

UTU35

A future for you too?

UUSIMAA 2035 SCENARIO PROJECT



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UUSIMAA REGIONAL COUNCIL

REGIONAL COUNCIL OF ITÄ-UUSIMAA

HELSINKI METROPOLITAN AREA COUNCIL

UUSIMAA EMPLOYMENT AND ECONOMIC DEVELOPMENT CENTRE

UUSIMAA REGIONAL ENVIRONMENT CENTRE

EDITA • HELSINKI

The project has been financed with the development funds of the Uusimaa and Itä-Uusimaa regions.

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Graphic design: Marjut Heikkinen

Drawings: Ismo Rekola

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Introduction

The Uusimaa 2035 project (UTU35) was carried out by *Uusimaa Regional Council, the Regional Council of Itä-Uusimaa, the Helsinki Metropolitan Area Council (Development Planning Unit and Transport Department), the Uusimaa Employment and Economic Development Centre and the Uusimaa Regional Environment Centre*. The project began in the spring of 2003 and ended at the end of 2004. The project has been financed with the development funds of the Uusimaa and Itä-Uusimaa regions.

The principal task of the UTU35 project was to generate information concerning long-term development views as a basis for decision-making for regional, sub-regional and local actors. In *Uusimaa 2035*, the future is described through scenarios which illustrate our present conceptions about potential future developments. Due to the limited scope of our knowledge, we must of course be content with outlining future prospects and making development estimates. Future information is characterized by a high level of uncertainty, and it is closely tied up with the underlying basic assumptions.

The scenarios constitute a multi-level, interdisciplinary survey that promotes cooperation between sectors and sub-regions and strengthens the knowledge base for decision-making involved in this cooperation. The scenarios identify effects and consequences that

changes in the environment over time would have on regional development in Uusimaa as a whole and on business development, housing, transport, the physical environment and regional structure.

- ★ Change factors and cause-and-effect relationships that connect various sectors and relations between the different regional levels are dealt with widely and comprehensively in the survey of the operating environment.
- ★ The change outlook is considered from the point of view of business development, employment development, housing, transport and regional structure. Sustainable development and know-how are discussed on the ‘mainstreaming principle’.

The starting points for the scenarios included the compilation of history and present-state descriptions and the charting of megatrends. Quantitative examinations with calculations concerning population, economy and housing and basic municipal public services were also made in the course of the project. The calculations illustrate the effects in Uusimaa of the changes in the operating environment that are described in the scenarios. Alongside the basic scenarios, an in-depth examination of the transport sector was prepared for each scenario.



The central element of the report material is the printed main report *Uudenmaan tulevaisuus 2035. Utua vai totta?* published in Finnish and Swedish. This publication in English is an abridged version of the main report, containing the basic scenarios created in the project and summaries of the transport scenarios. The original narratives and other project reports have been published in Finnish in electronic form. The following reports may be found at the website of Uusimaa Regional Council:

Main report	Uudenmaan tulevaisuus 2035 Framtiden för Nyland 2035 UTU35 (abridged version in English)
Appendix report 1	Scenario narratives
Appendix report 2	History and present state
Appendix report 3	Transport scenarios
Appendix report 4	Population calculations and job calculations
Appendix report 5	Demand for basic public services
Appendix report 6	Interaction

Organization and interaction



REGIONAL COOPERATION PROJECT

The host organization of the Uusimaa 2035 project was Uusimaa Regional Council. Director Pentti Tuovinen was project leader, and Senior Adviser Hannele Kokkonen was project manager. The steering group and project group included representatives of Uusimaa Regional Council, the Helsinki Metropolitan Area Council, the Regional Council of Itä-Uusimaa, the Uusimaa Employment and Economic Development Centre and the Uusimaa Regional Environment Centre (Appendix 1).

The task of the steering group was the management of the project administration and finances, and guidance of project content. The project group was responsible for the practical implementation of the project. The members of the project group drew up the content materials and report sections of the various stages according to an expertise-based division of duties. In addition to the contribution of the project group, expertise and labour from a wide range of fields were obtained as external services. Parties consulted were Efektia Oy (methods, interaction and study of basic public services), Kaupunkitutkimus TA Oy (population calculations and job calculations) and Strafica Oy (transport scenarios).

BROAD PARTICIPATION

As the regional and other development of Uusimaa involves a large number of actors in public administration and in the private sector, the interactive approach was chosen as the general working method for the project. The purpose of this was to achieve a diverse and fruitful exchange of ideas between the organizations drafting the scenarios, the various partners and other interest groups, and the experts. Broad participation also helped in the dissemination of information.

Experts and decision-makers in interest groups were invited to participate in 'reference groups', which produced source material for scenario compilation and commented on the draft scenarios at different stages. About 50 persons participated in these groups, representing municipalities, universities and other educational institutions, development organizations, certain civic organizations, and so on.

Future information consists largely of high-quality expert knowledge in different fields. An important feature in gaining up-to-date knowledge and insights in the project consisted of expert lectures in which members of the project group and the steering group participated (Appendix 1). The China seminar was intended for the reference groups too, and the EU lecture

Megatrends

The term ‘megatrends’ usually refers to major, world-wide developments whose direction can be identified on the basis of earlier events and which are expected to continue in a similar pattern in the future.¹ Megatrends are long-term development processes, containing up-swings and downturns. Megatrends can incorporate many briefer and narrower trends, the emergence of which varies from one scenario to the next.

1st megatrend

NEW INFORMATION AND COMPETENCE

Research and other information production creates new information which refutes and supplements earlier information and extends the field of knowledge. The competition for the truth and for correct, relevant and meaningful information is stiffening.

The importance of information and new technology as a factor of production is increasing. The application of renewing information and IT is in its infancy in many fields. New modes of production improve productivity in different ways in different fields and will thus affect the demand for labour. They also breed wholly new

industries and professions. Information and IT are revising not only production but other important social functions too, such as the political and administrative system and the media.

As the significance of information, competence and creativity as a factor of production and also as a competition factor strengthens, it is becoming increasingly important to adapt high-quality competence to rapidly changing production conditions. It could be said that the level of educational attainment is rising in relation to what it was before, but not necessarily in relation to existing information and modes of production. As the general information level and educational attainment rise, information and education inequality increase at the same time. In the global perspective, there is a growing information gap in addition to the standard-of-living gap, even though there is an increasing oversupply of information, as indeed there is of many other commodities.

2nd megatrend

GLOBALIZATION

Globalization manifests itself as an increasing complexity of worldwide relationships between companies and organizations, and also between countries, regions and cities. In this process, interests shift rapidly as the mutual

¹ Mannermaa: *Heikoista signaaleista vahva tulevaisuus.*

dependence of the various actors increases, even though the competition for capital, human resources and natural resources and for power is accelerating worldwide. A phase of development of the world economy where production is being redistributed between companies, sectors and regions is a major feature of globalization. A complex network of global, international and local companies which is in a constant state of flux has emerged. In consequence, competition and cooperation shift all the time, differing widely with time and place. New significant financial centres or metropolises are rising, particularly in Asia. As production is shifted to low-cost countries, the global market grows, and there will also be wider demand for the products of industrial countries whose production requires a high level of know-how. Globalization affects income distribution on all levels, down to the individual employee.

3rd megatrend

TECHNOLOGICAL AND TECHNICAL DEVELOPMENT AND AN INCREASINGLY TECHNOLOGY-DRIVEN WAY OF LIFE

Technical and technological development constantly produces new products and systems. The effects of automation and robotics in manufacturing processes, transport, hobbies and interaction rapidly transform everyday life. Wirelessness and the integration of different systems together with the increasing capacity of electronic devices yield seemingly limitless opportunities. The 'remote presence' and 'remote control' made possible by ICT brings new approaches to production, work, housing and services such as education. The importance of IT and information systems in the functioning of all kinds of infrastructure, including critical functions, makes society extremely vulnerable to disruption.

The prospects related to technological development give occasion to believe in breakthroughs in biotechnology (genetic engineering, for instance), which can be used in developed countries in the first instance but which can also alleviate the global nutrition and

health situation. However, there are many ethical questions involved in practical applications of biotechnology, and this makes the progress of the sector uncertain. Microtechnology and nanotechnology have extensive application potential especially in electronics and in materials technology. They enable the development of new materials that clean themselves or have therapeutic effects, or of atom-sized devices that can have a revolutionizing effect on everyday life. In energy production, technical and technological innovations are expected to reduce our dependence on certain energy sources and to curb the greenhouse effect.

4th megatrend

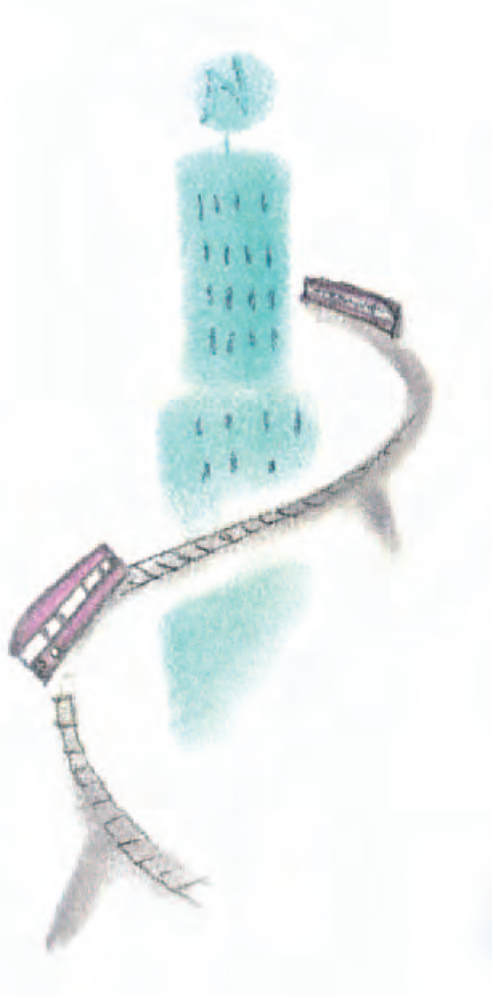
POPULATION CONCENTRATION

In spite of technological development, the importance of location will persist. The demand for competence and innovation accelerates concentration, and urbanization and the growth of metropolises will continue. Underlying the growth of cities and urban regions is a structural change in production fuelled by the diversity, volume and renewability of business and the labour market in cities. The supply of education and services is often the attraction factor causing migration to urban areas. As a result of the concentration of population and of functions, the number of urban centres is reduced, and the marginalization of regions outside urban areas is accelerated.

5th megatrend

AGEING

Many industrialized countries such as Japan and many EU Member States such as Finland, Germany and Italy have an ageing population. The ageing of large age groups increases the need for health services and social services, degrades the dependency ratio and leads to more and smaller households. The majority of future pensioners are wealthier and more solvent than the present ones, which partly relieves the increasing



pressures on financing pension expenditure and public health services and social services. In Finland, it is thought that the large age groups will move from the cities to the countryside when they retire, but the lack of services will impede this trend. However, even without this ‘remigration’, in many municipalities over a third of the population will be over the age of 65.

6th megatrend NOT WAR NOR PEACE

The fear of terrorism, crime and the growth of extremist movements strengthens the primacy of security requirements in decision-making. It increasingly redirects private and public resources to the maintenance of security, even though some countries have reduced their defence expenditure. More resources will be allocated to security and weapons technology during the next few years in different parts of the world. Even at

present, the USA allocates more than half its overall research funding to military R&D.

High-quality, comprehensive security as a competition factor is becoming increasingly important, but maintaining this security is increasingly difficult, both globally and locally. It is not possible to prevent terrorists and criminals from ever getting their hands on the newest technical, chemical and biological weapons. Terrorist and criminal activities are becoming networked and are increasingly seeking points of entry into international business and, through corruption, into public administration. For social development, this represents a resource-depleting continuous state of readiness, with increased surveillance. Military alliances are being strengthened, and new alliances are being sought. One of the objectives of the UN Millennium Project was to abandon weapons of mass destruction within 50 years, something that now looks like wishful thinking. The development of space technology and the conquest of space will be closely linked to defence and military strategies in the coming decades, although they will have peaceful aims too.

7th megatrend INCREASING ENERGY CONSUMPTION

Energy consumption is increasing in both the developed countries and, especially, developing countries such as China, India and Brazil. Alongside the energy requirements of industry, the rise in the standard of living of the population also contributes to the increase in consumption. Oil will remain one of the major natural resources in the world economy, and there is a danger of competition for oil resources leading to new conflicts. The expected rise in the price of energy may slow down the growth of the world economy. Rising fuel prices are quickly reflected in the costs of housing and transport, for instance. Rising prices also exert pressure towards energy conservation and energy-efficient innovations on the one hand and the development of alternative energy sources on the other.

8th megatrend

INCREASING ENVIRONMENTAL RISKS

Emerging environmental consciousness in developed countries increasingly guides the choices of citizens, companies and decision-makers towards sustainable development, which is evident in commitments to international environmental agreements. However, it seems to be far from easy to keep greenhouse gas emissions within the limits specified in those agreements. Increasing nuclear power is often promoted as a way of limiting the greenhouse effect on the one hand and of reducing dependence on oil on the other. There are other global environmental problems besides the greenhouse effect, such as the risks of technological and scientific development, the wasteful use and depletion of natural resources, and pollution in developing countries.

Water is a scant natural resource in many places around the world, and shortage of water makes the lives of millions of people untenable in the places where they live now. Marine pollution is an internationally significant environmental problem. Contamination of the Baltic Sea is a major threat for Uusimaa.

9th megatrend

CONVERGENCE AND DIVERGENCE OF VALUES AND OF THE WAY WE LIVE

The American way of life has become increasingly common globally for a long time. It is characterized by individuality and commercialism. Other ways of life are being adopted in different parts of the world, and ways of life are converging. At a national level, this can be seen as a multi-cultural divergence while the traditional monolithic cultures weaken or disappear.

Finnish society, too, is becoming more splintered because of internationalization, urbanization, a shift in

political culture and immigration. The importance of family, domicile, work and hobbies in the shaping of a person's identity and commitments is changing. This transition in social life is apparent for instance in a decline in interest in public affairs, to such an extent that many consider democracy to be in a crisis.

Global and/or national value choices come up increasingly as scientific and technological development bring up new ethical problems that affect humanity as a whole.

10th megatrend

REDISTRIBUTION OF POWER

The focus of the power hierarchy is shifting away from a nation-centred system to alliances and world power and to civic society. Managing the global economy and global environmental problems and controlling scientific and technological development require global decision-making, but there is no facility for this. Instead, the importance of international alliances – such as the EU – as political, democratic decision-making bodies is strengthening in the global redistribution of power to counterbalance multinational companies. Functions and decision-making previously within the province of nation-states are also being transferred to such alliances. In an opposite development, the responsibility and power of local communities and citizens is increasing. An intermediary stage in this process is the strengthening of the role of regions and sub-regions, with a concomitant increase in their duties and responsibilities.

A strong party in the redistribution of power is formed by experts whose authority rests on knowledge and competence. These new power elites represent a major challenge for democracy.

Scenario narratives

The scenario narratives outline possible futures, not only in general terms but also as concrete events by way of illustration. The point of view in the narratives is the year 2035. The scenarios relate what has taken place over three decades or so since the turn of the millennium. Certain events have been given specific times in order to outline the chronology of developments in the narrative. Relationships between the various regional levels form an essential part of the narratives. The scenario narratives are consciously very different from one another, and their content derives from their inner logic and consistency rather than a uniform schematic structure.

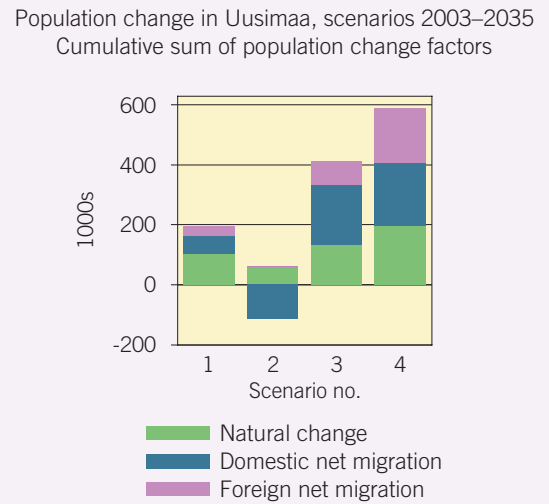
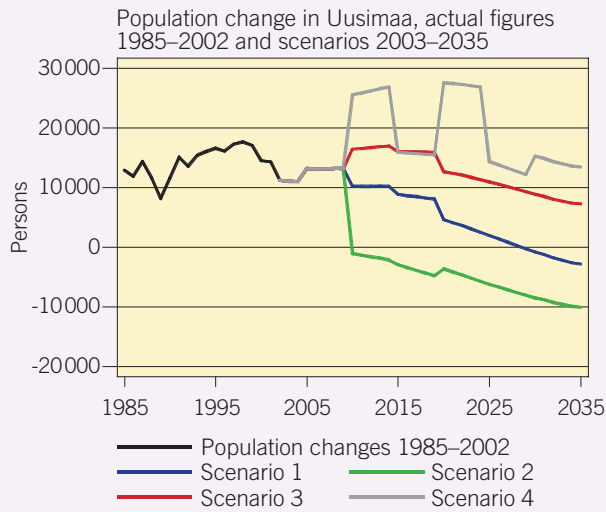
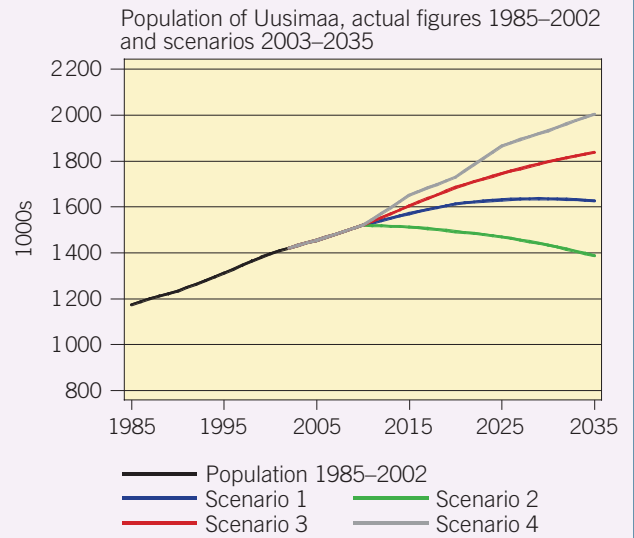
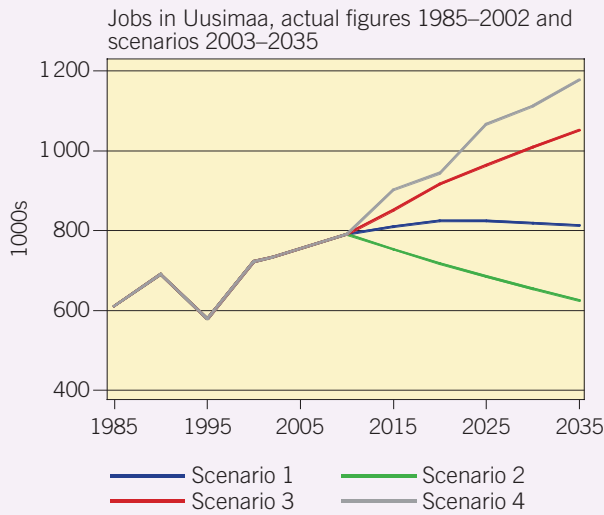
The *main dimensions* are forces which start and maintain the characteristic development in each narrative. The main dimensions selected for this purpose were the increasingly global economy, global power politics, technological development and the change in values. All the narratives deal with the change factors in the operating environment that will have a significant influence on the future of Uusimaa in the long term. The central change factors identified were those that have a major impact and involve a high level of uncertainty: international economy, power and politics, development of the EU, neighbouring areas, domestic economic development, structure of the national economy, domestic

politics, science and technology, migration, values and culture, and security. The purpose of the discussion of the operating environment was to anticipate long-term global developments that are of essential importance for regional, sub-regional and local development, decision-making and planning.

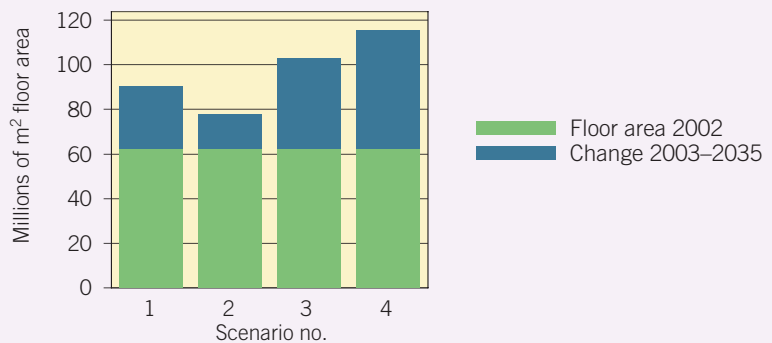
The ‘plot’ of each narrative emerged from a network of cause-and-effect relationships between the major change factors. Drawing up a ‘future table’ was the method used. The main dimensions and the future table yielded four different future narratives, which were given titles that reflected their main points:

Scenario 1	Future Lite
Scenario 2	Bridge Over Troubled Water
Scenario 3	Brussels Calls the Shots
Scenario 4	To The Max

The quantitative development discussions were drawn up to ensure consistency within the scenarios, to marshal the mutual relationships of the changes discussed in the various sectors, and to illustrate the changes in concrete terms. The scenario narratives conclude with a section focusing on the effects of changes in the operating environment on regional structures in Uusimaa. The transport scenarios have been linked to the narratives.



Housing stock in scenarios 2003–2035 Total floor area of housing in Uusimaa in 2002 and changes 2003–2035



Future table.

	SCENARIO 1 Future Lite	SCENARIO 2 Bridge Over Troubled Water
WORLD		
ECONOMY	<ul style="list-style-type: none"> • fairly quick growth, recession in early 20s • no clear focus, blocs • trade restrictions 	<ul style="list-style-type: none"> • quick growth • focus in Asia • free trade
POLITICS	<ul style="list-style-type: none"> • World Parliament (weak), community of nations 	<ul style="list-style-type: none"> • power drifts • big businesses wielding power
ENVIRONMENT	<ul style="list-style-type: none"> • alarming signs of climate change • big rainfall variations are a problem 	<ul style="list-style-type: none"> • global environmental problems increased
EU		
ECONOMY OF THE EU	<ul style="list-style-type: none"> • growth which varies regionally • the euro is the common currency of the EU 	<ul style="list-style-type: none"> • slow growth, low competitiveness • mutual competition of Member States • national currencies in addition to euro
POWER AND ADMINISTRATION OF THE EU	<ul style="list-style-type: none"> • community of the Baltic Sea and other blocs • Norway and Turkey new Member States 	<ul style="list-style-type: none"> • loose union of national states • internal disagreements
FINLAND		
ECONOMY	<ul style="list-style-type: none"> • steady, slow growth (1.5% to 2%) • public finances run into debt after recession of the 20s 	<ul style="list-style-type: none"> • extremely slow growth (0.5%) • drastic cuts in public spending
BUSINESS, SECTORS	<ul style="list-style-type: none"> • small enterprises • health care and social service enterprises • biotechnology 	<ul style="list-style-type: none"> • 'mass exodus of companies to Asia' • Experience Finland programme • tourism
EMPLOYMENT	<ul style="list-style-type: none"> • no major changes in the nature of work • strong status of nursing employees 	<ul style="list-style-type: none"> • unemployment, exodus of the 'miseducated' • flexibility, multi-discipline skills • craftsmen
POWER, POLITICS, ADMINISTRATION	<ul style="list-style-type: none"> • consolidations of municipalities in the Helsinki metropolitan area (city district administration) • focus of municipal taxation in real estate tax • active civic participation • strong status of women and senior citizens 	<ul style="list-style-type: none"> • strong central administration • experts, civil servant elite • forced mergers of municipalities • strict environmental policy
POPULATION, MIGRATION	<ul style="list-style-type: none"> • moderate internal migration • low level of immigration 	<ul style="list-style-type: none"> • migration from metropolitan area • insignificant immigration/emigration • population decreases and ages
VALUES	<ul style="list-style-type: none"> • global responsibility • conservatism, values of senior citizens are strong • value conflicts between the generations 	<ul style="list-style-type: none"> • individualism • pluralism • spiritual values
WAY OF LIFE, IDENTITY	<ul style="list-style-type: none"> • national programmes to prevent lifestyle illnesses • animal rights 	<ul style="list-style-type: none"> • different ways of life • Finnishness • control over one's own life
CONSUMPTION	<ul style="list-style-type: none"> • transition to vegetarian food and local food • increased alcohol consumption • extensive use of services 	<ul style="list-style-type: none"> • poor purchasing power • self-made instead of buying • recycling
SOCIAL FEELINGS (family, everyday life, health, security)	<ul style="list-style-type: none"> • divergence of ways of life according to age • lifestyle illnesses • feeling of insecurity among senior citizens 	<ul style="list-style-type: none"> • variety of family forms • security • inequality
EDUCATION AND CULTURE	<ul style="list-style-type: none"> • universities focus on research • polytechnics play major role in education • user fees are considerable in cultural services 	<ul style="list-style-type: none"> • privatized education • Finnishness and the Kalevala

	SCENARIO 3 Brussels Calls the Shots	SCENARIO 4 To The Max
	<ul style="list-style-type: none"> • quick growth • focus in USA, EU strong competitor • trade restrictions 	<ul style="list-style-type: none"> • varying growth, recession 2010 • focus in the EU • free trade
	<ul style="list-style-type: none"> • unrest in Asia • USA and EU isolated from each other 	<ul style="list-style-type: none"> • instability in Asia • status of the USA weakened
	<ul style="list-style-type: none"> • environmental problems under control 	<ul style="list-style-type: none"> • many new environmental problems
	<ul style="list-style-type: none"> • steady, good growth • specialized regional economies, strong metropolises • the euro is the common currency of the EU 	<ul style="list-style-type: none"> • extremely rapid technology-led growth • metropolis areas as engines • the euro is the common currency of the EU
	<ul style="list-style-type: none"> • close-knit federation • EU-wide political parties • no new Member States, Britain secedes • strict environmental directives and environmental taxation 	<ul style="list-style-type: none"> • confusing political and administrative system • former Yugoslav republics, Turkey, Bulgaria, Ukraine, Belarus, Switzerland and Norway join the EU
	<ul style="list-style-type: none"> • steady, good growth (2.5% to 3%) 	<ul style="list-style-type: none"> • extremely rapid growth (3% to 3.5%) • considerable economic fluctuations
	<ul style="list-style-type: none"> • rather one-sided industry structure • NI (New Industries) and services 	<ul style="list-style-type: none"> • diverse production structure • forest and ICT clusters renewed • innovative pioneer companies
	<ul style="list-style-type: none"> • experts, service professionals, investors • work and leisure separated • automated work 	<ul style="list-style-type: none"> • freelancers, projects • abolishment of the age of retirement • dual labour market
	<ul style="list-style-type: none"> • Finland is a component state • four regions, sub-region as local level • revised political party map 	<ul style="list-style-type: none"> • Helsinki metropolitan area has special administration • online voting • purpose-driven mergers of municipalities
	<ul style="list-style-type: none"> • concentrating in big urban regions • controlled work-related immigration • points system in immigration 	<ul style="list-style-type: none"> • concentrating in the metropolitan area • high mobility within the EU, immigration from outside the EU
	<ul style="list-style-type: none"> • individuality • taking responsibility • environment-friendly attitude 	<ul style="list-style-type: none"> • entrepreneurship, competition • independence of the individual • faith in technology
	<ul style="list-style-type: none"> • travel, mobility • Europeanness • urbanity 	<ul style="list-style-type: none"> • major income differentials and standard-of-living differentials • virtual reality • multiculturalism
	<ul style="list-style-type: none"> • focus on consumption • increased consumption of eco-efficient products • tailored mass-produced articles 	<ul style="list-style-type: none"> • high consumption of goods, services and entertainment • differentiated consumer groups
	<ul style="list-style-type: none"> • increased number of singles, loneliness problems • neo-communality • relative security 	<ul style="list-style-type: none"> • significantly longer active life and lifespan • rapid major changes in life situation • crime, drugs • some immigrants socially excluded
	<ul style="list-style-type: none"> • competence environments instead of educational institutions • unifying of education contents in the EU • cultural activities in diverse forms 	<ul style="list-style-type: none"> • constant self-development instead of emphasizing degrees and qualifications



Scenario 1 | Future Lite

Clobal decision-making changed fundamentally at the end of the 2020s, with the founding of the World Parliament, among other things. The recession in the world economy and violent variations in the climate led to the creation of a more efficient decision-making process.

Except for the short recession at the beginning of the 2020s, Uusimaa and Finland have developed steadily and quite favourably. Six country groups, each practising close political cooperation, have formed within the EU. One of these groups consists of the small countries around the Baltic Sea and Norway, with the St. Petersburg region as an associate member. For

Uusimaa, the most significant change in the international operating environment has been the formation of the Helsinki-Tallinn twin city.

The biggest worry in Uusimaa in 2035 is people's health, threatened by lifestyle illnesses. Alcoholism and obesity are social problems. A significant number of Finns strongly support the notion that society should not pay for the care of illnesses that are self-inflicted. The liberal urban values of young people and the traditional conservative values of ageing people have occasionally come into conflict in Uusimaa. Usually the ageing people's conservative values have had the upper hand.

Political crisis gave birth to the Baltic Sea Community

The economic and political integration of Europe progressed and intensified during the early 2000s. Norway and Turkey became Member States of the EU in the early 2010s. Once the euro had been adopted by all Member States by 2020, currency risks decreased, and the predictability and stability of the economy increased throughout the EU. The economy indeed developed positively, but political problems arose. With enlargement, decision-making in the EU suffered a major crisis which was defused through the formation of six country groups inside the EU. These began to practise close internal political cooperation, which also deepened economic relations between these countries.

One of the six groups is the Baltic Sea Community formed by the Baltic states, Norway, Sweden, Finland and Denmark, with the St. Petersburg region as an associate member.

After rapid growth in the early days of EU membership, economic development in the Baltic states stabilized at the EU average. They had to adapt their taxation, wage conditions and other terms of employment and environmental regulations to EU standards. Some companies relocated to these countries because of their lower costs, which slightly slowed down economic growth. On the other hand, growth of purchasing power was divided more evenly between different population groups than before, which promoted the

development of the domestic market. The anticipated mass migration of labour to Finland or other 'old' Member States never happened. Thanks to steady development, the Baltic Sea Community region is a lively and vibrant market area, particularly in the trade and service sectors.

The most significant manifestation of integration around the Baltic Sea is the Helsinki-Tallinn twin city, which evolved through market forces on one hand and through agreements between the national governments and cities involved on the other. Today, there are many functions that only exist in either Helsinki or Tallinn. This represents a division of duties in the public sector; a case in point is specialist medical care. Diverse specialization has increased traffic between Helsinki and Tallinn.

The St. Petersburg region has been turned into a free trade area, and its economy has developed substantially better than that of the rest of Russia. There are particularly close trade relations between eastern Finland and the St. Petersburg free trade area, but Uusimaa has been less successful in taking advantage of the potential of the St. Petersburg region. One reason for this is the twin city project, which has been the focus of a lot of human and material resource investments in Uusimaa in recent years.

Recession and environmental disasters led to the establishment of the World Parliament

Many countries regarded the EU and the USA as a threat to their own development, and in the 2010s these countries tightened their political and economic cooperation. Economic communities arose in Asia, Africa and America to counterbalance the EU and the USA.

The political and economic development of China proved to be much weaker and slower than the most optimistic estimates at the beginning of the millen-



nium had indicated. Political instability, environmental problems and a number of serious misinvestments made foreign investors wary in the period 2015–2025. China tried to improve its economy by protecting its own production, but other economic blocs responded in kind. The result was an extremely widely fluctuating political and economic development worldwide, manifesting itself in great variations in major exchange rates within a short cycle in the early 2020s. Many companies tried to benefit from the fluctuating exchange rates and partly neglected their basic functions. Some succeeded and made big profits, but others

failed. The consequent wave of bankruptcies plunged the world into a recession.

Simultaneously with the recession in the early 2020s, abrupt changes in the weather occurred; it is believed that these were caused by neglect of air pollution control in the late 20th century. These changes were particularly apparent in rainfall all around the world, in Europe too. Many regions suffered from drought one year and from abundant rainfall and floods the next. The extreme variations in rainfall made agricultural production particularly difficult.

The recession and problems in agricultural production formed the impetus for the formation of the Community of Nations, which replaced the UN in 2028. Strong, independent international institutions now form the most important part of the Community of Nations. These were set up mostly on the foundation of the international organizations of the former UN. Formally, the highest decision-making body is the World Parliament, which as yet wields little real power.

Steady and sure development in Finland

In the 2010s, the structure of the Finnish economy diversified when a large number of flexible and reasonably innovative small enterprises emerged. Thanks to

this restructuring, Finland weathered the recession of the 20s with less damage than EU Member States on average. The Finnish economy has grown evenly and rather slowly on average during the last thirty years. However, growth has remained below the EU average, because the ‘new’ Member States have seen speedier economic growth than the ‘old’ Member States.

Steady technological development has compensated for factors which slow down economic growth, such as the ageing of the population and the effects of the recession. The breakthrough of IT and knowledge technology in the 1990s remains a unique phenomenon in Finnish history: no new Nokia has ever emerged in any sector. The combating of e-mail disruptions and information security problems tied down a lot of resources, and it was only in the early 2010s that information systems became reliable enough to increase the popularity of electronic services and promote their enlargement and diversification.

Uusimaa has prospered somewhat better than average in the market for commercial applications of environmental and welfare technology. There has been growing demand for products in these fields in Europe, in particular because of environmental consciousness and environmental problems on the one hand and because of the ageing of the population structure on the other. Norway’s membership in the Baltic Sea Community promoted Norwegian interest in investing in Uusimaa, too, in what were then new technology enterprises.

Thanks to R&D, new entrepreneurship was constantly generated in the biotechnology sector; these enterprises were largely taken over by worldwide corporations, but at the same time jobs and income were generated in Finland. In microtechnology and nanotechnology, a production volume was achieved in the late 2020s that began to be of significance for employment and economic development. Commercial innovations in biotechnology, microtechnology and nanotechnology have promoted the development of Uusimaa, too. The leading biotechnology region in Finland today

is the Turku region because of heavy investments in R&D in the sector.

The present welfare society was built in the 2010s

One pillar of the present welfare society largely took shape in the 2010s with the emergence of many small companies particularly in social and health care services in response to a growth in demand. Responsibility for special medical care was completely transferred from municipalities to central government. Municipal finances were weak at that time in Uusimaa and in Finland as a whole. The costs of social welfare and public health services were increasing steeply, firstly because the ageing of large age groups increased the demand for social and health services, and this demand had still not peaked yet. Another reason was the improved negotiating influence of the nursing professions and the resulting significant rise in pay in the sector. A third important factor was the increase in the adverse effects of alcohol and other lifestyle illnesses. The volume of social and health services and their costs have increased in both the public and the private sector. While GDP has almost doubled in real terms since the turn of the millennium, the growth of the social and health care sector has been even more rapid.

During the recession in 2022–2024, the public economy ran deep into debt, because public services or investments were not substantially cut. The recession partly helped bring forward changes in funding that had already been introduced before the recession. For instance, insurance companies now pay the service fees of social and health care services on behalf of senior citizens and receive in compensation a portion of their property when they die. Over the last 25 years, the emphasis in local taxation has been gradually moved to real estate tax. This reform has improved the economic situation of the municipalities in Uusimaa more than that of all Finnish municipalities on average, because the taxable values of real estate are generally higher in Uusimaa.

Great Municipal Merger 2013

As a consequence of weak municipal finances, the number of municipalities was halved between 2010 and 2020, both in Uusimaa and in Finland as a whole. The Great Municipal Merger of 2013 saw the merging of Helsinki, Espoo, Kauniainen and Vantaa. A city district administration model was created at the same time in order to safeguard the citizens' potential for participation.

The merger has paved the way for the development of an effective public transport system, for instance. The creation of Greater Helsinki helped in particular in solving difficult issues in land use planning, housing construction and provision of services. The international status of Helsinki became stronger, and its importance in a variety of networks increased.

Migrants have been avoiding Finland

The values of the ageing population are perhaps more apparent in politics, consumer attitudes and general atmosphere in Finland than anywhere else in the EU. Finland has attracted very few immigrants. On the other hand, the stable conditions of Finland have not been conducive to emigration either. Insecurity has increased, but not as much as the feeling of insecurity.

Senior citizens defend the welfare society, and because of their large numbers they are a political force to be reckoned with, and no traditional political party can afford to ignore them. The traditional conservative values of senior citizens and the liberal urban values of young people have clashed with some severity on occasion, particularly in Helsinki.

Animal rights grew from a critique of intensive farming

Food production problems and animal illnesses in the early 2020s increased criticism of intensive farming as it was then practiced. This criticism focused on animal production and its adverse environmental effects particularly in Asia, America and Europe. The food situ-

ation in Africa was alarming, and the great shifts in weather caused widespread famine. In Asia, America and Europe, emphasis was put on the ethics of food and its production, and more attention was paid to animal rights. The issue continues to be deeply divisive everywhere, however, and Uusimaa is no exception. The major dividing line is determined by age: young people have championed animal rights, while senior citizens are against them. The animal rights lobby eventually triumphed, and the Community of Nations issued the Declaration of Animal Rights in 2031. This conspicuously reduced the consumption of meat and fish for food.

Obesity was warned against as early as at the turn of the millennium

As early as at the turn of the millennium, it was observed that obesity was becoming a serious social problem. Although there is not necessarily a correlation between eating meat and obesity, the situation has caused social tension in recent years. A populist political party called Finland's Ideal People was founded in 2032. The party strongly advocates a delicacy tax, i.e. heavier taxes on sugar, sweets, confectionery products and alcohol.

The excessive use of alcohol has been a major problem in Uusimaa for a quarter of a century. This has slowed down growth in the life expectancy of the population. Smoking, selling tobacco and importing tobacco was declared a crime throughout the EU in 2035.

The Ideal People feel that society should not pay for care required by self-inflicted illnesses, for example the costs of obesity and excessive alcohol use. The party has thus challenged the model for funding the welfare society dating back to the last millennium.

Even though the social status of women has improved, the change has been slow in senior corporate management. But apart from this, the Finnish labour market is not nearly as clearly divided into women's jobs and men's jobs as was the case at the turn of the millennium. This is partly due to necessity, because not

enough women have been available to fill jobs in the social and health care sector. Women are over-represented in political decision-making today.

The status of the polytechnics strengthened in the 2010s

At the turn of the millennium, extensive doctoral programmes were seen as the ideal, but in several branches of science the training capacity proved excessive. Some 50% to 90% of young academics with a doctorate in humanities or social sciences were obliged to take jobs not at all commensurate with their qualifications. Over-training also manifested itself in that companies felt master’s degree programmes to be too theoretical and began to favour polytechnic graduates. Thus, in the 2010s, the focus of higher education was decisively shifted from the universities to the polytechnics. At the same time, resources in universities were reallocated from teaching to research.

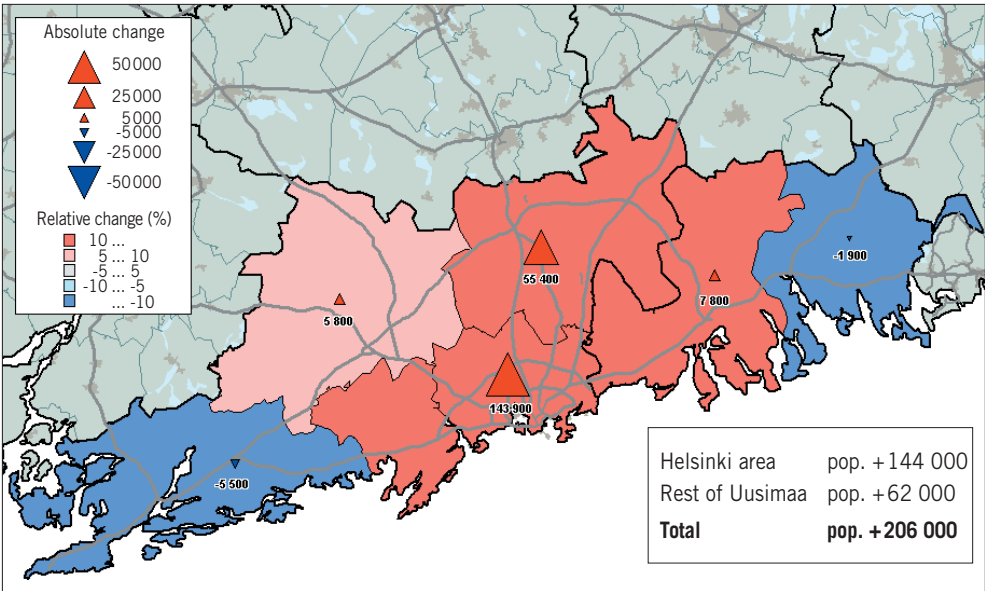
Supplementary education and further training is today broad and diverse, and increasingly a part of the official education system. Cultural funding has changed

in small but logical steps so as to decrease public funding and pass the cost of cultural services increasingly onto their users.

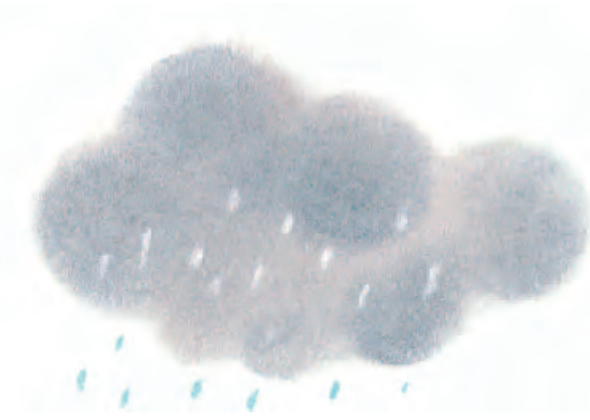
Strong public opinion directs development

Finland’s urbanization has continued moderately through the beginning of the millennium. Internal migration has thus also remained moderate. Today, there are fewer than ten strong urban regions in Finland, surrounded by rural Finland. It has been difficult for some areas of Uusimaa to find a niche for themselves between the strong Greater Helsinki area and rural Finland.

The transition to a largely vegetarian diet has provided excellent potential for local foods because of their freshness. The appreciation of local food is also the main reason why people are so concerned about the state of the environment – soil, air and water alike. Increased environmental consciousness among the public has helped improve the state of the environment in Uusimaa, because authorities, businesses and politicians have had to react to strong public opinion.



Changes in population 2002–2035.



Strong public opinion has manifested itself in construction for some time now. No greenfield areas have been taken up for housing construction or any other kind of construction in Uusimaa for more than two decades now. In other words, construction has involved building more densely in areas already built up and by rebuilding existing built-up areas. High-density low-rise construction has been the norm in housing construction for over three decades, though not single-storey buildings, because they represent inefficient land use. High-rise construction is usual for office buildings. Efficient land use has led to experiments in covering roads with concrete slabs on top of which offices have been built.

UUSIMAA

- ★ Population 1.6 million in 2035 (change +205,000)
- ★ Percentage of people over 65 increases from 12% to 22%
- ★ Dependency ratio (number of non-employed divided by number of employed) increases from 1.01 to 1.14
- ★ GDP grows by about 1.5% to 2% per year
- ★ Number of jobs increases by about 10%
- ★ Number of employed persons increases by one third less than the number of jobs; correspondingly, telecommuting and commuting from outside the region increase
- ★ Housing stock grows by a factor of almost 1.5

Transport in 2035

Transport and mobility continued to grow following the moderate growth of the economy; the period of strongest growth occurred before 2010. Sustainable development has taken transport in a more responsible direction. Strong emphasis on promoting public transport and non-vehicular traffic was introduced into transport policy in the 2010s, because road construction and private cars were considered a burden on the environment. The consolidation of community structure has helped secure the competitiveness of public transport and non-vehicular traffic over private cars. Road traffic suffers from increased traffic jams, which have been successfully relieved using traffic management methods. Emissions from road traffic were seen as detrimental to local agricultural production; this environmental issue was solved mainly through vehicle technology. Nearly the whole motor vehicle stock now uses fuel cell technology. A hydrogen distribution system covering the entire country was in place by the end of the 2020s. In 2020, a decision was taken to prohibit the use of fossil fuels in traffic as of 2035. A transport system heavily favouring public transport is being developed in the Helsinki metropolitan area.

As land use became denser, shopping trips and leisure trips became shorter as local services became more common. The percentage of non-vehicular traffic in such trips increased. The structure of goods and delivery traffic remained largely the same. With rising fuel prices, a considerable proportion of industry shipments was shifted to rail transport. A large logistics centre was built along the main railway line to the north of the Uusimaa border, for transferring industrial products from southern Finland from road to rail transport en route to harbours. The national motorway network was expected to be completed in the 2020s.

Increased interaction with Finland's neighbouring areas highlighted the need to develop transport links in the 2010s.

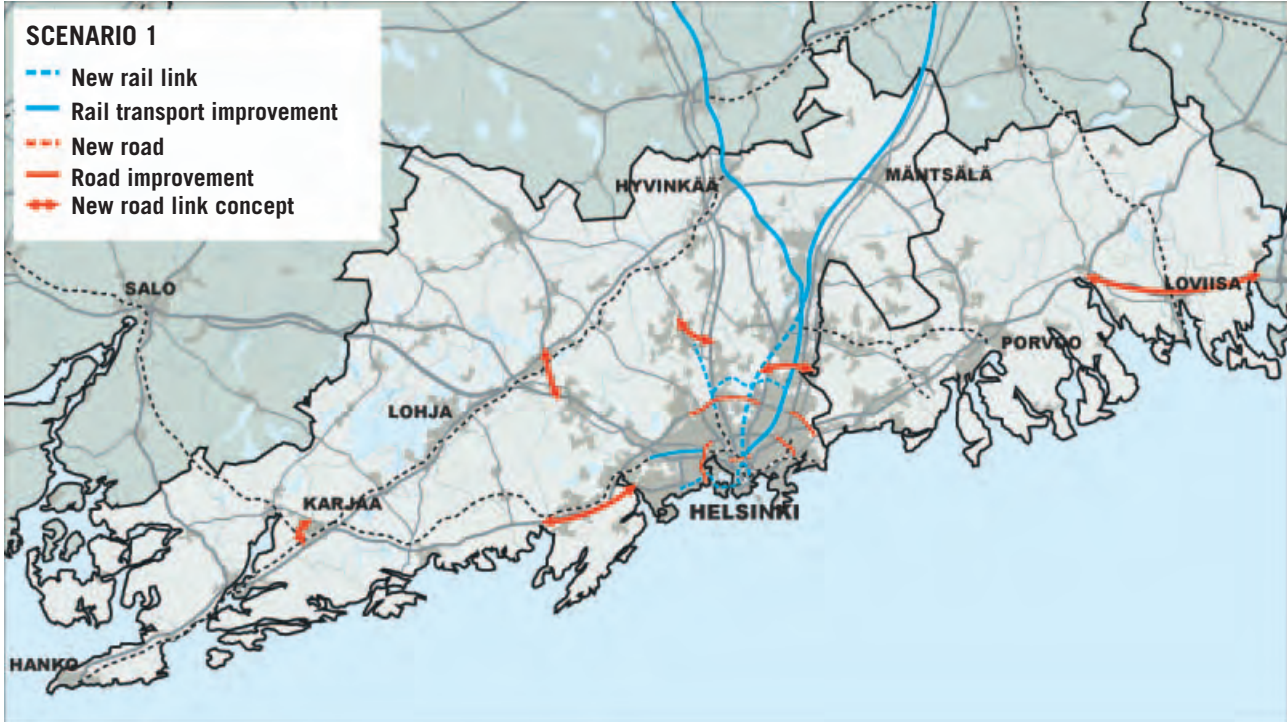
The importance of Estonia became apparent immediately after enlargement of the EU, and the improvement of connections between Helsinki and Tallinn were considered important even on the EU level. The rail ferry link was inaugurated in 2020 with the completion of the Rail Baltica railway line from Tallinn to central Europe. Planning of a tunnel link was begun in 2030, but no decisions on the course of the tunnel or on its construction have been made.

In 2035, the rail ferry connection to Rail Baltica and thus to central Europe has helped shift transport from sea to rail. Finland's harbours have undertaken logistical specialization so that the new harbour of Helsinki and the logistics centre along the main railway line now handle the majority of all general cargo imports to Finland.

The transit traffic in bulk cargo transport between Finland and Russia died down around 2010 as Russia invested heavily in building and modernizing harbours along the Baltic Sea. Brisk trade between the Nordic countries and the St. Petersburg free trade area continues to generate new goods traffic on the railways and along the E18 corridor (Norway-Sweden-Finland-Russia/St. Petersburg), and thus E18 projects in Finland were completed as early as in 2020. Rail traffic to Russia now uses a new, faster and straighter rail link. The Russian motorway from Vyborg to St. Petersburg was completed in 2025, the motorway from St. Petersburg to Moscow having already been completed earlier.

International air traffic has doubled since 2004, while the growth of domestic air traffic has been slower.

Scenario 1: Transport network development projects.





Scenario 2 : Bridge Over Troubled Water

The focus of rapid international economic development has moved to Asia. Finland has fallen behind international economic development, and numerous companies have moved to Asia. In their wake, a lot of 'miseducated' labour has also left the country. As a countermeasure to the 'Asia effect', Finland has focused on creating and implementing a national survival strategy – the Experience Finland programme. With this programme, tourism has become Finland's most important business. Poor

economic development and employment development has taken its toll, as witnessed by the partial collapse of the welfare state and so on. The population is declining, particularly in the cities: migration has turned from major cities to municipalities on their periphery and to nearby rural areas. Finnish values are dominated by individualism, and the range of ways of life and world views has diversified. Spiritual growth and equilibrium is a goal for an increasing number of people.

Centre of the economy in Asia

There is no clear centre of power in the world, since the economic and political importance of the USA has waned. In the early years of the millennium, western companies found their way to China, India and other Asian countries lured by cheap labour. Many investments have been made in the Far East over three decades, and it has become the centre of the global economy. Social reforms have been carried out to the extent that the political situation has remained relatively stable, and the market is still growing strongly in the 2030s. Asia has not become as great a power politically as economically. The role of the EU on the global scene has diminished since the early 2000s. As political power

is adrift, multinational corporations wield a considerable amount of power.

International economic growth is rapid in the 2030s. The last remaining obstacles to free trade have been removed, and worldwide free trade has been achieved. In Asia, labour costs have risen gradually towards Western levels, and the growing standard of living in Asia and also in South America fuels the international economy. The rising prices of raw materials have translated into benefits for many developing countries. Technological development and innovations in biotechnology, micro/nanotechnology and energy technology also accelerate consumer demand.

The strong dollar and the costs of the oil wars in the Middle East weakened the economic status of the USA

around the turn of the millennium. However, energy technology developments decreased the importance of oil on the global energy market. The military industry declined, but the strong car industry in the USA took the new, environmentally friendly energy technology on board, and as a result, car exports increased considerably. In the 2020s, the USA finally got its debt and finance problems under control.

Russia has turned its back on the EU in its commercial relations and is active in the rapidly growing Eastern market. Russian energy and raw materials are in great demand in the Far East, and transports and other traffic to those destinations have increased significantly. The rising standard of living in Russia has enabled the middle class to become affluent.

EU – a loose union of nation-states

The safeguarding of national interests is paralysing the development of the EU in the mid-2030s. The decision-making system of the EU after its enlargement in the early years of the millennium was never approved by its citizens and hence not by its Member States. The economy of the region was hard hit as the potential of the Member States to guide and manage their own economic development had been restricted while the EU's decision-making and administration lacked a coherent policy. The major economic, social and environmental problems stemming from enlargement caused widespread dissatisfaction in the old Member States. Efforts to create a common foreign and security policy also came to nothing. Now, some power has been transferred back to the national level, and the EU is a loose union of strong nation-states.

Internal disagreements in the EU and the mutual competition of Member States weakened the competitiveness of the region as a whole. After enlargement, companies tended to relocate to the new Member States, but then increasingly from all around the EU to Asia. In this situation, it was impossible to make efficient use of technological R&D investments to gen-

erate new entrepreneurship. Moreover, some of the extensive investments made in the early 2000s proved to be misinvestments.

Estonia has been able to expand its production faster than the rest of the EU. Securing competitiveness and a favourable business environment for companies became a cornerstone of social development policy, and in its economic development the country has risen to the average EU level. Estonia's internal development has been extremely polarised. The other Baltic states show similar development.

From downturn to Experience Finland

Finland has fallen behind international economic development. Even efforts to reduce labour costs were powerless to stop companies relocating to places with cheaper costs and wider emerging markets between 2005 and 2015. Finland lost a number of major production and design companies to the new EU Member States, as well as to China and to India. Internationalized large companies have moved their head offices to be closer to emerging markets. Because of the declining economy and employment situation, job numbers have plummeted in industry, services and construction. Unemployment has risen sharply, and much 'miseducated' labour has emigrated to Asia and the USA.

When the first signs of mass corporate emigration were observed in 2007, methodical building of the national, tourism-based Experience Finland programme was begun. Investments have been made in experience technology and infrastructure, and a number of new jobs have indeed been created in tourism, culture and the media. Since the decline of the ICT industry, technology development has concentrated on the media and entertainment industry. Technological development also addresses the promotion of people's welfare and automation of services. Finland no longer has obvious concentrations of competence and growth, although the media and entertainment industry is mainly located in the Helsinki metropolitan area.



Nature tourism is popular with tourists from big metropolises. Especially the newly wealthy Asians and Russians are interested in holidays in Finland. The considerable decrease in flying times has added to Finland's attraction as a tourist destination. As a result of global warming, Finland is particularly attractive for winter tourism. Recreational tourism, lifestyle tourism and cultural tourism are also thriving, and companies active in these operate in the rural areas of western and eastern Uusimaa and in the archipelago. By contrast, the formerly brisk meeting and conference tourism in the Helsinki metropolitan area withered with the China effect.

Of the traditional pillars of the Finnish economy, the forest and wood processing industry are still in the country. In the services, public health care and senior citizens' services are major employers. Intensive farming has all but disappeared from Finland with the abolishment of EU agricultural subsidies, but new jobs have been created in primary production by binding this field to the tourism industry – experience tourism now features biodynamic products, local food and handmade products. Indeed, the countryside of Uusimaa is thriving like never before. Water has become Finland's best-known export around the world.

Uusimaa and especially the Helsinki metropolitan area have felt the decline in the national economy more keenly than the rest of the country. Helsinki was too late in creating a functional, rapid-reaction business strategy to combat the China effect and, as a result,

the core industries, IT, industry and business services underwent a deep crisis after 2010. The national Experience Finland programme did not have the desired results in the Helsinki metropolitan area, because the programme concentrated on the promotion of nature tourism and tourist centres, which favoured the rest of the country more.

From welfare to hard times

Political efforts in Finland are focused on the creation and implementation of the national survival strategy. Due to the strengthening of the nation-states, power has drifted into the hands of experts and the civil service elite within the administration. A major renovation was carried out in public administration and local government in the 2010s. As the large age groups retired from working life, functions were rationalized, i.e. services were cut and the application of the Internet, automation and robotics in administration and service systems was expanded. Administration was concentrated in Helsinki. The duties and authority of the provincial state administration and regional administration have been restricted, and provincial government, regional government and the regional councils have been merged.

The Finnish welfare state of the early 2000s has crumbled little by little. The majority of the population has experienced a catastrophic decline in their income. Society no longer offers totally free services. Services are priced according to income and property, and all income transfers are emphatically discretionary. In the late 2010s, it proved essential to cut pensions, and many senior citizens now live in outright poverty. Citizens increasingly have to fall back on private services, which increases social inequality. The impoverished population has no sympathy for refugees, and Finland is not an attractive destination for immigrants.

The dissatisfied and frustrated citizens are not interested in politics. They promote their interests primarily through local grassroots movements. These movements

are loosely networked online, and they often arise and disappear with specific current problems. The status of the old political parties has thus weakened.

The economic superiority of Uusimaa over the rest of the country has narrowed, and in 2035, economic development in Uusimaa is weaker than in other parts of the country on average. The municipal economy underwent a serious crisis in the early 2010s. Tax revenues plummeted while the ageing of the population and increasing unemployment put huge pressures on municipal finances. This led to drastic cuts in public investment and services nationwide, though most heavily in the Helsinki metropolitan area. Seven municipalities in the Helsinki metropolitan area were merged into the City of Helsinki in 2017. The remaining 27 municipalities in Uusimaa were merged into five larger municipalities. Uusimaa is a negative-migration region. In addition to emigration, people also migrate from Helsinki to other municipalities in Uusimaa and to other parts of the country searching for jobs or a new lifestyle.

Softer values

The global triumphal progress of American culture was interrupted in the 2020s by the spread of Asian cultural influences. As a consequence of individualism and globalization, the range of ways of life and world views in Finland has diversified. The broader range of values is evident in the range of communities and families that exists. As a counter-reaction to globalization and the hegemony of English, appreciation for Finnish culture and the Finnish language has increased. An example of this is the global success of the Kalevala adventure production based on Finnish folk tradition included in the Experience Finland multimedia programme.

Constant uncertainty in working life since the early 2000s and the resultant increase in financial and psychological problems paved the way for a gradual shift in values. Traditionally highly work-oriented, Finns now began to seek welfare and happiness in other things

besides work. Flexiwork and forms of part-time employment were extensively adopted in the late 2010s. 'Atypical' employment relationships became typical.

As a large portion of the population has little cash in hand for consumption and poverty is widespread, home farming, handicrafts, making things at home and recycling are common. Inequality has increased as a consequence of a decreased standard of living and the eroding of the welfare society. The rich and the well-off can afford better services than the rest, because they can buy the extra services they need. Many life-easing technological solutions also increase inequality: for example, only a few senior citizens, for whom there are not enough places in institutions, can afford the technological aids that enable them to live in their own home.

Security attracts

Finland has so far avoided major terrorist attacks, which are common in other parts of the world. The country is safe to live in. On the other hand, property crimes and vandalism have increased in cities, although various technical surveillance systems are employed to create and maintain security. In the countryside, by contrast, 'social control' still functions, and crime is lower. The perceived security of the rural environment attracts people to emigrate to the countryside.

Intermittent influenzas and other epidemics elsewhere in the world also cause feelings of insecurity. These epidemics led to intermittent restrictions on travel from certain areas in the 2020s. No dangerous epidemics have occurred in Finland so far, and for this reason too Finland is a popular tourist destination.

Studying on sponsorships

Because of privatization and the introduction of tuition fees, education is increasingly based on the capabilities and interests of the students. Choice and individualism are paramount. Affordable virtual teaching is available

for the disadvantaged. Scholarships and other sponsorship are important in higher and vocational education.

Appreciation of service-sector training has risen, as has that of tourism and culture training. In higher education, the popular subjects are media and entertainment technology, culture and arts, and certain branches of the administration (e.g. environment administration).

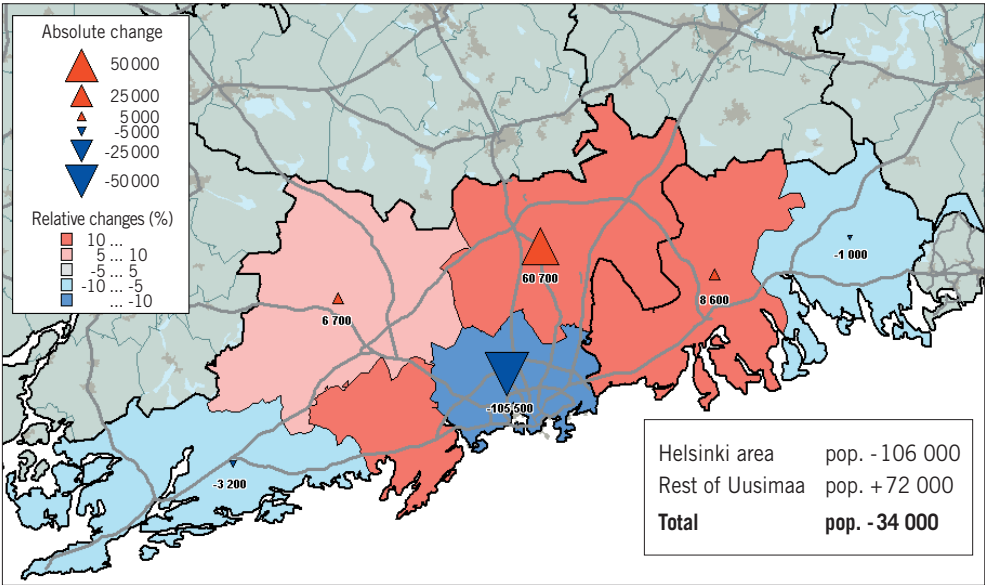
The educational attainment of women is higher than that of men. The majority of academic graduates has been women since the early 2000s, and this is evident in working life, too. Senior management and supervisor positions are almost without exception held by women.

Polluter-pays principle

Global environmental problems have increased, but in Finland the situation has remained fairly good. However, the environments of certain popular tourist attractions have suffered from increased tourism. Finland has nevertheless held on to its environmental values and strives to maintain a positive environmental image. The

public administration systematically applies standards, regulations and fees geared towards environmental protection, as nature is an important source of income for Finland’s tourism industry. Supervision is comprehensive too. The cleanness of waters is a particular focus, as water is important both for tourism and for sales of water. The ‘polluter-pays principle’ has been widely understood in Finnish society, and environment management costs are covered with environmental taxes and charges. Material consumption has decreased, and the focus of consumption has shifted to immaterial commodities.

The state of the environment in Uusimaa is fairly good, although tourism puts a strain on the environment. The most popular tourist attractions are quite worn out in places. Tourism and waterborne traffic burden the coast and the archipelago. On the other hand, considerable investments have been made in the protection of the Baltic Sea after a few near-miss incidents in the 2020s. The public city environment (e.g. roads and derelict office buildings) has fallen partly into disrepair, and no funds for renovation are forthcoming.



Changes in population 2002–2035.

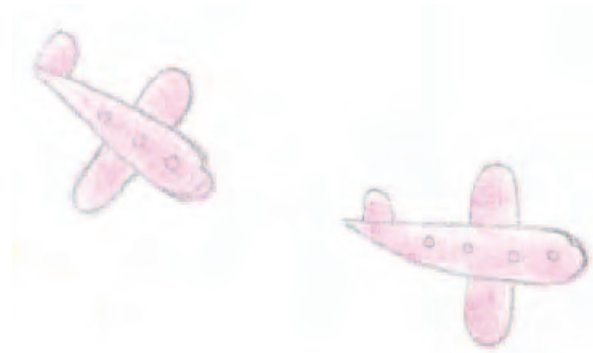
Appreciation of the countryside on the rise

Finland's city population is decreasing. Those who can afford it are moving to nearby municipalities, to the countryside or at least to the fringe of the urban area. Due to a lack of funds and a lack of interest in public affairs, the public environment in cities has become decrepit. Some buildings stand completely empty. There is little new housing construction in cities, although the shift in the population age structure and the decrease in average household size help maintain some production. Increasingly, jobs have been moved out of Helsinki, and the derelict and decaying office buildings and industrial estates push people further from the city centre. It is now more desirable to live outside the Kehä III ring road than in Helsinki itself. Although the prices of homes dropped somewhat in the 2010s, even in the Helsinki metropolitan area, the popularity of building outside continued to grow.

A considerable amount of the new construction is low-rise housing. Owner-occupancy has become less popular in cities due to a range of new types of occupancy. The compatibility of the residential environment and the inhabitant's identity and lifestyle is important, and various ideological or other communities tend to congregate. Tradition-conscious construction and ways of life are favoured in sparsely populated areas, where several heritage villages have been formed.

UUSIMAA

- ★ Population 1.4 million in 2035 (change –35,000)
- ★ Percentage of people over 65 increases from 12% to 26%
- ★ Dependency ratio (number of non-employed divided by number of employed) increases from 1.01 to 1.36
- ★ GDP grows only by about 0.5% per year
- ★ Number of jobs decreases by about 15%
- ★ Number of employed persons remains about the same as the number of jobs decreases. In the areas outside the Helsinki metropolitan area, job self-sufficiency increases, commuting to Helsinki decreases
- ★ Housing stock grows by a factor of almost 1.25



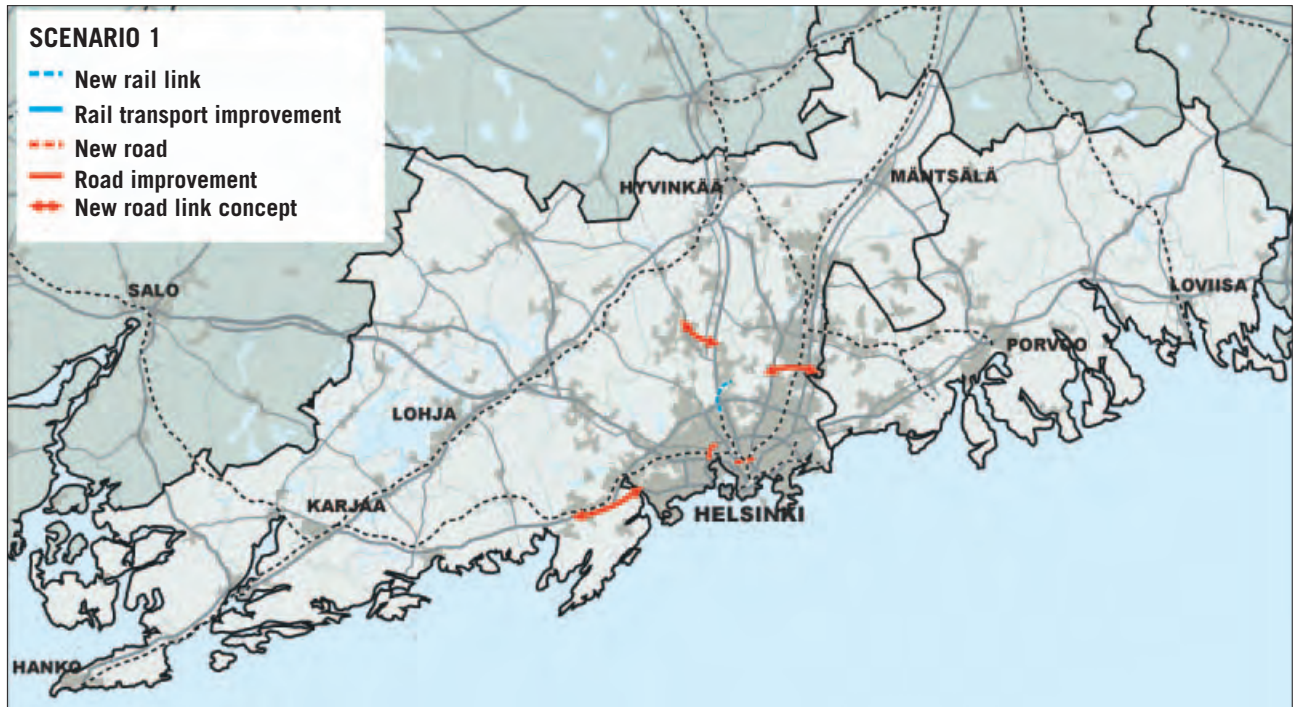
Transport in 2035

Transport policy is characterized by stagnation and a lack of vision. The growth of transport and mobility declined considerably in the early 2010s because of the exodus of companies and increased unemployment. Goods transport volumes began a downward trend as production and population diminished, while the shift of consumer interest from goods to services accelerated the phenomenon. Passenger mileage in Uusimaa is at 2010s levels on average. For many transport connections, tourism constitutes the general demand.

The community structure of the Helsinki metropolitan area has splintered, and the migration trend is away towards smaller centres and sparsely populated areas. This, together with the collapse of public services, has significantly weakened public transport in Uusimaa. The public finance crisis together with the halting of transport growth brought development of the transport network to an almost complete standstill after the year 2010. The scant resources available are allocated to the maintenance of the deteriorating transport infrastructure. Traffic flow and safety have proved problematic on the road network in sparsely populated areas in Uusimaa, as traffic volumes have grown with increased car dependence due to decentralization. The number of fatal traffic accidents in Uusimaa has risen by 20% since 2010. The popularity of non-vehicular traffic, an inexpensive form of daily transport, has increased.

Industry transports are mainly handled by lorries. Development of the rail network halted with the completion of the rapid link to eastern Finland and Russia. The Hanko rail ferry terminal developed into a nexus for transit traffic to Russia, and later to Siberia; the transports mainly consist of general cargo

Scenario 2: Transport network development projects.



and travel by rail. Ferry traffic has increased the importance of Hanko as a passenger port too.

In vehicular traffic, the ecotechnology breakthrough of the 2010s has enabled the continuation of the current kind of car traffic, fuelled mainly by biofuels. The vehicle stock is old, however, and there are numerous vehicles using fossil fuel still on the roads. Change has been promoted by putting heavier taxes on fossil fuels.

With the rise of the economy of Estonia, connections between Finland and Estonia have also become more important.

Shipping and air traffic between Helsinki and Tallinn has continued to intensify. Transports to Russia have grown through leisure tourism instead of business travel. There is a regular passenger ferry service between Helsinki and St. Petersburg.

The high volume of tourism to Finland has helped maintain a feasible supply of air traffic on both international and domestic routes. Clearly more international charter flights than before have destinations in the rest of the country outside Uusimaa. Passenger numbers are at the level they were at the turn of the millennium.



Scenario 3 : Brussels Calls the Shots

Economic development is driven by the USA, but the EU is an almost equal competitor. The two continents have become almost cut off from each other after the waning of the China effect. The EU has turned into a strong and close-knit federation, which has caused changes in power structures and administrative structures in Finland, too. Finland has become a component state of the EU, and the sub-regional level has emerged as the level of local government. Municipalities as we knew them have been consigned to history. In Uusimaa, the population is concentrated in the Helsinki metropolitan area and sub-regional centres.

As the EU has developed into a federation, administration and taxation have been harmonized, and environ-

mental policy and administration in particular are strict. Specialized regional economies strengthen the competitiveness of the EU. A new, strong NI (New Industries) cluster has been created in Finland, and Uusimaa is one of the EU's strong clusters of expertise. How Finns live has changed very little, and that is mainly due to technological development. Housing services in particular have been improved as an approach to solving some of the problems of the ageing population. The number of people living alone has increased, and new forms of neo-communality have emerged. Welfare society services have been cut to some extent, but basic public services are still available, and there is increasing cooperation between the private sector and the third sector.

USA and Europe in competition

The strong economic growth of China and of the whole of Asia which had begun in the early years of the millennium continued until the 2020s. The purchasing power and standard of living of the Chinese rose rapidly but unevenly, in both temporal and regional terms. Inequality increased, and the political leadership was unsuccessful in stamping out corruption. As a consequence, political unrest was more serious than before. The unstable situation made international companies wary. American capital in particular increasingly found its way to South America instead of Asia. What was located in Asia was low-cost production of consumer goods and services, which were easy to abandon as circumstances changed.

The competitive ability of the USA was preserved thanks to scientific, technical and technological development, renewed production and a liberal economic policy. Innovation production concentrated on responding to the demand for a high standard of living. Strong population growth boosted the expansion of the domestic market.

To retain economic and military supremacy, the USA invested heavily in space technology and military technology. The EU considered that the American space programme was pouring economic resources and expertise worldwide into developing high technology that did not directly advance peace, welfare or sustainable development worldwide. Differing views on the

conquest of space, on genetic engineering, food technology and health technology, and on environmental regulations led to strained relations between the EU and the USA in the 2020s and some trade restrictions which had an impact on the entire world economy. The continuing intensive globalization trend continued to exacerbate differences between countries and regions, and trade blocs and political blocs grew stronger.

In Russia, the elite has retained economic and political power. In the 2030s, the population has become even further divided into rich and poor, and a middle class has still not emerged. The population has diminished significantly because of illnesses and poor living conditions. Only the regions of Moscow and St. Petersburg are thriving. The St. Petersburg region evolved into a 'free trade area' in the 2020s.

Strong and stable federation

To secure competitiveness, the Member States of the EU set up a federation in the mid-2020s. The European Federation has its own decision-making bodies and administrative bodies, and its capital is Brussels. The Member States thus turned into component states, which meant among other things the dismantling of the tradition-rich European monarchies. The Euro-scepticism of Britain ultimately culminated in Britain seceding from the EU, but the other Member States gradually came to terms with the situation, because a strong, close-knit union promotes economic stability and security. French was adopted as the official principal language of the Federation, and thus 'compulsory French' is now studied in schools.

The integration development which led to the establishment of the Federation has changed many facets of Finnish society. For example, the special status of the Lutheran Church was abolished, and the national political parties and interest groups are now departments in EU-level organizations. Although the role of national decision-making bodies has shrunk to a minimum, the people's interest in politics has increased

thanks to the transition of the focus of the power and major reforms.

Taxation was brought into line in all EU states in the early 2020s, and all tax revenue goes directly to the EU. Income tax was lowered by focusing on environment taxation. In the 2030s, taxation based on residence is proving problematic because of high mobility and considerable regional income differences. The Federation is about to launch a major tax reform.

No new Member States were admitted to the EU after 2004. The 'new Member States', including Estonia, were obliged to adapt to the common taxation, environmental policy and social policy of the EU. On one hand, this slowed down the economic growth that had got going in the new Member States, but on the other hand it prevented polarization and helped living conditions improve towards the European average. When the new Member States acceded to the EU in 2004, there was some migration from the new Member States to central Europe over the next decade or so. Until the 2010s, there was a considerable influx of Russian and Estonian immigrants to Finland, mainly to the Helsinki metropolitan area.

In 2030, labour moves actively within the Federation from one urban region to another, and internal migration in the Federation is lively. However, the borders of the Federation are all but sealed against outsiders. Immigration policy has been highly selective since the mid-2010s; only health care and other service employees have been admitted. A points system for immigrants was introduced in 2024 with the aim of allowing only educated immigrants with good backgrounds to enter the EU.

European vitality

The regions of the EU strengthened their competitiveness through specialization. The R&D and production functions of various sectors were each concentrated in regions where expertise was highest and best available. The regional concentration trend accelerated through-

out the EU. Large metropolises such as London, Paris, Brussels and Frankfurt, which drove the economic growth, became stronger, but smaller centres of expertise also prospered. The whole of central Europe is a growth region, while many outlying regions have become marginalized. The rise of the new industry bypassed many urban regions which had been thriving at the turn of the millennium. In the Baltic Sea region, the boom involves Helsinki, Stockholm, Copenhagen–Malmö and Tallinn, but in Warsaw, for example, adequate updating of expertise and production structures has not been achieved.

Because traditional industry increasingly relocated to low-cost countries, Finland had to abandon its basic clusters to a considerable extent. Entering the 2010s, the new technologies – bioscience and medicine, micro/nanotechnology and active materials technology – began to come together, and a new, strong NI (New Industries) cluster emerged. However, the NI-driven economic growth has not created as many new jobs as have been and continue to be lost in the traditional sectors. Fortunately, Finland evolved into a host country for the design and manufacture of production and guidance systems and production robots. Industry and business services have become integrated to a great extent in the new sectors. The number of jobs has grown mainly in the services, particularly welfare and leisure services.

Scientific-artistic expertise environment in Helsinki

The administration of the state of Finland was decentralized to the regions and to Brussels. Uusimaa is part of the region of Southern Finland, one of the four regions in the state. Municipalities as we knew them have been consigned to history, and the sub-regional level is now the local government level of the Federation. There are five sub-regions in Uusimaa. With the establishment of the Federation, the Helsinki metropolitan area has lost its significance as an administrative hub. Some former government premises have been taken



over by business, culture and third-sector functions. However, Helsinki remains the capital of the state, and is an important centre of expertise and logistics even in a union-wide context.

Over the decades, Finland's population has concentrated mainly in the five largest urban regions, which host active and productive R&D functions. The population of the Helsinki metropolitan area has grown mainly due to internal migration, driven by employment developments and changes in the way of life. The China effect did not have as dramatic an effect on Helsinki as it did on the rest of Uusimaa, and there was strong growth in the NI sector. Other sub-regions in Uusimaa struggled to help their companies survive and to retain their services, until the positive economic and employment impact of the development of the NI cluster and robotics finally began to extend beyond the Helsinki metropolitan area in the late 2010s, particularly to the sub-regional centres in Uusimaa. An NI cluster estate with skyscrapers was built in Helsinki in the 2020s.

The Helsinki metropolitan area is one of the strongest clusters of expertise in the EU. Student capacity in higher education, particularly in fields related to the NI sector, was increased in Finland in the 2010s. At the same time, training in traditional industrial sectors was cut, and teaching was revised. Investments were also made in training in the business service, welfare, health care and security sectors.

In research and in university education, the reform of disciplines manifested itself in the 2010s first as increased multi-disciplinary and cross-disciplinary approaches and then as the emergence of ‘new sciences’. Ultimately, all the universities and research institutions in the sub-region came to constitute the Helsinki expertise environment, which also includes R&D units of large companies, innovative, small high-tech companies, and actors in the cultural and entertainment sectors. The expertise environment has its own coordinating administrative body and close connections with the federal university network.

Championing the environment

Belief in the ability of environmental technology to solve environmental problems is strong everywhere in the world, and not much is done to actually help the environment. Only the EU enforces a strict environmental policy and administration through a variety of directives and restrictions. The EU adopted a guidance system based on emissions trading in the early 2000s and enacted extensive ecological tax reform in the early 2020s to shift the focus of taxation from income tax to environmental taxation. Also, an ‘ideological environment tax’ was introduced, meaning corporate investment in environmental R&D. These reforms have accelerated technological progress, and new ecological innovations are being marketed all the time. Materials recycling and reuse has also become a normal part of the production process. On the other hand, paradoxically, EU environmental policy has had a negative impact on Finland for example in the revoking of public rights of access.

Most Finns consider environmental matters important but are not prepared to change their way of life in practice. The majority of the population continues to consume materials and energy much as before, although the percentage of immaterial consumption, or amaterialization, is constantly increasing. However, living habits and consumer habits have become more environmentally friendly over the decades due to the strict environmental policy and restrictions of the EU, and the eco-efficiency of consumption, or immaterialization, has increased.

Winds of change in services

In the 2010s, it became necessary to dismantle and prioritize welfare society services. Some of the basic public services of the former municipalities were privatized. Basic education, care for the elderly, land use planning and infrastructure maintenance were transferred to the new sub-regional government. A federal welfare programme that largely replaced national systems was introduced in the 2020s. This programme includes, for example, the ‘Homes for the homeless’ programme. Private-sector and third-sector actors participate in programmes through an application procedure and competition.

Services are provided in virtual form and through multi-service buses, particularly in the countryside. By and large, only urban regions have comprehensive schools in the 2030s. The few schoolchildren who live in sparsely populated areas can study at home using virtual reality technology. The wide range of virtual-teaching courses is aimed at schoolchildren and other citizens in all EU states.

Aged but alert and wealthy EU citizens

The supremacy of Anglo-American culture has strengthened all over the world except in the EU, where European culture is promoted and a common European identity is methodically being built. The EU citizen’s way of life is characterized by mobility, multiculturalism, individuality, responsibility for oneself and an environ-

mentally-friendly attitude. This has kindled new forms of neo-communality to combat loneliness and exclusion and to expound various ideologies. The abundant leisure time available is used for travel, shopping and an ever wider range of hobbies. Health care, beauty care, culture and entertainment services are flourishing.

The labour force of the 2030s can be divided into three categories: top experts, service professionals and investors. Whereas the top experts and service professionals get by on their earned incomes, most investors (the 'idle rich') live on income from copyright, robot ownership and investments and maintain a high demand for services. Because of increases in work productivity and efficiency, and to avoid employee stress and burn-out, major flexibility in working life became possible in the 2020s.

The number of people living alone has increased significantly as a consequence of the ageing of the population and changes in the way of life, and increased diversity in forms of family. Community homes are a popular form of housing. New technology-assisted devices and materials make everyday life easier, particularly for senior citizens. Most homes were fitted with a technology-assisted information system covering nearly all home functions in the 2020s. Diverse home help services and housing services are also available to residents. The 'lifecycle homes', the building of which began in the 2010s, adapt with relative ease to changes in life situations.

In European fashion, city living is highly valued in Uusimaa. One's residential environment reflects one's social and economic status. The luxury apartments of the wealthiest are located in city centres and on the sea shore in western and eastern Uusimaa. For the middle class, a 'good address' usually means an old townhouse or a traditional residential area. The lowest-income inhabitants have to make do with affordable new construction or derelict concrete suburbs.

In the 2030s, an increasing number of families or persons living alone have a second home in the countryside or in another European city, and they spend more and

more time at their second homes. Since the deregulation of shoreline construction, new elite residential areas have sprung up on the shores of Uusimaa and the lake district of Finland. Variety is sought through time-shares and rented accommodation. An increasing number of pensioners have moved to the south of Europe.

Secure Europe?

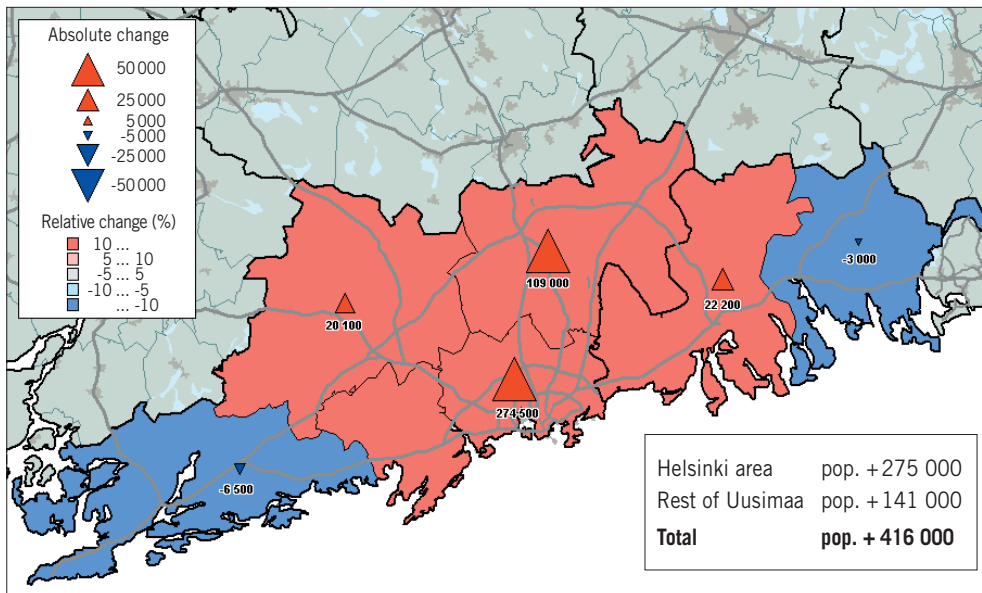
With the development of technology and of medicine, many illnesses have been beaten, but on the other hand many new and hitherto untreatable illnesses have been found. Widespread epidemics also appear from time to time. Drug and intoxicant abuse has gradually been brought under control in the EU, but virtual reality is emerging as a new addiction, causing mental health problems and exclusion for some.

On the whole, however, Finland and Europe are safe to live in. The common administration and legislation of the Federation tend to increase the feeling of security within its area. However, the isolation of the Western countries and unrest in Asia fuel constant fears of terrorist attacks and of biological and nuclear weapons in the EU.

UUSIMAA

- ★ Population 1.8 million in 2035 (change +415,000)
- ★ Percentage of people over 65 increases from 12% to 21%
- ★ Dependency ration (number of non-employed divided by number of employed) increases from 1.01 to 1.08
- ★ GDP grows by about 2.5% to 3% per year
- ★ Number of jobs increases by more than 40%
- ★ Number of persons employed increases only by a little more than half of the number of new jobs; correspondingly, commuting and telecommuting in various forms increase. The job self-sufficiency of Uusimaa increases considerably
- ★ Housing stock increases by a factor of nearly 1.7

Changes in population 2002–2035.



Transport in 2035

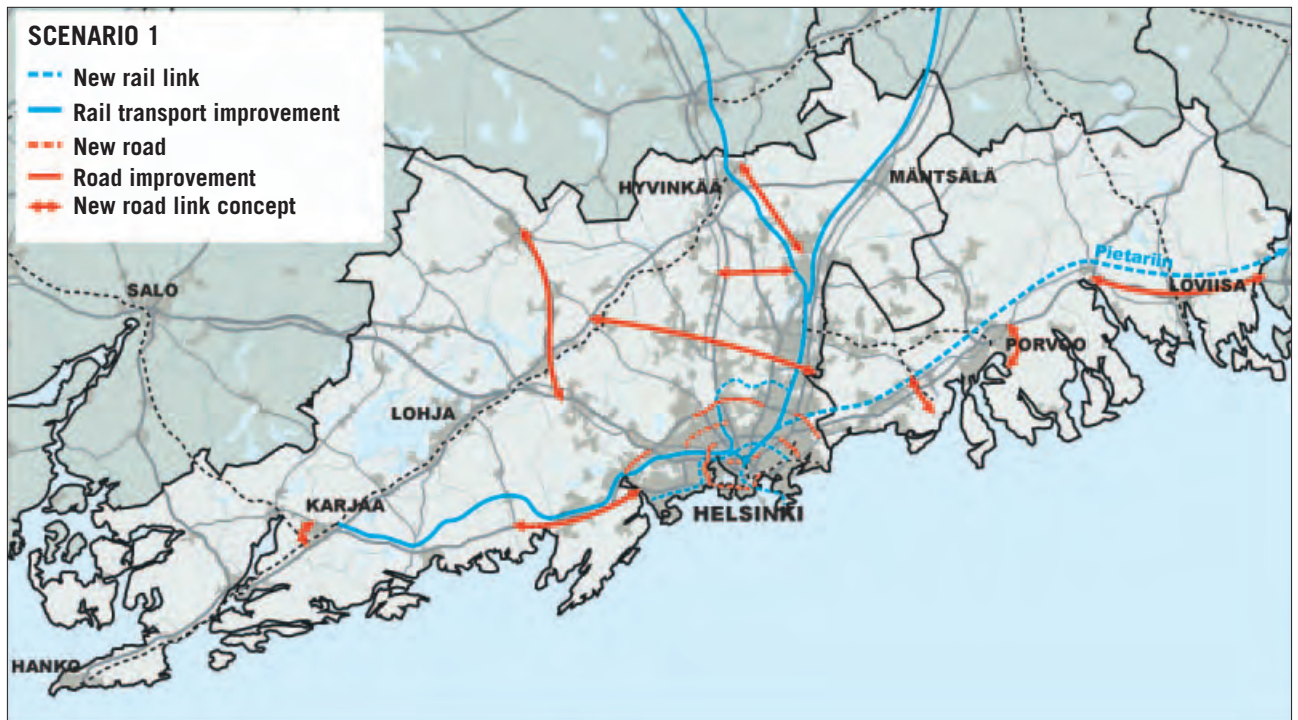
Transport policy is characterized by EU-imposed regulations on the one hand and populism on the other. Community structure in Uusimaa has concentrated heavily in the Helsinki metropolitan area, and traffic has become more urban. Mobility tends to focus on movement within large centres and on major development corridors. Mobility is characterized by an aim for high quality, and has become a lifestyle component. The percentage of personal business trips and leisure trips has increased. Many people have two homes, one in the country and the other in the city. This has increased traffic between cities and countryside.

Vehicles are a major status symbol and, with new technology, the status of public transport has also risen among certain groups in the population. Emphasis on individualism has popularized private cars. Hydrogen has been the main energy source for cars since the early 2030s. The EU has subsidized the construction of a hydrogen fuel distribution network, one of the largest EU investments in the 2020s.

The pursuit of individualism, love of comfort and fear of terrorism erode the growth of the percentage of public transport usage in all traffic. However, in the core parts of the Helsinki metropolitan area and along rail corridors, public transport has

gained ground as the population has grown and supply has improved, and also as a result of congestion charges on roads. In other areas, public transport has not become popular despite population growth. Typically, public transport is used for commuting and for personal business trips to city centres.

The European Federation is a powerful actor in the transport sector, too. All major transport links to central Europe important for Finland were completed by the mid-2020s, such as the Baltic link and the Nordic triangle link. Shipping in the Baltic Sea has also been enhanced through improvements to harbours and land connections. The Helsinki metropolitan area is one of the EU's clusters of expertise, and its location close to the emerging St. Petersburg economic area and the Tallinn economic area has given rise to strong demand for international air traffic to Europe. Political instability persisted in Russia but the markets were lucrative, so many international companies aiming for St. Petersburg set up in Finland and in Uusimaa, which further increased the demand for air traffic. The passenger flow at Helsinki-Vantaa airport has tripled since the turn of the millennium, and a second terminal was inaugurated in 2030. International air traffic connections link major centres, while domestic flights and surface transport provide efficient



Scenario 3: Transport network development projects.

feeder traffic. There are fewer commercial air traffic routes in Finland than earlier, but more flights.

Passenger transport between Helsinki and St. Petersburg has increased strongly, as has goods transport except for transit traffic, which withered when Russia implemented harbour projects of its own in the 2010s. A rapid rail link between Helsinki and St. Petersburg was opened in 2033. There is lively shipping and air traffic between Helsinki and Tallinn, but both cities have suffered from the orientation of their respective economic areas towards St. Petersburg.

The import and export of general cargo in southern Finland are concentrated in the great harbour of Helsinki, an extension to which was completed in 2034. The percentage of rail transport to and from the harbour has increased substantially. Most of the transport within Uusimaa is handled by lorries, whose

delivery chain has been enhanced with investments in telematics and terminal automatics. The port of Hanko specializes in water tanker traffic.

The trunk road connections between the five major urban regions are of high quality, but the secondary roads in rural areas are in disrepair. The rail network has been very little improved since the completion of the bypass line to Lahti, apart from the rapid rail link to St. Petersburg. Changes in transport habits, strengthening air traffic and changes in the regional structure have led to a substantial drop in passenger numbers on domestic rail services, apart from the connections between Helsinki and Tampere, and Helsinki and Turku. Commuter traffic in the Helsinki metropolitan area has been increased on all rail lines. The rapid rail link between Helsinki and St. Petersburg has also enabled commuter traffic between Helsinki and Porvoo.



Scenario 4 : To The Max

Technological innovations fundamentally change the way companies work and the way people conduct their everyday lives. Economic values and individuality guide personal behaviour. The focus of the world economy shifts to Europe, and the role of the EU is above all to promote free competition and technological development. Uusimaa is a significant cluster of expertise in Northern Europe, attracting employees from all around the world.

Differences in personal welfare are considerable, and crime is the major anti-social factor. Emphasis on individuality translates in everyday life into people taking active measures to improve their own personal welfare. Entrepreneurship, having one's own business, is a common way of life. Technology development is market-driven and almost uncontrolled; this has led to unexpected results, both positive and negative.

USA sidetracked

In 2035, the EU is the world's leading economic zone in terms of both production volume and growth rate. Europe began to rise in the world economy after 2010, when the economy of the USA underwent a rapid collapse. This led to a worldwide recession, from which the EU recovered after only a brief downturn.

The main reason for the decrease in the influence of the USA was that the USA ran deep into debt, which caused a run on the dollar and a general lack of trust. Fraught with economic perils and having lost its international credibility, the USA focused on resolving its internal problems. After the recession of 2010, a conservative attitude arose in American politics and,

as a result, controls were increased and borders closed. The war on terrorism turned into a pillbox defence, since the proactive 'pre-emptive' military approach had proved a failure. Increasing unemployment and crime, and the growing intolerance of the American middle class, led to expert labour emigrating to Europe in large numbers.

Asian economic engine in trouble

Development in Asia was rapid at the beginning of the millennium, and international capital flowed to South-east Asia in particular, Western companies relocating their production there up until the mid-2010s. Rapid

economic growth turned unstable in several regions in Asia due to political and social problems such as huge differences in income. The democratization process, which had got off to a good start at the turn of the millennium, ground to a halt. Several abortive attempts to reform the administration were made in China, and this led to the emergence of a pseudo-Communist military dictatorship. Frantic industrialization also led to colossal environmental problems in places. In addition to internal problems, conflicts between countries that had been going on for decades (India and Pakistan, China and Taiwan, the Koreas) occasionally erupted into military action. With all this, South America and parts of Africa began to look like more attractive destinations for investments.

Russia falling behind

Development in Russia has been slow and unstable. Internal conflicts have hampered progress, and citizens have very little confidence in the administration. The regions of Russia have developed at different rates, and the unwillingness of central government to promote regional government fomented violence and terrorism. Great differences in income and crime prompted emigration to Europe and to Finland. In the early 2020s, the continuing political confusion in Russia led to the St. Petersburg region (Karelia) declaring itself an autonomous region and orienting itself firmly towards Europe.

The EU accelerates

The EU enlarged phase by phase. In 2015, the former Yugoslav republics, Turkey and Bulgaria became Member States, followed in 2020 by Belarus and Ukraine. Norway and Switzerland, having each held a referendum, decided to join the Union. The new Member States were quickly brought up to EMU criteria through special support programmes, and the euro was introduced as the common currency throughout the EU. The European Stock Exchange, founded in 2012, is

the world's leading financial centre. International companies relocated their head offices across the Atlantic to Europe.

Around 2020, the detailed directive policy was abandoned. Creating a favourable business environment and improving competitiveness emerged as the Union's core function. Member States being in different stages of economic and technological development proved to be a source of dynamic energy. The necessity to reform the economy and the administration led to a virtuous circle where new innovations replaced obsolescent services, products and structures.

The Union has a strong administration in economy and competitiveness policy, infrastructure development and security. The focus of power is in the Commission, where Member States no longer have a seat quota. Members of Parliament are selected in national elections, but Parliament is weak. As the Member States still have their own administrative systems, decision-making in the EU is quite confusing, which serves to dilute citizens' interest in politics.

The metropolises carry the most weight in the EU, as they are clusters of expertise in technological development and in the financial world, and it is upon them that the status of the EU as the world's leading economic zone rests. London, Paris and Brussels are top-level centres, but smaller metropolises such as Helsinki and Stockholm, leading high-technology clusters of expertise, are not far behind.

New technology broadens the world

With the development of the Internet, the ICT revolution has continued at an accelerating pace. There is now IT intelligence in clothing, household appliances, structures, vehicles, and so on. These devices and systems communicate with one another, exchanging information on the condition of structures, the environment, etc.

When the information security problems of the Internet were solved, more and more administration

services, health services, logistics services, entertainment services and cultural services went online. In 2035, nearly a third of the turnover in perishables is created online. Speech recognition opened new opportunities, and the semantic web was introduced after 2012. VirtualNet has become the most important technological application. Its essential properties are understanding human needs and creating a three-dimensional visual environment. Its dissemination is hindered by its high cost. Everyday life proceeds on two levels in 2035: the physical real world and the artificial virtual reality. Homes are largely automated, and new materials technology is in place. As the technology is being renewed at a rapid rate and thus requires investment, many households have been caught in an 'arms race'.

Technology has yielded wholly new commercially successful products in medicine, for instance. Technologies that were considered unethical in the early years of the millennium, such as gene technology and cloning, are now in common use for instance in reproduction. Organs and limbs are being produced artificially. The disadvantages of gene technology were identified and brought under control in the late 2020s. Cybernetic applications and implants are still expensive in 2035, and not nearly everyone can afford them; quite the contrary, self-improvement with technical appendages is largely the province of an affluent subculture.

Finland on the swings and roundabouts

The recession which devastated the world economy around 2010 affected Finland strongly, too, and unemployment rose to nearly 20% momentarily. The pillars of the Finnish economy – the forest industry and ICT clusters – had already undergone significant structural reforms before the recession and, thanks to them, the effects of the recession were short-lived.

After the recession, rapid and drastic cyclic fluctuations became a permanent feature on the economic scene. They can be traced back to rapid technological

development and its success stories. New technologies and innovations spur rapid bursts of growth that fade just as quickly as they appear. The instability in Asia also causes intermittent downturns in the global economy, and these are reflected in Finland, too.

In the 2030s, the Finnish economy is diversified in structure. The venture capital market is efficient, and Finnish business is an attractive investment for international capital. Investing on the stock market is an everyday pursuit and an essential part of income formation and property management.

The major large electronics companies in Finland merged into a giant corporation, which kept its head office in Finland and gradually shifted the emphasis of its R&D from personal communication devices to communications electronics embedded in other technology. Successful products in the forest industry cluster include smart papers and packaging materials. In 2035, gene technology is beginning to have a commercially significant impact on wood production.

As industrial production has largely disappeared, the economy and Uusimaa are largely carried by creative work. The new businesses are mainly involved in developing the artificial intelligence required by the VirtualNet environment and in producing various information and entertainment services. Due to the increasingly common use of gene technology, there are now pioneering businesses in this field in Uusimaa too.

End of the road for the welfare state

A structural change in social decision-making occurred in Finland in the early 2010s, as the duties of central government were defined as ensuring the security of citizens and safeguarding basic welfare. Taxation was cut to a minimum, and the public sector was left with the management of infrastructure, security, coordination of citizens' welfare matters and competition policy.

Finnish politics went through a comprehensive upheaval in the early 2010s as a result of the crumbling of the traditional tripartite system. The division into

reformists and traditionalists roughly followed the division between generations; the core of the reformists consisted of people under 40, i.e. born after 1990.

Finland became the first country in the world to abandon the traditional paper polling slips in elections. The xDemocracy project was implemented in 2008; its major reforms involved cutting Parliament to a quarter of its former size and organizing direct voting online.

There are about 200 municipalities of varying sizes in Finland. The Helsinki metropolitan area has become an 'independent' sub-region as a counterbalance to the regions. Local authorities are largely independent in managing their duties, and their financial situation varies greatly depending on their location and the general economic situation. Municipal finances have been looking good in recent decades, as service provision has been drastically cut and costs have thus been reduced. Buffer funds proved successful in evening out the impact of cyclic fluctuations on the municipal economy.

Borderless Europe

Employment relationships are now typically individual, short-term and fragmented in content. Entrepreneurship and selling of freelance work and competence has become common, as has the use of hired labour. Thanks to VirtualNet, the market area is the whole world. Labour mobility is high, and economic upswings generate heavy immigration. European metropolises compete for expert labour, which is very mobile within Europe and an influx of which comes from Asia and the USA. The Helsinki metropolitan region has done well in this competition. A tolerant atmosphere and a lively cultural life combined with spacious and relatively affordable housing are attraction factors.

The labour market has become sharply polarized, and income differences are huge. Immigrants with low educational attainment typically work in support functions of the creative class, various services and routine jobs. The opening of borders enables immigrants to

arrive from south of the Mediterranean and across the eastern border of the EU.

Rat race of expertise

Education has shifted from a degree-oriented approach to continuous self-development. All children move after a uniform early education stage to a virtual school, where each pupil progresses according to his or her individual abilities. The business world supports special talent with considerable scholarships. Adults are responsible for their own self-development. Expertise needs to be demonstrated in working life through work samples, publications and other documented achievements. Personnel training is rarely provided by companies.

Business class, first class, tourist class, third class

The affluent part of the population earns its income by selling its expertise, by owning companies and shares, and by owning software licences and patents. They are accustomed to taking out illness and unemployment insurance. Income formation among senior citizens is sharply polarized. Some work even in their old age in order to earn a decent living. Retirement is flexible, and it is not unusual for people to work beyond the age of 70. Private pension insurance arrangements have made it possible for the high-income part of the population to combine work flexibly with leisure.

People working in low-pay sectors find extra income in work bordering on the black economy, and criminal activities are by no means rare. A large number of people fall below the poverty line. In cyclical downturns, unemployment hits immigrants in low-pay jobs the hardest. Many immigrants run their own businesses, however.

Social security has shifted from comprehensive support to helping the worst-off. Private charity is common. The reform of the social system was motivated in part by heavy immigration and the resulting difficulties in defining who is entitled to social security and public services. With the discontinuation of EU



regional and social policy, inequality between regions has increased.

Virtual world is short of exercise

The active lifespan, as indeed life expectancy in general, lengthened with new forms of medical care and new drugs. However, pathogens continue to evolve at a rapid pace in 2035, and the struggle to combat them is never-ending. Dangerous epidemics go hand in hand with the mobility of the population. A general deterioration of people's physical condition, which increased with alacrity with the introduction of VirtualNet, is a widespread health problem. Mental problems are common and varied in origin: the strong experiences of the virtual world, differing utterly from the real world, have a detrimental effect on the mental health of young people in particular; the use of new synthetic narcotics causes mental problems; the demands of working life are too severe; and the prevalent individualism-driven way of life does not lend itself to social safety nets. As public health care has been unequivocally defined as a complement to private health care services, the use of health care services is largely income-dependent.

Crime follows the times

In 2035, crime accounts for over one third of the GDP of the world, according to many estimates. The most important forms of crime are corruption, information theft, production and sale of synthetic narcotics, illegal production and sale of implants, and prostitution. International terrorism rears its head every now and again, but there has been no wave of terrorist attacks com-

parable to the early 2000s since the role of the USA as 'world cop' has diminished. Europe and Finland have remained outside international conflicts.

With new technology, surveillance has intensified; for example, chip implants are used in personal locating. Security is usually managed by private security services. Gated communities are becoming increasingly common, and private guard services are employed especially in new elite residential areas in the Uusimaa countryside.

The environment is taking a beating

The concept of domicile is becoming blurred because of people's mobility, and this is reflected in a shortage of long-term interest in the environment. Few are interested in nature conservation. This general indifference has undermined both national and EU-level environmental policy.

Global warming is heavy, and its consequences manifest themselves in many ways. For instance, the mean temperature in Uusimaa has risen by two degrees by 2035, and rainfall has increased by about five per cent. The growing period has lengthened, and the flora increasingly resembles that of central Europe. Extreme weather conditions are commonplace, and there are storms and floods every year. The Baltic Sea is in an advanced state of eutrophication, and it is getting worse all the time.

The amaterialization of the economy is being highlighted. Consumption of goods is relatively low compared with other consumption. With the reduction in industrial production, emissions and pollutants generated in Uusimaa have decreased. A sharp rise in the price of crude oil led to the abandoning of fossil fuels, which were replaced with hydrogen technology.

Appreciation of individuality and faith in technology

Faith in technology is a prime guide in all progress. Technology is allowed to develop freely so as not to shackle it. There is a widespread belief that scientific progress is good for humanity, even though the disadvantages of technology are apparent to all. Information inequality has become a major social issue.

The foremost social value is individuality, fuelled mainly by working life, where independence and entrepreneurship predominate. Individuality also involves privacy, and people are reluctant to submit to social controls. Increased mobility and appreciation of individuality have eroded the importance of family and relatives. Social networks revolve around work and hobbies. Communalities have evolved in new forms: virtual communities and a certain amount of grass-roots civic activity.

In addition to tolerance and the acceptance of differences, intolerance has also emerged in many quarters. Whereas in the early years of the 2000s intolerance was associated with race and minority, in 2035 it manifests itself between social classes. There is an ideological conflict between the 'reformists' and the 'traditionalists'.

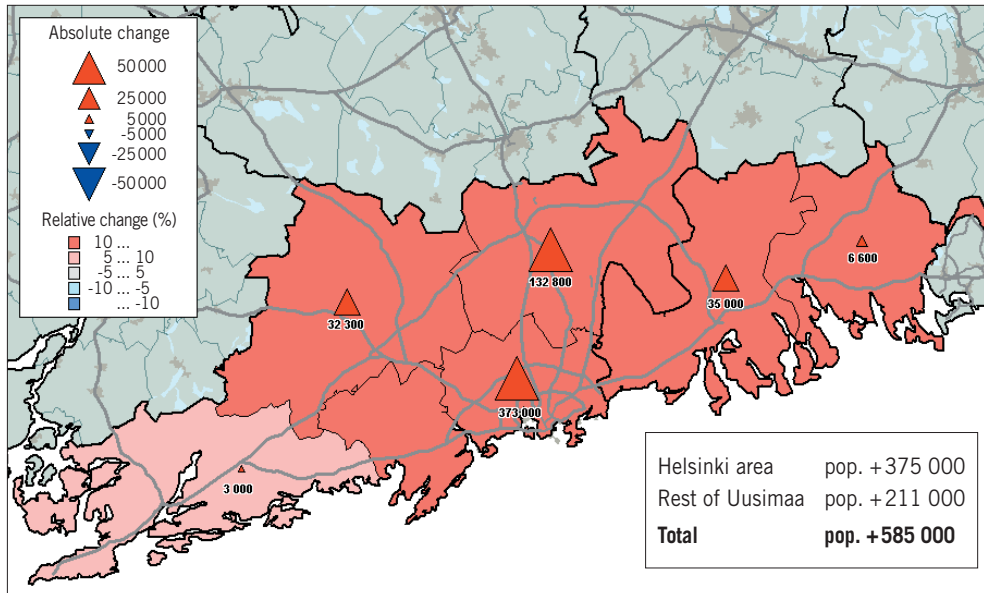
The dismantling of the welfare state was largely led by the reformists, but the strong faith, dating back to the 20th century, in the excellence of central government and the public sector persisted for a long time in the collective memory.

UUSIMAA

- ★ Population 2.0 million in 2035 (change +580,000)
- ★ Percentage of people over 65 increases from 12% to 19%
- ★ Dependency ratio (number of non-employed divided by number of employed) increases from 1.01 to 1.10
- ★ GDP increases, in cycles, by about 2% to 6% per year
- ★ Number of jobs increases by about 60%
- ★ Number of persons employed increases only by a little more than half of the number of new jobs; correspondingly, commuting and telecommuting in various forms increase. The job self-sufficiency of Uusimaa increases considerably
- ★ Housing stock increases by a factor of nearly 1.8



Changes in population 2002–2035.



Transport in 2035

Transport policy is essentially market-driven and focuses on the development of new forms of transport. The public sector coordinates transport but does not participate in maintenance and does not subsidize transport in any significant way. The community structure in the Helsinki metropolitan area is heavily concentrated and expanding in all directions. The changing nature of work is increasing demand for both housing and office space at transport nodes.

The growth of transport and of mobility in Uusimaa is considerable. New technology is shaping how people move about and the transport system. The division between private cars and public transport is becoming blurred. Commuting has been partly replaced by business trips as project work becomes more common.

Fossil fuels were abandoned in vehicular traffic in the late 2020s following a sharp rising trend in crude oil prices from the mid-2010s due to dwindling resources. The hydrogen distribution network was completed as a joint project by private energy companies. The vehicle stock was largely replaced over the

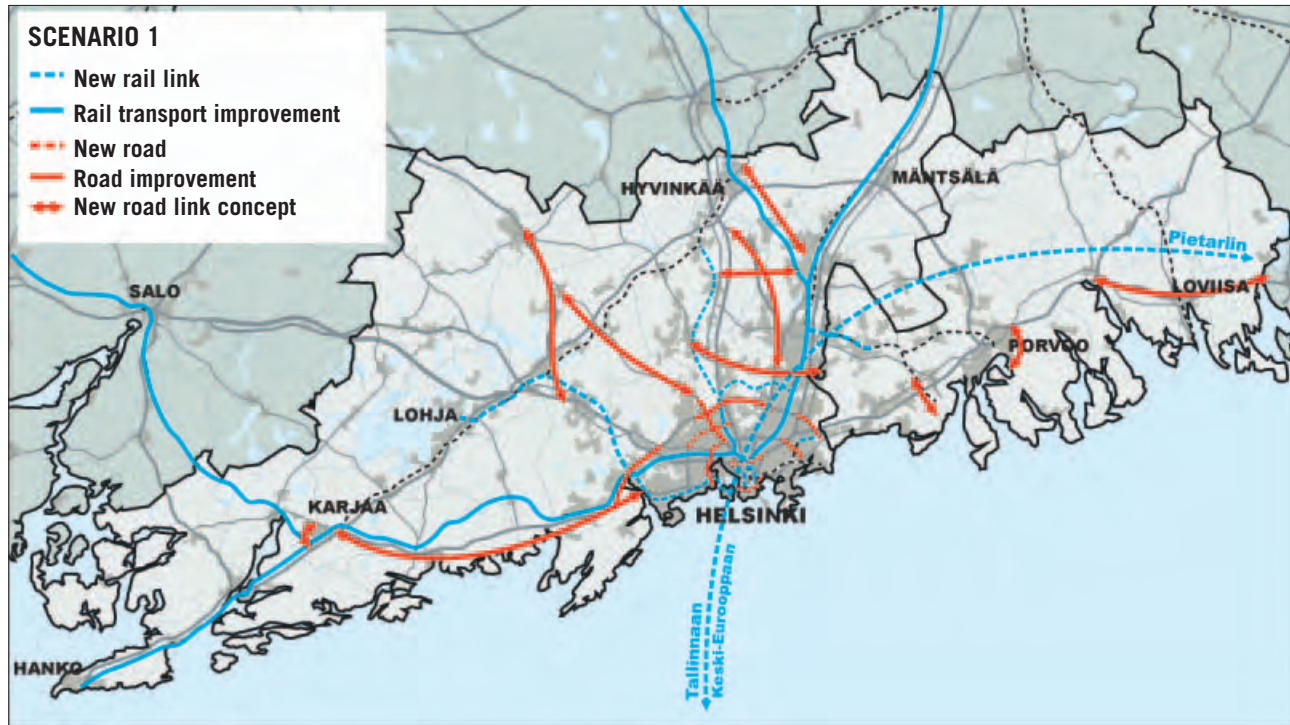
decade 2020-2030. Most of the mileage in private car traffic involves leisure trips.

The flying car has just been introduced on the market, and despite uncertainty factors it is expected to revolutionize transport over the coming decades. For the moment, however, there are serious unsolved problems in traffic management and safety.

A high-speed rail network working on the Rendezvous principle has been built in Europe and is still being expanded. In this system, trains run past cities without stopping, and feeder traffic is managed with separate connecting trains that take passengers directly into city centres. The rapid rail link from central Europe to St. Petersburg passes through Helsinki and Tallinn. These high-speed trains travel at almost 300 km/h.

Most European goods transports are handled through shipping or conventional rail transports. Air traffic within Europe has lost market share to high-speed trains. Dependence on oil-based fuels is a significant factor weakening the competitiveness of airlines; fuel prices are now three times higher than

Scenario 4: Transport network development project.



they were at the turn of the millennium. On trips of over 2,000 km, however, air transport is still the market leader.

There is a rail ferry link from Turku to Stockholm. Coastal and inland waterway traffic serves as feeder traffic to the trunk route, replacing some road transports. The new harbour in Helsinki handles all general cargo transports. Coal and oil transports have decreased substantially. Passenger shipping consists mainly of leisure cruises with entertainment. St. Petersburg and Tallinn are the most frequent destinations.

Delivery traffic is handled with medium-sized transport equipment mainly in the evening and at night, but some of the goods traffic of the major shopping centres is still handled with lorries. The perishables trade has gone online to a great extent, and companies providing call shuttle services use their equipment for delivery traffic at quiet times.

The main roads are automatically controlled, so that the capacity of trunk roads has increased by a factor of 2 to 3. Only vehicles meeting the required standards may drive on these toll roads. Joining and leaving the system are automatic functions.

No driver is needed. Road traffic consists of private cars, taxis and public transport shuttles making use of the automatically controlled roads on long-distance routes. The rest of the road network is in its earlier state and can be driven on with conventional vehicles. The ordinary road network still extends to all places.

In rail transport, the emphasis is on high-speed passenger transport and heavy goods transport. The long-distance rolling stock consists exclusively of high-speed trains and goods trains; the latter are restricted to night running on the busiest lines. Trains are run by several private companies. Most of the rail network allows speeds of over 200 km/h. There are more and quicker commuter trains than in the past. Because of higher speeds, stations are farther apart, about 10 km. Commuter trains travel at about 160 km/h.

Vehicle technology has reshaped traffic in cities. Most personal transports are handled by call shuttles, a hybrid between taxis and demand-based buses. The supply is so efficient that a pickup at any location can be arranged within 5 minutes. The shuttles, which are smaller than conventional buses, can also

pick up passengers en route. The shuttles are run by several private companies, with no significant subsidies from the public administration.

Heavy rail traffic along with the call shuttle services constitute the bulk of public transport. Trams have been discontinued. Call shuttles have largely replaced traditional bus routes apart from heavily trafficked trunk routes and also a major portion of private car traffic in cities. The demand for parking places has distinctly decreased.

The major arteries in cities are automatically controlled, and they thus have a capacity 2 to 3 times greater than that of a conventional road. These automatically controlled roads are toll roads. The road network in the Helsinki metropolitan area has been developed as far as possible, aiming to eliminate traffic jams caused by increased volumes through providing increased capacity on existing roads and through building new roads. Nearly all road reservations in town plans at the turn of the millennium have been built.



Future table for Uusimaa.

	SCENARIO 1 Future Lite	SCENARIO 2 Bridge Over Troubled Water
UUSIMAA		
REGIONAL ECONOMY AND MUNICIPAL ECONOMY	<ul style="list-style-type: none"> municipal economy weak in the early 2010s and after the recession of the early 2020s large real estate tax yield because of good tax base 	<ul style="list-style-type: none"> Uusimaa has weaker economic development than the rest of the country scant tax revenues fee-paid services
ADMINISTRATION	<ul style="list-style-type: none"> number of municipalities halved, creation of Greater Helsinki city district administration in Helsinki huge support for populist party 	<ul style="list-style-type: none"> national administration concentrated in capital forced municipal mergers, only 6 municipalities in Uusimaa popular movements
BUSINESS	<ul style="list-style-type: none"> number of jobs up by 10% by 2035 health care and social services enterprises biotechnology, micro/nanotechnology are significant businesses in keeping with general trends environmental technology and welfare technology 	<ul style="list-style-type: none"> number of jobs down by 15% by 2035 unemployment culture, entertainment and media industry in the Helsinki metropolitan area tourism is a major business in the rest of Uusimaa
POPULATION, MIGRATION	<ul style="list-style-type: none"> 1.6 million inhabitants in 2035, up 14% steady internal population development almost no net migration in the 2020s and 2030s values of old people and young people conflict in Helsinki 	<ul style="list-style-type: none"> 1.4 million inhabitants in 2035, down 2.5% Helsinki metropolitan area has negative migration population growth elsewhere in Uusimaa
HOUSING	<ul style="list-style-type: none"> housing stock increased by a factor of 1.5 by 2035 new production consists of small apartment buildings and detached houses high-density low-rise construction 	<ul style="list-style-type: none"> housing stock increased by a factor of 1.25 by 2035 increased appreciation of areas outside Helsinki inequality of residential areas, 'tribalization' old blocks of flats stand empty
TRANSPORT	<ul style="list-style-type: none"> slow traffic growth transport policy emphasizing public transport and non-vehicular traffic moderate infrastructure investments road traffic is controlled through traffic management and transport management 	<ul style="list-style-type: none"> traffic increases only by a little in Uusimaa and decreases in the metropolitan area lack of a transport policy and of public funding led to increased dependence on private cars transport investments fallen from the 1990s level, scant resources for maintenance fading public transport increased the importance of cycling
REGIONAL STRUCTURE AND COMMUNITY STRUCTURE	<ul style="list-style-type: none"> efficient land use, denser community structure no greenfield areas used for construction since 2015 	<ul style="list-style-type: none"> status of the Helsinki metropolitan area weakened construction mainly outside the Helsinki metropolitan area, a vibrant countryside partial deterioration of infrastructure
ENVIRONMENT	<ul style="list-style-type: none"> strong environmental consciousness and citizens' participation; environment is in a fairly good state as a result 	<ul style="list-style-type: none"> littering, wearing out of the environment public environment partly in bad condition water pollution control is central
COMPETENCE, EDUCATION AND CULTURE	<ul style="list-style-type: none"> polytechnics are a major education level broad supplementary education, part of the official system beer culture and wine culture flourish 	<ul style="list-style-type: none"> declining competence weakens competitiveness culture is a major attraction factor

	SCENARIO 3 Brussels Calls the Shots	SCENARIO 4 To The Max
	<ul style="list-style-type: none"> • strong economy in the Helsinki metropolitan area (NI cluster) • positive effects on the rest of Uusimaa • sub-regional tax instead of local tax 	<ul style="list-style-type: none"> • rapid but variable economic growth • reduced responsibilities, sufficient resources even amid economic fluctuations (buffer funds)
	<ul style="list-style-type: none"> • Helsinki is a strong state centre • strong sub-regional administrative centres 	<ul style="list-style-type: none"> • public administration plays minor role, mergers of municipalities • direct participation (online voting) • local initiative has great importance
	<ul style="list-style-type: none"> • number of jobs up by 40% by 2035 • Helsinki metropolitan area is an internationally important expertise environment • NI cluster in Helsinki, robotics and small enterprises elsewhere in Uusimaa 	<ul style="list-style-type: none"> • number of jobs up by 60% by 2035 • focus on technology • centres of excellence in R&D • entrepreneurship is highly important • culture and entertainment
	<ul style="list-style-type: none"> • 1.8 million inhabitants in 2035, up 29% • population concentrated in the Helsinki metropolitan area and sub-regional centres • migration of skilled labour between growth centres of the EU 	<ul style="list-style-type: none"> • 2.0 million inhabitants in 2035, up 41% • population growth everywhere in Uusimaa • half of the migrants come from foreign countries
	<ul style="list-style-type: none"> • housing stock increased by a factor of 1.7 by 2035 • deteriorated buildings also replaced with new construction • high appreciation of city life, slight inequality of residential areas • more second homes outside the Helsinki metropolitan area 	<ul style="list-style-type: none"> • housing stock increased by a factor of 1.8 by 2035 • elitist gated communities in the countryside • suburbs and inner cities turn into slums
	<ul style="list-style-type: none"> • traffic grown considerably in the Helsinki metropolitan area • public transport is strong in the Helsinki metropolitan area • considerable investments in infrastructure, particularly the rail network • congestion charges help balance road network demand and supply in the Helsinki metropolitan area and also help fund some infrastructure investments 	<ul style="list-style-type: none"> • extremely strong traffic growth • market-led transport policy emphasizing new technology • new transport concepts have substantially changed transport types and their division of duties • heavy investments in infrastructure, particularly the rail network because of strong population growth and economic growth
	<ul style="list-style-type: none"> • urbanization and denser regional structure • urban areas become denser and diversified 	<ul style="list-style-type: none"> • multi-centre structure • development outside the centres and densely populated areas, too • land use denser along railway lines
	<ul style="list-style-type: none"> • weakening of air quality in cities 	<ul style="list-style-type: none"> • Baltic Sea in poor condition • noise pollution • deterioration of the environment
	<ul style="list-style-type: none"> • Helsinki expertise environment • diverse urban culture 	<ul style="list-style-type: none"> • versatile and vibrant cultural life • subcultures flourish

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Appendix 1

STEERING GROUP AND PROJECT GROUP MEMBERS AND EXPERT LECTURERS

STEERING GROUP

Pentti Tuovinen, Uusimaa Regional Council (chair)
Riikka Karjalainen, Uusimaa Regional Council (secretary)
Hannele Kokkonen, Uusimaa Regional Council
Tanja Lahti, Uusimaa Regional Council
Jaakko Mikkola, Regional Council of Itä-Uusimaa
Jouko Nieminen, Uusimaa Employment and Economic
Development Centre
Rolf Nyström, Uusimaa Regional Environment Centre
Suoma Sihto, Helsinki Metropolitan Area Council Transport
Department
Reijo Teerioja, Helsinki Metropolitan Area Council Transport
Department
Antti Viren, Helsinki Metropolitan Area Council Development
Planning Unit
Raimo Nenonen (regional funds supervisor), Uusimaa
Regional Council

PROJECT GROUP

Hannele Kokkonen, Uusimaa Regional Council (chair)
Jaana Halonen, Helsinki Metropolitan Area Council,
Development Planning Unit
Markku Hyypiä, Uusimaa Regional Council
Riikka Karjalainen, Uusimaa Regional Council (secretary)
Tanja Lahti, Uusimaa Regional Council
Tarja Laine, Uusimaa Regional Environment Centre
Jouko Nieminen, Uusimaa Employment and Economic
Development Centre
Agneta Nylund, Uusimaa Regional Council
Oskari Orenius, Regional Council of Itä-Uusimaa
Suoma Sihto, Helsinki Metropolitan Area Council, Transport
Department

LECTURERS

Housing Kimmo Rönkä, Future Home Institute, Helsinki
University of Art and Design
Markku Anttonen and Minna Halme,
Helsinki School of Economics and Business
Administration
China development outlook
Linda Jakobson, Finnish Institute of International
Affairs
Sustainable development
Olli Hietanen, Finland Futures Research Centre,
Turku, School of Economics and Business
Administration
Ecological taxation
Sarianna Tikkanen, University of Helsinki
Values Martti Puohiniemi, Puohiniemi Oy
Russia Nina Häyrynen and Antti Helanterä, Alexander
Institute, University of Helsinki
USA Timo Tyrväinen, Aktia Pankki Oy
Regional structure
Janne Antikainen, Ministry of the Interior
Technological development
Pirjo Kyläkoski, Technology Development Centre
of Finland
Micro/nanotechnology
Jouko Strand, Culminatum Oy
Finland and world development
Paula Tiihonen, Parliament, future committee
EU Esko Antola, Jean Monnet Centre, University of
Turku