothers, grandmothers, sisters and friends, and by Finnishness – whether it's the materials we use such as reindeer leather or our approach," says Hernesniemi. "We want to make clothes that work in women's lives. Finnish women really demand that their clothes work owing to the climate and their active lifestyles," she says.

And what is Finnishness? "We're a bit different, we don't need to please the world or seek popularity – we're content being a kind of lone wolf," replies Hernesniemi.

R/H's aesthetic is particularly popular in Japan. The brand is also sold in Hong Kong, the US, Iceland, and Finland, with their flagship boutique located in central Helsinki. ●

www.rh-studio.fi



Sasu Kauppi may be better known abroad than in his homeland. His colourful urban street wear is sold around the world from Hong Kong to the US and the UK.

A 2011 MA graduate of Central Saint Martins, Kauppi has also taught at Aalto University, where he completed his BA in fashion design. His distinct sense of style caught the eye of American rapper and designer **Kanye West** who flew to Helsinki to meet Kauppi in late 2014. The duo are reportedly collaborating – though Kauppi, who is currently living in Los Angeles and working as the design director of an LA-based fashion brand, says he can't comment on the matter.

In the meantime, Kauppi says his focus is shifting. "I'm trying to move my focus to designing good products rather than thinking about ensembles. I'm learning to appreciate detail level even more, though it's always been important to me. I want the love that I put in each design to be evident."

"I want to create products that are desirable enough to be worn out rather than forgotten after one brief season," he says. ●

www.sasukauppi.com



By Ilpo Salonen
Photo Halti

FINNS BRAVE CHILLY WEATHER IN HI-TECH CLOTHES

"There's no bad weather, only inadequate clothing", a Finnish saying that is based on a long tradition of knowing what to wear in a snowstorm or on a bright January day when it's a crisp minus 35 degrees.

"It's very easy to tell if you're properly clad or not. Whatever you do outdoors, if you don't get sweaty or too cold and if you can move freely, then the clothes are right. The best idea is not to have a thick coat but lots of layers that breathe and create a warm feel on your skin", clothes designers **Mari Talka** and **Mari Mattila-Kämäräinen** of the outdoor brand Halti emphasize.

According to Ms Talka there are two main points in the Finnish clothes design: they have to look good and they have to do the job.

"As designers, we always look for the best technical solutions and materials and test them in harsh conditions. We tend to be rather minimalist. We think of what's necessary and then put the materials into good use so as to protect you in an extreme weather. Good quality looks good, too."

Finnish winter clothes manufacturers also have a tradition of cooperation with

top sports professionals. Brand Manager **Hanna-Liisa Erkheikki** of Halti points out that this is an essential part of product development.

"Athletes are the best specialists to tell whether a piece of clothing is useful or not. If a material or detail isn't working, they will tell you", she laughs.

"What works in sports environment, is also certain to work in demanding everyday use."

In the early 2000's Halti sponsored Finland's Alpine ski team and the Nordic combined team as well as other teams like Norway's freestyle team. After this, they clothed the whole of Finland's International Ski Association team and all the staff as well. In 2007, Halti was named the International Ski Federation's (FIS) official clothing supplier and cooperation with FIS has continued ever since.

What about the future for Finnish winter clothes? Mari Talka explains that climate change brings new challenges as manufacturers will create more versatile clothing and use more environmentally sound processes while doing it.

"Technologies develop and intelligent materials are being tested which will react to the changes in weather. But we'll employ them only if they prove to be durable and useful", Mari Talka and Mari Mattila-Kämäräinen point out. ●

"IF YOU DON'T GET SWEATY OR TOO COLD, THEN THE CLOTHES ARE RIGHT."



By Maarit Niemelä
Photo Antti Leinonen

“MOTHER WAIT”

“I captured this moment at 4 a.m. Photographing elk in the early summer is part of my yearly routine, and these two appeared near my tiny hiding hut that I use when photographing. The doe gave birth to the calf nearby but soon after they left to spend their summer elsewhere,” explains **Antti Leinonen**, who took this beautiful shot in Kuhmo, near the Russian border.

The picture was magical enough to be chosen as the Finnish Wildlife Photo of the Year 2015. This is the third time Leinonen has won this distinguished award. Leinonen and his camera have roamed Finnish forests since 1974, mostly photographing birds and large mammals, like brown bears, wolverines and wild reindeer. Some of his most renowned pictures are taken on wolverines, and also published in National Geographic.

“Lately, I have been focusing on wild reindeer and I’m preparing for an exhibition on this topic in 2017.” ●

🌐 www.anttileinonen.net



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