



Well-being and Health AiRo Programme #hyteairo

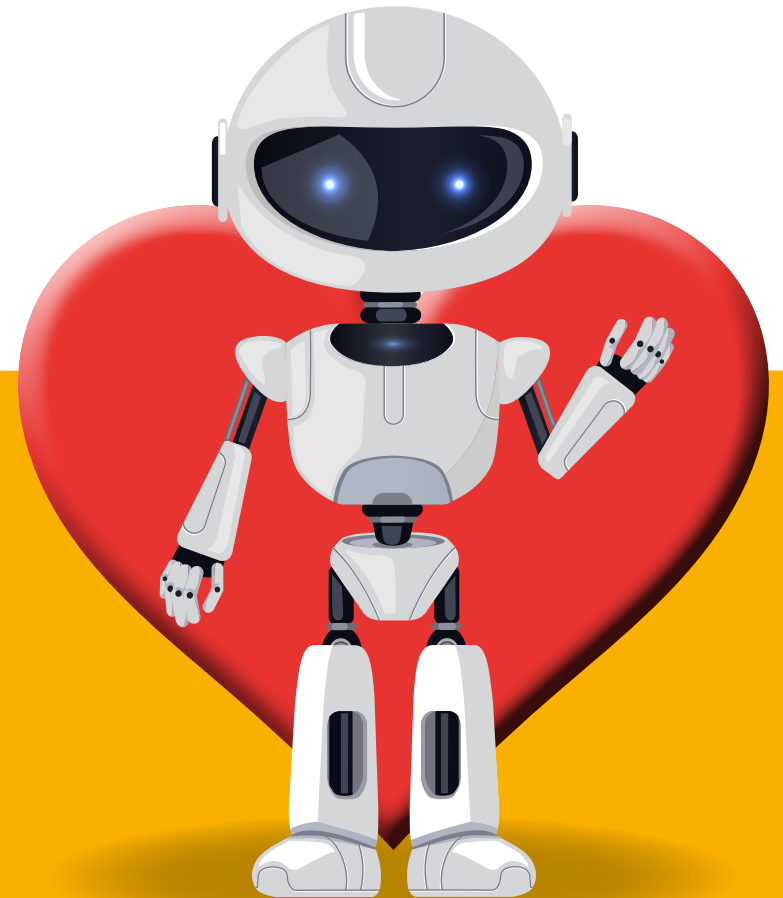


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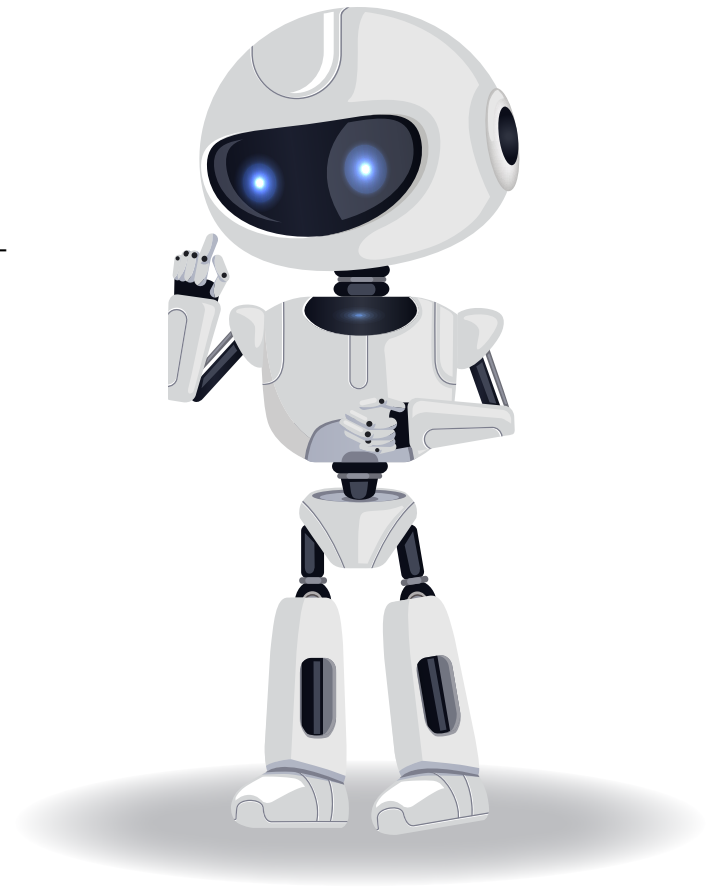
To the Reader

The utilisation of artificial intelligence and robotics improves the welfare of people and the effectiveness of service system activities. Robots and artificial intelligence help people live healthy lives, recover from illnesses, live independently and safely in their own home and recover their functional and working capacity quickly through rehabilitation. The opportunities offered by robotics and artificial intelligence help professionals provide better service and care as well as free-up time for professionals to meet with people. The utilisation of robots and artificial intelligence curbs the rise of social welfare and healthcare costs and helps ensure high quality services.

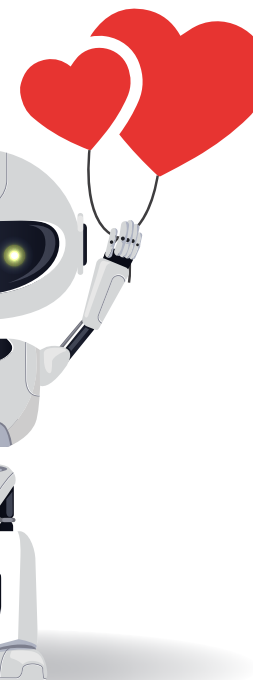
The development of robotics and artificial intelligence for the health sector offers companies numerous opportunities. The industry's market is enormous, and growth is quick. There is plenty of room for new entrepreneurs. The development of the best solutions in Finland will create export opportunities.

The Well-being and Health Artificial intelligence and Robotics Programme or Well-being and Health AiRo Programme #hyteairo supports and will speed up the utilisation of artificial intelligence and robotics. Benefiting from new opportunities will require co-operation. The Well-being and Health AiRo Programme is a joint programme between all parties for communication and development.

June 2018



Well-being and Health AiRo Programme #hyteairo



Programme objectives

Joint programme between all parties on communication and the development of artificial intelligence and robotics in the well-being and health sector

Artificial intelligence and robotics will improve people's well-being and the effective functioning of the service system. At the same time, they will create business and export opportunities for companies. In order to attain these benefits the Well-being and Health AiRo Programme's objective is the following:

- › To speed up the utilisation of artificial intelligence and robotics in the well-being and health services and operating processes
- › To investigate and eliminate obstacles and create the prerequisites for the development and use of artificial intelligence and robotics in the well-being and health.
- › To promote the sector's AiRo technology business activities in Finland and export of the technology

Artificial intelligence is an information system that is able to perform functions that are considered smart. Most often, robot refers to a mechanical device that is capable

of operating in the physical world. A software robot is a piece of software that is capable of using various applications in the same manner as people use them. In this report, well-being and health refers to an extensive range of services and functions related to recreation, enjoyment, learning and the social welfare and healthcare sector. The definitions for artificial intelligence and robotics (AiRo) as well as well-being and health are broad-scoped and multidimensional.

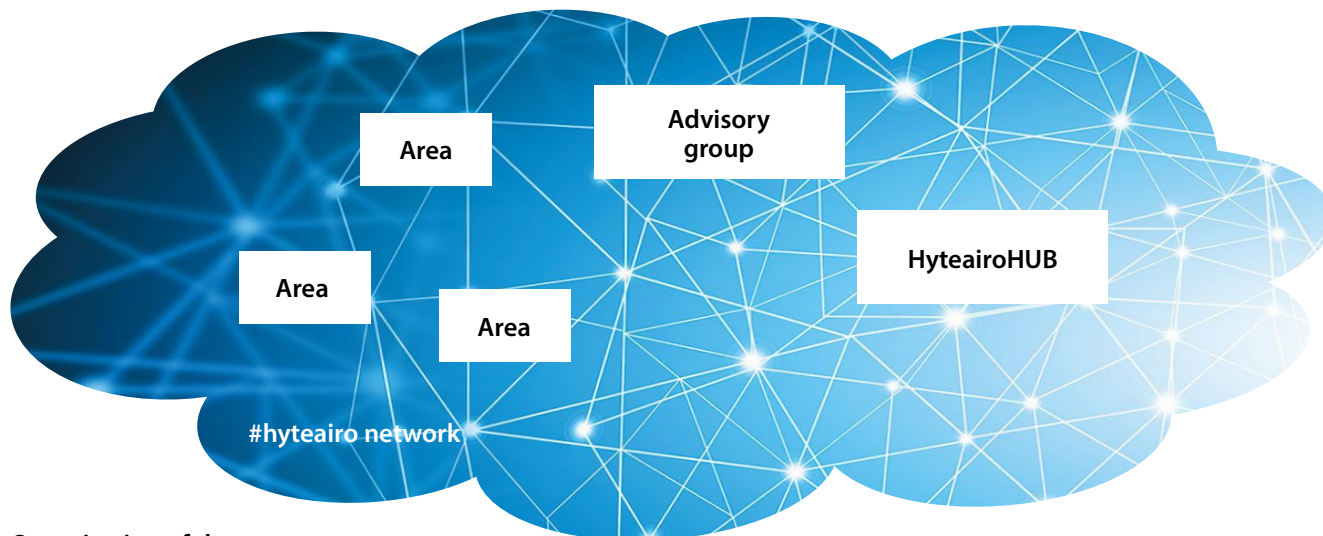
Activities

The programme will oversee the implementation of objectives and measures that have been jointly set for the development and use of artificial intelligence and robotics. The first version of these objectives and measures is described in chapters 2 and 3. The programme's objectives and measures will be updated in collaboration by participating actors. The programme will implement the measures that the actors have together decided are the most important and which they have committed to implementing. Their most important tasks are:

- › To maintain the plan on the nationally most important common objectives and measures. To monitor the implementation of objectives and measures as well as their impact.

- › To take initiatives and encourage parties to be active in working together to implement development projects outlined in the programme. To examine prerequisites and prepare the launch of projects.
- › To organise events and small group activities on the programme's key themes and on open questions concerning artificial intelligence and robotics. These include, for example, legislation and ethical questions.
- › Collect and disseminate information on ongoing projects and good solutions and practices.
- › Act as a point of contact in EU matters and international development networks.

Organisation

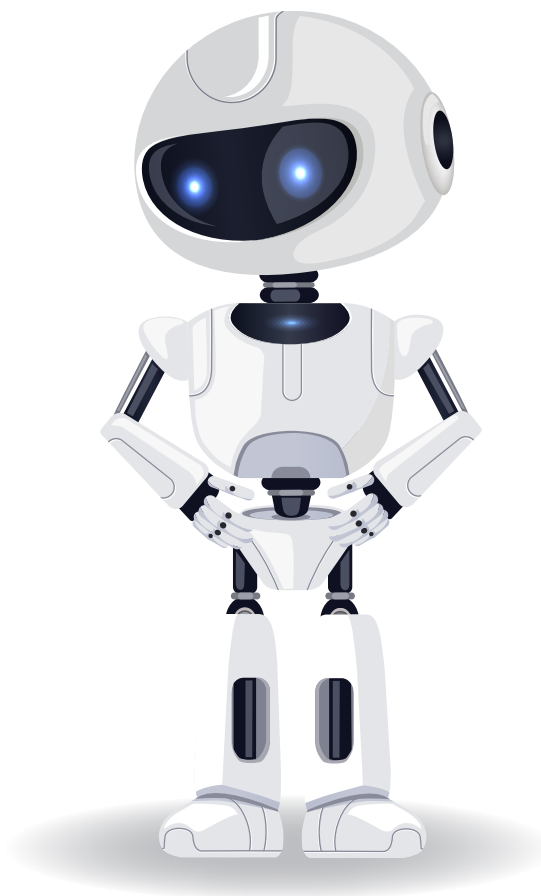


Organisation of the programme

The programme is intended for all public, private and third sector organisations that work with well-being and health sector robotics and artificial intelligence. Together, these form the hyteairo network. The Ministry of Social Affairs and Health is setting up an advisory group for the programme made up of key financiers and developers of well-being and health-related AiRo solutions. At its start, the programme will be co-ordinated by the Ministry of Social Affairs and Health headed Hyteairo Hub. An out-sourced network actor will support the hub in matters of practice. The aim will be for existing well-being and health

robotics and artificial intelligence communities to link up with the programme and for new regional ones to be created within the programme.

Each of the programme's parties will make an independent decision on whether to participate in development projects and their funding and will link the programme's activities to its own steering mechanisms. From the perspective of the Ministry of Social Affairs and Health, the Well-being and Health Sector AiRo Programme is linked to the Digitalisation to Support Health and Well-being



Programme and the steering of ICT development for the regional government, social and health care reform, which support the implementation of the government programme and the Ministry of Social Affairs and Health strategy. The Well-being and Health AiRo Programme is part of the national development of artificial intelligence and robotics.

Content and structure

The programme includes the entire well-being and health sector as well as objectives and measures for robotics and artificial intelligence in selected key areas of utilisation.

In addition to concrete development measures, the development of the field will require a great deal of research and studies as well as discussions on open questions. Well-being and health robotics and artificial intelligence are global activities. It is important that Finland is part of the international community in this respect and has an impact in selected areas.

Common objectives and measures

Together towards a common goal

Useful, reliable and safe

Growth and international success for companies

Key areas of utilisation

Living at home

Hospital environment

Pharmacotherapy and pharmaceutical service

Well-being coaching and rehabilitation

Programme content and structure



Common objectives and measures

VISION

Finland is the world leader in utilising AiRo technologies to increase the well-being of citizens. Finnish companies in the field have gained success internationally.

VALUE PROPOSITION

AiRo technologies facilitate the extension of people's capabilities so that their human integrity, independence and well-being are achieved with services that are of high quality and more effective at the same time as the work performed by people can be focused on more meaningful tasks.

AiRo technologies improve the effective use of public finances and produce economic growth and activities in Finland creating new jobs and new companies. The AiRo Programme creates the framework for the implementation of this value proposition.

The shared objectives for the development of robotics and artificial intelligence in the well-being and health sector are:

- › Working together to achieve a common goal.
- › Robotics and artificial intelligence are useful, reliable and safe.
- › Companies will gain growth and international success.

A set of measures that will create the preconditions for development and utilisation have been determined for the implementation of each common objective.

Objective 1: Working together to achieve a common goal

Measure 1: Establish a national body to co-ordinate and support the development and piloting of well-being and health sector robotics and artificial intelligence as well as to promote their extensive utilisation.

Measure 2: Collect information on ongoing pilots, projects and best solutions. Improve information exchange between the pilot projects and various actors.

Measure 3: Creating an operating model for the assessment of well-being and health sector robotics and artificial intelligence applications and for giving recommendations. The model will facilitate the systematic assessment of the impact of pilots and applications and provide national recommendations on utilisation.

Measure 4: Ensure that the well-being AiRo entity supports the objective for the regional government, health and social services reform takes the reform's timetables into consideration. An AiRo training package will be for social and healthcare sector change leaders will be held to development management.

Measure 4: Ensure Finland is part of the international development of artificial intelligence and robotics. Join the field's international communities, seek the best solutions and partners from other countries and participate in the EU's joint projects.

Measure 5: Guarantee expertise in robotics and artificial intelligence are part of well-being services. Adopt robotics and artificial intelligence studies as a normal part of the education for the field's personnel, personnel training and the continuous development of work.

Measure 6: Communicate extensively on the field's opportunities and engage in open, public discussion on development and on open questions and areas of concern.

Objective 2: Robotics and artificial intelligence are useful, reliable and safe

Measure 1: Legislation and public funding will be developed in an enabling direction. A survey will be compiled on how robotics and artificial intelligence should be taken into consideration in legislation and on the need to develop the practices for technological aids provided to consumers as part of public support and public services.

Measure 2: An assessment framework and instruments for the assessment of impact will be drawn up. Key figures on impact as well as on the acceptance, scope and export of the utilisation of artificial intelligence and robotics will be produced in accordance with the framework.

Measure 3: Dialogue will be undertaken on the ethical questions related to well-being and health sector robotics and artificial intelligence. Solutions will be examined and sought together with other administrative branches.

Measure 5: Co-operation will be undertaken in the research of well-being and health robotics and artificial intelligence. We will participate in the basic research of robotics and artificial intelligence with other actors.

Measure 6: International standardisation will be monitored and we will take part in the work of standardisation groups. The key areas of standardisation will be selected and their content will be actively influenced. The standardisation of home care robotics is an area in which Finland is aiming to have an influence.

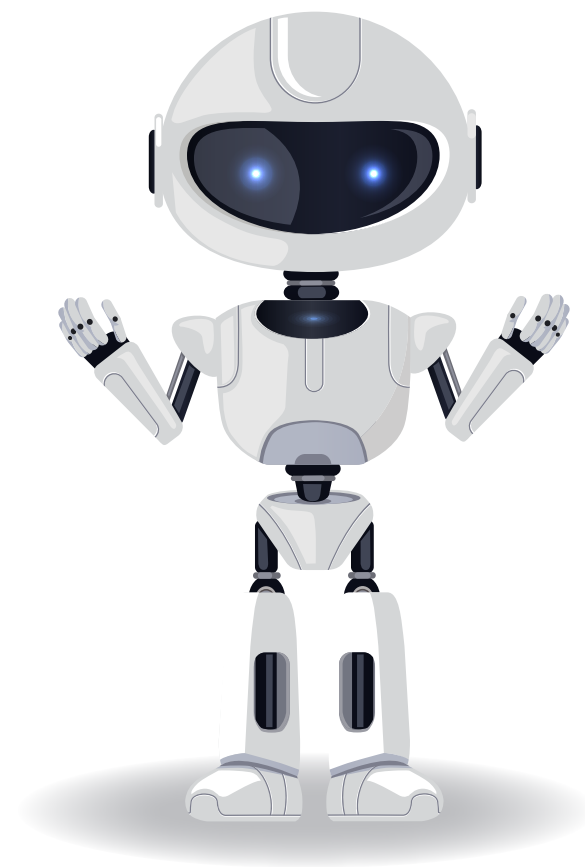
Objective 3: Companies will gain growth and international success

Measure 1: The development of existing expertise centres and testing areas will be strengthened and, where necessary, the creation of new ones will be promoted.

Measure 2: Co-operation models will be developed for companies with actors that provide support in internationalisation and export so that potentially successful products can be recognised and export can be supported.

Measure 3: The well-being and health sector's most important artificial intelligence and robotic export products (service concepts and technical solutions) will be produced at the national level.

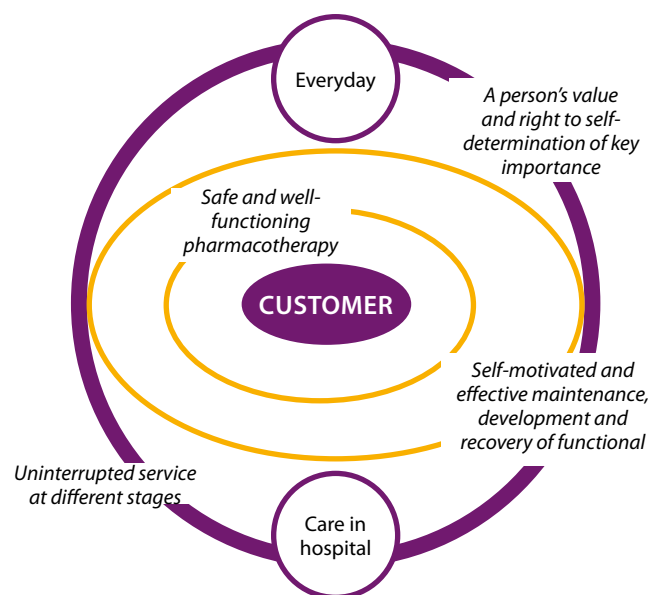
Measure 4: The possibility of launching physical well-being and health sector robot-related business activities in Finland will be examined and created.



Key areas of utilisation

The key areas of utilisation for robotics and artificial intelligence selected for the Well-being and Health Sector AiRo Programme are:

- › Living at home.
- › Care and logistics in the hospital environment.
- › Pharmacotherapy and pharmaceutical service.
- › Well-being coaching and rehabilitation



The Well-being and Health Sector AiRo Programme focuses specifically on these selected areas. However, robotics and, in particular, artificial intelligence influences the entire well-being and health sector. Development is taking place and will continue to take place in the well-being and health sector's different fields.

Living at home

Objectives

Artificial intelligence and robotics offer numerous new opportunities for living at home in the manner each person wants. These new opportunities support independent living and the work of professionals. Their introduction will curb the growth of social welfare and healthcare costs and help ensure care of high quality in Finland.

Home refers to all forms of independent and supported housing.

The application of robotics and artificial intelligence in supporting living at home include, for example:

- › Encouragement and motivation for promoting own's own health and well-being and for making decisions (e.g. various memory exercises and lifestyle choices).
- › Predicting the decline of functional capacity and alerting others to this.
- › Help with shopping and other errands.
- › A robot can help in remembering what needs to be taken care of and perform certain routine tasks on behalf of the resident.
- › Seeing to daily chores such as cleaning and cooking.
- › Decreasing loneliness by offering company and acting as a tool for communicating with family and professionals.
- › The prevention of hazards (such as leaving the stove on and a person suffering from dementia getting lost), recognising accidents (robots can give first aid such as lifting an elderly person, who has fallen) and calling for help.

- › Supporting an active lifestyle also outside the home including such things as maintaining social relationships and meaningful activities.
- › Carrying out care, such as administering the correct doses of medication, providing help with eating and monitoring the resident's health. Additionally, devices can transmit information on these to professionals.
- › Help with mobility (e.g. smart walkers and wheelchairs, and in the future support spine robots and various wearable technology).

Robotics and artificial intelligence as tools for service providers/professionals

From the viewpoint of professionals, robots and artificial intelligence applications are tool that help them support their customers. They free-up a professional's worktime, so instead of carrying out mundane routines they can meet with people and provide more important care. The number and scope of home visits can be determined according to individual needs and not on the basis of carrying out routines.

Robots can collect data on care and help with service need assessments. Information on emergencies and the need for help is received quickly. The collection of data is also proactive, which supports a professional in their work. Proactive data also produces cost cuts.

Software robots and artificial intelligence help in the planning and organisation of home care. Software robots can, for example, plan shifts and optimise logistics. Artificial

intelligence can, for example, also collect monitoring data on the customer's health and their coping at home, and produce notifications on the need for the reassessment of service needs based on this information.

Cost savings can be achieved by utilising robots and artificial intelligence at home and in the service processes for home care and care services. Cost cuts can be achieved with, for example, by cutting down on travel and with the automation of administration and the recording information.

A report by Eva titled Robotit töihin estimates that at least 20% of work carried out by nurses and practical nurses in Finland could be replace with existing robotics and automation applications. In order to curb the growing cost of social welfare and healthcare, the potential for more effective robotics and artificial intelligence are needed to guarantee good care.

There is still very little research data available on the broad-scoped impact of well-being and health robotics. The field needs research and funding. Additionally, we need verified cost-benefit calculations on the profitability of AiRo investments.

The development of expertise is essential. Work and work tasks will change, the point of focus will shift increasingly to meeting with people and coaching. This will result in an improvement to well-being at work and to a larger emphasis being placed on the meaningfulness of work.

Measures

Measure 1: Home 2030 – A cross-administrative pilot

Robot and artificial intelligence solutions from various fields that support living at home by elderly people will be collected into the same experimental environment as an easy-to-use and interoperable entity. The work will be launched with a preparatory phase. During the preparatory phase, actors will be brought together and the experimental environments will be designed.

Measure 2: AiRo solutions as part of the national social and healthcare sector's enterprise architecture

An enterprise architecture for AiRo solutions that facilitate living at home and requirements for interoperability will be drawn up.

Measure 3: Regions as trendsetters for application

Current local and regional actors responsible persons from the future regions will work together with customers to plan the revision of operating models for the utilisation of robots and artificial intelligence as part of home care.

Measure 4: Data communications connections for all (ongoing/ Ministry of Transport and Communications)

The Ministry of Transport and Communications is preparing a national strategy for digital infrastructure, which will contain Finland's broadband target for 2025 as well as the

means for achieving this target. The strategy will apply to promoting the construction of optical fibre and contain frequency policies for the introduction of 5G.

The strategy will specify the measures for improving the availability and quality of fast broadband connections. (Ministry of Transport and Communications 2018)

**Measure 5:
Safe, reliable and interoperable AiRo aids**

An operating model will be drawn up that will be used in the approval of robots and other home appliances for people who need help in the form of public aids. Approval will also require that robots are interoperable with regional social and health care systems in the manner required in interoperability standards. This measure will be used as a case study for the AiRo Programme's joint measure "Create an operating model for providing assessments and recommendations on well-being and health robotics and artificial intelligence".

Hospitals

Objectives

The use of artificial intelligence and robotics will reduce the risks and complications related to procedures and speed up the patient's recovery. These will make it possible to perform the procedures related to care and realise the overall process for the patient's hospital visit (getting ready at home, arriving at the hospital, guidance at the hospital, creating a feeling of safety, medication, clothing, equipment, food supply, aids, and their return home/monitoring of further treatment and recovery) in a more personalised manner than previously.

The robots and artificial intelligence applications used at hospitals will improve the predictability of treatment procedures required by patients and their medical quality, effectiveness and correct timing.

For healthcare professionals who work at hospitals, robotics and artificial intelligence will act as tools that will streamline their work and increase its safety and meaningfulness.

By performing routines and heavy work, robots save the strength and time of professionals, so they can meet with people.

AiRo technologies provide professionals with the opportunity to focus on the work that creates the most value. Thanks to artificial intelligence doctors have better opportunities to make decisions on care that best suit the patient's individual case.

Hospitals and the field's technology and service companies will engage in versatile and productive co-operation. The use of robots and artificial intelligence in hospitals will produce health and functional capacity as well as curbs the growth of public healthcare service costs. Companies will be successful in the international market and create new jobs in Finland.

The objectives and measures identified in the Well-being and Health Sector AiRo Programme are predominantly centred on the development of hospital logistics and other support activities. AiRo technologies also offer many new opportunities for the development of treatment methods in hospitals (e.g. surgical utilisation). Develop-

ment related to this is underway at university hospitals. We hope that these actors and projects will join the AiRo Programme in the future.

Measures

**Measure 1:
Mobile robots as part of a hospital's logistical system**

Pilots will be carried out at various hospitals. During a pilot, a hospital tries out the use of numerous different assisting robots simultaneously (other than robots that perform procedures and surgical robots). One of the key objectives of these pilots is the determination of standardised interfaces; how the interoperability models for robot must be designed, how robots exchange information with one another and how they link up with the hospital's information system.

**Measure 2:
Hospital 2.0 -hackathon**

A hackathon will be organised for promoting the identification and development of new robotics and artificial intelligence applications. This will be launched with a preparatory phase during which the willingness of various hospitals to take part will be examined and the challenges that will be resolved during the hackathon will be planned together with interested hospitals.

**Measure 3:
Patient logistics and lifting patients**

The possibility of using robotics in the development of patient-related logistics and solutions for the ergonomic and safe lifting of patients will be investigated.

Pharmacotherapy and pharmaceutical service

Objectives

Artificial intelligence and robotics will open up completely new opportunities for the implementation of pharmacotherapy that is safe, correctly-timed and effective for the individual.

They will also see logistics related to medicines become faster, more automatic and cost-efficient.

At their best, artificial intelligence and robots are in the role of useful aids.

Legislation has traditionally been protectant. New options will require the balancing between protectant and enabling legislation.

The utilisation of AiRo technologies helps doctors make better decisions than previously by providing information that takes into account the patient's personal situation and probability predictions such as the appropriate medication, drug interaction, the accuracy of dosage, the correct timing for the administration of drugs and the minimisation of side-effects/adverse reactions. When considering the patient's medication in its entirety, the drugs prescribed to the patient by various healthcare units will be taken into consideration as will the over-the-counter drugs used by the patient.

It is possible to introduce software and equipment to improve medication safety, which facilitates closed loop medication meaning the transfer of information from one system to another on the dosage of a drug a doctor has prescribed for the patient. A similar transfer of information across software interfaces is needed for the entire service chain for mechanical dispensing of medication.

Robotics for the dispensation of drugs improves the impact and patient safety of pharmacotherapy. A potential future scenario would be one in which robots inside people as well as digital drugs take the accuracy of dispensation and the minimisation of side effects/adverse reactions to a completely new level.

Robotics will also see logistics related to medicines become faster, more automatic and cost-efficient. Many healthcare operating units and pharmacies have already introduced a highly-automated order and supply practice. In the future, the application of AiRo technologies may facilitate personalised and automatic drug order and supply practices for individuals.

Artificial intelligence produces proactive data for drug manufacturers, for example, on a sharp growth in demand for a certain drug due to a coming global disease instance.

As new options and opportunities are implemented, the effectiveness of pharmacotherapy will improve at the same time as the overall cost of medication will fall. The number of patient injuries related to pharmacotherapy and the amount of drug waste will fall.

Measures

Measure 1: Adoption of existing AiRo for pharmacotherapy and pharmaceutical service

The objective of this measure is to promote the introduction of drug dispensation robots and the personalised monitoring of pharmacotherapy. This will require proof of the cost-benefit ratio of AiRo technologies related to pharmacotherapy and pharmaceutical supply. Additionally, the possible integration of the best practices into national recommendations is being examined. The measure will be used as a case study in this programme's joint measure "Creating an operating model for providing assessments and recommendations on well-being and health robotics and artificial intelligence".

Measure 2: The doctor's desktop

The development of the patient information system will be sped up so that the utilisation of artificial intelligence will be a well-functioning and reliable part of the doctor's desktop. The suppliers of patient information systems will be invited to join the well-being and health sector AiRo network to discuss methods that will speed up the integration of artificial intelligence with planning of pharmacotherapy on decision-making systems (part of the doctor's desktop).

Measure 3: Automated overall process

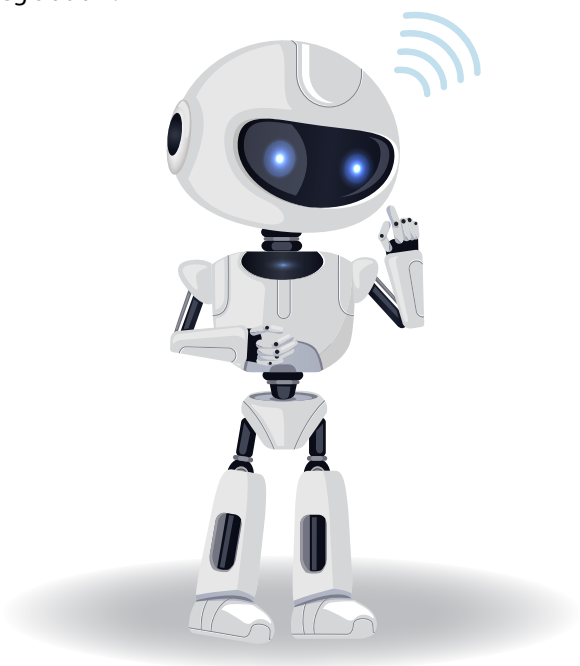
Various actors will collaborate in examining the vision for the overall process for automatic supply of drugs and its

related information transmission at different parts of the chain. The obstacles for interoperability between different organisations will be identified and solutions will be sought.

Measure 4:

Examination of change needs and changes to the regulation environment

Legislation has traditionally been protectant. New options will require the balancing between protectant and enabling legislation. In the drug industry various international regulations mean there is little room for movement. This case will be used as a case study in the programme's joint measure "A survey will be compiled on how robotics and artificial intelligence should be taken into consideration in legislation".



Well-being coaching and rehabilitation

Objectives

AiRo technologies facilitate the personalised, effective and efficient provision of well-being coaching and rehabilitation. Today, people are better able to take responsibility for their own well-being with the help of new types of personal services.

Artificial intelligence and robots function as assisting tools used by professionals AiRo-assisted rehabilitation reduces the physical and psychological loading of the worker.

Investments in robots that maintain well-being and rehabilitation robots will reduce social welfare and health care costs and help people maintain their functional and working capacity.

Objectives for robots and artificial intelligence from the perspective of the user

Well-being and health robots and artificial intelligence are personal companions and helpers for citizens that help individuals maintain and develop their own physical, psychological and social well-being and to recover efficiently from situations that have caused their functional and working capacity to decline. As artificial intelligence and robotics are utilised a customer in well-being coaching and rehabilitation will become an increasingly active

party in the implementation of services that best suit him or her. Well-being coaching robots may have an important role in pre-emptive healthcare and in providing advice on recovery and rehabilitation periods and coaching.

Examples

- ▶ Help in assessing, maintaining and developing one's own well-being, health, functional ability and working ability. Robots engage in dialogue
- ▶ on the personal situation and provide personalised information and guidance. A robot acts as an aid in, for example, the planning and monitoring of nutrition, exercise and rest. A robot encourages and guides in the change of daily habits.
- ▶ They provide instruction on how to find the electronic and physical services that are suitable in your personal situation. On the basis of your personal situation, the robot will advise you of the services that are available and provide guidance on how to access these services.
- ▶ They will help in monitoring the loading of work, alertness and concentration skills and support coping at work.
- ▶ They will rehabilitate a patient who is recovering according to the patient is capable of. For example, a robot will help in physical therapy by targeting the correct amount of loading and support at the body part that is being rehabilitated. Similarly, robots and artificial intelligence can help in the rehabilitation of memory or speech, and help train coping in various social situations.

- They provide personalised assistance. Robots help with mobility, change text and images to speech for the visually impaired and act as personal assistants in simple daily situations.

Objectives for robots and artificial intelligence from the perspective of professionals and the service system

Artificial intelligence and robots function as aids for professionals in the planning and implementation of rehabilitation. AiRo-assisted rehabilitation reduces the physical and psychological loading of workers. Investments in robots that maintain well-being and rehabilitation robots reduce social welfare and health care costs and help people maintain their functional and working capacity.

Artificial intelligence offers options for recognising situations and persons that require rehabilitation at an early stage. Artificial intelligence produces a great deal of information on the customer's personal situation for professionals and helps in comparing this to extensive statistical materials. Artificial intelligence functions as an aid for professionals when they draw up personal service plans for customers. Robots, other devices and artificial intelligence will make it possible for customers and professionals to monitor development and plans together. The robot helps ensure the effectiveness of the coaching and rehabilitation.

Robots are aids to which professionals can leave the routine realisation of rehabilitation activities that he or she has planned. Robots rehabilitate the functioning capacity of muscles, bones, nerves and the brain. This will reduce especially the physical loading of work experienced by professionals. The robot can provide the right amount of

physical and psychological loading needed by an individual in coaching and rehabilitation.

The utilisation of robots and artificial intelligence in the manner described above will create a great deal of monitoring data on the activities involved in the wellness coaching and rehabilitation processes. By combining this data with other data the processes can be developed so they are more effective than previously. Software robots can assist in the combining of information, and artificial intelligence can assist in the identification of measures that will improve effectiveness. Robots can also help with preparation and decision making in municipalities and different administrative branches by assessing the impact of various measures on people's well-being.

AiRo technologies produce cost savings in the implementation of well-being coaching and rehabilitation. The most significant benefits are created when the well-being and functional capacity of citizens are maintained at a good level and their recovery from various situations that have adversely affected their functional and working capacity is fast. There is currently little research data available on the relation between benefits and the necessary investments.

Measures

Measure 1: Development of a national well-being and health guidance robot

A chat and telephone robot is being developed, which citizens can contact when they have questions in any matters related to health and well-being. Conversations will roughly outline the individual's situation and service need. The ro-

bot will provide advice to the person on which electronic and physical services would be appropriate for them.

Measure 2: Determining a clear overall picture of development and the roles of various actors

The development of electronic services that will promote well-being and personalised well-being coaching is an entity where related development is underway in various fields. The Ministry of Social Affairs and Health is launching a study on the overall picture for e-services that promote welfare. This study must consider whether further steps need to be taken to give more specific information from the perspective of robotics and artificial intelligence.

Measure 3: Artificial intelligence as part of the operating models for guidance to rehabilitation

Steps will be taken to ensure that artificial intelligence is utilised appropriately and cost-efficiently when developing the regions' new operating models for supporting working capacity and rehabilitation.

Current local and regional actors and the persons responsible for rehabilitation in the future regions will plan the utilisation of artificial intelligence as part of the revision of operating models.

A national enterprise architecture on the use of artificial intelligence in supporting working capacity and steering rehabilitation will be drawn up as a further measure for the digital development of the Career opportunities for persons with partial work ability (OTE) key project.

**Measure 4:
Adopting use of existing rehabilitation robots**

The use of robots in rehabilitation makes it possible for people to regain their independent lives with functional capacity quickly and effectively. Solutions that have been proven to be effective must be put in public use. In addition to the introduction of robots for physical rehabilitation, the utilisation of robots in neuropsychological rehabilitation must also be examined. A robot could coach a person, for example, on how to identify and act in various social situations.

The objective would be to produce reliable proof on the cost-benefit ratio of rehabilitation robots and to look into the possibility of incorporating rehabilitation robots with national recommendations.

The promotion of the use of rehabilitation robots will be used as a case study in the AiRo Programme's joint measure "Creating an operating model for providing assessments and recommendations on well-being and health sector robotics and artificial intelligence".

**Measure 5:
Quality assurance/consumer protection for well-being coaching robots**

From the customer's perspective, it is important that the advice and coaching provided by the robot are trustworthy. The objective of this measure will be to build a foundation for reliable well-being coaching robot services.

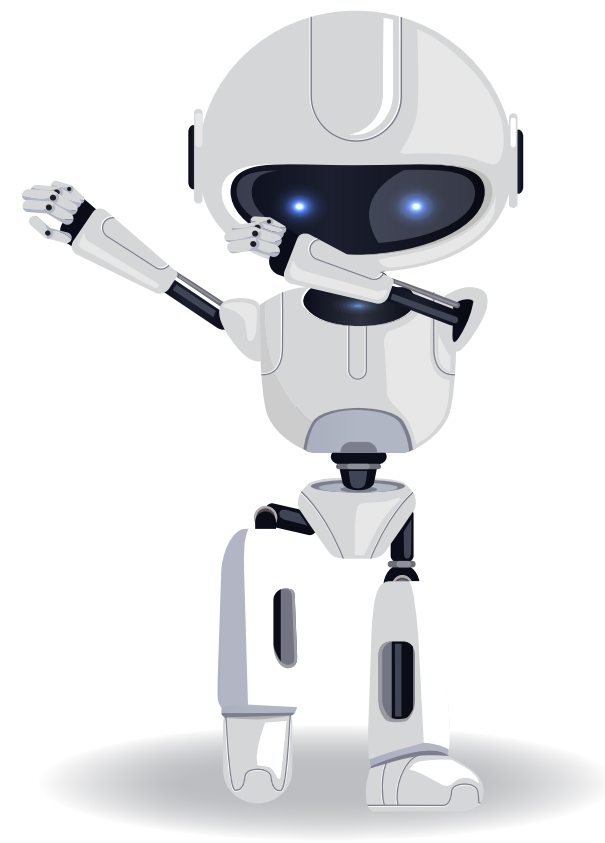
The criteria, process and actors for the assessment and certification of robots on the consumer market related to personalised well-being coaching will be determined.

**Measure 6:
Well-being policy support robot**

Well-being is a cross cutting factor, which must be taken into consideration in a decision making that concerns society. The well-being policy support robot could provide verified information and advice especially for preparation and decision-makers in municipalities and other administrative sectors. During the first phase, the need for the support robot and its desired functionalities will be determined in more detail as will the existing knowledge base on which it can be built.

**Measure 7:
Occupational safety and health guidance robot**

Occupational safety and health guidance robot. The guidance robot provides information and help in question related to the provision of occupational safety and health in particular for small companies as well as provides guidance and assistance on how to proceed in special situations in the workplace. A possible way to proceed could be, for example, developing Osku – The Road Back to Work in this direction.



Preparation of the programme and additional information

The plan for the Well-being and Health AiRo Programme has been drawn up in a transparent process in which people from more than 50 organisations have taken part. Participants have included public actors as well as educational institutions and research institutes. Preparation has been carried out in workshops that have covered common objectives and areas of development. In addition to this, regional workshops have been organised as part of the preparation process.

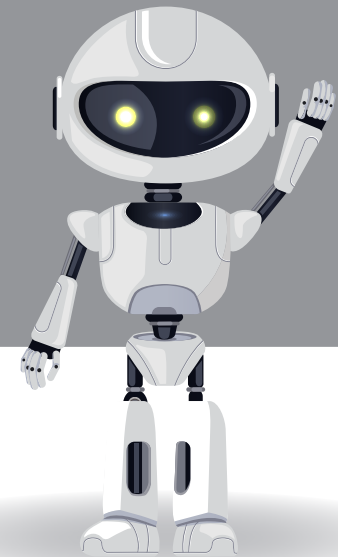
A more extensive report have also been written on the programme. The report and blogs (only in Finnish) on the workshops can be viewed on the [Airo Island ry website](#).

Further information and literature related to the topic:

- [Government resolution](#) on intelligent robotics and automation (only in Finnish)
- University of Jyväskylä/Tekes project: [Artificial Intelligence in Medicine](#)
- Ministry of Economic Affairs and Employment report: Finland's Age of Artificial Intelligence
- Turning Finland into a leading country in the application of artificial intelligence. [Objective and recommendations for measures](#)
- Academy of Finland/ROSE Consortium
- [Robots and the Future of Welfare Services](#)

More extensive health sector policies that the Well-being and Health AiRo Programme supplements in regard to robotics and artificial intelligence:

- [Health Sector Growth Strategy](#)
- [Digitalisation to Support Health and Well-being Programme](#) (only available in Finnish)
- [Information to support well-being and service renewal. eHealth and eSocial Strategy 2020](#)



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