

**COMMITTEE FOR THE FUTURE:
AGENDA 2030 REPORTS AND
FUTURE REPORTS
IN THE PARLIAMMENTARY TERM 2015–2018**



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Tulevaisuusvaliokunta

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Committee for the Future: Agenda 2030 Reports and Future Reports in the parliamentary term 2015 – 2018

The Committee for the Future (est. 1993) is a standing committee in the Parliament of Finland. The Committee consists of 17 MPs. It serves as a think tank for long-term futures, sustainable development, and science and technology policy in Finland. The Committee's counterpart cabinet member is the Prime Minister. Unlike other, field-specific parliamentary committees, the Committee for the Future does not usually discuss legislative resolutions. Instead, the Committee's mission is to generate dialogue with the Government on long-term, multi-field, and future-oriented problems and opportunities.

At least once per term, the Government issues a report on long-term future prospects along with its objectives and targets. The report is submitted to the Parliament by the Prime Minister's Office. The Committee for the Future then prepares the Parliament's response (the Parliament's Futures Report) to the Government. This way, arising important political themes can be recognised at such an early stage that different alternatives and policy lines are still completely open to deliberation. Since 2017, The Government's implementation for Agenda2030 for Sustainable Development is also submitted to the Committee for the Future during each electoral term.

The Committee for the Future has other duties as well, such as submitting statements to the other committees in connection with Government reports and, for example, the annual budget. The Committee considers societal issues and influences, and deliberates technological developments by providing foresight research commissions. The Committee evaluates the long-term impacts of various phenomena and contributes to political value discussions and decision-making.

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Committee for the Future

Government report on the implementation of the 2030 agenda for sustainable development. Sustainable development in Finland – long-term, coherent and inclusive action

INTRODUCTION

Initiation

Government report on the implementation of the 2030 agenda for sustainable development. Sustainable development in Finland – long-term, coherent and inclusive action. The item has been submitted to the Committee for the Future for a report. In addition, the item has been submitted for statements to the Foreign Affairs Committee, the Administration Committee, the Transport and Communications Committee, the Agriculture and Forestry Committee, the Social Affairs and Health Committee, the Commerce Committee, the Employment and Equality Committee, and the Environment Committee.

Statements

The following statements have been issued:

Foreign Affairs Committee UaVL 5/2017 vp

Administration Committee HaVL 10/2017 vp

Transport and Communications Committee LiVL 9/2017 vp

Agriculture and Forestry Committee MmVL 6/2017 vp

Social Affairs and Health Committee StVL 3/2017 vp

Commerce Committee TaVL 24/2017 vp

Employment and Equality Committee TyVL 1/2017 vp

Environment Committee YmVL 7/2017 vp

Experts

The Committee has consulted:

Counsellor Sami Pirkkala – Ministry for Foreign Affairs

Counsellor Raija Meriläinen - Ministry of Education and Culture

Ministerial Adviser Leena Pentikäinen – Ministry of Economic Affairs and Employment

Ministerial Adviser Markus Seppelin – Ministry of Social Affairs and Health

Counsellor Annika Lindblom – Ministry of the Environment

Secretary General Minna Paajanen – National Sports Council

Research Leader Marita Laukkanen – VATT Institute for Economic Research

Service Manager Kimmo Kanto – Finnish Funding Agency for Technology and Innovation

Senior Researcher Riitta-Maija Hämäläinen – National Institute for Health and Welfare

Director of Community Relations, Professor Olli Kangas – Kela

Senior Scientist Juha-Matti Katajajuuri – Natural Resources Institute Finland

Director of the Environmental Policy Centre Eeva Furman – Finnish Environment Institute

Senior Lead Eeva Hellström – Finnish Innovation Fund Sitra

Leading Specialist Timo Hämäläinen – Finnish Innovation Fund Sitra

Business Policy Expert Pia Björkbacka – Central Organisation of Finnish Trade Unions

Senior Economist Jussi Ahokas – Finnish Federation for Social Affairs and Health

Conservation Officer Markus Seppälä – Finnish Association for Nature Conservation

Advocacy Coordinator Jussi Kanner – Finnish NGDO Platform to the European Union, Kehys

Advisor Katja Hintikainen – Kepa

CEO Ulla Nord – We Foundation

Head of Purchasing Markku Rimpelä – City of Hämeenlinna

Professor Heikki Hiilamo – University of Helsinki

Research Professor Mika Pantzar – University of Helsinki

Arto Salonen PhD – University of Helsinki

Docent Jukka Hoffrén – University of Helsinki

Professor Marja Vaarama – University of Eastern Finland

Director of the Thule Institute Kari Strand – University of Oulu

Professor Juho Saari – University of Tampere

Docent Antti Kasvio – University of Tampere

Professor Liisa Häikiö – Finnish Youth Research Network, University of Tampere, Faculty of Social Sciences

Professor Sirkka Heinonen – Finland Futures Research Centre, University of Turku

Professor Markku Wilenius – Finland Futures Research Centre, University of Turku

Professor Pirkko Vartiainen – University of Vaasa

Researcher Roope Mokka – Demos Helsinki

Principal Scientist Pasi Vainikka – VTT Technical Research Centre of Finland

The Committee has received a written statement from:

Ministerial Adviser, Deputy Secretary General Marja Innanen – Prime Minister's Office

Secretary General of the Development Policy Committee Marikki Stocchetti – Ministry for Foreign Affairs

Ministry of the Interior

Ministry of Defence

Ministry of Finance

Ministry of Agriculture and Forestry

Ministry of Transport and Communications

Ministry of Economic Affairs and Employment

Senior Researcher Tuula Helne – Kela

Senior Researcher Riitta-Maija Hämäläinen – National Institute for Health and Welfare

The UN Association of Finland

VATT Institute for Economic Research

Professor (emeritus) Ilkka Niiniluoto – University of Helsinki

Project Manager Katri Saarikivi – University of Helsinki

Senior Researcher Katriina Soini – University of Helsinki

Professor Johanna Kujala – University of Tampere, Faculty of Management

Assistant Professor Heikki Liimatainen – Tampere University of Technology

Specialist Keijo Koskinen – Finland Futures Research Centre, University of Turku

Adjunct Professor, Vice Director Katriina Siivonen – Finland Futures Research Centre, University of Turku

Researcher Paul Jonker-Hoffren – University of Turku

Professor Alf Rehn – Åbo Akademi

Finnish University Partnership for International Development – UniPid

Principal Lecturer Marja Katisko – Diaconia University of Applied Sciences

Sustainable Mining Network

Finn Church Aid

Institute of Migration

Finnish Energy

Fida International

Finnwatch

Finnish Educational Research Association

Finnish Forest Industries

Technology Industries of Finland

Finnfund

Nordic Development Fund NDF

Demos Helsinki

The Committee has received a notification, nothing to state, from:

Confederation of Finnish Industries

THE COMMITTEE'S ARGUMENTS

Sustainable development has its roots in the conservation of nature and the environment. After the Brundtland Report (1987), sustainable development was promoted by the UN-led Rio Process, which was based on the commitments agreed on at the Conference on Environment and Development: the Rio Declaration and Agenda 21, the agreements on climate change, desertification and biodiversity, as well as Rio+20. The challenge in the policy process involved in global sustainable development has been to avoid policies becoming sub-processes to the aforementioned agreements at the expense of having a more uniform approach to their management.

In Finland, the Ministry for Foreign Affairs has traditionally had an important role in policy-making and management control when it comes to sustainable development, ever since the foundation of the National Commission on Sustainable Development (1992), which has made the treatment of the three different aspects of sustainable development policies somewhat unbalanced and hindered communication. Therefore, the aim has been to lessen the emphasis placed upon the environmental aspect in relation to the other two by appointing the Prime Minister as Head of the Commission on Sustainable Development and ensuring that all the different political sectors and operators are diversely represented in all activities.

The global action programme for sustainable development, Agenda2030, was approved at the UN Summit in September 2015, and its implementation began at the start of 2016. Agenda2030 combines the UN's Millennium Development Goals and the sustainable

development agenda based on the Rio Conference on Environment and Development. The action programme's goals include directing global development towards a path where people's well-being, human rights, economic wealth and social stability can be secured in an environmentally sustainable way. The programme also aims to eradicate poverty from the world.

The global Agenda2030 action programme is a unique achievement by the international community. For the first time in world history, all countries share a mutual action programme that contains concrete objectives with which sustainable development can become a reality. Agenda2030 sets 17 objectives, 169 sub-objectives and a monitoring and evaluation system shared by all countries to promote sustainable development. Agenda2030 also factors in the links and connections between different goals, i.e. the reciprocal effects between the different objectives.

In practice, the conditions and the measures needed vary in each country. For this reason, Agenda2030 is not a detailed list of actions but rather an approach that sets the mutual goal and provides tools to manage the necessary national change processes.

The Committee for the Future places an emphasis on Agenda2030's historic significance. Agenda2030 might be the most remarkable decision made in our time and change the developmental direction of the entire human race. However, the ultimate significance of the decision will depend of how committed the nations are to implementing the action programme. Therefore, by acting as forerunners and actively implementing the required measures, Finland and the other EU countries can function as important examples to the whole world.

Finland is among the first nations to create a report on Agenda2030's implementation (National Report on the Implementation of the 2030 Agenda for Sustainable Development). The report was presented in July 2016 at the UN's political forum meeting for sustainable development, and it also functioned as a national interim report on Agenda2030.

The Government Report on the Agenda2030 implementation plan ([VNS 1/2017 vp](#)) reviewed in this Committee Report outlines the Government's approach to the implementation of the global programme in Finland. The Government Report outlines the national priorities in the implementation of the UN's global sustainable development action programme in the different administrative sectors. The Report also contains the policy principles as well as a description of the monitoring and evaluation system.

The Government Report on Agenda2030 proposes two national priorities: *Carbon neutral and resource-wise Finland* and a non-discriminating, equal and competent Finland. In addition, the Government Report proposes three policy principles that describe how the Government is implementing the Agenda2030 action programme. These principles include: long-term action and force for change, consistency, and global partnership, ownership and involvement. The Government Report also proposes concrete measures in regard to these priorities and policy principles.

The Committee for the Future approves of the Agenda2030's priorities 'Carbon neutral and resource-wise Finland' and 'a non-discriminating, equal and competent Finland'

and also supports the Report's policy principles of 'long-term action and force for change, consistency, and global partnership, ownership and involvement'.

Finland will realise the objectives in the UN's sustainable development Agenda2030 action programme with the help of, in particular, Society's Commitment to Sustainable Development, the Government's Agenda2030 implementation plan and the Government's sustainable development policy programme.

Society's Commitment to Sustainable Development (*The Finland we want by 2050*), which was created in 2013 and updated in spring 2016 by the Commission on Sustainable Development led by the Prime Minister, is Finland's national-level interpretation of the global action programme for sustainable development. The Commitment is Finland's long-term policy and mindset on sustainable development and a functional tool that enables the participation of all concerned parties. Society's Commitment is an agreement on the methods and objectives that will enable current and future generations to enjoy a good life. Businesses, communities, educational establishments, the administration, political parties, cities and others can make their own, concrete pledges to help realise the mutual goals.

The Commitment 2050 contains eight goals for Finland by the year 2050. These goals are: equality, participatory society, sustainable work, sustainable communities, carbon-neutral society, resource-wise economy, sustainable lifestyles and decision-making that respects nature.

The main task of the National Commission on Sustainable Development during its term of 2016–2019 has been to accelerate the implementation of the global sustainable development action programme and integrate it into the efforts made on a national level. The Commission monitors and evaluates how the global action programme is being realised in Finland and promotes the implementation, monitoring, evaluation and publication of the outcomes of Society's Commitment to Sustainable Development. The work performed by the National Commission on Sustainable Development is being supported and challenged by an expert panel on sustainable development coordinated by Sitra.

The Government's development policy programme, which is part of Finland's foreign and defence policies, consists of four priorities that are tightly connected to the Agenda2030 action programme and its objectives: 1) strengthening of the rights and status of girls and women, 2) improving developing countries' economies to increase employment, trade and well-being, 3) strengthening of the democracy and functionality of societies, and 4) improving food security, access to water and energy, and the sustainability of natural resources. With its sustainable development report, the Government has committed itself to promoting these priorities.

In its report, the Committee for the Future focuses on

- improving the Agenda2030 reporting process,
- Finland's national strengths and weaknesses in sustainable development,
- promoting the consistency of the policies in the Agenda2030 action programme,
- a carbon-neutral and resource-wise Finland,

- a non-discriminating, equal and competent Finland,
- measuring well-being, and
- the strengths and weaknesses highlighted in the expert statements.

With the first Agenda2030 report, the key is to launch the process

According to several experts that the Committee for the Future has heard, the key element in the Government's first Agenda2030 report is the process itself: to be among the first to launch the implementation of the Agenda2030 action programme, to submit it as a report once every government term, and to monitor its realisation annually in the Government's annual reports with clearly defined indicators.

Another important aspect is the utilisation of an operating model that encourages widespread participation among stakeholders and citizens. The Commitment 2050 process will be utilised in the realisation of the measures, and according to its report, the Government will organise an annual discussion on the current status and the future of sustainable development. In addition, the Prime Minister's Office and the General Secretariat of the Commission on Sustainable Development are currently preparing sustainable development policy indicators and a system for collecting the data from these indicators for research and further use.

The Committee for the Future supports the strengthening and utilisation of participatory operating models, both in determining the Agenda2030 measures and in realising these measures and evaluating their effectiveness.

Reliable indicators are also needed to evaluate the realisation and effectiveness of the measures.

One of the significant procedural changes related to the Agenda2030 report is the transfer of the coordination responsibility for the national sustainable development policies from the Ministry of the Environment to the Prime Minister's Office at the beginning of 2016. Simultaneously, the Committee for the Future as the Government's counterpart committee became the reporting committee for the Agenda2030 report in Parliament.

The Government also intends to tie the Reports on the Future more closely to the implementation of the Agenda2030 action programme. This connection will further solidify the role of the Committee for the Future as the coordinator of Parliament's Agenda2030 programme.

According to the action plan described in the report, the Government will report on the realisation of the measures every year as part of its annual report. Some of the measures are intended to last for several terms of office, even several generations, particularly when it comes to the policy principles and the monitoring and evaluation system.

The Committee for the Future supports the handling of the Agenda2030 action plan as reports every parliamentary term and making yearly reports on the development

monitoring as part of the Government's annual report. Realising the Agenda2030 action programme as reports will also support the realisation and monitoring of measures that will be carried out over several parliamentary terms.

The Committee for the Future also supports a closer tie between the Report on the Future and the Agenda2030 report. It should be noted, however, that the Report on the Future also has its own special role as Parliament and the Government's instrument for making long-term future policies. In the future, we must also be prepared for things that do not concern sustainability. Therefore, the Report on the Future must not be solely tied or otherwise limited to the Agenda2030 report.

Regarding the monitoring and impact evaluation, the Commerce Committee voices its concern in its Agenda2030 statement ([TaVL 24/2017 vp](#)) on the lack of consistency and the ambiguity in the reported information. Thus, more care must be taken in the future in defining the key concepts to allow the interpretation of the regulations to become uniform between different countries and regions. Based on the expert statements, concepts such as resource-wisdom and sustainable economy require more detailed definitions.

In addition to national measures, globally shared measures will also be required to prevent aggressive tax planning and tax avoidance, among other things. The Commerce Committee believes that national and trans-national legislation must be adapted to correspond with the OECD's BEPS regulation (Base Erosion and Profit Shifting), where possible. This would make the reporting obligation required of businesses as uniform as possible within the EU and outside of it.

The Committee for the Future believes that the concepts used in the Agenda2030 action programme must also be defined in more detail when developing the indicator system. The definitions must be globally uniform to enable comparisons.

The Committee for the Future also states that the Agenda2030 action programme should determine international measures on global responsibility, shared by nations. These themes calling for international collaboration could simultaneously function as Finland's Agenda2030 objectives regarding its development policies, foreign affairs policies and commerce policies.

A good example of international collaboration is the joint Nordic development of energy and climate policies, as the Committee for the Future previously noted in its statement on energy and climate policies ([TuVL 1/2017 vp](#)).

The Commerce Committee ([TaVL 24/2017 vp](#)) and the Transport and Communications Committee ([LiVL 9/2017 vp](#)) also highlight in their Agenda2030 statements that the objectives, monitoring and voluntary commitments alone are not sufficient, and that the implementation of the Agenda2030 measures will require binding legislation and a system of penalties.

The UN's international Agenda2030 action programme and the national Agenda2030 action programme proposed in the Government Report both emphasise that the links and connections between different goals should be factored in. With consistent policy-making when it comes to the Report's policy principles, the Agenda2030 objectives can be

accomplished in an integrated fashion so that attaining one objective also promotes the accomplishment of the other goals. Comprehensive implementation requires that the goals' social, economic and environmental aspects be equally accounted for in all policy-making and that different administrative sectors and key stakeholders work in cooperation.

The Committee for the Future supports the promotion of consistency in policy-making and taking the social, economic and environmental aspects of the goals and measures equally into account.

The UN's Agenda2030 action programme also highlights the role of parliaments in the promotion of sustainable development due to their legislative and budgetary powers and their task of supervising government actions. In relation to this, the Environment Committee proposes in its Agenda2030 statement (YmVL 7/2017 vp) that Parliament discuss how it might bear its responsibility regarding the implementation of the sustainable development agenda. As an example, the Environment Committee mentions the toolkit created by the IPU (Inter-Parliamentary Union) for performing a self-assessment (<http://www.ipu.org/pdf/publications/sdg-toolkit-e.pdf>).

The Committee for the Future believes that in addition to the report procedure, other means of institutionalising the sustainable development Agenda2030 process in Parliament should also be investigated, taking into consideration for example the ideas proposed in the IPU's self-assessment toolkit. The challenge is to promote consistency in sustainable development policy-making in the special committees operating independently within Parliament.

In its statement, the Environment Committee notes that sustainable development is horizontal in nature, affecting nearly all political sectors, making it so-called meta-politics. The new policy phase has been called planetary politics: humans must hold overall control over their relationship with nature, from individual lifestyles to global economic systems.

Furthermore, the Transport and Communications Committee in its statement points out that the concept of sustainable development is three-dimensional: social, economic and environmental. For example, when planning urban development and sustainable transport, all of these three dimensions of sustainable development must be observed simultaneously, and therefore, according to the Transport and Communications Committee, the national sustainable urban development programme should be included in the other priority areas in addition to the one focusing on carbon neutral and resource-wise Finland.

The Committee for the Future believes that one solution to the challenge concerning sustainable development's horizontal nature could be a more detailed investigation into phenomenon-based budgeting, which is part of the policy principles in the Government Report, when it comes to more extensive and diverse themes such as investments in sustainable urban development, transport and well-being. This must be done by open-mindedly looking past and beyond the state budget's main categories, types or expenditure and revenue, the state's accounting practices and the current budgeting process.

In the view of the Committee for the Future, it is important to link the priorities in the Agenda2030 action programme's implementation and their realisation to all of the

government term phases, including the creation of Government Programme and budget in a way described in the Government Report.

Finland's national strengths and weaknesses in sustainable development

Several international reports and studies have focused on the abilities of different countries to begin implementing the Agenda2030 programme. In 2016, a study called 'Agenda 2030 in Finland: Key questions and indicators of sustainable development' (Key2030) was conducted in Finland, looking at Finland's ability and starting point for implementing the Agenda2030 action programme, based on indicator-based datasets, stakeholders' views and literature.

According to this study, our starting point based on international comparison is relatively high, but the indicators used in the study revealed that development in recent years has not been positive for any of the main sustainable development goals.

High-quality education and the related know-how, as well as the general stability of social systems, were identified as Finland's main strengths in sustainable development. On the other hand, the main challenges included fighting climate change, over-use of natural resources, economic growth and the development trend in employment.

For a long time, the Committee for the Future has been highlighting these same national strengths and weaknesses identified in Key2030. We must maintain the high quality of education at all educational levels, throughout the human lifespan, and have a long-term approach to promoting social equality and stability.

The Committee for the Future supports the implementation of the energy and climate strategy indicated in the Government Report as one of the measures to achieve a carbon neutral and resource-wise Finland.

Earlier in the spring of 2017, Parliament gave its opinion on the prevention of climate change in its report on energy and climate policies (TaVM 8/2017 vp). The Committee for the Future also gave its statement regarding the energy and climate policy report (TuVL 1/2017 vp).

The Committee for the Future requires that Parliament's energy and climate policy report and the views presented in the related special committees' statement be taken into consideration in the Agenda2030 action programme, as well.

Correspondingly, sustainable transport will be governed by the Act on Transport Services being debated in Parliament, and it is intended that it will be adopted based on the Government proposal (HE 161/2016 vp) on the Transport Code.

Promoting consistency between the policies in the Agenda2030 action programme

In a world of mutual dependencies, consistency in policy-making helps with the identification and analysis of several important linked phenomena between the different sectors of society. For example, decisions concerning taxation, commerce, agriculture and the environment have significant direct and indirect global development effects.

In its Agenda2030 statement ([UaVL 5/2017 vp](#)), the Foreign Affairs Committee notes that development policies have been taken into account and included to a reasonable extent in the Agenda2030 report, and that the report is consistent with the Development Policy Report approved by the Government in February 2016. ([UaVL 5/2017 vp](#)) However, the coherence between Finland's foreign and defence policies and Agenda2030 is insufficient, according to the Foreign Affairs Committee.

In the future, the relevant foreign policy actions must be understood to be part of sustainable development promotion, so that the influencing opportunities for the promotion of sustainable development enabled by the foreign policies can be utilised to their full extent. For example, while acting as the Chair of the Arctic Council, Finland has an excellent opportunity to highlight more strongly the sustainable development in the region.

The Foreign Affairs Committee believes that one of the ways to bind foreign policies and the sustainable development agenda more tightly together is to act as a coordinator or a moderator in international forums, particularly in the promotion of those Agenda2030 goals that suit Finland's strengths, and to raise the nation's global profile in the matter in this way, as well.

The Agenda2030 report confirms that gender equality and the promotion of women's and girl's rights is the strong suit of Finland's development policies. Improving the rights and status of women and girls has been shown to strengthen the entirety of society and help attain other developmental goals. Supporting this goal is particularly important now that the United States' new administration is planning significant cuts to the budgets of the UN's and other operators' organisations whose work revolves around these issues.

Climate change poses the biggest challenge to sustainable development and has the most widespread effects, and these negative effects will endanger the development of several countries. Therefore, it is vital that Finland's development policies are also aimed at mitigating climate change and adapting to it.

The development policies have a strong connection to the sustainable development policies. The development policy programme was approved separately, and the Agenda2030 report will therefore not repeat it but simply make a reference to the strengthening of policy coherence. Several experts who gave statements to the Committee for the Future on the Agenda2030 report deemed this operating model to be the Government Report's shortcoming, which shows as a lack of connections between the national and international objectives and measures.

The Government Report states that active participation in international cooperation and solving global problems is in line with Finland's interests and part of its global responsibilities.

The Committee for the Future supports the goals in the Government's development policy programme as the main areas of Finland's global responsibilities. The most important priorities in Finland's global responsibility are the mitigation of climate change and adaptation to it, strengthening the rights and status of girls and women, strengthening democracy, supporting economic growth and social stability in developing countries, and guaranteeing food security.

The Committee for the Future supports the improvement of policy consistency and global collaboration highlighted in the Government Report, and proposes that Finland raise its profile further as a global coordinator in international foreign policy forums, such as the Arctic Council, the Nordic Council, the EU and the UN, in the promotion of those Agenda2030 goals that suit Finland's specific strengths. In addition, the Agenda2030 goals must be taken into account in international trade agreements.

The Committee for the Future supports Finland's decision to increase funding for the improvement of girls' and women's rights and their access to sexual and reproductive health services.

The Committee for the Future also states that accomplishing the Agenda2030 goals sets higher expectations and requirements regarding the quality and quantity of Finland's development cooperation work, and that these cannot be met with reduced development cooperation resources. Therefore, the Committee supports an increase in the development funding to meet the UN's and EU's goal of 0.7% of gross national income, an objective also set in the Government Programme and the Agenda2030 action programme.

A carbon-neutral and resource-wise Finland

In its statement, the Environment Committee provides a reminder that traditional ecological aspects should still be considered, while the social aspects of participation and ownership are perhaps currently gaining more emphasis in sustainable development policy-making.

The Towards carbon neutral municipalities (HINKU) project, which has helped the participating municipalities to lower their greenhouse gas emissions and create sustainable structures, functions as an encouraging example for the Agenda2030 action programme and Commitment 2050 process. Carbon dioxide emissions in the HINKU municipalities went down by approximately 29% in 2007–2015. The HINKU project forms an excellent base for expanding this work, promoting sustainable development to its full extent.

Uncontrollable climate change poses such significant threats to social stability globally that it can be named the greatest ecological challenge in sustainable development. Other threats

comparable to climate change include exceeding other ecological risk boundaries (or planetary thresholds) and unsustainable over-use of natural resources.

The ecological risk boundaries refer to the measurable threshold values in different areas of planetary capacity, and by not exceeding these the humanity will likely avoid catastrophic environmental changes. In addition to climate change, these areas include the decline in biodiversity, extinction of species, interruptions to the nitrogen and phosphorus cycles, acidification of seas and oceans, and changes in land use. When the concept of planetary boundaries was published in 2009, these boundaries had already been exceeded in three out of nine threshold areas, and in four out of nine by the time of the update in 2015.

The ecological footprint helps to determine the sustainability of human consumption. The ecological footprint of the entire human species is estimated to have doubled since the 1960s; We are currently consuming globally approximately 1.5 times the natural resources available on the planet, and like many other Western countries, Finland is among those with the highest consumption rates. Technological advancements have enabled us to break the tie between the economy and the use of natural resources to some extent. The carbon-intensity of production, i.e. the amount of emissions in relation to the gross domestic product, has improved, and economic growth is increasing based on the same amount of energy and carbon emissions. Although we have managed to reduce the relative amount of emissions, the absolute overall amount of emissions and consumption of natural resources have increased due to economic growth.

The carbon footprint is used to measure and communicate the environmental and climate benefits of products and operations, thus guiding choices towards options adhering to sustainable development. The methods in use, such as lifecycle assessments and the carbon and water footprints based on them, are based on measuring negative activities, i.e. emissions and resource consumption. VTT's carbon handprint project is developing indicators that are based on uniform principles and calculation guidelines to evaluate and communicate positive activities and environmental impacts, i.e. the aim is to also include the calculation of emissions avoided.

The Committee for the Future supports the monitoring of progress in sustainable development with illustrative environmental indicators, such as ecological risk boundaries, planetary thresholds, water footprints, ecological footprints and carbon handprints.

Indicators such as these can be used to illustrate complex issues and present them in a simpler way that is easier to understand and communicate.

Climate issues receive plenty of attention in the Government Report, while other environmental issues and their connections remain in the background. The premise is understandable, since mitigating climate change is estimated to be the one sustainable development goal with the most significant impact, both globally and nationally. The mitigation of climate change requires that we move from fossil energy to renewable energy and biomaterials in general. However, this change might pose a threat to the biodiversity of forests and oceans and to food security.

In its Report on the Future (TuVM 1/2010 vp) and the related publication TUVJ 1/2011 Uskalluksen politiikka – paljon työtä, vähän päästöjä ('Bold policies – a lot of work, low emissions'), the Committee for the Future has already pointed out that sustainable development and the welfare state (ecologically and socially sustainable development) may face a conflict, or trade off, as the financial situation becomes more strained. This conflict is currently evident in the Agenda2030 expert statement, particularly within the different areas of ecological sustainability. The measures required by the various areas of sustainable development can be in conflict with each other.

The Committee for the Future provides a reminder that in the future, the Agenda2030 action programme must pay better attention to the necessary actions for promoting natural diversity and ensuring ecological sustainability. The protection of the Baltic Sea and safeguarding underwater biodiversity also demand sustained actions.

In its statement (MmVL 6/2017 vp), the Agriculture and Forestry Committee notes that without increasing the utilisation of sustainable natural resources and new technology, the climate policy goals cannot be met, and that non-renewable raw materials cannot continue to be replaced increasingly with renewable ones. Production in Finland that is based on sustainable agricultural and forestry development must therefore be safeguarded by ensuring the financial viability of production and securing research and education in the field.

According to the Government Report, the use of timber will be made more diverse and increased by 15 million cubic metres annually. The sector's added value is to be increased and the forests be provided with good and sustainable care. In addition, the quality of nature conservation will be ensured and local acceptance of conservation activities increased with open cooperation and participatory decision-making. In its statement, the Agriculture and Forestry Committee places a special emphasis on the importance of the National Forest Strategy 2025. The core objective in the strategy is the forests' active and financially, ecologically and socially sustainable and diverse use.

The Committee for the Future supports increasing the added value of timber as part of the national Agenda2030 action programme.

However, experts disagree on the amount of forest biomass that can be used sustainably. Reliable information is needed to support sustainable decision-making.

As circular economy is developing, the significance of agriculture in bioeconomy will also increase. This could also have great significance for the sustainability of bioeconomy, as long as we also ensure that new agricultural bioproducts do not endanger the food supply situation.

The role of research and foresight in sustainable development policies and policy-making is important. Scientific and political awareness of the recovery capacity and resilience of Earth's ecological systems, and the pragmatic significance for the survival of humanity of the boundaries these set must be confirmed. Communication between the scientific community and political decision-makers must be improved by ensuring that attention is paid to scientifically evaluated facts in social decision-making. According to the Environment Committee, the Climate Change Panel has already become well established as

a collector and distributor of impartial scientific information on various scientific fields for political decision-making in a non-technical way. The task of the Expert Panel on Sustainable Development in collecting and reconciling scientific information from different fields is even more challenging. Consolidating the operations of SITRA's experimental Panel on Sustainable Development as part of the Agenda2030 action programme's preparations and evaluations is one of the ways in which the dialogue between science and political decision-making can be reinforced.

The Committee for the Future proposes that during financial scarcity the resources of the Strategic Research Council (SRC) and the Government's Analysis, Assessment and Research Activities be allocated in the next few years to the promotion of policy consistency in Agenda2030 in particular.

The welfare state's current financing model is dependent on economic growth. Sustainable economic growth, on the other hand, requires innovations, particularly in the fields of environmental business and environmental technology (cleantech). At its best, sustainable development can also drive sustainable growth that enhances employment. Simultaneously however, Finland should initiate a discussion on how the welfare state structures should be reshaped to also be able to withstand periods of slower growth.

The demand for carbon-neutral technologies created by the Paris Agreement functions as a catalyst to a shift in markets, which will make the changes in energy production and the transformation into a carbon-neutral society required for the mitigation of climate change a reality. This shift is already well underway, because the demand for solar and wind energy in the world markets has rapidly increased over the past few years while their prices have come down significantly (35% for wind energy and 86% for solar panels).

Special attention should be paid to the sustainability of public procurements, according to the Agriculture and Forestry Committee. The role of public administration in a welfare state like Finland is considerable. This accentuates the significance of public procurements as an example and trendsetter for both innovation policies and sustainable development.

The Commerce Committee also believes that procurements are the main instrument in improving the quality of public services and contributing to the realisation of those social objectives that are deemed important. Through procurements, an incentive can be created for businesses to develop their services and products to correspond with these objectives.

A non-discriminating, equal and competent Finland

The Social Affairs and Health Committee, the Employment and Equality Committee and the Administration Committee agree in their statements that the Agenda2030 report is comprehensive in nature and identifies the correct elements influencing social sustainability. However, the committees also state that the objectives set in the report remain fairly general in nature and that the report mainly focuses on the existing plans as measures to achieve sustainable development rather than contemplating new ones. In addition, the extensive range of goals makes the Agenda2030 report difficult to interpret. Instead of describing concrete measures for accomplishing the goals it sets, the document

remains at a more abstract level. Therefore, the committees emphasise in their statements the importance of precise measuring and evaluation of how the goals are being met. Concrete indicators will also make the report's measures more tangible.

The Committee for the Future believes that the goals and measures in the Agenda2030 action programme must be made more concrete with carefully selected monitoring indicators. Evaluating the effectiveness of political measures requires above all that quality indicators are also developed.

In its statement (StVL 3/2017 vp), the Social Affairs and Health Committee emphasises aspects such as well-being among children and adolescents and health promotion. The Employment and Equality Committee focuses in its statement (TyVL 1/2017 vp) on human rights, gender equality, parity, public health, early intervention, promotion of employment among young people, significance of education in the prevention of social exclusion and long-term unemployment, utilisation of partial work capacity, and integration of immigrants.

The Employment and Equality Committee believes that particular importance lies in preparing for future changes that affect work. For example digitalisation, robotisation and artificial intelligence, as well as the digital platform economy and sharing economy with their challenges and possibilities must be taken into account in the near future in all working-life developments and education. Changes in work relationships and revenue models will also require that regulations, insurance and taxation related to working life are re-defined.

The Committee for the Future emphasises that the future of work plays an important role in how well the Agenda2030 goals can be accomplished. The challenges in attaining sustainable development must be transformed into sustainable growth that promotes employment. This will call for purposefully utilising new technological possibilities, among other things.

Work is also the current theme of the Government Report on the Future: Shifts in working life and the future of Finnish work. The goals and measures highlighted in the Report on the Future must also be utilised in the implementation of the Agenda2030 action programme, and vice versa.

According to the Employment and Equality Committee, the young people's own networks, the third sector and civil society must be better utilised when creating well-being. The report mentions the Ohjaamo project as a good example of how professionals from different fields can work under the same roof. Ohjaamo is a low-threshold service for people under 30, and its operating model is based on the collaboration between Ohjaamo itself, the basic services offered by various administrative sectors, and an extensive partner network, providing multidisciplinary information, advice, guidance and support. Expanding the project is included in the Government Programme as one of its key undertakings.

As the main challenge to ensuring high-quality working life, the Employment and Equality Committee raises the issue of the social and healthcare reform and the provincial reform, in which 215,000 public sector employees will change employers. In its statement, the Employment and Equality Committee also proposes a long-term public health programme

that would combine all of the objectives in health policy-making and support health promotion in all social sectors.

The Administration Committee notes in its statement ([HaVL 10/2017 vp](#)) that a safe society is also a prerequisite for sustainable development, while the overall safety of society and its vital functions depend on accomplishing sustainable development. The challenges in internal security and sustainable development are highly interdependent.

During its current term, the Government has issued three security policy reports: the Government Report on Finnish Foreign and Security Policy ([VNS 6/2016 vp](#)), the Report on Internal Security ([VNS 5/2016 vp](#)) and the Defence Report ([VNS 3/2017 vp](#)). These three security reports form the framework for overall security. The Administration Committee, in turn, has discussed the state and challenges of Finnish internal security comprehensively in its report ([HaVM 5/2017 vp](#)) on the Government's Report on Internal Security. Parliament has approved the statement on the Report on Internal Security ([VNS 5/2016 vp](#)) requiring, among other things, that the Administration Committee's report ([HaVM 5/2017 vp](#)) be made the foundation for internal security policy-making and measures.

Internal security is affected for example by social exclusion, income disparity, the employment situation, alcohol and substance policies, the economical situation and equality. Families, local communities, social and health care services, and schools also bear a great responsibility in promoting well-being that creates security. According to the Administration Committee, loneliness is often associated with social exclusion. People find value in being part of the surrounding society.

An increase in disparity is affecting Finland's internal security negatively. Shared values, well-being, democracy, reliable administration, rule of law and functioning institutions will create the foundations for social stability and internal security. It is imperative that the people's trust in one another and the authorities is maintained within Finnish society. Integration of immigrants also plays an important role in the promotion of equality and social participation. In its statement, the Administration Committee therefore believes it important that efficient integration and access to the labour market is provided for those immigrants who are staying legally in Finland.

From measuring economic development to measuring well-being

The Agenda2030 action programme's goals include directing global development towards a path where people's well-being, human rights, economic wealth and social stability can be secured in an environmentally sustainable way. These goals make the question of whether the continuous growth of the economy and well-being can happen in an ecologically sustainable way the most burning issue in the Agenda2030 action programme.

One of the answers to this sustainable development challenge proposed by the Committee for the Future is to adopt an approach of sustainable well-being and well-being economy. Economic growth is a tool. The ultimate goal of development and growth is well-being that can also increase without economic growth – and neither does economic growth necessarily equal an increase in well-being. The Agriculture and Forestry Committee has also made the

same observation in its statement. Instead of growth, we must focus our attention on overall well-being. In order to secure a sustainable future, we must aim to attain a situation in which the seeking of experienced well-being does not increase environmentally harmful effects. Severing this link does not necessarily require economic growth. The role of the economy must be redefined to enable sustainable development.

In many ways, gross domestic product as an indicator is blind to the innovations and business models of disruptive technology, i.e. new decentralising technology, and cannot be used to measure well-being without issues. A good example of the problems associated with GDP is the change that has taken place in film rentals. At traditional film rental shops, the customer paid for every film separately, and the amount increased the more videos they watched. With new internet-based services, however, the customer can watch thousands of films for a fixed monthly fee. The customer's well-being grows linearly, which is barely reflected as growth of GDP – it may even show as a decrease. Similarly, in many economies in transition and countries of average income, GDP will not identify a deterioration in social equality.

Problems related to GDP have been discussed in the report *Digitalisaatio muuttaa maailmaa – tarvitaanko politiikan tueksi uusia mittareita?* ('Digitalisation is changing the world – do we need new indicators to support policy-making?') produced by the Research Institute of the Finnish Economy for the Economic Council. (Prime Minister's Office Reports 2/2017). According to this report, wide-spread digitalisation has weakened the ability of recorded GDP to measure true developments in productivity and well-being.

According to one of the experts consulted by the Committee for the Future, indicators such as the Human Development Index (HDI), Genuine Progress Indicator (GPI) and the Index of Sustainable Economic Welfare (ISEW) in the United Nations Development Programme (UNDP) are better suited for making international and local comparisons on well-being.

The factors used in the HDI include prosperity (gross domestic product per capita), health (life expectancy among the population) and the level of education (literacy and the number of people receiving education). The GPI, on the other hand, factors in both GDP as well as income distribution, services outside of the markets and the cost of different detrimental elements, such as crime, resource wastage, pollution and loss of wetlands. The basis for calculations in the ISEW is private consumption, which is corrected with the values of factors that either decrease or increase well-being. This way the ISEW seeks to differentiate between the positive effects of economic activities and the ones that deteriorate the state of the environment and society. Since 2006, the New Economics Foundation has been calculating a Happy Planet Index (HPI), the formula of which is experienced satisfaction times health (life expectancy) divided by ecological footprint.

Finland's time series that have been calculated using the ISEW and GPI indicators cover the years 1945–2016, and the provincial series the years 1960–2016. These time series indicate that Finland's GDP and GPI began showing different trends around 1990. Although GDP has since increased, the ISEW and GPI, which measure well-being, have stood still. Thus, the increase in economic production has not been increasing well-being. Another noteworthy aspect is the notable regional variation in well-being.

The United States is currently developing a GPI 2.0 indicator. The UK, in turn, has calculated a Regional Index of Sustainable Economic Well-being (RISEW) for all its nine Government Office Regions for 1994–2008. A regional ISEW indicator is also in use in Flanders, Belgium, for monitoring the socio-political goals that have been set.

The Committee for the Future proposes that sustainable well-being indicators, such as the HDI, GPI and ISEW, be developed and utilised when monitoring the Agenda2030 action programme to provide alternatives to GDP.

The Committee for the Future requires that sustainable well-being and the related development of well-being economy be named the key objectives in the Agenda2030 action programme.

To improve the pro-activeness of the Agenda2030 action programme, new tools must be developed to also evaluate the effects of political decisions. The impact on well-being must be assessed in all policy-making.

The Government Report's strengths and weaknesses highlighted in the expert statements

When creating its report, the Committee for the Future consulted a wide range of stakeholders. The Committee focused on matters such as lack of collaboration between different administrative sectors and the challenges in sustainable development from the perspective of people's everyday lives, security and technology. The Committee for the Future also heard experts on development policies, the relationship between economic growth and sustainable development, the increasing numbers of immigrants and paperless people, sustainable well-being, and on how upbringing, education and research could better take the sustainable development goals into account.

Based on the expert consultations performed by the Committee for the Future, views on the launch of the Agenda2030 process and the content of the Government Report are generally favourable.

According to the experts, the priorities chosen (Carbon neutral and resource-wise Finland, and a non-discriminating, equal and competent Finland) are good and well-founded, because Finland has both strengths and room for improvement in these areas. The priorities are in line with the Government Programme, the Sustainable Development Report and the national Society's Commitment to Sustainable Development. Finland's Agenda2030 action programme has been praised abroad, and it has been created with scant resources and through extensive cooperative efforts.

The monitoring system that is currently being constructed contains various approaches to the interpretation of the indicators. The monitoring system is the first of its kind in the world and raises Finland's long-term indicator work to a new level. The monitoring system itself is interactive and provides different operators with an opportunity to participate in the evaluation of the Government's actions. The system has also been successfully linked

with the existing monitoring systems, such as the UN reports, the Government's annual reports, operational and financial planning and the Government budget session.

The experts also gave positive feedback on the proposals to promote job retention and the employment of those with partial work capacity. These support the goals of improving parity, equality and competence. Similar goals are also shared by the Government's proposals to improve the integration of immigrants and its action programme to prevent hate speech and racism, to increase the number of affordable rental apartments, and to improve the housing situation among different social groups.

The Government Report states that Finland has joined the international initiative Mission Innovation and pledged to double its innovation funding regarding renewable energy. The Ministry of the Environment has launched an experimental programme to create sustainable bioeconomy and cleantech solutions, and the programme is funding product development and innovation that relates to renewable energy and the recycling of renewable nutrients, as well as demonstration and reference projects. Smoother permit processes and the 'single window' model are being reviewed as solutions to lessen the administrative burden.

Many of the experts that the Committee for the Future heard voiced positive opinions about the proposed additional measures to promote sustainable procurements. Public procurements can be used as a strategic tool to promote technological advancement, sustainable development and social goals. Approximately 35 billion euros is spent annually on public procurements, which on average amounts to 16% of the GDP. The aim of the Government Programme is to allocate 5% to innovative public procurements that are used to promote elements such as effectiveness, resource-wisdom and carbon-neutral energy solutions. Public procurers must take advantage of all the opportunities provided by the new Public Procurement Act to determine social criteria for procurements, demand credible certificates or carry out their own audits, and consult experts on human rights and corporate responsibility.

The Committee for the Future supports the promotion of sustainable public procurements, a measure suggested in the Government Report, and proposes that an assessment of the promotion of the Agenda2030 objectives be included in all public procurements.

The state-owner has invested more capital in Finnfund. In 2007–2015, just under 2% of the development cooperation funds, i.e. MEUR 10–18, were allocated annually to increase Finnfund's capital. In 2016, Parliament approved additional funding in the form of a loan worth MEUR 130. In 2016, 82% of the investments were made in three of the poorest country categories defined by OECD's Development Assistance Committee. In 2015, companies funded by Finnfund were directly employing 25,600 people. Companies whose investments Finnfund had been involved in funding paid a total of MEUR 285 in taxes and duties to the states in which they operated. The budget for 2017 includes a MEUR 10 capital injection.

Finnfund's operations have also prompted criticism. According to some NGOs, Finnfund's operations are not sufficiently open, which poses a risk of the revenue made by the companies that Finnfund has funded disappearing into tax havens. To keep Finnfund's

operations sustainable and ethical, it is important to as openly as possible ensure that the companies receiving development cooperation funding remain socially responsible.

However, the most serious criticism that the experts consulted by the Committee for the Future gave was over the fact that the results from the participatory process used when preparing the Government Report are not given sufficient attention in the Report's final version. This is thought to be because despite the participatory preparation, in practice the goals and measures of the Agenda2030 report are based on the Government Programme. The Government Report promotes the realisation and acceptability of the Government's sustainable development measures and priorities. Because decisions on the matters have already been made in the other plans, strategies and reports for this government term (e.g. for transportation, the environment, energy, defence, and agriculture and forestry), not all sectors can see the added value in the Agenda2030 action programme.

Instead of having the Report be a mere extension to the Government Programme, it should emphasise critical and comprehensive reviewing that extends beyond this government term and across administrative divisions, and focuses on the implementation of the objectives outlined in the Agenda2030 action programme. In the future, the Agenda2030 action programme should influence Government Programmes and not vice versa. This way the goals and measures can be made to match.

The Committee for the Future pays special attention to the fact that the experts and stakeholders who took part in the various preparatory panels for the Agenda2030 action programme feel that the panels' work is not reflected in the Agenda2030 action programme.

Particular attention must be paid when evaluating and implementing the action programme and preparing the next Government Report to ensure that the stakeholders' participation is also evident in the end result and has an impact on the Report.

The Committee for the Future also requires that in the future the Agenda2030 report be compiled so that it guides the Government Programme and not the other way around.

The Report speaks of policy consistency, but the Report itself at this initial stage is somewhat lacking in that. All of the objectives, measures and principles proposed in the Report can be supported and they constitute a step in the right direction, but they do not form a well-thought-out whole and can be mutually conflicting when, due to the prevailing economic situation, cuts have had to be made to the funding for items that have been prioritised in the strategies.

For example, the Report states that with its development policies Finland is reducing global inequality and boosting the poorest countries' own institutions and know-how. Cuts to development cooperation funding pose a challenge to this objective. Concerns over a similar conflict in the education and research resources have been voiced.

Furthermore, the impact of our domestic efforts on other countries remains small, according to some of the experts, and policy consistency between our national efforts and

global policies does not exist. According to the experts, the consistency between Finland's efforts and their global impact can be improved in the Report by proposing measures on how to increase the immigrant quota, implement sustainability and human rights criteria in public procurements, end arms exports to undemocratic countries that disregard human rights, and advocate that environmental and human rights criteria be included in the EU's trade agreements to close down tax havens and to stop tax avoidance, or by proposing more clearly which circular economy measures the Government will commit to implementing in order to promote a more sustainable food production system.

Utilising NGOs' know-how and increasing the importance of their role in the Agenda2030 action programme gained a lot of support, both from the experts consulted by the Committee for the Future and the special committees that provided their statements. NGOs are a valuable expert resource in education on sustainable development. They work at grassroots level, offering the citizens multiple ways of participating in building a sustainable future.

Increasing the importance of NGOs' role requires that their funding is secured, but the operative capacity of NGOs can also be improved by changing the instructions on the project funding granted by the Ministry for Foreign Affairs, enabling flexible use of the funding as part of projects with multiple sponsors. Development cooperation and humanitarian aid instruments must be able to respond flexibly to each situation. Funding with too strict a set of rules on how it may be used limits the organisations' possibilities to quickly react to changing demands and makes their work vulnerable to the policy changes of a single funding provider.

The experts also noted that the measures listed in the Report should highlight the cooperation between administration and businesses to a greater extent. Businesses are the key operators in the realisation of the sustainable development agenda. Companies create jobs as well as new innovations and solutions to global development challenges, such as access to clean energy, waste management, water supply, health and the implementation of digital solutions. However, it is necessary to ensure that the private sector operates responsibly. Companies' social responsibility is becoming increasingly important at both national and international level.

The Government Report does not discuss Finland's role as one of the Nordic countries in particular. For example, the Nordic Council of Ministers has an existing vision: *A Good Life in a Sustainable Nordic Region: Nordic Strategy for Sustainable Development*. This strategy contains guidelines reaching all the way to 2025, and it aims to promote collaboration between the Nordic Council of Ministers' different sectors in the following focal areas: the Nordic welfare model, vital ecosystems, changed climate, sustainable use of Earth's natural resources, education, research and innovations. The Nordic ministers decided in February 2016 that the pan-Nordic programme for sustainable development must undergo a reform to enable the realisation of the sustainable development goals in the UN's Agenda2030 programme. Sustainable consumption and production, as well as extensive social participation, were selected as the themes that need improvement and more collaboration in the Nordic countries. This mapping process and the related recommendations were completed in January 2017 (Nordic Sustainable Development Action). The pan-Nordic programme will be prepared during summer 2017, and the cooperation ministers are

scheduled to approve it in September 2017. Channels exist, if Finland and the other Nordic countries wish to solidify their Nordic cooperation.

The Committee for the Future places an emphasis on the increase in pan-Nordic cooperation in sustainable development. The role of NGOs and businesses in implementing the Agenda2030 measures must also be actively promoted.

In their statements, the experts also looked at the future of work. Automation and digitalisation may reduce the amount of traditional work in Western industrial countries. Simultaneously, however, they also create jobs that require new types of skills. Managing the effects of this technological revolution is a key element in the sustainable development challenge.

Innovation in Finland is still doing well in international comparisons, and Finland is among the forerunners in innovation. However, experts are concerned about the impact of the cuts made to public innovation funding, because these effects will become evident with a delay in the comparisons. According to the experts, public funding in recent years has moved away from creating future skills and innovations and towards retaining existing business structures. To speed up long-term growth, supportive policy-making must focus on promoting economic regeneration. New innovative solutions are needed for sustainable development challenges. A reduction in the amount of red tape is necessary to renew the structures and particularly to improve the operation of markets. In some cases, however, norms and regulation can also function as a source of innovation and new business ideas. At their best, they introduce radical dynamics to the markets for years to come.

Some of the experts that the Committee for the Future consulted also criticised the fact that matters concerning increases in disparity, development funding, refugees, paperless people and indigenous peoples, for example, were only mentioned in the Government Report in passing, if at all.

International human rights obligations and Finnish law also safeguard those without papers, but in practice their chances of getting health care services vary by municipality, and in many cases help is discretionary. Based on the recommendation issued to the municipalities by the Ministry of Social Affairs and Health, a paperless person has the right to receive emergency treatment only and at their own expense. If the municipality is not able to receive payment from the paperless person, the state will cover the cost. According to the recommendation, the municipality may, at their own cost, provide paperless people with other medical care beyond emergency treatment.

Therefore, the current system allows the municipalities to go above the minimum legal requirements. In order to improve the situation of the paperless people in Finland, the experts consulted by the Committee for the Future suggest that the term 'paperless' should be defined in more detail and access to temporary resident permits made easier.

The Committee for the Future points out that a significant increase in global immigration numbers is still ongoing. Finnish society's current systems could not cope with a rapid rise in the number of paperless people living in the country, for example.

Global Agenda 2030 is a document on poverty-related policy-making, and it has an ambitious goal of eradicating extreme poverty everywhere.

Similarly, the EU's 2030 goals include reducing the number of people living in poverty by 20 million by 2020. Between 2008 and 2014, the number of people living in poverty within the EU went up from 116 million to 121 million.

Finland, too, is suffering from considerable poverty issues that are strongly linked to social exclusion. These problems particularly affect those who are outside of the labour market, but the number of working poor has also risen. According to the experts, 12% of Finland's population, i.e. approximately 660,000 people, live below the poverty threshold. The minimum budget threshold, which describes more profound poverty compared to relative poverty, shows that 8% of the population, in other words 440,000 Finns, live in poverty. Minimum budget poverty is common among people who live alone, single parents, students and the unemployed. Over 900,000 people in Finland live at risk of poverty and social exclusion. The number of the unemployed is 350,000, of whom 120,000 have been unemployed for over a year. Just under 400,000 people are receiving social assistance, nearly third of whom are long-term recipients. Over 20,000 people every week end up on the breadline. Child poverty has remained at a low level of approximately 10% in Finland in the 2010s, but has been significantly increasing over recent years and poses a risk to well-being in the future.

The Committee for the Future believes that the lowering of child poverty numbers in particular requires the inclusion of active measures and monitoring indicators in Finland's Agenda2030 action programme.

Some experts believe that the climate goals in the Agenda2030 action programme should be set higher. Even carbon neutrality might not be a sufficient long-term goal, and instead prosperous countries like Finland may be required to achieve a carbon negative level in the future, meaning negative net emissions of greenhouse gases. According to the preliminary information from the SURE study, conducted by the University of Oulu and the Finnish Environment Institute and published this year, Finland could simultaneously cut its raw material consumption in half, reduce its carbon dioxide emissions to one tenth of their current level, and double the well-being of households by 2050. The sustainable development challenge is grand in scale, and thus the long-term objectives should become more ambitious to help Finland raise its profile globally as well.

Of Finland's greenhouse emissions, 68% are created by household consumption. Civil activity will be key in this. Setting the focus on ordinary people's everyday lives and activities may introduce the required additional ambition to the Government Report that would reach across multiple terms. In its Agenda2030 statement, the Transport and Communications Committee also issued a reminder that the EU has made the consumer the focus of its 2030 policies. The roles of consumers and services will become more central in the future. A wider view on the consumer perspective that extends across different administrative sectors is therefore also needed in the implementation of the national Agenda2030. By changing our practices involving things like food, transport, clothing and housing, we can achieve notable changes in people's ecological footprints.

The experts state that the Government Report does not sufficiently specify the scope of economically sustainable development. Sustainable well-being answers the question of how we can increase well-being without simultaneously increasing environmentally harmful effects, as well as remaining within the limits of nature's capacity. At the core of sustainable well-being is the transfer of the prerequisites for well-being from generation to generation. The Nordic welfare model and the social stability it guarantees are a profitable investment choice in the long run.

The Committee for the Future requires that as its priorities in global responsibility, Finland must promote climate change mitigation and adaptation to it, the strengthening of gender equality, improvements in access to sexual and reproductive health services for girls and women in developing countries, the strengthening of democracy, economic growth in developing countries, social stability and the ensuring of global food security. Nationally important areas of sustainability include the promotion of education, equality, the well-being economy and social participation, the utilisation of partial work capacity, the reduction of child poverty, as well as the management of immigration and migration. The Government must ensure the quality and availability of education at all educational levels throughout the human lifespan. In addition, the Government must actively promote sustainable growth that creates jobs.

The most difficult issue in the Agenda2030 action programme concerns the combining of economic growth and sustainable development. Nearly as difficult is the issue of the relationship between economic development and the growth of well-being. The third major issue relates to the transfer from fossil energy to renewable energy and to bioeconomy and renewable materials in general. The experts are notably divided in their estimates on how big of a risk the growth of bioeconomy poses to forest and ocean biodiversity and agricultural food security.

According to the experts the Committee for the Future has heard, a unanimous opinion from researchers is needed on the extent to which bioeconomy and increasing the use of lumber are considered part of sustainable development. Currently, the scientific community has not yet reached a consensus on the matter.

In the Agenda2030 action programme, solving this issue might be a suitable task, for example, for the Expert Panel on Sustainable Development coordinated by SITRA.

Multidisciplinary research can also be promoted by reforming universities' departmental structures, with new multidisciplinary publications and with network-like collaboration.

Foresight, for example in the form of scenario methods, must also be utilised when reinforcing the knowledge base and preparing for change.

The general opinion is that responsibility for the coordination of Agenda2030's national implementation and support for the national sustainable development lies with the Coordination Secretariat at the Prime Minister's Office. The Coordination Secretariat has representatives from the General Secretariat of the National Commission on Sustainable Development, the Ministry for Foreign Affairs, and the Prime Minister's Office. It supports

the state administration's ownership in the implementation of the sustainable development goals instead of the ownership being centred on the Ministry for Foreign Affairs and the Ministry of the Environment as before.

According to an expert statement received by the Committee for the Future, the current Coordination Secretariat of the Agenda2030 action programme consists of three officials, of whom only one is working full-time on the implementation of Agenda2030. As the name implies, the task of the Coordination Secretariat is to coordinate the operations of the administrative sectors that are involved in the implementation of the Agenda2030 action programme. The main content of the operations and its justification continues to come from the responsible ministries themselves. Therefore, it is vital that Agenda2030 also be included in the ministries' strategic goals, the operational and financial plans, and the international profile to allow the sustainable development goals to be realised in accordance with the Government Report.

According to an expert statement submitted to the Committee for the Future, the current coordination network is missing some of the key ministries, such as the Ministry of Finance and the Ministry of Justice. Additionally, the Ministry for Foreign Affairs is represented in the network mainly via its UN unit and the departments responsible for the international environmental affairs.

According to the Development Policy Committee, investments in policy consistency when it comes to development policies have decreased, whilst the objective is completely the opposite. Only one official is working on this in the Ministry for Foreign Affairs, alongside their other duties. The inter-ministerial consistency network formed during the previous government term has not convened once during the current term. Nor have the working groups promoting internal policy consistency in the Ministry for Foreign Affairs convened, including the Trade and Development and the Taxation and Development groups.

The Committee for the Future requires that the human resources at the Prime Minister's Office essential to the Agenda2030 action programme's coordination be strengthened and that the coordination network be expanded to include representatives of the development policy, external economic relations and external relations. In addition, the ministries' role in the realisation of the national Agenda2030 action programme must be made more substantial.

The UN's Agenda2030 action programme has been described as a historic decision. As the Committee for the Future was discussing the Finnish Government's first Agenda2030 action programme in June 2017, another historic decision was made when the United States' President Donald Trump announced that his country would be withdrawing from the Paris Agreement.

The outcomes of President Trump's decision are difficult to predict. It may either paralyse and hinder international work on climate change mitigation, or it might prompt other countries to stand more united and even accelerate the accomplishment of the goals.

It should also be remembered that the United States' decision will not become effective instantly. The Paris Agreement states that a withdrawal may only take place three years after the Agreement has become effective. The Paris Agreement became effective on 4

November 2016, which means that the President cannot issue his written notification of withdrawal before 4 November 2019. Based on the Agreement, the withdrawal will become effective after one year from the notification, i.e. on 4 November 2020 at the earliest.

Thus, it is still possible that President Trump may change his decision over the next few years. In addition, because of the nature of the US administration, it is not clear how the different states might react to the Federal Government's decision. Although the first international comments have been negative, it is also conceivable that the Paris Agreement might be altered to better facilitate the wishes of the US or that a new round of negotiations might be initiated that would satisfy all parties.

If, however, the United States does withdraw from the Agreement permanently, then the decisions of Europe, China and South America, for example, will carry more weight. In this type of new global situation, the EU and Finland acting as forerunners in sustainable development could attract more international investments and companies that think in a sustainable way.

On the other hand, if the promotion of sustainable development becomes more difficult and slows down, it is important to estimate the outcome of the worst case scenario: how will the worsening global environmental problems affect Finland and the rest of the world?

This unclear situation may also be reflected in the internal power structures and political priorities in the European countries by increasing the number of people concerned about the environment while also increasing the number of those who share President Trump's views and have a critical attitude towards environmental agreements.

The Committee for the Future believes that in the new geopolitical situation where the US might withdraw from the Paris Agreement, the future prospects for sustainable development must be re-evaluated. Alternative scenarios and operating models must be created to promote sustainable development in Finland, Europe and around the world. Simultaneously, we must also make a more detailed assessment of the possible outcomes for Finland from unsustainable development.

THE COMMITTEE'S DECISION PROPOSAL

The decision proposal of the Committee for the Future:

Parliament shall approve the statement on the Government Report VNS 1/2017 vp.

The statement proposal of the Committee for the Future

Parliament requires that the Government

- 1. develops reliable monitoring indicators, enabling the realisation of the Agenda2030 action programme and the assessment of its effectiveness while making the goals and measures more concrete; in order to promote well-being, well-being economy indicators parallel to GDP, in particular, must be developed, including indicators such as the Human Development Index (HDI), Genuine Progress Indicator (GPI) and the Index of Sustainable Economic Welfare (ISEW); to improve pro-activeness, new tools for assessing the effects of political decisions must also be developed in relation to the Agenda2030 action programme; the impact on well-being must be evaluated in all decision-making; the evaluation of the effectiveness of political measures also calls for the development of qualitative indicators,*
- 2. utilises citizens' and stakeholders' participation when defining and realising the Agenda2030 action programme's measures and evaluating their effectiveness; particular attention must be paid to allowing the stakeholders' participation to be visible in the end result, as well; in addition, the Agenda2030 report must guide the Government Programme and not vice versa; the priorities in the realisation of the action programme must be linked to all the government term phases, including the creation of the Government Programme and the budget, as described in the Government Report; the phenomenon-based budgeting included in the Report's policy principles may be tested with extensive and multifaceted themes such as sustainable urban development, transport and investments in well-being,*
- 3. promotes consistency in sustainable development policy-making in a purposeful and sustained fashion, as described in the Agenda2030 action programme,*
- 4. increases the human resources at the Prime Minister's Office essential to the Agenda2030 action programme's coordination and ensures that the coordination network is expanded to include representatives of the development policy, external economic relations and external relations; in addition, the role of the ministries must be made more central in the realisation of the national Agenda2030 action programme,*
- 5. raises Finland's profile in promoting and coordinating those Agenda2030 goals in the international foreign policy forums that fit its strengths, such as the Arctic Council, the Nordic Council, the EU and the UN; the goals of Agenda2030 must also be factored in when signing international trade agreements; Nordic cooperation in particular must be actively promoted in sustainable development,*

6. includes in all public procurements the requirement and an assessment of the promotion of the Agenda2030 goals, for example as part of the public administration's Commitment 2050 process,

7. allocates the resources of the Strategic Research Council (SRC) and the Government's Analysis, Assessment and Research Activities in the following years particularly to the promotion of Agenda2030 policy consistency and the reinforcement of the multidisciplinary knowledge base related to sustainable development; research serving decision-making and change management must also utilise foresight, such as scenario methods,

8. realises the objective included in the Government Programme and the Agenda2030 action programme of increasing the level of development funding to meet the UN's and the EU's goal of 0.7% of gross national income,

9. ties the Report on the Future and the Agenda2030 report more closely together; however, the Report on the Future may not be combined with or otherwise limited to solely the Agenda2030 report,

10. evaluates the future prospects of sustainable development in the new geopolitical situation where the US might withdraw from the Paris Agreement; alternative scenarios and operating models must be created to promote sustainable development in Finland, Europe and around the world; simultaneously, a more detailed assessment of the possible outcomes for Finland from unsustainable development must also be made.

Helsinki, 7 June 2017

The following took part in the conclusive deliberation of the matter in the Committee:

Chairperson Thomas Blomqvist (RKP)

Member Mikko Alatalo (Kesk.)

Member Harri Jaskari (Kok.)

Member Anna Kontula (Vas.)

Member Antti Lindtman (SDP)

Member Aila Paloniemi (Kesk.)

Member Olli-Poika Parviainen (Vihr.)

Member Tuomo Puumala (Kesk.)

Member Joona Räsänen (SDP)

Member Siri Tanus (KD)

Member Lenita Toivakka (Kok.)

Member Sinuhe Wallinheimo (Kok.)

Member Ville Vähämäki (PS)

Deputy Member Timo Harakka (SDP)

The following have acted as Committee Secretaries:

Committee Counsellor Olli Hietanen

Permanent Expert Sari Söderlund

Committee Report on the Future, Part 1 A Shared understanding of the transformation of work

Committee report TuVM 2 2017 vp [VNS 6/2017 vp](#)

Committee for the Future

Government Report on the Future, Part 1 A Shared understanding of the transformation of work

INTRODUCTION

Initiation

Government Report on the Future, Part 1 A Shared understanding of the transformation of work ([VNS 6/2017 vp](#)): The item has been submitted to the Committee for the Future for a report. In addition, the item has been submitted for statements to the Education and Culture Committee, the Social Affairs and Health Committee and the Employment and Equality Committee.

Statements

The following statements have been issued:

Social Affairs and Health Committee StVL 12/2017 vp

Education and Culture Committee SiVL 18/2017 vp

Employment and Equality Committee TyVL 12/2017 vp

Experts

The Committee has consulted:

Senior Specialist Kaisa Oksanen, Prime Minister's Office

Commercial Counsellor Antti Eskola, Ministry of Economic Affairs and Employment

Governmental Counsellor Tarja Kröger, Ministry of Economic Affairs and Employment

Commercial Counsellor Pekka Lindroos, Ministry of Economic Affairs and Employment

Ministerial Adviser Ilkka Turunen, Ministry of Education and Culture

Senior Inspector Hannu Stålhammar, Ministry of Social Affairs and Health

President Mikko Kosonen, The Finnish Innovation Fund Sitra

Director Paula Laine, The Finnish Innovation Fund Sitra

Director Mari Pantsar, The Finnish Innovation Fund Sitra
Chief Adviser Tuomo Alasoini, Finnish Funding Agency for Technology and Innovation
Professor Olli Kangas, Kela
Director Päivi Husman, Finnish Institute of Occupational Health
Labour Market Director Anna Lavikkala, Finnish Commerce Federation
Professor Juha Siltala, University of Helsinki
Doctoral Candidate Ville-Veikko Pulkka, University of Helsinki
Professor Matti Pohjola, Aalto University
Postdoctoral Researcher Eeva Houtbeckers, Aalto University, Department of Management Studies, Sustainability in Business Research unit
Professor Pertti Haapala, University of Tampere
PhD, Docent Anu Järvensivu, University of Tampere
Professor Markku Wilenius, Finland Futures Research Centre, University of Turku
Professor Anne Kovalainen, University of Turku
PhD, Master of Music, Project Director Eeva Mäkinen, Kuopio Conservatory
Researcher Tero Toivanen, BIOS research unit
Chairman of the Board Pekka Ala-Pietilä, Huhtamäki Oyj
Co-founder & Chief Design Officer Matias Mäkitalo, Treacher Oy
Doctor of Political Science, Researcher Anu Suoranta

The Committee has received a written statement from:

Head of Development Virpi Einola-Pekkinen, Ministry of Finance
Economist Juha Itkonen, Bank of Finland
Academy of Finland
Counsellor of Education Ilpo Hanhijoki, Finnish National Agency for Education
Finnish Funding Agency for Technology and Innovation
Senior Actuary Eljas Tuomaala, Statistics Finland
Research Institute of the Finnish Economy ETLA
KT Local Government Employers
The Central Organisation of Finnish Trade Unions SAK
Finnish Confederation of Professionals STTK
Akava ry

The Finnish Union of Practical Nurses SuPer

Service Union United PAM

The Association of Finnish Independent Education Employers AFIEE

The Rectors' Conference of Finnish Universities of Applied Sciences (Arene)

Labour Institute for Economic Research

Doctor of Science (Technology), Researcher Mikko Dufva, VTT Technical Research Centre of Finland

Principal Scientist Eija Kaasinen, VTT Technical Research Centre of Finland

Senior Research Fellow Maria Joutsenvirta, Aalto University, Department of Management Studies, Sustainability in Business Research unit

Lecturer Juhani Vähämäki, University of Eastern Finland

Postdoctoral Researcher Tuuli Hirvilampi, Kokkola University Consortium Chydenius

gästdoktorand Niina Vuolajärvi, Stockholms Universitet, socialantropologiska institutionen

Docent, Senior Researcher Minna Nikunen, University of Tampere

Professor Jouko Nätti, University of Tampere

PhD, University Researcher Jaana Parviainen, University of Tampere

Doctor of Social Sciences, Docent, University Lecturer Pasi Pyöriä, University of Tampere

Professor Jari Vainiomäki, University of Tampere, Faculty of Management

Principal Marko Kuuskorpi, Piikkiö Comprehensive School

Demos Helsinki

Reference information

In addition, the committee received a report on the future from the 1st year society and economic stream students of Kulosaari Secondary School, class 17b, on 27 November 2017. For the open meeting held at the Helsinki Book Fair on 27 October 2017, the Committee received questions on the future from the parliament clubs of Vesala and Arabia comprehensive schools and Kulosaari Upper Secondary School, which were answered by the Committee representatives who participated in the event.

THE COMMITTEE'S ARGUMENTS

The first part of the Report on the Future of Prime Minister Juha Sipilä's Government builds a shared understanding of the transformation of work and the future of work in Finland. The report looks for answers to broad questions exploring the future of working and provides information on the consequences of the changes that are taking place.

According to the report, the transformation of work is Finland's greatest challenge, one that may break the traditional links between growth, productivity and wellbeing. The consequences of the transformation in society can be enormous, but the change does not happen quickly. We have the opportunity to influence what the change involves and means and how it can be influenced.

The report examines the greatest challenges and consequences associated with the transformation of work, the work of the future, productivity and competitiveness, the meaning of work for the individual, changes in the contents, practices, places and organisation of work, the employer-employee relationship, change in livelihood and skills, change in the social importance of work and a shared understanding of all of this.

When the boundaries between an employee and an employer, a producer and a consumer, work and non-work, or entrepreneurship and paid work are blurred, the central social structures, such as the tax base or the client base of our social security system, will change, and know-how, legislation and the roles of the trade union movement and interest groups will be subject to pressures to reform. Since the advancement of technology treats various types of tasks in very different ways and at different paces, and workers have very different resources, both work and labour markets face the risk of inequality.

These questions serve as the basis for Part 2 of the report, which explores solutions and policy options. Part 2 of the report will be published in summer 2018.

Comments from the experts consulted by the Committee for the Future

According to the experts consulted by the Committee for the Future, the first part of the Government Report on the Future is successful in conveying the tension between change and permanence. Despite numerous changes, there is also a great deal of permanence in working life, and change is itself permanent. Jobs disappear, new ones are created, and at the same time work changes in both shape and content.

The experts were in agreement with the report about the direction of the transformation and the notion that if current trends continue to intensify, they may lead to transformations that are difficult to anticipate. At the same time, however, the experts reminded the Committee that current research alone does not provide us with a sufficient basis to extrapolate that we are currently living in a period of exceptional transformation. Because of this, it is justified to also consider the possibility that work will not transform to an exceptionally significant degree over the next 20 years.

According to the experts consulted by the Committee, the report successfully highlights the fact that current discussion on the transformation of work has divided into two lines of debate: a debate concentrating on macro-economic viewpoints about the productivity of work; and a debate emphasising the meaning of work for the individual. According to the experts, the report does well in building this shared understanding. Type 1 work is materially rewarding work that secures the continuity of income, manifesting as performance for the worker himself or herself. Type 2 work, on the other hand, is having intrinsic value, manifested as meaningful activity and craft for the worker himself or herself.

This type of self-purposeful activity also includes voluntary work that is carried out for instance within the family and in organisations. The work represents meaningful activity in its own right – even without social recognition and career development prospects.

According to the expert statements submitted to the Committee for the Future, the basic premise of the Government Report on the Future is realistic: digitalisation and globalisation will change both the structure and contents of working life, which is reflected in jobs, for example. The organisation of work will change, odd-jobbing and the fragmentation of work will increase, ways of earning income will diversify, the importance of lifelong learning will increase and the social importance of work will change. Regular paid work will not disappear completely in the future, but many kinds of models for working and earning a living will surface next to it. New safety nets will be needed for a wide variety of changing situations. Competence, education and learning new things are the most critical means of coping with the transformation of work.

The first part of the Government Report on the Future does not yet provide answers to the future challenges presented here, but focuses instead on steering discussion towards matters considered important for the future. This is a conscious decision, as policy options and measures will be examined in Part 2 of the Government Report on the Future, to be published in 2018, taking into account feedback received from interest groups and the Parliament on Part 1 of the report. This way the two-part Report on the Future serves as genuine dialogue on the future between the Finnish Government, the Parliament of Finland and different interest groups.

At the request of the Committee for the Future, the consulted experts also presented suggestions on issues that should be given more emphasis in the second part of the report. In relation to this, some of the experts questioned the premises of the Government Report on the Future; the notion that work is undergoing an exceptionally major transformation and the notion that digitalisation affects everything. The experts reminded the Committee that even though digital platforms connecting those offering work and those doing work, or more broadly speaking service providers and those needing services, are becoming more prevalent, not all work will be performed on these platforms, or even digitally or remotely, in the future. As such, many of the visions in the report regarding the ways in which work will be done in the next 20 years only concern a limited number of working people, and the report does not provide answers regarding the probability or scope of different development paths.

Furthermore, many of the experts noted that the possible transformation of work is driven not only by technology and digitalisation, but numerous other factors as well. According to the experts, these various change factors should be more closely examined, and related impacts and measures should also be assessed from a temporal perspective in order to differentiate between measures that need to be implemented now and ones that could be implemented later down the line. Issues that require more urgent measures include companies' acute lack of digital business know-how, the labour shortage in many traditional industries resulting from the retirement of baby boomers as well as structural and regional unemployment as factors driving social exclusion.

The experts consulted by the Committee were somewhat sceptical about the view that the future will largely be without employers. According to the experts, it is likely that the ways

of working will diversify in the future, but the majority of work will still be performed in permanent employment relationships.

According to some of the experts, the notion that the work of the future will become increasingly virtual overall may also be a kind of myth, which should be examined in a critical manner, as is also stated in the report itself. Even in the future, face-to-face meetings, service production and activities tied to specific places will continue to define the terms of work for a fairly large proportion of workers. Furthermore, a considerable proportion of workers can already perform at least some of their work regardless of time and place. Teleworking will most likely increase to some degree compared to the current situation, but the majority of people will continue to work within the boundaries imposed by time and place in the future as well.

Some of the experts also gave feedback on the fact that the report brings up numerous concepts and assumptions that are not more explicitly defined or justified. The report's sources include large numbers of background memos and reports, newspaper articles and columns, while actual research literature is scarce.

The experts also noted that the report streamlines the future to an excessive degree and simplifies reality by breaking up the current situation into three categories: the unemployed, entrepreneurs and wage earners. However, there are already many in-between states in the current labour market, as a result of which many of the operating models presented as visions for the future are already in use. For example, creative industries have long been serving as a change laboratory for self-employment and splintered income, characterised by variation in entrepreneurship and employee status as well as subsidies, grants and social welfare benefits.

The Committee for the Future consulted a wide range of labour market organisations during the drafting of the present report. In their statements, some of the organisations expressed bafflement over the fact that central labour market organisations were not consulted during the preparation of the Report on the Future, even though the objective was to build shared understanding.

According to the expert who the Committee consulted about the platform economy, the second part of the Government Report on the Future would also benefit from more extensively covering accounts that have emphasised the disappearance of work tasks, the transformation of job descriptions and the permanence of the occupational structure instead of the disappearance of jobs. The platform economy, for example, is being utilised even more in current jobs than in new enterprises and occupations.

Surprise was also expressed about the fact that the report is not based on the greatest challenge of our time, namely acknowledging the boundary conditions set by the environment.

Some of the experts called for a more detailed analysis of the potential threats posed by technology. For example, the report seems to take it as a given that the digital transformation of work will increase the self-direction and autonomy of workers. However, there is empirical evidence to suggest that while digitalisation makes work more transparent, it also enables stronger control. Artificial intelligence algorithms may also

make the work of experts more difficult if the experts no longer know or understand why the algorithms are the way they are. Furthermore, algorithms may also be driven by commercial or political motives.

The notion brought up in the Government Report on the Future that development can be steered in a desired direction through policy measures received a great deal of attention and support in the hearings held by the Committee for the Future as well as in the statements issued by the Education and Culture Committee and the Employment and Equality Committee. This value discussion is also related to the question regarding the role of government and taxation, which is only somewhat vaguely explored in the report. How can the platform economy, in which people work on platforms under foreign ownership, be regulated and taxed, for example?

As part of the preparation of the present future report, the Committee for the Future also held an open hearing at the Helsinki Book Fair, to which school pupils were invited to attend for the purpose of challenging Committee members about the future of work. The event was attended by pupils from the parliament clubs of Vesala and Arabia comprehensive schools and students from Kulosaari Upper Secondary School. The students of Kulosaari Upper Secondary School also wrote and submitted a written statement to the Committee for the Future.

One of the questions posed by the pupils stated that even if young people with immigrant backgrounds study at Finnish schools and receive good grades, only a few of them are admitted to universities in Finland. They were interested in finding out if there was some way in which the university studies of immigrants could be promoted. The pupils also discussed the fact that many people do not become motivated about and invested in their studies until they are in their 20s. In relation to this, the pupils and students asked how we could make sure that getting into university will not depend solely on one's success in the matriculation examination in the future. The pupils also challenged the members of the Committee by asking how we could help ensure that in the future all comprehensive school pupils would have the opportunity to educate themselves and find decent jobs regardless of their parents' language, income and wealth. There was also debate about whether the visibility of gender and sexual minorities could be increased in basic education. In the pupils' opinion, the situation currently varies between schools and the contents of educational materials are centred around binary genders.

The upper secondary school students pondered the working life of the future, the promotion of young people's social participation and the education of the future. They examined the future of working life from the perspective of establishment-level agreements, and asked what kind of impacts an increase in establishment-level agreements would have on flexible working hours, employment contracts and holidays, for example. Another topic that was widely discussed was the Ministry of Education's plan to change the student selection processes of universities. The change is set to take effect in 2020, i.e. the spring when those who started upper secondary school in 2017 are set to graduate. In spite of this, there still seems to be a degree of uncertainty surrounding the new selection process. This causes uncertainty for upper secondary school students who will be affected by the new selection process. The upper secondary school students asked why the change is being implemented on such a rapid schedule, with the reform already affecting current

first-year upper secondary school students and causing uncertainty in regard to future studies.

The upper secondary school students also challenged the members of the Committee for the Future by asking about the balance of rights and responsibilities in relation to the fact that while the age of criminal responsibility is 15, the voting age is 18. In the students' opinion, it is unfair that the young people whose lives are most affected by the decisions being made now are not allowed to participate in the making of said decisions. The students also believed that the most effective way to get young people interested in politics would be to involve them in it. The young people were in almost complete agreement about the idea that Finland could pilot the reduction of the voting age to 16 in some suitable future election. From the perspective of rights and responsibilities, young people should also be allowed to run in the same election.

In their written statement, the students of Kulosaari Upper Secondary School complemented their opinions and suggestions and summarised their message as follows: Working life of the future: "The working life of the future will be more diverse and flexible than it is now. Public authorities will not play a major role in building it. On the contrary, the market should be allowed to operate and public authority should be reduced."

Education of the future: "In our opinion, the greatest problems in the university admission reform are the rapid implementation of the new process and the current uncertainty surrounding it. It would be considerably easier if the reform were to only affect students who are not yet in upper secondary school, making choices that will be significantly impacted by this reform. In any case, the content of the reform should be clarified and detailed in a way that us upper secondary school students could be relatively sure of how we will be applying to universities a few years from now."

Young people as future influencers: "We consider youth councils to be a good step towards involving young people in decision-making, but many young people consider it unnecessary and even futile. How could this be changed? We believe that young people have a lot to offer, especially in regard to the matters of their own municipalities. We believe and hope that you will consider these and other questions related to youth participation. After all, we young people are the future."

The Committee for the Future will continue working with young people in 2018 as well by participating in the Youth Parliament and by publishing the report *Nuorten ja lasten ääni 100-vuotiaassa Suomessa* ("The voice of young people and children in 100-year-old Finland"), which collects visions of the future from children and young people.

Issues raised by the statement committees

The Committee for the Future (TuV) received statements on the Government Report on the Future from the Social Affairs and Health Committee (StV), the Education and Culture Committee (SiV) and the Employment and Equality Committee (TyV).

As a pilot on the promotion of internal policy coherence in the Finnish Parliament, the reporting committee (TuV) and all the statement committees (StV, SiV and TyV) also held a joint hearing to which each committee invited their own interest groups to attend for the purpose of being heard and participating in the discussion.

Themes that were raised in the joint hearing included the utilisation of the working life connections of universities of applied sciences, sustainable development goals in the future of work, dismantling bureaucratic traps by making the social welfare benefit system more flexible, simpler, consistent and faster from the perspective of the individual/client, the implementation of a real-time incomes register, the development of comprehensive insurance and facilitating odd jobs with new company forms, work account models and workers' cooperatives, which will make it easier for solo entrepreneurs to handle invoicing and the statutory obligations related to entrepreneurship.

It was also suggested in the joint hearing that creative industries could serve as a test laboratory for future working life and social security, since in creative industries the fragmented forms of work described in the Government Report on the Future have been everyday reality for a long time already. Similar discussion was had regarding people with partial work ability, who are unable to achieve an adequate livelihood through wage work. Such people should be able to more flexibly combine work corresponding to their working ability and the small income earned from it with different forms of social welfare.

Another issue that was raised was mechanisms identifiable in the income structure that are dependent on gender. As an example, it was mentioned that the earnings of self-employed women are typically lower than those of self-employed men. Related to this theme, there was also discussion about working people living in poverty, who currently number approximately 250,000 in Finland. Many of these people work in industries and fields dominated by women. Concerns were raised that low wages and fragmented platform work might lead to widespread pension poverty in the future. Concerns were also expressed about people who have lost their jobs and find it difficult to find new jobs due to various reasons. For such people, incentives for participating in education and training or other community-based activities are currently almost negative. Even though these problems affect the entire country, social exclusion seems to also be concentrated in specific geographical areas, such as Kainuu and eastern Finland. As such, reports concerning the working life of the future must also discuss the prevention of social exclusion, and take into account the correlation between social exclusion and geographical location.

One of the comment speeches also asked how work conducted outside of the traditional financial economy could be made more visible and included in discussion concerning work and income. Additionally, concerns were raised about the fact that not all self-employed people correspond to the generally shared understanding of an entrepreneur, whose work is associated with the pursuit of growth and profit as well as the employment of others. It was wished that self-employed people could be provided with peer support.

In its statement, the Social Affairs and Health Committee emphasises that in reforming income security, we must take into account new ways of organising work and the definitions of employer responsibilities related to them in a way that preserves the system's funding base. According to the Social Affairs and Health Committee, the people handling the reforms should also see to it that the social security system encourages working and that

people have equal opportunities for training and lifelong learning as work changes. Unemployed people's opportunities for developing competence should be further improved.

The Social Affairs and Health Committee also states that the transformation of work has been predicted to increase economic inequality. Because of this, solutions and policy measures for preventing the growth of inequality should be sought in the drafting of the second part of the Government Report on the Future.

The Education and Culture Committee and the Employment and Equality Committee also emphasised in their statements that questions related to equality must be taken into account in discussion concerning the future of work. In the Education and Culture Committee's opinion, the transformation of work must not lead only to a new work framework, in which gender or other divisions related to people's identities or backgrounds continue to define opportunities for work and participation. The Employment and Equality Committee notes that the transformation of work will likely impact different population groups in different ways. However, in a just society, personal factors, such as gender, ethnicity, age or place of residence, must not affect one's opportunities for education, finding jobs or using services.

According to the Education and Culture Committee, competence growth can be supported evenly in different parts of the country via regionally equal innovation ecosystems and bold implementation of new technologies. The coming changes should be seen as an opportunity for better and more equal social development. Universities must be sensitive to react to the needs of society and industries, and the need for continuous education and training. What we need is a future-oriented, multidisciplinary higher education institution, which could provide research-based and even radical solutions to current and future problems, regardless of the boundaries between different disciplines.

Education and competence are very important for securing work and income. This is why, in the Education and Culture Committee's opinion, every person that is willing must be provided flexible and individual opportunities to train for work and update their competence throughout their career. Every person must have equal opportunities to develop competence for building one's own life.

According to the Education and Culture Committee, the transformation of work emphasises learning-to-learn skills in particular. Other skills needed in working life include entrepreneurialism, creativity and imagination, communication, cooperation, problem-solving and time management skills, the ability to apply information in multiple ways, the ability to think critically and analyse as well as the ability to understand internationality and multiculturalism and the capability to operate in this framework.

If the proportion of workers who perform odd jobs as well as temporary and part-time work increases, as is predicted in the Government Report on the Future, more attention must be paid to their competence development needs as well as their pension, social and unemployment security. The Education and Culture Committee reminds the Committee for the Future that artists have long been working odd jobs, which are now predicted to increase in other industries as well. The Education and Culture Committee refers to its prior statement on the Government budget proposal for 2018 ([SiVL 17/2017 vp](#) — [HE 106/2017](#)

vp, in Finnish), in which the Committee presents a proposal for an artist alliance, which includes a combined guarantee for work, entrepreneurship, education and training opportunities and income, which could be utilised in other industries as well.

According to the Education and Culture Committee, culture and creative industries are the third-largest employer in Europe. This is why the Education and Culture Committee considers it important that creative industries seize the opportunities provided by the transformation of work. In relation to this, the Education and culture Committee is also expediting the Creative Business Finland operating model developed by Business Finland (formed through the merger of Tekes and Finpro), which supports the product development and export of creative content production industries.

While the future is frequently discussed in school curricula and development strategies, according to the Education and Culture Committee futures education has not established its position in comprehensive schools, upper secondary education institutions or universities.

According to the Employment and Equality Committee, the increase in the number of self-employed people has been one of the most notable trends in the Finnish labour market in the 21st century. Partly related to this, traditional work based on the employment relationship is also being challenged by work conducted in the platform economy, because this type of work abandons the thought of the relationship between the party commissioning the work and the worker being more permanent than an individual work performance. The earning models and the grounds by which remuneration for the work performed is paid vary greatly between platforms. Even though the phenomenon is small in Finland, it is not marginal. Furthermore, as a result of careers becoming longer, it is becoming increasingly necessary for workers to adapt to changes other than retirement, and due to the rapid pace of change, increasing numbers of us will end up having to face major changes during our careers. A third major trend is the polarisation of the labour market, which in this context means that fewer and fewer people are working in occupational groups corresponding to the middle parts of the wage distribution scale, while relatively more and more people are working in occupational groups corresponding to the upper and lower ends of the scale.

According to the Employment and Equality Committee, one of the key questions is how to ensure the funding of a just welfare state through taxes and insurance premiums in the future, if a significant proportion of economic exchange takes place in a way that bypasses traditional business operations and paid employment. An adequate funding base for maintaining public services and social security must be secured. Because of this, the Employment and Equality Committee is of the opinion that tax legislation should be reformed to take into account the platform economy and other new ways of working and earning income. In addition to this, investigations should be conducted on how our labour legislation could be made to correspond to changes in work in a way that facilitates the creation of work while also ensuring a minimum level of protection for workers. At the same time, the social security system must also be made clearer. The current social welfare benefit system is difficult to understand from the perspective of citizens, and it is difficult for the system to recognise new, hybrid-like ways of organising work, in which a person may have several part-time employment relationships while also working as a private trader or a wage earner via digital service platforms, for example.

In many of these questions, the boundary conditions governing legislative reforms stem from EU law. Because of this, it is important to also take EU-level cooperation into account when deciding on measures.

In its statement, the Employment and Equality Committee calls for the expedited and comprehensive implementation of a real-time incomes register in a way that incorporates all types of income, such as income from capital, for example. This way, different types of income would all be contained in the same system and the benefit system could be built around its utilisation.

Examples of work that is not accounted for in gross domestic product (GDP) despite contributing to the economy and social wellbeing to a significant degree include unpaid work in households and volunteer work in the third sector, which is conducted by both working people and the unemployed as well as retirees. The importance of these types of non-trade-based activities should also be explored in the second part of the Government Report on the Future from the perspective of work, the economy and society.

One of the basic messages raised in the joint hearing between the Committee for the Future, the Social Affairs and Health Committee, the Education and Culture Committee and the Employment and Equality Committee as well as in the committees' statements has to do with the core values of Finnish society. One-hundred-year-old Finland has succeeded in achieving an exceptional level of wellbeing. Along the way the nation has faced several major changes, which it has always survived. Change management requires belief and perspective on the future, but at the same time it is also good to look back at how changes have been handled in the past.

In its statement, the Committee for the Future focuses on

- placing the transformation of work into a broader historical context,
- examining the current situation through statistics,
- problems with indicators,
- concrete examples of how new phenomena are already reflected in various industries and occupations,
- Agenda2030,
- competence,
- labour legislation,
- social security and
- radical technologies.

Placing the transformation of work into a broader historical context

The transformation of work and the end of work have been predicted for decades. The rapid quantitative increase in technologies and their swift proliferation may easily lead one to think that technological development reduces the need for work in a straightforward manner. That work performed by humans will eventually cease as machines do all the work. As an example of such notions, one of the experts consulted by the Committee for the Future noted that as early as the 1960s, there was debate in the United States about cybernation,

centred around the belief that the cybernation revolution, meaning the proliferation of computers and automation, would start a new age for the economy and society. According to the expert, concerns related to robots, automation and artificial intelligence were already part of the debate back then. Cybernation was believed to increase productivity and create radically different production methods and organisational structures. The change was also expected to be so rapid that society would find it difficult to adapt to it: machines would do all the work and eliminate income, which threatened to drive the majority of the population into poverty and welfare dependency. It was feared that this development would test the limits of the market economy's income distribution system, requiring the public sector to take greater responsibility for the redistribution of income.

The idea that work will end has recently resurfaced as a result of advancements in artificial intelligence and the Internet of Things. In 2010, according to some international estimates, 47% of the United States' labour force was working in occupations that were very likely to be replaced by computers and artificial intelligence. Similar estimates have also been presented in Finland, claiming that a third of Finland's labour force would be working in occupations at risk of being replaced by computers.

Even if technology were to replace some of the work currently being performed by people, the trend is not as straightforward as the most radical visions of the future claim. It is more likely that new technologies will only replace some tasks in routine-like jobs where computers boast a relative advantage over work performed by humans. If these factors hindering the transformation of work are taken into account, then the proportion of jobs estimated as being at high risk in the United States, for example, falls to 9%. The proportion is the same, 9%, in OECD countries on average, though there is some variation between countries, with the percentage of jobs at risk of being replaced varying between 6 and 12%. In Finland, the proportion of jobs at risk is 7% according to this more moderate estimate.

If we compare these figures with the actual historical disappearance of jobs, then according to an estimate based on the sum of the net reductions in the number of jobs in places of business, the rate at which jobs have disappeared in Finland has been slightly over 10% during normal periods, and significantly higher during major macro crises: in 2009, the disappearance rate was approximately 15%, while in the early 1990s the rate varied between 15 and 18% in several years. Based on the comments that the Committee for the Future received from experts, the creation of new jobs and the disappearance of old ones is a perpetual change process. As such, from a statistical perspective it would seem that there is no basis for the claim that we are currently experiencing an exceptionally major transformation of work.

According to the experts consulted by the Committee, the risk of a job being automated also varies depending on the level of education: over 50% of those who have only completed the basic level of education work in jobs that are at risk of automation. Similarly, 40% of those with lower secondary level education work in jobs at risk of automation. Conversely, for those with higher level degrees, the risks of extensive automation are very small or negligible.

Furthermore, we should keep in mind that technology also creates new jobs, and that the greatest challenge may end up being the fact that new technology changes work tasks within existing occupations. For example, the work of a mechanic who works in a car factory

with a robot differs from the work of a traditional car mechanic. In this regard, the challenge is whether education and training can keep up with changing work contents and tasks.

During the preparation of the present report, the Committee for the Future also consulted experts about the history of work. The central message highlighted in these hearings was that of perpetual structural change, which has been driven by different factors and defined in different ways over the decades.

In the 1950s, Finland's land settlement policy, which emphasised rural areas, collided with the modernisation of the economy, as increasing productivity in agriculture started to reduce the need for labour. By the 1960s, there was talk of a structural change in Finland, referring to the depopulation of the countryside, migration and the birth of suburbs. Alongside this talk of structural change in reference to rural depopulation, there was also talk of another type of structural change, referring to the modernisation of society. These two perspectives on the structural change of the 1960s were similar to the debate on the transformation of work taking place today, a way of building a shared understanding.

In the 1960s, the promotion of structural change in accordance with the "modernisation" perspective also became part of Finland's official socio-political agenda. Finland's rural society was becoming, and had to become, an industrial society, later developing into a post-industrial society. With the countryside also becoming more modern and affluent, the structural change seemed to fulfil its promise. According to comments received from one expert, research shows that the resulting drastic changes in regional and economic structures increased citizens' opportunities and equality: income and health inequality were reduced, while education and economic growth increased social mobility to higher levels than anywhere else. Even in research focusing on Finnish society, these changes were described in the 1970s as a structural change, which seemed to be progressing faster and more successfully than anywhere else in Europe.

According to one of the experts consulted by the Committee, in the 1980s the concept of structural change gained a new definition, when Finland's "blue-and-red" government (formed by the Social Democratic Party and the National Coalition in 1987—1991) included the concept of managed structural change in its government programme. Society was understood to be in a state of change due to the "structural change" of the global economy. The government's goal was to make Finland an internationally competitive welfare state. With the help of managed structural change, Finland was to remove structural inflexibility from its economy and society and adapt the country to global change. According to the expert, this managed structural change came to an end in the 1990s due to the depression, mass unemployment and national debt.

In the next structural change, in the 1990s, the structures of Finland's economy were prepared for a post-industrial society and integration into Europe with the help of a multidisciplinary structural change, centred around promoting growth and reducing public spending. Based on one of the expert statements submitted to the Committee for the Future, the success of Nokia served to turn the concept of an information society and a new economy driven by information technology into the same kind of positive structural change strategy that had previously been applied to industrialisation. Finland invested heavily into education and research, and in the early 2000s the same strategy seemed to solve the challenges introduced by the global economy as well. It was believed that Finland would

succeed amidst intensifying international competition with the help of education, competence and information technology, and that even expensive work could be retained in Finland if the right structural solutions were made.

The changes related to the modernisation of the economy described above were central socio-political objectives, and even success stories, which were often referred to as a “structural change” in both research and socio-political discussion. Based on the expert statements heard by the Committee for the Future, this is why the characteristics that have emerged in the last 10 years, which seemingly run contrary to this long-running trend, do not yet amount to proof of a significant change in direction.

Statistical analysis and review of the current situation

Several of the expert statements as well as the statements from the Education and Culture Committee and the Employment and Equality Committee highlighted the need to improve our understanding of the current state of working life. In relation to this, the Committee for the Future consulted a wide range of working life researchers in order to find out what the transformation of work looks like in light of statistics.

The most challenging aspect of change is understanding its timeframe and scale. According to the World Economic Forum, for example, the ongoing industrial revolution has been predicted to eliminate at least 5 million jobs in industrialised countries by 2020. The figure may seem high at first, but if we examine the figure in relation to the combined sizes of the labour markets of industrialised countries, we can see that it accounts for a fairly small proportion of the total number of jobs.

The growth of atypical employment relationships has also been predicted for a long time. In spite of this, the majority of work is still being performed in continuous and full-time employment relationships. According to Statistics Finland’s labour force survey, nearly two thirds of employed people in Finland have been working in full-time, wage-based employment relationships that are valid until further notice throughout the 2000s. During this period, fixed-term employment contracts have not increased, and part-time work has increased only slightly: in 2016, 63.1% of employed persons in Finland were in continuous and full-time employment, whereas in 1997 the corresponding figure was 64.2%. If we assume that the proportion of full-time employment will continue to develop as it has until now, in the next 20 years the proportion of continuous full-time employment will decrease by approximately 0.4%, and by the end of the current century, 57% of employed people will still be working in continuous full-time employment.

The same conclusion was reached in a study in which the careers of wage earners employed in the private sector were analysed based on FLEED (Finnish Longitudinal Employer-Employee Data). According to the results, over the last two decades the proportion of wage earners who have found employment in stable career paths, meaning uninterrupted paid employment, has increased. Wage earners who were on stable career paths were also found to have a higher-than-average level of education. Training for new qualifications was consistently associated with stable career trajectories, regardless of economic fluctuations.

Despite the prevalence of continuous and full-time employment relationships, the labour markets of many industrialised countries, such as the United States, the United Kingdom and Germany, as well as Finland, seem to be becoming increasingly polarised. According to the consulted experts, in 1995–2008 employment growth has been strongest in low and high-paying occupations, whereas middle-income occupations have declined. In other words, the middle class has grown narrower.

A similar phenomenon can be seen to some degree in the distribution of income between families with children in the LIS cross-national data on income. In the early 1990s, low-income families (income below 75% of the population's median) accounted for 10% of Finnish families, whereas in the 2010s they accounted for 20%. Middle-income families (income 75%–150% of the median) accounted for 75% of families in 1991 and now account for 63%. Conversely, high-income families with an income above 150% of the median accounted for 9% and 14%, respectively, of all families in the corresponding periods.

In their 2016 economic surveys, the OECD and the EU noted that Finland is an exception to the current trend among EU and OECD countries of labour forces becoming increasingly highly educated. Up until the early 1990s, Finland had one of the highest proportions of highly educated young people aged 25–34 among OECD countries. In 2015, Finland was below the average for OECD countries in this comparison. However, this is not an indication of the Finnish education system being in decline. The proportion of Finns aged 25–34 who have completed tertiary education has remained stable since the early 2000s: in 2014, the proportion was 40%, while in 2000 it was 39%. However, during the same period the OECD average in the same age group has increased from 26% to 41%. This indicates that the higher education systems of many OECD and EU countries have undergone significant expansion in the 1990s and 2000s.

There are too many young people in Finland who do not continue their education past the basic level, despite the fact that competence requirements continue to increase in the labour market and education-related differences in employment are substantial. The employment rate of people who have only completed basic education has decreased in the 2000s, while employment rates in higher levels of education have remained stable. In 2015, the employment rate of people who had only completed basic education was 43%. In the same year, the employment rate of people who had completed upper secondary level education was 67%, the employment rate of people who had completed lower-degree level tertiary education was 81% and the employment rate of people who had completed higher-degree level tertiary education was 86%.

According to the working life experts consulted by the Committee, studies indicate that technological development has not led to unemployment in the 2000s, but seems instead to have been a source of increase in real wages and thus a key factor driving the increase in wellbeing. However, in recent years this effect seems to have somewhat weakened in several countries, which may also be the result of performance-based routine work being replaced with increasingly affordable new technologies.

Together with the rapid progress of digitalisation and the development of other new technologies, service occupations have also experienced growth. According to researchers, however, the growth of service occupations can also be explained by the structural change

of demand, whereas changes in routine and expert occupations are more strongly linked with technological development and possibly also with the outsourcing of operations.

In other words, the development of different occupational groups and sectors can be affected by different factors. According to the consulted experts, the fact that median wages have begun to lag behind productivity growth can be explained by the fact that productivity is growing in technology industries that engage in foreign trade, whereas new jobs are being created primarily in the retail sector, restaurant and hotel services, and construction. This is another trend that is currently polarising the labour market.

The structural change of demand has to do with changing values, among other factors. The change in the values of Finnish wage earners can be seen in Statistics Finland's Quality of work life surveys from the early 1980s to the 2010s, which show a clear increase in the importance of the content of work relative to the importance of pay. Similarly, the importance of leisure time and family life as the content of life has increased relative to the perceived importance of work.

The question of values was also reflected in the Committee for the Future's expert consultations in the form of debate on whether the potential decrease of work is a positive or negative development. Work is needed for livelihood and tax income, but in other respects the decrease in paid work can also be a good thing, leaving more time for other pursuits.

The impacts of the changes in working life have also been examined at the individual level by comparing the occupations and potential unemployment of people working in routine jobs in 1995 to their situations in 2009. In these comparisons, it was noted that those who were working in cognitive-based routine occupations (office work, etc.) have done better in the labour market than those who were working in routine occupations based on physical labour (industrial work, etc.) in 1995. Those working in cognitive-based routine occupations were more likely to find work in higher-paying cognitive-based "non-routine" occupations and did not end up unemployed or outside of the labour market as often as those working in routine occupations based on physical labour. What this means is that even routine occupations and the tasks that they entail differ from one another to such a degree that they cannot be examined as a single whole. Changing occupations and jobs is easier for some workers due to their education or competence acquired from previous jobs compared to other workers with different backgrounds. This is another observation that supports the examination of employment and unemployment at the individual level.

In official statistics, agency-hired labour and zero-hour contracts are considered forms of fixed-term and part-time employment. The categories overlap to some degree. Agency-hired labour is a fairly marginal phenomenon, accounting for approximately 2% of wage earners. Compared to this, the number of wage earners working under zero-hour contracts is surprisingly high at 83,000, accounting for 4% of all wage earners. Statistics on agency-hired labour have been collected since 2008, but data on zero-hour contracts has been collected once-only, in 2014. Statistics Finland is set to publish new data on zero-hour contracts and underemployment in 2018.

The amount of work performed in the platform economy is difficult to estimate globally or even nationally. For the US, for example, estimates range from 1% to 8–10% of the labour

force. Estimates on the numbers of people who have done work on platforms in the Nordic countries are also below 10% of the total labour force. On the other hand, the numbers of people who have sold property (houses, cars) or services (short-term work) via platforms are considerably higher.

Based on international comparisons, the countries with the highest numbers of people working on platforms are (in descending order) India, Pakistan, Bangladesh, the Philippines, the United States and the United Kingdom. In the United States, 4% of the labour force (6 million people) have worked on digital platforms, with 1–2% of the labour force working on them weekly. In the United Kingdom, 4% of the labour force (18–70-year-olds) had sought work on digital platforms during the past year, in addition to which work on digital platforms served as the primary work of 1% of the labour force. In Denmark, 1% of the labour force (15–74-year-olds) had sought work on digital platforms during the past year.

According to reports submitted to the Committee, those who have worked on digital platforms typically have other sources of income as well. In the United Kingdom, for example, 58% were in full-time employment. Many people work on platforms only occasionally, and rarely focus exclusively on a single platform. Even so, digital platforms have already become a long-term and established way of earning additional income for many people.

The shift from paid employment to entrepreneurship is most notable in so-called semi-professions, meaning expert occupations, which include translators, editors and those with an education in the arts. The shift from paid employment to entrepreneurship has been less notable in so-called strong professions, which include occupational groups that have traditionally enjoyed strong positions in the paid employment market, such as doctors, engineers and economists. This speaks for the existence of stable and relatively permanent structures as well as a labour market that changes rather slowly.

According to Statistics Finland's labour force survey, the numbers of self-employed people have been increasing quite steadily throughout the 21st century. In 2000, the statistics included 123,000 people who were self-employed in some manner, whereas in 2016 the corresponding number was 183,000. In other words, the number of self-employed people increased by 60,000 during this period. By comparison, the number of wage earners was 2,016,000 in 2000 and 2,105,000 in 2016, indicating an increase of 89,000 wage earners during this period. The significance of these figures becomes apparent when the increase is compared to the order of magnitude of the groups: An increase of 60,000 from 123,000 is much more notable than an increase of 89,000 from 2,016,000.

The greatest change has been the change in the structure of entrepreneurship. Self-employment has increased, while at the same time the numbers of agricultural entrepreneurs have decreased.

According to the experts, one of the most important questions regarding new ways of working is the social security of workers. Currently, social security is weakest in areas where it is most needed. Whereas 85% of those in full-time, permanent employment are covered by earnings-related social insurance, only 52% of those in part-time fixed-term employment and 47% of those working under zero-hour contracts are covered by

insurance. Those with the lowest coverage are private entrepreneurs, of whom only 21% are covered by earnings-related social insurance.

Another issue that warrants separate examination is the future of work in the public sector. For example, the number of personnel working in the municipal sector has hardly changed during the 20-year examination period (1997–2016). The sector's total number of personnel was highest, 441,000, in 2011. By 2016, the number had decreased to 421,000. The number of personnel is expected to continue decreasing in the future as well, but only by less than one per cent per year. However, at the same time outsourced services have been growing steadily in the municipal sector. The amount of funds spent on outsourced services was EUR 2.5 billion in 1997, 5.3 billion in 2006 and 9 billion in 2016. In other words, the sum has more than tripled over the span of 20 years. Since other expenditure has also increased during the period examined, the change is better described by the observation that when viewed as a percentage of total expenditure, spending on outsourced services has doubled in 20 years. In 1997, outsourced services accounted for 10.7% of total expenditure, whereas in 2016 they accounted for 20.5%.

Some of the experts who the Committee consulted about the future of work also discussed immigration in their statements. Based on the statements, technological development will not remove the need for labour, even as the population ages and the number of people of working age decreases. Studies show that immigrants create new jobs and promote economic growth. In Germany, for example, immigrants have created 1.3 million new jobs. Entrepreneurship is also relatively more common among immigrants than among the original population. Examined over the long term, the impact of immigrants on the economy and employment is positive, as immigration increases demand for education and expands the labour market. There is, however, a risk that a potential deterioration in the status and rights of immigrants will significantly increase inequality in society and the labour market.

Problems with indicators

The static classifications currently used in working life are inadequate for describing the increasingly diverse ways in which work is performed. Current statistical methods are ill-suited for monitoring mobility, employment consisting of multiple sources of income and newer forms of employment. For example, there is currently no data on how many people there are in Helsinki whose income is based entirely or partly on self-employment. Different ways of working often intersect, and an individual's status as a wage earner or their form of self-employment may vary from one day to the next. The same problem has been previously recognised in the monitoring of cultural occupations, as people working in these occupations frequently shift between different labour market positions, with employment based to varying degrees on wages, fees, employment remunerations, a business ID, invoicing and subsidies at the annual and career level.

The platform economy is also inadequately reflected in statistics, and the impacts of digitalisation overall are difficult to measure. Many of the trends driven by digitalisation, such as the global decentralisation of production and distribution, are making the compiling of national statistics increasingly difficult. Digitalisation has also made it possible for consumers to become service providers themselves, resulting in forms of service

production that are not covered in national accounts. Free goods produced without pay, such as blogs, videos and Wikipedia articles, are also not reflected in GDP, even though they have an impact on people's wellbeing and competence. Another type of work that is not reflected in GDP is unpaid domestic work, even though in 2012, for example, its value relative to GDP was estimated to be approximately 41%.

According to one of the experts consulted by the Committee, gross domestic product remains a good indicator for assessing the income and tax base of a national economy, despite the aforementioned flaws. However, it is not the best indicator for measuring the platform economy or the sharing economy, for example, which are often referenced in connection with the fragmentation of work. Furthermore, GDP is an indicator of economic production, but not of wellbeing, for example. Indicators that have traditionally been used to complement gross domestic product include household net disposable income and real household net adjusted disposable income, which also take into account services provided for "free" to households, such as education services as well as social and health care services.

Concrete examples of how new phenomena are already reflected in various industries and occupations

While processing the expert plan of the committee report on the future, the Committee for the Future decided to consult experts on the employment potential of new technology in particular, which Finland needs to be able to capitalise on as effectively as possible. Furthermore, the Committee wished to hear examples of how occupations and tasks have already changed in various industries. The Committee's impression is that there is no need to "invent" the work of the future from nothing, as the transformation is already underway and reflected in various ways in different occupations and industries.

When a technology changes, many of the things connected to said technology also end up changing. To illustrate these complex cause-and-effect relationships that are also reflected in work and jobs, one of the statements submitted to the Committee examined the case of the landline telephone. In Finland, the number of landline telephones was at its highest in the early 1990s. Since then, with the proliferation of mobile phones in the 21st century, the landline telephone has become an antique device and a piece of technology that is difficult for phone companies to maintain. Many of the outdated data transmission technologies related to landline telephones, such as telephone lines and cables as well as data transmission networks of cables and their maintenance, are disappearing, and many of the jobs that used to be either directly or indirectly linked to telephones have also disappeared. However, this development has also resulted in the creation of new jobs. The replacement of landline telephones with mobile phones has also allowed the operating models and tasks of telephone users to change.

One of the aspects of the transformation of work is that different occupations and jobs change in very different ways. A software-based robot, for example, can take over some financial administration duties, but not the work of a cleaner. However, a cleaner can make use of a tablet to retrieve information about the locations being cleaned and keep in contact with colleagues. At the same time, cleaning robots or self-cleaning smart surfaces can

replace some cleaning tasks as well. In educational institutions, new technologies enable learning without time and space constraints, changing the work of teachers and the learning of students.

In the manufacturing industry, visions of the future emphasise quick, dynamic and customised production, in which every manufactured product can be different. Advanced manufacturing methods allow production to be carried locally, with production and delivery chains moving data instead of products. We are seeing a shift from industrial routine work to dynamic platform environments, in which work tasks vary and the working environment requires constant learning. In addition to physical automation, cognitive automation, meaning the automation of information-based work, will also become increasingly common. This change in operating models has already resulted in many manufacturing industry companies returning to Europe in recent years.

Algorithms have the potential to handle a significant proportion of current jobs: they are already steering traffic and collecting, combining and analysing large amounts of data, as well as assisting in surgeries and solving legal cases. As a result, work will shift from the handling of physical objects to the handling of data related to physical objects using information technology, or change from doing something yourself to programming and supervising the work of an autonomous machine. For example, a welder will no longer weld him or herself, but instead control a welding robot. Similarly, a crane operator will no longer physically climb inside a crane, but rather control several cranes at the same time remotely. A service technician will no longer need to physically visit service locations, but can instead provide on-site machine operators with instructions by means of a remote connection and augmented reality. This change, which, from the perspective of work, is characterised by the integration of the physical and digital worlds, is described by the term Industry 4.0.

According to the consulted experts, digitalisation and cooperation between man and machine can be utilised in all work, from food delivery in which a courier receives gigs from a mobile application to the robot-assisted work of top surgeons or pilots, with machine learning becoming an integral part of work.

In the trade sector, performance-based work has also been successfully automated, for example in logistics warehouses. At the same time, traditional warehouse work has become IT work. Self-service checkouts are also becoming increasingly common in shops, and in Finland trials are already underway for a fully automated grocery store; an easy-to-move module that does not require any employees. In addition, traditional storefronts are facing increasing competition from online stores. As a result of all these changes, the number of people employed in the retail and wholesale trade in Finland has been decreasing by a rate of 1–4% per year. At the same time, the industry has also recruited new employees for positions other than those of traditional sales staff. However, the recruitment of experts has become increasingly difficult in recent years in both the wholesale and retail trades. For example, in January–June 2015, 14% of the expert positions available in the retail trade were successfully filled, whereas in 2017 only 7% of open positions were successfully filled. Another cause for concern is that, according to surveys, 18% of retail and wholesale trade companies are of the opinion that they cannot keep up with or make use of digitalisation, but only adapt to it. In the industrial sector, as many as 23% of companies feel this way about digitalisation.

The expert statements submitted to the Committee for the Future also discuss the digital service economy. While the old service economy consisted primarily of low-paying and often female-dominated jobs, which required only a low level of education, the new service economy is driven by knowledge work and new service concepts built upon interaction with people via various media. The digital service economy is characterised by the global standardisation and scalability of expert services, achieved with the help of digital platforms or based on them. The producers of these types of hybrid services, consisting of both digital and physical aspects, also require physical capability, as the building and providing of these types of service products emphasises the experience provided by the service. The people typically sought to provide these services consist of performers fitting the company brand, who are expected to have the ability to gain the trust of customers while providing them with positive experiences.

According to one expert, one example of a service concept based on the digital service economy can be found in sports and exercise services. All around the world, local sports instructors and fitness centres purchase licenses for exercise concepts owned by global sports companies. In these types of arrangements, sports instructors do not need to possess professional qualifications; simply being able to present the service concept in a credible manner is enough. Studies have shown that it is nearly impossible for consumers to evaluate whether their sports instructor is simply a service performer or a qualified sports instructor who has undergone years of vocational training.

In the future, this type of concept generation is expected to expand from low-education fields to fields that require high competence as well as from private high-competence fields, such as the banking, finance and insurance sector, to public sector health care and education. The dynamics of the digital service economy will also change as a result of artificial intelligence. Some of the problem-solving and decision-making in high-competence work can be outsourced to an artificial intelligence, while the corporeal presentation of the expert is built upon and follows an operating model that is part of a service concept owned by a global company. According to the expert, in the Government Report on the Future this development is described in a much more positive light, when it is stated that an artificial intelligence can supplement highly skilled work by providing legal advice and making diagnoses.

Alongside digital work, there will also still be a need for traditional service work that requires skills and social interaction in the future. Those who do digital work will still need the services of massage therapists, barbers, doctors, service technicians, therapists and carpenters as well as good food, culture and entertainment. According to the consulted experts, in a world driven by artificial intelligence and automation, work performed by hand may end up occupying similar roles as different forms of culture already do in a post-industrial society.

The concept of self-employment often repeated in visions of the future is not clearly defined, nor recognised in labour legislation. It is used to refer to the already common way of working characterised by moving from one labour market position to another. Work is occasionally performed in fixed-term employment relationship gigs and occasionally as an entrepreneur, but mostly in-between, without a wage-based employment relationship or entrepreneur status.

According to the consulted experts, nearly any wage-earning occupation can be performed outside of a paid employment relationship in the form of self-employment. In 2013, the three largest self-employed occupational groups were construction workers, service workers and specialists in the field of law, social services and culture. Other fields in which people worked self-employed included transportation, business and administration as well as care services and health care.

The experts who the Committee for the Future consulted about the platform economy emphasised that platform-based work is not a marginal phenomenon, despite what statistics might indicate. To back up this claim, the experts noted that many of these types of platforms have only been recently established, with as many as 80% estimated to have been established after 2010. Furthermore, the largest platforms already have millions of registered workers, and the number of registered workers is growing at an annual rate of 25%. It is also worth noting that using platforms to acquire work and services is much more common among young adults than older user groups. Platforms also provide opportunities for a growing group of pensioners to occasionally participate in the labour market. The experts also emphasised that work performed in the platform economy radically challenges traditional contract-based employment, because this type of work completely abandons the thought of the relationship between the party commissioning the work and the worker continuing beyond an individual work performance.

Several attempts have been made to categorise the platform economy and the businesses built upon platforms on the basis of their business logic or their use of labour, for example. However, all forms of the platform economy, no matter how they are categorised, transform work and ways of working. A platform economy company brings together those seeking services and service providers. Beyond the costs associated with establishing a platform, the administration of the technological platform itself does not require any investments, as platform economy companies are not considered to be the employers of the workers that they supply, nor do they necessarily own the houses, vehicles or other goods being shared and supplied. According to experts, the number of platform economy companies that supply work and know-how is growing. In addition to this, global platform economy companies are also expanding their operations beyond their original scope into fields such as banking.

Agenda 2030

According to the environmental experts consulted by the Committee for the Future, the Earth is currently undergoing major system-level changes, such as ongoing climate change, the deterioration of biodiversity, changes in land use and the biochemical contamination of habitats. Many of the boundary values for habitats safe for the human race have already been exceeded, which, according to worst-case estimates, may lead to the uncontrollable collapse of terrestrial ecosystems.

Sustainable development is directly linked to the future of work, because work itself is closely linked to material and energy-intensive production and consumption. Work consumes natural resources and causes emissions. At the same time, efforts to promote sustainable development also create work. This has been one of the basic messages of the Committee for the Future that has spanned electoral terms: sustainable development

challenges must be turned into sustainable employment opportunities. In fact, some of the experts who commented on the Government Report on the Future from an environmental perspective raised the question of whether measures for supporting the creation of new work should also be evaluated from the perspective of whether they are ecologically, socially, economically and humanly sustainable. Moreover, sustainable development may also conflict with digitalisation. For example, the amount of energy required to maintain Internet servers may end up increasing exponentially as a result of global digitalisation, raising the question of how our limited energy resources should be used. Adapting work to available natural resources and the limits of Earth's ecological system is one of the most important objectives of politics. The Committee for the Future has also discussed this topic in its Agenda2030 report ([TuVM 1/2017 vp](#) — [VNS 1/2017 vp](#), in Finnish).

According to reports submitted to the Committee for the Future, the International Renewable Energy Agency (IRENA), for example, estimates that there were nearly 10 million renewable energy jobs in the world in 2016. In the US, it is estimated that a 1 million dollar investment in energy efficiency creates 20 person-years of work, whereas the corresponding figures for the traditional energy industry and the economy on average are 10 and 17, respectively. In Germany, there are currently more than 0.3 million renewable energy jobs (estimate for 2030: 0.8 million). In Denmark, it is estimated that climate-friendly technologies could create 95,000 new jobs by 2035. In Europe, the EU's 'Clean Energy for All Europeans' energy and climate policy package is estimated to create nearly a million new jobs between 2020 and 2030. According to the United States' Department of Energy, the number of renewable energy jobs in the US grew by nearly 18% in 2015–2016. In addition, there are approximately 2.7 million Americans working in occupations related to energy efficiency, with the largest individual employer group being suppliers of energy-efficient home appliances and devices. Furthermore, there are approximately 2.2 million people working in the field of green buildings and devices, primarily in installation and construction. In Finland, there were 31,350 renewable energy jobs in 2015, of which 83% were in the field of bioenergy.

Competence

The transformation of work requires continuous updating of competence and constant learning. According to one of the educational experts consulted by the Committee for the Future, recent discussion on lifelong learning has emphasised the importance of early childhood education for later life. The development of competence begins in early childhood and continues throughout a person's life. The education provided both at home and at school should support children's and adolescents' self-esteem and self-confidence, meaning their sense of self-efficacy, which promotes active participation.

There is also a need to increase and deepen the general working life competence provided by education. It is important that students are aware not only of their knowledge, skills and values, but also of how the world around them is changing. This can be promoted through futures education, for example.

Since we cannot know what kind of new occupations will be created as a result of technological advancement, the consulted experts say that education will begin to

increasingly emphasise the importance of general skills. Skills and competencies that will be required in the working life of the future include interpersonal skills and interaction skills as well as the ability to comprehensively utilise different devices and information systems. Interaction skills will also be needed in interactions between people and machines.

The accumulation of competence will become increasingly important, and may lead to the need to increase the modularity of qualifications and education in the future. We will need faster and more flexible ways for people to acquire the kind of position-specific skills that they will need in order to handle changing or new tasks. The experts consulted by the Committee for the Future also called attention to the potential conflict arising between the lifelong learning of new and specific skills necessitated by increasingly rapid changes in working life and the long-term concentration required to accumulate in-depth expertise and experience. Lifelong learning also requires the ability to take care of cognitive ergonomics, or the wellbeing of the brain.

Experts believe that in the future, education will shift increasingly towards multiform learning, with different forms of contact and distance learning merging into a digital learning environment. Online environments will serve as information sources and stores, distance learning platforms, meeting places and self-studying environments based on artificial intelligence.

The experts consulted about education also reminded the Committee of the fact that the use of new technologies has traditionally been gendered. As the use of digital platforms and artificial intelligence increases, we must strive to avoid the marginalisation of girls and women, for example.

According to the Government Report on the Future, some of the social capital needed to survive the transformation of work is also acquired from outside the education system. For young people in particular, leisure activities may provide important opportunities to train group work and organisation skills as well as the ability to understand differences and hold meaningful and constructive dialogue. One of the statements received reminded the Committee that in 2012, the Council of the European Union issued a recommendation according to which by 2018 EU member states should have in place, in accordance with national circumstances and specificities, arrangements to enable individuals to validate knowledge, skills and competences acquired through non-formal and informal learning.

Labour legislation

In its statement, the Employment and Equality Committee emphasised the importance of developing labour legislation in a way that acknowledges the ongoing and future transformations of work in regard to regulation, makes working and preparing agreements related to work easier and ensures a minimum level of security for workers. The need to develop labour legislation was also raised in the Committee for the Future's hearings with experts.

According to the experts from the Ministry of Economic Affairs and Employment who the Committee for the Future consulted about labour legislation, in Finland work is performed either in an employment relationship or as an independent entrepreneur or private trader. Finnish labour law is built around the concept of an employment relationship. Section 1(1) of the Employment Contracts Act imperatively defines the cases in which work is performed under an employment relationship, i.e. for an employer under the employer's direction and supervision in return for pay or some other remuneration. If the distinguishing characteristics of an employment relationship are fulfilled, the legal relationship is primarily subject to the full scope of labour law. In addition, work performed under an employment relationship or a public service employment relationship is subject to social security regulations. As such, the 'safety net' of a worker working under an employment relationship is based on norms provided by labour and social security legislation.

When work is performed in an independent position, labour law does not apply. Entrepreneurs and private traders must take care of and pay for their social security themselves. As such, when work is performed outside of an employment relationship – whether by a solo entrepreneur, a self-employed person or a 'light entrepreneur' – the position of the person performing the work differs significantly from that of an employee.

A significant proportion of work will still be performed under normal employment relationships in the future, which means that the need for the current cause-based and earnings-related social security schemes will remain primarily unchanged. However, problems will inevitably arise from the fact that the labour market of the future will also include different categories of entrepreneurs, people who earn their income from various types of occasional wage-earning employment relationships (temporary and odd jobs, gigs and zero-hour contracts) as well as people participating in the platform economy and the sharing economy, whose income will not always be sufficient for covering living expenses, requiring them to supplement their income from work with social security.

On the one hand, the need to develop labour legislation stems from the need to increase the social security and wellbeing of people who work odd jobs. On the other hand, the issue has to do with the collective bargaining right of solo entrepreneurs and self-employed people, because in many situations the parties purchasing work may also be focused and make use of the benefits of their dominant market position. There is also a risk that platform economy companies may attempt to circumvent the responsibilities and status of an employer, leading to the creation of two different labour markets, with the same work being performed under different sets of rules. Furthermore, legislation also needs to more strongly define how the taxation of the part of the platform economy where people work in international contexts is to be handled.

Based on the statements submitted to the Committee for the Future, at least the following issues must be taken into account in the future regulation of the labour market: 1) people working in the platform economy, self-employed persons and solo entrepreneurs must be provided with adequate safety and security systems, 2) social security regulation must enable flexible labour market transitions for employees, 3) the chain of responsibilities concerning damages and other issues related to the platform economy must be assessed, 4) information on the citizen skills of the platform economy and the planning of platform careers must be increased, 5) attention must be paid to the utilisation of collective

intelligence in performing work and 6) the ethical and moral risks of crowdsourced work must be recognised.

According to the experts consulted by the Committee, other possible measures for supporting the working life of the future include 1) market-based measures, such as certifications, the utilisation of best practices, voluntary minimum standards and an ecosystem that safeguards the position of workers in the platform economy, self-employed persons and solo entrepreneurs (a collection of support and security services) and 2) regulatory measures, such as clarifying an individual's situation based on current legislation on a case-by-case basis, clarifying and expanding the concept of work based on the employment relationship, creating new special legislation through which some types of platform economy work could be considered to fall under work based on a special employment relationship, creating a new category between work based on the employment relationship and entrepreneurship and changing the definition of the concept of employer.

According to the experts, there is also a need to both increase the annual turnover threshold for VAT and abolish the tax relief procedure in order to promote solo entrepreneurship. This would serve to reduce administrative costs, errors and unnecessary work.

Social security

The statements issued by the Social Affairs and Health Committee and the Employment and Equality Committee emphasised the development of social welfare legislation and social security. This need was also strongly emphasised in the Committee for the Future's expert hearings.

The social and health care experts consulted by the Committee for the Future generally commented that Finland needs policies for governing social investments. New challenges in regard to social security stem from situations in which people accrue income from several different sources, such as part-time work, gigs, timework, self-employment, social welfare benefits available to everyone, loans and inheritance. Currently these people are left without the social security and labour legislation enjoyed by those in regular paid employment. In addition, different authorities may interpret their position in different ways in regard to taxation and unemployment, for example. Furthermore, according to the experts the work of and responsibility for reconciling different forms of income and legislation currently falls on the individual, increasing their workload in comparison to those in regular paid employment.

According to the experts, both temporary agency work and zero-hour contracts are problematic ways of working for wage earners, as they may result in major income fluctuations depending on the availability of work. Other issues that may cause problems in these types of work include the payment of wages during illness, maternity and parental leave, arranging holidays and ending the employment relationship. According to the experts, current legislation is inadequate for addressing these problems, and currently the law does not even recognise zero-hour contracts.

Work has a major impact on a person's income and identity, as a result of which work and its transformation also has an effect on gender equality. The current labour market is already gendered as it is, and the transformation of work will only serve to make it more so. The polarisation of working life is also expected to cause social and mental health problems, which may lead to experiences of unfairness and alienation from society. In the future, self-employed work will also manifest as old-age poverty, as people neglect the payment of pension insurance contributions during their active careers, either in part or completely.

Radical technologies

The Government Report on the Future states that the transformation of work is underlined by familiar megatrends, such as digitalisation, globalisation, demographic change, urbanisation and climate change. The report also states that automation, robots and artificial intelligence, as well as the development of the sharing economy and the platform economy, are at the absolute core of the transformation. These trends and technologies are said to be changing the labour force, the contents of work and, above all, the employer–employee relationship. Revenue logic and the financing of work are also undergoing changes. Artificial intelligence is stated to be perhaps the single biggest force for change.

Underlying the talk about the transformation of work is the thought that if no limits to the use of technology are set, all tasks that can be automated will be automated. Work will be redistributed so that machines do the components that are natural to them while humans do tasks that are difficult for machines. Even though technological development also includes many expectations and promises that support economic growth, in visions, machines are capable of doing such a large part of human work so cost-effectively that economic growth without work becomes normal. It is often assumed on this development path that, alongside automation, mass unemployment will become a normal state in society. On the basis of the current situation alone, the ILO estimates that 600 million more jobs would be needed globally by 2030.

In order to avoid misunderstandings, it should be stated that the Government Report on the Future does not cling to a vision of a future in which work will end, as presented above. However, even in the most positive scenario presented in the Report, it is stated that “The world won't run out of work, but its nature will change. Machines and automation support meaningful work. In contrast, jobs and professional profiles, as we understand them now, will change, decrease or disappear.”

The development of digital technologies was also emphasised as being one of the key technology trends driving the transformation of work in the Committee for the Future's expert hearings. The increasingly effective collection and handling of information is fuelling a change in the logic of production and services. Digitalisation is also reflected in the statements in the form of more resource-efficient solutions in agriculture and the platform economy as well as new learning environments in the education system. In regard to artificial intelligence, the experts highlighted business opportunities and risks related to My Data and competence management, in particular. The experts also saw new energy technologies, such as solar power, biogas and energy efficiency, as new technologies that will result in more employment.

However, there is an important ideological difference between the Government Report on the Future and the hearings held by the Parliament's Committee for the Future and the present committee future report prepared based on them. In the Government Report on the Future, technology is seen as reducing work, while at the same time changing jobs. The Committee for the Future, on the other hand, has a different perspective on the future of technology: technology creates work and wellbeing.

In order to understand technological change, the Committee for the Future has developed a technology anticipation model, Radical Technology Inquirer (RTI). The model is used to evaluate technologies around the world and determine the one hundred technologies that are considered most promising for Finland. The Committee for the Future has been conducting investigation on this for five years now, during which time it has published five reports:

- TUVJ 2/2016 Technological Change 2013—2016
- TUVJ 1/2016 Teknologiamurros 2013—2016: Esiselvitys radikaalien teknologioiden kehityksestä 2013 katsauksen jälkeen
- TUVJ 11/2014 100 Opportunities for Finland and the World
- TUVJ 6/2013 Suomen sata uutta mahdollisuutta: radikaalit teknologiset ratkaisut
- TUVJ 2/2013 Tulevaisuuden radikaalit teknologiset ratkaisut

During the preparation of these reports, the Committee has evaluated approximately 1,500 technologies and chosen 100 for closer examination. During this time, approximately 2,340 people have participated in the evaluation work through social media.

The first report was a background report on how other organisations are investigating the future of technology. In the second report, researchers commissioned by the Committee for the Future developed a new method and listed the technologies of the world in order of importance to Finland. The third report did away with the Finnish perspective and evaluated the importance and development of different technologies globally. The fourth and fifth reports assessed the results of the previous reports. Based on these assessments, the Committee for the Future's future anticipation has been successful. The TOP 1–25 technologies have advanced the fastest, while the TOP 26–50 technologies have advanced the second-fastest, and so forth. The OECD has also counted the Committee for the Future's technology reports among the top five technology outlooks, in addition to which the European Commission has launched several follow-up projects based on the Committee for the Future's reports.

The Government Report on the Future as well as the expert statements submitted to the Committee discuss technology, digitalisation, robotisation, artificial intelligence and the platform economy. It is difficult to find equivalents to these concepts in the Committee for the Future's technology reports because these are general concepts fragmented under numerous applications. Artificial intelligence and robotisation, for example, are not individual technologies, but rather technology baskets, within which these generic technologies are applied to a wide range of needs and tasks. This reconciliation is further complicated by the fact that the Committee for the Future's technology anticipation is not based on the technologies themselves, but rather on the needs of people and society, i.e.

value-producing networks. A value-producing network describes an area of technological and societal change based on global, human needs.

In the Committee for the Future's reports, the importance of technologies is evaluated through 20 value-producing networks. The technological solutions included in the list of one hundred of the most important technologies are expected to open up significant opportunities for producing added value in these value-producing networks by 2037. The value-producing networks covered in the investigations are: passenger transport, logistics, the manufacturing of goods, sustenance, energy supply, materials, the built environment, exchange, remote impact, automation on work, work and income, healthcare, redressing disabilities, acquiring information, proficiency and its proof, producing experiences, safety and security, collaboration and trust, existential meaning and power structures.

The one hundred technologies most important to Finland provide the best solutions for fulfilling these needs from a national and global standpoint. From this perspective, there are no grounds for the claim that technology would reduce work. On the contrary, technologies create work and global business opportunities for solving people's and societies' problems.

The Committee for the Future is currently in the process of updating the list of one hundred of the most important technologies. The research will be completed in February 2018. This time the updating is being conducted with cooperation partners. Organisations involved in the updating include the Prime Minister's Office, the Ministry of Economic Affairs and Employment, the Ministry of Social Affairs and Health, the Academy of Finland, the Finnish Funding Agency for Technology and Innovation, VTT, Sitra, SAK, EK and TEK. In addition to evaluating business potential, the evaluation has been expanded to include assessments of the regulatory framework required to manage change and the new occupations associated with each technology.

Examples of expected new occupations related to work conducted by machines include those of robot safety inspector, robot mover, robot supervisor, robot trainer, robot work planner, robot energy assistant, goods dispatcher, access controller and forwarder, remote goods loader and unloader, goods robot and goods rescuer and supervisor of crowdsourced transport, model selection consultant, 3D printer, tuner and local manufacturer, goods stylist, raw material consultant, goods programmer, robot manufacturing inspector, property management control room supervisor, robot construction material adjuster, robot master builder, architect and supervisor, maintenance remote controller, anticipator, remote assistant, robot traffic fleet manager, 3D measurer and modeller, urban farmer, metabolism analyst, remote chef, off-grid maintenance inspector, nanoweave engineer, construction robot technician and supervisor, thumbing manager, platform lobbyist, cyber security officer, IoT risk analyst, robot insurance appraiser, robot field technician, reputation trader, authority facilitator, local service broker, micro insurer, self-sufficiency consultant, diagnostic coach, implant technician, bio detective, prosthesis adjuster, virtual guide, fact checker, AI psychologist, remote learning mentor, virtual window-dresser, VR event coordinator, cloud security service consultant, crowdsourcing recruiter, peer work moderator, motivation planner, cohesion manager, need seeker/logotherapist, tribal leader, administration gamifier.

The one hundred radical technologies were chosen from the perspective of needs, i.e. value networks. The emergence of the occupations listed above has been explained in relation to the same needs, such as transportation, security, health and nutrition. The occupations beginning with the word robot are jobs in which a person works together with a robot. These and hundreds of other occupations are described and justified in greater detail in the foresight based on Radical Technology Inquiry method, to be published in spring 2018.

The fact that the Government Report on the Future is being published in two parts is a good future policy innovation, which increases the recognition, quality and impact of the Report on the Future. The two-part operating model also enables interest groups to better participate in the debate on the future. The Committee for the Future proposes that subsequent Reports on the Future also be prepared in two parts.

The Committee for the Future's experiences regarding the open joint hearing between the reporting committee and all statement committees, which also allowed for the participation of interest groups, were positive, as a result of which the Committee will continue to develop this operating model in the processing of subsequent reports on the future and Agenda2030. The joint open hearing benefits the early stages of the processing the most. There is always some overlap in the experts consulted by the committees. As such, it would make sense to consult the same experts, as well as related external interest groups, together.

Based on the hearing of experts organised by the Committee for the Future, the labour market is undergoing a structural change, caused by new operating models enabled by digitalisation, such as the platform economy and the sharing economy. These new operating models are changing traditional jobs as well as making some jobs obsolete and creating new ones.

The Committee for the Future reminds people that some platform economy companies have already built mechanisms that take social security and taxation into account. These international practices should be further explored in the second part of the Report on the Future, in relation to discussion on measures and policy options.

The Committee for the Future notes that work in the platform economy seems to be developing as part of existing occupations and jobs as a new way of working, as well as alongside current work as an activity that supplements income, wellbeing and leisure time.

Based on the hearings held by the Committee for the Future, atypical employment relationships are increasing very slowly. However, statistics show that the Finnish labour market is becoming increasingly polarised. The long-continued increase in equality in Finnish society has, if not stopped, at least slowed down. As such, the transformation of work should also be examined from the perspective of polarisation and equality in the second part of the Report on the Future.

The Committee for the Future is of the opinion that there are many causes for changes in jobs, employment relationships and the numbers of jobs, the polarisation of wage trends as well as the replacement of human work with technology, outsourcing operations abroad and self-employment, and that there are many trends contributing

to the situation depending on occupations, sectors and individuals. The current situation must be examined in greater detail before decisions can be made about measures.

Based on the hearing held by the Committee for the Future, self-employment and solo entrepreneurship have increased. Although this growth is relatively minor, it has also been relatively notable. In the Committee's opinion, the causes of this growth should be better explored in the second part of the Report on the Future. The collective protection of the interests of self-employed people, solo entrepreneurs and companies must be secured in the new labour market.

It is noted in many of the statements submitted to the Committee for the Future that self-employment has already become an established part of the changes in the ways of working; the line between paid employment and entrepreneurship has become blurred. It is proposed in the statements that examining and developing the operating models used in creative industries could yield solutions that could be utilised in other occupations as well. In the Committee's opinion, creative industries are a notable employer, and the multidisciplinary models used to manage self-employment, solo entrepreneurship and odd jobs in the creative industries can also be utilised in other sectors.

In addition to creative industries, the new operating models associated with agricultural entrepreneurship should also be further examined, as part-time agricultural entrepreneurship is a similar combination of entrepreneurship and paid employment. A third area that warrants pilot measures is the improvement of the employment opportunities of people with partial work ability. Each of these three areas presents opportunities to simultaneously increase the wellbeing of current workers and develop the best practices for providing solutions for the needs of the working life of the future.

In the Committee for the Future's opinion, the causes of youth unemployment and measures for reducing it should be explored separately and with particular care in the second part of the Report on the Future.

The Committee for the Future proposes that in order to promote faith in the future and support the life choices of young people, the concerns presented by young people in the committee report on the future should be taken into account in the second part of the Report on the Future by way of explaining and describing the ongoing transformation process to young people as well as with educational material summarised from the Report on the Future, for example, which could be utilised in the future education and guidance counselling provided by schools.

The Committee for the Future reminds people that not everyone can cope with everyday life and the constantly growing competence challenges for one reason or another. This is why it is important to ensure that all people have some valued way of engaging with society. This can also be promoted in cooperation with the third sector.

In the Committee for the Future's opinion, the measures that will be presented in the second part of the Report on the Future must also be evaluated and justified in regard

to how they support sustainable development, the development of equality and participation.

In the Committee for the Future's opinion, one of the most important measures in regard to managing the transformation of work is the handling of social security. Aspects related to the transformation of work that may cause new needs in regard to social security and advisory services for entrepreneurs include people working in atypical employment relationships, self-employed people and solo entrepreneurs.

The Committee for the Future urges that the development of labour legislation be hastened. Calculated changes to labour legislation can secure the rights and wellbeing of workers, while at the same time enabling new, innovative business models and jobs.

In the Committee for the Future's opinion, the measures that will be proposed in the second part of the Report on the Future must take into account regulatory needs related to tax legislation, labour legislation and social welfare legislation in a manner that promotes policy coherence. The Committee has already previously stated (TuVL 7/2016 vp — HE 134/2016 vp) that "Norms and regulations play an important role: they serve to create a safe and equal society and internal market within Europe. However, regulation needs to be as simple as possible and justified while also enabling the creation of new business. The Committee proposes that the pilot project for improving regulation and structural reform should focus on removing bureaucratic traps associated with micro employment and entrepreneurship. Accepting work should be as easy as possible and the financial impact of doing so should be foreseeable, so that accepting work does not result in financial risk for people who accept short-term and part-time work, for example."

The Committee for the Future reminds people that even though the Government Report on the Future seeks measures for Finland in particular, the transformation of work is a global phenomenon and Finland is part of the international community. Just like climate change, the transformation of work is a so-called complex problem requiring international cooperation, particularly at the EU level. The utilisation of opportunities can also be promoted through Nordic cooperation. For example, labour mobility could be increased by dismantling border barriers between the Nordic countries.

The Committee for the Future shares the Employment and Equality Committee's view on the importance of the incomes register, and encourages comprehensive investigation and utilisation of its potential applications. Furthermore, the Committee for the Future is in favour of the implementation of various digital portfolios, with the aim of improving the visibility of voluntary work with intrinsic and use value for oneself.

The Committee for the Future reminds people that the changes in employee numbers and transitions from one sector to another resulting from the social and health care reform and the regional reform will, if realised, be historically significant. In regard to this transformation, attention should also be paid to personnel wellbeing, coping and competence development as well as process quality.

The Committee for the Future has already in its Agenda2030 report (TuVM 1/2017 vp — VNS 1/2017 vp) stated that “promoting sustainable wellbeing requires the development of wellbeing economy indicators to be used in parallel with GDP in particular, such as the Human development Index (HDI), the Genuine Progress Indicator (GPI) and the Index of Sustainable Economic Welfare (ISEW).”

The Committee for the Future states that insofar as work is possibly transforming, currently used indicators are inadequate for describing this transformation. In particular, we lack indicators for recognising the value of work performed outside of the financial economy. To support responsible and effective decision-making, we need better indicators for describing, for example, the platform economy and the sharing economy, work with exchange value, intrinsic value and use value, self-employment and solo entrepreneurship, the shifting and concurrence of labour market positions and the wellbeing of citizens. To support macroeconomic examination and understand change, we also need individual-based and qualitative indicators.

Some of the experts who submitted statements on the future of working life to the Committee for the Future noted that the views of citizens on the development of the labour market have not been taken into account in the first part of the Government Report on the Future, even though such views would contribute to a better understanding of the choices that people make, both in the labour market and other avenues of life. In the Committee’s opinion, the future of work should, in general, be explored more extensively from the perspective of individuals, as individual situations are different and individual ability for responding to changes in working life varies.

In the Committee for the Future’s opinion, the measures to be included in the second part of the Report on the Future should take into account the prevalent lack of digital business competence in companies.

The Committee for the Future reminds people that there is also a third line of debate in the discussion concerning the future of work; the ways in which work is linked to energy and raw material streams as well as sustainable development goals (Agenda2030). The ecological renewal of society requires a considerable amount of work. Finnish society and the entire world need to be rebuilt to make them carbon neutral. We need to build low-emission energy, renew the building stock and transport system and develop sustainable agriculture. At the same time, Finland must reduce its material consumption, meaning that Finns must live in a resource-efficient manner. All of these efforts will also create work, which is why the impact of sustainable development on the future of work may be greater than that of digitalisation. In the Committee’s opinion, this has not been sufficiently taken into account in the first part of the Government Report on the Future.

In the Committee for the Future’s opinion, it is important for everyone to have equal opportunities for increasing their human capital. Upbringing, education and integration are social investments, on the basis of which society develops. The main task of upbringing and later education is to provide people with the means and confidence to succeed, i.e. a sense of self-efficacy, upon which they can build their learning.

The experts heard by the Committee for the Future spoke of cumulative competence and fluid study paths. People should be able to accumulate skills and knowledge throughout their lives and careers, supplementing and deepening them over time. This is why the education system must be developed in a patient manner as a coherent whole, from early childhood education all the way to modular continuing education and the retraining and upgrading of qualifications. Cooperation between different levels of education must be seamless and flexible. In addition to this, we also need faster retraining and more streamlined and flexible competence tests.

The Committee for the Future notes that Finland is rapidly losing its status as a pioneering competence society. Finland has a versatile and high-quality education system, but global competition in regard to competence is increasing. Retaining Finland's pioneer status and competence-based competitiveness will require constant and long-term investment in the education system, research and development. Simply maintaining the current situation and streamlining operations are not enough to make Finland a pioneer, and without being a pioneer Finland has no competitive advantage.

The Committee for the Future reminds people that education is the best way to promote employment. High-quality competence also serves as the basis of Finland's competitive advantage.

The Committee for the Future is in favour of promoting futures education in schools. The ability to anticipate and think proactively of the future strengthen individual self-efficacy and active citizenship.

In developing the education system, we must also ensure the realisation of gender equality. The Committee for the Future reminds people that based on PISA scores, for example, there are major differences in school performance between girls and boys.

The Committee for the Future is of the opinion that the second part of the Government Report on the Future must also cover the traditional types of work that will not be changing to any major degree. These fields have competence needs as well, in addition to which they may face labour shortages as a result of the retirement of baby boomers, for example. We should also refrain from depicting the working life of the future in an overtly technology-oriented and complex manner.

The Committee for the Future emphasises that technology creates work. The faster, more comprehensive and in-depth our investment in new technology is, the faster and more effectively technological advancement is converted into work and wellbeing. In the Committee's opinion, the second part of the Government Report on the Future should also examine the phenomena in which technology creates work. Without acknowledging technological trends that create new work, the report may end up overemphasising the need to develop social security and the significance of odd jobs. On a similar note, the Committee is of the opinion that the proposed measures should take into account the resource allocations required to maintain Finland's status as a technological pioneer.

In the Committee for the Future's opinion, new technologies and the new operating models enabled by them should not be regarded in an overly deterministic manner. It

is the duty of decision-makers to evaluate the impacts of technological change and use regulatory frameworks to steer technological development in a direction that increases people's wellbeing.

The Committee for the Future reminds people that the future is in our own hands. The future can be affected by political decision-making. The Committee considers it important that society engage in extensive, open and pluralist debate about the future of work and what kind of society we wish to build for ourselves. Instead of simply adapting, we need to build a positive atmosphere for innovation and influencing the future. Through shared discussion and strong competence, Finland has good preconditions for serving as a model country for the transformation of work and the increase of wellbeing. In evaluating the various new skills that will be needed in the future, we should also give due consideration to the enduring values, skills and educational aims that form the basis of Finnish society and the education of its citizens.

THE COMMITTEE'S DECISION PROPOSAL

The decision proposal of the Committee for the Future:

Parliament shall approve the statement on the Government Report VNS 6/2017 vp.

The statement proposal of the Committee for the Future

Parliament requires that the Government

1. continue to draft the Report on the Future in two parts in order to promote dialogue and participation.

2. better acknowledge the impacts of the Agenda2030 action programme on the future of work in the second part of the Government Report on the Future as well as evaluate and justify all the proposed measures included in the second part of the Report in regard to how they support ecologically sustainable development, the development of equality and participation.

3. consider regulatory needs related to tax legislation, labour legislation and social welfare legislation in a manner that promotes policy coherence and remove bureaucratic traps associated with self-employment, solo entrepreneurship, fragmented employment relationships and shifts in labour market position in the proposed measures to be included in the second part of the Report on the Future.

4. develop and study the potential applications of the incomes register so that it can be utilised as comprehensively as possible. Furthermore, the Committee for the Future is in favour of the implementation of various digital portfolios, with the aim of improving the visibility of voluntary work with intrinsic and use value for oneself.

5. also examine the phenomena and trends in the context of which technology creates new work. On a similar note, the Committee is of the opinion that the proposed

measures should take into account the resource allocations required to maintain Finland's status as a technological pioneer.

6. investigate the causes of youth unemployment and take them into account in the second part of the Government Report on the Future separately and with particular care.

7. implement better indicators in the second part of the Government Report on the Future, ones that can genuinely depict and help understand the ongoing changes in working life.

8. develop a low-threshold competence system as a whole from early childhood education to modular continuing education and the retraining and upgrading of qualifications so as to promote lifelong learning and the accumulation of competence. Cooperation between different levels of education must be seamless and flexible, and study paths must be fluid across the boundaries of educational levels and educational institutions.

9. promote an extensive, open and pluralist value debate about the future of work and what kind of society we wish to build for ourselves; this will serve to increase trust in the future and promote people's participation in the creation of a shared future.

Helsinki 13 December 2017

The following took part in the conclusive deliberation of the matter in the Committee:

Chairperson Thomas Blomqvist (RKP)

Vice Chairperson Merja Mäkisalo-Ropponen (SDP)

Member Harri Jaskari (KOK)

Member Anna Kontula (VAS)

Member Pentti Oinonen (SIN)

Member Aila Paloniemi (KESK)

Member Olli-Poika Parviainen (VIHR)

Member Arto Pirttilahti (KESK)

Member Tuomo Puumala (KESK)

Member Joona Räsänen (SDP)

Member Sari Tanus (KD)

Member Lenita Toivakka (KOK)

Member Sinuhe Wallinheimo (KOK)

Member Ville Vähämäki (PS)

Deputy Member Eeva-Johanna Eloranta (SDP)

The following have acted as Committee Secretaries:

Committee Counsellor Olli Hietanen

Senior Committee Advisor Maria Höyssä

Committee Report on the Future, Part 2 Solutions to the Transformation of Work

Committee Report TuVM 1/2018 vp VNS 5/2018 vp

Committee for the Future

Government Report on the Future, Part 2 Solutions to the Transformation of Work

INTRODUCTION

Initiation

Government Report on the Future, Part 2 Solutions to the Transformation of Work ([VNS 5/2018 vp](#)): The item has been submitted to the Committee for the Future for a report. In addition, the item has been submitted for statements to the Education and Culture Committee and the Employment and Equality Committee.

Statements

The following statements have been issued:

Employment and Equality Committee TyVL 9/2018 vp

Education and Culture Committee SiVL 17/2018 vp

Experts

The Committee has consulted:

Ministerial Adviser Taina Kulmala, Prime Minister's Office

State Secretary Paula Lehtomäki, Prime Minister's Office

Senior Specialist Kaisa Oksanen, Prime Minister's Office

Deputy Director Mari Näätsaari, Ministry of Finance

Labour Market Counsellor Päivi Järviniemi, Ministry of Economic Affairs and Employment

Head of Planning Kirsi Heinivirta, Ministry of Education and Culture

Director General Riitta Kaivosoja, Ministry of Education and Culture

Director Hannu Ijäs, Ministry of Social Affairs and Health

Counsellor of Education Kari Nyyssölä, Finnish National Agency for Education

President Mikko Kosonen, The Finnish Innovation Fund Sitra

Director Teija Tiilikainen, Finnish Institute of International Affairs

Director General Marjo Bruun, Statistics Finland
Deputy Director General Heli Mikkilä, Statistics Finland
Head of Development Tuomas Rothovius, Statistics Finland
Senior Actuary Katri Soinne, Statistics Finland
Director General Markku Heikura, Tax Administration
Senior Adviser Timo Puiro, Tax Administration
Economist Aki Savolainen, Tax Administration
Research Manager Maria Vaalavuo, National Institute for Health and Welfare (THL)
Director Pauli Forma, Finnish Institute of Occupational Health
Director Riina Antikainen, Finnish Environment Institute
Research Director Rita Asplund, Research Institute of the Finnish Economy ETLA
Research Professor Heikki Ailisto, VTT Technical Research Centre of Finland
Professor Martti Mäntylä, Aalto University
Director Markku Kangaspuro, Aleksanteri Institute, University of Helsinki
Senior Researcher Kimmo Elo, Centre for Parliamentary Studies, University of Turku
Research Director Marjut Jyrkinen, University of Helsinki
University Lecturer Johannes Kananen, University of Helsinki
Professor Kirsti Lonka, University of Helsinki
Professor Jari Stenvall, University of Tampere, Faculty of Management
Professor Sirkka Heinonen, Finland Futures Research Centre, University of Turku
Director Juha Kaskinen, Finland Futures Research Centre, University of Turku
Senior Economist Jussi Ahokas, Finnish Federation for Social Affairs and Health (SOSTE)
Research Coordinator Merja Kauhanen, Labour Institute for Economic Research
Special Advisor Antti Huntus, Arts Promotion Centre Finland
regional artist Krista Petäjäjärvi, Arts Promotion Centre Finland
Partner Jarno Poskela, Innotiimi-ICG
Senior Partner Olli Oosi, Owal Group Oy
CEO Sauli Böhm, ResQ Club
SVP of Manufacturing Pasi Rannus, Valmet Automotive Inc.
Director Jaana Pakarinen, Vates Foundation
Executive Advisor Tuuli Kaskinen, Demos Helsinki
farmer Markus Eerola, Knehtilä Farm
Doctor of Engineering Eero Paloheimo

Researcher Päivi Uljas

The Committee has received a written statement from:

the Ministry of the Environment

Senior Researcher Signe Jauhiainen, Kela

Research Professor Ilmo Keskimäki, National Institute for Health and Welfare (THL)

Chief Specialist Jaana Laitinen, Finnish Institute of Occupational Health

Research Leader Tuomas Pekkarinen, VATT Institute for Economic Research

Managing Director Suvi-Anne Siimes, Finnish Pension Alliance TELA

President Joonas Ahlava, Photographic Artists' Association

work coach Laura Mellanen, City of Lahti

Special Advisor Antti Huntus, Arts Promotion Centre Finland

regional artist Krista Petäjäjärvi, Arts Promotion Centre Finland

Professor Heikki Hiilamo, University of Helsinki

Professor Pauli Kettunen, University of Helsinki

Research Director Juhana Aunesluoma, University of Helsinki, Centre for European Studies

Rector Jukka Mönkkönen, University of Eastern Finland

Lecturer Satu Tuittila, Uniarts Helsinki

Professor Jari Vainiomäki, University of Tampere, Faculty of Management

Professor Anne Kovalainen, University of Turku

President and CEO Risto Murto, Varma Mutual Pension Insurance Company

Specialist, Partner Mikko Valtakari, MDI Public Oy

producer Netta Norro, Lilith Cooperative

CEO Arttu Vainio, Oxford Research Oy

musician, producer Ville Pystynen, Rapu Records

producer, scriptwriter John Lundstén, Tack Films

drama instructor Satu Luukkonen, Pro Soveltavan taiteen tila ry

journalist Maryan Abdulkarim (B.Sc.Soc)

journalist Heikki Aittokoski

community activist Jaakko Blomberg

journalist, non-fiction writer Elina Grundström

theatre director, writer Aino Kivi

Partner Ilkka Kivimäki

Professor Emeritus Markku Kuisma
licensed legal counsel Jukka Kumpuvuori (LL.M.)
dramaturg, playwright, theatre director Ari-Pekka Lahti
journalist Jaakko Lyytinen
choreographer, dancer Liisa Pentti
contemporary art curator Aura Seikkula
architect, graphic designer Mikko Sinervo
Professor Roope Uusitalo
Content Manager Heikki Valkama
Uber Finland Oy
Demos Helsinki

THE COMMITTEE'S ARGUMENTS

The purpose of the Government Reports on the Future is to identify matters that are important for decision-making and will require special attention in the future. The theme of the Government Report on the Future by Prime Minister Juha Sipilä's Government is the transformation of work and the future of Finnish work. The preparation of the report started in March 2016, and the report was completed in two parts in 2017 and 2018. In the preparation of the report, the Prime Minister's Office utilised the national model of continuous and systemic foresight.

The report examines the transformation of work from the perspectives of the structures of work, content, competence, livelihood and the significance of work. At the centre of the transformation are new ways of performing and sharing work that are made possible by new technology, as well as global challenges, such as migration and sustainable development. According to the report, Finland requires a high-quality lifelong learning model that covers the whole population. A key goal is to ensure that all citizens have adequate basic skills for the working life of the future and that activeness and retention of functional capacity are supported. In order for an adequate workforce to be established, work-based immigration must be promoted and social exclusion must be prevented efficiently. The transformation of work is causing tensions in the organisation of work, the content of work, the required skills, livelihood and the significance of work. These tensions can be resolved through joint discussions of what type of futures for work we want to pursue and by implementing long-term policy measures to achieve them.

The Government Report on the Future proposes 18 actions: 1) clarification of the regulation of public administration and platform enterprises and, more widely, the operations on platforms, 2) the state and municipalities to utilise platforms in their own needs for labour, 3) creating a long-term strategic vision and goals to support growth, mobility and labour immigration, 4) each employment relationship provides the opportunity for the employee's continuous and varied development, 5) relevance and meaningfulness of work as the key

indicator, 6) artificial intelligence to aid in identifying skills and converting them to be relevant, 7) reduce efforts to steer education by anticipating the need for skills. Instead, the focus of education is shifted more to basic skills and metaskills, 8) creating a career account or a training voucher for people over 35 years of age, 9) offering degree programmes to working people at higher education institutions, 10) graduates' relationship with higher education institutions to last a lifetime, 11) studying on the earnings-related unemployment allowance, 12) a broad-based debate on social security options, 13) creating incentives for people of working age, not only for paid work but also more widely for other activities, such as studying and volunteering, 14) removing barriers to automating work tasks, 15) full utilisation of digitalisation at the junctures of working life, 16) directing employment-promoting subsidies towards work that includes interaction and promotes sustainable development, 17) examining the development of work diversely from the perspective of work capacity and 18) adopting a pluralistic societal perspective on work, a mere competitiveness perspective is not enough.

The Committee for the Future received statements on the Government Report on the Future from the Education and Culture Committee and the Employment and Equality Committee.

In its statement, the Education and Culture Committee focuses particularly on the development of continuous learning, anticipation of educational needs and a broad welfare model. Although the transformation of work poses significant challenges to Finland, the Education and Culture Committee also considers the anticipated needs for changes to be opportunities for creating a better and more equal society. The basic strength of the Finnish education system is the provision of equal education opportunities for everyone, taking their individual circumstances into account. A knowledge base that includes good educational capabilities is established in early childhood education and basic education. On the other hand, the comprehensiveness of the transformation of work causes significant need for continuous learning to be developed. According to the Education and Culture Committee, the entire existing workforce may require some type of improvement of their skills in the next ten years. In its report, the Education and Culture Committee also points out the significant threat of social exclusion. The Committee considers it to be a necessary goal that all young people complete at least a secondary level qualification or degree. The Committee notes that we require a clear lifelong learning path that starts from early childhood education, continues to higher education and includes opportunities provided by adult education. This involves strengthening cooperation between the different levels and forms of education, ensuring flexible transitions between them based on individual study paths and identifying and acknowledging any competencies learned.

The Government Report on the Future proposes that the efforts to steer education by anticipating the need for skills be reduced. In contrast, the Education and Culture Committee emphasises the need to create a better and more fitting approach to the anticipation of educational needs. The Committee also proposes that the national foresight model introduced in the report be utilised in the core activities of the ministries, legislation, budgeting and operational policy. The Committee further states that Finnish national minorities alone are enough to make Finland culturally diverse. The general globalisation trend and growing need for foreign labour, as well as humanitarian immigration, further contribute to this diversity. The Committee emphasises the prevention of structural and other discrimination in all its manifestations. All minority groups must be able to contribute to society as its full members.

The Committee for the Future agrees with the Education and Culture Committee's notion that we require a clear lifelong learning path and points out that Parliament already accepted a resolution in the first part of the Committee Report on the Future that the Government will 'develop a low-threshold competence system as a whole from early childhood education to modular continuing education and the retraining and upgrading of qualifications so as to promote lifelong learning and the accumulation of competence. Cooperation between different levels of education must be seamless and flexible, and study paths must be fluid across the boundaries of educational levels and educational institutions.'

The Committee for the Future also agrees with the Education and Culture Committee that another challenge related to lifelong learning in the near future is the updating of the competence of people in working life, including the extensive group of young adults without a secondary level qualification or degree. The estimates of the need for continuing education vary from a million to over two million people.

A considerable number of issues related to lifelong learning that need to be resolved came up in the consultations of experts by the Committee for the Future: An agreement should be made between operators (including employers) on the division of labour, responsibilities and funding solutions in order for employees or job seekers not to be left to bear all the costs of their continuous learning. According to the experts, some of the division of labour between ministries should be dismantled and their cooperation should be developed in order for the legislation affecting lifelong learning to be streamlined and the financing principles of higher education institutions and other educational institutions to be made to support continuous learning. The experts also hoped that the role and competence of public employment services would be updated so that the service providers are aware of the skill requirements for changing work roles. From an individual's point of view, important advancements would include adopting personal training vouchers and skills accounts as well as a skills register related to them; making it possible to study on an earnings-related unemployment allowance; other ways to demonstrate skills alongside or instead of qualifications and degrees; new forms of on-the-job learning and learning at the workplace; and incentives for self-employed people and platform workers to develop their skills. For workplaces, the experts hoped for mechanisms for inspecting the need for continuous learning among elderly employees and employees who perform routine work and for utilising skills related to facing cultural diversity in practice, among other things.

Something that was considered to be a bottleneck in the education system was the use of inexpedient digital solutions in teaching at schools. They should be planned in cooperation, with the needs determined together with education professionals and students, taking the operational practices in education into account. Another element identified as a bottleneck was the lack of teaching of group and interaction skills essential to lifelong learning in teacher education. Elements identified as opportunities in teaching include the increasing use of solutions that emphasise the joy of learning in teaching at schools; expanding environmental education from environmental studies and teaching of individual practices to social understanding, citizen skills and broader contemplation of lifestyles; and developing language education and the cultural understanding related to it into a competitive advantage, considering that automatic language translation is undermining this competence elsewhere.

A major fundamental question raised during the consultations of experts was the need to outline a broader system for developing learning than formal education. This system includes the development of skills in working life as well as recreational activities, the third sector and private educational institutions, among other things.

In its statement, the Employment and Equality Committee focuses on the change in the structures and organisation of work, the regulation and taxation of the platform economy and the development of skills while adjusting to the transformation of work.

The Employment and Equality Committee notes that the report contains actions proposed for different levels, with some being concrete and others being very broad and abstract. The Committee is of the opinion that the report would be a more effective guideline if the proposals had been narrowed down to a smaller number of concrete key themes and actions for responding to the challenges in the transformation of work in the near future. One of the things that the Committee considers a matter of urgency is the prevention of the social exclusion of young people.

In the opinion of the Employment and Equality Committee, the aim of the report to examine labour policy regulation from the perspective of sustainable development is good, but it requires clarification and further development. The Committee also considers it to be unfortunate that the report does not include an assessment of the future of work from the perspective of equality. Additionally, the Committee is of the opinion that platform-based work needs to be examined not only as a technological innovation but also primarily as an innovation related to the organisation of work and a way of finding employment. We are talking about an extensive transformation of work and the economy that does not fit well into the sharp dichotomy between paid employment and entrepreneurship that is included in existing labour and social security legislation. In its current form, social security provides poor support for careers that comprise several separate employment relationships and assignments or other entrepreneurial work. For these reasons, the Employment and Equality Committee underlines the necessity of a complete reform of social security and supports the enabling of studying on an appropriately adapted unemployment allowance.

The spread of the platform economy and the diversification of working life will also lead to new situations requiring interpretation with regard to taxation, such as whether the individual in question is working as an employee or an entrepreneur, for example. The most significant challenge posed by the digital economy to value-added taxation concerns how taxes can be collected and levied when a vendor is not located in Finland. From the perspective of the Tax Administration, the key challenges in the platform economy concern the acquisition and availability of data on the operation of the platform economy. The Employment and Equality Committee proposes that taxpayers be encouraged to pay taxes by making understandable, up-to-date information and tools easily available to them for taking care of their tax obligations.

The Committee for the Future agrees with the view of the Employment and Equality Committee that the prevention of the social exclusion of young people requires urgent actions despite the fact that the recent trend has been notably positive. The reasons for this positive trend should be looked into. The Committee for the Future points out that Parliament already accepted a resolution in the first part of the Committee Report on

the Future that the Government will 'investigate the causes of youth unemployment and take them into account in the second part of the Government Report on the Future separately and with particular care'.

For example, the final years of comprehensive school, during which young people prepare to choose their secondary level studies, are a critical phase in which correctly allocated resources, such as positive discrimination grants, have proven to significantly reduce the risk of young people becoming socially excluded. According to studies, whether or not a child feels included in the school community is a major factor in their life satisfaction in later life. The experts also pointed out that because studies show that the health and school performance of children is linked to their parents' education, income level and stress, the integration of services is essential in preventing young people from becoming socially excluded.

The Committee for the Future also agrees with the Employment and Equality Committee that the impact of sustainable development and climate change in particular on the future of work must be taken into account and determined better. The Committee for the Future points out that Parliament already accepted a resolution in the first part of the Committee Report on the Future that the Government must 'better acknowledge the impacts of the Agenda2030 action programme on the future of work in the second part of the Government Report on the Future as well as evaluate and justify all the proposed measures included in the second part of the report in regards to how they support ecologically sustainable development, the development of equality and participation'.

The Committee for the Future also supports the proposal of the Employment and Equality Committee that labour and social security legislation, as well as industrial policy, taxation and lifelong learning, be developed extensively as a whole to also support new ways of organising work. The Committee for the Future points out that Parliament already accepted a resolution in the first part of the Committee Report on the Future that the Government must 'consider regulatory needs related to tax legislation, labour legislation and social welfare legislation in a manner that promotes policy coherence and remove bureaucratic traps associated with self-employment, solo entrepreneurship, fragmented employment relationships and shifts in labour market position in the proposed measures to be included in the second part of the Government Report on the Future'.

*The overall reform of the labour legislation and social security, as well as tax and competition legislation, also came up in the report *Jakamistalous ja alustatyö* (Sharing Economy and Platform-based Work, TuVJ 3/2018) by the Committee for the Future, in which the need for a reform was referred to as the 'Income Code' in accordance with the Transport Code model. The idea behind the Income Code is to regulate earnings and the social welfare benefits tied to them with a single law. It was proposed in the report that in addition to the regulatory basis for the Income Code, a digital user interface be required to support it. This interface would gather the income accumulated by an individual from different sources and in different ways in one place, and work performed on various platforms could be linked to it so that the interface collects taxes and takes care of any other obligations related to e.g. social security easily and even automatically. According to the experts, this user interface and the regulation related*

to it should be developed to also provide platform employers under foreign ownership with an easy channel to take care of their obligations to Finland in an automated manner. The user interface can also be linked to low-threshold recruitment services that help employers and employees find each other and agree upon the terms of employment, in addition to services related to lifelong learning and occupational health. If the complete reform of the Income Code cannot be completed at once, the experts proposed that the reform be implemented in stages, starting with eliminating ambiguity across the legislation (all authorities adopt the same terminology, rules and limits for the various statuses related to working life and income). The next step can be the reform of employment security to ensure that it treats everyone predictably and in the same way, regardless of which new or old status in working life they have. The national user interface (of commissioning and performing platform-based work) and income register can be developed continuously with pilots and by developing interfaces, irrespective of the progress of the Income Code.

While preparing the Committee Report on the Future, the Committee for the Future consulted a wide range of experts from various areas of society. According to the experts, the drivers of change, such as technological advancement, climate change and demographic change, as well as their diverse effects on working life, have been mostly identified in the Government Report on the Future. Positive feedback was also given on the discrepancies in development trends and the social tensions related to these trends that were brought up in the report. The criticism provided by the experts on the report focused on the fact that the experts considered the proposed actions to be too general in nature and that some subject areas had not been taken into account adequately. The experts also considered the visions for the future detailed in the report to require high-quality research, foresight work and wide public debate.

Among other things, the experts hoped for more in-depth examination of the need for new skills; the polarisation of the job market; the organisation of work in the platform economy; the benefits, disadvantages and actual significance of the platform economy; income structures in working life of the future; social diversity, i.e. the diversity of people; immigration; the ethics of working life and change; the indicators and knowledge base used in the report; the division of labour between and roles of public administration and companies as well as long-term policy, i.e. the methods used to influence the change taking place over several legislative terms or even several generations.

Themes that the experts considered to be of particular importance included lifelong learning; the development of legislation concerning skills, working life and income as one entity; prevention of the polarisation and inequality of working life; taking occupational health and partial work capacity into account; work- and education-based immigration; the effect of climate change and, more broadly, sustainable development on the future of work; taking the international and particularly the European context (such as global cooperation and influencing in the EU) better into account and examination of the ethical questions relating to the ongoing change.

The Committee for the Future agrees with the experts on the strengths of the report and that some important themes were not discussed in sufficient detail in the report. One area that requires further examination is work created by new technology. Parliament also already accepted a resolution on this theme when processing the first

part of the Committee Report on the Future: Parliament requires that the Government 'also examine the phenomena and trends in the context of which technology creates new work. On a similar note, the Committee is of the opinion that the proposed measures should take into account the resource allocations required to maintain Finland's status as a technological pioneer.'

In its statement, the Prime Minister's Office pointed out five particularly important questions in the Government Report on the Future that must be decided upon: 1) the regulation and utilisation of platforms as public-private sector cooperation, 2) the definition of the cooperation between machines and humans as well as the effects of the blurring of occupational boundaries, 3) extensive actions to promote lifelong learning, 4) the basic model of social security that supports individuals' autonomy and protects them from risks in changing environments and 5) emphasising valuable activity rather than work. Additionally, the Prime Minister's Office is of the opinion that the results and recommendations of the project 'Experimentation culture in Finland - Lessons learned, systemic operations model and recommendations' must be reviewed.

In early 2019, the ministries published a joint report called 'Opportunities for Finland' (Publications of the Finnish Government 2019:1) based on their future outlooks. This document identifies the change phenomena that bring key challenges and opportunities and names overall solutions that the ministries think will be significant during the next government term. The phenomena and solutions were compared to three goals that all the ministries have in common. These goals are 1) promotion of equality, 2) sustainable growth and 3) a safe and stable society. The document presents 12 sets of views that provide a knowledge base for the election debates and government formation talks. These sets of views are: ambitious climate decisions, a stable international order and security environment, Finland as an active participant in a functional EU, sustainable growth from global trends, a long-term employment rate target of 80%, raising the level of skill and education and ensuring continuous learning, the main goals and order of preparation of the social security reform, a functional democracy and a secure state governed by the rule of law, comprehensive urban and metropolitan policy, solutions to food security, new financing models for achieving society's goals and efficient public administration that serves all citizens.

In its report, the Committee for the Future focuses on

- the global boundary conditions of the transformation of work: 1.5 degree path and changing of the global order,
- indicators of economic well-being,
- new technology and new work,
- partial work capacity,
- demographics, gender equality as well as work- and education-based immigration,
- creative economy and multi-agency,
- the impacts of technology on society and

- long-term policy: development of the effectiveness of the Government Report on the Future, the role of the Committee for the Future and Finland's future challenges.

Global boundary conditions for the transformation of work: 1.5 degree path and changing of the global order

In a report published in autumn 2018, the Intergovernmental Panel on Climate Change (IPCC) recommended that global warming be limited to 1.5°C. Since the publication of the IPCC's report, an increasing number of state administrations, major companies and cities have begun considering their own path to a world of 1.5°C. In practice, limiting global warming to 1.5°C means that global carbon dioxide emissions must be reduced by half by 2030 and made to reach net zero by 2050. The use of fossil fuels must be discontinued across the world, the amount of carbon-binding biomass must be increased, people must make lifestyle changes in their everyday life and companies must redirect their operations away from many previously profitable industrial sectors and to completely new areas. As such, climate change and, more broadly, sustainable development have a significant impact on the transformation of work and the future of Finnish work that are discussed in the Government Report on the Future: Finland, like every other developed country, faces the challenge of implementing a green change in production while simultaneously solving the challenge of securing a sustainable livelihood.

The experts consulted by the Committee for the Future on sustainable development expressed their support for the measure proposed in the Government Report on the Future that subsidies promoting employment be allocated to work that includes interaction and promotes sustainable development. However, the experts were also of the opinion that the content of this measure should be considered further and an employment promotion programme should be prepared for it. The experts wished for further analysis of e.g. the following factors: 1) what should be produced and who should be employed ('Just Transition'), 2) how should production and production-consumption chains be developed sensibly with regard to the climate (reducing the carbon footprint) and 3) what other regulation is required in the job market in order for climate actions to be pushed forward in a socially just manner. Some of the experts also considered shortening working hours. According to the experts, work should, as a rule, be organised so that it yields an adequate living and well-being without increasing the citizens' carbon footprint.

As a result of these changes, companies that make their profit from the fossil economy are facing a significant challenge. Correspondingly, the mitigation of climate change is creating opportunities for companies that can offer sustainable solutions. According to one expert consulted by the Committee on sustainable development, the top 10 largest companies in the world by revenue currently only include two companies that do not have the production, transport or use of fossil fuels as the foundation of their business. According to this expert, there are three alternative paths that change may take: 1) new companies with a more acceptable business from the perspective of combatting climate change will take their place on the list; 2) the companies currently on the list will change their strategies so radically that they will be released from their dependency on fossil fuels; 3) the significance of the list will decrease due to the corporate structure falling apart as a result of difficulties in the world economy.

The Committee for the Future underlines that sustainable development and, particularly, stopping climate change are part of the global boundary conditions that must be taken into account when considering the future of work. Work and sustainable growth must adapt to ecological limits and Finland's international agreements. In all the scenarios presented to the Committee for the Future, value and work tied to existing companies will disappear. For this reason, we need mechanisms for compensating the companies, people and areas that will suffer the most from the mitigation of climate change for the costs arising from adapting to changes. For example, the German Government has established a Coal Commission, comprising representatives of key interest groups, that has proposed that coal-dependent regions be supported with EUR 40 billion over a period of 20 years as compensation and to speed up the phasing out of coal.

In the Agenda2030 report ([TuVM 1/2017 vp—VNS 1/2017 vp](#)) prepared by the Committee for the Future, Parliament accepted a resolution in which Parliament requires the Government to 'evaluate the future prospects of sustainable development in the new geopolitical situation where the US might withdraw from the Paris Agreement; alternative scenarios and operating models must be created to promote sustainable development in Finland, Europe and around the world; simultaneously, a more detailed assessment of the possible outcomes for Finland from unsustainable development must also be made'.

During this legislative term, the Committee for the Future has also actively commented on the debate on the future of the EU. In its statement on the future outlooks of the EU27 leaders and the monitoring of the Rome Declaration ([TuVL 5/2017 vp—E 29/2017 vp](#)), the Committee for the Future addressed the disagreements within the EU, the potential consequences of Brexit and the effects of the sustainable development goals. It also noted that 'The Committee for the Future is of the opinion that the effects of the various scenarios set out in the White Paper of the European Commission as well as visionary gambits like the Rome Declaration on Finland should be analysed more broadly in Finland's EU policy. On a similar note, the whole comprising various visions, scenarios, strategies and action plans made at different levels of the EU should be clarified to ensure policy coherence. The rapidly changing operating environment may also require strategy periods to be shortened.' The Committee for the Future also pointed out that 'At heart, the EU is a peace movement. The significance of this mission has not diminished over time. In fact, it may even be emphasised in the future.'

The status of the global operating environment has certainly not become clearer since the Committee for the Future submitted its statement and report – if anything, it has become less so. The general increase in income disparity and the changes caused by digitalisation to the occupational, social and socioeconomic status of the traditional middle class are polarising societies, which is weakening commitment to the values that are considered essential to a liberal parliamentary democracy. The great powers have begun to limit global free trade and have weakened the existing agreement-based system. At the very least, the global operating environment is in a state of uncertainty, and it is being debated whether the current situation is a temporary disruption or a permanent change and whether the old contractual basis is being abandoned or whether new agreements are needed. With international cooperation weakening, the role of nation states is growing stronger. There are internal conflicts between and within EU Member States, and it seems that we will be facing Brexit as one manifestation of this discord. All of this will surely affect world trade

and, through it, the future of work. The future of free trade in particular is also linked to sustainable development, provided that local production will increase and global transport will decrease in the future.

According to a situation picture (Opportunities for Finland, Publications of the Finnish Government 2019:1) published based on the continuous joint foresight work by the ministries, global competition also features new methods that utilise mutual dependency. According to the joint situation picture prepared by the ministries, the fields and practices of external and internal, commercial and political, private and governmental activities are mixing together and blurring the identification of the party responsible for these activities.

It has traditionally been thought, and still is today, that Finland's position and future depend on the functionality of the international rule-based order and cooperation opportunities as well as Finland's ability to cooperate and the national defence capabilities. This is why Finland's official goal continues to be to ensure a functional and stable EU and strengthen the EU's global role and international influence. According to the ministries' joint situation picture, open and rule-based politics are the best way to support the EU's competitiveness, resilience and attractiveness as a partner. According to the situation picture, in order to successfully support the international rule-based system, prevent conflicts and support peace mediation, Finland's activities require commitment to multilateral cooperation as well as proactiveness and a long-term strategy. Changes in the operating environment highlight the key role of European cooperation in Finland's security and well-being.

The Committee for the Future proposes that alternative scenarios and operating models be created in case the change in the global operating system is permanent or lasts for a very long period of time. Due to the uncertainty of the global operating environment, it is also necessary to conduct broader analyses of scenarios in which international cooperation does not develop as desired. This does not conflict with the promotion of the official goals; rather, it provides preparedness for alternative futures. As the global operating environment becomes more complex and the decision-making in the EU grows more difficult, the significance of Nordic cooperation grows, for example.

Indicators of economic well-being

The resolution set out in the Agenda2030 report prepared by the Committee for the Future and approved by Parliament states that: 'Parliament requires that the Government develop reliable monitoring indicators, enabling the realisation of the Agenda2030 action programme and the assessment of its effectiveness while making the goals and measures more concrete; in order to promote well-being, economic well-being indicators parallel to GDP, in particular, must be developed, including indicators such as the Human Development Index (HDI), Genuine Progress Indicator (GPI) and the Index of Sustainable Economic Welfare (ISEW); to improve foresight work, new tools for assessing the effects of political decisions must also be developed in relation to the Agenda2030 action programme; the impact on well-being must be evaluated in all decision-making; the evaluation of the effectiveness of political measures also calls for the development of quality indicators.'

In order to promote the discourse on sustainable economic well-being, the Committee decided to commission a report titled 'Usability of Measures of Economic Well-being in Decision-making' (TuVJ 7/2018) from Adjunct Professor Jukka Hoffrén. Gross domestic product (GDP), a key concept in national accounts, is an indicator of economic activity that does not directly measure well-being or sustainable development. The GDP indicator, which assesses economic cash flows, tells us nothing about the sensibility of operations or the efficient use of resources. Because our economic system and its monitoring treat natural resources and ecosystem services as free commodities, the GDP indicator does not tell us if the use of natural resources is inefficient or unsustainable.

In order to strengthen the well-being perspective, many international organisations have developed various composite indicators to be used alongside GDP or as alternatives to it. The composite indicators of economic well-being that are considered to be the best are the Genuine Progress Indicator (GPI) and the Index of Sustainable Economic Welfare (ISEW), which were developed for monitoring the well-being and progress of developed, post-industrial countries such as Finland. The challenge in composite indicators is the valuation of the various perspectives used in compiling them: what weight is assigned to each factor in the indicator. Another challenge is making perspectives measured on different scales and with different units of measurement commensurable. The problem with national accounts and expanding them is that the analysis is focused on monitoring production: well-being always increases when GDP increases and, conversely, decreases when GDP decreases. In practice, however, well-being can also increase without economic growth, and economic growth does not necessarily equal an increase in well-being.

In the preparation of the state budget, the Committee for the Future requires the GDP indicator to be complemented with composite indicators as well as satellite accounts that are better at estimating the consumption of natural resources and level of well-being. The report prepared by Adjunct Professor Hoffrén for the Committee for the Future recommends piloting the GPI in particular.

In its Agenda2030 report (TuVM 1/2017 vp—VNS 1/2017 vp), Parliament accepted a resolution that the Government must 'promote consistency in sustainable development policy-making in a purposeful and sustained fashion, as described in the Agenda2030 action programme'. Later in its statements on the Government budget for 2019 (TuVL 4/2018 vp—HE 123/2018 vp) and the Government's annual report for 2017 (TuVL 2/2018 vp—K 11/2018 vp), the Committee for the Future also proposed that policy coherence be promoted in the budget with phenomenon-based budgeting.

The justification of the main categories of the budget for 2019 mentioned the links between funding and the following focus areas of sustainable development, outlined in the Agenda2030 report: 1) carbon-neutral and resource-wise Finland and 2) non-discriminating, equal and competent Finland. As a new element, the general budget justification also included a separate chapter on sustainable development, which focused on the budget's focus area of a carbon-neutral and resource-wise Finland in particular. Questions related to sustainable development were also emphasised in the separate Budget Review prepared of the budget. In relation to this piloting, the Committee for the Future proposed in a statement (TuVL 4/2018 vp—HE 123/2018 vp) that future phenomenon-based reviews focus on slightly narrower topics, such as services for children and young people, services for the elderly, social exclusion and carbon dioxide emissions from

transport. Additionally, the Committee for the Future called for monitoring of the successfulness and effectiveness of phenomenon-based budgeting in order for the things learned from pilots to accumulate into a good, innovative government.

The Committee for the Future proposes that the next topics chosen as focus areas in phenomenon-based budgeting in relation to the transformation of work, the future of Finnish work and the promotion of well-being be the prevention of the social exclusion of young people, utilisation of partial work capacity and well-being at work.

New technology and new work

The report 'Societal transformation 2018–2037 – Radical technologies that reform social models' (TUVJ 1/2018), prepared by the Committee for the Future, listed the technologies that will change the world the most extensively and rapidly in the future. The technologies topping the list are related to machine vision and speech recognition; the replacement of human labour with artificial intelligence, starting from news reports, online commerce and banks; and self-driving cars. Other technologies that are advancing almost as rapidly include material scanners and hyperspectral cameras that are used to identify materials and concentrations from afar for the needs of e.g. military technology and the food industry, and they will also be used in consumer electronics in the future. The fifth most generic technology of the future identified by the report is the radical increase in computing power by utilising quantum-level phenomena. This technology is still at a very early stage, but its high ranking on the list is explained by its ability to radically speed up other technological development when it breaks into the market. The next item on the list is the 'ubiquitous environment', i.e. spaces and items that adapt to people's needs in an interactive manner, and it is followed by facial and emotion recognition and projection, i.e. a human-like machine, a machine or a virtual face on a screen that communicates with people naturally. These properties are being developed strongly for the needs of the entertainment industry, for example. The eighth item on the list is speech recognition, speech synthesis and interpreting, which are spreading rapidly as services and communication tools, in addition to their use in user interfaces. The progress of these types of trends may reduce many tasks that have previously been performed by humans, while simultaneously enabling new ways to solve problems and create services.

Another perspective presented by the report on the impact of new technology is examining the ways in which new technology will change the operating models of society and everyday life. The report by the Committee for the Future described the old and new operating models as dominant and challenger regimes, with the dominant regime representing the present situation, while the challenger regime represents a situation in which the satisfying of needs is structured around radically novel technologies. Radical change, i.e. transformation towards a challenger regime, means a change in the way we fulfil our basic needs: how we eat, move and live and how we access and produce the energy, materials, goods, experiences and safety that we need and want. In other words, the transformation is not only about technological change. Instead, the development of technology and development of society are mutually dependent. Technological change occurs side by side with changes in societal and social structures and regulation, business models, knowledge,

skills, professions, ways of life and the way in which technology is used. New business opportunities will arise around these changes.

The third perspective presented in the report was the identification of the areas of society, or 'value-producing networks', in which new technology is anticipated to cause the most extensive changes. According to the results, the most changes and the fastest changes are anticipated in passenger transport. The other rapidly changing value-producing networks are logistics, work and income, automation of work, sustenance, manufacturing of goods, the built environment, exchange, acquiring information, safety and security, remote impact and existential meaning. Radical technology advanced more slowly in relation to power structures, experiences, health, materials, energy, collaboration and trust, proficiency and its proof as well as the redressing of disabilities.

The anticipated changes include transitions from private car ownership and public transport operated by a driver to autonomous transport as a service, for example. In the value-producing network of work and income, salaried work related to specialisation and exchange is changing towards cooperation, self-sufficiency and micro-entrepreneurship. In the manufacturing of goods, the trend is from industrial, centralised and repetitive manufacturing towards robotised, decentralised and customised manufacturing. In exchange, the trend is from brands and physical retail locations to the reputation economy, online commerce and P2P. In the acquisition of information, the change is manifesting as a transition from certified studies, reports and news to artificial intelligence, crowdsourcing, personal instruments and applications. Among other things, these and other similar social transformations caused by new technology are enabling new business models and new ways of organising work.

When preparing the Committee Report on the Future, the Committee for the Future also examined some corporate examples of how new technology has affected work and the organisation of work. Some of the companies consulted by the Committee were new companies that were based on new business models enabled by new technology, while others were older companies that had been on the market for a longer period of time and actively utilise new technology.

From the perspective of new companies, new technology makes it possible for them to enter the global market more quickly and provides them with competitiveness. For the same reason, however, this market position and status as a forerunner are difficult to maintain. This tension causes a need for continuous change: the products, business models and leadership must be continuously reinvented. This also leads to a need to continuously update the companies' knowledge and skills. From the perspective of the staff of new platform economy companies, the changes in the required knowledge and skills manifest in practice as odd jobs and temporary work, with a high employee turnover rate. The responsibility for lifelong learning falls to the individuals themselves.

In order to succeed in a platform economy organised in the manner described above, individuals will need to have good cognitive knowledge as well as the ability to continuously learn new things, maintain their work capacity and move from work assignment, project and employer to another, utilising various digital solutions and continuously increasing their personal knowledge capital. Additionally, individuals must be able to work with a diverse range of people in changing problem-solving situations. In this context, the

statements made by the experts highlighted the significance of empathy in particular and raised concerns about the potential decline in interpersonal skills and systemic problem-solving skills as a result of the spread of remote solutions related to digitalisation. In this world of platform economy start-ups, two different types of extremes are able to find new work: skilled project employees and some who traditionally find it hard to find employment, such as job seekers who have an immigrant background or only an upper secondary qualification and who accept income that depends directly on personal performance and lesser support structures for work. In other words, new technology and e.g. platform-based work offer paths to working life for many individuals who, for one reason or another, have found it difficult to find a job, but this does not directly reduce the polarisation of society.

In larger companies, a high employee turnover rate is not a competitive advantage. Instead, companies face the challenge of assembling and maintaining an adequate workforce and level of skill. Key needs include promoting labour mobility, ensuring top expertise nationally and internationally with e.g. extensive collaboration between educational institutions, the agility of public enabling services, the attractiveness of regions as well as management of sudden positive and negative structural changes.

The Committee for the Future notes that new technology may replace some older technology, thereby discontinuing some older jobs and occupations. However, new technology is simultaneously changing the content of existing occupations and the organisation of work. New technology is also creating new work and occupations as well as enabling new business and work opportunities. The realisation of these opportunities requires continuous adoption of new technology, continuous updating of knowledge and skills related to new technology as well as continuous development of new ways to organise work.

Partial work capacity

According to some of the experts, the Government Report on the Future presents a very optimistic view of how artificial intelligence and machine learning will enable a new, flexible way of adapting work tasks and the division of labour according to the skills and tendencies of individuals, rather than the individual having to adapt to a pre-determined role. However, the competitiveness demands of the globalised market economy have also strengthened the tendency to attribute failings to an individual's characteristics. Competition produces winners and losers and those who are unable to participate.

The consultations of experts by the Committee for the Future also included discussion of the fact that measures that prevent ill-being and measures that enable a good and healthy life in various demographic groups should be seen as investments in well-being rather than as cost items in a welfare state. One area related to this is the employment of individuals with partial work capacity. The experts who commented on the subject to the Committee for the Future emphasised that it is of crucial importance that people have the opportunity to work, participate in economic activity and feel that their work contribution is meaningful and produces results and benefit to society. The experts in partial work capacity and well-being at work emphasised that in order for this goal to be realised it is important to

intervene in deficiencies in work capacity by utilising broad social, health and welfare policies and by ensuring the utilisation and integration of AI in support and health care systems.

According to one expert who made a statement on the rights of disabled people, the public sector should implement anti-discrimination legislation in practice, set recruitment targets concerning disabled employees and develop support measures for disabled people to engage in work suited for them and e.g. become entrepreneurs while receiving a pension. For people with partial work capacity, it is of particular importance that the combining of work and social security be made easier. For example, the experts say that the use of partial sickness allowance in the early stages of incapacity for work has increased the rate of people working and returning to work without needing another sick leave in the first 28 days. Several experts particularly pointed out that the role of employers has not been adequately examined in the consideration of the employment of people with partial work capacity or more general consideration of well-being at work.

In the view of the Committee for the Future, voluntary work and work performed in one's free time in communities and families are necessary for the functionality of society. At present, the legislation concerning different types of organisations (cooperatives, social enterprises, etc.) does not serve the different ways of organising work in the best possible way. By diversifying and facilitating the organisation of work in the third sector, for example, we can make it easier for individuals who find it difficult to find employment in the open job market to find work or participate in the functions of civil society.

Demographics, gender equality and work- and education-based immigration

The future and amount of work is also affected by demographic and gender-related factors. In 1987, just over 60,000 children were born in Finland. Thirty years later, in 2017, the number of children born in Finland was 50,139. The size of the age cohort has decreased by one sixth, i.e. 10,000 children, in thirty years. At the same time, the population of Finland is ageing, and age groups at the opposite end of the scale, such as people over the age of 50, find it difficult to find employment. Additionally, there are still problems in the career development of women with regard to pregnancy and care responsibilities.

According to the experts consulted by the Committee for the Future, the tensions described above are so great that they are already threatening the intergenerational solidarity contract. The income of young people who are at the age to start a family is lower than the pensions of baby boomers, and young people are also forced to bear the responsibility for climate change, national debt, payment of pensions and caring for the elderly. Furthermore, it has become more difficult to be admitted to educational programmes and switch to another educational institution during studies. According to the experts, all of this together and separately lends itself to cause feelings of unfairness, rebellion and human capital flight among the younger generations.

Demographics also involve the question of promoting work- and education-based immigration. Some experts are of the view that Finland needs to attract an increasing number of university students from other countries in the future and also ensure that they find employment in Finland. According to the experts, this requires immigration and

resident permit practices to be made smoother, the international service processes of higher education institutions to be made more flexible and the employment of new graduates to be improved. A large number of the foreign employees who come to Finland enter low-wage sectors, while a large number of the foreign students who complete a higher education degree in Finland leave after graduation because they are unable to find employment and face discrimination.

Asylum seekers should also be able to enter the job market as quickly as possible. According to studies, key obstacles to the employment of immigrants include lack of language proficiency and the immigrants' own fears and uncertainties related to the transition to working life. In contrast, vocational training (particularly on-the-job training) and language training promote the employment of immigrants. In order to ensure their integration and adjustment to working life, language proficiency should be invested in more, both as separate training and at workplaces.

The experts who provided a statement to the Committee for the Future on multiculturalism, or rather the diversity of people, emphasised that diversity is about much more than outwardly visible characteristics. Two of the experts who provided a statement to the Committee on diversity proposed five measures for increasing participation in society: 1) Finland's own minorities must be taken into account in various visions and reports. 2) There must be open, public discourse on structural barriers, with experts from different backgrounds as debaters. 3) Comprehensive schools must offer diversity and empathy education to provide children and young people with tools for the diversifying and changing working life and future. 4) In order to prevent structural racism, sexism and any other types of discrimination and promote diversity, it is necessary to create temporary mechanisms such as sanctions and quotas as well as rewards for activity that increases diversity and equality. 5) Training for an increasingly diverse society is required in all areas of society, ranging from teachers and architects to engineers, experts and decision-makers.

According to one expert, the diversity of the work community can be turned into a competitive advantage that will make it possible to produce services for difficult customer situations. In such cases, the HR strategy is not to require full proficiency of Finnish and Swedish, but to recognise the full range of skills (professional skill, education, language proficiency and understanding of cultures, other acquired skills) and create structures for on-the-job learning and acquisition of complementary skills. With regard to the working life of the future, it would be of the utmost importance that attitudes be changed at the employer and administrative levels.

One statement by an expert proposed that the action proposed in the Government Report on the Future in relation to the meaningfulness of work be edited to include the idea of a fair and inclusive work environment that is based on non-discrimination and the systematic and planned promotion of equality.

In the view of the Committee for the Future, the tensions in the solidarity agreement between generations must be taken seriously. The status of young people and families with children in society must be taken care of, and working life must also be able to utilise the skills and partial work capacity of the elderly. In the future, Finnish working life will have to learn to accept a workforce that is becoming diverse in many ways,

including individuals with a foreign background who have lived in Finland for a long time.

Creative economy and multi-agency

Knowledge, skills and creativity, i.e. intellectual capital, have become a genuine factor of production alongside work, capital and production tools. In 2015, the cultural sector accounted for 2.9% of the value added (GDP). At the time, there were more jobs in the cultural sector than there were in the wood, paper and food industries put together, i.e. 87,000. The total amount of direct copyright income was estimated to be EUR 8.55 billion in 2017. In its statement to the Committee for the Future, the Ministry of Education and Culture proposed that an adequately strongly funded programme or programmes be established in Business Finland so that the programme identifies the special characteristics of the creative industries and supports the sector's development.

According to the experts consulted by the Committee for the Future, the status of individuals who work in the creative industries is in stark conflict with the increasing significance of the sector as part of the national economy. This type of work typically comprises self-employment in the uncertain everyday reality of part-time and fixed-term employment relationships, entrepreneurship, grants and possible copyright remuneration, without any organisational support structures for income. In this everyday reality, it may also be financially necessary to simultaneously promote an alternative career path. The situation of artists poses challenges from a human perspective, but also from the perspective of the efficient use of society's resources. In order to resolve this problem, the Ministry of Education and Culture has commissioned a report (Taiteilija-allianssi Suomeen (Artist Alliance for Finland), Publications of the Ministry of Education and Culture 2019:2) on the possibility of Finland testing the artist alliance model that is already in operation in Sweden and Norway.

In cooperation with Arts Promotion Centre Finland, the Committee for the Future held two workshops on the future of the creative industries and Finland in Parliament's creative space. The workshops utilised the expertise of art experts in multi-agency and methods that allow experts who are not previously familiar with each other to discuss and refine new types of ideas in consultations of experts by Parliament. Based on the consultations of experts, similar methods could be used in the development of phenomenon-based learning, democracy education and communality at schools or as part of research activities and strategic trials by public administration in the development of inter-agency cooperation, for example.

The Committee for the Future points out that by trying out solutions that combine income from work and social security in a manner suitable for the situation of artists, we also more broadly gain useful information on adapting to the working life conditions of the future and mitigating its negative qualities. In the context of the Government Report on the Future, it is essential to note that the work situation of artists and the dynamic learning, networking and interpersonal skills essential to their work closely correspond to the conditions of the transformation of work and the

essential skills related to them as described in the Government Report on the Future and this Committee report.

The Committee for the Future proposes that the creative industries be made a focus area in piloting and special development during the next legislative term, when the labour and social security legislation, industrial policy, taxation and lifelong learning will be developed as an extensive whole.

The Committee for the Future considers an artist alliance to also be worth piloting in Finland.

Societal impacts of technology

Finland is considered to be a leading country in the application of AI and other new technology. According to some of the experts, the transformation of work resulting from this is, to some degree, taken as a given, even though the impacts of technology and the well-being of the citizens can be influenced by regulating the conditions for adding value and the terms affecting the performance of work. Other key factors of the innovative reform of the economy include regulation that enables growth, as well as deregulation and self-regulation.

One of the experts consulted by the Committee for the Future presented two perspectives for the examination of the economic impacts of AI, the platform economy and digitalisation. In the first scenario, the platform economy, software-based business and AI will lead to a decrease in jobs that are currently typical for the middle class, a concentration of wealth in the hands of international platform economy companies and, finally, a slump in demand. In the second scenario, the automation of routine work will improve productivity and people's wealth and consumption, which will lead to new needs, proactivity, occupations and growth. Another statement by an expert called for early actions to prevent the increasing of inequality as a result of AI. Actions are needed in many areas, including taxation, education, reform of laws and regulations related to factors of production, questions concerning intellectual property rights and social policy, intervention in the distribution of profits produced by AI and the promotion of a wide distribution of the benefits of technology in general. The experts who shed light on the corporate perspective emphasised the extent of the uncertainty under which today's leading companies have to operate, even in their most strategic areas of expertise. AI, automation, 5G and mobility services are examples of new phenomena that are significant uncertainty factors to companies in terms of their effects and the timing of their breakthrough.

The Committee for the Future points out that according to the experts consulted by the Committee the increase in labour productivity at the macroeconomic level has been exceptionally slow in the Western countries. Although Finland is among the top countries in digitalisation, its productivity was below the average GDP between 2005 and 2015, according to the OECD. According to one expert consulted by the Committee for the Future, this may be due to the fact that growth enabled by digitalisation is not visible with traditional indicators. The changes take place in business concepts and

economic structures, and new types of indicators are required to detect and measure them.

The Committee for the Future also emphasises the need to analyse the development of technologies for which there is not yet a clear picture of their applicability but for which significant potential consequences can be anticipated. One such phenomenon is distributed ledger technology, blockchain technology and the cryptocurrencies linked to it. Already, there are over 2,000 cryptocurrencies in use. Furthermore, some of our existing economy and exchange is already in the process of migrating to blockchain platforms. These platforms may operate in a different way than our current monetary economy and obscure what is exchange and what is taxable income. The consequences of this trend to the Finnish economic system may be even more significant than those of AI.

Business models referred to as a platform economy, which provide people with the opportunity to consume or earn directly on digital platforms offered by major international companies, put the Nordic welfare model to the test, as it is difficult to acquire the information required for the monitoring and proactive guidance of taxation from major, centralised, international companies and small decentralised operators, each for different reasons. According to some experts, the VAT Gap caused by the digital economy was roughly EUR 160 million and growing in 2018. The forecast is that the VAT Gap caused by the digital economy will amount to 0.5–1.8% of the annual tax revenue. There may be a risk of an annual VAT Gap of EUR 1–2 billion if preventive actions are not taken. From the perspective of value-added tax, Finland's annual VAT Gap is EUR 1,200–1,400 million according to the EU.

At the same time, new technology would also allow actions to be taken closer to real time in taxation and for taxes to be collected in conjunction with transactions, for example. According to the experts, however, it is clear that national actions alone are not enough to establish fair ground rules and the necessary legislation and standards. From the perspective of the Tax Administration, actions required include establishing legislation that allows international exchange of information, extending the obligation to disclose information to the sales brokerage of goods and services, imposing an obligation to carry out all business transactions electronically and expanding the right to information in payment brokerage.

The Committee for the Future notes that taxation is a good example of the impact of technology not being deterministic or one way; rather, it is a question of us taking the impacts of technology into account and making sure that the desired benefits are realised while preventing any harmful effects.

The digital economy is global, which is why its monitoring requires international cooperation among the Nordic countries, within the EU and in the OECD. One good example of international cooperation is Nordic Smart Government, a cooperation project of the Nordic tax authorities. Its guiding principle is Government as a Platform, i.e. a public, well-functioning and stable environment for companies. The project develops digital services that are easy to use and allow companies to fulfil their obligations, such as tax returns, automatically as part of their other business operations. Nordic Smart Government promotes the same things as the RealTime Economy programme, which has been underway

for a longer period of time, with the aim of expanding to cover the entire EU. An EU-wide economic environment operating in real time would reduce the costs and risks of entrepreneurship and support the efficient operation of the internal market. Key measures include harmonising and automating matters related to business management at the EU level. Similar projects are also underway in the private sector. One good example of these projects is Nordic API Gateway, which is developing a single real-time interface for all Nordic banks that would enable harmonised money transactions for companies.

In the view of the Committee for the Future, Nordic and EU-level cooperation in taxation and broader cooperation in relation to the theme of Government as a Platform is necessary for the management of the consequences of the platform economy.

Long-term policy: development of the effectiveness of the Government Report on the Future, the role of the Committee for the Future and Finland's future challenges

The experts who provided a statement to the Committee for the Future on long-term policy emphasised the importance of identifying the core values in these turbulent times, considering ethical issues related to things such as the application of AI, taking slowly progressing trends such as climate change into account and engaging the citizens in foresight work. The experts also asked how we can prepare for the unexpected and tolerate increasing uncertainty.

Under the heading 'Long-term policy', the Committee for the Future addresses the following three themes: 1) improving the effectiveness of Government Reports on the Future, 2) the role of the Committee for the Future in Parliament and 3) the nationally important questions raised by Prime Minister Juha Sipilä, first during the preliminary debate concerning the Government Report on the Future and later during the 25th anniversary meeting of the Committee for the Future, as a message to the next government. For the latter theme, the Committee for the Future asked a large number of experts to name things significantly affecting the future of Finland that have not been sufficiently discussed.

In the last few years, the ministries have been developing a continuous foresight model. During this legislative term, the ministries' continuous joint foresight model has been integrated more deeply into the processes of the ministries. According to the statement by the Prime Minister's Office, a particular challenge in long-term policy is how to ensure that actions are taken once the foresight work is complete. For example, a stronger shared view of the direction of development has now been created through the continuous joint foresight work by the Government and the ministries, but how do we ensure that some actions are also taken in time?

During this legislative term, the Government has also considered long-term policy instruments in the PAKURI and TOIMI projects. The development efforts have focused on how societal reforms carried out over several legislative terms or generations can be implemented persistently over several terms of government. The TOIMI project has been preparing the social security policy for the next terms of government, among other things. The Agenda2030 action programme has also increased the need for long-term policy. In the

Government Report on the Future, the Prime Minister's Office proposed that sustainable development be adopted as the framework for long-term decision-making.

In its statement, the Prime Minister's Office raises two questions related to the activities of the Committee for the Future: 1) What will be the role of the Committee for the Future in the creation of the long-term vision proposed by the Prime Minister and 2) how can we strengthen the consideration of technological disruption in society? During the preliminary debate concerning the Government Report on the Future in autumn 2018 and again during the 25th anniversary meeting of the Committee for the Future, Prime Minister Sipilä proposed that the Committee prepare, for example in conjunction with the Government Report on the Future, a long-term parliamentary vision for Finland that can serve as a basis for government formation talks. In the view of the Prime Minister's Office, this work should be carried out in cooperation with the Foresight Steering Group, i.e. the National Foresight Network.

In relation to long-term policy, the second part of the Government Report on the Future also proposes that the links between sustainable development and foresight work be strengthened further. According to the Prime Minister's Office, the two-part report, which has been found to be a good solution, should be taken in a direction in which the Government Report on Sustainable Development and the Government Report on the Future are prepared together as a two-part report. For example, a broad Government Report on Sustainable Development could be prepared as the first part, with the second part consisting of a Government Report on the Future that discussed a particular theme important for sustainable development in more detail.

In the first part of the Committee Report on the Future (TuVM 2/2017 vp—VNS 6/2017 vp), Parliament accepted a resolution that 'Parliament requires that the Government continue to draft the Government Report on the Future in two parts in order to promote dialogue and participation.' In its Agenda2030 report (TuVM 1/2017 vp—VNS 1/2017 vp), Parliament also accepted a resolution on Parliament requiring that the Government 'tie the Government Report on the Future and the Agenda2030 report more closely together; however, the Government Report on the Future may not be combined with or otherwise limited to solely the Agenda2030 report'.

In the view of the Committee for the Future, the Agenda2030 report and the Government Report on the Future must not be combined. Instead, a two-part procedure is suitable for both reports. However, the Committee for the Future agrees with the Government that the effectiveness of the Government Report on the Future must be increased and its preparation must be developed.

The Committee for the Future proposes that the preparation of the Government Report on the Future be linked more closely to the continuous joint foresight work by the ministries. A publication compiling the continuous joint foresight work by the ministries can function as the first part of the Government Report on the Future, which builds shared understanding. In the second part of the Government Report on the Future, the Government can decide which phenomenon or phenomena mentioned in the report it wishes to elaborate on. This report procedure also makes it possible for Parliament to comment on the foresight work by the ministries and the key theme chosen by the Government.

If implemented in this manner, the Government Report on the Future would allow the national vision proposed by Prime Minister Sipilä to be produced and updated not only in a parliamentary manner as part of the Government Report on the Future but also in cooperation with the continuous joint foresight work by the ministries and the National Foresight Network, as proposed by the Prime Minister's Office.

The Committee for the Future held a 25th anniversary meeting in the Finnish Parliament Annex on 16 November 2018. Upon request by the Committee for the Future, several parties at the meeting contemplated long-term policy and the role of the Committee in it. The speeches made at the anniversary meeting will be published in the publications of the Committee for the Future (TuVJ 9/2018). Among other things, the following proposals were made:

The Committee for the Future is tasked with foresight work, preparing assessments of technology, participating in the socio-political discourse and assessing the future strategically. However, the question remains after all this work: How can we turn talk into something tangible? According to Speaker Risikko, collaboration is needed to find means to better utilise the observations made by the Committee for the Future in practical legislative drafting.

A four-year legislative term is a short period of time for implementing major societal reforms. Because of this, long-term decision-making must be developed further in the work of both Parliament and the Government. We require major shared goals that everyone can commit to as well as alternative solutions to choose from. According to Prime Minister Sipilä, the role and mission of the Committee for the Future in this type of vision work should be considered and strengthened. Because the Committee for the Future has the resources to consider and contemplate the future, it would be natural for the role of the Committee to also be changed along with the Strategic Government Programme so that the Committee's vision work for Finland is carried out over a longer period of time. The aim of vision work is to identify national success factors that clearly span over several legislative terms. According to Prime Minister Sipilä, the long-term vision work by the Committee for the Future should serve as the basis for the Strategic Government Programme. The methods of implementing the shared vision can then vary, depending on the composition of the Government.

According to Prime Minister Sipilä, the work of the Committee for the Future has also played a significant role in strengthening the capacity of Finnish society and the Government to renew themselves. In many ways, the Committee for the Future has served as a driving force for reforms and as a feeler for needs for reforms in society. During this legislative term, the Committee for the Future has also been responsible for professing Agenda2030 in Parliament and monitoring the resulting policy coherence over the long term. According to Prime Minister Sipilä, this is a good role for the Committee for the Future: making sure that our decisions carry over to the next generations and progress towards globally set goals.

Vice-President of the European Commission Jyrki Katainen hoped that the Committee for the Future would actively participate in the discourse on the future of Europe and express its own views.

According to Eero Paloheimo, who was the first chairperson of the Committee for the Future in 1994–1995, the main mission of the Committee is to identify and analyse the most likely medium-term problems. Because the Committee for the Future is an institution under Parliament, the reports and analyses prepared and measures proposed by the Committee must also impact day-to-day legislation. On the other hand, the Committee must ignore mundane political power struggles and be more broad-minded. Paloheimo also raised the question of whether Parliament could adopt the practice of not only asking the position of the Constitutional Law Committee regarding major questions but also asking for the position of the Committee for the Future. In these major reforms, the Committee for the Future could take a constructive initiative.

According to President of Sitra Mikko Kosonen, Finland is a forerunner and model country in future policy. According to President Kosonen, if and when the availability of high-quality foresight data on key themes will improve, Parliament should consider ways to utilise this data in political decision-making. In his proposal, President Kosonen asked if it was possible for the various committees of Parliament to take the output of national foresight work more systematically into account in their work. According to President Kosonen, one possible way to implement this would be by utilising the output of the National Foresight Network regularly in all committees as part of their normal consultation practice. President Kosonen also asked whether there was room in the annual calendar of each committee for familiarising themselves with the foresight data on their own area of responsibility once a year, collectively and e.g. in the form of a workshop. Such workshops could also be implemented as open consultations. President Kosonen also supported Prime Minister Sipilä's idea of strengthening the role of the Committee for the Future in the preparation of a shared vision for the Strategic Government Programme. Additionally, President Kosonen proposed regular dialogue on the future at the Plenary Hall.

According to Director of the Finland Futures Research Centre Juha Kaskinen, future policy means exploring long-term challenges and opportunities, building visions and missions, identifying the conditions for implementing the visions, monitoring signals of the future and assessing their impacts. A key part of future policy is conscious shaping of the future through decision-making. According to Kaskinen, the future is, in practice, constantly being shaped in political decision-making. Future policy is policy that is being built consciously, in a future-oriented manner and by showing responsibility. Kaskinen also emphasised the importance of the citizens participating in the discourse on the future.

According to Professor Sirkka Heinonen, vice director of the Finnish Society for Futures Studies, the basic strength of all Finns, 'sisu', means resilience to cope with any difficult circumstances and changes that we may face in the future. Heinonen also emphasised the role of the Committee for the Future as an interpreter and catalyst of cultural changes. According to Professor Heinonen, the Committee for the Future plays a key role in defining the communal future of our nation. As advice from the international Millennium Project, Professor Heinonen proposed to the Committee for the Future that a network comprising committees for the future from different countries be coordinated and a better future policy be built for the whole world. Professor Heinonen also encouraged the Committee for the Future to continue developing its foresight methods.

On 15 February 2019, a joint open meeting was held by the Committee for the Future, the Foreign Affairs Committee, the Agriculture and Forestry Committee and the

Environment Committee for the purpose of performing a comprehensive assessment of Finland's sustainable development policy. This meeting, with its consultations of experts and discussions, is a good example of new operation models being built around the Agenda2030 action programme in Parliament. In the view of the Committee for the Future, similar cooperation can also be developed for processing the Government Report on the Future. Joint open meetings promote dialogue and policy coherence within Parliament.

The Committee for the Future also points out that Parliament now has a creative space built at the proposal of the Committee for the Future, which enables a new type of dialogue with experts. Consultations can be held in the form of workshops, for example, with telepresence and virtual reality utilised in the consultations.

The Committee for the Future also encourages the other committees to consult the operators of the National Foresight Network and foresight experts in their own field.

As a response to the challenge presented to the Committee for the Future by Prime Minister Sipilä, the Committee asked experts to name major questions affecting the future of Finland that have not been adequately discussed. The answers related to the transformation of work and the future of Finnish work are incorporated in the previous chapters. The repeating themes in the statements that are not limited to the future of work are compiled under the heading 'Long-term policy'. The themes focus around two topics: ethicality and humaneness.

Ethicality

The significance of data in the development of our society was strongly highlighted in the consultations of various experts by the Committee for the Future. One expert mentioned potential privacy protection problems in the legislative reforms being prepared that would enable smoother utilisation of the citizens' genetic data for research purposes. Another expert described how an increasing number of sensors is being embedded into our environment to produce real-time data, and how information about us is accumulating in various databases and online servers. An automatic scoring system based on this type of accumulation of data on the citizens is currently being piloted in China, and it will affect the citizens' social benefits and insurance conditions. According to the expert, some type of a scoring culture will inevitably also become common in liberal democracies. Although all this data collected of places, objects, people, things and processes makes a great deal of good possible, it is very difficult to anticipate all the consequences of the ongoing algorithmisation and increasing utilisation of big data. The experts who were familiar with the utilisation of AI brought up the need for a special data policy for ensuring that the utilisation of AI and data is efficient as well as fair and appropriate.

In their statements, the researchers of the ethics of AI brought up the strong yet invisible choices of values made in the design of AI solutions: in an online environment regulated by algorithms, the user does not know how the algorithm controls the recommendations shown to the user. The use of data requires the data to be aggregated into larger entities with less "granularity" and these entities to be placed in order of value based on principles

that are not necessarily known to the user. In the future, this editing will be implemented by learning algorithms as a fast and automated process, which increases the risk of unintentional discriminatory practices. If a person does not know how and why a machine does something, the machine may use the person, instead of the person using the machine.

The Committee for the Future points out that when databases and AI are used as the basis for decision-making or public services, the division of labour between human and machine and the limits of automated decision-making must be constantly monitored.

The management and guidance of the digital world require vision and a future outlook of what the desired common good is as well as assessment and reconciliation of the ethical perspectives and data organisation principles related to this common good. This work should be performed as multi-actor collaboration between engineers, social scientists and humanists.

At a practical level, we need technology and the operational practices related to it to be planned between developers and users of technology, regardless of whether the technology is related to health care, teaching technology, taxation or any public service.

For their part, decision-makers must be aware of the need for continuous consideration of ethics in the reconciliation and regulation of the limits of the citizens' privacy, companies' freedom of action and the efficiency of the public sector. A continuously updated contingency plan is also required to prepare us for potential crises in a technologised society.

The Committee for the Future proposes that the ethical assessment of technology be developed with the help of a network or centre that gathers various operators together. The ethics of technology and assessment of the societal impacts of technology must be made into an area of top expertise for Finnish society. In order to compile this expertise, we can use funding for strategic research as well as funding for the Government's analysis, assessment and research activities, for example.

Humaneness

The Committee for the Future looked for an answer to the three future challenges posed to Finland in different ways: It requested statements from experts from the perspective of various themes previously identified by the Committee as well as from individuals who were known to be interesting social debaters. Additionally, future workshops and seminar-like open meetings were held. The general feedback was that people hoped that the Committee for the Future and other decision-makers would hold exactly these types of multi-actor consultations that would include not only 'technology gurus' but also kindergarten teachers, class teachers, philosophers, psychologists and educationalists. This would help us remember to not only prepare a digital environment for machines but to also take human needs into account. The visions of the future must not estrange those who do not identify with the 'AI population' but want education to be valued and a human touch to be retained in the future.

Several of the statements submitted to the Committee for the Future on invisible future challenges specifically brought up the development of humanity and concern about how children, young people and adults will be affected if, combined with physical inactivity, they increasingly see the world as being full of technological stimulants. Four trends related to this theme were identified in the statements by experts. First of all, technological experiences tend to become standard, synchronised, externally controlled and addictive microworlds. Second, a constant flow of stimuli reduces the void required by the brain, which, according to creative professionals, is a prerequisite for independent thinking and the ability to sense weak signals and create something entirely new rather than simply reacting to the signals. Third, human qualities may develop inadequately and qualities related to the misuse of power may gain more room if we increasingly interact with machines that are not self-aware. Empathy and the ability to face the unknown and also take other species into account are skills which the experts believe are particularly needed and threatened in a virtualising world. Fourth, studies show that the ability to read and interpret longer texts and also produce them has deteriorated shockingly fast.

The Committee for the Future emphasises the importance of learning to use digital technologies, but society must also retain room for areas of life that are free from digitalisation. For example, it is important to make sure that literacy and reading are also valued. The right to one's own privacy must likewise be upheld.

Another message that came up during the consultations was the significance of Finland's story of a small, poor country becoming a society in which an individual's background does not determine what the individual can become. This story of rebuilding is our strength, so long as it remains true. The experts who were consulted shared the view that decision-makers should undertake to ensure that this story remains true and do everything in their ability to eliminate inequality. In particular, the reality faced by children and young people should not be how one of the experts consulted described it, citing the rector of a local school: 'At our school, there are huge differences between the children, and the children are aware of them from a young age. Some of them are brought to school in cars worth a hundred thousand euros, while others take care of their own clothes and meals starting from Year 1. Some go diving with their parents during holidays, while others spend their holidays alone at home. These children are aware of the limits and they stay within their own groups, and the disadvantaged children think that they never have the same chances as the others. "I know that there is no place for me in this world," one child in Year 1 said about their situation.'

In addition to children at risk of social exclusion, there is a large number of Finns living in the country who face obstacles in gaining access to education and working life. One expert also brought up the fact that Finns who face challenges due to their ethnic or cultural backgrounds do not feel that they are represented or that they fit into the story about what it is to be a Finn. A common question related to social exclusion and participation is how people's identity, self-esteem and notion of social value are built today if they were previously built through work, the nature of which is now undergoing a transformation. An artist who made a statement to the members of the Committee for the Future posed this concrete question: How would you introduce yourself in a future in which education or occupation no longer played such a significant role? What would you be without your occupation? The same expert pointed out that an artist is still an artist even without a salary. An artist's relationship with their occupation is not built through the story of salaried work.

The building of these types of identities that do not depend on a salary is an important part of the transformation of work.

The Committee for the Future notes that one of the most important questions about values, which perhaps has not been articulated as such, was: How can we build a story of Finland and 'Finnishness' that is based on diversity and allows everyone to feel that they belong? Adapting work to the ongoing transformation as well as to the limits of the planet requires practices and narratives to be changed into a new rebuilding project that maintains hope. In this story, no one should be merely an object of the measures taken. We are all subjects – each of us with our own skills and in our own way.

THE COMMITTEE'S DECISION PROPOSAL

The decision proposal of the Committee for the Future:

Parliament shall approve the statement on the Government Report VNS 5/2018 vp.

The statement proposal of the Committee for the Future

Parliament requires that the Government

1. create alternative scenarios and operating models in case the change in the global operating system is permanent or lasts for a very long period of time. Due to the uncertainty of the global operating environment, it is also necessary to conduct broader analyses of scenarios in which international cooperation does not develop as desired. This does not conflict with the promotion of the official goals; rather, it provides preparedness for alternative futures. As the global operating environment becomes more complex and the decision-making in the EU grows more difficult, the significance of Nordic cooperation grows, for example.

2. ensure that the updating of the skills of people already in working life is taken into account as a near-future challenge in the development of the lifelong learning model, also taking the wide group of young adults without a secondary level qualification or degree into account.

3. develop mechanisms for compensating the companies, people and areas that suffer the most from the mitigation of climate change for the costs arising from adapting to changes.

4. complement the GDP indicator with composite indicators and satellite accounts that are more efficient at estimating the consumption of natural resources and level of well-being when preparing the state budget.

5. choose the prevention of social exclusion of young people, utilisation of partial work capacity and well-being at work as focus areas in phenomenon-based budgeting in

relation to the transformation of work, the future of Finnish work and economic well-being.

6. pilot an artist alliance.

7. determine whether new indicators are required alongside the GDP indicator in order to understand the impacts of digitalisation and digital business.

8. examine the impacts of the platform economy, blockchain technology and cryptocurrencies on the economy and promote the international cooperation of the Tax Administration in order to promote the monitoring of the platform economy and develop new platform economy services.

9. develop the effectiveness of the Government Report on the Future so that the preparation of the report is more closely tied to the continuous joint foresight work by the ministries. A publication compiling the continuous joint foresight work by the ministries can function as the first part of the Government Report on the Future, which builds shared understanding. In the second part of the Government Report on the Future, the Government can decide which phenomenon or phenomena mentioned in the report it wishes to elaborate on. This report procedure simultaneously makes it possible for Parliament to comment on the foresight work by the ministries as well as the key theme chosen by the Government.

10. develop the ethical assessment of technology and the societal impacts of technology in a network, e.g. as part of the National Foresight Network and its strategic foresight clusters.

Helsinki, 27 February 2019

The following took part in the conclusive deliberation of the matter in the Committee:

Chairperson Stefan Wallin (RKP)

Vice Chairperson Merja Mäkilä-Ropponen (SDP)

Member Harri Jaskari (KOK)

Member Anna Kontula (VAS)

Member Aila Paloniemi (KESK)

Member Olli-Poika Parviainen (VIHR)

Member Arto Pirttilähti (KESK)

Member Sari Tanus (KD)

Member Lenita Toivakka (KOK)

Member Pilvi Torsti (SDP)

Member Sinuhe Wallinheimo (KOK)

Member Ville Vähämäki (PS)

Member Paavo Väyrynen (TL)

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Committee Counsellor Olli Hietanen

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