

Estonian National Strategy on
Sustainable Development

Sustainable Estonia 21

SE21

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Tallinn Pedagogical University (currently Tallinn University) was leader of the consortium developing the Strategy

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Introduction

Sustainable Estonia 21 (SE21) is a development strategy devised on the basis of the Terms of Reference approved by Government Resolution No. 33 of 24 July 2001 and set out in procurement contract No. 2-11-13/146. According to the Terms of Reference, SE21 is *a strategy for developing the Estonian state and society until the year 2030 with the aim of integrating the success requirements arising from global competition with the principles of sustainable development and preservation of the traditional values of Estonia*. Pursuant to the Terms of Reference, SE21 is not an academic survey but a proposal of goals and courses of action that could provide a foundation for public understanding on sustainable development of Estonia. It is a development programme covering all of societal life, not a strategy focusing on ecological issues only. According to the Terms of Reference, SE21 is an integral conception of the society, which *does not go deep into the specific problems of any individual sphere of life but defines the movement of Estonia as a whole on relatively general scales, such as individualism-solidarity, mobility-stability, innovativity-traditionality, etc.*

The SE21 strategy is clearly focused on the sustainability of Estonia. The main task of the strategy is to answer the question of what should be done to

ensure successful functioning of the Estonian society and state also in the longer term. The idea of the strategy is to suggest ways and solutions for harmonised activity of various social actors in ensuring the sustainability of Estonia. As SE21 has a longer time horizon (30 years), it cannot focus only on today's concerns. An important aim of the strategy is to establish the capabilities and mechanisms in the society that would ensure the persistence and success of Estonia also in new and unexpected circumstances. Considering the inevitably changing environment, SE21 is not intended as a finished product, a document that will become an unequivocal code of practice upon its approval. SE21 is designed as a feedback-based and periodically self-correcting societal process, in a way a mechanism of self-management of the society. The core of SE21 consists of (commonly valued) development goals, which are expected to be realised with contribution from a broad range of actors and with funds from a variety of sources.

Alongside the Terms of Reference for SE21, the strategy builds on:

1. The principles for preparing national sustainable development strategies (NSDS) developed in the European Union member states and in other countries. Since the UN Conference on Environment and Development held in 1992 in Rio de Janeiro, which called for the preparation of national development

strategies, many countries have prepared the relevant documents and a certain tradition of strategic planning in the context of sustainable development has developed. As this sphere is still characterised by a significant diversity both in substantive and in assessment terms, also the NSDS documents of different countries are rather varied.

2. The principles of the European Union Strategy for Sustainable Development, see the web site at: <http://www.europa.eu.int/comm/environment/eussd/index.htm>

3. The apparatus of concepts and approaches developed under the sustainable development paradigm and the analyses and studies on sustainable development carried out in Estonia.

4. Development plans and strategies already drawn up in Estonia (over 60 documents).

5. Modern social theoretical conceptions that seek to relationalise and comprehend the social, economic and ecological development of the Western societal model, its risks and challenges (U. Beck, A. Giddens, M. Castells a. o.).

SE21 was drawn up mainly by means of expert assessments based on studies conducted and data gathered earlier in the relevant fields. As set out in the Terms of Reference, the preparation of SE21 did not involve the conduct of new studies. SE21 was prepared by five working groups with the participation of over 50 experts of different spheres of life. In parallel

with the work of expert groups, the key aspects of the strategy were discussed with social partners, stakeholders and the public. In total, 32 seminars, round tables and discussion events were held with various partners from outside the expert groups. Many of the ideas suggested during the discussions have been incorporated into this document.

Stage I of the work (March-May 2002) consisted in defining the general scheme of the strategy and specifying the most important contextual (global and in-country) impacts and development trends influencing the state of Estonia in a 30-year perspective. Stage II of the work (June-August 2002) consisted in formulating the national development goals and proposing mechanisms for their achievement. In stage III, the indicators characterising the goals were described, the interactions between the goals were analysed and the possible development scenarios outlined. A so-called synthesised scenario was outlined in stage IV and courses of action were proposed for its realisation.

The strategy SE21 was drawn up by a consortium consisting of the following agencies:

Institute of International and Social Studies of Tallinn University;

Institute of Ecology of Tallinn University;

Estonian Institute for Future Studies;

Löhmus, Haavel & Viisemann Ltd.;

Association of Estonian Engineers.

The Estonian Institute for Sustainable Development (SEI-Tallinn) participated as a partner.

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The final text of SE21 was edited by Mati Heidmets, Marju Lauristin, Erik Terk and Ruuta Ruttas.

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Chapter I

Context and goals

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Context

As the first step towards designing a sustainable development strategy for Estonia, the key assumptions and context factors which Estonia's development in the near decades will depend on need to be outlined.

Continuation or deepening of the following global development trends having an impact on Estonia's development can be assumed:

1. Continuation and deepening of globalisation processes. The area of open market economy is expanding, which in turn implies an increasing influence of international corporations, increasing globalisation of economy and politics, sharpening competition for employment, growing pragmatism of politics, ever stronger domination of the English-speaking global (economic, scientific, cultural) elite.

2. Increasing appreciation of local identity. As a counter-reaction to globalisation, local and regional attempts to diverge from globally spreading trends, to value the local language and culture and to integrate the global and the local are strengthening worldwide. Regions and states that better succeed in cultivating their identity will gain an important competitive advantage.

3. More differentiated population picture, increasing individualism. A continuing rapid growth of population in developing countries vs. negative growth and ageing of population in developed countries will result in an increasing external pressure for immigration combined with the need for additional workforce. Transformation of the traditional family model into different (more individual-centred) models. The value picture will become more individual-centred and hedonistic, time will become a central life value. Periodical retraining and 2–3 careers during one's lifetime will be an ordinary life model.

4. Continuation of consumer society, expansion of the model of welfare society. As development resource (energetic natural resources, consumption demand) will suffice in the near future and the open economic area will increase, also the production-consumption cycle will accelerate. There will be a shift towards an increase in the share of services related to individual welfare/development (tourism, recreation, health, entertainment, counselling), in particular for the elderly. Needs disseminated from the centre vs. the impossibility of the periphery to meet them will become an important source of tension. The areas covered with the model of welfare society will expand.

5. Increasing differences, growing polarisation. Continuing regionalisation – an increase in regional differences (in incomes, way of life, attitudes) both globally and nationally; growing disparities between development centres and peripheries both in the

economic and cultural sense. Perpetualisation of disparities and their periodical canalisation into confrontation (with terrorism as an extreme form). The power and energy of international politics will be spent on reconciliation of the (ever distancing) opposites/differing interests: north-south, poor-rich, global-local, profit-environment, etc.

6. Accelerating technologisation. New technologies – IT advances, biotechnology, social technologies – will continue to be the key areas and development engines. Internet will become a total communication channel. Technological research and development will become the key areas of central economy. Social innovation or societal renovation will gain equal importance with technical innovation, driven by the knowledge that (a society) who does not renovate itself will lag behind. Technological differences will become the main watershed between the developed and developing world.

7. Increasing pressure to counterbalance the drawbacks of consumer society. Actions to ensure ecological balance (environmental conventions, regional agreements, protection programmes, etc.), to mitigate developmental differences (Tobin's tax, regional policy, development aid), and to protect local cultures and counteract to Anglo-American cultural monopolism (stricter language laws, immigration quotas) will escalate, international anti-globalisation movement will strengthen. As a positive programme – economic mechanisms promoting ecological technologies will be proposed and introduced.

8. Ideology of hot spots. Political approach to development issues continues not to be systematic and forward-looking (i.e. in accordance with the sustainable development paradigm) but focused on individual key issues or "hot spots" – AIDS and immigrants, terrorism and climate change, lack of water and educational renovation. Resources and activity are channelled into individual hot spots, while all the rest will recede into the background.

9. Advantages of strategic planners. States and societies capable of moving from the responsive or hot spots' scheme to the model of strategic planning, who not only respond to current concerns but are capable of setting common and longer-term goals and mobilise resources for achieving the goals, will continue to have a significant development advantage. Societies as integrated actors (societies capable of making decisions and realising their goals) have obvious advantages in an open and ever more complex world.

In terms of the international political context, the strategy proceeds from the following general assumptions:

1. Estonia is part of the Western political and economic space. We assume that the integrity and influence of the European Union and NATO will persist.

2. Global balance. We assume that no persistently opposing groupings will form among Western countries and no new confrontation will develop in relations between the Western world and Russia. Both the economic and

political influence of Southeast Asia is expected to increase, leading to the establishment of a new global political, economic and military balance.

3. Ecological disasters are not expected to happen, while environmental requirements will become increasingly stringent.

4. Estonia is an open and integrated society. We assume that the development of Estonia will be considerably stronger connected with / influenced by developments in the world's political, economic and social space, in particular in Europe and the Trans-Atlantic space.

5. Concerted action. We assume that realisation of the sustainable development model for Estonia will be possible through blending into global developments, not through setting goals that ignore global developments or are in conflict with them.

Estonia's capacity in 2005 to function in a sustainable manner in the above-described context is characterised by the following circumstances:

1. Conflict between external expectations and internal capability. Our main partners in an open European space are mature societies and countries with long experience and tradition. Staying and being successful in such context requires similar qualities from Estonia – a well-functioning democracy and strong civil society, primacy of society over state, a professional state apparatus, defined and protected

national interests, equal rights of groups, domestic peak competence in key areas, powerful international communication, etc. At the same time, Estonia's capacity to function as a strong state and an integral society is only just developing. Therefore, it is a central precondition for Estonia's sustainability that the country establishes itself (rapidly and effectively) as a functioning state and efficient/coherent society. The only alternative is the status of an underdeveloped periphery of the European Union whose main role is to absorb assistance funds and who has almost no say in decision-making.

2. Sense of danger. Despite the undoubted success of Estonia during the first decade of its new independence, a clear sense of danger about Estonia's sustainability has taken hold of a big part of the population. This is connected, on the one hand, with Estonia's perceived weakness to function in an open European space, but even stronger with several internal trends in the society that make the country's persistence questionable: population decline and deterioration of public health, coherence of society fallen below the critical limit, fragile cultural and political identity, weakness of the state and administrative incapacity as a hindrance to development, etc.

3. High expectations. The needs and wishes of the people of Estonia are considerably higher than our current reality can meet. This concerns both the economic possibilities, a safe living environment and smooth state governance. Catching up with the EU average quality of

life is indispensable in the interests of sustainability. A lengthy stay among the countries with the lowest performance in (also the enlarged) EU will be clearly destructive for Estonia.

4. Willingness for concerted action. Driven by the sense of danger on the one hand and a relatively high level of pretensions on the other hand, an expectation for concerted action to strengthen the society and state and thereby increase our sustainability has developed in the Estonian society. A perceived sense of danger along with a desire for accelerated development has acted as a starting point and motivator for mobilising resources and finding new development opportunities in several countries (Ireland, Finland). According to our judgement, there exist today sufficient resources and willingness for agreeing on common goals and taking concerted action towards achieving the goals also in Estonia.

Proceeding from the above context description and an overall assessment of the situation of Estonia, four development goals of central importance for the sustainability of Estonia are presented hereby. According to the Terms of Reference for SE21, development goals are “... *long-term goals based on the principles of sustainable development ...derived from the international context and the Estonian situation*” (*Terms of Reference, subsection 2.1*)

The proposed development goals of Estonia were derived from the following notions:

1. Common values. Development goals must

express the most general objectives or common values whose achievement is important for the majority of the people of Estonia.

2. Persistence and continuity. An essential feature of development goals established in the context of sustainability is their orientation to ensuring persistence and continuity. In that regard the goals may differ in their emphasis from those set in other general strategies (national development strategy, budget strategy, etc.).

3. Existing goals and objectives. Development goals cannot be “worked out” and imposed upon the society. They have to be existent in the society itself and can only be formulated and specified (through discussions, debates). Both the essence and formulation of the development goals has to meet the expectations and notions of the majority of the Estonian society about the future of Estonia.

4. Bindingness. There is sense in setting goals only if the goals are important enough to become binding. In other words, agreement upon a goal implies also willingness to make efforts, to take action and spend resources to achieve the goal

The four development goals for Estonia proposed by the experts of SE21 are presented and specified below. The goals are described through the following components: essence of the goal, its components and indicators, threats to the achievement of the goal, expected target condition by the year 2030, key mechanisms for achieving the goal.

Goals

GOAL 1: VIABILITY OF THE ESTONIAN CULTURAL SPACE

■ Essence

According to the Constitution of the Republic of Estonia, the state of Estonia shall “ensure the preservation of the Estonian nature and culture through the ages”. Sustainability of the Estonian nation and culture constitutes the cornerstone of sustainable development of Estonia. The development goal postulating this has a fundamental meaning, the persistence of Estonianhood is the highest priority among the development goals of Estonia.

The modern science-based notion does not view nation as biological kinship based on a common genetic root (origin) but as cultural association based on a common culture, common perception of history and common language. Preservation of a nation “through the ages” is conditioned first of all on the existence of cultural mechanisms that enable the Estonian national identity (cultural cohesion) to persist and ensure that the values, traditions, behavioural patterns and elements of way of life intrinsic to the Estonian national culture are passed from generation to generation and also accepted by new settlers. The core of such mechanisms is national-language education and

cultural creation (incl. research) based on the national language, and the functionality of national-language communication and national cultural values and behaviour patterns in everyday life and in all spheres of life.

In the context of SE21, sustainability of the Estonian nation is expressed through the preservation of the Estonian cultural space. The Estonian cultural space is defined as an arrangement of social life based on Estonian traditions and the Estonian language. This culture is carried by people identifying themselves as Estonians and communicating in the Estonian language. The Estonian cultural space is characterised by Estonian tradition based practices in behaviour, in relationships and in the mode of living. The Estonian cultural space has materialised in the Estonian natural and living environment and in the Estonian sign environment (communication language, symbols, personal and geographic names, colour preferences, building and home design practices, generally known pieces of art and literature and historical figures, historical anniversaries and calendar, etc.)

Thus, the Estonian cultural space in the present (social scientific) meaning is a significantly broader concept than the spheres of direct creative activity or folk culture. It is the living space of Estonianhood with all of its components and attributes. Preservation of the cultural space is a precondition for the preservation of

national identity, which in turn motivates people both to use the national language and to hold in esteem the national values in a changing and globalising world.

■ **Components and indicators of the goal**

Sustainability of cultural space is assessed using the following three criteria (sub-goals) along with their indicators.

1. Extent of the Estonian cultural space. Indicators: number of carriers of the Estonian culture, their location (in Estonia, outside Estonia), degree of materialisation of the Estonian culture (in architecture, landscapes, sign environment), prominence of the Estonian culture, its translatability and distribution outside of Estonia. The prominence and broad accessibility of the Estonian culture along with its increasing translatability and dissemination outside Estonia are the highest priority from the point of view of the sustainability of the Estonian culture.

2. Functionality of the Estonian culture. Indicators: intensity of the use of Estonian culture elements (incl. language) in different spheres of life (everyday communication, research, education, legislation, politics, technology, etc.), i.e. the degree to which the Estonian language, culture treasury, traditions, behavioural and communication patterns have taken root and are necessary and usable in everyday life and for the functioning of various institutions of the society.

3. Temporal continuity and plasticity of the Estonian culture. Indicators: capability of cultural memory to act as a link between past experience and the future, openness of national culture to the new, enrichment and interpretation capability of national culture on the world's changing cultural scene, endurance of cultural memory (tradition) and applicability of cultural memory in relation to new discoveries, new spheres, new technical environment, new cultural phenomena, new relationships and modes of communication. Translation capacity (incl. in the technical sense) and translatability of the Estonian language and culture in the globalising multi-cultural environment.

■ **Threats**

Preservation of the Estonian cultural space and thereby also the long-term viability of the Estonian nation is threatened in today's context primarily by:

1. A drop in the number of Estonian-speakers (demographic crisis);
2. The Estonian language and culture being outcompeted due to the increased influence of other languages and cultures in the Estonian cultural space;
3. A certain stagnation of the Estonian language and culture, their failure to adapt to the requirements of the new global civilisation (information society and technological culture), which reduces the functionality of national culture and weakens its motivation for persistence;

4. Vulgarisation of the Estonian language and culture due to the influence of international junk culture;

5. A lack of resources endangering many spheres of culture that need state support in a small nation like ours. A lack of resources for storing the Estonian-language cultural treasury and for ensuring its accessibility may lead to the loss of a big part of our cultural memory and disruption of cultural continuity. It is essential for the preservation of our cultural memory and sustainability of the Estonian cultural space that the most important cultural texts (folklore treasury, cultural history archive, music, Estonian classical literature, Estonian visual arts treasury, recordings of theatre performances, Estonian films, radio and TV archive, etc.) are made available in the digital environment.

■ **Desired state by the year 2030**

Stabilisation of the demographic situation in Estonia. The permanent population has stabilised at 1.0–1.5 million. Integration mechanisms are in place, ensuring the integration of new settlers into the Estonian cultural space. Estonianhood is valued, Estonia is the preferred living and working place for the younger generation. The living environment of Estonia is favourable for importing competence from the outside world.

Development of a double identity as an Estonian and a European. With Estonia's integration into

Europe, but also due to persisting tension between Europe and some other large communities, people in Estonia are identifying themselves widely as Europeans ("I am a European") alongside their ethnic self-identification and valuation ("I am an Estonian"). Estonians are accepted as Europeans both in their character and deeds.

Fear of extinction has disappeared. Adaptability of culture, incl. its reproduction mechanisms and renewal capacity, has reached a level that allows continuous supplementation of the cultural treasury and its transfer to new generations of culture carriers. The Estonian culture has reached a dynamic balance and sustainability in its relations with world culture, existential fears have been overcome.

Virtual Estonianhood. An essential part of the Estonian culture has "moved to the virtual environment". Located in electronic archives, museums and libraries, it is internationally accessible and translatable into other languages, thus being accessible and understandable to everyone locally and to all interested people worldwide.

Contributing globalisation. The Estonian experience in synthesising the national and global culture and in applying socio-technological know-how is spreading and is usable also outside the Baltic countries. The Estonian case has been reflected and employed in

several smaller cultural spaces. This is Estonia's recognised contribution to the preservation of the diversity of the globalising world.

■ Key mechanisms for achieving the goal

Educatedness. To ensure that an education in the Estonian language and related to the Estonian culture is provided in Estonia, while being internationally competitive, grounded on developments in modern sciences and technology and connecting the Estonian culture with world culture. Such education will integrate the national identity with professionalism, social skills and the global cultural horizon. Education (incl. family education, informal education, media) will promote the valuation of ethical values of ethnic (Nordic) origin, a traditional human-nature relationship, a natural lifestyle as part of the modern mode of living and socialisation process. Estonian (Northern European) culture elements will become stronger regulators of everyday life than they are at present, which will lead to increased harmony and balance of human activity with the environment, increased self-regulation and self-control and a rise in the general level of civilisation (according to N. Elias).

Reflexivity. Raising of the renewal capacity and critical reflexivity¹ of the Estonian culture. This will be ensured by active participation of Estonian-speaking intelligentsia in international and internal professional and public communication; development of the

Estonian philosophic, scientific and professional language; holding of professional and scientific discussions and public socio-critical and cultural disputes on Estonian-language media. This will result in an increase in the diversity and internal dialogicality of the Estonian culture, stimulation of the formation of new notions and interpretations, modernisation of the historical conscience and world picture of Estonians.

Communicativity. Usability of the Estonian culture in international communication and its translatability into other languages and codes. This includes the spreading of knowledge of several foreign languages in Estonia; availability of archival and cultural texts important for the Estonian culture in a digital format; introduction and dissemination of an important part of the Estonian culture in the main world languages; integration of the Estonian history and cultural memory with the European and global cultural memory and historical conscience; participation in international research, technological and cultural projects; Estonia becoming an important place on the global cultural map and in the global cultural calendar. The inevitable closedness and danger of self-centredness typical of a small culture will be overcome by digitising the Estonian cultural treasury, but also through investment into culture and through increased openness of the modern Estonian culture. Different from other countries, tolerance to cultural differences will increase both

¹ Capacity of culture to critically analyse and evaluate itself

internally in Estonia and in a broader context. The Estonian culture will become more attractive among the young generation but also among immigrants thanks to its diversity and translatability. People will be seeking specificity in the overall uniformity of the way of life, finding it in national culture.

Innovativity. An increased renewal capacity of culture will facilitate the integration of the Estonian culture into the modern technological civilisation and contribute to the understanding of central global issues – from genetics to the Muslim world. New forms of communication will be found. The capability of the Estonian culture to identify the elements of distant cultures that have historically influenced the country and to make creative use of these elements in developing our own culture will increase, as will the capability of incorporating new scientific and technological ideas and global influences without losing our own identity. Innovativity of the Estonian culture, its capability of generating new ideas and meanings at an internationally renowned level, constitutes Estonia's contribution to the general culture and will become an important factor in increasing the specificity and attractiveness of Estonia and in stimulating cultural exchange. Dynamic preservation of the specificity of the Estonian culture (incl. the main elements of local exotics) and maintenance of possibilities for free and right choices is the key to the prominence of Estonia and Estonians (as individuals growing in this specific environment).

GOAL 2: GROWTH OF WELFARE

■ Essence

Welfare is defined as the satisfaction of the material, social and cultural needs of individuals, accompanied by opportunities for individual self-realisation and for realising one's aspirations and goals.

From the point of view of the Western ideology of individualism, welfare of an individual is a value in itself. Also the definition of sustainable development formulated by the Brundtland Commission reflects the mindset according to which the realisation of the welfare aspirations of one generation should not impair the possibilities of future generations.

Although also other values have to be taken into consideration in striving for welfare and complex ethical dilemmas arise (responsibility for all living beings; sacrificing of the welfare of some individuals, if even a minority, to achieve the welfare of others; sacrificing of collective values fixed in culture to individual welfare), it is hard to imagine a development model of a democratic society under which the natural aspiration of individuals to increase their welfare is inhibited. Naturally, the essence of welfare changes in time and is also changeable to a certain extent through culture, education and upbringing.

Although the above definition relates the term 'welfare' with an individual, the overall level of welfare is important also as an indicator of a society or territory. Growth of welfare enables us to reach a situation where Estonia is adequately valued as a place for living, working and self-realisation. This, in turn, is a precondition for realising the goal of viability of cultural space and other goals.

The present situation of Estonia can be interpreted in two ways in terms of welfare. From the global perspective, the welfare level of the Estonian society is relatively high rather than low. At the regional level (in the Northern European context), Estonia is a country with a low welfare level. In other words, despite the positive dynamics, there is a *strong deficit of welfare* in Estonia. Estonians and other inhabitants of Estonia do not compare their welfare level with developing countries but with the European Union member states, in particular the Nordic countries. The deficit of welfare concerns particularly the economic component of welfare (GDP *per capita* in Estonia in comparable prices is currently app. 40% of the EU average), but also other components, above all security. At the same time, the indicators measuring the *potential* for further development (e.g. the indicator of economic competitiveness) rank considerably higher in international comparison than welfare indicators do.

The sharpened perception of the deficit of welfare, in particular its economic component related to limited

consumption possibilities, has both positive and negative effects. The positive side lies in the fact that people who are dissatisfied with their level of welfare are willing to make efforts to raise the level. If not catching up with, then at least approaching the level of reference countries is an accepted motive in the Estonian society, which should help avoid stagnation. At the same time, reinforced development towards an increase in individual welfare and, especially, its components related to consumption may inhibit the evolution of the notion of welfare itself (general direction: from quantity to quality) and may create a risk of raising individual welfare at the expense of other important goals.

■ Components and indicators of the goal

Welfare is divided into three components that can be regarded as sub-goals of achieving welfare.

1. **Economic wealth** - indicators: level of financial income per family member and structure of incomes; level of consumer expenditures per family member and structure of the expenditures (share of expenditures on basic needs);
2. **Level of security** - indicators: health status, risk of illness, crime rate, risk of unemployment, distribution of stress. These indicators are measurable also through various integrated security indices.
3. **Diversity of opportunities** (for self-realisation, recreation, social communication) - indicators: actual

length of working week, satisfaction with work, use of time (share of “tied” time), possibilities for educational use of time.

(The second and third goal can be “bought” to a certain extent by aid of economic wealth. Yet such possibilities are limited – their realisation will create socially ineffective “surrogate” consumption, e.g. a demand for excessive security services or nature turning into an attraction).

■ Threats

1. When welfare does not grow fast enough (in particular when combined with insufficient development of attractiveness of the environment), this may lead to mass leaving of young people. This may have catastrophic consequences, in particular in the conditions of an ageing society.
2. Failure to ensure material welfare. This may lead to consequences such as continuing deterioration of health status, reinforced pressure on the environment or disintegration of the cultural environment.
3. Failure to move on to the next, innovation-based stage of economic development due to several reasons (incl. incapability to carry out a sufficiently effective reform of education and training). In an increasingly expensive economy, this will not only slow down the growth of welfare but also bring along severe social attendant phenomena (related to e.g. possible unemployment).
4. A rise in infrastructure prices (Estonia needs large

investments, in particular in view of the increasing ecological restrictions, which will make production expensive) will lead to a reduction in the competitiveness of the economy along with the various negative consequences.

5. Failure to enter the markets of important target countries, e.g. due to dumping accusations and the accompanying measures.
6. Shocks in the external environment will be a severe blow for an open economy like Estonia.
7. There may be rather long periods during which the economy grows but the employment rate does not (“jobless growth”).
8. Development based on services industry may be relatively hard to “digest” for the traditional agricultural regions and, especially, for the industrial regions (Northeast Estonia).

■ Desired state by the year 2030

Economic wealth and the standard of living of people will rise to at least 80% of the average of the present EU member states by the year 2030 and there will be sufficient potential (level of education and training, internationalisation, innovativity) also for further narrowing of the development gap and for going ahead of the EU average in the longer run. The mentality of a “poor relative” will have disappeared from the relations with our Nordic neighbours. The economy of Estonia will still rank somewhat higher in terms of competitiveness than in terms of the living standard

also in 2030. Estonia will have managed to avoid the status of Europe's periphery (described as focusing on the production of cheaper and simpler products or cheap sale of natural resources or the natural environment).

Economic development will proceed in stages. Although certain signs of the emergence of post-materialist values can be noticed already soon, the development of Estonia will still remain relatively strong oriented to an increase in the living standard during the next 10–12 years. In this period it will be necessary to try and balance the excessive economy-centredness by actions promoting a rise in consumption culture and in the quality of life (as an alternative to relatively primitive materialistic and hedonistic consumption and chasing of commercial diversity), and by policies ensuring ecologicality and social coherence.

We can assume that significant progress will be made with regard to some components of security (in particular crime reduction) already during the first period (10–12 years), while several other components, such as the risk of overworking and stress, will still remain high compared to developed countries. Working week will remain relatively long in the beginning. The growth in the quality and attractiveness of the living environment will vary in speed, being rapid in elements related to international communication and economic development and slow in other elements (e.g. reconstruction of socialist-time city districts) due to limited resources.

In the second half of the period (tentatively in the years 2015–2020), there will be an important shift in emphasis. Valuation of the components of security and diversity will significantly increase among the population, which will be reflected as a change in both financing preferences and personal behaviour patterns.

As regards security, the situation in Estonia in 2030 will not differ significantly from the Western and Nordic countries, though for some elements more significant progress cannot be observed before the years 2020–2030. A decent security network will have been created for risk groups, while the risk of job loss will still have remained high. Public health will have improved and life expectancy considerably increased. The average life expectancy will have increased to 77–78 years by the year 2030.

From the point of view of diversity of opportunities, the present clear demarcation line between working time and free time will become much more blurred for a big part of workers by the year 2030. The share of professions requiring creativity will increase. Companies will value creativity in employees and stimulate learning and communication through various networks. The ways and forms of recreation will have broadened sharply (in particular for the elderly), as will have participation in various voluntary community activities and forms of activity combining learning and recreation. The range of intellectual services offered

will have been extended. Urban spaces will have been developed into diverse and attractive environments and possibilities for human visiting and human activity will be provided also in natural environments. Estonia will have developed into the “Nordic Dublin”, i.e. a place where one can combine a varied and pleasurable life and recreation with state-of-the-art international production and business.

■ Key mechanisms for achieving the goal

The following outlines the (partly interconnected) key mechanisms for moving towards the goals.

Orientation to an economic and employment structure suitable for Estonia while being consistent with trends in the external environment. Such an economic structure could consist in an export-oriented and sectorally diverse services economy. Services-centred economy is more flexible and sustainable than would be an economy based on large-scale production, both in the narrow economic sense and in the sense of employment and ecology. Services in this context are not understood in their narrower, sectoral sense but in a broader sense, as the creation and operation of services systems which may and should encompass also various industrial components. The geography of economic communication will be purposely expanded – the currently dominating economic communication with Northern European countries will be supplemented with

increasingly dense communication with the rest of the EU and economic leaders elsewhere in the world. Economic communication with the economic space of Russia and the rest of the C1C countries will re-intensify, with Estonian-based enterprises being able to switch to providing services to the modernisation process that Russian economy will be undergoing with the aid of Western capital.

Services will be both exported through the Internet or through their direct provision in the territory of other countries and provided in Estonia’s own territory. In addition to conventional tourism (whose services spectrum will broaden), Estonia will have assumed an important position also in providing healthcare, welfare, training and other services to the inhabitants of other countries in its own territory. This will be facilitated by the fact that relatively many Nordic people will have moved to live in Estonia for a longer or shorter time. In the provision of these services, emphasis will gradually shift from cheapness and acceptable quality to more expensive and high quality services.

Economic sectors based on the use of Estonia’s own resources acting as a buffer. The future economy of Estonia will largely not be based on our own natural resources but the latter (forest, agricultural raw material, etc.) will still have an important stabilising role, especially in situations where depressions or failures of the international economy (no matter

whether due to the economic cycle or for other reasons – ecological problems, terrorism, etc.) may cause the economy to go off the track, at least temporarily.

Networking. Firms based in Estonia, including small firms, will become increasingly involved in international networks, assuming different functions there, incl. functions that will gradually become more complex and expensive. The Estonian state will contribute to such networking through its support measures, making use of also the relevant opportunities provided by the EU. In part such networking will take place by mediation of the firms and institutions of the neighbouring country Finland.

Technological development. Transition from investment-centred economy to innovation-centred economy. As Estonian economy will gradually become more expensive (which will be accelerated by accession to the EU), it can no longer be based on cheap production inputs and attracting of foreign capital with cheap production inputs (low salaries, cheap raw material, low ecological requirements). The production of high tech and medium-high tech products has to increase at the expense of low tech products and services, in particular in exports. This presupposes a specific support policy, which can be successfully implemented only in public-private partnership. The policy has to strengthen the links between enterprises and universities and research institutes, contribute to the creation of high tech

communities and provide general support to the cooperation of enterprises in the field of innovation, create the instruments of risk capital, support the transition from research to the development of products and technologies, foster spin-offs, facilitate access to technological information networks. Investments of enterprises into product and technology development, incl. applied studies, have to significantly increase.

Education system and training as the foundation of economic development. Neither economic networking nor the transfer to innovation-centred economy would be possible without a quantitative leap in education and training. It is important for a small country to ensure principal access to education for the entire population. At the same time, the reform of education, retraining, lifelong learning, etc. all have to be in line with the demands of the economic environment (of the coming period). This implies a need for close cooperation with the private sector. The study system has to be such that it provides each worker with access to in-service training and retraining when necessary, allows them to change the area of specialisation, etc. This is achievable only by aid of modern learning technologies.

Institutional development and public-private partnership. Welfare is created not only by developing the economy but also by achieving the necessary output in health care (health being the key element of

public security), by creating a human-friendly urban environment through planning and by raising the general quality of the living environment across Estonia.

Mechanisms balancing the excessive domination of materialistic consumption. In particular in the first half of the period, it will be necessary to specially contribute to the development of the concept of welfare and to “non-material” (incl. cultural) consumption and ecological changes in the way of life. This is an important area for cooperation of the media, the third sector and the state.

GOAL 3: COHERENT SOCIETY

■ Essence

Achievement of the first two goals established in this strategy (preservation of the Estonian cultural space and growth of welfare) will be possible only if the benefits from these goals can be enjoyed by the majority of the population and the price for achieving the goals is not destructive for the society as an integral organism. Realisation of the goals is possible only in a situation where an absolute majority of the members of society believe in and contribute to their achievement, i.e. in a coherent and harmoniously functioning society.

The third goal expresses the desire to reach a situation where all members of the society participate within their powers in the creation of benefits and get a fair share of the creation/production. In practice, this means concerted action in particular in those fields of social life where there is a risk of development of long-term confrontation/exclusion – poverty transferred between generations, closed enclaves of non-Estonians, educational exclusion, development lag of peripheral living regions, etc. Achievement of social cohesion means both social and regional balance, overcoming of the excessively large in-country differences in Estonia.

Coherence does not mean uniformity and is not in contradiction with innovativity. A coherent society contains enough creativity and innovativity, which creates sufficient motivation for the young and educated generation to realise themselves in this very country.

■ Components and indicators of the goal

The following three sub-goals along with their indicators are used for assessing social coherence.

1. **Social inclusion.** Basically the entire population of Estonia is involved in creating values and in consuming them, but also in shaping the development of the society. Indicators: Gini index, employment rate, share of working population in relation to total population, share of households below poverty line, share of population covered with health insurance.
2. **Regional balance.** Internal regional differences in Estonia are decreasing, every region of Estonia has found a suitable way of raising their value as a place for living and working. Indicators: distribution of incomes and level of poverty risk broken down by regions, share of school dropouts and university admissions broken down by regions, regional preferences in the choice of places for living and working.
3. **Strong civil society.** An active network of citizen associations has developed alongside the public and private sector. The third sector is

participating as an equal partner both in political decision-making and in providing various services (incl. those with a social focus). Indicators: number and membership of citizen associations, legal drafts submitted by the third sector, dynamics of financing of the third sector.

■ Threats

Coherence of the Estonian society in the current situation is threatened mostly by:

1. A high level of economic inequality. The Gini index of Estonia has been ca 0.37 in recent years, which is considerably closer to the relevant index of Russia than that of the EU.
2. A continuing tendency towards an increase in regional imbalance in Estonia and towards the “extinction” of peripheral living regions. Net income per household member in 2001 was 33 000 kroons in Harju County and below 20 000 kroons in several South Estonian counties.
3. Several marginalised groups of population reaching a situation from where a “return” into active life is no longer practicable. The share of the long-term unemployed in relation to the total number of the unemployed has been as follows: 2000 – 45%, 2001 – 48.3%, 2002 – 52.8%.
4. An emerging trend towards “brain drain”, which inhibits the sustainable development of several spheres of life providing public benefits (health care, social welfare, education, etc.);

5. Difficulties of the Estonian labour market in adapting to the new environment resulting from the EU labour division and development of information technology – high level of unemployment, failure of employers to offer new flexible forms of work and failure of employees to participate therein. The average rate of unemployment in Estonia in recent years has been as follows: 2000 – 13.6%, 2001 – 12.6%, 2002 – 10.3%.

6. Limited administrative capacity of national and local authorities, which often reduces the quality of public services and inhibits also application for financial support from the EU funds.

7. Limited capacity of the third sector in representing public interests, in creating jobs and providing services (education, social welfare, etc.). As a result, an important social resource remains unutilised.

■ **Desired state by the year 2030**

Social inclusion. Social stratification has decreased, the Gini index of Estonia does not exceed the EU average, support systems based on the cooperation of three sectors have been created for less competitive individuals and families with subsistence difficulties. The social welfare system has developed to a level where the incomes of none of the significant groups of population remain below the subsistence minimum established in the EU. High-quality healthcare service is available to

everyone. Integration of non-Estonians has reached a level where disparities due to the ethnic origin of individuals in employment, participation in politics, etc. are minimal. The metaphor of “two Estonias” has been forgotten and replaced by an image of Estonia as a variegated and cosy place.

Regional balance. The key economic indicators for Tallinn and the rest of Estonia are similar. The level of unemployment does not exceed 8% in any of the regions; the openness and flexibility of labour market is counterbalanced by a system of eliminating labour market risks. Employment relations are governed by the principle of social partnership. A system of lifelong learning has been established, offering professional in-service and retraining.

Strong civil society. An effective third sector has developed, providing various public services and participating in political decision-making. The level of participation in elections is at least equal to the EU average.

■ **Key mechanisms for achieving the goal**

Purposeful budgetary policy, incl. the use of the EU Structural Funds. Regional balance will be increased during the first half of the period not only through Estonia's own specific programmes based on budgetary resources but also with financial support from the EU regional

programmes and the EU Social Fund. This will result in the development of suitable forms of economic activity and a sufficiently strong infrastructure in regions and in reduction of economic inequality and social exclusion of individuals and families. An important instrument for achieving the goals will be income policy, which will be developed based on the ideology of equal possibilities but supplemented with the principle of redistribution so that the Gini coefficient of Estonia will reach the EU average level and the share of households below poverty line will decrease.

Labour market policy. The emphasis of labour market policy will shift from the currently dominating passive measures to active measures (facilitation of retraining and return to the labour market), budget allocations to labour market policy will rise to the EU average level. The education system will be developed by the principle of consistency between the education system and labour market demand. A system of lifelong learning will be established.

Social policy. Functioning support systems be created for excluded social groups with subsistence problems, allowing their participation in the labour market and thereby improving their welfare. Transfer of poverty and social exclusion between generations will be inhibited through improving the social functions of the family benefit system and education system (social rehabilitation and compensation for

the inequality of family environment, lifelong in-service training and retraining, training of social coping). Effective social insurance will be preventing the economic situation of risk groups (the elderly, disabled, unemployed) from falling to a level where their participation in social life and culture is seriously hindered due to the lack of resources.

Administrative reform and partnership-based decision-making. An important precondition for achieving the objectives is a successful administrative reform resulting in the creation of larger local government units with a strong administrative capacity and budgetary base and functioning in cooperation with third sector organisations. A broad range of stakeholders and the wide public will be involved in policy-making through citizen associations. Important decisions will be preceded by a comprehensive (incl. social scientific) expert analysis of their impacts. Emergence of a strong third sector requires a significant increase in state support to this sector both in the form of financial resources (tax exemptions, etc.) and training and development activities.

GOAL 4: ECOLOGICAL BALANCE

■ Essence

Maintenance of ecological balance in the nature of Estonia is a central precondition for our sustainability. It is also our contribution to global development, following the principle that requires a balance both in matter cycles and in flows of energy at all levels of the living environment.

The overall aim is to integrate the considerations of self-regeneration capacity of nature into the use of nature. The main function of environmental protection is not to protect resources and the natural environment but to achieve their harmonious and balanced management in the interests of the Estonian society and local communities. The aim is to reach a situation where human does not regard the environment as a pool of objects requiring protection but as an integral whole which human itself is part of. The aim is combined conception of nature as a value and as a central development resource of the society in the context of overall development of Estonia.

In planning the protection and use of the environment, Estonia should not necessarily pursue the conceptions of developed countries, which are environment- and pollution-centred and directed to

consumption habits, but we should proceed also from the local tradition and specificity. For instance, the native landscapes of Estonia as cultural heritage could be regarded as an added value which can partly compensate for the higher living standard in several countries and thereby reduce “brain drain”. The landscape of Estonia could become a key element of the ecosystem, becoming treated as a living environment encompassing *inter alia* also global resources such as weather (climate), air and water. At the local level, landscape means a place of living along with its biological diversity, recreational resources, but also views and other aesthetic parameters, whose preservation and development is important for the achievement of all development goals.

■ Components and indicators of the goal

The goal of ecological balance is broken down into three main components:

Use of natural resources in ways and quantities that ensure ecological balance.

Indicators: the existence and compliance monitoring of resource use regulations based on continuous monitoring of the reserve and regeneration capacity of natural resources (e.g. licensing, as is currently applied in fishery); share of consumption of renewable natural resources in relation to total use

of natural resources; share of semi-natural landscapes.

Areas of monitoring: freshwater reserve, water use (l/person), share of recovered water in overall consumption (75%); state of coastal sea; share of productive forest in relation to total forest area; share of biologically productive land in relation to total agricultural land; share of the use of renewable resources – not in excess of natural regeneration; share of renewable energy.

Reduction of pollution. Indicators: effect of pollution charges on the organisation of production; air quality (ratio between emissions and sinks of toxic and greenhouse gases; water quality (drinking water quality, recreational and fishery value of the sea and inland waters); level of waste management (degree of sorting and utilisation of waste (at least 75% of waste), share of packaging tax in the cost of products; share of production based on secondary raw material); degree of environmental impact of the entire product life cycle; structure of transport (share of public and rail transport).

Preservation of biological diversity and natural areas. Indicators: share of traditional land use practices; species diversity index; coverage of protected areas and Natura 2000 sites (no less than 10% of the territory of Estonia); share of lands excluded from economic use (at least 5% of the

territory by the year 2010); share of seminatural landscapes; investments into environmental protection and environmental education (% of GDP).

■ Threats

Ecological balance is an essential precondition for achieving any of the goals. Despite the seeming simplicity and clarity of this requirement, it contains hidden threats that may complicate its realisation. In particular, we are largely influenced by trends induced by globalisation, such as:

1. alienation from the traditional natural environment and use of nature, an imported consumption culture leading to the domination of foreign interests;
2. an urbanisation trend leading to a situation where landscape becomes a clearly delineated “gewgaw” for a narrow group of stakeholders;
3. the trend of increasing the share of renewable energy production, though in itself praiseworthy, increases also pressure on the natural environment and biological diversity;
4. closing of valuable recreation areas (especially coastal areas, valuable inland landscapes) and ignoring of the “everyone’s right”;

■ Desired state by the year 2030

Stable and knowledge-based management of the Estonian environment. Cross-usable national registers of natural resources (incl. landscapes and

objects of biological diversity) has been created and the relevant statistics organised. Integrated planning takes place based on careful consideration of environmental balance in every sphere of life. There will be effective cooperation between public authorities and different stakeholders. Extraction of natural resources is based on prior prepared and well-motivated optimal use schemes allowing to maximise economic benefit while avoiding irreversible damage and wasting. Significant shifts have taken place in the structure of transport – the share of environmentally friendlier modes of transport (rail transport) has increased. A municipal waste sorting system is in place and higher pollution charges have been established for industries and transport. A sustainable consumption mechanism will has incorporated into the criteria of public procurement procedures, national investment programmes, etc. (on the basis of which projects are selected for investment)

Value judgements concerning the use of the environment proceed primarily from the need to preserve an ecologically balanced living environment. Landscape plans covering the entire country envisage the regional functioning of mechanisms ensuring a balance between human-made and natural landscapes and facilitating the opportunities of all residents to use the recreational resources of the natural environment. The principle

that prohibits the use of the environment on the verge of risk has taken firm root. Development of knowledge and technologies may be inducing changes in the management of certain resources. The state is supporting traditional land use practices (crop fields, pastures, forest) through its regional policy.

Estonia is a worthy participant in global ecological developments. Estonia is party to the main international conventions and is actively implementing measures for preserving and improving the state of the environment of the Baltic region. A balance/database of transboundary pollution and pollution originating from Estonia has created, pollution target values has been agreed upon and used as a basis for recalculating pollution charges and establishing new charge rates. The ratio of pollutants generated (incl. atmospheric emissions, packaging, etc.) in relation to material benefits produced have considerably decreased.

■ Key mechanisms for achieving the goal

Education. The society, being part of the ecosystem, has to assume responsibility for harmonious development of ecosystems. The main precondition for this is ethical and scientifically grounded management of the natural environment (living environment). Reasonable management of natural resources presupposes integrated development of technical and ecological education, which in turn

presupposes a different structure of education – ecological education has to form an organic part of education at all levels of study. Balanced sustainable development of Estonia is conditioned on the promotion of the natural-scientific way of thinking in all strata of the society, in particular in political decision-makers and officials.

Technological innovation. Employment of registered and future natural resources (including those whose monetary value is as yet difficult to determine) has to be preceded by investments into new technologies that allow the development and application of the most optimal use schemes and take maximum account of the principles of the natural matter cycle. The level of use of natural resources should be determined primarily by the self-regeneration capacity of the natural environment.

At the same time, Estonia has to carry out product development in directions supported by our resource based on our environmental conditions and environmental values. For instance, in drawing up use schemes for landscapes or in developing forest management one has to proceed from the need to preserve rural life and the Estonian culture, long-term planning in the energy sector has to proceed from environmentally friendliness, etc. Steps for switching to post-oil-shale power production have to be planned already today. The natural resource of Estonia is also

an important source of means for solving today's social problems and ensuring the growth of welfare.

Ecopolicy. Economically and ecologically optimal use schemes have to be developed for the natural resources of Estonia. As the first step, registers encompassing all natural resources and landscapes should be created. The use of natural resources should be organised by the principle "from raw material to product", taking into account the "buffer principle" (not to act on the verge of danger but to leave reserves for unexpectancies).

A national sustainable development monitoring system has to be established for assessing the components of the goal of ecological balance, both by using the existing environmental monitoring data and by adding new structures for assessing all indicators and monitoring all processes.

The use of renewable natural resources has to be based on the principle that the use of resources should not exceed their regeneration capacity. Fossil or non-renewable natural resources should be used consistent with the principle that their exploitation has to be secured until they can be replaced with some other resource, e.g. a renewable resource.

Discussions and studies on the location and coverage of protected territories have to be

launched. The current intensive expansion of protected areas in the conditions of weak and soft administrative management is not effective enough. It is important that the legislation regulating the use of the natural environment is obeyed without question.

Tax policy has to include mechanisms for promoting recovery of materials and pollution charges for reduction of pollution.

Energy management of Estonia has to be reorganised by supporting and giving preferential treatment to low-energy activities. Environment-friendlier modes of transport should be preferred. As renewable energy production is inevitably accompanied by problems related to the use of landscapes – loss of habitats, additional load during the harvesting of biological resources, noise, spoilt landscape, etc., it is necessary to develop mechanisms allowing adequate assessment of and compensation for adverse environmental impact.

Relations arising in moving towards the goals

The conception of sustainability of Estonia presented here is based on the above-described four development goals. Estonia will be sustainable if its movement towards all of the four goals is clearly perceived by the society, if it is measurable and consistent. If any of the goals is neglected or distanced from, this would mean a danger to sustainability. **Estonia is sustainable when preservation of the Estonian cultural space, growth of welfare of people, coherence of the society and balance with nature are ensured.** All of the goals are important, none of them can be substituted with another one. Therefore the four development goals have to be treated as a holistic system which is to be considered and taken into account in an integral manner to ensure our sustainability.

Movement towards some of the goals may be more amplified in society at a certain time period compared to movement towards some other goal. From the end of the 1980ies until the country regained independence, issues related to the preservation of the Estonian cultural space were clearly in the foreground, while the topics of welfare and economic growth dominated in the 1990ies and several aspects of social coherence have been shifting to the foreground in recent years. Yet it is probably inevitable that the temporarily “neglected”

goals will be pursued in an amplified (compensating) manner in the following period. The system has to retain its integrity.

It is not difficult to see that the established goals themselves are somewhat contradictory – amplified movement towards one goal may inhibit the achievement of another. Heading towards rapid growth of welfare may not have the best impact on the Estonian cultural space or ecological balance, placement of social coherence in the foreground may not support economic growth, etc. The question is how goals different in their essence and orientation could be pursued and taken into consideration simultaneously. In figurative terms – how to run simultaneously both to the left and to the right, to be both open and Estonia-centred, to ensure rapid economic growth and actual nature protection, etc. Integrated analysis of the dynamics of different spheres of life is a complicated task, yet it is not possible without it to perceive what the aspirations to achieve results of one or another type (economic, social, etc.) mean in reality, what kind of constraints and opportunities do they involve. In the course of drawing up the SE21, interactions between different goals were assessed in order to identify the relations arising between the goals on the way to their achievement, and also to determine the factors that Estonia's movement towards sustainability currently depends on. Assessment of interactions between

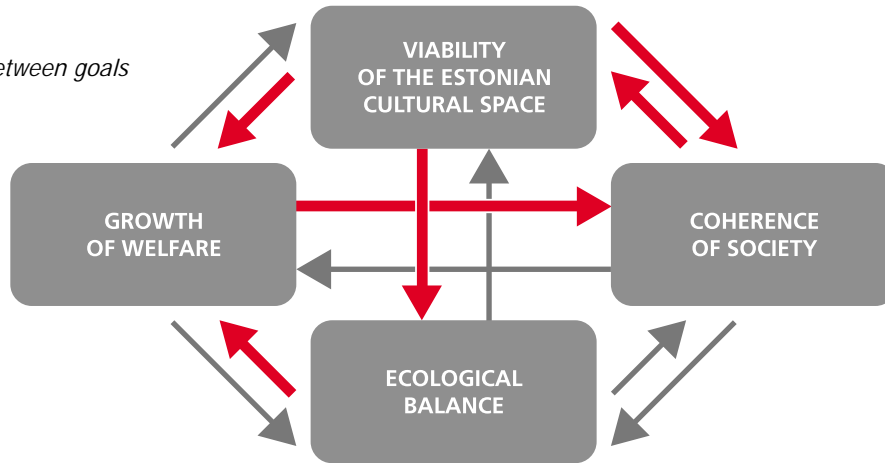
goals is of great importance for SE21, as the relation pictures unfolding as an outcome of the assessment provided one of the bases for devising the development options presented in the following chapter. Each development option or scenario presented in Chapters 2 and 3 is a construction of, on the one hand, aspirations towards amplified realisation of the above described goals and, on the other hand, the choice of a certain ideology and institutional mechanism for achieving the goals. An analysis of interactions helps us to understand the logic of the already ongoing self-regulating development, the possibilities and impossibilities hidden in it. The scenarios were developed by adding also the component of active subjective choice, i.e. the attempt of the more active part of the society to direct the development in one way or another. Interrelations between goals were assessed at the level of their components. More specifically – amplified movement towards one goal was assessed with regard to its impact on the components of other goals.

The following chart visualises the results of this analysis, presented not at the component level but as already generalised interrelations between goals as wholes.

The thicker lines in the chart describe stronger impacts and the thinner lines describe weaker ones. The following impacts were identified as stronger impacts.

Chart 1

Interactions between goals



1. Impact of the Estonian culture (cultural space) on ecological balance, with the strongest impact at the component level being on reduction of pollution and preservation of biological diversity. This impact was assessed as strongest based on the understanding that culture as the shaper of values and attitudes is an important determinant of the actual use of the environment.

2. Impact of viability of the Estonian culture (cultural space) on social coherence of the Estonian society. The impact was assessed as strong in regard to all three components of social coherence (regional balance, social inclusion, civil society). A common cultural context acts in a way as a binder in uniting the carriers of culture into a coherent society.

3. Impact of the Estonian culture (cultural space) on human welfare. This impact, too, is strong in regard to all three components of welfare (economic wealth, level of security, diversity of opportunities for self-realisation and recreation). The assessment is, again, based on the understanding that a common cultural context creates a sense of security and shapes common values.

4. Impact of welfare on social coherence of the Estonian society. At the component level, this impact is strongest on social inclusion, assuming that an overall rise in welfare will free up the time and energy of people for other, in particular social activities.

5. Impact of social coherence on the Estonian cultural space is significant as to all three

components of cultural space. A coherent society is a central precondition for the preservation of cultural space.

6. Impact of ecological balancedness of Estonia's development on human welfare was assessed as strong based on the understanding that ecological balance determines the overall environment that we live in – air, water, landscapes – and is thus also a central factor of welfare.

The assessment of interactions indicates that the highest impact on other goals (and also their components) emanates from viability of the Estonian cultural space, whose impact was assessed as strong on all the other three goals. This, in turn, implies that efforts towards this very goal may have strongest impact also on the achievement of the other goals. Thus, by bringing the viability of cultural space to a central place, by assigning it a somewhat more important role compared to the other goals, there will be reason to expect that at least some of the remaining goals or their components will be achieved in parallel.

The development goal with the strongest influence from other goals was found to be the coherence of the Estonian society. In other words, achievement of this goal is the most affected by movement towards the remaining three goals. Thus, contrary to focusing on the viability of cultural space, in case

Estonia's development path is built up on amplified movement towards social coherence, this would mean both the most resource-consuming development path (since achievement of each "bit" of coherence would require investment into the other goals) and also the most time-consuming path (as (all) the other goals would have to be achieved before).

In addition to the analysis of interactions, trends of the last decade were assessed for each development goal. The following picture unfolded.

The most problematic developments were identified in regard to social coherence – there has been a clear trend towards a decrease in coherence in terms of both inequality and regional differences. Certain positive developments can be observed only from the point of view of civil society.

Developments in welfare have been contradictory – simultaneous growth and decrease in wealth (depending on the social stratum) was observed alongside a decrease in security and a rise in self-realisation possibilities. Viability of the Estonian cultural space has certainly increased after the country regained independence, while new serious threats emanating from globalisation have emerged. As regards the ecological status, there has been an improvement in terms of environmental pollution, while some areas of use of nature (e.g. forest cutting) have become very critical.

According to the judgement of SE21 experts, the established goals will be the most complicated to achieve in the coming decades in the field of social coherence, as the development trends in this sphere so far have been contrary to the established goals. In view of the development goals as a holistic system, failure to achieve the goals in the field of coherence will mean a threat to the sustainability of the entire development of Estonia.

Summary

The above-described four development goals are not unique in the context of the sustainable development strategies prepared in other countries. The goal of ecological balance with its various components is part of all strategies drawn up to date. Growth of welfare and social coherence are set as goals in the strategies of many countries (United Kingdom, Germany, Austria, Netherlands, a. o.), while persistence of the cultural space as a separate goal is a relatively specific aspect in SE21. According to our knowledge, it has not been set as a goal in any of the existing strategies. It is not difficult to see though that the goal related to cultural space was set due to the particularity of Estonia – the historical experience, small society and limited state resources, which all makes this goal substantiated and also indispensable in the very context of sustainability, along with the above-noted fact that it is just the developments in cultural space that

provide the best support (or hindrance) to the achievement of the other goals.

Considering the practices of drawing up sustainable development strategies in developed countries, the Estonian strategy, too, could be built up as a “linear” document. Taking the established goals and their components as a basis, the next step would consist in drawing up an action plan for moving towards each of the goals and developing a system of indicators for progress monitoring and assessment. This approach would mean, however, that the general way of functioning and the regulatory mechanisms of the society would remain the same, just movement towards some priority goals would be amplified.

According to the conviction of SE21 experts, continuation of the present (linear and priority-based) development will not ensure the sustainability of Estonia. **Sustainability of Estonia is conditioned on clear development acceleration in the coming decades.** Development acceleration in this context means acceleration in moving towards all four development goals, in particular catching up with the EU average welfare indicators and bringing the coherence and functioning capacity of the society to a level comparable with the EU countries. If Estonia stays among the last five countries of the enlarged EU, it will be unsustainable already just because of the fact that more and more

people in Estonia, being in an open reference space of Europe, will begin to ask themselves – why just me should live and realise myself here, in an underdeveloped periphery of the EU? The leaving of the most capable elite may become a critical blow to Estonia's development and sustainability. The development task of Estonia for the near decades is difficult and in a way paradoxical – **to catch up with the EU quality of life, while preserving the Estonian cultural space, significantly increasing the coherence of the society and ensuring an ecological balance.** This is possible, but not through the continuation of the development model so far but through a shift of paradigm.

Chapter II

Development options of Estonia

■ Introduction

According to the judgement of SE21 experts, the central precondition for Estonia's sustainability is development acceleration in the coming decades, meaning accelerated development towards all four development goals. The reason lies first of all in a change in our political, economic and social environment resulting from accession to the European Union. Estonia will be sustainable in the conditions of an open European space only in case it is capable of functioning equally with both "old Europe" and American and Asian developed countries, both as a state and as a society. This challenge cannot be resolved by simple and mechanical continuation of the current development path. The challenge presupposes purposeful introduction and powerful cultivation of new development factors.

Proceeding from the above understanding, the expert groups of SE21 analysed the possible development models of Estonia with the aim of defining the development path(s) allowing development acceleration while also ensuring sustainability. The analysis springs from the actual social arrangement of Estonia in the past decade, which can be most broadly described as the model of *low state interference*, also described as market-centred, liberal or individual-centred state. Indeed, after the restitution of

independence, self-regulation and market relations began to play a determining role both in the economy and in other spheres of life and the main emphasis was placed on the driving role of personal responsibility and competition. In fact there was no choice – it was the low-interference approach that made the society to function, opened up individual resources and brought Estonia into a relatively satisfactory condition compared to other Central and Eastern European countries, at least in the economic sense. Yet it is generally known that this path had a destructive effect on social coherence. Today's question is: what would be the best way to move on in terms of sustainability of Estonia. According to SE21 experts, the today's society of Estonia has got the makings and potential for continuing in at least three directions. The first option lies in continuing the present scheme of low interference. As alternatives to this business-as-usual scenario, Estonia could make a shift either towards a more conservative and nation-centred model or towards a societal arrangement based on social partnership. The following presents an analysis of the three potential development paths or scenarios outlined by SE21 expert groups. The analysis is based on expert judgements and group work and includes the motives for launching and a description of the basic characteristics of each scenario, a description of the circumstances supporting the relevant development path, the projected impact/outcome of realisation of each development path from the point of view of the four development goals, an assessment of the strengths and weaknesses of all scenarios and a generalised judgement of the sustainability of each path.

Business-as-usual scenario

■ Motive

A tried and tested scheme that does not presuppose significant changes in the current arrangement of social life. The expectation that market-driven economic growth will help to resolve also the problems related to this scenario, in particular in regard to social coherence.

■ Characteristics

Market-centred conception of society based on confidence in the rationality and initiative of individuals. Efficiency, rationality and profitability are the central criteria in all spheres of life. A trend towards reducing public expenditures, providing support to businesses and using private capital also in spheres so far operated by the public sector (education, research, health). A desire to divide the functions necessary for the functioning of the state and society between the EU institutions and local governments (Estonia is simply too small for effective functioning as a state).

■ Supporting factors

Realisation of this scenario is supported by Estonia's rapid integration into the world economy and a good state of the latter. Liberal market economy gives us several advantages in the neighbourhood of the social-democratic Nordic countries, increasing *inter alia* the inflow of foreign investments and growth of welfare.

This path is clearly supported by economic operators, foreign investors, but also the younger generation and risk-prone people.

■ Positive impact

The scenario will have a favourable effect on economic development and (economic) welfare, though not in the longer term. As regards civil society, the scenario will, on the one hand, promote its development (there will be a perceived need to protect one's rights, represent one's interests, etc.), while, on the other hand, the state and businesses will not pay much attention to grass-root democracy. Still, private contributions to the third sector will increase, competitiveness of the people of Estonia will increase, Estonia will integrate more fully into international structures. The "invisible hand" or market mechanisms will urge all members of the society to maximise their efforts. The (total) energy unleashed under this scenario will be the highest among the three options.

■ Threats

Preservation of the Estonian cultural space is not a priority in the context of this scenario, individualistic value orientation does not promote nation-centredness. Social coherence will not increase, (economic, regional) gaps will continue to widen.

A society built around material success and at the same time highly stratified is a favourable breeding ground for crime. Poverty of certain groups of society

and the backlog of whole regions will begin to amplify the negative demographic trend, aggravating the deficit of human capital and increasing non-productive expenditures. The pressure to import high-quality labour will increase, which will sharpen relationships in the labour market and increase the risk of conflicts in the society as a whole. Market-centred Estonia will come into conflict with its Nordic (social democratic) neighbourhood, Nordic countries will reduce their support to Estonia at the international level. If economic growth should be inhibited, Estonia will run into great difficulties. Such a situation would require state interference but since the state will have only a marginal role in economic regulation, there will be no entrenched instruments for offsetting economic fluctuations and solving crises. There will still be a danger of remaining a cheap subcontracting country due to the absence of a purposeful innovation policy, which the pure market does not ensure.

■ Judgement of sustainability

A low-interference scenario is effective in the short term (during the transition period) but it will not ensure sustainability of Estonia in the long run. The central development goals of Estonia (I and III) will remain unachieved. In particular in terms of social coherence, Estonia is already today close to the critical limit (comparable to Russia rather than Europe). Reproduction of human capital will suffer, the efficiency of use of human resources will decrease, a big part of

the population will be excluded from the creation of values. There will be a strong pressure to deplete the natural resources.

A significant part of the society has by now perceived the threats associated with the business-as-usual scenario, which has created preconditions for a shift in paradigm. The shift can take place in two directions, towards the national-conservative development path or towards the path of social partnership.

Conservative development path

■ Motive

In the circumstances of increasing indeterminacy of the external environment, conservativity as a survival strategy has justified itself repeatedly in history. Accession to the European Union significantly increases indeterminacy also for Estonia, which makes it justified to adopt a cautious and preservation-oriented strategy.

■ Characteristics

This strategy is based on a nation-, home- and nature-centred ideology, which combines in itself the values of national culture and naturalness with traditional conservative values (order, authority, tradition, self-discipline, loyalty, family-centredness). The aim is stability, not change or development. There will be a prevalence of self-defence attitudes, a desire to inhibit negative external impacts and the impact of foreign cultures, especially the American mass culture, and of the consumer society. The main objects of protection/preservation will be the Estonian language, traditional national culture and an unspoiled natural environment, and also a secure and natural, traditions-based way of living. This will be sought through the creation of a well-functioning support and supervision system and a propaganda machinery. A clear limit between “the own” and “the alien” will develop. A system of norms and restrictions will be established

for the protection of “the own”. Power will be relatively centralised, the role of the state will be perceptible in all spheres of life. Sustainability will be interpreted as the protection of the existing, as cautiousness in implementing any changes, prevention of external impacts. High preventive taxes will be imposed on polluting and environmentally dangerous economic activity and violations will lead to severe punishments.

■ Supporting factors

An important factor prompting the country to head for the conservative development path is seen in external danger to the independence of Estonia and to the preservation of Estonianhood – the existence of long-term hotbeds of war in the world, refugee and immigration pressure, threats from Russia, etc. This scenario may be triggered also by a sharp internal feeling of danger – widespread lack of confidence in the cultural sustainability of Estonia or recognition of the possibility of ecological disaster (e.g. plans of massive import of foreign workforce into Estonia or an agreement on establishing an international nuclear waste repository here). Also the turning of the current development path to an even more liberal track, combined with the growth of consumerism, may, as a counterreaction, create a favourable ground for the strengthening of isolationism and traditionalism in society, which will support the unfolding of the conservative scenario.

■ Positive impact

The scenario will have a positive impact on several sub-goals – social coherence will increase, maintenance of the cultural space will receive special attention, regional differences will decrease, the ecological status will improve. Security of people will significantly increase. Economic wealth will become more evenly distributed but unfortunately at a considerably lower level compared to the EU average. Life in general will be more peaceful, there will be fewer sources of stress than in the case of e.g. the business-as-usual scenario.

■ Threats

Contrary to the expectations, this scenario will not solve the demographic crisis but will rather have an opposite effect. Emigration pressure, in particular among the younger generation, will be discernible. Despite the recommendations to address welfare as an integrated system, not just from the economic point of view, also the goal of welfare will remain unachieved (in terms of the desire to catch up with the EU average welfare level), which will generate dissatisfaction. Self-realisation possibilities will be more limited due to cultural protectionism than they are “abroad”. The “duplicity syndrome” will reappear to some extent – people will act “as one should” in public, while their talk and deeds in private life will be different. A conservative and supervision-oriented state will generate groups of dissidents, who will be questioning

the prevailing mindset. Suppression of consumption needs will create a basis for an increase in smuggling and corruption. The possibilities of international integration and also the ability of people to adapt to changes in the surrounding world will decrease.

■ Judgement of sustainability

This scenario will be sustainable in the conditions of a permanent external danger or internal crisis but relatively non-sustainable in the conditions of an open society. It will be difficult to match this scenario with life in an open European space. Adoption of a conservative attitude after accession to the EU will definitely mean the status of an underdeveloped peripheral country.

Social partnership

■ Motive

The understanding that it is not possible to cope successfully in increasingly complex settings without engaging the broad range of interests and competences present in society into decision-making. On the other hand, a desire to overcome alienation phenomena through radical decentralisation and democratisation.

■ Characteristics

Unlike the market-centred business-as-usual scenario and the state-centred conservative scenario, the development path of social partnership is strongly centred on civil society. It follows the model of the so-called network society, in which a broad range of actors and groups of actors with different interests is operating, driven by a wish to protect their (special) interests in the policy-making process, while accepting that decision-making requires the involvement of also the other interested parties. The state gives up the monopoly of decision-making, involving various social stakeholders in the decision-making process. The process is public and transparent. Decisions concerning the public sphere are made by the principle of partnership between the state and civil society; there is a close cooperation between the private sector, the state and the third sector in the economy, especially in the provision of services. The principle of partnership

has become a good custom and a generally applicable code of practice. Even if common understanding is not reached, the other party is seen as an equal partner whom one has to live together with, not as an opponent who has to be “ripped off”. The feeling of solidarity is actively cultivated, incl. through the media. Application of the principles of solidarity and the mechanisms for reaching agreement are supported by legislation.

The difference from the conservative scenario is a principle one. Under the conservative scenario the central actor is a strong and hierarchic nation state, while the partnership scenario means movement in the opposite direction – towards the division and dispersion of the decision-making mechanism. Discussions between different social actors lead to horizontal agreements, which serve as a basis in policy implementation. National developmental priorities and the principles of redistribution of national income are agreed upon, taking into account the interests of all key social groups.

An important role of media in this context is to mobilise public interest and develop the intersection of different opinions. The educating role of media will increase, with the aim of forming common opinions and mutual understanding and bringing together people with different interests and different experiential background.

■ Supporting factors

This scenario may become triggered by the continuously increasing impact of the Nordic political culture in Estonia, but also by the over-amplification of the “invisible hand’s” scenario or the conservative scenario, which will raise public dissatisfaction and drive citizen associations to intervene more actively in public life. On the other hand, this scenario is preconditioned on the stability of the state and economic conditions, a sufficient level of welfare and a broad and functioning civil society. Partnership will be fostered by the weakening of the impact of competition logic also in the business world and in politics: here, too, will be shifts towards a negotiation-centred cooperation culture. The importance of social capital (trust, cooperation capacity) also for economic success, not to speak about a democratic political system, will be increasingly understood. People’s attitudes will adapt to this understanding: distrust will decrease and barriers will lower, the self-enclosed and distrustful Estonian will become a smiling and broadly and openly communicating European.

■ Positive impact

Inclusion and partnership will have a remedying effect on people’s feeling, even (economic) difficulties will be perceived as less significant in a situation where there exists social support and a possibility to explain and argue one’s situation. The diversity of the cultural space will increase, including by adding of non-Estonian elements (as the range of partners includes

also other ethnic groups). The growth of social capital will facilitate more efficient use of the human resource and add to the quality of human capital through a positive and stimulating social environment. The decisions made will have broad social support, which makes it easier to implement them. Social coherence will significantly increase and various green groups will be seeing to it that ecological issues receive sufficient attention.

■ Threats

The scenario will unfold slowly, as it presupposes a critical mass of certain qualities in the society (a well-developed civil society, tolerance of differences, negotiation skills, low authority), but also a level of welfare that would allow people to spend more time on social dialogue. The central threat is related to loss of time – the decision-making process will become lengthy, negotiations will drag, adoption of many decisions may be late. In particular the launching of long-term programmes requiring coordinated efforts will be inhibited due to the large number of actors involved and due to actively expressed specific interests. A failure to reach agreements will increase the potential for conflicts in society and also the agreements themselves may not always be rational. Due to the central role of social issues, this scenario will not be the best one also from the point of view of rapid economic growth. As *all* parties are partners, the interests of different nation groups will be taken

into account, resulting in an increase in the multiculturalism of the Estonian society along with all the associated positive and negative effects.

Judgement of sustainability. Partnership society is a sustainable societal model in the conditions where the main preconditions for its functioning (level of welfare, functioning civil society, dialogue culture, strong common values) are well developed. The partnership scenario would be a well-functioning model upon the basement of cultural integration, which does not exist today in the society of Estonia. In view of the understanding according to which one of the central tasks of Estonia is to catch up with the quality of life of the EU (in terms of welfare, coherence and ecological balance), Estonia needs more than just a partnership society. Estonia needs partnership along with strong accelerating impulses to development.

■ Summary

According to the judgement of SE21 experts, the positive impact of the business-as-usual scenario on Estonia's development is becoming exhausted and a shift towards a new development scheme is indispensable. When comparing the other two above described options, the conservative model and partnership model, the situation is contradictory. There is clearly more expectation and willingness today in society to move towards the conservative model, yet the path of partnership society has several advantages from the point of view of sustainability of Estonia. Proceeding from the understanding that Estonia needs, on the one hand, a development acceleration (discernible approaching to the quality of life of the EU) and, on the other, also a growth in social sustainability, neither of the scenarios in their pure form will lead to the achievement of the goals. The conservative model will create inevitable tensions in connection with openness and EU membership, while the building of a partnership society would require much more time and resources than are available in Estonia. In such a situation, it is necessary to consider the possibilities for reconciling the different approaches, for developing a synthesised scenario which would attempt to combine the strengths of the above three paths and minimise the threats inherent therein. Such scenario could consist in a development path leading to the knowledge society as described in the following chapter.

Chapter III

Synthesised scenario:

Estonia as a knowledge society

Chapter III

Synthesised scenario: Estonia as a knowledge society

■ Characteristics of the scenario

This scenario / development path constitutes an attempt to synthesise the strengths of the above three scenarios, taking serious account of also the trends developed to date in the international context. The idea of the synthesised scenario is to bring Estonia closer to the knowledge-based or knowledge society – a societal model currently in a developing stage worldwide. It is based on the conviction that none of the above three development options alone would ensure the sustainability of Estonia. Estonia's chance is to purposefully combine the potentials and interests already existing in society with the elements of the (presumably success-generating) model of knowledge society.

This is a model consisting in:

1. The adoption and application of the principles of knowledge-based management and learning organisation both in state governance and in the public and private sector; subjecting of political decisions to rational calculation and feedback-based analysis.
2. Powerful incorporation of competent expertise and publicised feedback into governance with the aim of

detecting and correcting dangerous trends and mistakes and incorporating corrections proceeding from development needs both into the financial policy and into decisions made in other spheres, while being independent of party and group interests.

3. Feedback- and knowledge-based management is founded on agreements in regard to the development targets of Estonia and on strategic development plans supporting those targets. Development plans and the ensuing political decisions (incl. legislation) are prepared in cooperation with both domestic and foreign independent research and analysis centres (universities, independent research centres) and with citizen associations and local governments. Short-term tactical decisions and medium-term plans are based on long-term development analyses and strategies.

4. Agreement-based development plans underpinning management decisions are prepared in a dialogue between different parties, with the essence of the dialogue being not so much competition of interests but rather the comparison and reconciliation of integrated ideas and visions. The dialogue is based on the (world's) best knowledge in the relevant sphere, on the analysis of international experience and on a reliable set data on Estonia together with the necessary generalisations. Sectorality will be replaced with synthesised solutions.

5. A rational conception of human and society based on informed choices and learning ability is being cultivated, knowledge and analysis are valued. Growth of knowledge and educatedness and their effective

application as a development resource is recognised as a national priority.

6. Movement to the innovation-based stage of development (according to Porter) receives strong state support. Different from the current low-interference approach, this scenario involves the development of a clear national policy directed not to stability and preservation (the conservative scenario) but to the achievement of agreed development goals. National policy will be directed to strengthening the capability of the Estonian society to move to the trails of the knowledge society, but also to promoting the key spheres of the knowledge society – education and research, innovation, development. As the key to the whole model lies in the rearrangement of societal relations, a particular focus will be laid on promoting social innovation.

7. The behaviour strategies necessary for successful performance in a global risk society (according to U. Beck) will be gradually adopted, including those concerning dispersed responsibility and the role of independent centres of expertise, but also concerning the actors of national policy and sectoral actors (networking cooperation between various expert and interest groups).

8. Education will develop into lifelong learning also in practice, being directed to maximising the creativity and learning ability of individuals and shaping the skills of identifying, analysing and solving problems from early childhood to high age. Curricula will pay special attention to the development of strategic thinking and acting, critical reflexivity and cooperation ability. Risk assessment and

risk management skills will be developed. Feedbacking mechanisms will be developed for education and labour market.

9. The use of media as the initiator of and forum for development debates will be expanded. This will result in increased critical reflection capacity of people and institutions, which is a determining component of this development model.

10. Estonia's possible version of moving towards the knowledge society combines/maintains the positive elements of the development paths analysed above (and having societal support). Figuratively – the energy-unleashing effect of competition combined with the culture of social dialogue and valuation of the Estonian cultural space.

Knowledge society differs from other development models first of all in its attempt to subject the process of political decision-making to systemised knowledge on Estonia and the world, to establish mechanisms for creating and using this knowledge. The ideal of the knowledge society is a society that rationally plans its development and realises the plans in a concerted manner. The state is one (and by far not the only) party in this planning and realisation. The main instrument of "self-management" of a knowledge society is strategic planning, that is, setting and agreeing of goals by different and adequately informed parties, an action programme for realising the goals, but also mechanisms for revising the programme itself in the course of action. The main difference from

the business-as-usual scenario lies in striving for knowledge-based programming and feedbacking (vs. confidence in self-regulation). Different from the conservative development path, this scenario has an emphasis on openness and includes a principally decentralised decision-making mechanism (vs. hierarchic decision-making), while the difference from partnership society lies in the desire to replace an interest-based (and very lengthy) dispute of different partners with knowledge-based decisions, which all parties also pursue. Figuratively, this is a societal model that is capable of multiplying the current employment of collective intellect and where power and money go on the preparation of political decisions, not on dealing with the consequences of incorrect decisions

A knowledge society cannot be “entered” but preconditions can be created for this model to gradually take root also in Estonia.

■ Preconditions

1. The first precondition for moving towards the knowledge society is a broadly accepted conviction that none of the three above described scenarios (or any other scenarios) would be able to bring Estonia to the desired state (European quality of life and sustainability). The judgement of the today's situation of Estonia should be redefined: not “efficient and successful” but “poor and weak”, rather a country that has coped so far but has no

big chances for maintaining its success in an open European space if proceeding the same way.

2. An understanding that development acceleration is not only the growth of gross domestic product. Development acceleration means the process of the society as a whole reaching a sustainable state, a clear movement towards *all* of the primary development goals. Development acceleration can be realised only in case there exists a critical number of interested parties, supporters and contributors, and through their involvement in the decision-making process. This means a principal broadening of the range of both participants and decision-makers, on the one hand by adding of groups and individuals possessing world-level expertise, and on the other hand through the participation of various stakeholders of the society.

3. A vision of Estonia's future as part of the world, valuation of openness. Next to that, sufficient valuation of Estonia itself as a place for living and working and the ensuing wish to contribute to the development of Estonia as a whole. A political and social will to turn Estonia's development into a joint effort based on efficient use of intellectual resources.

4. As this path constitutes a qualitative change in management methods and political culture, it means in a way a breaking of tradition. It may be boosted by a certain societal shock, an “awakening crisis”, for instance a broadly perceived danger of Estonia's development becoming inhibited due to a decline in economic growth or lack of administrative capacity and Estonia falling

among backlogged countries in international comparison. A crisis that would mobilise a big part of actors to contribute to the acceleration of Estonia's development.

5. A central factor is the existence of an elite supporting this development path and leading the process, while being already "in" in the knowledge society and also sufficiently motivated to contribute to the development of Estonia. The elite of the knowledge society is not the economic high class but educated and internationally experienced new-generation leaders of scientific, economic and political life, who will assume responsibility for reaching the knowledge society, understanding that this is basically the only way for Estonia to get among the top countries of Europe in terms of both productivity and the level of social welfare.

6. The rooting of the scenario of knowledge society is supported by both institutional pressure from the EU and a tightening competition between the EU member states, but also a competition between the EU, USA, China, a.o. Asian countries at the global level. The international environment and the existence of positive models in other small countries (with Finland and Ireland as good examples) will have a favourable impact on the scenario.

■ Positive impact

1. The role of homespun wisdom, emotions and group interests in the formation of decisions will decrease and the best knowledge of the sphere of life concerned will gradually come into use, no matter what part of the world it originates from. Movement from interest-based to

knowledge-based decision-making may become an important development impulse for Estonia.

2. Knowledge-based approach will accelerate transition to innovation-centred economy. Introduction of the model of high-tech and knowledge-driven economic growth will lead to an increase in the productivity of the Estonian economy and welfare of the members of society. (Problems emerging in low-tech and low-salary industries (food industry, power production, timber and furniture industry, textile and ready-made garments industry) need to be solved in parallel).

3. The scenario will give strong positive impulses to the broadening of the Estonian cultural space, to an increase in its functionality and innovativity. Knowledge society presupposes the informedness of all members of society and their engagement in discussions, which will activate contacts between the users of the Estonian language and facilitate intensive development of new meanings (terms, concepts) within different spheres and in their contact areas.

4. A big part of actors from different spheres of society will be engaged into a network-based decision-making mechanism, which increases participation and coherence.

5. A systematic approach to the development of the society, the economy and the natural environment will lay an emphasis on integrated, ecological conceptions and applications and promote an integral understanding and conception of developments in both the natural environment and the human and cultural environment. This will result in an increase in ecological awareness,

which facilitates purposeful consideration of the state of the natural environment and contributes to the valuation of balance and diversity not only at the macro level but also in everyday behaviour.

6. The scenario will have a positive impact on regional development, incl. the development of diverse and flexible forms of employment and settlement, resulting in a uniform rise in the quality of life and the living environment in Estonia as a whole.

7. There will be a positive impact on the achievement of the goal of ecological balance thanks to switching to innovative eco-management and knowledge-based production.

8. A rise in educatedness and the emergence of innovative fields of activity will increase the diversity of self-realisation possibilities. The use of new interactive media in recreation will increase. This will result in increased attractiveness of Estonia as a living and working place for the young.

■ Threats

1. The primary danger lies in too rapid internationalisation of the Estonian cultural space, incl. the English language becoming the prevailing communication language in several spheres of life. Increased attractiveness of Estonia will also increase the pressure to cultural globalisation and internationalisation, which will lead to the danger of Estonian-language culture becoming a “museal” unless adequate countermeasures are taken.

2. There is a danger of widening of the digital and cultural gap between different groups of population, the danger that the youth culture escaped into a passive virtual world and “the culture of the elderly” encapsulated into the traditional way of life may become marginalised in a society oriented to active participation and innovation.

3. There is a danger that innovative and strategic ideas will not be sufficiently “translated” into the language of everyday life and thereby made understandable and captivating for people. Difficulties will emerge in overcoming the interpersonal, intersectoral and professional communication barriers (widespread in Estonia in places). Development strategies have to be accompanied with communication strategies and training programmes to avoid these threats.

4. Resistance and round-defence among politicised officials constitutes a danger; the proposals and ideas of professionals continue to be regarded simply as noise.

5. Risks are posed by strong social stratification as a remnant from the previous development stages of the society and by the existence of “ghettos of poverty”, whose elimination requires a special programme of social transition measures (incl. social assistance combined with social rehabilitation). Concentration of social exclusion in regions of traditional extensive production (agriculture and mining) constitutes a danger, which, too, presupposes the implementation of special programmes for offsetting regional developmental differences as well as mobilisation of additional resources for the strengthening of local communities.

■ Judgement of sustainability

Despite the above threats and problems, the experts of SE21 judge that powerful movement towards the knowledge society is basically the only development path that would ensure the sustainability of Estonia. The reason: **knowledge society is the only development model based on reflective knowledge-based adaptation of the society and state to changes in both the internal and external environment, creating the necessary structures (institutional and intellectual support to strategic planning) and cultivating reflexivity and competence as the central qualities of the society.** For a small country lacking the resources for realising itself by the use of power, the wisdom of adaptation and self-management is in fact the only way to development and success.

Knowledge society is certainly not an ideal world or a dream country either. Yet this model should (at least in theory) be knowledgeable of also its own weaknesses and shortcomings, which is the primary precondition for overcoming them.

Preconditions for moving towards the knowledge society can only develop step by step. One of the essential preconditions is a change of generations in the key sectors of society, a new elite to lead the way to knowledge society becoming influential in public life, in shaping societal attitudes and policies. An elite who is able to overcome the traditional closedness of

the Estonian culture and the rigidity of communication barriers, the individualistic “hard-working ethics”, distrust and hostility towards “others”, which all together reduces significantly the cooperation capacity of the society and inhibits the realisation of the social capital as a development resource. This can be overcome only through stimulating cooperation networks, but in particular through increasing the willingness for and skills of cooperation and shaping communicative and social skills through the education system.

Movement towards the knowledge society is not reducible to computerisation of Estonia, as can often be heard in discussions held in the context of information society. It is first of all a shift towards a principally different arrangement of society and governance, with the development of the electronic communication network being a (certainly important) component of the infrastructure supporting this model. As the unfolding of this scenario requires reforms, in particular in education and in the culture and practice of state governance, but also a steady partnership between the state and a (well-developed) civil society, this scenario is not likely to gain full effect before the next decade. However, the first steps to bring Estonia closer to the model of knowledge society can be taken already today. The courses of action to this end are described in the next chapter.

Chapter IV

Courses of action

Chapter IV

Courses of action

Introduction

Estonia as a knowledge society means movement towards such an arrangement of developmental management where knowledge constitutes the as central a basis for development choices as possible and where an as large a part of the Estonian society as possible participates in making development choices. In terms of the above-described four development goals, this means a sufficient foundation of knowledge and a critical mass of competent cooperative participants both for cultural space, welfare, coherence and ecological balance. There is no ideal here either, movement towards the knowledge society means step-to-step changes in at least four fields:

First – introduction of the principles of knowledge-based management into state governance. The aim is to move from interest-based (sub)decisions towards inclusive and knowledge-based strategic management in making decisions that determine the development of the society.

Second – changes in the creation and use of intellectual resources. As intellectual resource constitutes the key resource of the knowledge society, a significant increase in and making of the best use of this resource is an inevitable precondition for the entire model to take effect.

Third – bringing of human-nature relations into conformity with the principles of knowledge society.

Fourth – establishment of sufficient support to movement towards the knowledge society, since a substantive shift cannot be achieved without this.

None of these changes will take place spontaneously or self-regulatively, movement towards the knowledge society inevitably requires the relevant state policy. The “invisible hand” is no use here. The policy can be effective only when it builds on a broad societal conviction that such a development path is necessary and suitable for Estonia.

Nor will any of the above-mentioned changes take place overnight, they all require efforts and a step-by-step approach, they all require that the principles of knowledge society are applied in developing the knowledge society itself. At the same time, a clear orientation towards this very type of societal arrangement gives sense to the movement and hopefully also shortens it.

The last chapter of SE21 proposes courses of action to support Estonia’s movement towards the knowledge society. The actions are divided into two groups – those creating the necessary institutional basis for knowledge-based state governance and knowledge-based arrangement of social management, and the ones increasing Estonia’s capability of acting as a knowledge society.

Course of action A: Transition to knowledge-based state governance

The following does not constitute a proposal for creating new institutions or reorganising the existing ones. It proposes a vision of an institutional system for “navigating” as sustainably as possible in the space of an increasingly complex external environment and conflicting development goals. Creation and launching of such a system requires a different approach to state governance practices compared to the one so far, and also several different social and political attitudes and a different organisational culture. However, the key features of developmental management that would fit into the today’s environment can be defined based on the experience of several countries and steps for designing a model suitable for Estonia can be proposed.

■ Baseline situation

Estonia is currently lacking at least three central components of the model of knowledge society.

First, *a long-term integrated development strategy.* We have over 60 separate and poorly intercompatible development plans, from which it is possible to gather neither Estonia’s common targets nor a future strategy. Also the document *Estonian National Development Plan for the Implementation of the EU Structural Funds – Single Programming Document 2004-2006* cannot serve

as such a base document for the following three reasons:

1. The document centres on economic development, it does not cover the entire range of issues related to Estonia’s development.
2. The document is directed only to those spheres of life that can be supported through the EU Structural Funds.
3. The document has a short time horizon.

Second, there exists no *centre* (institution, organisation, network) tasked with the development, monitoring of implementation and revision of such strategy.

Third, a *cooperation network and dialogue culture* necessary for preparing a development strategy is absent. Although there has been an improvement in cooperation between the brains trusts of different agencies and in the involvement of stakeholders in the preparation of development plans in recent years, the various development plans are drawn from very different bases, their intercompatibility is weak and involvement of the public has been formal. The potential of universities, research centres and various non-governmental brains trusts has not been made sufficient use of. In cases where this was attempted to be done, there have been great difficulties with reconciling the mentalities of officials and researchers.

In order to move towards strategic developmental management, it is necessary to establish an institutional structure to design and administer the general development strategy of Estonia. Several different approaches are possible here. If the development of the strategy is regarded as primary and institutional arrangement as secondary (creating the strategy e.g. by the use of an *ad hoc* group or in cooperation between a variety of existing institutions), it will be justified to start creating the institutional “body” for the strategy only after the strategy itself is completed. The other option is to begin the development of the strategy from creating a central institution or network of institutions, assuming that a strategy without a “master”, someone to look after its implementation, to deal with its adaptation, etc. will not prove viable. The experience of other countries could be of assistance in selecting the approach suitable for Estonia.

■ International experience

Arguments in favour of both the first and the second approach can be found in the practice of different countries. The experience of Ireland from the 1960ies speaks for the first option. In the Irish case, a strategy developed by an *ad hoc* group (consisting of leaders from different spheres of life – researchers, technocrats, politicians, trade union representatives,

also the foreign Irish)² was taken as primary, the completed strategy was accepted by political parties and other social actors and a whole network of semi-state institutions was established to support its implementation. True, one institution was somewhat more important in this network than the others: the Industrial Development Authority (IDA). Once the strategy had been realised or became exhausted, a new *ad hoc* brains trust was convened and a strategy for the following time period was drawn up.

The Finnish example is more institution-centred. An institution named SITRA (*Suomen itsenäisyyden juhlarahasto*) was established in Finland at the end of the 1960ies with support from the Finnish Bank. It became the driving institution in preparing a development strategy for Finland, in bringing it to the attention of societal leaders (particularly appreciated are the strategic training seminars of SITRA, organised on the principle that high officials, politicians and business leaders are always trained together), and partly also in contributing to the financing of key sections of new development (risk investments). SITRA does not focus only narrowly on designing an economic development policy – it has lately been dealing also with e.g. the issues of social innovation.

The development success of Finland is sometimes attributed to successful activity of SITRA in the field of

² A similar approach was used also in the case of the so-called National Understanding at the end of the 1980ies, where the main focus was not so much on agreeing a long-term development strategy but on agreeing on measures to avoid the impending macroeconomic crisis.

development policy. This is in a sense an overestimation because SITRA is by far not the only body to shape developmental management in Finland. Remarkable is rather the fact that the development-political visions generated at different brain centres have a rather similar philosophy and are coherent and easily intercompatible. Moreover, they are implemented with an important contribution of several other institutions, such as the technological agency TEKES with its country-wide network, but also foundations based on private capital, etc.

Interesting solutions can be found also from the practice of other countries³. For instance in Singapore the preparation of development strategies and visions is initiated by a special "Singapur 21 Committee" established by and acting under the aegis of the Government and headed by the Minister of Education (the Committee includes also Members of Parliament). In several countries, governments have ordered the preparation of development strategies for a specific period from research institutes, establishing the requirement to engage experts from outside the institute and to consult with stakeholders as part of the envisaged procedure. Despite the variety of solutions in different countries, certain common aspects can still be observed:

1. It has become a principle that long-term general

strategies cannot be successfully prepared by officials only or mostly. Nor does it work to draw up such a strategy by the use of a politically biased research centre (this option was tried recently in Hungary, where the ambitious "Szechenyi Plan" was prepared by a research institute acting as the Prime Minister's brains trust. The plan was discarded at the change of government in spite of several clearly productive ideas contained in it). It is more fruitful to use an institution, a set of institutions or an *ad hoc* working group acting relatively autonomously of the "sitting government".

2. It seems more expedient to use a network of institutions instead of a single "strategy-making institution" (this opinion was represented in a recent expert analysis on the activity of SITRA e.g. by Manuel Castells, one of the world's best renowned sociologists). The model of "one institution to draw up the strategy + other institutions engaged" seems to be the most effective one.

3. The orientation of the strategy to one specific "axis" (e.g. sustainability) should be combined with broad public involvement.

4. Political approval of the prepared strategy cannot be arranged just by submitting the "finished product" to the Parliament. The representatives of key political parties (both the coalition and opposition) and other societal parties need to be involved in the process already during the drawing up of the strategy.

³ See Terk, E. Kurik, S. *Plikaajalise arengu kavandamine riigi tasandil. Kas Eestil on teistelt maadelt õppida. (Long-term development planning at the state level. Does Estonia have something to learn from other countries?) "Eesti Majanduse Teataja" No. 7-8 2001, pp. 8-14 (in Estonian)*

■ Possible solution for Estonia

Pursuant to the logic of SE21, strategic development planning in Estonia cannot be purely sector-centred (oriented to technological development, integration problems, etc.), which has unfortunately been the practice to date. Sustainability of Estonia presupposes an integral approach, which would attempt to take into account all key development goals in their interaction. In the interests of integrity and adequate consideration of the multi-directional goals, it would be more suitable for Estonia not to develop single *ad hoc* plans but to create a permanent National Development Network to function as a strategic self-management instrument of the society.

What is a National Development Network (NDN)?

It would be a politically independent body of strategic development planning outside of political parties, which would be both developing long-term programmes and harmonising the strategies of different sectors and monitoring their implementation. A NDN would be built up as a network consisting of the representatives of state authorities, the private sector, citizen associations, political parties and public agencies (universities, the Academy of Sciences). The role of the NDN would be to draw up terms of reference for the preparation of development strategies, while the preparation of strategies (or their alternative versions) would be ordered from both public and private analysis centres through public competition. The NDN organises discussions of different options with various third sector

groups, holds public debates and formulates development plans that are ultimately submitted to the legislator for approval. The coordinating functions of the NDN could be performed e.g. by a Development Agency, which would function as a foundation or public institution and through which the NDN would be also financed. Analogously with the Finnish SITRA model, such network could not only design new development ideas but also be in charge of training a new, strategically thinking economic and political elite. The NDN would be the place where sectoral development strategies are integrated with general development plans, where their realisation is monitored, specifying and corrective measures proposed and the developments and trends in Estonia are compared with global trends and plans in other countries. Such a scheme would make longer-term development planning relatively autonomous from the control of the “sitting government” and would bring the process to a broader basis, ensuring movement towards the model of “self-management” of the society.

What does the NDN do? The NDN acts on the deductive principle, moving from general development principles to plans addressing specific topics and issues. The activity of the NDN would be based on the *Estonian Sustainable Development Strategy*, for which the present document could serve as one of the source materials. The Sustainable Development Strategy would be the document defining the most general

development goals for the state and society and it would be taken as a basis for preparing base strategies dealing with developments in individual spheres (cultural space, economic development and welfare, etc.). None of the base strategies will be created in an empty place, several plans and concepts already exist in Estonia for each of them. These will need to be supplemented and, in particular, integrated into a systematic whole.

The base strategies will be designed, as far as possible, according to common principles, with interrelatedness and deriving from the principles of sustainability being their indispensable features. The base strategies as goal-centred strategies will be translated into programmes addressing the key mechanisms / measures for achieving the goals – in the fields of population, health, education, research, security, etc. Part of the programmes already exist in Estonia, while part are yet to be created. Both the existing and the future programmes will also need to be brought into a harmonised and unified system and measures ensuring their realisation need to be established. The NDN will have first of all a coordinating and harmonising role in the process of strategic development planning, starting from the harmonisation of different terms of reference and finishing with the creation of a comparable assessment system. The NDN will certainly not be a

new Planning Committee holding the monopoly of making strategic decisions.

Who is the NDN? Ideally, the NDN should be the brains trust for the development of Estonia. The most important precondition for the NDN to assume this role is the professionalism and authority of the people acting therein. Participation in the NDN will inevitably require the possession of international competence plus an in-depth understanding of the situation and developments in Estonia. Finding of experts with a sufficient authority and level of competence is likely to prove one of the bottlenecks in creating the NDN. The NDN could develop both on the basis of an existing institution and as a completely new organisation. It is important that it has a high reputation and autonomousness, but also the capacity to combine the participation of the state and private sector (the term “semi-state” used in Ireland could be suitable). The question of who will constitute the basis for the establishment of the NDN is not very likely to turn too painful thanks to the network principle – all serious actors will have to be involved in any case.

On the other hand, the formation of corporative communities, i.e. a situation where the planning of Estonia’s development becomes an internal matter of a closed company (“a club of the wise”) needs to be avoided in designing the NDN. The idea of strategic self-management of the society can be

realised only in a situation where all interested parties are invited to participate and capable of participating also in practice.

Developmental management network. Although the NDN is designed as an independent network, there will be sense its activity only if the results are ultimately channelled into legislation and the activity of authorities. To achieve substantive involvement of the Riigikogu in strategy-making, a Development Committee (an analogue to the Future Committee in Finland) should be established at the Riigikogu. The Committee would be the main state partner of the NDN and a participant in strategy-making, the body through whom strategic planning would be realised at the state level. It would be dealing with both the general development strategy and the base strategies, ensuring that these are consistent with each other and that development- strategic standpoints are taken into account both in legislation and in budgeting. Although the committee cannot undertake the work of the Government and other parliamentary committees, it can formulate state's positions with regard to long-term issues and provide the relevant orientations both to other parliamentary committees and the Government. This would make it possible to overcome one of the most worrying aspects of the practice to date, where the budget (budget strategy) is the overall base document which the development targets and priorities of the society are derived from, while it should actually be the other

way round – developmental needs should be taken as a basis for budgeting. The entire budgeting process and control over budget implementation should be subjected to the principles of strategic management.

In the case of strategic management, each ministry, too, builds its activity on the base strategies, which serve as a basis for drafting the development plans and action programmes covering the ministry's area of administration. Similar strategic planning could take place also at the local government level. The development units of ministries and local governments would participate in the NDN network, contributing through this participation also to the preparation of base strategies.

Cost of the Development Network. When estimating the cost of establishment of the Development Network, it should be taken into account that part of its possible structural elements already exist and function as institutions. Additional costs arise first of all from bringing the current development planning into a unified system and from gathering and organising of data related to developmental management.

It is inevitable that the network to be developed has a coordinating "centre". Based on the experience of the Finnish SITRA, this could mean about ten people working directly with strategic analysis, development plans and coordination of the relevant

activities. Of the approximately 100-person staff of SITRA, ca 20 people have such functions. (The remaining staff of SITRA has other functions, incl. those connected with investment of risk capital). Considering this and also the need to involve a broader range of people in the work of the “centre”, the direct annual costs of the “centre” and the network could be provisionally estimated at around 16–20 million kroons. The establishment of the “centre” would, of course, cost less to the state, as part of the people currently working on the same issues elsewhere can simply be moved over to the “centre”.

A high level of strategy-making would require more extensive background research in the relevant fields as compared to the present, an analysis of the experience of other countries, training of decision-makers, etc. However, all this would be necessary in any case, regardless of what the development planning system will be like. A more detailed calculation of usual structural costs of development (in the broad sense) would already require a separate study. Creation of a “body” to lead the strategic self-management of the society is a key precondition for moving towards the knowledge society. Without a clear institutional basis, planning of the development of Estonia will still remain a “Brown movement” and a real development acceleration (in *all* spheres of life) will remain merely a distant dream.

Course of action B: Intellectual and social support to knowledge society

An institutional network is necessary but alone not sufficient for moving towards the knowledge society. Another inevitable precondition is the existence of adequate intellectual and social resources and their actual mobilisation towards the achievement of the development goals essential for Estonia. Clear key areas here are education, research and development and innovation, but also the creation of networks, organisation of feedback and ensuring of societal support to this development path. The following courses of action will be central to that end.

■ Education

Bringing of the Estonian education policy into conformity with the principles established in the European Union.

In adapting education to the needs of the knowledge society, the approaches and solutions in Estonia need to be brought into conformity with the general principles of the education policy of the European Union formulated at the Lisbon meeting of the Council of Europe in March 2000⁴. It was recognised at the meeting that the future of the European economy and society will depend on to what extent

⁴ See: *Investing efficiently in education and training. Communication from the Commission, Brussels, COM (2002) 779 final, 10.01.2003.*

the skills and knowledge of people will be brought into line with the needs of a knowledge-driven economy. The goals of education of the knowledge society need continuous reflexion and the content of education needs continuous adaptation in accordance with the changing needs of the society.

The Council of Europe is of the opinion that expenditures on education should be regarded as investments. In OECD countries, the efficiency of education expenditures is assessed based on the understanding that the extension of the average duration of schooling by one year increases economic growth by 5%. Investments in human capital annually added 0.5% to economic growth in the OECD countries during the 1990ies.

The education needs of the European knowledge society focus around the following issues:

- 1) to raise the general level of education of the working-age population to at least the level of secondary education
- 2) to embrace the entire population in lifelong learning
- 3) to ensure a sufficient supply of new-generation researchers and engineers and create attractive possibilities for their employment in Europe
- 4) to intensify research activity in universities and secure a new generation of researchers.

The emphasis on lifelong learning is related to purposeful application of education for increasing

social coherence and bridging the gap between the “knowledge-poor” and the “knowledge-rich”, with particular attention paid to continuous development of the working skills and competences and citizen competence of people in all age groups. Thus, the contribution of education to knowledge-driven economy is inseparable from the value of education for individuals and for overall development of the society.

In view of the negative demographic trends in whole Europe, the Council of Europe emphasises the need to stay longer in employment, to maintain the working ability and quality of workforce for a longer period, and recommends that older age groups should be engaged in various forms of lifelong learning, including retraining for achieving a higher formal education.

Considering the enlargement of the European Union, the challenge of bringing the educational space of whole Europe into conformity with the requirements of the knowledge society by the year 2010 is even greater.

All countries of Europe are called to radically increase their investments into education, viewing them not as “governmental expenditures” but as “knowledge investments”. The Council emphasises the need to bring the resources of private sector into education

not in place of but in addition to public resources so as to ensure a rise in educational expenditures per student to a level comparable to the USA, especially in vocational and higher education and in adult in-service and retraining.

A central task is to supplement curricula with key competences of particular importance for the knowledge society, such as digital literacy, learning skills, social competences, business competences and language skills. Acquiring of these key competences in all age groups, including the categories with a higher social and unemployment risk (older or less qualified workers, mothers returning to the labour market) is the main aim of lifelong learning. The Lisbon meeting recommended that the transformation of schools into multifunctional education and development centres should be supported to promote lifelong learning.

Development of the education strategy of Estonia

Considering the pan-European trends, it is the primary task of Estonia to develop an advanced education strategy and to link it with the general development goals and needs of Estonia. The projects so far (Learning Estonia, a. o.) provide sufficient starting points for this. The education paradigm presented in the education strategy Learning Estonia largely coincides with the principles of the European knowledge society for promoting education. The

Estonian education strategy could be based on the following targets established in Learning Estonia.

- **High, internationally recognised quality.** Formal education recognised in Estonia secures the opportunities to pursue studies or find work in other countries, and also to receive students from other countries.
- **Accessibility of learning opportunities.** The possibility to acquire an education tailored to one's abilities is accessible to every inhabitant of Estonia regardless of their age, mental and physical health, social status and place of living.
- **Valuation of the Estonian language and culture** in the conditions of cultural diversity.
- **Multiplicity of learning opportunities.** A broad range of curricula, types of educational institutions and forms of study are in use, taking into account the education needs of students with special needs.
- **Unity.** The education system is functioning as a unified system of different forms of study and networked educational institutions, with the general principles of its activity not depending on the language of instruction, form of ownership or level of study.
- **Openness and flexibility.** The education system is capable of responding to the changing needs of the society and individuals and the changing demand of the international economy and labour market and is open for international cooperation.
- **Partnership.** The representatives of three sectors

of the society – the public, private and third sector participate in the preparation of decisions concerning the development of the education system. The costs of study are covered on the basis of common interests by all parties interested in the outcome, which will ensure that education expenditures per person reach the level necessary for the development of the knowledge society.

- **Efficiency.** Macro-economic and social criteria for assessing the effectiveness of education investments are defined and scientifically grounded methods for assessing both the effectiveness of teachers' work and the effectiveness of concrete education investments are worked out.

- **Future-orientedness.** The content and quality assurance of education are directed to satisfying the future education needs of individuals, organisations and the society.

Key areas in achieving these goals are:

Learning as part of the way of life. Each inhabitant of Estonia has to have access to lifelong self-development to maintain their self-dignity, citizen awareness and competitiveness in the labour market. No limits are set to the age of students and self-development is promoted. Considering the declining and ageing population of Estonia and the need to successfully respond to changes in economy, it is not enough for Estonia that the young just enter the labour market, since the number of young people who could bring

along new skills and preparedness for changes is relatively small. Lifelong learning is necessary for all people, in particular the older generation, to maintain their self-dignity, citizen awareness and competitiveness on the labour market. Continuously learning employees constitute a treasure for every organisation, be it a business enterprise or a public or third sector organisation, allowing the organisation to develop and increase its wealth.

Lifelong learning has to become a natural way of life for all members of the society. Learning is no longer understood as traditional studying in a classroom. Learning takes place everywhere – in the family, at work, in community relations, when following the media, etc. Learning opportunities and curricula are designed to fit in with the wishes and needs of students within the possibilities of the society. Learning motivation of people is supported by all means. Attention is being paid to maximal development of individual capabilities of people: learners are allowed to use flexible forms of study and individual curricula tailored to their needs and interests.

Recognition of the new role of teachers. The work of teachers will change. Alongside with the transfer of knowledge, teachers will assume an important role as supervisors, mentors and mediators. Teachers will have the task of contributing to the development of individuals who are self-confident and dignified, skilled

to learn and able to cooperate. The changing environment and new tasks will increasingly urge also teachers themselves to be students.

Curriculum development

Movement towards the knowledge society implies also that the content of education is to be tailored to the expectations of this societal model. Curricula have to be significantly better equipped to develop the following abilities, skills and attitudes of students:

- learning ability and skills;
- ability to set goals, detect and solve problems;
- ability of abstract and systematic thinking, ability of critical analysis and reflexion, ability to synthesise;
- ability to make strategic choices and prognosticate risks and dangers;
- decision-making capability and responsibility, management and teamwork skills;
- ability of adequate self-expression and effective communication;
- ability to use information and communication technologies (ICT) to process and create (search, systematise, structure, analyse, generalise, disseminate, exchange and store) information;
- ability and courage to generate ideas, create new knowledge;
- self-confidence, self-dignity, initiative and activity;
- honesty, reliability, clear ethical convictions;
- mastering of the national culture treasury, ability to

understand other cultures, ability of intercultural communication;

- skills of staying in a good physical and mental shape;
- ability to adapt successfully to a new environment and meet new challenges (fitness);
- familiarity and compliance with the principles of sustainable development, attaining of the principles of acting and behaving in an environmentally sustainable manner and in due consideration of environmental balance.

Education as a national priority

Promotion of lifelong training suited to the knowledge society inevitably requires the state to take steps, first of all by creating the relevant legal environment and a financing system for making professional in-service and retraining and informal education accessible to all age groups, but in particular to groups of population at a higher level of risk. A system for taking professional and informal training and work experience into account in formal training needs to be developed rapidly to broaden the learning opportunities of adults.

The new goals and principles of development of the education system and the broadened conception of the education system necessitate changes also in the criteria of quality assessment of education and in the functioning and development of quality assurance systems. As the education paradigm becomes learner-focused, also the quality assessment criteria need to

be revised. The following criteria have been derived from the principles of knowledge-based management:

- each educational institution assesses the needs and specificity of students on a regular basis and agrees on the goals to be pursued; the goals are reflected in development programmes, curricula and in the organisation of work;
- standards agreed at the state level and at the level of educational institutions are used to measure the acquiring of the main competences;
- when assessing the work of educational institutions, the added value created by teachers will be distinguished from the specificities related to the social background and (special) needs of students;
- development plans of educational institutions are prepared in cooperation with different stakeholders, which interconnects the institutions and the needs of target groups, the community, the region and the state;
- the information gathered through quality control and monitoring is arranged into a format that allows it to be used both at the school level and state level for curriculum development, for organisational improvement of teachers' basic and in-service training and the work of educational institutions, and for assessing the quality of workforce on the basis of professional standards.

Teachers and school leaders have a key role in implementing the changes in the education system of Estonia. The role of a teacher is considerably broader

than conventionally understood. The expected changes in study content, in the style of teaching, in assessment methods, in cooperation relations with parents and the community, an increase in the number of students with special needs, the use of new management methods and new technologies – all this requires the people earning their living as a teacher to continuously self-develop, to be willing to become students over and over again. Preparation of teachers of the 21st century is one of the key issues for the development of Estonia, as is state-level valuation and societal appreciation of teachers' work.

A new type of teacher competences needs to be developed as the first step in launching the scenario of knowledge society. This requires the development of an in-service training programme for pedagogues (and also parents) together with the relevant infrastructure, which would ensure a rise in the social competences of pedagogues in the near years and improve their methodological skills for providing individual guidance to learners' development towards attaining the qualities necessary for the citizens of knowledge society. The new role expectations for teachers will serve as a basis for reforming the professional requirements for teachers, the system for assessing compliance with the requirements and the curricula and organisation of formal education and in-service training. Primary and in-service training of teachers should ensure the formation of the necessary

competences. The willingness of teachers and school leaders to develop learning-focused education means an emphasis on attaining study results specified jointly with learners. The outcomes achieved in learners' development, in terms of the abilities and competences of a personality to successfully cope in a knowledge society, should become the central criteria for assessing the performance of teachers.

Development of the education system of the knowledge society requires that a systematic education code be drawn up. Legal regulation of the education system has to be simple, proceed from consistent principles and concepts, allow the development of all forms and types of study and ensure the accessibility of education to all members of the society according to their abilities.

Adaptation of education to knowledge-driven economy

The requirements of knowledge-driven economy to workforce need to be reflected in the general, vocational and higher education curricula of Estonia. Accelerating structural changes in the economy and labour market impose ever new requirements on the educational and professional mobility of workers. In order to ascertain the need for skilled workers and top specialists by economic sectors, cooperation has to be built between public sector organisations, employers' organisations and research and

development institutions. This cooperation should be based on future-oriented sociological, economic and labour market studies, which are important both for the planning of governmental financing of universities and for curriculum development.

Education is a prerequisite for professional skills, ensuring the theoretical knowledge necessary for practical work. Numerous attempts have been made to harmonise the education networks of different countries through mutual recognition of university diplomas and academic degrees, yet it has been considered more realistic lately in Europe to harmonise the professional requirements for workers by defining the required professional skills and the necessary qualities and basic requirements.

One of the central motives for acquiring education is to acquire a profession, i.e. to acquire the knowledge, proficiencies and skills needed to secure subsistence income and a satisfying and interesting work and activity according to one's abilities and level of understanding, to perfect and develop in synchrony with changes in the surrounding world.

The need for professions is derived from the strategic goals of the Estonian economy as a whole and from the goals of individual sectors of economy. Despite the economic restructuring and some refurbishment in industries, Estonia is still a low-tech country. To

achieve a breakthrough in transition to knowledge-driven economy, the economic policy and education policy of Estonia need to be synchronously readjusted and brought into consistency with each other to ensure the conformity of workforce quality to the development needs of the economy.

Acquiring of a profession as the integration of theory and practice necessary for acquiring skills has to take place as a continuous process over the entire lifetime, from basic school to retirement age. Achievement of this goal is the key to overcoming the current lag in the quality and quantity of labour force in Estonia. The primary task is to create the preconditions that would allow our sector strategies and national policies to respond to changes through in-service and retraining. This will become particularly topical in the near decades, *inter alia* from the aspect of engaging work-capable people in retirement age into the creation of additional value in different economic sectors. The EU labour market will soon engage our redundant workers by investing into the organisation of retraining of workers from new member states.

Employment contracts between companies and employees have to be supplemented with the principle of setting out both the need and obligation for worker's in-service training. An employee must not degenerate while working in a company. A business operator has

no right to inhibit the development of workers' professional skills. The national education policy has to regulate the educational and vocational needs not only in priority areas but also with a view to safeguarding all professions vital for the state and society.

Considering the relatively low sectoral labour demand in Estonia, a significantly greater (joint) contribution from sector enterprises themselves needs to be planned for safeguarding the education necessary for professional skills.

To motivate the students of general education schools to choose professions essential for knowledge-driven economy and to prepare all members of the society for successful performance in a high-tech environment, both at work and in everyday life, the curriculum of general education schools could be supplemented with a technology module. It is important to broaden the use of information and communication technology (ICT) in the study process, incl. in making use of the possibilities of distance training. The efforts and investments made so far will lose their value unless fast Internet connections are secured for all educational institutions and work is continued in the fields of improving infrastructure at all levels of study, integrating ICT competences into the formal and in-service training of teachers, updating the curricula and methodologies in the light of new technologies,

incl. creating Estonian-language databases connected with Estonian-language study software and curricula.

Rapid changes in professional skills and requirements (arising from technological development) necessitate very operational and frequent revision of professional standards, as these very standards constitute the pool of requirements from which schools are to obtain the information necessary for drawing up curricula in both the short and the long term. The role of the state and Government will consist in ensuring support to all aspirations to acquire education and a profession, charging and entrusting professional specialists with this task.

In particular professional certification organisations but also the state, local governments and other relevant organisations will be in charge of promoting and developing the prestige of professions, continuously revising qualification requirements and designing mechanisms for organising in-service and retraining.

In summary

The aim is to develop the education offered in Estonia, incl. its organisational structure, into an integral and unambiguous system. This will lead to an educational system which:

- is based on a development programme (education strategy) consistent with the overall development goals of the society;

- is regulated by a comprehensive body of education legislation;
- provides each inhabitant of Estonia with the opportunity to fully develop their potential and abilities;
- is subject to quality requirements brought into conformity with international requirements;
- is subject to continuous curriculum development, regular feedback and quality assessment;
- functions as an integral system with the Estonian research and development activity;
- offers education in (dynamic) accordance with the changing needs of the society and labour market;
- functions in an open manner, both allowing Estonian students to gain foreign experience and importing world's best competence into Estonia;
- develops a sufficient set of social and strategic competences for coping in an open world (languages, communication skills, goal-orientation, strategic planning, etc.);
- is feedback-based and through that continuously correcting its performance;
- is financed at a level corresponding to the importance of this sphere for the knowledge society, i.e. the share of educational expenditures in GDP has to increase;

As of today, none of these requirements have been satisfactorily met, which constitutes clear hindrance to moving towards the knowledge society.

■ Research, development and innovation (RD &I)

Principles

It is stated in “Knowledge-based Estonia”, the Estonian research and development strategy for 2002-2006, that: *RD&I activities support the preservation of the state and the nation and the orientation of the economy and society towards sustainable development.*

The R&D strategy envisages a review every three years. Thus, the short- and long-term goals for research and technological development and innovation grounded thereon, as well as consistency in reaching the goals, have been nationally defined and recognised.

According to “Knowledge-based Estonia”, the strategic RD&I preferences or key areas for Estonia are:

- User-friendly information technologies (IT) and development of the information society
- Biomedicine
- Materials technologies.

The preferences have been defined in consideration of the specific development potentials and possibilities of Estonia, the existing research potential, the existing economic structure and international trends in the field of RD&I.

Information and communication technologies are one of the technologies that are currently driving a shift in

world’s technological-economic but also societal paradigm. The field of biotechnology, incl. biomedicine, has considerably broadened human’s own “sustainability”. In addition to the possibilities of clinical medicine so far, this is important from the point of view of developing the “health industry” – innovative promotion of biomedicine techniques and technologies, pharmaceuticals, environmental technologies, etc. Materials science is inherently an integrator and synthesiser of many areas of research. The competence of Estonian researchers so far allows this area to be developed into one of the key areas of development activity, which will create a very favourable market situation for small and medium-sized high-tech enterprises. The present selection of the three priority areas correlates with the ongoing shift in the global technological paradigm, enabling the scientists and engineers of Estonia to participate in the global RD&I networks in the long term.

Practical application of research results in industry and services is not possible without development activity. This is the field of engineering, where engineers work hand-in-hand with researchers and economic operators – industry and services, the main appliers of innovation. The decades-long absence of such a connecting link, though for different reasons, has been the reason why the Estonian industrial technologies have remained relatively low-tech. It has also led to a

reduction in the number of engineers and specialists mastering state-of-the-art high technologies. Yet the existence of such an implementary-applicational intermediate link is an inevitable precondition and motivator for bringing the outcome of research and education into an enterprise creating real added value. Also technology transfer can successfully serve as an input into development activity, which, too, presupposes an adequate supply of knowledgeable technical specialists and creation of choices.

To reach a situation where research and development act as the real development engine of Estonia, it is indispensable to support the implementation of both fundamental and applied studies (in particular those related to the development goals of Estonia). The principle set out in *Knowledge-based Estonia* according to which ... *the needs of the economy and social sphere, as well as societal problems, should be taken into account and become a basis for the planning of RD&I activities*, has to be put into practice. According to the Research and Development Organisation Act, all ministries have to ensure the implementation of applied studies necessary for the development of their area of administration through initiating and financing the relevant national programmes. This legal requirement has not been met so far and needs to be put into practice.

Technological innovation is the key area of the knowledge society. Only the best information and communication technological environment makes the functioning of a knowledge society possible. Only knowledge-based solutions will allow Estonia to upgrade its energy sector, healthcare, a. o. spheres of life. Clear support needs to be channelled to those technological innovations for which a range of high-level actors and know-how has developed to date in Estonia and which therefore have also an export potential – health technologies, development of ecological technologies, etc.

Steps

First, it is important to follow the course adopted by the Council of Europe in March 2000, which, formulated as a Decision already in March 2003, obligates the Member States to allocate 3% of their GDP to RD&I activities. Estonia has undertaken to ensure a 1.5% allocation by the year 2006, with the share of enterprises in RD&I to be increased to 0.6% from GDP.

Second, informedness and motivation. An informed and innovation-friendly attitude has to be developed in the society as a whole, such that each member of the society would value the achievements in the field of innovation (equally with, for instance, the great achievements of athletes). In addition to financial instruments, a shift in value judgements will allow the

development of an environment where the motivation to invest into innovation or to deal with innovation gets paid also through public appreciation.

It is important to motivate all parties:

- **Economic operators** should be motivated to apply innovation as long-term investment into the strategic development of enterprises (incl. education, research, development). Today this is done mainly in an emergency or to strengthen personal relations. Investment into innovation and success in this field should become part of client behaviour and societal appreciation of enterprises (innovation-friendly behaviour of consumers/clients/investors has a stronger effect on enterprises than lecturing does).
- **Researchers** – The current disciplinary fragmentation in Estonia due to the lack of scientific personnel and financing does not ensure the desired results. The launched creation of technological development centres will make it considerably more realistic to motivate different research groups to work jointly towards a development outcome and to convince enterprises/investors of the achievability of applied outcomes.
- **Engineers** should be motivated to acquire the necessary up-to-date professional skills. Professional engineers, in particular, have a real responsibility for defining the needs and requirements for blue-collar professionals and for mobilising governmental financing for their training.

Development requires a strong community of professional engineers with up-to-date knowledge and skills.

- **Institutions of higher education** – motivation mechanisms have to ensure the interest of higher education institutions in successful innovation through both their main activity (teaching and research based on fundamental studies) and applied activity (applied studies, experimental production).

Third, internationalisation. Mobility of researchers, teaching staff, technological engineers a. o. specialists, their contractual working both in Estonia and abroad is a strong development impulse, creating a possibility to combine the skills of different countries, fields of expertise and schools. Openness of educational institutions and development centres is the key to preventing the technological thought of Estonia from falling into isolation, which is a real danger in the circumstances of our limited financial possibilities.

Openness is highly important also in raising the level of vocational and university education in order to transform our educational institutions into attractive and acceptable employment and education centres for young people from foreign countries.

Fourth – social innovation. Considering the fact that knowledge society is inherently an innovative arrangement of social and state life, social innovation

needs significantly more support, for instance through the creation of social innovation incubators aimed at encouraging the formation of socially (and developmentally) oriented citizen associations and third and private sector initiatives oriented to the development of the knowledge society.

Fifth – policies and indicators. Development of an innovation policy (strategy), its continuous monitoring and comparison, improvement and flexibility is the only chance to be successful in an environment of growing competition. The role of policy is to delineate development needs and define the speeds and goals of development. It is possible that if a systematic scientific, industrial and education policy had existed in the 1990ies, we would be in a considerably better position than we are today. It would be expedient to measure the effectiveness of RD&I with the following three groups of indicators proposed by the EU: investments (5), human resource (6), innovation potential (2), business innovation (5), competitiveness (2), integrated indicators (2), 22 different indicators in total. These indicators are systematic and informative and allow continuous monitoring and comparison with the external world.

The aim of the RD&I cluster as a whole is to convert the existing information into knowledge-driven economy by mediation of information and communication technologies, with the input to this

economy being learning and education ("learning industry") and output – resource-saving economy (eco-economy). This is practicable only in the context of an agreed national policy, a strategy expressing the policy and a set of indicators for measuring the effectiveness of the strategy.

■ Human-nature relations

The success of the knowledge society as the development path of Estonia will be largely determined by decisions based on knowledge of the laws of nature and on comprehensive databases allowing the assessment of the functioning of the natural environment as an integral system and forecasting of the viability of this integral system and its individual time-space components.

The knowledge society implies an inevitable recognition of the need to strive for continuous ecological balance in a real economic environment, which is realised through promoting the unity of the use and protection of nature as the mutually complementary sides of a unitary process, with human regarded as part of the ecosystem. This reflects the highly responsible role of a human individual and the human society, as they have to assume responsibility for harmonious management of ecosystems. Thus, all activities have to proceed from the global concept according to which one has to take into account the fundamental principle of ecological balance, i.e. to maintain an environment

characterised by minimum competition between species, maximum complexity of the spatial structure of communities and an annual bioproduction equal to the biomass lost from the community (utilised). In other words, there has to be a balance both in matter cycles and in flows of energy at all levels of the living environment. Ethical and scientifically grounded management of the natural (living) environment would be a key characteristic of the knowledge society

From this follows the principal requirement and course of action of the knowledge society – promotion of integrated and profound knowledge and raising of the general level of educatedness of the population. Overall integration of nature's self-regeneration capacity and innovative solutions into the use of nature has to become the main principle of ecosystem management. Thus, the role of natural scientists in general political decision-making has to increase, along with the development of the relevant environmentally sound technologies and the according economic decision-making.

As one of the goals of the knowledge society is a general growth of welfare, it is indispensable to engage also natural resources into the creation of the necessary resource base. Unreasonable consumption of natural resources has to be prevented through engaging the whole society into training in support of nature conservation and environmental protection. The

principle that sustainable management of natural resources is not just protection but also ecologically balanced use of the resources is of particular importance for the knowledge society. Reasonable and optimised management of natural resources presupposes integrated development of technological and ecological education, which in turn requires a change in the structure of education.

Employment of natural resources in the knowledge society is preceded by the preparation of substantiated optimal use schemes allowing maximum economic gain. Landscape plans covering the entire country envisage the functioning of balancing mechanisms between human-made landscapes and natural developments on the regional scale. Resource management models are continuously improved in line with the development of knowledge and technologies.

Next to promoting the principles of knowledge-based use of the environment, measures to ensure unconditional compliance with environmental standards and regulations have to be applied. Several components of the goal of ecological balance, such as the existence of cross-usable national registers of natural resources (incl. landscapes and objects of biological diversity) and well-organised statistics, are realised. As the model of knowledge society presupposes close cooperation with other countries, the requirements of

international environmental conventions are in effect, a balance/database of transboundary pollution and pollution originating from Estonia has been created, pollution target values have been agreed upon and are used as a basis for recalculating pollution charges and establishing new charge rates, leading to the achievement of the relevant target values (reduction of emissions) by the year 2030. The mechanism of sustainable consumption has been incorporated into the criteria of public procurement procedures, national investment programmes, etc.

In summary, the model of knowledge society contributes to the valuation of environmentally compatible behaviour and activities at the national level and ensures systematic support to them. If the above recommendations are taken into account and such a development scenario is implemented, Estonia would be the first country in the world to be able to put sustainability into real practice instead of mere declarations.

■ Social support to the knowledge society

Networks and feedback

Movement towards the knowledge society can take place only in a situation where it has the support of the key groups of society and where the supporters themselves are involved in cooperation networks.

Development of permanent cooperation networks between state agencies, the private sector and citizen associations should therefore be encouraged by all means. Only when a sufficient level of cooperation experience and a culture of cooperation exist, can the dispersed decision-making mechanism necessary for the knowledge society, characterised by the contribution of parties with very diverse background and experience, come into being. Networking could be supported by the creation of the relevant national programmes and financing schemes, possibly by an analogy with today's specific (and strongly cooperation network oriented) programmes / financing agencies such as the Integration Foundation, Tiger Leap Foundation, etc.

Another central mechanism of the knowledge society at all levels of decision-making is a well-functioning feedback system. Without an adequate picture of developments in the society (and in its different sectors), the knowledge society will be an illusion. Such a system is yet to be established in most sectors. The development of innovative approaches to and innovative methods of developmental analysis, which will help adequately reflect the (changing and ever more complex) reality, need to be supported by all means.

Social support

Movement towards the knowledge society is possible

only in case there exists a so-called leading elite. These are groups and individuals interested in such development and willing to give their personal contribution to the design and realisation of the “project” of knowledge society. Development of the leading elite could be facilitated by the following steps:

1. To organise the Estonian Development Conference (or series of conferences) where the whole issue can be discussed from different perspectives along with an analysis of the experience of other countries currently moving towards the knowledge society. In the longer perspective, the Development Conferences could be organised by the National Development Network.
2. To launch a substantive discussion over the different development alternatives of Estonia on the media, to engage media channels into knowledge-based mirroring of the society.
3. The development of, for example, a “contributors’ agreement” on what and how one or another party is willing to contribute to the development of Estonia could be considered as a means for achieving the development goals of Estonia and creating a knowledge society.

The above – creating of the intellectual and social basis for the knowledge society – is not possible in the present situation of frozen educational and R&D expenditures. If the orientation to knowledge society does not become clearly reflected in the state budget, this orientation cannot develop.