

Inspiring Innovation

Meeting the necessity for renewal

Public procurement
encourages companies
to innovate

Engaging citizens in developing
public services

User driven approach
creates sustainable
competitive advantage





10 Flood risk warning system: challenging procurement, agile implementation, successful results



24 Lingerers, investigators, patrons and visitors



28 Design increases the value of products and services and improves the productivity of business operations

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Editorial

Embracing the necessity for **renewal**

In 2008, shortly after the national innovation strategy was launched in Finland, the Ministry of Employment and the Economy began, in cooperation with a number of stakeholders, to draw up a demand and user driven innovation policy. The strange and clumsy sounding term astonished many and doubts were expressed whether this opening had anything to do with reality.

Now, half a decade later, one can say – based on several observations – that it was essential to draw attention to these issues. In fact, new kind of thinking and action would already have been needed much earlier.

We have seen supposedly strong companies collapsing as the competition has challenged them with solutions with more consumer-friendly design and the added value of their products has shrunk. The public sector is grappling with a cost crisis resulting from its inability to change its traditional production-driven practices. These threats are still valid.

Fortunately, we can already see excellent examples of renewal. Some of these will be presented in this publication.

There are both big and small companies that are already in the process of conquering the world because they have understood that the best way to create value for consumers is by understanding their needs and by providing them with experiences and solutions with a purpose.

Many municipalities have also realised that they have to change. They have begun to use public procurement as a strategic tool of renewal, which supports them in their long-term development needs. Some municipalities have even taken the bold step of piloting design expertise in

order to make the provision of public services more user driven. New ways of doing things are helping to pull down the traditional silo-shaped service structures, and in many cases costs are also coming down as a result.

Change will only take place if it is seen as an opportunity – in many directions at the same time. This has happened in demand and user driven innovation policy. But there is still work to do.

It has been great to see the large number of pioneers – and to see it growing. However, there is a danger that in the future we will have two types of businesses in Finland: global success stories and companies that are withering away because they are losing competitiveness. There is also a danger that the public sector is unable to embrace renewal even though we would present excellent models that demonstrate how to carry out the change.

I am convinced that all involved in demand and user driven innovation want to join forces and ensure that this will not happen. Our aim is a society that has found new ways of embracing the necessity of renewal. I believe that the seeds of change have now been sown in so many areas of our society that they will generate strong growth.

PETRI LEHTO

Petri Lehto headed the innovation policy group of the Ministry of Employment and the Economy in 2008–2014.

Our aim is a society that has found new ways of embracing the necessity of renewal. The seeds of change have been sown in so many areas of our society that they will generate strong growth.

Boosting innovation through market demand and user inputs

Finland’s success in global competition demands continuous renewal of both its industries and public sector. In innovation policy, new tools and practices as well as strategic cooperation between the public and private sector are called for. New policy measures include stimulating the demand for innovations and effectively utilising the grassroots level know-how of consumers in the innovation process.

The first innovation strategy for Finland was completed in 2008. It focused on the search for new sources of competitive advantage in an increasingly intense competition. The strategy presented new themes: demand and user driven approaches. Both of these opened up interesting perspectives on updating Finland’s innovation policy and broke new ground even internationally.

A broad-based group of pioneers – public sector actors, academics and private enterprises – began to develop the themes. The result was the Demand and User Driven Innovation Policy Action Plan 2010–2013.

The action plan, which was prepared under the auspices of the Ministry of Employment and the Economy, included a wide range of measures aimed at boosting demand and user driven innovation. The work was facilitated by the fact that a number of initiatives pertaining to these themes had already been launched in Finland. These projects also worked as illustrative examples in the policy programme.

The new role for the public sector

Demand and user driven innovation policy expands the role of the public

sector in the promotion of innovations and adds new policy tools and instruments to complement the traditional research and development funding offered to companies.

The public sector can encourage enterprises to be innovative by directing some of its considerable purchasing power to development of new kind of products and services. It matters a great deal for the private enterprises and the markets in general how the central and local government actors use their purchasing budgets.

Regulation can also encourage companies to innovate: ambitious long-term targets challenge companies to develop solutions that will help reach the targets set by the government. For example, renewable energy targets have helped to create markets for a broad range of green products and services.

Economic steering, such as taxation, must be systematic and directed towards encouraging renewal.

The core aim of the user driven innovation policy is to help companies and public bodies to make use of the idea creation and development skills of consumers at grassroots level.

Advances in information and communications technologies have

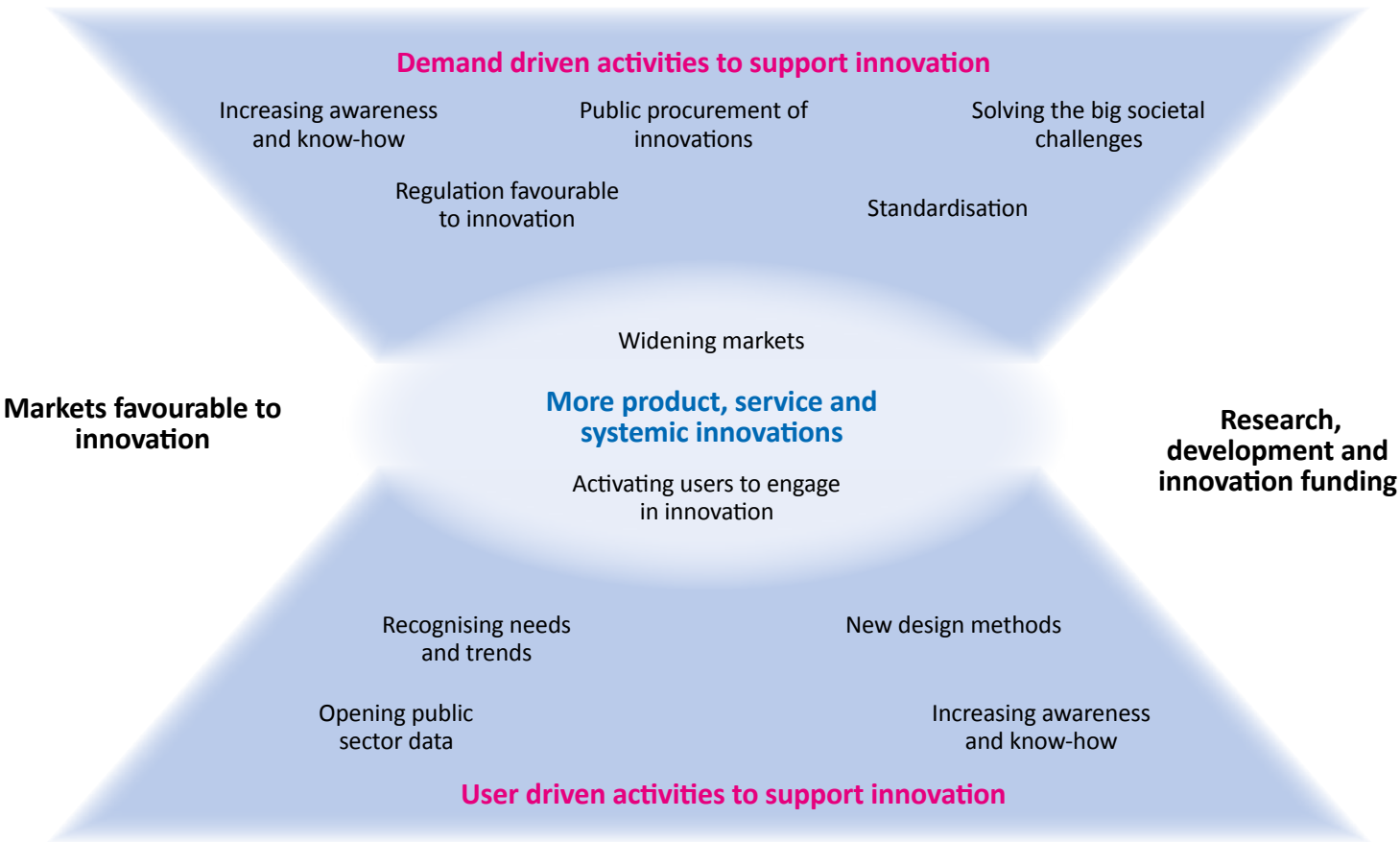
made it easier to acquire information and to share ideas. Participatory innovation is on the increase. A wide range of new innovation methods have also been introduced, allowing studying and understanding conscious and sub-conscious needs of the users.

Facing increasingly difficult societal challenges

In a tight economic situation, it is urgent to find new sources of growth, raise productivity and present efficient solutions to societal challenges. Innovation plays an important role in all of these areas.

The major challenges of our time – climate change, ageing of the population, transition to a resource smart society, introduction of smart traffic and smart cities – are global.

Thus they also offer major business opportunities. If Finnish companies can develop scalable solutions that can be turned into commercial products, they will also find customers in the global markets. This requires co-operation involving a large number of different parties and better coordination of objectives and actions. Moreover, cooperation between the public and private sector will only



Demand and user driven innovation policy has brought a new set of tools to promote innovation in the private enterprises. These complement the research, development and innovation funding.

work if there is a clear understanding of the objectives and the roles of the different actors.

In a situation where more must be achieved with less, resources must be put to more effective use. At the same time, patience is also required: the results of the innovation policy cannot be measured by quarterly reviews. Implementing major systemic innovations may take decades.

Users gain more influence in the public sector

Policy actions at the societal level must be complemented with innovation at grassroots level to increase the added value of products and services. This

means utilising the ideas and experiences of customers, citizens, service users and employees.

Listening to customers is increasingly important to companies and, with the help of digital channels, it can nowadays be done in a wide variety of ways.

Platforms for online user communities provide active users with an opportunity to play an influential role in the innovation process. Product development is more likely to be successful, if innovation is based on the users’ real needs.

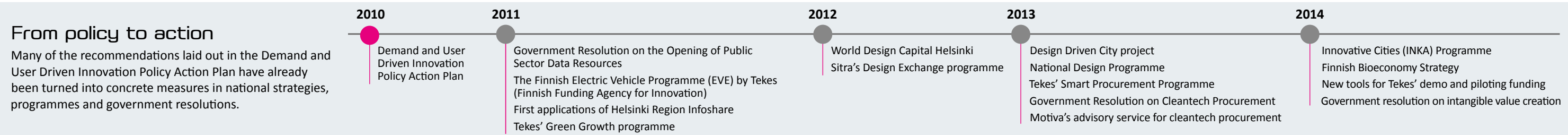
Today’s consumers also know how to ask for service that is tailored to their requirements. A life-cycle-span-

ning combination of products and services will result in closer intertwining of companies and consumers.

Expertise on design will strengthen competitiveness in all sectors by introducing user driven thinking in the innovation process. Product design will be complemented with service and process design.

The user driven approach is also needed in the development of public services. The everyday expertise of both users of services and employees should be put to good use.

KVa



Foundation for renewal laid – but still a lot of work to do

The innovation policy group at the Ministry of Employment and the Economy has led the drafting and implementation of the demand and user-driven innovation policy from the outset. Ministerial adviser Kirsti Vilén (KV) and commercial counsellor Antti Eskola (AE) sum up the experiences and the insights of the group.

What has been achieved so far?

KV: It is great that demand and user driven thinking has gained a foothold in different administrative branches and has influenced several strategies and programmes. Policies supporting innovation have also become more versatile. **AE:** Both companies and the public sector now show more consideration to customers' needs. Ministries and government agencies are discussing service design and customer needs.

Can you name a sector where substantial progress has been achieved?

AE: We have made a great start in opening up public data resources to companies and citizens. Such agencies as the National Land Survey, the Meteorological Institute and the Geological Survey are showing a good example.

Opening of data resources promotes transparency and democracy – and innovation, too! The data resources as such may provide the first impetus, but innovative application development is needed to make use of the data. Society can thus gain substantial benefits from making data resources available to citizens even though go-

vernment agencies may lose the fees previously charged for data.

Are there any areas where there is still room for improvement?

KV: Although we have made a good start in promoting innovations with public procurement, achieving wider effectiveness still requires a great deal of work.

Innovation procurement is a demanding field. It requires bold and skilled procurers in the public sector. In the future, we must focus on developing their know-how and the right kind of incentives.

Which areas of innovation should be developed further?

AE: There is plenty of potential in using design more efficiently – design should be expanded to services and processes. The sector is large and the group of actors is fragmented, but it is now being brought together under the newly established virtual Finnish Design Centre community.

As public data resources are being made widely available, private enterprises should also consider what they can share without losing their competitive edge. They could, for example,

share some of the ample amounts of information they have related to the development of ecosystems.

Another source of new innovations could be the so called MyData resources that are generated, for example, by wellbeing and healthcare devices and applications. This would, however, require a systemic change. Citizens should have better control over the data collected on them, and the related services should be built around a more citizen centric data architectures.

Finland possesses several strengths. We have major actors in developing ecosystems, trust in the authorities, vibrant equipment and application development, data security expertise and readiness to test new products and services.

KV: More attention should be paid to impacts of innovation when drafting legislation. Regulation or administrative practices may hamper or slow down the introduction of innovations. For example, the introduction of new business models for the Internet economy may fail in Finland because entirely new ways of doing things have not been considered in regulation.

What is the big theme that we should now focus on?

AE: Finland is facing enormous challenges. To tackle them, we need new ways of doing things and systemic changes instead of stand-alone innovations here and there.

An example is the concept of Mobility as a Service. People will not stop using cars unless the public and demand-responsive transport services are extensive enough to provide an attractive option. We must influence attitudes and support the creation of comprehensive innovations.

KV: Systemic changes – such as the transition to low-emission transportation or the development of smart cities – are neither easy nor quick. They require inputs by a large number of actors and cooperation between the public and private sector. Each actor has its own role and aims, and they need to complement each other.

Even though the task is not easy, success is crucial. The change must also be implemented so that companies are provided with new business opportunities.

Regions and cities can serve as 'laboratories', test platforms for new solutions. At the same time, companies get

useful references in the domestic market that help them in export business.

What is crucial to Finland's success in the future?

AE: We will fall behind in the international competition if we rely on gradual improvements. The innovation cycle must be speeded up, and we must be more prepared to test different alternatives.

We also need more flexibility in regulation so that we can carry out agile tests and stay at the cutting edge of development. The public administration should make things possible and not act as a hindrance.

For example, the Ministry of Transport and Communications is in the process of permitting the testing of

robotic cars in a designated test area. The Living Lab concept is also being expanded. In Living Labs, people are testing and developing ideas in an everyday environment.

KV: Both private enterprises and the public sector need to be bolder and more agile. According to the OECD, at least half of all economic growth is generated by innovations. Innovating is also the only way to seize higher-productivity tasks in the global value networks.

For this, we need people with skills and motivation, and competition for skilled workforce is becoming more intense. In order to succeed in this quest, Finland must be an attractive place to live, study and work. | KV a

The innovation cycle must be speeded up, and we must be more prepared to test different alternatives. Antti Eskola

A large number of experts and organisations have been preparing and implementing the action plan. Pictured here are Petri Lehto, Kirsti Vilén, Katri Lehtonen, Teija Palko and Antti Eskola from the innovation policy group of the Ministry of Employment and the Economy. Mikko Martikainen has also been a key member of the core team.



Innovations are the only way to seize higher-productivity tasks in the global value networks. Kirsti Vilén

Public procurement encourages innovation

Directing more of the considerable purchasing power of the public sector at buying new solutions would boost demand for innovations. This would provide companies with new incentives for innovation and could improve the quality and effectiveness of public services.

Public procurement plays an important role in the Finnish economy. By far most of the public contracts are concluded by municipalities. Such purchases may account for as much as 50 per cent of the budget.

In many sectors, public procurement is an important factor influencing the markets. For example, in social and health services, as well as in construction, energy and transport sectors, public contracts have a significant influence on how companies can operate and what kind of products and services they offer.

The public sector can generate demand for innovation and thus encourage companies to develop new solutions.

‘If the public sector allocated 2–3% of its yearly procurement budget to

the procurement of innovations it would provide a significant development incentive for companies and make a welcome extra contribution to public research, development and innovation funding,’ explains **Kirsti Vilén**, Ministerial Adviser at the Ministry of Employment and the Economy.

Innovations – a solution to a complex challenge

The public sector is facing a multitude of challenges. It is expected to produce better quality, improve its productivity and make its services more accessible and customer driven. However, the economic resources are not keeping pace with the expectations.

‘Innovations play a key role in solving this problem. There should be

more room for them in public procurement. Companies should be required to present new solutions. The public sector should view procurement as a tool for utilising companies’ expertise and innovativeness in the development of public services,’ says Vilén.

Open dialogue encourages innovation

Innovation procurement is a demanding task. In innovations, specifying the object of procurement and making comparisons is more difficult than weighing the advantages and disadvantages of products and services that are already in the market.

Moreover, it is clear that new solutions involve more uncertainty, which has to be taken into account and minimised in the preparatory phase, for in-

stance, through openness and market dialogue.

The likelihood of a successful contract can be increased by examining, well before tendering, whether suitable solutions already exist or whether companies have the ability to offer entirely new solutions.

Openness will also make it easier for companies to offer innovations meeting the need. For example, according to the Proculnno survey conducted by VTT (Technical Research Centre of Finland), the main factors encouraging companies to produce innovations are: early-stage interaction with the contracting organisation, laying out innovation criteria in the tendering process and communicating about future needs.

‘Combining innovativeness of companies with public organiza-

tions’ needs helps to produce better services. At the same time, the public sector generates demand for

Public organisations should anticipate their needs and communicate them to companies at an early stage.

new products and services and companies get useful references for their export trade,’ says Vilén.

New type of expertise, testing and boldness needed

Innovation procurement can only become a common practice if the public sector actors learn new skills and operating practices.

Public organisations should examine their needs for the coming five to ten years and openly communicate about them to companies. Companies should also boldly offer innovative solutions to public procurers.

Promotion of innovation procurement is a matter of improving public procurement expertise, encouraging the culture of testing and a bolder attitude as well as the motivating public procurers. Other success factors include long-term commitment, enthusiasm, strong trust and pioneering spirit of the management.

| KVa

The most important factors encouraging offering and procurement of innovations in companies and public organisations



- Early interaction with potential suppliers / contracting public organisations
- Innovation criteria in the tendering process
- Communicating future needs

According to the results of VTT’s (Technical Research Centre of Finland) Proculnno survey (2014) companies and public procurers largely emphasise the same things. Companies also value the incentives contained in the contracts, while public organisations consider planning competitions important.

Motiva offers tips for procuring cleantech solutions

A large number of developer actors offer services supporting innovation procurement. One of them is Motiva, an expert company promoting efficient and sustainable use of energy and materials. Its procurement consulting service provides assistance in the purchasing of new energy and environmental solutions.

The service, financed by the Ministry of Employment and the Economy, has a broad range of customers. Under a 2013 government resolution, the central government must promote cleantech solutions, and municipalities are recommended to take energy and environmental aspects into consideration in all procurement.

The consulting service focuses on the procurement of renewable energy solutions, sustainable vehicle technology and achieving the recycling targets. It also offers tools for market surveys and application of their findings as well as planning of tendering. Tips are also offered for market dialogue, communication and for identifying funding sources and networks.

‘Our experts help to make sustainable and innovative solutions an integral part of procurement. Our services are free of charge and tailored to the needs of each procuring entity,’ explains **Isa-Maria Bergman**, Group Leader at Motiva.

You can send questions on to hankintapalvelu@motiva.fi

RAKLI’s clinics are a venue for discussion and new cooperation

The procurement clinics of RAKLI, the cooperation organisation for the Finnish real estate and construction sector, help to promote open interaction between clients and companies prior to the public tendering process.

‘Although projects are complex, the client and potential suppliers cannot have any discussions during the tendering process. We wanted to find a solution to this problem,’ explains **Erkki Aalto**, Development Director at RAKLI. The clinics operate in the spirit of the Act on Public Procurement so that no one receives any undeserved advantage.

The clinics deal with challenging or innovative procurement cases, which the participants jointly seek to solve in the best possible manner. RAKLI provides a venue free any conflicting interests and a leader for the work process.

Solutions have been sought in such areas as improvements in energy-efficiency. For example, the clinic related to the Soininen district in the city of Naantali, led to cooperation between companies, which provided a basis for new total solutions. The client got extremely energy-efficient buildings, while the residents are benefiting from reasonable living costs in flats featuring carefully considered solutions.

If you are interested in setting up a real estate or construction procurement clinic or applying the practices in another sector, please contact Erkki Aalto, erkki.aalto@rakli.fi. | KVa

Challenging procurement, agile implementation, successful result

Rescue authorities, municipalities, companies and people living near waterways need precise information about flood risks. The Centre for Economic Development, Transport and the Environment (ELY Centre) for Southwest Finland wanted to develop a system to produce easy-to-understand warnings to the general public on the basis of the information available to the authorities. In order to make this possible, innovative public procurement was needed.

Be bold and do not give up even if the preparatory stage feels difficult. Continuing with the procurement pays off in the end.

Olli-Matti Verta

As no off-the-shelf solutions were available, an extensive preliminary report was made with the help of a consultancy company: 'We examined the needs of all user groups. Encouraged by the Ministry of Agriculture and Forestry, which steers us in water-related issues, we also examined how the system could be made into a commercial application and what would be its market potential,' explains **Olli-Matti Verta**, who was responsible for the project at the ELY Centre.

Tekes funded the preparation phase

The ELY Centre applied for preparatory funding from Tekes, the Finnish Funding Agency for Innovation. Tekes concluded that the smart procurement programme would be a suitable funding instrument for the purpose.

'We funded this project because the ELY Centre had taken into consideration that developing the service would provide the supplier with a great chance to show its capabilities, which would give it references even for international markets,' says **Ilona Lundström**, Executive Director at Tekes.

'Thanks to the Tekes funding it was easier to prepare the procurement. As innovation procurement was new to us, we needed the help of a procurement consultant in the structuring of the tendering process. This was necessary in order to receive comparable tenders. Besides, we were not experts in usability or systems either,' notes Verta.

Preparation takes a major effort

The ELY Centre invited companies interested in the project for discussions. The purpose was to determine how to prepare the tendering documents so that the companies could submit good-quality tenders.

'We laid out the objective: a system that processes the data available to the authorities and geographic information to produce easy-to-understand flood

warnings that are available online and on mobile devices. The companies were given a free hand but were required to base the solution on an open source code,' says Verta.

He adds that the preparation of the tendering was a truly demanding process, and there was a great deal of excitement when the tenders arrived. A thorough preparatory process had borne fruit: the tenders presented a wide range of potential solutions and there were several good proposals.

Ideas are born along the way

In the tendering process, Dimenteq Ltd. was selected as the supplier. According to both Olli-Matti Verta and **Teemu Virtanen**, CEO of Dimenteq, the implementation stage went without any hitches.

Agile software development method – consisting of two or four-week sprints – was used. At the start of each sprint, the client and the supplier agreed on a list of tasks, and at the conclusion of the sprint, the parties jointly reviewed and approved the results. The matters highlighted at the meetings became the list of tasks for the next sprint.

'The method worked very well in the development of the innovation,' says Verta. 'There were more meetings than in a traditional procurement but as we saw how well things were going, this definitely seemed the right approach.'

According to Verta, when innovation is built in cooperation with the supplier, ideas are created along the way. They wouldn't have achieved similar results if detailed criteria had been pre-defined.

A public-sector client can also be agile

From Dimenteq's perspective, the project demonstrated the greatest advantages of agile development. 'Decisions were made quickly. It is not at all true that innovation with a public-sector actor would be a cumbersome process. Our cooperation has been excellent all the time,' Virtanen says.

This is how it works

The meters located in waterways measure the water level and record this data in the system of the Finnish Environment Institute, which produces flood risk forecasts.

The new flood risk warning system processes the data into real-time warnings which appear on the Internet. People can also subscribe to text message alerts that tell if the location they have marked in the service is in a risk area.

Dimenteq first presented a product demo. Based on the feedback received, it then created a fully functioning online pilot. In the future, the service will be developed on the basis of user feedback.

The flood risk warning system now covers the waterways in the area of the river Kokemäenjoki but the aim is to produce a nationwide service.

This is in line with the ELY Centre for Southwest Finland having a nationwide responsibility for the development of flood risk management, partnering with the Finnish Environment Institute and the Ministry of Agriculture and Forestry.

References opening up global opportunities

Of the actors behind the project, both Tekes and the Ministry of Agriculture and Forestry realised from the outset that the project provides a link with the export potential of Finnish water and system expertise

According to Teemu Virtanen, Dimenteq has considered the international perspective as floods are a major risk in many countries. 'We have already submitted tenders to international customers. Developing the service in cooperation with the authorities in the home country is a major advantage when marketing it internationally.' | KVa

Inputs in preparation of procurement have significant leverage effect

In the Smart Procurement Programme run by Tekes, public-sector buyers are encouraged to purchase innovative solutions. It offers project funding, coaching and networking with peer procurers.

The programme indirectly promotes the market entry of innovative products and services, especially of those offered by SMEs. It also improves the productivity and effectiveness of public services

‘A single public procurement contract does not make any difference in the market but when a large number of smart procurement projects

take place, it impacts the market development. In this way, we support innovation in Finnish companies,’ explains Programme Manager **Sampsa Nissinen**.

The programme is open to all public organisations, whose procurement is in such scale that it has an impact on the development of the sector and the markets.

Funding can be granted for preparation of procurement, and Tekes provides half of the costs. ‘Considering the total project costs, a small additional input in the preparation will have significant leverage effect,’ Nissinen says. Typical activities to be funded are the definition of the requirements and criteria in a new manner, dialogue with potential suppliers and workshops with service users.

Golden rules of smart procurement

1 Define clearly where you want to have better solutions. Be systematic even if you progress through agile testing.

2 Help your organisation to understand that by procuring innovations you get better quality, higher efficiency and more satisfied users.

3 Allocate enough time and resources for the preparation phase.

4 Find out about experiences on similar type of projects and about support available for the preparation, for instance, through the Smart Procurement Programme.

5 Have an open and fair dialogue with the companies. Find out about what they can offer and what they could develop. Prepare the tendering so that it does not exclude any potential suppliers.

6 Involve the future services users in the planning process. Find out about how, for example, students, teachers, patients, nurses, social welfare clients or future residents view the need.

7 Set the tendering criteria so that the companies have room for innovation. Price should not be the only factor when you select the supplier. Also consider effectiveness, life-cycle costs and environmental impacts.

8 Reserve time to be closely involved in the development of the innovation. Joint development will produce ideas.

9 Continue the development during the contract period. Use the feedback given by the users to make the services better.

The tips were provided by Ilona Lundström and Sampsa Nissinen from Tekes and Olli-Matti Verta from the ELY Centre for Southwest Finland.

Pre-commercial procurement of the EU is a new angle to innovation

In pre-commercial procurement, a public organisation cooperates with private enterprises to find a solution for its needs by purchasing research and product development work. The public organisation can thus share product development risks with the companies.

Currently, if the procurement of developed solution takes place, it is put out to new open tendering. The new public procurement directive of the EU has changed the situation by introducing a new procedure called innovation partnership. In the future, the solutions resulting from such a partnership can be directly selected for implementation.

Silver develops independent living of the elderly

The Silver project has given Finnish actors a chance to familiarise themselves with pre-commercial EU procurement. It involves the Cities of Oulu and Vantaa as contracting entities and Aalto University and Forum Virium (an innovation unit within the City of Helsinki) as experts.

Other consortium members are from Britain, the Netherlands, Sweden and Denmark. Silver is the first three-phase pre-commercial procurement project in the EU that has participants from more than one country. It also serves as a pilot for the Commission’s pre-commercial procurement model.

The contracting organisations are purchasing product development for robotics solutions supporting independent living of the elderly.

In the first phase of the project, which was launched in 2012, the participants received a total of 32 tenders of which seven were selected for further consideration.

Three of them were later on selected for the prototype stage, which will be followed by field testing in 2016. After the testing, the pre-commercial procurement process will end and any purchases will be made on the basis of a new tendering process.

The project is long and involves many phases. According to **Jaana Kokko**, a

Technology Advisor at the well-being services of the City of Oulu, it will eventually bring benefits for the residents in their everyday life:

‘Robotics solutions will support independent living of the elderly in a meaningful way. They will also support home care employees in their work.’

An opportunity for companies to show their expertise

According to Forum Virium’s **Sari Luostarinen**, who has served as the national coordinator of Silver, pre-commercial procurement is a good way of sharing development risks and testing new things in real environments.

In order to be successful in EU-wide tendering, companies must possess a broad range of expertise. The first task is to set up a multinational consortium.

‘It is also important to be up to date on the European-wide situation in one’s own field and on experts in both companies and research institutes. One must also know how to make explicit agreements on liabilities, intellectual rights and patent matters,’ Luostarinen adds.

| KVa

130 million euros on offer

Public procurement in the EU is an important way of encouraging companies to be innovative. A total of EUR 130 million has been allocated for the support of innovative public procurement in the Horizon 2020 programme in 2015.

Pending application rounds cover funding opportunities in health care, learning, transport, energy, information and communications technology, security, and research infrastructure.

Since 2009, Tekes has provided about **70** projects with funding for preparation of innovation procurement.

Typically the support is **50 000–100 000** euros per project.

Support and networking for change agents

The aim of the Smart Procurement Programme is to encourage public procurers, who often act as change agents in their organisations. ‘We challenge them to consider the procurement process from new angles. We also establish contacts with peers who already have experience of similar projects,’ Nissinen explains.

The programme works in close cooperation with other Tekes programmes. It has a budget of about 60 million euros.

There are 15 projects and 7 research projects under way. The programme can also support companies renewing their procurement in a strategic manner.

| KVa

Big challenges require innovation across a broad front

Big societal changes are hot topics in Finland and elsewhere. Climate change, ageing population, traffic solutions with less emissions, the need to make cities smart – to solve these challenges, we need renewal across a broad front, innovations and bold approaches.

The scale of the challenges facing us is so big that tackling them requires more than a few innovations. The key to the solution lies in the renewal of large systems. These are called systemic innovations, which consist of a large number of aligned solutions.

Systemic innovations require close cooperation between a large number of actors – central government, municipalities, companies, universities, research and financial institutions – and the readiness to think and act differently than in the past.

As the challenges are global, solving them with new innovations offers companies the chance to be at the cutting edge of development. A solution that succeeds in the domestic market is a good reference, which allows a company to expand its business and to become an international player rapidly.

Towards new solutions across sectoral boundaries

Interesting examples of systemic change are developing traffic solutions with less emissions and making the transport sector smarter and more service-friendly.

We must think about the many transport needs of an individual because most of us need a combination of different solutions.

Armi Temmes

“The continuous growth in private motoring increases traffic emissions and we cannot continue like this. How can we make public transport so attractive and easy-to-use that consumers are prepared to leave their cars home?” asks Professor Armi Temmes from Aalto University.

Armi Temmes was a participant in a project carried out by the Finnish Environment Institute and Aalto University and funded by Tekes in which the prerequisites and implementation of systemic changes in traffic were examined.

The parties to the project, which ended in 2014, highlighted the fact that the change requires giving consistent direction. Public transport policy, tax policy and the development of urban and service structures should together and in parallel support the efforts to reduce private motoring in urban areas.

Before that goal is reached, many obstacles resulting from existing structures – varying from legislation to people’s everyday habits – must be overcome. Different policy sectors often prioritize their own objectives, which do not always contribute to wider change.

Also other changes are needed: many of the open and hidden subsidies and solutions that help to maintain the existing situation should be eliminated. These include obligatory car park reservations in municipal planning or tax deductions encouraging car use.

User driven approach a key factor

It is essential that the new smarter and lower-emission transport system serves the user needs. It is essential to view the transport system as a service.

‘User driven approach is the key. We must think about the many transport needs of an individual because most of us need a combination of different solutions,’ Armi Temmes explains.

‘In the summer, we cycle to work. In cities and towns, we want quick connections between different places. During weekends we have hobbies that may require a car. The best thing would be if there was a single travel card or payment application for all transport solutions,’ she adds.

During the past few years, the concept of public transport has taken on a wider meaning. For example, on-demand transport services have got off to a promising start in the Helsinki Region and the providers of ridesharing services see that their task is to make private motoring part of public transport.

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A large number of product, service and business model innovations for traffic have been developed and are under development in Finland.

1. Liikennevirta is a company operating a network of electric car charging stations, connecting the charging points owned by different parties into a single charging network. Any operator can join the Virtapiste network and become a charging station owner. A license for the IT programme controlling the charging network has already been sold to Switzerland and negotiations on sales to other countries are under way.
2. The manufacturing of Linkker electric buses is expected to start in 2015 at Fortaco plant in Sastamala, Finland. The new electric bus is based on the eBus electric bus built at Helsinki Metropolia University of Applied Sciences. The vehicle project was coordinated by VTT (Technical Research Centre of Finland) and funding was provided by Tekes (Finnish Agency for Innovation) as part of its EVE, electric vehicle systems programme. Veolia transport has tested the bus in scheduled services in Espoo.
3. The Kutsuplus service by Helsinki Region Transport is the world’s first real-time service providing on-demand shared rides. The technology for the Kutsuplus service was developed by Ajelo Oy with the work carried out at Aalto University as a basis. Ajelo shares were recently acquired by Split Technology Inc. The aim is to use Ajelo’s technology and start offering shared ride services in the international market.
4. St1 has developed an RE85 biofuel, which contains ethanol made from domestic biowaste. Using RE85 will reduce the fossil emissions generated by motoring by up to 80 per cent.
5. Here is Nokia’s business based on the use of location information, and the growth expectations are substantial. Nokia sells Here service licenses to motor industry, mobile device manufacturers and companies. Here maps have been installed in more than 50 million cars and millions of smartphones.

Challenges are made to be solved

In the domestic market, we can create prerequisites for international commercialisation of innovations and also improve the productivity of public transport services. This often requires the elimination of the obstacles slowing down development.

Cooperation and new operating models must be tested. Often the most workable test is a trial that is extensive enough and carried out within a short period of time. It helps to highlight unexpected problems that must be solved before the innovation is put into use.

'Let's take the testing of a robotic car in Vantaa as an example. At the moment, such a car can be driven on bicycle paths and at fenced sites because under the Finnish law, the driver must be a human being. This is a problem, which can be dealt with by changing the legislation,' Temmes explains.

At the moment, the Ministry of Transport and Communications is working on finding a solution to the problem.

Another example of a challenge that needs to be solved is the insurance of cars in shared use. Under the existing model, cars are either in private use or leased. Insurance companies now insure co-owned cars with a leased car insurance, which increases the costs of shared use. The problem can be solved but requires new thinking by insurance companies.

Cities are important testing grounds

Genuine partnership means risk sharing and commitment from the pre-

planning stage right up to the final product. Projects with major impact on society may take between five and ten years to complete.

It is important that cities, towns and other municipalities can act as innovation platforms for companies. All parties benefit from the cooperation as the tests help to achieve rapid progress in innovation.

Such programmes as the Tekes-run Innovative Cities have encouraged towns and cities to support innovation. Tampere is one of the cities participating in the programme.

According to **Kari Kankaala**, Director of Urban Development in the City of Tampere, cities play a crucial role: 'If cities are not involved in the development projects as enablers, how can we create a basis for smart traffic and how can we build a smart city? We must be open and active because only an active approach will generate innovations.'

Tampere has tested data transfer involving different actors that takes place between transport infrastructure and vehicles and between different vehicles. The City of Tampere has also opened the real-time traffic data to companies and enabled creating a journey planner and other services.

Success is only possible if all parties are committed to a project.

'Even if we have only limited resources, we can achieve great things if we share a common intent. Good ideas and commitment create a basis for success,' Kankaala concludes.

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If cities are not involved in the development projects as enablers, how can we create a basis for smart traffic and how can we build a smart city? Only openness will create innovations. **Kari Kankaala**

When the software company Eniram was established in 2005, not much analytics data on the movements of ships was collected. However, the company founders' experiences in shipbuilding and data analytics convinced them that there could be profitable business opportunities at the crossroads of the two sectors.

'When you are setting up a company you have to make choices. You may try to build your business around one good idea, which is the path taken by many game companies. Or you may decide to build the entire value chain and ecosystem from scratch. That takes time and requires patience from all parties,' explains **Henrik Dahl**, Eniram's CEO.

Eniram decided to build a new ecosystem for maritime traffic and a supporting software platform producing data analyses.

Solutions that help reduce CO2 emissions

Eniram staff members travelled around the world, meeting representatives of shipping companies. They had produced 40 application ideas, which they presented to potential customers.

'Our focus was on the use of data in the development of business, which, however, did not interest shipping companies. For them reducing fuel costs and emissions was the main issue,' Dahl says.

Thus, Eniram decided to first concentrate on solving these challenges by analysing the movements of a vessel.

The first customers were international shipping companies specialised in operating cruise vessels. These companies are also pioneers in clean-tech solutions, which help reduce vessel emissions.

Eniram has developed an application platform providing a comprehensive support system for decision-making onboard the ship. In the system, decisions are made by continuously analysing the data collected from the vessel's control systems and sensors.



New growth from interfaces: Energy-saving analytics for shipping

Eniram has developed an optimisation platform providing a comprehensive support system for decision-making on board the ship. It is already in use on 250 ships.

'In addition to trim, we also optimise features such as the vessel speed. The system selects optimal routes in real time on the basis of weather and other data. It also keeps an eye on engine load, or how much energy is needed at different times of the day. All this has an impact on fuel consumption and emissions,' Dahl explains.

In-depth knowledge of customers' needs opens doors

A continuous dialogue with customers has been crucial for Eniram's success. 'The first thing we did was to hire a sea captain because we needed an expert with in-depth knowledge of the field and a person who helps us open doors,' Dahl says.

When talking with customers about their future needs, Eniram uses the data collected from the vessels with its products as the background. This helps the company to identify the ar-

reas where its competitors have a competitive advantage and where the customer could improve its operations.

Increasingly expanding and diverse competition

The global markets are now opening up. In the cruise vessel segment, which is considered the pioneer in the field, Eniram has a market share of more than 60 per cent and the solution is already in use on 250 ships.

Competition is expected to get tougher as large system suppliers such as ABB, Siemens and classification societies are joining the vessel analytics business.

'We believe that this is becoming a billion euro business. We are well placed because we have a lead of several years over our competitors and the world's best experts. Our vast data base allows the introduction of new and well targeted solutions for maritime traffic,' Dahl concludes.

You can only succeed if you have competent partners. Eniram's growth into the leading company in its sector has been boosted by Tekes (Finnish Agency for Innovation), Sitra (Finnish Innovation Fund), the Finnish Industry Investment and a group of venture capital investors.

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When you are setting up a business you may try to build the company around one good idea. Or can build the entire value chain and ecosystem from scratch. It takes time and requires patience from all parties. **Henrik Dahl**

Reaching customers and markets quickly with pilots and demos

Testing carried out early enough in cooperation with the customer and the resulting feedback speed up product development and help to focus the product with the genuine needs of the users. This is the view of Tekes, which is offering a loan intended for demos and piloting.

When the Finnish bio-economy strategy was under development, it was realised that in order to create demand, the functionality of new innovations need to be tested in practice and funding for bold experiments was required.

To create solutions, support is needed for the construction of development environments on a long term basis. Through its procurement activities, the public sector is in a position to generate demand for new solutions in many areas.

Implementing a project in cooperation with companies is a good way of demonstrating the workability of a solution, while having the public sector as a customer makes the solution more credible in the eyes of potential customers.

A precondition for this is adequate and flexible funding and Tekes has been considering new funding alternatives to support experimenting so that it would be easier to construct demo and piloting environments.

‘We encourage companies to cooperate with customers already during the early stages of product development. Piloting helps you to discover new perspectives that are important in terms of what the users want. Feedback speeds up the commercial introduction of a good product,’ says **Teija Lahti-Nuuttila**, Executive Director, Sustainable Economy, at Tekes.

More opportunities for risk taking

Risk taking always involves the possibility of failure. Tekes has taken this into account in its a loan terms. If the project funded with loan fails, the loan can be partly converted into a grant, which the company does not need to pay back.

‘We do not want to punish entrepreneurs for their failures but to offer a financing product that makes it possible to manage the consequences of risk taking,’ Lahti-Nuuttila explains.

In cooperation with other public funding organisations, Tekes is also examining how projects involving

several actors could be provided with suitable funding.

‘In many cases, the construction of the demo environment is the customer’s and not the product developer’s responsibility. In such situations we have to decide how to pool the funding products of different actors so that the combination makes demonstrations possible and speeds up the commercial introduction of the product,’ Lahti-Nuuttila says.

Demo and piloting loan is immediately available

Usually Tekes funding is paid at the end of the project against invoices. The demo and piloting loan is tailored to the special requirements of piloting activities.

‘As the funding is in the form of a loan, as much as 30 per cent of the loan sum can be made available immediately. The rest will be provided as the project progresses,’ Lahti-Nuuttila explains.

The loan interest is below the market rate; in autumn 2014 it stood at one per cent. The loan period is between seven and ten years. Depending on the size of the company and the project, the loan can cover between 25 and 70 per cent of the total costs of the pilot or demo project.

Focus on bioeconomy, cleantech and digitalisation

The loan gives companies a chance to take risks in the development of a new solution or business or the introduction of a new innovative business model. It suits all sectors.

Particular focus is on companies that are developing products for the bioeconomy and the cleantech sectors or that are involved in the digitalisation of business activities.

The fact that in 2014 Tekes was provided with an additional EUR 60 million for demo and piloting loans shows how important demos and pilots are.

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Piloting helps DealDash to know what American consumers want

Tekes can grant demo and piloting loans for a broad range of different customer pilots and sectors. An example of this is the e-commerce company DealDash.

Without the slightest hesitation, this Finnish start-up headed straight for the United States. For five years now, DealDash has been doing well in a market characterised by tough competition and has enjoyed profitable growth. The operations are still mostly run from Finland.

DealDash sees piloting as extremely important for a growth-oriented company: ‘It is important to develop products into functional prototypes and present them to potential customers as quickly as possible so that the ideas can be validated and feedback provided,’ says **Lari Häkkinen**, SVP, Sales&Marketing at DealDash.

‘Ideas that look smart in Finland are not necessarily what American consumers want. Customers in Minnesota are given the chance to test prototypes developed with the support of Tekes,’ he explains.

Many of them are rejected and the best ones are developed further for product launch. User and usability tests have been

conducted for such purposes as the first primarily mobile bidding service.

‘Piloting allows us to avoid the worst flops in product development and it also gives us loads of new ideas for solving problems. As Jeff Bezos from Amazon says, you must stick to your vision but be flexible about the tactics,’ Häkkinen ponders.

In addition to the piloting loan, the company has also received Tekes funding directed at young innovative companies.

Support for robotics and game-based learning

Other companies receiving piloting funding from Tekes include Ahkera Smart Tech and 10monkeys.com.

Ahkera Smart Tech is piloting a robotics-based ground handling system at Helsinki Airport. The system is the world’s first fully automatic solution of its kind.

10monkeys.com is piloting the use of game-world revenue logic in game-based teaching material. | KVa



Learning games represent top-class expertise in the internationalisation of the Finnish education business. The mathematics learning application 10monkeys Math World is used as a learning support in lower grade schools in Stockholm and it is also spreading to other parts of the world.

Piloting makes it easier to discover new perspectives for user needs. Feedback helps to speed up the commercial introduction of a good product.

Teija Lahti-Nuuttila



Various funding sources for demo and pilot environments

Funding models for implementing demo and pilot environments have been created to support the demonstration of new solutions to potential customers both in Finland and abroad.

1. How does the funding instrument support constructing demo and pilot environments?
2. What types of projects receive funding?
3. Which has priority: public sector actors or companies?
4. How does the funding instrument work and what results have been achieved?

EU:n Horizon 2020 Programme

Jonna Lehtinen-Salo, Chief Adviser, EU Research and Innovation Funding, Ministry of Employment and the Economy

1. Funding for pilots and demonstrations may cover as much as 70-100% of the direct project costs. Demand can also be boosted e.g. by innovative public procurement. Such funding options are also becoming more common in EU's research and innovation programmes.
2. The keyword is impact. The pilot project may be big or small; the only requirement is that it contributes to economic growth in Europe. Pilots may thus involve anything from mobile applications in urban environments to construction of large pilot lines at industrial plants.
3. Programme addresses funding for research infrastructure and institutes, universities, companies, large industrial consortiums, cities and regional actors. The focus is increasingly on demo and pilot environments that are important to companies.
4. First statistics are available during 2015.

Fortum's pyrolysis plant is one of the projects that have been granted energy support for new technology investments. It is the world's first industrial-scale bio-oil production plant that is integrated into combined heat and power production. The research was done as part of Tekes BioRefine programme..



National energy support

Pekka Grönlund, Senior Advisor, Energy Department of the Ministry of Employment and the Economy

1. One of the main aims is to support projects demonstrating the use of new technology. This objective has taken an increasingly important role.
2. The support concerns renewable energy and energy efficiency.
3. May be granted to companies, municipalities and other corporations but the priority is on supporting companies.
4. The Ministry of Employment and the Economy and Tekes are jointly supporting the EVE programme which aims at developing business in the area of electric vehicles and machinery in Finland.

Environmental LIFE funding

Pekka Harju-Autti, Ministerial Adviser, EU Research Funding, Ministry of the Environment

1. There will be a substantial increase in the funding allocated for national

pilot projects in environmental protection in 2014-2020. The aim is also to benefit from synergy with other environmental funding opportunities provided at EU and national level.

2. The duration of traditional LIFE projects is 4-6 years and the total costs of each project vary between 1-10 million euros. The new integrated projects cover large sectors aiming at implementing plans or strategies that concern EU's environmental and climate measures. They encourage Finnish funders to cooperate more closely than before.
 3. Public sector actors, research institutes and companies are involved in the projects.
 4. The projects have produced new knowledge and operating models for the benefit of our environment. For example, the aim of the Vattaja Dune LIFE project of Metsähallitus (a state enterprise) was to coordinate the training activities of the Finnish Defence Forces, recreational use and protection of the dunes.
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Biobanks may give Finland a substantial competitive edge

Photo: Roni Lehti

Legislation can help to guide and encourage the creation of new innovations. One example of this is the Biobank Act that entered into force in 2013. Research in the sector is expected to open doors for both substantial investments and spur the growth of new export-driven business.

The main aim of the Biobank Act is to promote the health and well-being of citizens with the help of new knowledge. The act supports research utilizing human biological samples and promotes openness in their use.

The act ensures the protection of privacy and self-determination in the processing of the samples. The activities are also guided by the Medical Research Act and the operating principles governing good research practice.

'The act was needed in order to make possible what is called wide consent. It has allowed more diverse use of samples,' explains **Liisa-Maria Voipio-Pulkki**, Director of the Health Services Group in the Ministry of Social Affairs and Health.

Biobanks maintain materials that consist of samples and information on the health, lifestyle and medical treatment of the sample donors. Valuable samples have been collected from patients in medical care both for scientific purposes and for diagnostics.

According to Voipio-Pulkki, there are plenty of sample collections in Finland which have scientific and research value that has not been fully exploited. 'The high standard of our health care, the reliability of information and new analysis methods mean that these collections are of interest to researchers and product developers in both Finland and elsewhere.'

Safeguarding the interests of citizens important

When the content of Biobank Act was considered ethical and data-protection issues were in focus.

'We wanted to ensure that the rights of the individual will be safeguarded while at the same time the research use of human biological samples is promoted. The Finnish Biobank Act successfully combines the knowledge-related self-determination of the individual and the common good that can be achieved through research,' Voipio-Pulkki explains.

The act is based on the written consent issued by a person for the stor-

age and research use of the samples taken from him/her and the information related to them.

'The act provides a better basis for internationally successful Finnish research if the public remains convinced that the activities are carried out in an ethical manner and that they also produce results. For this reason, we also need evidence showing that the health of individual patients and population groups will improve as a result of biobank research. I believe that such evidence will already become available in the next few years,' Voipio-Pulkki says.

'Biobanks may give Finland a substantial competitive edge and create completely new business. This requires a legislation that supports the development of innovations. In the future, we must ensure that we build smart mechanisms for the use of biobanks and that the biobanks work in close cooperation with each other,' says **Petri Lehto**, Head of Division at the Ministry of Employment and the Economy. | MH

Enterprises benefit from influencing standardization

Fragmented markets do not encourage companies to innovate. Markets can be harmonised through standardisation. Standards provide a platform for new innovations that are compatible with already standardised solutions.

Like patents, standards disseminate information, which helps to reduce companies' transaction costs. Standards remove technical trade barriers and boost international trade.

Standardisation also helps to clarify and simplify regulation. Product requirements concerning issues like health and safety can be laid down in legislation in clear terms by referring to standards.

Standards are prepared nationally, internationally and at EU level. At the moment, about 25,000 standards are in effect in Finland. About 1,500 new standards or updated standards are approved by the Finnish Standards Association (SFS) each year.

As standardisation plays an important role in innovation, the aim is to increase the development and use of standards in research programmes, to increase standardisation expertise and to promote the use of standards in general.

Companies can explore new business opportunities by following the standardisation process in their own sectors. While companies in

all size categories can benefit from taking part in the process, it is especially useful for SMEs at the start of their growth path. They can acquire new information and expand their networks by participating in standardisation.

'Until now, Finnish companies and our public sector have played a rather passive role in standardisation. They should become more actively involved in their own sectors because this would bring them substantial benefits,' says **Antti Karppinen**, Technical Director of the Finnish Standards Association SFS.

Industry-specific bodies represent companies

Finland relies on a decentralised model. SFS has, in addition to itself, authorised 12 standards-writing bodies from different industries to represent Finland and to take part in standardisation at European and international level in their own sectors.

The standards-writing bodies are responsible for most aspects of standardisation in their own sectors and they usually have committees or mon-

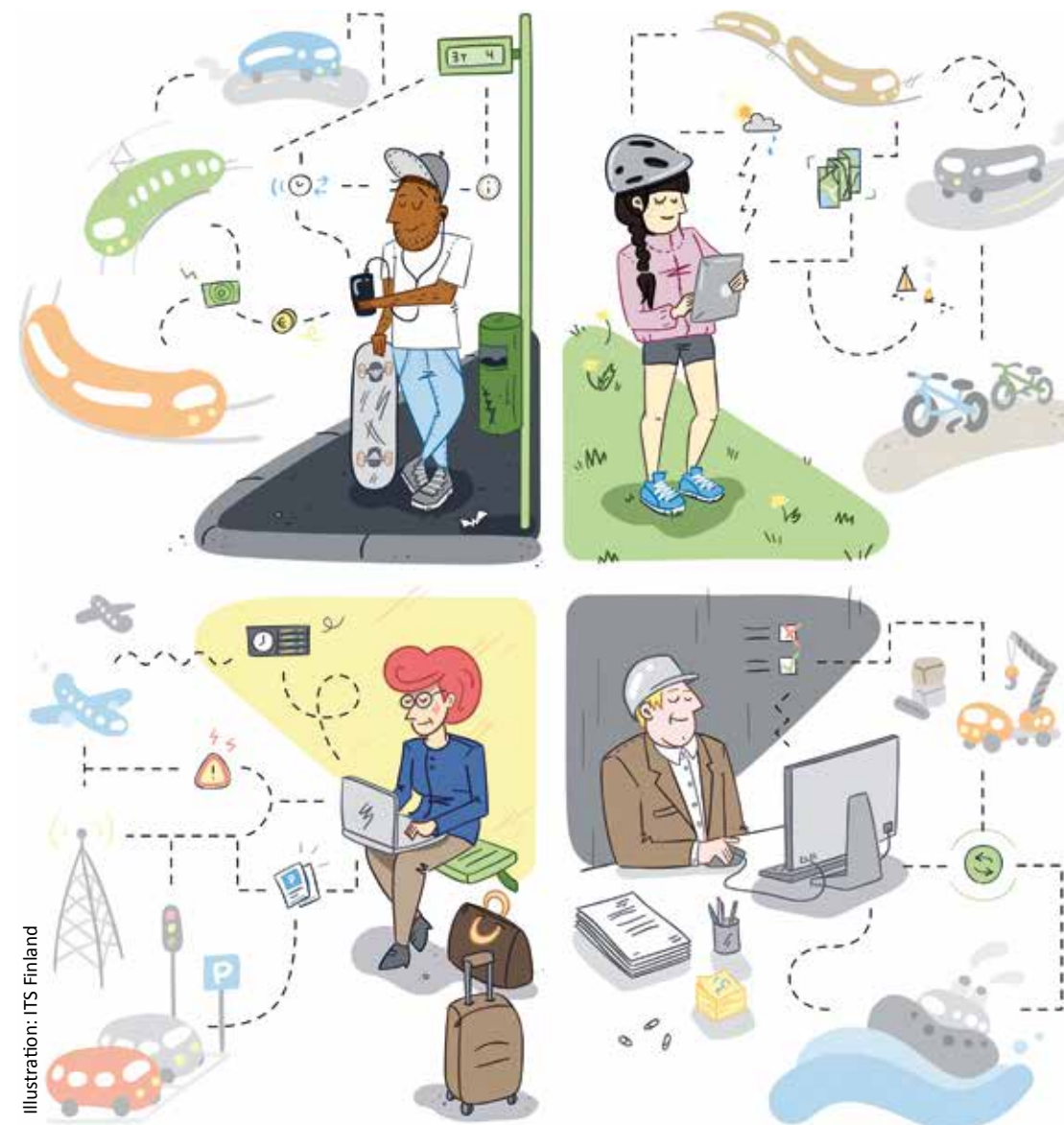


Illustration: ITS Finland

Smart traffic is a rapidly developing sector and standardisation plays an important role in it. The example of telecommunications shows that active participation in standardisation at EU level provides a strong position in competition.

itoring groups that prepare standards and influence the process.

Companies first have to evaluate if they benefit from standardisation. After that they have to determine whether they just monitor developments or work as active and influential partners in the process.

'If a company wants to be an active partner, the best way to start is to contact one's own standards-writing body. It can provide information on how a company can successfully put forward its viewpoints and how standardisation is progressing,' says Karppinen.

Standardisation speeds up renewal

There is plenty of experience in Finland in how active involvement in standardisation in the EU helps to provide a strong position in competition.

'The telecommunications sector was a good example of this. Now we are hoping that standardisation in such sectors as smart traffic will happen in the same way,' explains **Sampo Hietanen**, CEO of Intelligent Transport Systems Finland, an open forum for smart traffic.

Even if a company does not have enough resources to participate, it should nevertheless keep up to date on standards in its own sector. They give a company an idea of how the

markets are developing and where you should focus in the future.

When companies are confident that demand will grow, they will be quicker to invest in the development of advanced solutions

This means fewer wasteful investments and the companies can get the new solutions on the market more quickly and secure a place among pioneering enterprises.

'Standardisation also helps industries in their renewal. It provides opportunities to dismantle existing barriers and operating models. It also creates new innovation cooperation between experienced and new operators. This will result in better innovations,' explains Hietanen.

Karppinen urges companies to seize the initiative.

'One should not be too shy. If you want to be involved in the creation and shaping of the practices in your own sector, you should join the standardisation process and play an active role in it. The work is characterised by openness, transparency and consensus. This ensures that small countries also have a say in the process.'

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If you want to be involved in creating and shaping of the practices in your own sector, join the standardisation process and play an active role in it.

Antti Karppinen

Standardisation helps industries in their renewal. It provides an opportunity to dismantle barriers and creates new innovation cooperation between experienced and new actors. Sampo Hietanen

Better public services based on users' needs

In recent years, service design has become a method which also helps the public sector to improve its services. It makes the sector more willing to change its practices: to design services in a user driven way, challenge existing organisational structures and test new services with quick experiments.

Involving the users already in the planning stage helps to highlight needs and wishes that would otherwise be overlooked,' says **Pekka Timonen**, General Secretary of the World Design Capital Helsinki 2012 and Centenary of Finland's Independence 2017 project.

"When a service meets the needs of its users, he/she may feel that the service quality has improved even if less money was spent on it. In a situation characterised by scarcer resources this is very important for example for the public sector," Timonen explains.

The World Design Capital – design in everyday life

Highlighting and making use of service design was one of the main targets of the World Design Capital Helsinki 2012 project.

'A broad range of different actors were engaged in the project: representatives of cities and companies, design professionals and urban activists. Our aim was to tell and show how design is present in our everyday life: in products, services, everywhere,' Timonen says.

Different citizen groups were closely involved in the World Design Capital year. The workshops, training events and interviews attracted thousands of people.

To ensure that design would be widely used, it was important to engage cities, universities, government actors, companies and non-govern-

mental organisations in thinking how design expertise should be utilised.

An example of a successful user driven service-design process is the Kaisa House, the Helsinki University Main Library. Its services and functions have been built in cooperation with designers, library staff and library users.

The wishes of the different groups can be seen in the division of space. In addition to open space, the library also has quiet reading rooms and places for groupwork and meetings.

'Something is definitely changing. People are beginning to see the connection between design and their own daily life. Companies now also see the role of design as a competitive advantage and it will provide great opportunities in the future,' Timonen explains.

Better design is a civil right

Planning of the events for the Centenary of Finland's Independence in 2017 is already in full swing and the lessons learned during the World Design Capital year are being incorporated in the process.

'We now live in a civil society. It is extremely important to engage people in every stage of the project – from the planning stage to the events themselves. As this is the first 'digital anniversary year', it offers plenty of new opportunities but also prompts us to think about the activities from the perspective of all Finns,' Timonen ponders. 'In fact, better design is a civil right.'

He believes that Finland could be a trailblazer in design: 'For this we need designers that are able to present solutions, decision-makers and companies that understand design and a public that wants better design.'

The role of design should be strengthened, especially in areas where the decisions on major issues are made: "For example, at its best, ecodesign provides solutions for energy systems, traffic, waste management, materials use, consumption habits and human behaviour.'

Steps of successful service design

1. Check whether somebody has already carried out a similar project to avoid overlapping work.
2. Have a meeting with the service users. Don't assume anything; ask what they want. See how they act to determine their hidden needs.
3. Make sure that you engage as many people as possible from the outset. Extensive feedback helps you to develop better solutions. and to avoid unnecessary investments.
4. Small-scale testing in the early stages of the project will generate quick feedback.
5. Ask the users again what they need.

Tips: Pablo Riquelme

Matinkylä Citizen Service Centre = spaces + service culture

The Design Driven City project carries on the legacy of the World Design Capital Helsinki 2012. The Ministry of Employment and the Economy is one of its co-funders. The project involves the Cities of Espoo, Helsinki, Kauniainen and Lahti and the aim is to develop design know-how in the planning of public services and provide assistance in the use of design.

One example is the Matinkylä Citizen Service Centre project in Espoo. In the project, such services as a library, a child health clinic and other health services, a joint service point and an office of the Social Insurance Institution of Finland will be located in a space already housing a shopping centre.

The trend is towards bringing different services and activities under the same roof. In such cases it is important that when there are shared spaces, there are also common rules. Success will only be achieved if there is shared understanding of the joint service pledge and culture.

For this reason, the spaces and the services are designed as a single entity. 'Service design as such is not a solution but an additional tool. It has a simple philosophy as its strength: we ask people what they want and make observations so that we can see their hidden needs,' explains urban designer **Pablo Riquelme**.

In the project, the opinions of the residents of the Matinkylä district are surveyed in cooperation with the Laurea University of Applied Sciences. The designers are particu-

larly keen to hear the views of senior citizens, families with children and young people of how services should be developed.

'These groups have clearly different needs. If we are able to provide them with good services, we are probably also responding to the needs of a larger group,' ponders Riquelme.

The project will result in a service manual that details the service culture, how different parties are cooperating, how they share information and what kind of a customer experience will be offered.

'Empathy is the key. A user driven approach without empathy will not work. We can help people to identify with the customers' situation,' says Riquelme.

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Lingerers, investigators, patrons and visitors

A good example of service design is the Intelligent Design project in which services for the Kaisa House, the Helsinki University Main Library, were developed. Based on the views and experiences of the library users and staff members and on making observations

on them, four customer profiles emerged. The needs of each group helped in the service ideation. Conceptualised and tested service ideas are now available to the public.



Illustration: Heidi Grönholm

Olli-Pekka Heinonen: Involve citizens in the building of public services

'If I were able to change one thing, I would incorporate innovation in the public sector operating culture and the virtues of Finnish public servants,' says Olli-Pekka Heinonen, State Secretary at the Finnish Prime Minister's Office. 'This is a major issue for Finland's future. If we succeed in it, we can do what we want. Otherwise the handbrake will remain on.'

Olli-Pekka Heinonen has served as the State Secretary since 2012. He has been following and steering the Finnish public sector from a vantage point and is strongly of the view that it needs renewal.

'The nation building work is complete – we can no longer continue the process of introducing new services and benefits. Now we have to focus on finding the best way to provide public services,' Heinonen explains

In his view, priority should be given to the genuine engagement of citizens and the citizen-customer-perspective: 'Public administration employees need to be genuinely interested in whom the services are intended for. We should ask ourselves what we actually know about Finns since Finland is becoming an increasingly diverse nation consisting of people with different needs.'

From objects of administration into active citizens

According to Heinonen, in order to ensure high-quality services, we should have a dialogue at an equal level, and

not on a top-down basis in which citizens are merely asked about their opinions: 'Services should not be built for citizens but in cooperation with citizens. People should feel that they are active players, not objects of administration.'

Heinonen gives an example of the new thinking: in Sweden the waiting times in the care of the elderly have been reduced by introducing a system in which the clients perform the routine monitoring checks themselves. In return, they are guaranteed quick access to a doctor if there are worrying changes in the results.

New technology makes new kinds of engagement possible. The opening of the public sector data resources could also offer valuable insight into citizens' needs. The public sector could use the 'big data' on its own clients when introducing service reforms.

'I also support making comparisons between different options through agile testing. For example, we could determine which way of providing a public service works best through trying out the options with various reference groups,' Heinonen ponders.

In public administration, focus should be shifted from the management of issues to the management of personnel. Serving as a supervisor, not a secondary job.

Citizen-oriented digital approach

Olli-Pekka Heinonen sees digitalisation as a major opportunity for a service reform. Citizens' needs should be the starting point as services should be easy to find and easy to use. Organisation-specific online services should be dismantled.

Heinonen gives an example from Britain where gov.uk, the government's website, provides a single access to a vast number of public services. 'Gov.uk has succeeded because of centralised and holistic decision-making. Everything is based on an extremely strong focus on usability and customer-centricity.'

Another encouraging example is MindLab, the innovation unit of the Danish government. Finland is in the process of adopting the same model: a specific place and resources are allocated to innovation to support renewal across the boundaries of administrative branches.

Public servants should boldly break boundaries

Traditionally, administrative procedures and the work performed by public servants in Finland have been governed by detailed provisions. Many regard that this has prevented innovation in the public administration. According to Heinonen, the prevailing

assumption that somebody higher up in the hierarchy can always provide the right solution to a problem will stifle innovativeness.

In his view, public servants are only prepared to show boldness, go beyond their traditional roles and reform procedures in the spirit of innovation if there are changes in the management style of the public administration. 'The focus should be shifted from the management of issues to the management

of personnel. Serving as a supervisor is a profession and not a secondary job.'

'Good managers are able to accept and make use of diversity. They protect reform-minded staff members against administrative downpour and territorial thinking', he says. 'When you dare to give up control, you notice that people can and will promote matters in a smart manner.'

Heinonen is optimistic about the chances of renewal. There are signs

of new thinking and operating practices in many places. For example, the Muutoksenteijät (Change actors) network is working to improve co-operation between ministries, while new premises solutions also help to promote new operating models.

'We are going in the right direction. All permanent secretaries agree that change is needed. It is now time to convince people at other supervisory levels.' | KVa

Services should not be built for citizens but in co operation with citizens. People should feel that they are active players, not objects of administration.



Making design into a competitive advantage

Design increases the value of products and services and improves the productivity of business operations. Design is closely linked with companies' user driven innovation. For example, at Suunto the user-driven approach is in the focus of product and service design.

Investments in design expertise and efficient use of design create intellectual property, which helps to strengthen competitiveness of a company. Well-designed products and services are more user-friendly and attractive to consumers. In the public sector, design can make both service production and usability of services more effective.

The user driven approach is an integral part of the design process. Feedback provided by users can be utilised in the development of products, services, the brand and business models.

Users' stories help in the conceptualisation of products

For Suunto, the user driven approach lies at the heart of its business. The company collects feedback from users for the whole duration of a product's life cycle.

Digital product elements, such as the online service, the mobile application and communities are also important. Suunto collects feedback from all these areas.

'Collecting and analysing user feedback and converting it into important information that influences products and services are critical success factors for Suunto. Feedback has an impact on

the brand, design and all aspects of our business operations,' explains **Antti Kujala**, Head of Design at Suunto.

The company collects user information in many different ways. In the development of a new product concept the most important instruments are in-depth interviews. The aim is to find out what new solutions should be incorporated in the products.

The interviewees are expected to describe freely their hobbies and leisure activities. 'I had many interviews with a woman who was an avid traveller and who familiarised herself with the locations she visited by running. She could never fully relax while running because she was worried that she might not find her way back to the hotel,' says **Michael Miettinen**, Team Manager of User Experience at Suunto.

Sometimes Suunto seeks inspiration from outside its own field. When the company was developing its first dive computer featuring a colour display, it had discussions with Finnair pilots in a flight simulator.

'There is a huge number of instruments in the cockpit and each of them has a graphic indicator and a number. We asked the pilots how they find important information quickly when unexpected situations occur. As humans perceive images 60,000 times faster

than numbers, the pilots first scan the graphic indicators. Only after they have detected the deviation, will they check the numbers and try to find the reasons for the deviation,' Kujala explains.

This idea was incorporated into Suunto's new dive computer in which the diver can choose between a classic display, a text-based display or the new graphic display.

Feedback from users shapes the final product

When the new product concept is ready for assessment, the options are presented to test. The concept is then developed further on the basis of the feedback.

Smaller-scale agile product assessments are carried out at different stages of the product development process. They involve for example Suunto employees and their friends and hobby circles.

'When the product is ready for use, experts will test it in practice. Before production start, we check that all elements – the device, the mobile application and the cloud service – function properly,' explains Miettinen.

The most important feedback is quickly integrated into the products. When Suunto began the development of its first-generation sports watch, it had one model for demanding conditions and one for training.

On the basis of the user feedback the product developers realised that mountain climbers need a product made for harsh conditions only two or three times each year. For the rest of the year, they train by running, cycling

or by working out. Suunto incorporated the features of both products into the new sports watch, which led to a success.

New information from discussion groups

Suunto also collects user feedback after the product development stage. 'We ask users to give monthly online reports on how the experience of using the product has changed and why,' Miettinen says.

Like his colleagues, he follows the media and internet forums on leisure time sports: 'The discussion groups are a really useful for finding out what kind of equipment interests people, what services are popular and what people want.'

However, the crucial success factor is how we use this information. 'It is always a question of striking a balance. How to improve the product so that it meets professional requirements without becoming less attractive to leisure time users. It is important that we can meet the wishes of the majority of the users,' says **Erik Lindman**, Intellectual Property and Research Manager at Suunto. | MH

Ethnography as a user research tool

The aim in ethnographic research is to understand users in a comprehensive manner by observing their behaviour, environments and the interactive situations that they are involved in. More and more companies are conducting ethnographic surveys. By observing how products are used, companies hope to find out how to improve them, find new uses for the solutions and discover ideas for new product concepts.

At Suunto, observing is used for example in the dive computer R&D. Product development team goes out diving with user groups and observes events under water.

Collecting and analysing user feedback and converting it into information which influences products and services are critical for Suunto's success. Feedback impacts all areas of the business. Antti Kujala

Making open data into a business

Releasing public sector data provides raw material for a broad range of applications and services that make everyday life of citizens easier. In the Greater Helsinki region, a vibrant and expanding ecosystem has grown around open public sector data during the past five years. A key challenge at the moment is to encourage companies to use open data more effectively in their business operations.

Helsinki Region Infoshare (HRI) is a service that makes public sector data available free of charge. It is jointly run by the municipalities in the region. It operates in close cooperation with producers of public sector data resources and potential users, such as companies, developers and suppliers.

HRI examines which data resources can be opened up and encourages public sector actors to release the data that they have produced. It supports application development and provides information about new open data.

There are already about 1,100 datasets and more than 100 examples of use of that data available on HRI website. 'The best-known open data applications are based on HSL API, the open interface of the public transport journey planner offered by Helsinki Region Transport,' explains Forum Virium's **Ville Meloni**, who worked as Project Manager at HRI.

Gaining international attention

The most versatile applications make use of open data and technology and combine them with the user's own data. A good example of this is BlindSquare, an application developed by the Finnish company MIPsoft for visually impaired people.

It makes use of GPS and a compass for locating the user, open public sector data, such as the interfaces of

the Helsinki Region Service Map and Helsinki Region Transport, and information about the local services entered into the Foursquare service. Using speech recognition and a voice simulator, it directs the user to the desired location.

Using BlindSquare, many visually impaired people can now manage their daily lives and travel independently. For example, you can find a specific restaurant or check your location if you have got lost. The application has users in more than 50 countries, it has received numerous prizes and it has huge development potential.

Better service and more open democracy

When the public administration opens up its decision-making process, residents have a chance to examine matters from an entirely new perspective and to influence them in a new manner.

In Helsinki, local residents can examine matters and their status in the decision making process online as well as provide quick feedback using new web based feedback systems.

The process of opening public sector data is already in full swing in Finland. According to the open data programme launched by the Finnish government in 2013 information resources will need to be opened as extensively and systematically as possible.

The programme goals for 2014 included the implementation of the EU

Directive on the re-use of public sector information (PSI Directive). September saw the opening of the national data portal, which was also laid out as an objective in the programme.

Cities such as Tampere, Oulu, Jyväskylä and Turku and the region of Southwest Finland have started to open their data resources.

Ville Meloni encourages public sector actors to be active in the matter: 'One should start now. The easiest thing is to make a small data resource, such as a set of statistics and maps, available first and when you gain more experience, you can increase the amount of open data.'

Processing data has indeed become more democratic. There is a lot of discussion about data in social and other media. The Finnish Open Data Ecosystem Facebook group already has more than 2,400 members and the open support network, www.avoindata.net, answers questions concerning open data.

Open data has also significantly facilitated the work of data journalists. There is data-based content in newspapers and magazines in stories combining such issues as geographic information and wealth.

Valuable raw material for application developers

Data is digital raw material: statistics, economic information, maps, images, video recordings, 3D models,

forecasts, geographic information and much more

There are four principles governing open data:

1. The data is made available without restrictions and free of charge.
2. The data must be in a machine-readable format.
3. Licensed re-use of the data is permitted.
4. The data must be public. The opening of the data may not jeopardise the privacy of any person or public security.

This framework provides a basis for the use of the data. However, in Meloni's view, there is still work to do before we can have genuinely open application markets: 'It is important for developers that data is supplied in standard format. For example, local

applications serving public transport and tourism could fairly easily be copied and adapted to other localities if the data is in standard format. Otherwise, programming is much more time-consuming.'

Another important point is that when municipalities update their information systems, they usually require an open interface. This helps to avoid situations in which data in closed systems must be made available in a separate process.

More opportunities for open data business

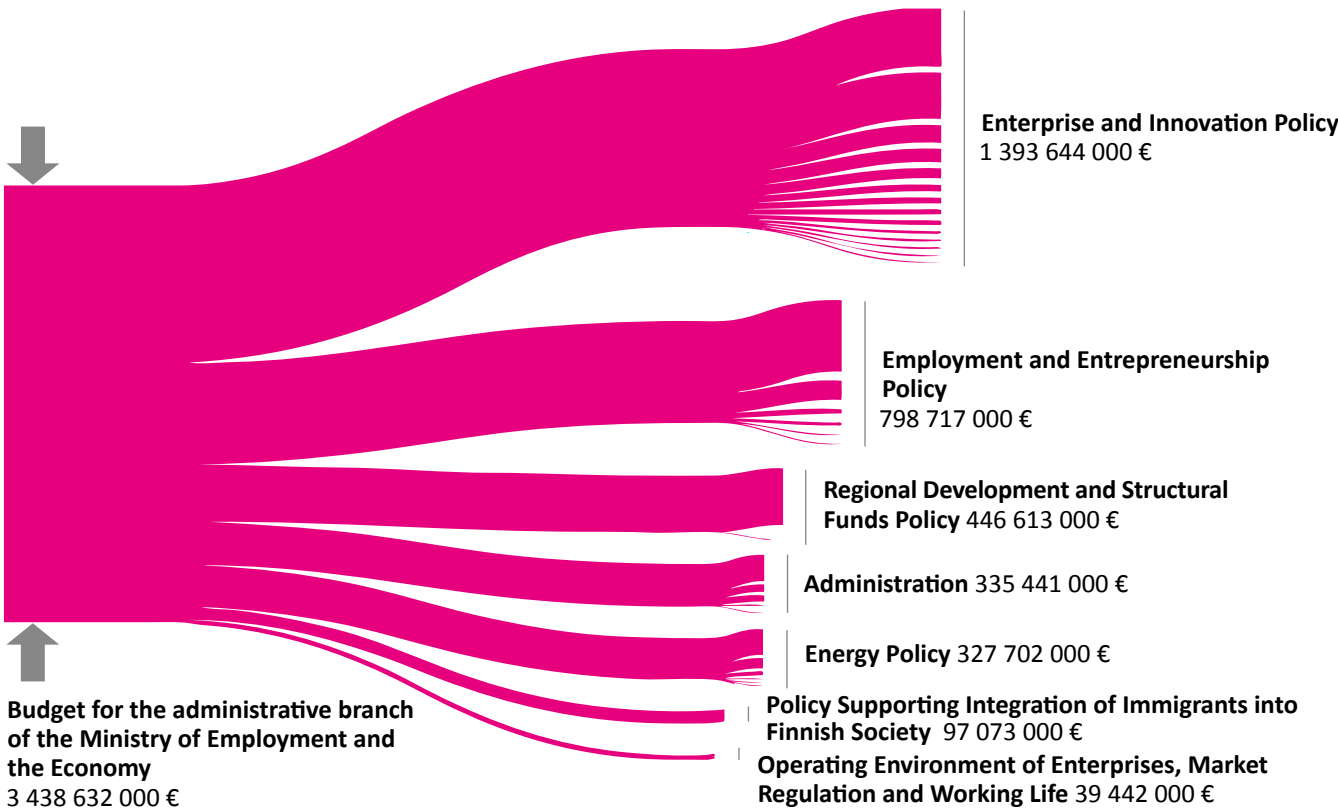
In pioneering municipalities, open data is gradually becoming part of data management routines. 'We understand what open data means, how it is opened, how raw data can be used and how everybody benefits

when data is made available,' Meloni explains.

He says that business based on open data is already emerging in Finland: 'We already have a small number of enterprises making smart use of open data in their business operations. The markets are growing in step with the data opening process, which means that more data needs to be made freely available.'

Under the new Six City Strategy, the six largest cities in Finland are developing a framework for a nationwide approach, which means that there will be significantly more opportunities for developing industries and the creation of new business and jobs.

MK



Visualising data into an easy-to-understand form is an important part of the data opening process. A good example of this is the 'Tax tree' application for visualising economic data. Here is a visualisation of the 2015 budget of the Ministry of Employment and the Economy. The application was developed by Hahmota Ltd.

Keys to Mikkeli's success: committed city management and enthusiastic residents

Since 2008, a total of 29 empowerment pilots have been carried out in Mikkeli. As a result, about one hundred young people have left the dole queue and municipal centres have become more vibrant. Success has required strategic links, management's blessing and a close dialogue.

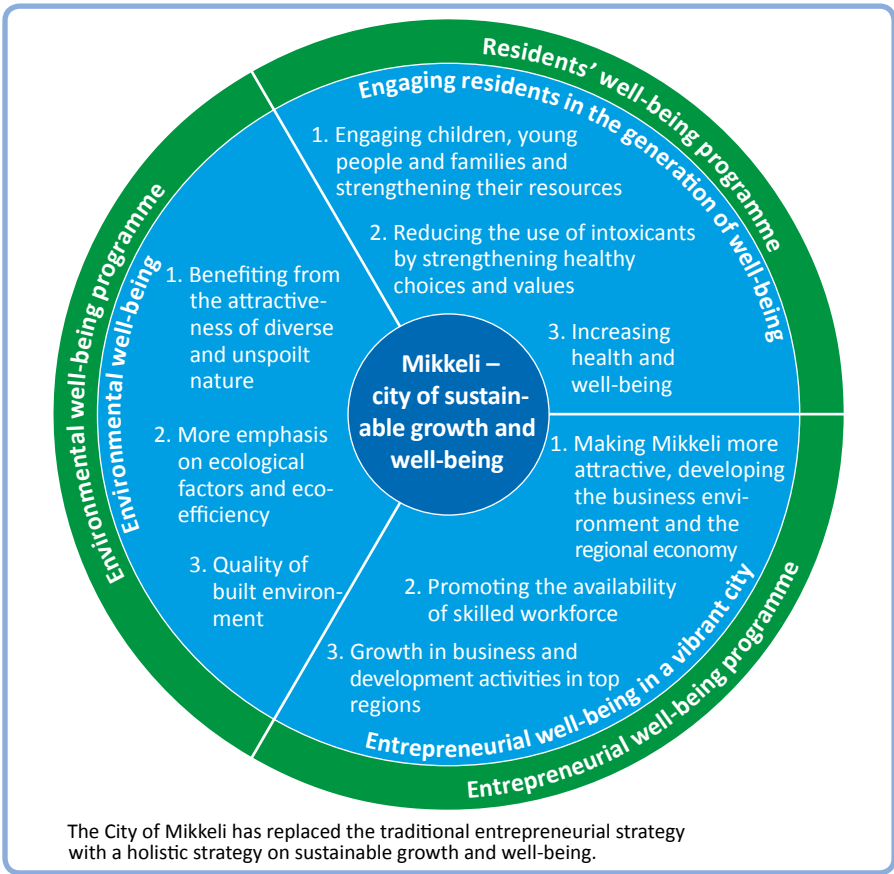
User driven service renewal was initiated in Mikkeli in 2008. For Soile Kuitunen, Development Director of the city, the innovation policy report adopted by the Finnish government earlier the same year served as the crucial impetus.

'I realised that this will also become a big trend in the public sector. As budgets get tighter, we must involve residents in the production of the well-being services,' Kuitunen explains.

First, she decided that the freshly elected city council should be convinced of the merits of the idea and that it should be incorporated in Mikkeli's new strategy document: 'From the outset, my view was that this is a strategic issue and that it must get the blessing of the top management.'

She discussed the user driven approach with decision-makers, city officials and stakeholders. 'It was crucial that we got them to set an example. When the top management had given its blessing to the approach, we started to make progress and achieve results,' says Kuitunen.

Mikkeli's strengths include closely knit networks, enthusiastic residents and economies of scale. Soile Kuitunen



However, selling the idea to the city management was not an easy task. Many of them viewed the user

driven approach as a way of developing services so that the needs of all users are met regardless of the costs.

According to Kuitunen, services should be developed in cooperation with the users by examining the actual aim. The desired changes in well-being must be defined and the cost of each activity calculated.'

Workshops and village development

During a period of six years, a total of 29 empowerment pilots were carried out in Mikkeli, and they have produced excellent results.

There were workshops that helped about one hundred young people at risk of social exclusion to leave the dole queue. 'Young people received training and were able to try different types of work. This has prevented these youngsters from becoming long-term unemployed.' In the Tuiketaajamat, "Twinkle villages" project the aim was to find ideas for developing the five local centres that belong to Mikkeli. 149 ideas received were entered on an electronic map application on which comments could be submitted.

A large number of municipal residents and representatives of village associations participated. The ideas are currently in the process of being prioritised. They provide decision-makers with information about matters that residents consider important. Funding for development projects can be sought, for instance, through regional advisory councils.

Lessons learned the hard way

There have also been failures, such as the planning of the playground by the Mikkeli market square. Users were asked to submit ideas, and hundreds of people tested the play-

Soile Kuitusen's tips for participatory planning

- 1 Build trust with decision-makers.** Ensure the support of local council members and the top management.
- 2 Invest in managing expectations.** It is easy for people to get excited and start producing great visions. Involve a professional right from the start to eliminate impossible ideas.
- 3 Develop your interactive skills.** It helps you to understand the views of different parties and build a consensus.
- 4 Assess the project on a continuous basis.** Show benefits and calculate economic impacts.

round equipment in the prototype workshop.

'Everybody thought that this would be a huge success – until the people who had created the ideas saw the final plan. They felt that they had been deceived. The architect should have been involved in the process from the outset, eliminating unrealistic ideas and managing expectations,' Kuitunen says.

She believes that engagement – using citizens' expertise and experience in the planning of services – has become a permanent practice in the public sector. 'The megatrend defining the future of the welfare state is that user driven practices will become part of the daily routines. However, we must demonstrate more clearly how they benefit users and how they help to save money.' | SA

Digital solutions through innovative procurement

Mikkeli, aiming at becoming Finland's first digital city, organised an innovative procurement process in autumn 2013. The purpose was to find digital solutions facilitating the everyday life of residents and easing municipal finances. A total of 70 tenders were submitted.

The process resulted in product development projects, a day care related procurement and a pilot with an electronic tool, which is being piloted in the communication between families and schools.

According to Soile Kuitunen, Development Director of the City of Mikkeli, innovative procurement can only succeed if the parties concerned change their attitudes. 'Both sides should be much more deeply involved in the process than in traditional tendering. The aim is to have an active dialogue and common goals – solving the complex problems as a joint effort. I believe that innovative procurement can produce entire new and productive solutions for solving the problems of well-being.'

Partnership brings public and private services under the same roof

One needs the help of a caretaker, another one regular blood pressure checks or meal deliveries. Although the needs of people in advanced age vary, nearly all of them want to live at home. In Tampere, all services supporting independent living are now available in one place. Kotitori, “the Home Market Place” gathers together both the services provided by the City of Tampere and about 130 companies and third sector organisations.

Everybody is welcome to the Kotitori information and service point where visitors can find out how to continue to live independently with the help of a broad range of services. Customer advisers tell about service eligibility criteria, recommend services based on each customer's needs and find the most cost-effective way of providing the service.

Kotitori considers the different life situations and wishes of the customers. According to **Mari Patronen**, Project Director, the aim is to find each customer the services that help to improve their well-being, health and functional capacity.

‘We hope that people would come to Kotitori already before they need help. When people know that help is available, they feel more secure and want to live independently for longer,’ she explains.

Kotitori is an example of a successful Public Private Partnership. The model is based on customer driven solutions, services jointly produced by the private and public sectors and the use of a service integrator that brings the services together and provides customers with advice but is not responsible for supplying the services.

‘In our region, there are many small providers of services that suit Kotitori customers. They have enthusiastically

joined the scheme, which has invigorated local business,’ says **Kari Hakari**, Director of the Purchasing Group in the City of Tampere.

Efficiency through cooperation

Economic efficiency and continuous development are essential elements of the Kotitori model. The municipality, entrepreneurs and the service integrator are all

involved in the development work and can learn from each other.

The system has built-in indicators and analysis tools allowing the municipality to monitor the performance and costs.

One of the indicators is the time spent by an home care employee with a customer. With the introduction of Kotitori, the figure has risen from less than half of their working hours to almost 60%.



Photo: Helena Raskinen / Mawell Care Oy

At Kotitori service point, the aim is to find each customer solutions that can best meet their independent living needs.

An employee can thus make more customer visits within the same period of time or spend more time with one customer. For customers, the new way of organising the activities means better service.

Service development progresses

The good experiences with Kotitori have also made the model interesting nationally. The Finnish Innovation Fund Sitra and the City of Tampere have joined forces to develop “the Service Market Square” (Palvelutori) model.

It is based on the Kotitori concept of customer-driven Public Private Partnership and the use of a service integrator. The Cities of Turku, Rauma and Pori have begun to develop their services on the basis of this model. | MK

Savings with the new model

The new model bringing services together has generated savings by, for example, reducing the need for institutional care and specialised health care. In Tampere, the service integrator is responsible for one home care district, which covers about one fifth of all customers. In this district, the following savings have been achieved, compared with other districts in Tampere:

- The number of people moving to supported or service housing has decreased by 29%
- Specialised health care costs have decreased by 30%
- The use of hospital wards has decreased by 15%
- ER visits have decreased by 14%
- Price per customer is lower than in the services provided by the city.

Three changes towards renewal through partnerships



The challenges facing the Finnish society are complex and diverse. The expertise needed to solve them is not in the possession of a single party but resides with a broad range of different actors in our society. We must be able to combine it in a new manner.

Innovations supporting the renewal of public services can be found and created through partnerships. In this operating model, the public sector performs its tasks in cooperation with companies or third sector organisations.

A successful partnership brings together the expertise of different parties so that joint aims can be achieved. It requires trust and long-term commitment and all parties must be able to benefit from the arrangement.

Making efficient use of partnerships requires changes in the public sector:

1 Cities, towns and other municipalities must become more open vis-à-vis resources, expertise and the way they are developed. When solving multidimensional problems, expertise and resources should also be sought outside one's own organisation.

2 We need new thinking. The main aim is to create space for innovations and seek practices that support the creation of innovations. In the new way of providing services the emphasis is on continuous adaptation and renewal, which is a very different approach from the traditional focus on the renewal of structures.

The customer perspective is also given more attention than before – the services need to adapt according to the changing needs of the users. Cities, towns and other municipalities should increasingly assume the role of a manager instead of a service producer. The manager ensures the availability of adequate resources and expertise and develops them irrespective of whether

they are in-house or outsourced. The main focus should be on ensuring that citizens and customers get the best services.

3 We need new operating practices. For instance, public procurement can be used for encouraging and developing innovation. We must turn our attention from the costs to the effects that we want to achieve. If the procurement process only describes the desired end result, the service producer can innovate the best way to achieve the aim.

Public sector actors may also activate and encourage companies and organisations to innovate by other means. These include idea competitions and awards, the Swedish model of challenging the approach applied by the public sector, opening up of the public sector data resources, and an open planning process.

As we face the major task of finding new solutions to big societal challenges, it pays off to make use of a broad range of instruments aimed at activating all the players.

MIKKO MARTIKAINEN

The writer is a Ministerial Adviser at the Ministry of Employment and the Economy.

Experts of everyday life helping to reshape structures

The public sector is in transition: needs are growing, but economic uncertainty and a lack of resources pose a challenge to existing operating models. Employees may play an important role in introducing new practices. A good example of this is the early childhood education and care in the City of Vantaa, which has carried out a service reform by means of innovation.

In the public sector, innovation is based on the thinking that while the costs remain unchanged or even go down, well-being resources can be kept at the same level or even increased.

'In 2009, the municipal decision-makers gave us a challenge. We had to cut costs without weakening the service level,' explains Sole **Askola-Vehviläinen**, Director of Early Childhood Education at the City of Vantaa.

The unit succeeded in the task because it completely reshaped its service model.

'We developed leaner service options. We now offer three-hour playgroups for those children who do not need full-time day care. We also set up groups where children can stay for short periods of time for example when their parents are visiting a doctor. We also increased the municipal supplement of the child home care allowance so that more parents could take care of their children at home,' says Askola-Vehviläinen.

The 'day care place guarantee' has proved a real success story. For example, if a parent becomes unemployed and takes his/her child away from full-time day care, the child is guaranteed to have a place in the same day care when the parent returns to work. Before this practice, parents kept their children in full-time day care to ensure that they have a place there.

'The customer feedback on the new service model and on us involving them in the planning process has been extremely positive. Since 2010, we have remained within the budget and in some years, we even have gone below it,' says Askola-Vehviläinen.

Small innovations can create large streams

In the public sector, innovation is also important because it increases employees' motivation. It also gives them a chance to influence their daily work.

Traditionally, renewal in an organisation has been a top-down process. In Vantaa, the employees are now in the center of innovation. They are closest to the customers and are best placed to see where renewal is needed. Success can only be ensured if the employees are committed to the change.

Jaana Kupela, who works as a kindergarten teacher, created an operating model for a new type of sports-oriented play group. 'I had a clear vision of a play group where the children could try different types of sports. I wanted to have a group that would also be more pedagogic in nature.'

The fact that there had already been talk of setting up play groups in Vantaa helped in the establishment process.

'The support given by my supervisor and her supervisor was crucial to the implementation of the project. People often think that a large organi-

sation is slow. Things can also proceed quickly when all parties have the same aim,' notes Kupela.

The sports-oriented play group served as a pilot for other groups which the City of Vantaa has since established in large numbers. Piloting of service models and quick experiments are now common in Vantaa.

'The most important thing is to implement small-scale experiments quickly. Not all experiments are successful but you can always learn from them. Small innovations can become large streams, which we need in making changes in our society,' concludes Askola-Vehviläinen. | MH

Tips for renewal through innovation

1. Think about your long-term goal. Why did we start the renewal process? What will change?
2. Make sure that you engage the personnel and service users. They have expertise and ideas and know the needs and wishes. Innovation also requires time, space and appreciation.
3. Different views enrich the end result. Bring different parties, organisational units and levels together.
4. Make sure that you test the ideas early on. Spotting weaknesses and strengths will speed up the development process.

Tips are from the Inno-Vointi project

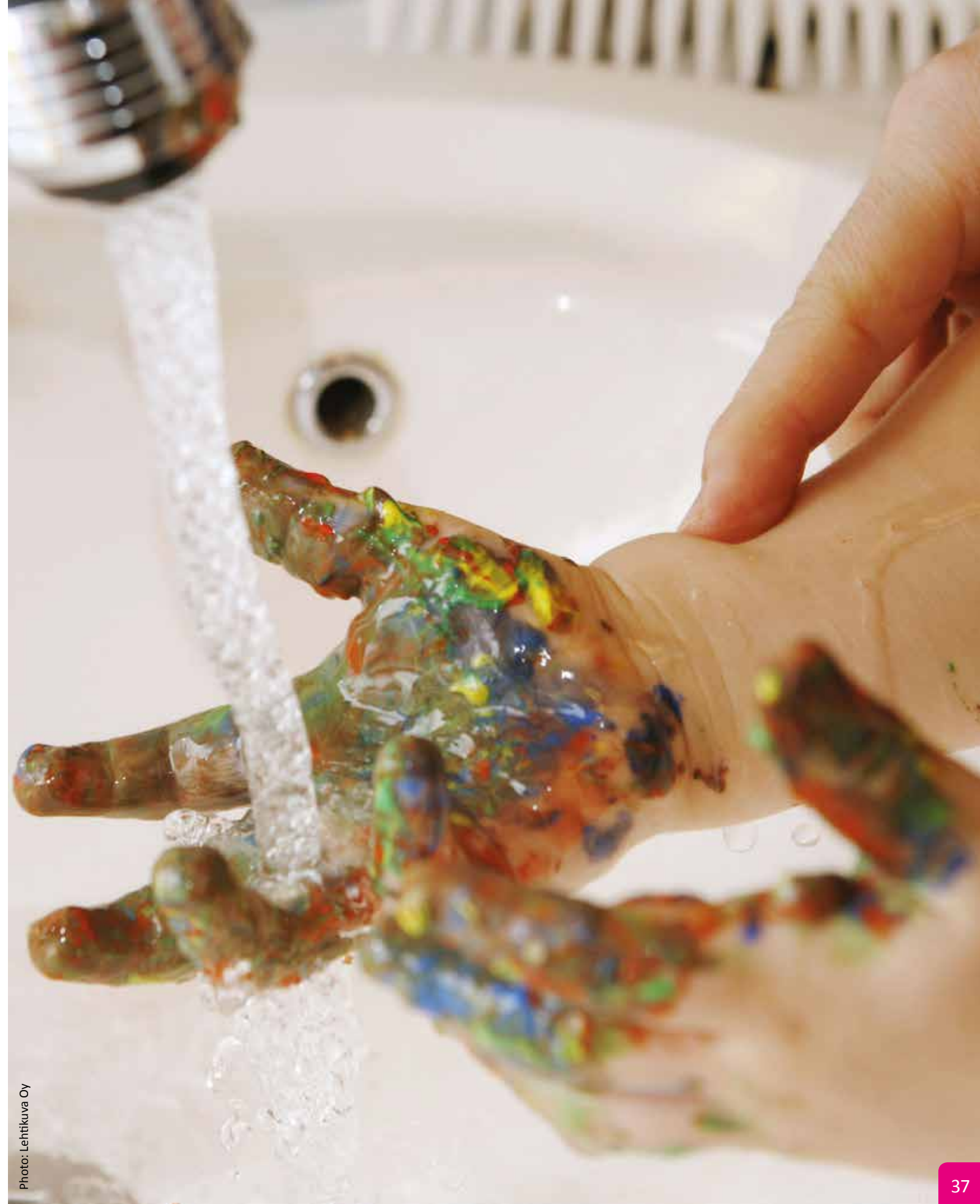


Photo: Lehtikuva Oy

MindLab is Denmark's cross-governmental innovation unit

MindLab is a joint innovation environment of three Danish ministries and one municipality. It aims to renew the operating culture of the public sector to promote the creation of innovations.

Another essential feature of MindLab is that it is also a space in which innovation takes place on a daily basis and the conditions are conducive to the creation of ideas and cooperation between different parties.

It provides a venue where public servants, citizens and companies can jointly produce ideas and build prototypes in order to solve the major problems facing society.

MindLab was established in 2002. Innovation in the public sector was considered an important area for development in Denmark, and it was felt that it needed more attention.

Citizen driven activities

MindLab put the focus on the development of citizen-driven services and activities influencing the workings of society.

Its central aim is to ensure that the everyday life, context and behaviour

of citizens and companies are central to governmental decision-making and that they can play a role in the steering of the service development process. The preparatory process must be in done cooperation with the end users and not merely for them.

MindLab has broken barriers between policy areas, encouraged the public administration to change its practices and served as a catalyst to innovation in ministries.

According to **Christian Bason**, who has headed MindLab, a crucial success factor has been that the public administration began to see MindLab as an accepted and respected player.

‘Over time, by always focusing on outcomes for end-users and through close collaboration with the civil serv-

ants, MindLab contributed to changing the mindset about concrete ways of designing as well as implementing policies and services,’ explains Bason.



Photo: mind-lab.dk
With the support of MindLab, the City of Odense developed a prototype for a citizens' house, which will be built in the pedestrian zone in the centre of the city.

Britain is digitalising its public services

The Government Digital Service (GDS) is extensively renewing the manner in which the digital services of the central government are produced and provided in Britain.

The vision of the unit, established in 2011, is that all public services should be digital by default and easy, clear and quick to use. Citizens' needs must have priority over the needs of the government.

The development work at GDS is the responsibility of small agile teams. Developers, designers and content producers prepare

quick first drafts, which are developed further in a creative and interactive process, with the service users in the centre.

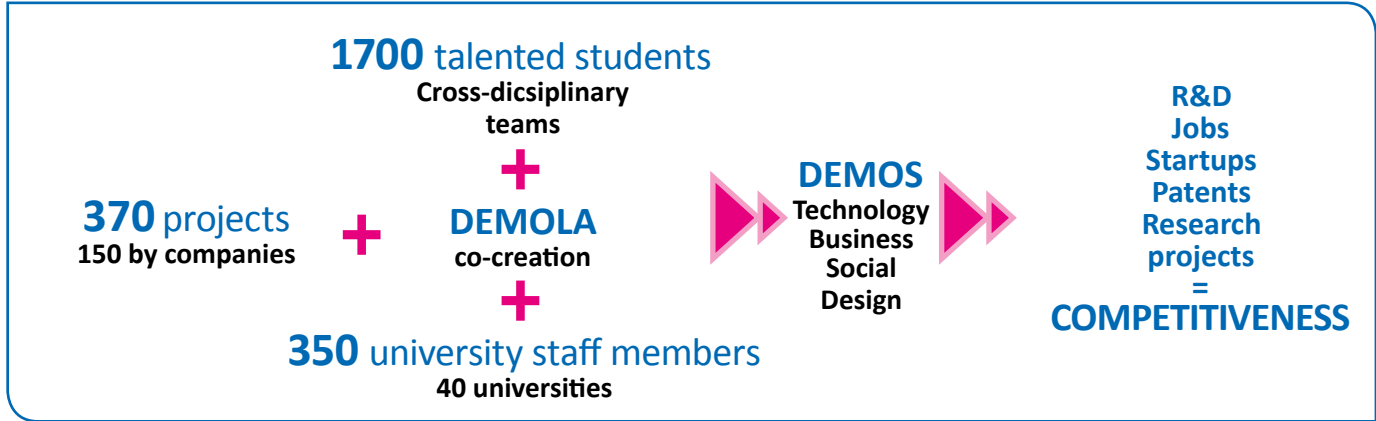
During its first year of operations, GDS saved the British government more than 500 million pounds. The idea is to produce better services at lower cost by focusing on the right issues and by finding the most suitable IT partners for implementing the changes. All the services can be found on the gov.uk website, which attracted two billion visitors during the first two years of operations.

GDS identified 25 central government services for the first wave of digitalisation. During the first year, 10 million people changed over to a fully digital tax return, 18 million vehicles were registered, 46 million citizens registered as voters, 1.38 million people applied for apprenticeship training, 380,000 patents were renewed and 1.3 million students managed their study grant and loan matters using the digital services at gov.uk.

| KVa

Demola brings fresh insight to innovation

New innovation environments provide companies with an opportunity to innovate more rapidly than before. At Demola, university students coming from different sectors seek solutions to the needs of private and public sector actors. The ideas are developed into product and service concepts, demos and prototypes.



The successful Demola model is already in use in eight countries.

Demola has been enthusiastically received by large international companies, small enterprises and public sector organisations. Demola familiarises students with business life and may even be a path to entrepreneurship.

Demola uses a facilitated project process, which helps to ensure that the projects progress systematically, on time and towards jointly agreed targets. In the joint projects, the partners can focus on innovations because there are ready-made models for different types of contracts. The client may purchase the project result or acquire a licence.

‘We start new joint projects three times every year and carry out about 100 projects yearly. We select the project participants so that there are experts in a broad range of fields. A group may comprise application developers, sociologists and context experts,’ explains **Jarmo Tuominiemi**,

Development Officer at Demola Tampere.

The projects do not involve subcontracting or easy cases. ‘They concern challenging real-life issues in which companies want to make use of the broad range of expertise of the students and the bold ideas that they have,’ Tuominiemi continues.

Concepting for a public mobile service

The Social Insurance Institution of Finland, Kela had been examining how to develop its services and especially how to provide students with information and services.

‘We examined how Kela should be visible in different types of devices. We had already considered the matter at Kela but decided to give the Demola team freedom to conceptualise a service that would best meet students' needs,’ explains **Ari Vähä-Heikkilä**, Kela's IT Manager.

The Demola project required only limited resources of Kela. An expert from Kela attended project meetings every second week and otherwise daily communications was done by email and by telephone.

Vähä-Heikkilä is extremely pleased with the result: ‘A broad range of students from different areas took part in the project. They examined the matters with an open mind and provided the project with fresh insight and perspectives that we perhaps overlooked.’

There were also shifts in priorities. For example, Kela had originally thought that the instructions could be part of the concept though this was not considered essential. Based on the student feedback, they became an important part of the solution. Kela has used the concept developed by Demola when examining the development of its e-services.

| MH

Information, tools and practices



udi.fi

The purpose of the website is to describe some of the benefits of user-driven innovation for society and businesses. The cases describe a few Finnish examples of how closer cooperation with users has resulted in more pleasant and higher-value products and services.

udi.fi/en



The National Design Programme

The National Design Programme Design Finland proposes 29 measures aimed at strengthening design skills and utilising them better than before. The programme proposal's key theme is that enterprises and the public sector need better design competence.

tem.fi



Demand and user driven innovation policy (Framework and action plan)

In addition to considering scientific and technological development as an important source of innovation, broad-based innovation policy also takes into account the growing role of other knowledge-based innovations and the related demand and user-orientation in the broadening innovation activity in the society. As part of the implementation of Finland's national innovation strategy, the Ministry of Employment and the Economy outlined an action plan and policy framework laying down the key elements of a demand and user-driven innovation policy. The action plan included various action points to promote policy implementation in the private and public sectors. The plan was implemented during 2010 – 2013 in cooperation with several other ministries and a broad range of stakeholders, such as Tekes, VTT, the National Consumer Research Centre and Forum Virium Helsinki. MEE 48/2010

tem.fi



Government Resolution on a policy programme on intangible value creation

This resolution brings together central policy measures contained in the national strategy concerning intellectual property rights, promotion of business and entrepreneurship in the creative industries and the national design programme into a Policy programme for intangible value creation for 2014 to 2020. The resolution strengthens cooperation and policy interaction in the implementation of measures.

tem.fi



Feelings

The Feelings programme by Tekes challenges Finnish companies to look for new ways of doing things. It's main objective is to increase the understanding of role of customer experience and feelings as innovation and business drivers. The programme also encourages creation of new knowledge networks and unexpected partnerships between creative industries and other companies are created.

tekes.fi



foresight.fi

The network brings together Finnish foresight data producers and is a discussion and coordination forum for national foresight actors. It aims to promote the use of information and futures perspectives in decision-making. The purpose is to foster public discussion, research and decisions on the new challenges and opportunities facing Finnish society.

foresight.fi



Team Finland Future Watch

This service gives companies access to international foresight information, which allows companies to develop their business operations and to channel their development work.

tekes.fi



Foresight 2030

The Future 2030 foresight process was aimed at creating perspectives on future directions. In the beginning of its term, the Government agreed to submit a Foresight Report to Parliament, focusing on the themes of sustainable growth and citizens' well-being.

tulevaisuus.2030.fi



10 Statements on Design Driven City

Cities exist for people and a great city is built together with citizens. The ten theses listed here by Design Driven City promote the use of design in urban environments. Design can help make cities better, more easygoing and more functional.

toimivakaupunki.fi



Governments for the Future

In the rapidly changing, complex and inter-dependent world, a new strategic model of public sector governance needs to emerge. The report proposes a framework and related practices for this. Sitra Studies 80.

sitra.fi



Liideri – Business, Productivity and Joy at Work Programme

The objective of the Liideri programme (2012–2018) by Tekes is to renew the business operations of companies through developing management and forms of working and actively utilising the skills and competencies of their personnel.

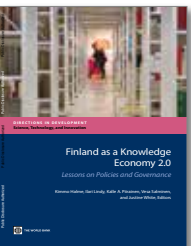
tekes.fi



Innovativeness in Finnish workplaces

The report reviews the extent to which Finnish businesses and public organisations have engaged in innovation and renewal in recent years. In addition, it explores the participation of personnel in development, the impact of the changes on the work of personnel and the views of personnel on the changes.

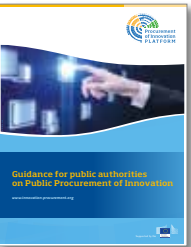
tekes.fi



Finland as a knowledge economy 2.0 : lessons on policies and governance

Finland is facing new types of challenges both domestically and internationally in efforts to maintain its societal sustainability and economic competitiveness. Finland Knowledge Economy 2.0 presents some of the key policies, elements, initiatives and decisions behind Finland's path into the Knowledge Economy of today.

worldbank.org



The Guidance for Public Authorities on Public Procurement of Innovation

This Guide is aimed primarily at those who are responsible for planning and executing procurement procedures (procurers). It offers detailed information about the 'why, what and how' of PPI, including case studies from public authorities across Europe, explanations of procedures, definitions and answers to common questions.

innovation-procurement.org

ec.europa.eu



Procu-Inno - Promoting Innovation by Public Procurement

Procu-Inno was a research and development project which focused on public procurement of innovation in Finland. Project was coordinated by VTT, partners are City of Helsinki, City of Pori and Finnish Transport Agency. Funding is provided by Tekes. vtt.fi



Share an example, report a pioneer!

Finland is full in inspiring examples of great results of the implementation of demand and user driven innovation policy. This publication only had space for a fraction of them. Share an example or report a pioneer in social media with a hashtag #InnostaUuteen.

INSPIRING INNOVATION – MEETING THE NECESSITY FOR RENEWAL

Publisher: Ministry of Employment and the Economy, Enterprise and innovation Department, 2015

Editors-in-chief: Kirsti Vilén and Asta Wallenius

Editorial board: Antti Eskola, Tiina Hanhike, Auli Korhonen, Tero Kuitunen, Petri Lehto, Katri Lehtonen, Mikko Martikainen, Teija Palko and Mika Pikkarainen

Production: Paja Communications Ltd. | Managing editor: Kirsi Varkemaa

Writers: Salla Aarnio, Marianne Holmlund, Maria Kellokumpu

Photos: The photo archives of the organisations of the interviewees.

Graphic design: Juhani Pitkänen, SmartPixel

Layout: Ministry of Employment and the Economy

Published in electronic format only: www.tem.fi/en/current_issues/publications

This publication is a translation of the Finnish original that was published in December 2014.

MEE guidelines and other publications 19/2015

ISSN 2342-7922 | ISBN 978-952-327-045-9

For a few years, demand and user driven innovation activities have been in the centre of the national innovation policy in Finland. Our country is an internationally acknowledged pioneer in the implementation of this policy approach.

The role of a forerunner has set some challenges but excellent examples of renewal can already been seen both in private enterprises and in the public sector.

This publication tells the stories of pioneers and advocates of the user and demand driven approach and aims to encourage for open-mindedness and new ways of working.

