



Regional Innovative Environments

Proposals and key questions presented by the Committee for the Future regarding regional innovative environments

TA- 23 – Final Report

INTRODUCTION

This final report on the assessment of regional innovation deepens the positions of the Committee for the Future regarding this crucially important area for Finland's future. The examples and conclusions observed during the Committee's dismounting into the regions strongly support the theoretical and practical principles and models with regards to innovation leadership and management, as developed by the researchers Stähle, Sotarauta and Pöyhönen (Leadership of innovative environments and organisations; Parliamentary Office publication EKJ 6/2004).

The summary, adopted by the Committee, discusses the challenges facing innovation as well as principles and practices that have passed the test of time. The conclusions are focused on stands and measures by which regional innovation policy can be advanced and which help strengthen innovation and innovation leadership in general. Finally, certain key questions are posed for various entities to ponder, the answers to which further promote the development of regional innovative environments and innovation policy.

1. Starting point: Make Finland the best innovative environment in the world

Parliament has approved the national strategic goal of being the forerunner nation in innovativeness and education. Parliament has also determined that the objective of innovation is to create in our country the world's best innovative environment. These goals generate significant challenges especially for

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Steering Group Members:

Kyösti Karjula, chair
Mikko Alatalo
Anne Huotari
Jyrki Kasvi
Marjo Matikainen-Kallström
Simo Rundgren
Esko-Juhani Tennilä
Tarja Cronberg
Toimi Kankaanniemi
Maija-Liisa Lindqvist
Esko Kurvinen
Matti Väistö
Minna Sirmö
Inkeri Kerola

the development of regional and local innovative environments as well as for the development of those services and operating cultures that foster networking. The fundamental pre-conditions for responding to these challenges can only be created when innovation's significant effect on productivity can be proved and when enterprises, other communities and citizens actually experience the results of innovation and when they are ready to change their own operating cultures. The challenges are demanding, but as international competition gets increasingly fiercer radical measures are necessary at times.

Nationally, the challenges are also great as well-being and ease of life increase and as the population's structure rapidly changes into that of one dominated by the elderly. The threat is that neither the public administration nor enterprises will make adequate investments in research and development (R&D) and in the continuous regeneration of know-how, required by innovation. There is also the threat that entrepreneurship will not sufficiently increase when general attitudes and economic incentives do not support long-term hard work and risk taking.

In addition, the threat of a marked decrease in innovativeness, except in the biggest regional centres and in their immediate vicinity, exists. As the agricultural policy of the EU transforms, the challenge is particularly significant in areas where agriculture has been the central means of employment.

Since the year 2000, the Parliament and the Committee for the Future have implemented several technology assessment projects, in which a stand has been taken on and clarified, in particular, the creation of good innovative environments. The first of these assessments, which simultaneously created the base developed to facilitate both the methods and the parliamentarians' active participation in the Committee's creative assessment, handled the topic: "The impacts of knowledge management on work and work culture". The report was published in 2001. A description of the results and the processes used, as well as their implications in Parliamentary processes, was published in English under the title: "Developing and Implement-

Minna Lintonen
Unto Valpas
Erkki Virtanen
Anneli Kiljunen
Esa Lahtela
Markus Mustajärvi
Tuomo Hänninen
Project Manager:
Markku Markkula
Information:
Ulrica Gabrielsson
ulrica.gabrielsson@eduskunta.fi

❖ The Committee for the Future regards it as absolutely necessary that the Parliament-established goal "The world's best innovative environment" be adhered to, and that regional and local innovative environments be purposefully strengthened.

ing Knowledge Management in the Parliament of Finland” in the spring of 2002.

Responding to the aforementioned demanding challenges especially requires a deep understanding of regional and local innovation processes as well as of mechanisms for creating something new. Research on innovation has markedly increased in the last few years but too little attention has been paid to the innovation processes of regional and local economies. The Committee for the Future has chosen the creation of innovative environments and innovation leadership in regional and local economies as the study area and the focus of assessment. In this way, the Parliament wants to focus special attention on this vital area of policy for the future.

2. What are innovations and how are they generated?

In the vernacular, the word innovation often refers to a new realisation or an idea. Creativity and innovativeness are often interpreted as being one and the same. This simplification, however, leads one astray, especially when it comes to innovations linked to the activities of organisations or environments that are more extensive. Innovation is much more than a mere cognitive phenomenon. It invariably includes practical activities, such as new ways of creating a product or system as well as commercialisation. In order for an innovation to become a commercial success, a customer is always needed. Innovation is a process comprising many factors, to which the customer yields essential features.

Innovation=realisation + new idea + implementation + creating value

Creativity is the precondition of one phase, i.e. the production of ideas in the innovation process. In addition to producing new ideas, the innovation process also includes putting the ideas into practice. Implementing a new idea is invariably a social phenomenon, one requiring cooperation. If one wants to simplify it, creativity refers to the development of ideas,

Innovation can be:

- * new technology
- * new product
- * new product line
- * new feature of a product
- * new process
- * new process know-how
- * new service
- * new clientele
- * new consumer practice
- * new way of using some thing
- * an improvement
- * new development know-how
- * new marketing, sales or distribution expertise
- * new procurement expertise
- * new managerial skills
- * new learning, new information or new experience
- * new learning environment
- * new quality feature or gain
- * new strategy
- * new business idea
- * new way of organising
- * new method of cooperation.

whereas innovation infers the creation of mental, social and economic gain, aided by ideas.

Innovation success requires the ability to produce many kinds of ideas, the ability to recognise a good idea as well as the ability to lead the good idea once it is converted into practical application. A good innovative environment is helpful in every respect. It gives leeway to the development of many kinds of ideas and it creates the conditions for testing the ideas as well as for their critical appraisal. The insight or the idea that is the seed of the innovation does not have to be absolutely novel in the sense that no one had come up with it in the past. Along with traditional innovations, such as product, service and system innovations, social innovations have also become prominent, meaning innovations that improve the functioning of communities and offer new solutions to their problems.

Often the innovation process peters out due to poor leadership or is stifled by the lack of inspiring managers. The good idea is not converted into a practice but, instead, another idea takes its place and garners the market, or the idea may be put into practice somewhere else where it is better known how to manage the innovation process. Therefore, the creation and development of innovative environments as well as innovation management and leadership must be raised to the exceptional measures' centre of attention.

Good innovative environment = information flows + networks + buzz + action + trust

Environments that produce successful innovations particularly require the following interlinked factors: an innovation system, buzz, versatile information channels as well as joint interpretation frameworks of the local actors and mutual trust.

An innovation system forms the institutional framework for an innovative environment and as such resembles the skeleton of a living organism. Strong research and development form the basis of an innovation system. Developer networks connect the three central institutional entities (research and education, public administration and private enterprise) of an innovation

system. Together they lead the further development of the innovation and its conversion into practice in a region. They create the conditions for the key segments of the innovation process: product development, commodifying (i.e. converting an idea into a product) and commercialising the innovations.

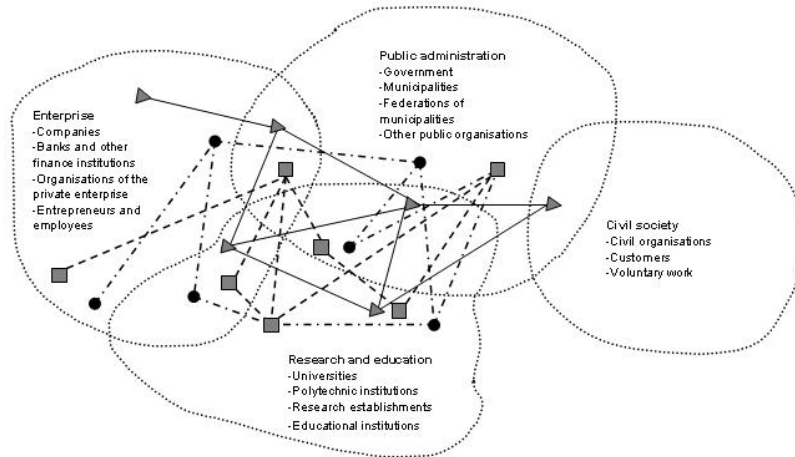


FIGURE: The actors in Finland's innovation system. Value networks are created and build upon the entities formed by these actors.

However, the function of the key segments in the aforementioned institutions and innovation processes does not itself produce successful innovations. What is required is an innovation culture amalgamated by developer networks and a creative tension, building on the basic and modus operandi values of knowledge management: openness, trust, information sharing and collaboration. The 'local buzz' infers the hustle and bustle resembling bees' hurried and loud, albeit simultaneously determined, activity.

In the context of regional development, buzz implies the various constantly ongoing, captivating and useful creative processes in innovative environments that make them versatile fountains of inspiration and innovation. Buzz spawns conscious and random learning, but also establishes systematic and spontaneous communication channels between organisations. Common interpretative frameworks as well as shared perceptions of the technological development, future prospects and impacts on the field focus the buzz. Actors in a buzzing community receive a great deal of information from many local sources, both directly and indirectly, "just by being there"; the media, gossip, rumours, seminars and development programmes relay information and create conditions for ideas.

Therefore, buzz creates a kind of “information drizzle”, through which a lot of information flows to the actors without them always even realising from where they received it and from which factors their newfound knowledge was developed.

Mere local buzz does not create a real innovative environment, but rather, for the environment to be innovative, it must also be open to the outside. Innovative environments based only on local learning sooner or later turn inward, where thought processes and modes of operation hark back to past development, drying up the wells of ideas and innovations. This being the case, various increasingly extensive and more often global channels of information constitute a key part of creative innovative environments.

It is not possible to create an innovative environment just anywhere, as they are always linked to the innovation of one or more clusters and their inherent technologies, services or products. Joint development targets create the shared interpretation of frameworks, which then enable fruitful collaboration. One of the most important challenges in the development of regional innovative environments is recognising targets for development, ones to which it would be possible to commit a great majority of regional innovators. Creative tension and competition that encourages the learning of new things are distinctive features of a living innovative environment.

The basis of innovative leadership = shared objective + perseverance + cross-border collaboration + value management

Innovation management and leadership is mainly about leading people, i.e. leadership. The creation and successful implementation of innovations always requires the creation of social collaboration within the organisation as well as in its partner relations. Various technological tools and technology-supported network cooperation in different organisations and their parts support human activity and enable new dynamic collaboration. Technology plays a significant role in enabling successful innovation. Nevertheless, the crucial issue is how social activity is organised.

People create the innovations and that is why innovating is first and foremost a human and social process. The relations that affect innovations are not only limited to the organisation but often the most significant impulses in the different stages of the innovation process come from outside sources, such as from customers, partners or from changes occurring in the market environment or partner network. Careful attention to the surroundings supports the organisation's innovativeness. In addition to the knowledge capital of the human resources, the organisation's internal and external structures as well as the structural and relationship capital spawned by these play a crucial role in the success of an organisation.

Innovation management and leadership = expertise + structure and relation-building + process know-how

Innovations are created in dynamic operating environments. Their commodification and distribution require mechanical routines as well as flexible and organically developing operating processes. Leadership in such dynamic operating environments differs from other leadership and management in many ways. It is shared and complex. It requires courage and living with uncertainty as well as constant situational awareness. The results are produced jointly with many independent players – often in networks amidst a cross swell of numerous aspirations. The commodity that is developed, in cooperation with many actors, and delivered to the customer is often not the product of a straightforward value chain, but rather is the production entity of an ever-changing value network. In addition to the efficient management of the production process, the manager must also envisage new opportunities as well as create such conditions, organisations and their parts in which winners thrive and continuously create new semi-finished products or their parts.

A systematic grasp is required in managing innovations and innovative organisations. Key competences link to structural, creative tension-generating, managerial know-how-related and field-specific expertise. These competences and a management

❖ The Committee for the Future considers, emphasising the principles defined in this report, it important to raise innovativeness to the centre of development on all levels of Finnish working life and other levels of society.

model derived from them as well as an evaluation tool are described in the report of the Committee for the Future titled "Leadership of innovative environments and organisations", Parliamentary Office publication 6/2004 (published in Finnish).

3. Regional innovation must be strengthened

a. Dismounting must be continued

Parliament members in the steering group and assessment project researchers "dismounted" (i.e. travelled to the local level) to many regions in Finland to meet with local actors to think about how regions could be developed and become more innovative. In every region, business representatives and other invited regional developers created strengths on which the region in question could thrive in the future. The methods developed by the Committee were utilised and refined in the regions. The atmosphere of the meetings was excited and forward-oriented. By dismounting, the Committee was able to fine-tune the methods required for innovation development as well as bring its experiences to the attention of different actors involved in the decision-making process.

When innovative environments are being developed, many instruments must be used to link the following two cultural dimensions, which transform society: R&D that creates new knowledge and know-how as well as the creation of new businesses and new kinds of enterprises. The preconditions for the required development are created by determined self-renewal, the grid for which the Committee for the Future has presented in its report "Regional innovative activities in Finland – current status, significance and developmental challenges", Parliamentary Office publication 3/2003 (published in Finnish). The organisation's capability for renewal, above all, refers to its ability to maintain its present sources of success while simultaneously building new strengths for the future. The basic requirements of self-renewal, which – by systematically going through them - can aid regional development in the desired direction, are:

1. Actors: identity, sense of belonging and charisma
2. Networks: contacts, trust and mutual dependen-

- cies
3. Knowledge management: information flows and communication
 4. Mastering timing: situational awareness and the courage to act.

These factors exist continuously on the micro-level of interpersonal relationships and determine the dynamism, quality and innovation conditions of the operating environment. Macro-level decision-makers either do or do not create the conditions in which these preconditions can materialise in a manner conducive to innovativeness.

b. From technology to wider innovative thinking

The development of innovation is in a paradigm shift. Finland's national innovation base must be reinforced by increasing investment in R&D. Furthermore, ideas originating in technology and science must be refined and converted into profitable business. At the same time, the innovation viewpoint must be expanded - in a resolute manner - from technological innovations to process, business and service-oriented innovations as well as to social innovations that reform the operating culture of communities. In addition to the private sector the full realisation of innovation thinking, wider than hitherto, is also necessary in the public sector.

Significant innovation potential already exists in established businesses and in their market findings. The established fields of industry, such as the paper, chemical, metal and mechanical engineering industries, for example, as well as small businesses, possess know-how and ample untapped market-oriented semi-finished innovations. Many jobs can be retained and even increased by more consciously taking the companies' innovation potential into use.

Profitable and work-providing enterprise can also be established on innovations where high technology plays a supporting role. Such cases concern, among other things, value concepts that emphasise good design, ease of use, trend awareness and the realisation of customer needs. They add value to the customer without even being technically extraordinary.

❖ The Committee for the Future considers that the securing of Finland's productivity and welfare, both nationally and regionally, requires the renewal of working practices among different actors as well as intense collaboration and a culture of working together. The Parliament in its own activity must continue the innovation supporting practice of dismounting to regions.

❖ The Committee for the Future considers that versatile innovations continue to form an increasingly important cornerstone for the success of Finnish products, services and systems in the global market. In order to facilitate this development, the R&D level of 4% of the GNP, as previously established by the Parliament, must be reached in the next few years. All-rounded innovativeness must better than hitherto be taken into account in public funding.

There are many growth businesses in Finland that have thrived by investing in internationalisation, business expertise, customer service and in new ways of operating. Elcoteq Oyj, Sievin Jalkine, Design-talo, Imagon, Ponsse Oy and Elektrobitt Oyj can be mentioned as examples of such companies.

c. Value network management must proceed and value concepts must be recognised

Innovativeness has become one of the most important success factors in the modern economy. The internal human capital of the community, consisting of traditional factors such as individual skills and of societal processes and know-how in utilising them, has become an increasingly decisive success factor within the resource structures of businesses and communities. In addition to the internal factors the capital of the community is made up of the methods and the operating culture with which it manages its external structures and relational capital as well as with which it is able to operate in various value chains and in the networks comprised by them.

The development of the information society has brought systems intelligence to the core of the success factors, i.e. the management of various logic chains and networks. For a community to succeed it must – consciously or subconsciously – control the value chains and value networks in its own field and in its operating environment as well as the networks of persons and communities that operate in them. The term value network refers to the functional entity formed by actors of different backgrounds, competences and roles. Networking is based on partnerships where goals, processes and earning logic are synchronised. As regards value networks, know-how, action and response to demand network in a new way that adds value to all participating actors. Value networks are in constant flux. With the help of value networks, it is possible to understand the interdependence and the multitude of inputs, results, and gains, at least to a reasonable extent.

Now, when the operating environment is changing increasingly rapidly, traditional management, with the aim of tight planning, no longer guarantees success. Instead, the ability to

❖ The Committee for the Future proposes that research and training institutes thoroughly study value networks as well as illustrate such *modi operandi* that support the creation of successful regional innovative environments and the development of new businesses. Broker organisations must effectively bring the knowledge thus compiled to the disposal of companies and other working communities.

prefigure the future and to shape it has become crucial. These, combined with effective knowledge management and learning, enable the community to make wise choices and to ride on the crest of change as a strong actor. It behoves every community, small and large alike, to network and develop value concepts for itself that reflect its operating environment and operating processes.

d. Services must be brought to the centre of innovativeness

There is abundant growth potential in the service business. The GDP share of the Finnish service sector in 2003 was 66.2%, being the tenth lowest of the OECD countries¹. The capital-intensity of the different service fields in Finland was among the smallest in the OECD. Industrial output, albeit high-technology-based, still characterises Finland's production structure. However, even during the previous decade, services already employed the majority of people in the OECD countries and today services are almost solely responsible for the increase in employment in the OECD countries. According to the OECD, Finland's service sector is characterised by a low supply of information-intensive services, an underdeveloped export of services, inefficient public services, and a high degree of public ownership in the service business, strong controls and weak competition. On the other hand, investment in research, development and innovation in the service field is high and the workforce is highly educated. For example, in their book "The Information Society and the Welfare State: The Finnish Model" Manuel Castells and Pekka Himanen note that Finland thrives because it is able to combine the development in technology and economic dynamism to the needs of the welfare state.

Transfer of services to India and China is a fact in the global world. The service trade is also an opportunity and Finland possesses high competence in many fields such as in the rapidly growing international market for health care and geriatric care. Even now, international student mobility comprises 3% of the total global service export. The Anglo-Saxon countries have the edge in education export but it is completely possible to turn the education system into an export item for Finland as

¹ OECD (2005e) Enhancing Services Sector Performance; OECD (2005h) OECD Factbook; OECD (2004a) OECD Economic Surveys – Finland; OECD (2004b) Promoting Innovation in Services; OECD (2003a) Enhancing the Effectiveness of Public Spending in Finland, Economics Department Working Papers no. 358; OECD (2003c) Review of Regulatory Reform – Finland, A New Consensus for Change; OECD (2003d) Regulatory Reform in Finland – Marketisation of Government Services – State-Owned Enterprises

well.

When services are made more effective, it is simultaneously possible to achieve a rise in productivity and an increase in employment. Services possess plenty of economic growth potential. The new jobs in the future will primarily be created in the service sector and the increased effectiveness of public services reduces the pressure for increasing public expenditure and thus releases funds for the creation of something new.

The clarification of value concepts is particularly significant to the service businesses and the public sector. Productivity and innovation in Finland are at a lower level than that of our competitors. Competence-based business-oriented services will play a major role in the future but demand for consumer services will also increase because, for example, the numbers of wealthy senior citizens is growing. Service expertise exists in Finland but Finns are not particularly savvy in commodifying or marketing it. Procurement expertise must intentionally be strengthened.

e. Bring the captains of business and the star entrepreneurs to centre stage

Captains of business and the “star businesses of the region” that they lead often play a key role in creating innovative environments. Visionary individuals often play the central parts in the success and employment of regions. At their own risk and resorting to their extensive networks, they are continuously ready to create new business. These people can best be characterised by the term “captains of business”.

The captains of business are the reformers and trailblazers of their region. They even see new vistas and market opportunities in surprising fields. They recognise conditions for growth and development. Characteristic to them is courageous and persistent activity. There is an extensive human competence network in the development activity of the companies they lead. Captains of business can be identified in all fields of activity. Identifying these people and supporting their devel-

❖ The Committee for the Future proposes that procurement expertise, commodification, business expertise and financial instruments be adopted as significant development targets of the public sector and for the production of services.

opment efforts is the fulcrum point of regional innovation. When it comes to regional development, academic business coaching must more acutely identify and respond to the knowledge requirements of the captains of business.

The success of companies that build on several value concepts can be explained by the entrepreneur's strong will, business expertise and an inspiring atmosphere. These companies know how to tap innovatively into technology in their businesses. They often operate in areas where, according to conventional thinking, enterprise should not even exist: such as the motorcycle apparel and sports clothing manufacturer SinisaloSport in Puolanka.

It is difficult to apply the present forms of innovation support to value concepts. Their developers – the real stars – may end up unsupported and discouraged if the attitude towards focal points of regional development and funding criteria for companies is too rigid.

Therefore, innovation policy should be expanded and the entrepreneurs' needs should be more acutely observed. The businessperson needs services in strengthening his management and marketing skills as well as in raising productivity, quality development, branding, design and in internationalising his business. In strengthening the innovation policy the businesspersons with vision and their networks must, above all, be identified.

f. A creative tension must be generated and supported

The regional competitiveness assessment model, which was developed during the course of the work of the Committee for the Future, raises developer networks, creative tension and image to the top of the podium as regards to the most important factors describing the development differences between various regions. By sufficiently and deeply studying these factors and their underlying theories, as well as the lessons learned in different regions, it is possible to significantly advance the culture of collaboration, which is vital for the intended regional development. Innovations are always created

❖ The Committee for the Future proposes that the Finnish education and incentive system as well as risk financing be reformed with the aim of fostering regional entrepreneurship, new business development and small business growth.

by people and this is why innovating is mainly a human and social process. Innovations hardly ever emerge as the result of one person's or even one company's efforts. On the contrary, they are almost without exception created by broad-based networking.

Regional development networks have several possible roles which, on the general level, can be classified as: single objective/task networks, business intelligence networks, peer-to-peer networks i.e. a social support network, networks for blocking threats i.e. a pressure network, civic activity networks and investment networks. As for success, the crucial question is whether one is able to create real and functioning networks in which a culture of collaboration based on trust and openness emerges between different organisations and their staff, and in which the strategies, goals and competences of these people and organisations are synchronised.

As examples of an innovative environment and developer network functioning in practice, one can mention the innovative collaboration between the City of Kotka's social welfare and health care branch together with Kotka City Theatre and Kymi Sinfonietta Oy., both of whom provide cultural services.

From the standpoint of getting results, the ability to generate and maintain creative tension is paramount. It is the most important source of energy for self-renewal because it generates the condition in regional development, from which something fresh and unheard of can emerge. It is often impossible to grasp its real form or usability beforehand or even during the process. Above all, creative tension is the driving force of change. It envisages self-renewal in the core of organisations and regional development. Creative tension generates a condition within organisations and regions that forces actors to invest time and resources into the creation of something new instead of having them defend the status quo. Creative tension is based on using different ideas and forces of change, which pull in many directions, as the energy for change. One of the key tension-causing factors is contradiction between balance and unbalance.

❖ The Committee for the Future notes that breaking free from the traditional mode of operation and preconceptions as well as crossing borders create the foundation of regional success stories. The precious results of the development are created in turbulence, which should not be feared.

g. Enter the world market by commodifying

There is much good in Finnish innovating. Scientific research creates a sound footing for innovating. Scientific research also contributes to the creation of important innovations. Basic research conducted at universities and research institutes, including ancillary, versatile international network cooperation, forms the prerequisites for the continuous development of innovative environments as well as for innovating in companies.

However, the commodification chain that converts ideas into internationally top selling products through innovation does not work well enough in Finland. Without a satisfied customer, no lucrative business exists, and without business expertise, no productive innovating can exist. In business development, one does not only need continuously advancing know-how but also continuous, new innovations. They create the conditions for strengthening one's market presence and for growth, but most often, they are the prerequisite for the company's survival.

Ideas and semi-finished innovations are moderately well generated in Finland. The innovation system creates good conditions for innovations themselves. When using as indicators the system-generated information on what one should do to generate innovations, then international comparisons simply show that an effective innovation system exists in Finland. However, Finns are weak in refining innovations as successful products for the international market.

Business expertise includes the operating models and earning logics that make one successful in the international market as well as the knowledge management necessitated by the growth and changes in the company's operation and in its products' life spans at various stages. Business life also needs the funding mechanisms and the funds through which innovations are refined into new and continuously growing business. In this respect, Finland's national innovation system has grave shortcomings, which specifically manifest themselves in the too low number of innovation-based companies and growth

❖ The Committee for the Future holds that the success potential in Finnish R&D must be converted into commercial use and success in the world market. This can be achieved by linking business expertise, cultural awareness and the required financing instruments to good Finnish technology and by more effectively utilising the innovations and market findings of existing companies.

businesses.

h. Value-based leadership and network management needed

The noteworthy innovations linked to the technologies of the information society are no longer created by traditional industrial society logic. Instead, one must create and maintain innovative milieus and the operating culture of value networks. Leadership that gets results has changed its traditional ways of operating both at the regional level as well as within communities. Leadership that aims for and is based on rigid planning no longer guarantees success. Instead, readiness to change, flexibility and delegating are the most important catalysts that generate a competitive edge.

The specific values that support innovativeness are openness, trust, accountability and collaboration. Knowledge and know-how increase when the best ideas and information are spread around open-mindedly.

Far-sighted and future-oriented thinking is required to get results. The core processes of innovative environments cannot be managed without active participation and the all-round delegation of responsibilities. Leadership materialises in the long-term cooperation of different actors and interests. Shared leadership refers to a situation where several actors in concert focus on the development and affect the other actors in many ways. Shared leadership invariably requires the capability of combining diverse competences and forms of authority.

In a dynamic operating environment, leadership requires the capability to lead beyond the borders of the organisations and communities from which the leader's authority is derived. Hence, leadership also requires the capability to reach actors, who are important from the viewpoint of the innovation and production processes of one's own organisation, but where one has no powers of his own. One has to be able to proactively and self-guidedly create something new in the business world formed by complex and continuously changing networks.

The importance of value-based leadership manifests itself in

all fields and on all levels. A recent example of this on the global level is the selection of Mr. Jorma Ollila, Chairman and CEO of Nokia Corporation, to lead the Shell Group. His skills as a leader also echo the operating culture and the business environment of having a good reputation around the world – an accountable and respected way of working and of taking care of public issues. The fact that a Finn was selected, in lieu of a leader representing a financial superpower only aiming at efficiency, expresses the correct kind of attitude for confronting big problems. We know that oil and oil companies are in the epicentre of global crises: Iraq will be followed by Iran, Nigeria ...etc. When China and India demand their share of the oil, that being the one and only way by which they can fulfil the promise to raise the living standards of their citizens, the world faces an intense redistribution of the global market. It is essential to create business cultures in the future that support functional sustainability.

4. Summary of the regional seminars

The ideas and methods developed in the regional projects (Kemi-Tornio, Jyväskylä region, Oulu Southern and Uusimaa framework municipalities), which were implemented during the previous electoral period, were utilised in the Innovativeness as a Resource series of seminars. The Parliament's partners in arranging this series of seminars were the Finnish Association of Graduate Engineers TEK, National Technology Agency of Finland TEKES as well as regional councils around the country, Employment and Economic Development Centres, municipalities, universities and many other local actors. During the seminars, projects and other good practices were discussed, the criteria of which were as follows:

- It is possible to proceed to a significant status nationally and/or internationally
- They express the innovativeness-promoting core factors emphasised by the Committee for the Future: developer networks, creative tension, image consequences...
- There is a large potential for employing people
- It is unique/demanding as regards its know-how
- The prospects for ideas and innovativeness are great.

❖ The Committee for the Future proposes that innovation leadership and management as well as inspiring leadership be assigned as the centre of focus for the development of working life and for adult education.

The opportunities for the **Kainuu** region were pondered in Kajaani on 13.9.2004 under the title: “Kainuu – the valley of Creativity”. Kainuu’s population is small, although it is large in area so actors have had to network in order to succeed. Contact with Kainuu decision-makers has been instant and direct and it is easy to make contact with the central actors. The public sector has helped with the functions of two success clusters: the Measurepolis cluster of measurement technology enterprises and the Snowpolis sports technology cluster. These clusters were visited on 13.9. by touring the companies of the region and by arranging a seminar at Kaukametsä Auditorium. One of the top enterprises in the measurement technology cluster is Sunit Oy which manufactures on-board vehicle information systems and which, a couple of years ago, received the “Most innovative company in Europe” award. Another star company in the cluster is Ponsse Oy, manufacturing forest machines. The Snowpolis sports technology cluster and its star enterprises are predominantly located in the Vuokatti ski resort area.

Kainuu 13.9.2004

Close cooperation between Oulu Polytechnic and the University of Oulu and the companies facilitated just-in-time basic and continuing education in the said clusters by utilising state-of-the-art technologies. In addition to the abovementioned two success clusters, Kainuu has had excellent captains of business in other fields as well. The successful company Imagon Oy specialising in illuminated-advertising – and the man behind it: Arto Okkonen – is a good example.

During the seminars in **Helsinki** on 17.9.2004 and 10.2.2005, positions and results regarding the entire project were discussed. The relationship of the Lohja region and the “Kuuma-kunta” municipalities of the Central Uusimaa region vis-à-vis the capital region’s innovation engines were selected as regional examples. Strong industrial tradition and the countryside characterise Western Uusimaa. When measured by innovation variables, Western Uusimaa lags behind the rest of the Uusimaa region. In order to strengthen their competitiveness the region’s municipalities initiated a joint regional centre programme: the “Hiiden Pilotti”. The seminal idea of increasing the level of innovation variables was to establish a regional

Helsinki 17.9.2004 and
10.2.2005

development structure for the area, the Hiisi regional development institute.

The regional development institute establishes a permanent mechanism for facilitating the linking of and transfer of university-level know-how to the region. It compiles the R&D services that support the region's enterprises into an entity and acts as the region's partnership organisation. It strengthens the knowledge base by linking polytechnic students to regional R&D tasks and, thus, creates ties with highly educated persons to the area. Responsibility for the institute has been assigned to the Laurea Polytechnic, which was selected as a centre of excellence in regional development and a national centre of excellence in polytechnic education. The institute's operation model is based on the pedagogic innovation 'Learning by Developing' (a concept in which research and project-based learning is further developed), which was developed in Laurea and in which learning, regional development and R&D fuse into a single entity.

As regards to **Pirkanmaa**, on 20.9.2004 the seminar clearly identified the creation of new knowledge and efficient data distribution - building on an atmosphere conducive to innovations and bold reforms which were created in the region over the course of many years - as its strengths. Pirkanmaa has adopted the creation and further advancement of science and technology-oriented innovations as well as social, organisational, arts and culture-oriented and other innovations as its mission statement. Favourable conditions emerge from multidisciplinary contacts, encounters and interdisciplinary ideas. The world-renowned eTampere programme has sped up the desired development. By developing new functional structures and cooperation models, the prerequisites for encounters with and joint problem solving by actors in the fields of material technology, medicine, biology and electronics have been established. Commercially viable innovations have emerged from this. Corresponding breakthroughs are expected from the fields of smart materials and process engineering as well.

Pirkanmaa 20.9.2004

An orientation towards creative economy and penetration into it as the modus operandi link the traditional industrial and

commercial fields as well as the newest state-of-the-art technology and public administration in Pirkanmaa. The innovative structures in the physical environment as well as a shared operating culture efficiently further the transfer of tacit knowledge and networking. As examples of this, one can mention the Hervanta science and technology community as well as Finn-Medi and Finlayson areas.

The South-Eastern Finland seminar on 27.9.2004 concentrated on illustrating the joint strategies compiled by many actors by especially focusing on the forest industry, eBusiness and the Russia and EU dimensions. The regional technology strategy was described using a cluster-oriented model that analysed the following clusters: forest industry, metal industry, information and communications technology, energy and the environment as well as logistics. The linkage to Russia, characteristic to the region's operating environment, was taken into account with the principle of penetration in all of the clusters. The technology strategy process was successfully linked to the region's other strategies. The interfaces of the clusters that were assessed proved to be the most promising targets of implementing new measures. It is believed that the interfaces offer prospects for the rapid development of new technologies and their applications. As an example of the opening of new prospects with regards to interfaces is the joint research project of the Lappeenranta University of Technology and the VTT Industrial Systems, in which laser technology is used in cutting paper and cardboard. The regional development conducted in the field of electronic billing is an example of a networking process in which the regional engines i.e. large companies and cities, telecommunications operators, hundreds of national application developers as well as thousands of SME companies can benefit from each other.

South-Eastern Finland
27.9.2004

As a significant development in working culture the seminar raised the shared spirit of "let's everyone roll up our sleeves together". Large companies, for example, employ experts who master complex multi-variable processes. Since such persons do not exist in small working communities, the regional networking cooperation increasingly facilitates the concentration on brainstorming and illustrating processes that are

jointly determined to be interesting. Win-win value network cooperation emerges. In order to conceptualise the issue, the key questions to be answered are: how do the value networks' interlinked systems work and what kind of partners do they require.

Examples fostering local innovation were displayed in **Raahe** on 4.10.2004. The seminar explored renewing and innovative ways of operating and work methods, as the audience of ca. one hundred attended the Innovativeness as a Resource seminar. It became evident in the seminar that companies and public services alike need new ideas. The Raahe district is a region characterised by steel manufacturing, heavy metal, navigation, machine engineering, information technology fields, education and farming. In addition to the City of Raahe, the approximately 35 700 inhabitants' district comprises the municipalities of Pyhäjoki, Siikajoki, Ruukki and Vihanti. Versatile education opportunities exist in the region. In addition to basic and secondary level vocational training, it is possible to study at the polytechnic institute in Raahe and to take university postgraduate degrees up to a doctorate. A visit to a company was also included in the seminar agenda. In Raahe R-taso Oy was toured. The company was established in 1985. The idea to start manufacturing hot-galvanised working platform structures emerged in the minds of two engineers, still working for Rautaruukki at the time.

Raahe 4.10.2004

The **Päijät-Häme** seminar was held at Sibelius-hall in Lahti on 11.10.2004. The main themes of the day were describing the innovation systems in Lahti, lessons learned as well as innovation leadership and management. The starting point of Lahti's regional innovation strategy was the centre of university units and its contacts to the parent universities as well as polytechnics. The regional innovation policy vision is to develop the Päijät-Häme province into a model region of modern, networked innovation, where the innovation resources are efficiently and jointly used and where the region's innovative capacity and the number of innovations are of top level. The key actor is the Lahti Science and Business Park which coordinates Päijät-Häme regional innovation policy and which develops data transfer from R&D as its line of business. The regional

Päijät-Häme 11.10.2004

innovation strategy has determined the modes of operation and the roles of the developer networks. Special attention has been paid to acquiring the knowledge required for the creation of supra-regional networks.

The strengthening of **Northern Karelia's** innovative environment was sought on 28.10.2004 in Polvijärvi with the seminar titled "Creativity takes off and soars". Forest technology and adventure services were presented as strongly rising clusters. The University of Joensuu and the Northern Karelia Employment and Economic Development Centre have actively supported their development. Harvesting technology star enterprises were represented by Kesla Oy, which exports forest machinery to the world, and by Pentin Paja Oy, which manufactures grapples, soil compaction scoops and spot cleaners. Both companies operate out of Ilomantsi. Movie making, food processing innovations and Kantele-harps that are exported worldwide represented the adventure and experience businesses. As its star enterprises, Emäntien bisnekset, Liemitehdas Puljonki Oy from Juuka and Koistinen Kantele Oy from Rääkkylä were present. All of these successful companies share the fact that they are heavily networked outside the Northern Karelia region. The businesses presented were living examples of how a skilful captain of business can build on local strengths and succeed in spite of his remote location.

Northern Karelia 28.10.2004

Innovations as **Lapland's** resource were mulled in Rovaniemi on 15.11.2004 in the seminar "Warm Christmas and Cold Technology". The theme originated from people seeking tourist experiences in Lapland and in Rovaniemi and from the fact that the winter in Northern Finland is long and extremely snowy. The seminar explored the key projects of cold temperature and winter technology as well as of tourism, such as product development related to Christmas tourism, Christmas tourism quality system, developing the Christmas and winter image, strengthening the role of Santa Claus, Santa's Technology Park (animation, media and content production), Christmas exhibit, a multi-field R&D project related to humans and cold temperatures, testing cold temperature and winter technology-related products and services (especially Arctic Power) as well as building with snow and ice.

Lapland 15.10.2004

The regional innovation related to these themes widely utilises information technology and design (e.g. the star enterprise Wood Jewel that manufactures, among other things, jewellery and pins out of curly birch). Tourism, particularly, seeks interfaces with other fields, in which case tourism is networked to adventure and experience production. From the point of view of networking the Testing lab is important, being the world's first testing ground for wireless navigation, adventure and tourism services. In addition to the key clusters discussed in the seminar, also other innovative activity in Lapland was presented. The SmartUs is an important project that develops the smart playground of the future. This kind of playground, which supports the child's learning, development of physical and motor skills as well as creativity is developed together with the star enterprise Lappset Group Oy.

5. Proposals and key questions regarding the development of regional innovative environments

This final report already contains some answers which the Committee, in order to spur debate, wants to bring to the attention of all relevant sides for evaluation.

1. *The Committee for the Future regards it as necessary that the Parliament-established goal “The world’s best innovative environment” be adhered to, and that the structural and functional development measures be implemented and that regional and local innovative environments be purposefully strengthened.*

2. *The Committee for the Future considers, emphasising the principles defined in this report, it important to raise innovativeness to the centre of development on all levels of Finnish working life and other levels of the society.*

3. *The Committee for the Future considers that securing Finland’s productivity and welfare, both nationally and regionally, requires the renewal of working practices among different actors as well as intense collaboration and a culture of working together. The Parliament in its own activity must continue the innovation supporting practice of dismounting to regions.*

4. *The Committee for the Future proposes that research and training institutes thoroughly study value networks as well illustrate such modi operandi that support the creation of successful regional innovative environments and development of new businesses. Broker organisations must effectively bring the knowledge thus compiled to the disposal of companies and other working communities.*

5. *The Committee for the Future considers that versatile innovations continue to form the increasingly important cornerstone for the success of Finnish products, services and systems in the global market. In order to facilitate this development, the R&D level of 4% of the GNP, as previously established by the Parliament, must be reached in the next few years. All-rounded innovativeness must better than hitherto be taken into account in public funding.*

6. *The Committee for the Future proposes that procurement expertise, commodification, business expertise and financial instruments be adopted as significant development targets of the public sector and for the production of services.*

7. *The Committee for the Future proposes that the Finnish education and incentive system as well as risk financing be reformed with the aim of fostering regional entrepreneurship, new business development and small business growth.*

8. *The Committee for the Future notes that breaking free from the traditional modes of operation and preconceptions as well as crossing borders create the foundation of regional success stories. The precious results of the development are created in turbulence, which should not be feared.*

9. *The Committee for the Future holds that the success potential in Finnish R&D must be converted to commercial use and success in the world market. This can be achieved by linking business expertise, cultural awareness and the required financing instruments to good Finnish technology and by more effectively utilising the innovations and market findings of existing companies.*

10. *The Committee for the Future proposes that innovation leadership and management as well as inspiring leadership be assigned as the centre of focus of the development of working life and of adult education.*

The assessment tool created for the development of innovative environments and innovative communities as well as the series of questions which support its usage are described in the report of the Committee for the Future "Leadership of innovative environments and organisations (EKJ 6/2004)".

Supplementing them, the Committee for the Future wants to deepen and concretise the abovementioned stands and conclusions of the assessment project by posing a number of questions that focus on such tender issues that, as per observations, are hard to solve. The objective of this approach is to generate a battery of questions that serve the development of regional innovation policy. The questions that the Committee regards

significant are the following:

1. How can one strengthen regional innovative environments and remove bottlenecks?
2. What are the processes and focal points that support the development of regional innovation?
3. How does one guarantee cross-border cooperation in the development of regional and local innovative environments?
4. How can one increase the input of universities, polytechnics and research institutes in innovation development?
5. Which methods of operation increase awareness regarding regional enterprises and how does one intensify the identification of potential market discoveries and stars?
6. What actions strengthen the increase of academic entrepreneurship and its status in education and research?
7. How can companies get better preconditions for the purposeful utilisation of immaterial rights?
8. How does one speed up innovation in the service branch and, especially, the progress of R&D regarding social innovations?
9. Who is responsible for disseminating the best practices of public sector innovations?
10. How can one better harness universities and polytechnics into cooperation with SME businesses in order to systematically develop innovative ways and methods of operating.
11. How do we increase a region's attractiveness to innovators?
12. How do we create incentive to increase early stage investments in small business innovations?

The Committee for the Future challenges national and regional actors alike to answer these questions.

NOTES: