



Support of the aging in the workplace

The team of authors of the Work
Ability Management project



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Management project

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Partner Organisations



Foreword

Dear readers,

our publication “Support of the aging in the workplace” was created as one of the key deliverables of the WORK ABILITY MANAGEMENT international project (Strategic Partnerships for Adult Education) within the Erasmus+ programme. The international consortium of scientific, counselling, educational, state and non-profit institutions has set itself a goal for this publication to present its readers with the current developments, trends, methods, and a global understanding of the concept of work ability.

This concept represents a comprehensive approach to health, employment and lifelong learning, and to supporting the reconciliation of work, personal and family life. These aspects can affect an employee’s personality on the labour market (and beyond), shape it, and, at the same time, represent their potential and limitations in some instances.

The publication introduces the concept of holistic age management, which is based on the model of work ability, defined in Finland by the FIOH (The Finnish Institute of Occupational Health). It also presents the different approaches to its implementation within the countries involved, i.e. in the Czech Republic, Slovakia, Hungary, Germany and the Netherlands.

The authors are convinced that the solution for the aging European population, built on the support of individual factors of work ability, is a potential path to address the demographic changes awaiting us in the very near future. At the same time, these factors have a major impact on sustainable employability of (not only) the aging population itself.

The authors of this publication wish to express their gratitude for the support they received via the Erasmus+ grant under KA 2 – Cooperation for Innovation and Exchange of Best Practices in Adult Education, allowing them to summarise each participating country’s approach to the concept of age management in a published compilation.

Ilona Štorová

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Introduction to ‘Promoting Aging in the Workplace’

Alexander Frevel, Beratung zur Arbeitsfähigkeit im demografischen Wandel, Hamburg

This introduction to ‘Promoting Aging in the Workplace’ is intended to provide an overview of experiences with tools and methods to support employability on the labour market with a focus on the individual and collective factors of work ability and well-being:

- health and functional capacity / occupational health management,
- education / professional education and training, personnel development,
- motivation, values, attitudes / corporate culture, participation,
- work environment, job design and work requirements, management and leadership,
- compatibility of private life and work.

The concept of work ability, first developed in Finland in the 1980s, has been in use in Germany and the Netherlands (and worldwide in several other countries) for years, but is still very little widespread in the work of organizations and companies in Czech and Slovak Republics as well as in Hungary. The fields of application are research, educational and counselling activities.

Brief introductions of age management and its orientation to the basic goals of supporting aging are presented in the next chapters of this theoretical introduction.

Objectives of the promotion of “Good Work” by Fostering Ageing at Work

In worklife, the ability to work is people's most important capital. Work Ability is not an original characteristic of employees, but means the degree of fit and the stability of the balance between the personal aspects of health, competence and personal values on the one hand and the work requirements and working conditions on the other.

Work ability can be designed. Individuals and organisations¹ can actively influence work ability – and should do so as systematically as possible – in order to strengthen human resources and make work conducive. The versatility of possible measures to promote work ability has been extensively researched and tested in companies' practice [1]. Pro-active approaches are more successful than reactive ones, holistic ones have greater effects than single solutions, age-, ageing- and gendersensitive measures that take into account different phases of life make more sense than a shortening view of sameness. What is needed is good cooperation between all different actors in the company.

Globalisation, new technologies, digitalisation and demographic change pose major challenges for companies and for employees. Overall, worklife will change drastically in the coming decades. Many of today's jobs will disappear, new tasks will emerge. Older employees should have just as good opportunities for development as younger ones. Lifelong learning offers opportunities for new activities [2] and for ageing-appropriate career paths [3]. A prolonged imbalance between human resources and work demands can have a negative impact on workers' health. Absenteeism and work disability rates may increase; the productivity of the company and the quality of work will suffer.

¹ “Organisation” is used here as a general term to refer to companies, businesses, administrations and other institutions that form a “legal unit”.

Why is “Promoting Ageing in the Workplace” a relevant issue?

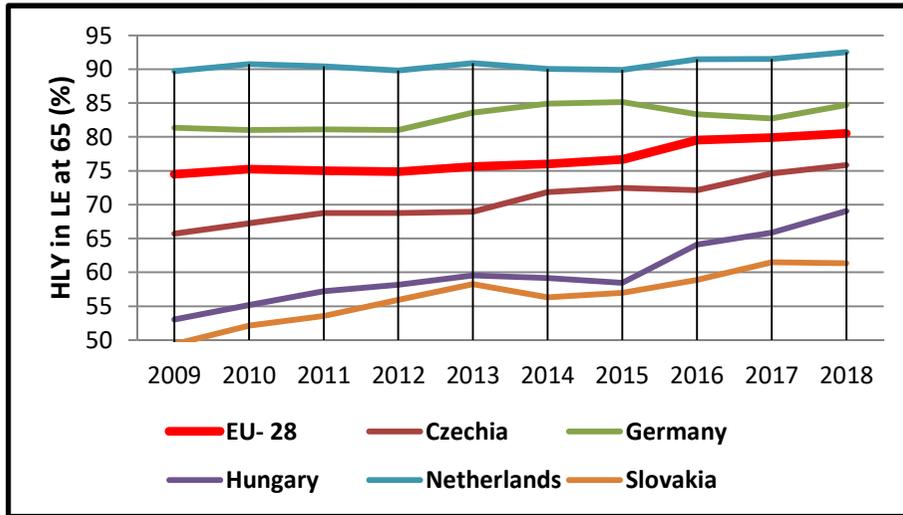
Demographic situation and estimated trends in European countries

The aging of the workforce is a global phenomenon with significant implications for European countries. This fact has been caused in the last 50 years by an ever more perfect medical system, with the development of medical care from the prenatal phase to the late age of the individual. However, the aging process of the European population also means increased demands for prolonging its activity, also with the aim of its longer employment in the labor market. This requirement is in line with the ever-increasing life expectancy, ie the increase in life expectancy in virtually all parts of the EU. In 2005, only 42.3% of the 55- to 65-year-old workforce actively participated in worklife in the European Union. However the involvement in active worklife is still growing. In 2019, for which the latest data from the EU27 countries are available, 62.3% of the active population is already working. However, the employment rate of older people varies significantly between European countries. While in the Netherlands and Germany it is already more than 70%, in Hungary and Slovakia it reaches only about 60%.

Important demographic indicators statistically processed by Eurostat for age management are population health indicators. Among these indicators, directly related to the support of aging people in the workplace, the most important are life expectancy (LE) and healthy life years (HLY). However, the HLY indicator is largely subjective, as it combines "hard" demographic data with answers to questions from questionnaire surveys conducted in small cohorts of European countries.

An important indicator is the ratio of the life expectancy of the population at the age of 65 (usually after reaching retirement age) to the total number of years of life of an equally old person. Expressed as a percentage over the last ten years, these values for the countries included in this project are shown in the following graph.

Figure 1: HLY growth in project countries in the last decade



Source <https://ec.europa.eu/eurostat/data/database>

The figure shows that in the Netherlands, practically 9/10 of the remaining years of life are spent in a relatively healthy state, which allows it to carry out a wide range of personal and work activities. While in Hungary or Slovakia, the current population 65+ is limited for almost half of this time by diseases that more or less narrow its activities, i.e. the possible prolongation of its worklife.

It is gratifying that for both of the above-mentioned populations, a faster increase in this share can be observed in recent years, which means that the number of years over the generation over the age of 65 that will be able to live in health is increasing.

Occupational Safety and Health System (Legislative Framework)

Legislative standards and the resulting regulations governing entry, work and related activities of employees across generations in recent decades urgently need to respond to the global trend of continuous increase in the average life expectancy of the population and thus the longer period of human life associated with their work.

The basic, legislatively regulated issue is the protection of the employee's health during the performance of his or her work. A number of measures have been taken in the field of safety and health under Article 153 of the Treaty on the Functioning of the European Union. European directives are generally legally binding and must be implemented by Member States in their national legislation.

In general, the legislation can be divided into several areas that regulate the labor law environment between employees and employers. The basic laws and regulations are based on documents internationally recognized by the ILO, EU-OSHA [4]. These define the basic rights and obligations of the participants in the work process (employers-employees).

The first area is the general basic setting of rights, obligations, equal access and consideration of all age, social and other groups of the population entering the labor market. At this level, these are mainly constitutional laws, international binding documents, laws for the protection of personality and protection against any discrimination.

The second area is mainly national legislation focused on the performance of work, implemented for example in the Czech Republic by the Labor Code, the Employment Act regulating the systemic state employment policy, where the issue of population aging in the workplace is included in the specification of regulations and decrees related to employee protection, creating and guaranteeing satisfactory and safe conditions for the performance of work, fair remuneration of employees and equal treatment of employees and non-discrimination.

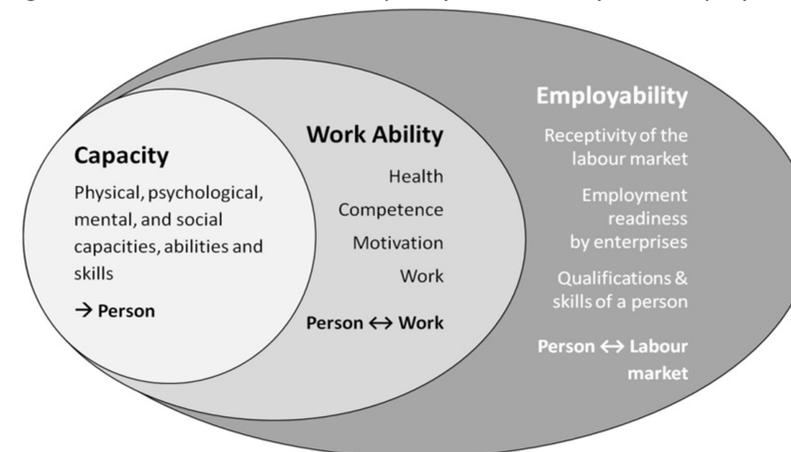
The third important area is the protection of the health and safety of the worker at work, which is also the subject of national legislation when accepting basic professional background. Occupational health issues sets up a system of prevention, mapping and control related to maintaining sufficient health capacity needed to manage work activities required by the type of profession. In this area, individual national legislations are quite diverse, some set a more comprehensive system from prevention, support to control, other national standards emphasize individual elements of health and safety at work.

Capacity, Employability and Work Ability

Basically three terms can be differentiated.

- The psychological, mental and physical capacity of a person are key to the fulfilment of work. The functional capacities describe person-related properties such as gender, constitution/fitness, health and age) and acquired knowledge, skills and abilities.
- Work ability describes the totality of factors that allow all people in a specific working situation to complete the tasks assigned to them successfully.
- Employability is a broader concept based on the essential possibility of employment. The concept of employability embraces the characteristics of a person with respect to the requirements and opportunities in the labour market.

Figure 2: Distinction between capacity, work ability and employability



Source: own illustration based on Kistler 2008 and Richenhagen 2009

[5]

Individual capacity may be an intrinsic requirement in order to be able to carry out (work) tasks. However, work ability depends on the tasks to be carried out. Despite health limitations and poor qualifications, a person can still have stable work ability if the work requirements fit his or her capacities.

However, employability represents a whole different dimension inasmuch as it considers the applicability of existing qualifications and capabilities in the labour market. The skills of a person are individual, while the operative conditions in which to be able to carry out work are largely left unconsidered.

In this respect, it is true to say that in order to increase employment levels for women and older people, the work ability approach is particularly relevant at a company level. At a macroeconomic level, employability also plays a role, especially with respect to general and vocational education.

Work Ability – Definition and Basic Concept “House of Work Ability”

The concept of Work Ability (WA) and the epidemiological measuring method Work Ability Index (WAI) was developed by Tuomi, Ilmarinen et al. at the Finnish Institute of Occupational Health (FIOH) in the 1980s. Based on longitudinal studies with the WAI (in total with surveys in 1981–1985–1991–1997–2009) the promotion concept of WA was improved in early 1990s and tested in work organizations and companies. Based on a comprehensive national survey the House of Work Ability was constructed. The WAI was proved to be a valid instrument in evaluating and predicting the individual work ability [6]. Since, the house-model is widely used as a basic, evidence-based model to promote work ability in work organizations and companies worldwide. The WAI is translated into more than 30 languages.

Concept of Work Ability

At a corporate and individual level, the approach of work ability [7] has primary importance for creative age-, ageing-, and diversity-management. Work ability is defined as the balance between work and individual resources. When work and individual resources fit well together, work ability is stable (excellent/good). The other way round: if the balance between work demands and individual coping capacity is not properly, there is moderate or critical work ability.

Work Ability describes the potential of a person to cope with a work requirement at a given time. The development of the individual functional capacity must be put in relation to the work requirement. Both sides can change and must, if necessary, be designed to be adequate for age, ageing and health.

The House of Work Ability

Extensive research by the Finnish Institute of Occupational Health on work ability has identified the core factors affecting work ability. The research findings can be depicted in the form of a 'work ability house' with four floors.

The three lower floors of the house describe the individual resources:

(First) health and functional capacities, (Second) competences (skills), (Third) values, attitudes and motivation. The fourth floor covers worklife. Staircases between the floors indicate that all floors of the house are interacting.

The interaction between work and person is illustrated by the circular reference. Here, the focus is particularly on leadership as a formative function for corporate culture and working atmosphere as well as “co-producer” of healthy conditions.

Besides the workplace, the private environment (family and close community) also influence the balance as well as societal framework conditions like culture, legislation, education, social and health policy, and collective bargaining policy against the background of globalisation, environmental conditions, demographic change, technological development and digitalisation.

Figure 3: The 'House of Work Ability' (Juhani Ilmarinen 2016, Graphic design: Milja Ahola)



Between the four floors of the work ability house exist active and important interactions. The most frequent interactions happen between the floor “Work” and the third floor of “Values, Attitude and Motivation”. The positive and negative experiences of own work penetrate into 3rd floor and effect the values, attitudes and motivation of the personnel. The 3rd floor is like a mirror reflecting the organisational culture, co-operation between the foremen and employees and respectful communication. Without a positive 3rd floor a sustainable Work Well-being is not possible.

To influence the Work Well-being goes often directly through the development of the 4th floor (better management and especially leadership, better work organisation etc.).

Since both the work in terms of its requirements (related to technology, organisation, job design, working hours as well as customer relations, etc.) and the person regarding age, health, competence and values (may) change over time, it is necessary to preserve the stability of work ability for the duration of a person's worklife. This cannot be achieved by someone on his or her own – employees and businesses need to work together so that the house remains stable. This always requires appropriate maintenance and modernisation of working conditions.

The employees' perception of the reality inside and outside of the house indicate both positive and negative features which should be noticed in identification and prioritisation of the measures needed during the change process.

The crucial question is: Is it possible to develop an organizational culture which is based on dialogue between the employees and supervisors leading to consensus how to improve the fitting between work and human resources so that people can and will work until retirement?

Based on international experiences and numerous projects, we are convinced that it is possible to promote sustainable work ability and to enhance the balance between work and human resources.

Measurement of Work Ability – the Work Ability Index [8]

Work Ability can be measured. The Work Ability Index (WAI) is an internationally used survey instrument for the assessment of the current balance (stability and matching) between the work requirements and the individual capacities of a person. The resulting index number lies between 7 and 49 points; the higher the point value is, the more stable is the work ability.

The WAI is implemented in Finland as a standard instrument during first and repeated occupational health checks, e.g. by the Occupational Health Service. The validity and reliability of the WAI was tested [9]. WAI is explicitly used by consultants who are committed to the confidentiality of the data obtained. It is not a tool for personal evaluation interviews conducted by the company's management. Use by other persons (groups) requires a special agreement on data protection and confidentiality.

WAI is a simple method that can be done online, but is usually used as a questionnaire in institutional proceedings, during which it must be completed by a self-assessed person.

Two new methods for holistic implementation: Personal Radar (WAI 2.0) and Company Radar [10]

In the early 2010s, a fundamental further development of the Work Ability concept was started in Finland based on international experience. A revised concept of work ability was tested, examined and implemented in a good hundred projects in the Finnish technology industry.

Since work ability depends on a variety of influencing factors in the areas of health, competence, values, work design and leadership as well as family and personal networks, the design of conducive conditions requires a focus on targeted measures in all of the dimensions mentioned.

It is difficult to influence all areas of work ability at the same time. Companies and workers rarely have enough time and human resources for holistic implementation.

Therefore, it must be determined within the organisation what is most important and what is most necessary and possibly to be done. The **Personal Radar** is a survey instrument to evaluate the state of the house: how is the overall balance in the house, and what are the strengths and weaknesses inside the house, in different floors. The meaning of the survey is to give a clear picture of items which need to be improved inside or outside of the house. The employees' perception of the reality inside and outside of the

House of Work Ability will indicate both negative and positive features which should be noticed in identification and prioritisation of the measures needed during the **Company Radar** process. The Company Radar is a dialogue tool for prioritising the most important fields of action and measures.

By combining them it should be secured that the "doing" in the sense of actually implementing of change measures really happens after the survey.

Summary

Age management, ie management with regard to the age and abilities of employees with all the above-mentioned tools, means a way to: "every employee has the opportunity to use her or his potential and not be disadvantaged due to age". In connection with the aging of the European population and thus also the aging of the workforce, knowledge of the possibilities of supporting work ability at any age is proving important not only for employees and employers, but also for society as a whole. Objective knowledge of work ability is also a good basis for self-reflection and for discussion within the team and the company to improve working conditions and the work environment.

For a specific employee, knowledge of work ability is also important in connection with planning his or her professional career and for creating the prerequisites for personal competitiveness in the labor market. In connection with automation and digitisation, emphasis is also placed on the ability to cope with changing labor market conditions and the importance and willingness to have lifelong learning and education.

For both employers and employees, a proactive and comprehensive approach to the work ability model can prevent skills from becoming obsolete and create the conditions for optimal coping with changes in the field of work. However, it must be emphasized that in applying this approach, not only employers play an important role, but also employees' approach to their health, lifestyle, but also to the development of the required skills for employment in the changing labor market.

The better the ability to work before the employee retires, the better the quality of his or her later life. That is why it is important to ensure investment in active aging already during productive years. Investing in occupational safety and health in workplaces that create a favorable work environment is also an investment for the rest of our lives [11].

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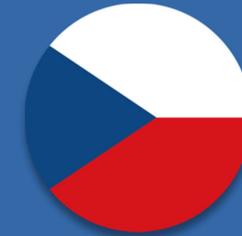
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<https://osha.europa.eu/en/publications/articles/promoting-active-ageing-in-the-workplace>



Czech Republic

→ 1. Czech Republic – Introduction

Description of the partner organization Age Management z.s.

The non-profit organization Age Management z.s. was established in 2013 in connection with the implementation of the international Czech-Finnish project “Age Management Strategy in the Czech Republic”, carried out by the Association of Adult Education Institutions of the Czech Republic and whose foreign partner was the Finnish Institute of Occupational Health. This project brought the concept of work ability and age management to the Czech Republic, and the project's professionals decided to continue this work and further develop, promote and use these methods. The main goal of the organization is to support the development of the concept of working ability on a scientific basis, its promotion and the transfer of good practice from abroad.

Age Management z.s. is predominantly engaged in the implementation of educational activities, publishing activities and activities in the field of age management. In 2016, they implemented the international project “**Platform for Age Management within V4 Countries**” (no. 21520128) with the support of the Visegrad Fund, in cooperation with partner organizations in Slovakia, Poland and Hungary. Since its inception, the organization has worked closely with FIOH, especially in the implementation of measuring work ability using the Work Ability Index method. In 2016, we managed to adopt the method of the “**Towards Successful Seniority**” program from FIOH in the Czech Republic and train the lecturers of this program in the Czech Republic and the Slovak Republic. For the needs of the initial audit of age management, the company's employees subsequently developed a scan of individual pillars, which numerically evaluates the level of fulfillment in individual areas. In 2019, the company's employees underwent training in the use of **Personal & Company Radar** methods.

🕒 2. Introduction, historical development of the concept of work skills in the given country

The issue of the concept of work ability and age management emerged in the Czech Republic via the international project OP Human Resources and Employment Strategy of Age Management in the Czech Republic, which was implemented by the Association of Adult Education Institutions of the Czech Republic, o.s. in 2010–2012. The project partners were the Labor Office Brno-město, Palacký University in Olomouc, Masaryk University and a foreign partner, the Finnish Institute of Occupational Health from Finland (FIOH).

This project was followed by another international project within the OP Human Resources and Employment, **Age Management Strategy in the Czech Republic**, which was again implemented by the Association of Adult Education Institutions of the Czech Republic, o.s. in 2013–2015. The project partners included the Labor Office Brno-město, Masaryk University, Gender Studies and the foreign partner was Blik op Werk (Netherlands). The main goal of the project was to create tools to address the issues of the 50 plus aged target group in the labor market by implementing the principles of age management with the support of international cooperation.

Based on these projects, the non-profit organization Age Management z.s. was founded in 2013, focusing on the concept of work ability, further developing and promoting it. In 2016, it initiated the establishment of the Czech and Slovak age management associations, which further coordinate activities at the national level. Since its inception, Age Management z.s. has worked closely with professional European institutions; in cooperation with FIOH, it has adopted and implemented the “**Towards Successful Seniority**” educational program in the Czech Republic and Slovakia. For the needs of the initial audit of age management, the company's employees have developed a scan of individual pillars of age management, which numerically evaluates the level of fulfillment in individual areas. In 2019, the company's employees were trained to use **Personal & Company Radar** methods. Following the National Action Plan

supporting positive aging (2013–2017, Strategic Objective D2), in 2017 the MLSA announced the 079 call for projects under the OP Employment “Age management – a smart change in management, an opportunity for growth”. Within the scope of this call, more than 100 projects were accepted for the implementation by Czech employers.

3. Demographic development

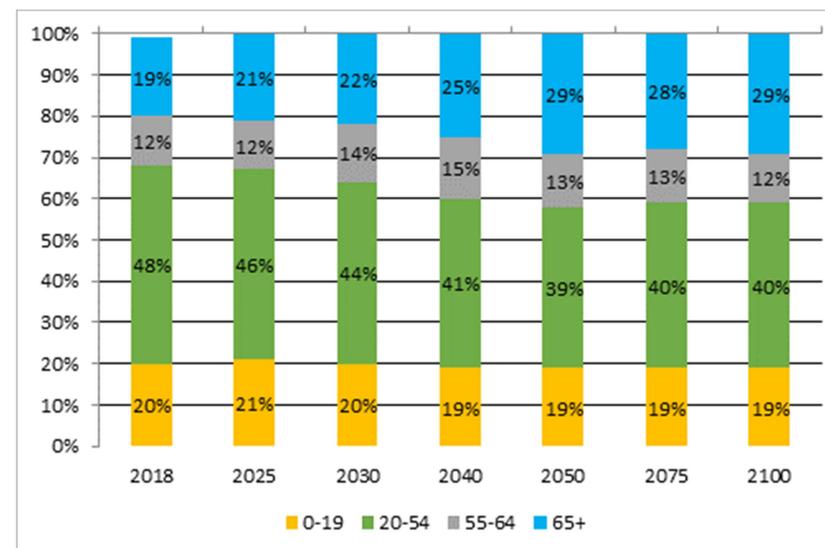
We base the evaluation of demographic development on the official yearbooks and data sources of the Czech Statistical Office (CSO). As of 31 December 2019, there were 10,693,939 inhabitants in the Czech Republic, of which 5,271,996 were men and 5,421,943 were women [1]. For our needs, we present statistics from three important demographic groups. The first group is the age cohort of people 0–19 years, which numbers 2,188,232 people, then the economically-productive cohort of 20–64 years with 6,374,077 people, and finally the age cohort of people 65+ years, which numbered 2,131,630 people. [2]

A multi-year view of the mutual percentage of the observed groups and its development with the projection of these groups until the end of the 21st century is shown in the following graph. The demographic development of Czech society corresponds to the long-term trend of increasing the life expectancy of the population and the aging of the population throughout society. While in 2018 the percentage of the youngest age group 0–19 years was at the level of 20.5, the age group 20–64 years was 59.6 percent, and the age group 65+ reached 19.9 percent at the end of 2018 [3], the demographic development of the Czech Republic expects a steady slow decline in the youngest group of the population (0–19 years) to values of around 19% of the population in 2100 with a further decline of the economically active group of 20–64 years to 52%. At the same time, this decrease will be due to the population aged 20–55, with a threatening 8% decrease in this cohort by the year 2100. There is also a noticeable increase in the oldest population, which is a full 10% by 2100.

In monitoring this demographic trend anticipated not only in the Czech Republic (this is an overall demographic shift in the aging of the population throughout the EU), it can be stated that significant changes, especially in the increase in the number of elderly people, should deepen further. As stated in the publication Age management [4]: “According to moderate estimates, the number of people aged 15–64 will decrease from six to five million between 2040 and 2060, after a short stagnation to 4.25 million in the projection horizon. The biggest changes will undoubtedly occur in the senior category of 65 years and older.”

In the projection until the end of the 21st century, the proportion of the population over the age of 65 will continue to increase to values representing almost a third of the Czech population, while the proportion of its working subset will continue to decline to values representing only half of the Czech population.

Graph 1: Current figures in 2018, projection



Source: Fukan, J., Labor Office of the Czech Republic, Contact Office Brno-město

The aging process of the Czech (but also European) population means increased demands for prolonging the activity of the population with the aim of longer employment on the labor market. This requirement is in line with the ever-increasing life expectancy, i.e. with the growth of the average life expectancy of the Czech population. The constant upward trend in the life expectancy of men and women in the Czech Republic over the last 50 years means that during the life of one generation, this indicator has increased by an incredible 10 years (69 years in 1970 and 79 years in 2018).

Important demographic statistical indicators processed for the EU27 by Eurostat² are indicators of the health status of the population. Among these indicators, directly related to the support of aging people in the workplace, is the indicator of life expectancy (LE)³ and healthy life years (HLY)⁴. However, the HLY indicator is largely subjective, as it combines "hard" demographic data with answers to questions from questionnaire surveys conducted in small cohorts of European countries. In relation to work ability, it appears to be the most important indicator of healthy life expectancy (HLY). In the EU as a whole, this indicator fluctuates over time and there is no significant upward trend. For the Czech Republic, it first increased by a total of 5 years in 2005–2014, which exceeded the EU average, and then fell by about 2 years in 2014–2017. In the last decade, the average life expectancy in good health at birth is 78.1 years and the life expectancy in good health is almost 63 years, which means that HLY already makes up 80% of the estimated life expectancy at birth. In terms of the

² For example: <https://ec.europa.eu/eurostat/web/health/data>

³ Life expectancy (average life expectancy (LE)) is the number of years a person of a certain age is likely to live. The indicator is most often used in the form of life expectancy (life expectancy) at birth.

⁴ Healthy life expectancy (HLY) is the number of years left on average for a person at a certain age / birth to live in good health. HLY is a structural indicator based on an indicator of the reduction of normal human activities for health reasons, ascertained in European countries using standardized questions of the SILC questionnaire.

possible prolongation of the active life of the population over the age of 65, i.e. the population that has reached retirement age in today's legislative perspective, data on their proportion of life spent in good health is very interesting. This population will already live for an average of almost 18 years, with a full 12.5 years in relative health, which at this age makes up a respectable 70.6% of the estimated life expectancy. [5]

4. Legislative framework and links to strategic documents

4.1 General legislation

In this publication, we present three areas of legislative norms that are related to the support of aging in the workplace. The first area is general (umbrella) legislation defining the basic framework of the functioning of persons on the labor market, the definition of their rights, and obligations. The other two areas are labor law relations between employees and employers, and occupational medicine, health and safety at work.

Fundamental rights, principles and obligations related to the support and protection of persons are declared in the Czech Republic by the Constitution of the Czech Republic, Act No. 1/1993 Coll. (and in its other amendments). The Constitution also contains the Basic Charter of Rights and Freedoms, which states that every citizen of the Czech Republic has the right to freely choose a profession and prepare for it, as well as the right to conduct business and other economic activities. Furthermore, everyone has the **right to obtain funds for their living needs through work**. Citizens who cannot exercise this right through no fault of their own are materially secured by the state to a reasonable extent. (Basic Charter of Human Rights and Freedoms, Title 4, Article 26).

Full-fledged treatment of and approach to people of different ages in the work process is ensured by protection and equal treatment, i.e. protection against discrimination. This area is governed by Act 198/2008 Coll. on Equal Treatment

and Legal Remedies for Protection against Discrimination and on the Amendment of Certain Acts (Anti-Discrimination Act) in the Czech Republic. This legislative standard is linked to the regulations of the European Union and unifies some legal regulations of the international and national level.

The Anti-Discrimination Act regulates the right to employment and access to employment, access to occupation, entrepreneurship and other self-employed activities, including integration into professional life. The Act delineates and defines direct and indirect discrimination of persons in individual life situations. Direct discrimination constitutes conduct where one person is treated less favorably than another in a comparable situation, on the grounds of race, ethnic origin, nationality, gender, sexual orientation, **age, disability, etc.** (Act 198/2008 Coll., Article 3) The law also defines what is meant by differential treatment. **Discrimination shall not constitute a difference in treatment on the grounds of age regarding access to employment or occupation as long as:**

- a condition of minimum age, professional experience or period of employment required for the proper conduct of employment or occupation or for access to certain employment rights or obligations is necessary, or
- vocational training towards the proper performance of a job or occupation, which is unreasonably long in relation to the date on which the person seeking employment or occupation reaches retirement age, is required.

4.2 Labor relations, employment support and employment

This area mainly includes the Labor Code (No. 262/2006 Coll., The Labor Code, as amended), the last amendment being the legislation in June 2020. The main areas covered by the regulation due to the aging population in the workplace are protection of the status of the employee, satisfactory and safe conditions for the performance of work, fair remuneration of the employee, proper performance of the employee in accordance with the legitimate interests of the employer, equal treatment of employees and the ban on discrimination. (§ 1a) The protection of employees in the workplace includes the prohibition of any

discrimination on grounds of health, age and other grounds, based on the Charter of Fundamental Rights and Freedoms.

“Any discrimination on the grounds of sex, sexual orientation, racial or ethnic origin, nationality, citizenship, social background, gender, language, **health condition, age**, religion or belief, wealth, marital or family status, family relationships or responsibilities, political or other views, membership and activities in political parties or political movements, trade unions or employers’ organizations shall be prohibited under labor relations; discrimination on the grounds of **pregnancy, maternity, paternity** or gender identification shall be deemed to be discrimination on grounds of sex.” (§ 16)

Furthermore, the Labor Code applies particular attention and protection to employment and presence on the labor market of selected groups of the population. They are chiefly: employed persons with disabilities (the legal norms of the Czech Republic use the term person with disabilities, § 237)

The employment of people with disabilities and disadvantages has a long tradition in the Czech Republic. It is regulated by the Labor Code 262/2006 Coll. and is based on the Employment Act 435/2004 Coll., which entered into force on 1 October 2004. Although this Act imposes an obligation on employers to employ people with disabilities and disadvantages, in practice the information on the possibilities and specific conditions of employment of these persons, as well as the support that employers can receive, is still lagging behind. Therefore, it has not been possible to place the majority of PWD on the labor market for a long time. Also, the people themselves do not always have enough information or the necessary motivation to look for a suitable job, they remain unemployed and depend only on social welfare. Representatives of the Ministry of Labor and Social Affairs, social partners and non-profit organizations have long strived to build a comprehensive system that will be transparent, simple, sustainable in the long-term, easy to control and fair across a wide range of PWD employers. This has not yet been fully achieved, and the Social Entrepreneurship Act, which has been drafted repeatedly, has not been passed yet. Social enterprises, non-profit organizations and other employers thus continue to create inconsistent conditions for the employment of PWDs.

Integrated social entrepreneurship brings a breath of fresh air into this issue, where, in addition to basic employment of disadvantaged people, employers support their employees with further education and the creation of conditions for their full participation in society. The Labor Code does not regulate special measures related to the support and protection of older workers in workplaces. Due to the undefined delimitation of the elderly (employee) or seniors, the legislation in the Czech Republic is focused primarily on people turning 50 and over, who are active on the labor market.

Occupational medicine, support and protection of public health, safety and health at work

The system of execution and control of working conditions of employees, i.e. the provision of occupational health care (OHC) in the Czech Republic is compatible with other European systems of preventive care for employees only in the area of regulation and minimization of health risks to which the employee is exposed at the workplace. The system of this care is therefore primarily focused on assessing the employee's competence in terms of their specific, individual limitations, and also on assessing the potential health risk in the performance of their profession. The issue of protecting the health of employees and their safety at work in the Czech Republic is regulated in accordance with the relevant international organizations and EU legislation. The following regulations are included among the main legislative standards related to the promotion, care and protection of the health of the population in the labor process:

1. Act No. 258/2000 Coll., On the protection of public health
2. Act No. 373/2011 Coll. on specific health services
3. Decree No. 79/2013 Coll. on the implementation of certain provisions of Act No. 373/2011 Coll., on specific health services, (Decree on occupational health services and certain types of assessment care, as amended in 2017)

In the field of health and safety at work, these are, in particular, Council Directive 89/391/ EEC, ILO Convention No. 161, Occupational Health Services

(1985) and Decree No. 145/1988 Coll. On the Convention on Occupational Health Services.

In Act No. 373/2011 Coll. "On specific health services", occupational health services (hereinafter OHC) are defined as preventive health services, which include the assessment of the impact of work activities, working environment and working conditions on health ensured by carrying out occupational health examinations in the first place, with these being preventive examinations with an exhaustively defined scope corresponding to the type of work performed and the age of the employee. The implementation of occupational health care for employees is therefore addressed by Decree of the Ministry of Health No. 79/2013 Coll. "On occupational health services and certain forms of health assessment".

The basic duties of a OHC doctor defined by the current wording of the decree are:

1. Assessment of health condition
2. Counseling activity
3. Supervision of a primary care physician

In the latest amendment to the Decree, its implementation part was extended by a provision defining the minimum time for one employee position / year required for counseling and supervision of working conditions, including 10–40 minute long training for jobs included in the first – fourth risk category. These new provisions create a certain time horizon in which to address the issues that have not yet been fully covered by the current amendments and amendments to legislative regulations in occupational health care, i.e. the issue of employees' ability to work. In general, occupational health services (OHC) should not be seen as just a "statutory obligation" of the employer, as ensuring the quality of these services has a significant impact on the economy of every company and the goal of every employer is to have medically fit employees with minimal illness and high work ability.

4.3 National strategic documents related to population aging in the workplace

4.3.1 Strategic framework for employment policy by 2030

The following is the main objective of this material: “In 2030, the Czech labor market will be able to respond to global trends based on cooperative and effective employment services, and will provide both dignified work for the Czech population and enough workforce to satisfy the requirements of the Czech economy.” It will primarily use 4 interconnected pillars to fulfill this vision, in the field of mapping and analytical investigation of **prediction and prevention**, which will be based on the established system of predicting the development of the labor market. **Individualization of specific employment policy measures**, where the measures will be more “tailor-made”, both for employees (persons) and employers, and for the specific needs of the regions in the Czech Republic. **The adaptation pillar will support the maximum preparedness** (adaptation) of all labor market stakeholders for the changing conditions and the effects of the 4th Industrial Revolution. The **last pillar is increasing efficiency**, which will be implemented via effective employment services using new technological procedures, and the cooperation of digital and social networks. [6]

The following measures aiming to achieve the desired state of affairs are tied to this vision of the material. The measures are aimed at “motivating employers to develop and use flexible work structures and other measures to promote the reconciliation of family and professional life, while preventing the emergence of precarious work.” [7]

In the area of support for employment and work activity with regard to increasing population age, the proposal part of the material in the Pillar of Adaptation to the Environment section explicitly pinpoints the Adaptation to Demographic Aging: “The issues of demographic changes and aging was mentioned repeatedly in the previous sections of the Strategic Framework. This is one of the key cross-sectional challenges facing the labor market (and social policy as a whole) in the coming years.” [8]

The issue of the pension system in the Czech Republic is also closely connected with demographic aging: “Employment policy should strive to ensure that the pension system reflects, among other things, the requirements of the labor market and positively motivates employees in prolonging their active professional life. However, given the needs and capabilities of older people, this incentive needs to be linked to other support measures enabling older people to **remain economically active for longer, and abiding by the concept of age management.**” [9]

4.3.2 Health 2030: Strategic framework for the development of health care in the Czech Republic by 2030

The global overarching goal is to continue improving the health of all sections of the population. This overarching goal is to be achieved through the specifically stated goals, which are increasing the length of healthy life expectancy in the Czech Republic, reducing the effects of health inequalities, stabilizing public health and building professional structures. The average age of medical staff should be lowered and their remuneration improved. A healthy lifestyle should be supported by public spending with an emphasis on prevention and health promotion throughout life. The last specific goal is to reduce the consumption of addictive substances in the population, as well as the effects of other harmful substances and noise. (p. 8) The document summarizes the main vision as the aim to ensure affordable health care for all citizens of the Czech Republic, regardless of their social and geographical background. Part of this is to encourage citizens to take better care of their health. [10]

4.3.3 Strategy of educational policy of the Czech Republic by 2030

One of the two main objectives of the material is “to direct education more towards acquiring the competences needed for active civic, professional and personal life.” [11]

Important factors that will influence and drive education and the process of lifelong learning in the future are connected primarily with the support of

individualization of education, and a fundamental change in the content and methods of education, where the emphasis is on supporting the acquisition and mastery of competencies. “Greater integration of digital technologies into teaching, as well as more space for teaching in the real world outside school – **community, institutions, companies, in nature**, etc. – can contribute to greater individualization of education.” [12]

An important interface is the close connection and feedback between the education sector and the labor sector, where the education system (school system) will “respond to the changing demands and needs of the labor market. It is important that the link is two-way and that communication between the sphere of labor and the sphere of education is functional and effective. Equally important is strengthening entrepreneurship and supporting aspirations to start and run one’s own business.” [13]

The strategy for preparation for the aging of the society 2019–2025 at the national level is a comprehensive conceptual material aiming to deal with the preparation for aging, and the aging of the population. These materials are sponsored by the Ministry of Labor and Social Affairs, they have a tradition since 2002, and currently a Strategy for preparation for the aging of the society for the period 2019–2025 in place. The material provides priorities and a set of measures covering a wide range of life aspects, including the old age, housing, health and prevention, social services and care, employment and lifelong learning, the promotion of intergenerational relations, and accessibility and active aging. [14] (Link to the material on the website, at the time of writing, the strategy was not officially approved by the Czech government as a national document for the support and preparation of society for the aging population).

5. Significant research projects in the field of work ability, overview of published articles

The issue of the concept of work ability and age management emerged in the Czech Republic via the international project OP Human Resources and Employment Strategy, **Age Management in the Czech Republic**, which was implemented by the Association of Adult Education Institutions of the Czech Republic, o.s. in 2010–2012. The project partners were the Labor Office Brno-město, Palacký University in Olomouc, Masaryk University and an international partner, the Finnish Institute of Occupational Health (Finland).

The main initiatives of the project included the processing of a comparative analysis of conditions of and approaches to the target group of people aged 50+ used in the Czech Republic and Finland, introduction and training of Czech experts with the “Age Management Training” product, pilot proof of the concept of work ability and methodology of “Work Ability Index” on the target group of persons 50+, evaluation of the applicability of the tools in the Czech Republic, and pilot proof of the introduction of age management within the management of the educational organization.

Notable outcomes of the project were the following two publications:

1. Cimbálníková a kol. *Age Management. Komparativní analýza přístupů a podmínek využívaných v České republice a ve Finsku*. Praha: AIVD ČR, 2011, ISBN 978-80-904531-2-8.
2. Cimbálníková a kol. *Age Management pro práci s cílovou skupinou 50+. Metodická příručka*. Praha: AIVD ČR, 2012, ISBN 978-80-904531-5-9.

The activities of this project were awarded the National Quality Award of the Czech Republic for the support of age management in the Czech Republic in 2012.

This project was followed by another international project within the OP Employment, **Implementation of Age Management in the Czech Republic**, which was again implemented by the Association of Adult Education

Institutions of the Czech Republic, o.s. in 2013–2015. The project partners included the Labor Office Brno-město, Masaryk University, Gender Studies and the international partner was Blik op Werk (Netherlands). The main goal of the project was to create tools to address the issues of the target group of people aged 50+ in the labor market, by implementing the principles of age management with the support of international cooperation. The project developed three new modules of educational activities focusing on the concept of work ability, created a thematic network of organizations dealing with the issue, and a pilot tested measuring of work ability using the Work Ability Index method was performed on a total of 240 people.

A notable output of the project was the publication Novotný P., Bosničová N., Břenková J. a kol., *Age Management. Jak rozumět stárnutí a jak na něj reagovat. Možnosti uplatnění age managementu v České republice*. AIVD ČR, ISBN 978-80-904531-7-3.

The implementation of the outputs of this project is followed by other professional articles:

1. Hlaďo P., Pokorný B., Petrovová M. *Work ability of the Czech workforce aged 50+ and the relationship between selected demographic and antropometric variables*. Kontakt, 19, 145–155, 2017.
2. Petrovová M., Pokorný B., Hlaďo P., *Měření indexu pracovní schopnosti u starších pracovníků v České republice*, Pracovní lékařství 70, No. 1–2, p. 27–37, 2018.
3. Petrovová M., Pokorný B., Hlaďo P., *Age management a index pracovní schopnosti – nástroje k podpoře zaměstnávání stárnoucích pracovníků*, Pracovní lékařství 70, No. 1–2, p. 38–44, 2018.
4. Rašticová, M. a kol. *Práce, nebo důchod?: senioři, trh práce a aktivní stárnutí*. První vydání. Brno: B&P Publishing, 2018. ISBN 978-80-7485-177-3, Pokorný, B., Štorová, I. *Objektivizace pracovní schopnosti měřením Work Ability Index – genderový pohled*, B&P Publishing, 2018.

Since 2019, Masaryk University, the Institute of Pedagogical Sciences and Age Management z.s. manages a project of the Technology Agency of the Czech Republic, **Modification of the Finnish educational program Towards Successful Seniority based on the current needs of secondary school teachers** (Professional seniority). The main goal of the project is to modify and subsequently scientifically verify the effect of the Finnish educational program Towards Successful Seniority on the optimization of work ability and prevention of burnout syndrome, secondary school teachers, based on the current needs of the target group, teachers in secondary vocational education in the South Moravian Region. The project also measured the ability to work of more than 500 teachers with the Work Ability Index method.

The results of measuring work ability are presented in a scientific article by the authors:

Hlaďo P., Dosedlová J., Harvánková K., Novotný P., Gottfried J., Rečka K., Petrovová M., Pokorný B., Štorová I., *Work Ability among Upper-Secondary School Teachers: Examining the Role of Burnout, Sense of Coherence, and Work-Related and Lifestyle Factors*, Int. J. Environ. Res. Public Health 17, 9185, 2020.

Since 2010, the concept of work ability has been developed in the Czech Republic mainly through projects implemented via the ESF. In 2017, the Ministry of Labor and Social Affairs announced call No. 079 “Age management, smart change in management, an opportunity for growth”, in which more than 100 projects from the target group of employers were selected to receive support.

Within the academic environment, Czech universities also took part in supporting research or teaching age management, especially Masaryk University, Faculty of Arts, Department of Pedagogical Sciences; Charles University in Prague, Department of Andragogy and Personnel Management; Mendel University in Brno, PeF, Department of Law and Humanities. The issue of the concept of work ability is also the subject of bachelor's and master's theses. The analysis of work ability in various professions using the Work Ability

Index tool at the national level has not yet been carried out in the Czech Republic.

6. Application of the concept of work ability and age management at the level of individuals, organizations and companies

To better understand the issue of aging in professional life, the so-called work ability concept, emerged in Finland in the 1980s [15]. It considers a person's ability to work as a key indicator of their success on the labor market. Its importance is constantly growing in the context of the current situation, which is dominated by the demographic aging of the population and thus the overall aging of the working population. In order to keep aging employees on the labor market, it is necessary to create conditions that will take into account their health, physical condition and mental capacity, but will also motivate them to work longer. Therefore, the issues of maintaining the work ability of employees into an old age are beginning to come to the fore, including not only the area of health, but also competencies, motivation, attitudes and conditions in the workplace, connected by the concept of work ability.

6.1 Age management

Age management (AM) is a way of managing an organization/company with regard to the age, abilities and potential of its employees, and it therefore necessarily includes all age groups in the workplace. If we want to positively influence the management methods of the organization, it is appropriate that all procedures and methods that can positively affect its performance and prosperity are objectively identified, described, and newly introduced into practice.

The basic prerequisite for the effective implementation of specific and measurable age management actions in the practice of organizations is the evaluation of the fulfillment of individual pillars of age management, but also

the objective knowledge of the results of measuring the work ability of employees.

Accurate description and evaluation of the initial state of management of the organization is the basis for subsequent recommendations leading to its more effective management. The description associated with the quantification of the 'basic pillars ["visions" in English original source, translator's note] of age management' aims to determine the direction and objectives of the age management measures implemented in organizations and companies [16]. For this process, it is advantageous to use a system from the Finnish Institute of Occupational Health (FIOH), whose experts have defined eight pillars of age management that interact with each other. Their overview, intended for an efficient evaluation of the initial state of age management, is given in the following points.

1. Good knowledge of age structures
2. Positive attitudes towards aging
3. Good management that understands individuality and diversity
4. Well-functioning age strategy
5. Ensuring good work ability, motivation, and the will to continue working
6. High level of competencies
7. Good work and workplace organization
8. Good life*

**taken from the English original (17), page 236, translator's note*

The identification and quantification of all eight pillars and their fulfillment should form the basic input data for the creation of a strategy and the implementation of age management measures at the organizational level.

It is obvious that we consider age management in general as a way of managing individual factors of work ability, which consists of the so-called House of Work Ability. This includes health, competencies, values, motivation, attitudes, working conditions and also work-life balance [17].

6.2 Age management at the individual level

It is possible to respond to threats of a decline or loss of an employee's work ability at the individual level with “**personal age management**”. This is about the support for preventive and intervention measures, which aim to promote the work ability of the individual and create conditions not only for their employment on the labor market, but especially for their longer and higher quality life. Strengthening individual work ability can be implemented via measures in the areas of health and functional capacity, strengthening personal competencies, job motivation of employees, and improving their work environment, but also to a significant extent outside of work, i.e. the work-life balance.

6.3 Age management at the level of organizations and companies

The value of human labor is a key aspect of an employer's success. Preserving work ability represents methodical and purposeful adoption of measures based on cooperation between the worker and the employer, but also among collaborating organizations within the labor market. These activities require good cooperation between the employees and the management. Managers have the authority to create and change working conditions and play a key role in securing and promoting appropriate age management tools. The level of occupational health care and the organization of occupational safety also have a great influence on work ability, where the level of prevention and elimination of occupational risks in the workplace plays a key role [16].

6.4 Work ability at the individual level

One of the defining concepts of age management (AM) is “work ability”, which can be objectively assessed/measured using tools quantifying its rate. The method of objectification of work ability is based on a questionnaire method of evaluation / measurement of individual factors of work ability. The result can be quantified as a work ability index WAI – Work Ability Index [15].

The modern concept of work ability management and its support is associated with the identification of ways to recognize its decline before its significant, or even to its definitive loss. That is, with the identification of possibilities that can prevent the occurrence of incapacity for work or premature leave of the employee from working life.

Work ability is based on a balance between a worker's resources and the demands of their job, which changes over the course of a lifetime. Therefore, the search for optimal work ability is a task throughout the entire worklife. A person's employment in connection with experiencing a longer worklife relies on good health in particular, but other factors that influence this ability are just as important. However, the ability to learn and thus adapt to environmental changes and competence requirements is playing an increasingly important role, as are our values, attitudes and motivations to work. Satisfaction with our work and conditions at the workplace are also significant factors. In this context, the term “well-being at work” is becoming increasingly appearing and plays an important role especially in connection with aging employees. All these factors form the concept of work ability and were arranged in the so-called “**Work Ability House**” [17][19][20] consisting of four floors: health – competence – motivation – work environment.

In the following overview, we outline examples of activities that we consider to be dominant on each floors.

6.5 Practical examples of work ability support at the company level

a) Health and functional capacity (1st floor)

- Healthy lifestyle and promotion of healthy eating,
- health “packages” – regular measurement of blood pressure, sugar level, BMI, vaccinations,
- employee health benefits (relaxation massages, expanded health care checks),
- rehabilitation and reconditioning programs,

- ban on smoking in the workplace (smoking cessation program or an employee obesity program).

b) Competences (2nd floor)

- Trainee program,
- adaptation programs for new employees,
- regularly updated training plans,
- training planning considering the needs of different generations (aging workers – e.g. information technology and language courses),
- online or e-learning training attendance,
- intergenerational cooperation (diversity of teams), mentoring,
- career management and knowledge management.

c) Motivation, values and attitudes (3rd floor)

- Regular evaluations of employees with their superiors,
- regular surveys of employee satisfaction issues,
- work-life balance programs (flexible forms of work, shared workspaces, etc.),
- programs to support employees (e.g. in case of excessive stress – “the art of rest”, prevention of burnout syndrome, time management),
- support of work well-being (team building, workshops, ...),
- plans for employees returning to work after a long time (e.g. after maternity leave or long-term illness),
- aid for people with disabilities,
- company kindergartens.

d) Workplace (4th floor)

- An open corporate culture and an appropriate leadership style based on respect for all generations,
- work ergonomics, workshops with physiotherapists (correct sitting posture, desk setup, work exercise, etc.),

- adapting and improving work organization (e.g. adapting production shift times to the sleep cycles, prevention of time stress and overwork),
- job rotation,
- workplace relaxation zones.

6.6 Summary of a survey focused on knowledge of the concept of work ability among employers in the Czech Republic

As one of the sources for the creation of this publication, we contacted employers to map the situation in their organizations. Our goal was to obtain information not only about the applied principles of age management, but above all feedback on the knowledge of the concept of work ability in Czech organizations. Although our survey cannot be considered representative, it provided us with at least basic feedback about the situation of the participating employers in the Czech Republic.

The assessment of work ability can provide organizations data for the identification of suitable activities for preserving the work ability of their employees. However, it is not widely used in the practice within Czech organizations. Only 17% of participating companies said they had encountered the Work Ability Index. Companies and organizations mentioned flexible forms of work (mentioned 21x), a system of optional benefits (mentioned 18x) and ergonomics in the workplace (mentioned 15x) among the most common activities supporting the retention of employees. The least common activities chosen by companies included benefits for older employees and their individual needs (mentioned 5x), planning and preparation for retirement of older employees (mentioned 4x), and using of technologies suitable for older workers (mentioned only 1x). Preventive programs addressing employee rotation were used by only one participating company.

Detailed results of the survey are available on the project website: <https://www.agemanagement.cz/zahajujeme-realizaci-projektu-strategickehopartnerstvi-erasmus-work-ability-management/> (available only in Czech, translator's note).

6.7 Measuring the employee's work ability

As mentioned above, one of the main tools of age management is the objective measurement of the work ability of employees in organizations and companies. The procedure of quantifying work ability using the Work Ability Index questionnaire⁵ [18][21] has been applied by the organization Age Management z.s. in the Czech Republic since 2012.

The results of the systematic use of this method to assess / quantify work ability suggest that there is the balance between human health resources and the requirements and nature of the job are important dimensions of work ability [19].

6.8 Use of the WAI method to objectively measure the work ability of employees in the Czech Republic

Age Management, z.s. is currently the only one in the Czech Republic that addresses the issue of work ability professionally, comprehensively and systematically. Until 2020, Age Management z.s. was had been the sole license holder of the WAI index for the Czech Republic and the Slovak Republic, obtained on the basis of training and organizational requirements of the guarantor institution, the Finnish Institute of Occupational Health (FIOH). The

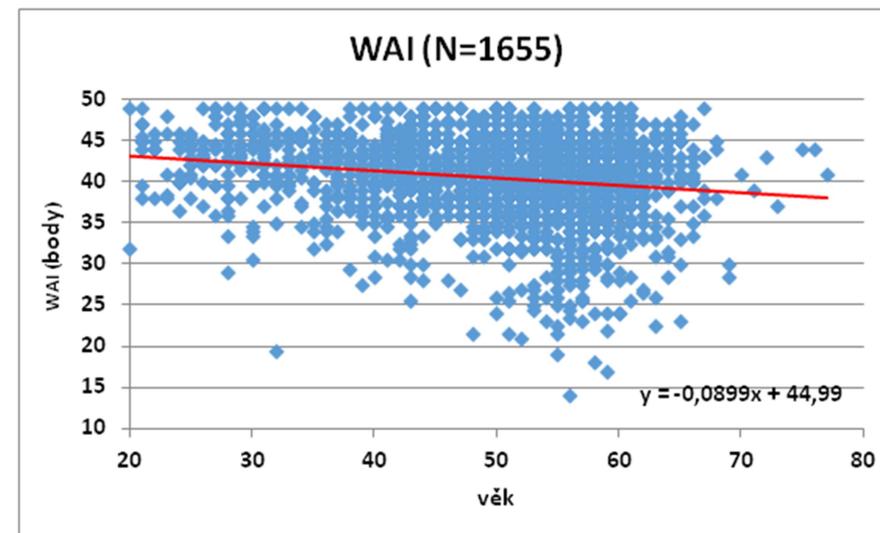
⁵ The index has gradually become one of the standard tools for objective assessment of work ability. Its level is determined by this method through a questionnaire with 25 questions and 85 ready-made answers. These are then evaluated in a uniform way and the result is a total score in the range of 7–49 points, and according to the achieved result we can define the ability to work in four categories low – average – good – excellent.

results are stored in a WAI database managed by this organization. This strictly anonymized data can be used for a wider interpretation. The following text is based on the data from more than 2,000 employees from various types of Czech workplaces and various job positions, collected in the Czech Republic between 2015–2020.

From this database, data from 1655 respondents who completed the WAI questionnaire in a way necessary to calculate the WAI index can be used for further evaluation of work ability. This group consists of 903 men aged 19–77 years and 752 women aged 21–75 years.

These results are presented in a scatterplot in the following figure.

Figure 1: Results of WAI measurements in the Czech Republic



Our past and also international studies show that work ability tends to decrease with age. However, this is not a dramatic decline. The average values of the index for employees throughout their working life remains mostly in the

categories of 'excellent' and 'good' (up to the value of 37 points). Using a set of individual index values, we can interpolate a trendline that quantifies the average decline in the WAI index with age. For a group of 1,655 employees of Czech organizations, this is a decrease of about 0.9 points in 10 years, i.e. it is a decrease of about 4 points in the entire professional time span of an employee. In the assessed groups of Czech employees, a steeper decrease of the WAI index was among women than men (0.8 points against 1.0 points in 10 working years), but a far more significant decrease in the manually working population 1.4 points / 10 years compared to mentally working people with only 0.5 points / 10 years. It is therefore clear that, regardless of gender, 675 manually working employees from these surveys are exposed to a 2.5-fold faster decline in their ability to work with age compared to people working mentally.

It is obvious that this method also provides many other deeper interpretations that can clarify the influence of individual factors of work ability both at the individual level and at the corporate level. However, the basic objective is to ensure that the data remains strictly confidential. The employer must not receive information in any form that could reveal the identity of the employee. Completing the Work Ability Index questionnaires is also always voluntary. Only an employee who is sufficiently confident in the anonymity of their answers regarding the employer can express how they subjectively perceive various factors influencing their work ability.

A certain "pain point" of this method is its excessive focus on health, which brings the obligation to provide very sensitive personal and health data among other factors. The drawbacks of this procedure (WAI 1.0) are mitigated by the newly introduced WAI 2.0 method – Personal and Company Radar.

6.9 Work Ability Index 2.0 (Personal & Company Radar)

In recent years, there has been a demand for a new structuring of the concept of age management, or an updated view of the quantification of objective assessment of an employee's work ability. In this new perspective is an effort to

bring these procedures closer to the management of an organization whose employees are the subject of work ability assessment. The result of latest research in this area is a new tool dubbed the Personal and Company Radar by its creators [22].

6.9.1 Personal Radar

It is an innovative tool⁶ for individual assessment of employee's work ability and well-being, which expands on the original WAI 1.0 by measuring other factors aimed at better understanding the employee's work well-being, and thus a more comprehensive identification of reasons or obstacles regarding its optimization. The removal of these can lead to a strengthening of work ability. The outcomes will provide the employee a new picture of the level of their work ability and the reasons for their current condition. The management of the organization will obtain anonymous data about well-being of its employees, which will allow them to adjust the scope of measures applied in this area, which is the subject of the second part of the process called the Company Radar.

6.9.2 Company Radar

Based on data obtained from all employees of the organization in the part of the Personal Radar, it is possible to quantitatively evaluate the workplace index in three main areas with the highest impact on work ability, i.e. workload, stress, and work well-being index. This can provide basic data for the decision-making part of the age management process in the company, i.e. its implementation part. The Company Radar thus becomes a process tool for designing the necessary measures in the organization leading to sustainable employment and improved productivity.

⁶ The Personal Radar questionnaire has 23 questions formulated in accordance with the content and factors of the work ability house. It includes 5 factors determining the work well-being of the and as a sixth factor there are six questions determining his work ability.

According to Ilmarinen, the most important endeavor should be to prolong active worklife and make work as such more attractive. It is necessary to manage the changes that occur in worklife and at the same time increase the feeling of well-being at work. It is also important to link the demands of work with other areas of life, because worklife is not isolated from personal and family life. A successful reconciliation of aging and worklife at all levels is therefore crucial. [16].

Taking action to support work ability pays off at any stage of an employee's worklife. Factors contributing to the decline of work ability begin to emerge around the age of forty-five. Objective assessment of work ability, for example by measuring the WAI index, is therefore appropriate for employees of any age. The promotion of individual factors, particularly in the field of health, should not be focused solely on older workers, but should be proactively included throughout the entire worklife. [23]

The authors of this publication are convinced that the concept of work ability is a suitable tool for addressing the problem of aging in the workplace that should be used in the daily practice of companies and organizations, and should also become an integral part of the personal life of everyone.

7. Educational and counseling activities to support work ability

Many organizations are involved in supporting work ability in various forms, usually focusing on a **narrow segment of educational or consulting activities**. This can be, for example, motivation, creation of methodologies for transferring experience, methodologies for working with employees of different age groups, education leading to computer literacy, job placement and job creation for people aged 50+, or creation of information centers, business education and more.

Agender organization and its INICIO 50+ project is an example of entrepreneurship education, dedicated to supporting people over the age of 50

who would like to start a business. The University of Finance and Administration, in turn, facilitates the so-called umbrella companies for people 50+.

Examples of age management educational activities

The Age Management Strategy project, which first brought these methods to the Czech Republic, focused on the application of specific age management methods in relation to improving the position of the target group of people aged 50 plus on the labor market. [24]

Educational and counseling methods of age management were comprehensively presented to Czech readers in the methodological manual “Age Management for working with the target group 50+” from 2012, which is divided into two modules, for companies and for employment offices. This publication summarizes general information on age management, demographic context and work ability index, as well as specific outcomes that were implemented within the project Age Management Strategy in the Czech Republic: *“Educational and counseling activities were offered to a total of 72 unemployed clients registered at the Labor Office (in Brno). Part of this activity was the assessment of the Work Ability Index (WAI) for each participant. Training activities aimed at strengthening work ability have also taken place (to the extent of 48 hours).”* [25]

This publication also summarizes the level of knowledge of age management: *“Theories and starting points, as well as general age management strategies, are not yet widespread in the Czech environment. The challenge presents in the training of HR professionals and company managers, as well as AM lecturers, who will develop the theory and strategies applicable in various work contexts. Such training and counseling in the application of age management for companies can be offered by various entities – personnel agencies, employment offices, universities, educational organizations, etc.”* [25]

The civic association Zaměstnanost [Employment] in cooperation with a partner, the Higher Vocational School of Economics and Health, and the

Secondary School in Boskovice implemented the project "*Education of lecturers for sustainable development with a focus on age management*" in 2013–2015. The main goal of the project was to educate lecturers in the field of sustainable development with a focus on age management, and education of medical staff in the methods of preserving work ability. The key activities of the project were focused on the creation of a methodology, the development of two educational activities and an e-learning course, their pilot testing, training of lecturers and the transfer and sharing of examples of good practice.

As part of the international project Erasmus+ **Age Management Uptake** (2017–2020), an educational program for the preparation of **age management consultants** was developed and study materials for blended learning created, representing the concept of age management and work skills of the general and professional public. The Association of Adult Education Institutions and Charles University in the Czech Republic were involved in the project.

Organization Age Management z.s. creates and implements comprehensive educational activities based on the concept of work ability and offers educational and counseling programs to strengthen work ability not only at the level of individuals, but also organizations and companies. In addition to cooperation with employers, the organization is also extensively involved in the development of professional competencies of HR professionals in the field of age management.

8. Examples of good practice of applying programs for employed and unemployed persons

Currently, educational programs based on a comprehensive perception of work ability in the Czech Republic are still rather rare.

Educational programs that focus on promoting health and a healthy lifestyle are provided by school facilities and educational organizations. Activities in the

field of vocational education, which are in accordance with the National Qualifications Framework, are included in the lifelong learning system and implemented chiefly by institutions operating in the field of adult education, but also schools or occasionally by employers.

The area of values, attitudes and motivation of participants is covered by a relatively wide range of programs focused on “soft skills”, which are implemented by educational organizations of various types.

The last area, which concerns the workplace, is relatively broad and includes a number of different activities from corporate culture, occupational safety and workplace risks to ergonomics. Specialized programs are implemented either directly by employers or by institutions that specialize in the issue.

From the range of the above-mentioned activities, it is clear that the compilation of programs that connect several factors of work ability is relatively demanding and rather scarce in the Czech Republic.

8.1 Towards Successful Seniority Program for employed and unemployed people

This program takes into account the individual floors of the work ability house. Age Management z. s. brought it to the Czech Republic in 2016 on the basis of long-term cooperation with the Finnish Institute of Occupational Health (FIOH).

When planning the content of the method, the Finnish experts used information and research on continuing education, coping with work responsibilities, motivation and support of overall mental well-being. The uniqueness of this collaborative method of peer learning was awarded the 1st place for the category of examples of good practice in the international competition at the Work, Stress, and Health conference 2008 in Washington D.C., USA.

The main goals of the program “Towards Successful Seniority Program”⁷ are to:

- develop career management skills,
- develop the ability to manage change,
- support participants in planning goals and solutions related to their careers,
- promote mental well-being and the continuation of their careers,
- prevent burnout and depression,
- prevent early retirement, especially due to work-related mental health problems,
- strengthen the attitude towards lifelong learning,
- support participants in the successful performance of their job,
- act as a support for employees who have competence in the area of maintaining and promoting safety and health at work.

The main target group of the program are employees regardless of their age. The program shows very good results with graduates, helping them mainly in the field of career planning; but also, for aging employees, where it acts as a prevention for psychosocial diseases.

In the Czech Republic and the Slovak Republic, the program has already been implemented in more than 80 instances and attended by more than 800 participants. A total of 65 authorized lecturers who can facilitate these programs were trained (in the Czech Republic and in the Slovak Republic).

8.2 Employee programs

Employers participated in the implementation of the activities, especially within the projects approved by the Operational Program Employment (call No. 079 “Age management, smart change in management, opportunity for growth”).

⁷ Name of the programme in Czech language: “Profesní seniorita”.

Activities based on the concept of work ability for employees were implemented, for example, in the following companies: Správa železnic, state organization (Railway Administration), Krok Kyjov z.ú., Territorial Employment Pact of the Pardubice Region, z.ú., Direct Parcel Distribution CZ s.r.o. The implementation of age management was divided into two interconnected parts. In the first, analytical part, the company obtained relevant data using internationally recognized and validated methods. This data was used to design specific system measures to support the work ability of employees in the organization.

8.2.1 Analytical part

Initial age management audit

For effective implementation of age management, it is necessary to have input data that identify the problem areas. For this purpose, a tool for an initial age management audit was developed, including a scan of the age management pillars. The result of the scan included an analysis of the organization with regard to the age structure of employees, its corporate culture, employee care and HR activities related to age and equal opportunities. The compiled results summarized the fulfilment of the age management pillars numerically and graphically and served as a basis for developing a plan for the implementation of age management in organizations and companies.

8.2.2 Implementation part: Implementation of specific age management measures

The aim was to introduce specific measures based on the results of the initial analysis according to the concept of work ability and its individual factors. For a comprehensive solution, measures were proposed from all floors of the Work Ability House. Measures that do not take into account all floors are unsuccessful in the long term and lead to a decline in work ability.

The measures included, for example:

- training activities for managers and employees at various levels,

- recommendations for the application of age management measures to HR processes,
- assessing work ability for employees and employers,
- ergonomic audit of workplaces,
- consultancy in individual phases of implementing measures,
- regular monitoring,
- final control audit.

8.2.3 Final (control) audit

The subsequent control audit aimed to evaluate the effectiveness of the measures adopted within the implementation of age management. The output was a summary report, including a statistical overview of the achieved results. If a quantified improvement has been achieved since the initial audit, the organizations have been awarded the Age Management Friendly^{®8} employer certificate.

Figure 2: Certificate Age Management Friendly



⁸ The "Age Management Friendly[®]" certificate is awarded by Age Management z.s. in cooperation with the Czech Association of Age Management z.s.

8.2.4 Example of implementing age management at a non-profit organization Krok Kyjov, z.ú.

When implementing age management, the starting point for our organization were floors of the work ability house. Before the implementation phase, we passed the initial audit of the organization and identification of the fulfillment of individual pillars of age management. Based on this audit, we proceeded to implement individual activities. At the beginning of the project, training of managers focused on age management, and measuring the work ability of employees using the Work Ability Index method, was also implemented. The implementation of age management included all four floors of the house of work ability and we cooperated with Age Management z.s.

1. Health and functional capacity. Workshops focused on compensatory exercises in the workplace and on the assessment of workplace ergonomics were delivered. We bought ergonomic aids for the offices.

In the summer months, we started walking meetings. We motivated each other to exercise regularly at work. For this purpose, an infographic leaflet "Stretch and Flex in Step" was created, containing a set of simple exercises suitable for the workplace. All our employees got a smart bracelet and we started counting our steps. We attended a seminar on healthy lifestyles. As part of the "stress prevention" seminar, we learned techniques of stress prevention. We mapped the most common employee stressors and suggested ways to deal with them. We have created infographic leaflets for managers and other employees, the goal of which was to prevent stress. We started to host an annual thematically focused Health Day, during which we cooked a healthy menu together, measured our eyesight, blood pressure, BMI, learned about melanoma, and had discussions on the topic of a healthy lifestyle. Together we have created the "Ten Principles of Health in Step". We created and implemented a 30-day challenge, the motto of which was "become a happier and healthier self". The challenge was to perform various "tasks" for 30 days. We measured our work ability at the beginning and at the end of the project.

2. Competencies. We performed an analysis of the educational needs of our employees. Targeted training focused on the competencies of key employees took place. We have created a system of internal education, the aim of which is the transfer of know-how, mutual education, intergenerational cooperation and mentoring. We wanted to become a learning organization. We started using mentoring and coaching.

Two employees became authorized lecturers of the T. S. Seniority method. They then facilitated for the entire team. Thanks to suitable activities, the employees got to know each other in different ways, discovered their resources, options and found common interests. They left enthusiastic about the possibilities of working with the Work Ability House.

3. Values, attitudes, motivation. We focused on setting up a system of employee's motivation. We took several teambuilding trips. The creation of conditions for the so-called work-life balance was also an important point. Sharing topics and discussions has created an environment of greater trust and strengthened the employees' autonomy.

4. Leadership style, workplace and working conditions. A three-member team, which participated in the creation and implementation of the AM strategy, was created. These team members completed specific training focused on age management and continuously expanded their knowledge through studies. We performed an analysis of the internal documentation of the organization with regard to the work ability of employees. All employees were involved in the process of implementing AM, we communicated with them frequently, learned of their opinions and needs. We conducted an extensive employee satisfaction survey. We created an age management guide for managers. We improved our recruitment system and the adaptation process. We set up effective processes of internal communication and evaluation of employees based on work ability. We have developed a methodology to prevent discrimination in the workplace.

We also focused on the process of employees retiring from the organization. We created a brochure on how to prepare for retirement. We completed

several days of strategic planning focused on change management. The outcome is a three-year strategic plan, which we are currently implementing.

At the end of our project, we measured the work ability of employees again using the Work Ability Index method and age management control audit. Based on their quantified improvement, we received a certificate for an "Age Management Friendly®" organization.

Mgr. Veronika Vašíčková, project manager

This experience from the implementation of age management shows that the potential for using the concept of work ability is very wide. The knowledge of objective data allows for specific measures to increase employees' well-being and directly support their work ability.

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Germany

→ 1. Germany – Introduction

1.1 Description of the Partner Organisation

Arbeit und Zukunft e.V. [*Work and Future*] is a registered non-profit association, founded in 2001. With about 20 members from Austria and Germany, the organisation is a network of scientists, consultants and professionals from the disciplines of ergonomics, occupational health, work design, labour research, health science and more. According to its statutes, the organisation carries out national and international publicly funded R&D projects. On the basis of the Work Ability Concept, a transdisciplinary and participatory approach is pursued. Most members are experienced in advising businesses. The most frequently used advisory tools are Arbeitsbewältigungs-Coaching (ab-c®) [*Work Ability Coaching*] including the Work Ability Index, Personal and Company Radar (with Work Ability Index 2.0), and Age and Ageing appropriate and life-phase-oriented professional development.

1.2 Historical Development of the Work Ability Concept in Germany

Awareness of the Work Ability Concept (WAC) and the Work Ability Index (WAI) began to spread in Germany in the late 1990s. Together with Juhani Ilmarinen, Jürgen Tempel⁹ was a very important key driver and facilitator for their dissemination in the German discourse [1] and [2].

Since the beginning of the 2000s, the concept has attracted considerable attention. A major source of inspiration for this development has been done by

⁹ Jürgen Tempel (†2017) was a general practitioner and occupational physician, medical health doctor for many years at a Hamburg public transport company. Tempel and Ilmarinen published numerous essays and books, gave countless lectures, and conducted lots of workshops.

the BAuA – Bundesanstalt für Arbeitsschutz und Arbeitsmedizin [*Federal Institute for Occupational Health and Safety*] and INQA – Initiative Neue Qualität der Arbeit [*New Quality of Work Initiative*].

While the promotion of Work Ability is enshrined in the Occupational Health and Safety Act in Finland, where the WAI is a regular public health instrument, both are known but not legally regulated in Germany. Here, emphasis is placed more on voluntary engagement and network collaboration. The application of the WAI is free of licence fees in Germany.

The Verband Deutscher Betriebs- und Werksärzte [Association of German Company Doctors] is familiar with the WAI and several occupational physicians make active use of it, however, to an unknown extent. The WAI is frequently applied in connection with legally required repeated examinations of employees e.g. exposed to hazardous substances, working nights or shifts, in connection with risk assessment and with evaluation. However, only few companies conduct regular examinations of the entire workforce using the WAI.

Work Ability as concept as well as a tool is subject of research and development projects. Besides, they are taught at some universities (e.g. in Labour Science and Health Management study programs). Frequently students choose to do their bachelor's or master's thesis on this topic.

A number of publications deal with questions on the relationship between Work Ability and working conditions, age and ageing, leadership tasks, etc. Some examples will be given in section 4.

Employers' Associations and Trade Unions are aware of the concept as well.

Furthermore, the concept has found its way into the training of Demography Advisors and so called Demography Pilots and it is frequently discussed as a recurring theme at events, including chambers, associations, institutions, etc.

2. Demographic Development

Demographic Situation and Estimated Trends in Germany¹⁰ [3]

At the end of 2019, about 83 million people were living in Germany, 72.8 million of them held the German citizenship and 10.4 million were foreign citizens. The number of female persons was slightly over-proportional amounting to approx. 51%. The average age of the population was 44.5 years.

The economy was characterized by approx. 3.6 million companies, the majority (approximately 90%) being small and medium-sized enterprises (SMEs). As of 2019, Germany had a labour force potential of 46.5 million persons with a total workforce of 41 million persons employed, among them 33.8 million employees (15 million females) subject to social security contributions. Roughly 60% of the German workforce is employed in SMEs and approximately 40% in large-scale enterprises.

Germany is in the midst of demographic change. The increasing number of older people and the simultaneously decreasing number of people of younger age cause an unprecedented shift in the demographic framework. Today, every second person in Germany is older than 45 years and every fifth person is older than 66 years. After many years of decline, birth rates have been rising slightly since 2012, but they remain nevertheless much lower than the replacement rate of a stable population. On the other hand, Germany has experienced unusually large-scale immigration in recent years, especially of young people. This trend, however, has slowed down significantly as of 2019.

A comparison of age structures within the last hundred years shows the progress of demographic change. The cohorts with high birth rates from 1955 to 1970 (the so-called baby boom generation) form the largest age group. By

¹⁰ This sub-section is based on publications by the German Federal Statistical Office and is a compilation of texts not further marked as quotations here.

now this group has reached a certain age and will retire completely from the labour force within the next two decades. The number of people aged 70-plus rose from 8 to 13 million between 1990 and 2019. In 2018, the baby boomers of the 1950s to 1960s, as well as the consequences of declining birth rates due to changes in lifestyles and contraceptive measures (the so-called “pill kink”) were noticeable. The projections up to 2060 show an increase in the proportion of people older than 70 and a significant reduction in the working-age population. The birth rate will not increase significantly – and this “dejuvenation” trend of society will continue as children who are not born today cannot have children themselves tomorrow.

The projections show that these processes cannot be stopped despite a relatively wide range of assumptions about the future development of demography influencing factors such as birth rate, life expectancy and net immigration. The current age structure predicts a decline in the working-age population and an increase in the number of senior citizens within the next 20 years. In 2018, there were 51.8 million people of working age between 20 and 66 years in Germany. By 2035, the working-age population will have shrunk by around 4 to 6 million persons to 45.8 to 47.4 million. Afterwards, it will initially stabilise and then fall to 40 to 46 million by 2060, depending on the level of net immigration. Without net immigration, the working-age population would already decrease by around 9 million persons by 2035.

The number of people aged 67-plus has already increased by 54% between 1990 and 2018, from 10.4 million to 15.9 million. It will grow by another 5 to 6 million to at least 21 million by 2039 and will then remain relatively stable until 2060.

Regional differences will continue to increase until 2060. Assuming a moderate development of birth rates, life expectancy and net immigration, the population will decrease by 4% in the western and by 18% in the eastern German rural regions. In the cities, on the other hand, it will grow by 10%.

The working-age population between 20 and 66 years will decrease in all federal states. Between 2018 and 2060, under the same conditions, the

number of persons of working age will fall by 16% in the western and by 30% in the eastern German rural regions and by 4% in the cities.

The societal challenges in relation to the economic aspects can be described in a nutshell. The reduction of the labour force potential by about 5 million persons until 2030 requires

- an increase in the overall employment rate, especially for those aged 55-plus and for women,
- increased recruitment efforts in the domestic market and internationally,
- offering attractive working conditions with opportunities for professional and personal development,
- technical and organisational adjustments and innovations to provide marketable production and services with fewer employees.

The consequences of demographic change are becoming increasingly palpable in companies and organisations.

- The proportion of older people in the workforces of companies and administrations will continue to grow significantly in the coming years. The large group of baby boomers is collectively "moving" through working life. For the increasing number of employees aged 50-plus it is a matter of urgency that work is designed to be age- and ageing-appropriate.
- At the same time, the decreasing number of junior staff is already tangible and this trend will continue. This will lead to intensified competition for apprentices and university graduates.

The collective ageing of the baby boomers on the one hand and the significantly smaller number of working-age people in the following generations on the other hand, lead to a shift in the ratio of employed to non-employed persons. It is projected that the relation will change from 4:1 to 2:1, meaning that only two instead of currently four working people will have to generate the funds for transfer payments to non-working people.

The possibilities for influencing societal development through an increase in the birth rate are at best effective in the long term and currently not foreseeable. An annual net immigration of more than 200000 persons of working-age per year on average (in the medium forecast scenario) seems difficult as well. In this respect, two political strategies are being pursued as a matter of priority:

- Increasing the labour force participation rate, especially of older people and women,
- with a simultaneous extension of working life (earlier entry into working life and later entry into retirement or pension¹¹).

However, a pension reform does not directly ensure that people stay healthy and able to cope well with work requirements. Urgently needed are measures to ensure that working people

- have a job (employability),
- are able to stay longer and well in work (Work Ability), and
- are able, willing and allowed to carry out work productively and well (work well-being).

In this respect, it seems inevitable that work should be harmless, feasible, bearable, and should encourage learning throughout one's entire employment phase.

To achieve this, employability needs to be improved to become a good fit between people's capacities and work requirements. Promoting Work Ability is therefore on the agenda of individuals and organisations.

What is needed is a design of work that is attractive to younger and older people and provides enough flexibility for a good balance between work and private life.

¹¹ The 2007 pension reform in Germany intended a gradual increase in the retirement age from 65 to 67 in the period between 2012 and 2025.

Age- and ageing-appropriate work should take personal capacities and individual needs as well as changes in work requirements into account.

These factors change in the course of (working) life. It is therefore the task of companies, organisations, departments and employees to adapt the conditions soon in line with requirements, so that the Work Ability can be maintained over the entire course of one's career and productivity is ensured.

Prerequisites for this are in particular

- a mindful and appreciative personnel policy,
- age- and ageing-appropriate career paths that are aligned with life phases, and
- working conditions that promote health and personal development.

Reports on the situation of the older generation in the Federal Republic of Germany are prepared and published by a commission on behalf of the Federal Government in every legislative period since 1993. The aim is to provide continuous support for decision-making processes in the field of old-age policy.

The Federal Government's demographic strategy, adopted in 2012, is part of a longer political process that began in 1992 with the establishment of the Enquête Commission "Demographic Change – Challenges of our Ageing Society for Individuals and Policymakers".

The demographic strategy "Every Age Counts" is the basis for the cross-departmental and cross-level dialogue process to manage demographic change. It addresses all fields of action, sets concrete goals for these and identifies measures for their realisation.

Due to the raising of the retirement age, the Federal Government aims at regular distributing a report on the age-appropriate world of work [4]. So far they have published reports in 2012 and further in 2014 and 2018.

All federal states pursue specific demographic strategies with elements of monitoring and forecasting, projects for rural areas and urban development, transport and trade etc. There are regional networks, demography workshops

and many different information events. Several municipalities have their own concepts and some have also appointed municipal demography officers.

The Federal Government and the states have set up a joint demography portal¹².
Rhineland-Palatinate is the only federal state to have established a Ministry for Social Affairs, Labour, Health and Demography.

3. Legislative Framework, Reference to Strategic Documents

3.1 Social Insurance System

The history of German social insurance goes back to the time of Chancellor Bismarck, who introduced health, accident and pension insurance in 1883. Over time, continuous improvements have contributed to the development of the German welfare state.

Social insurance protects the employee against essential life risks, such as sickness, work injury, occupational disease, unemployment, and disability. There are five types of compulsory insurance:

- Health insurance
- Unemployment insurance
- Pension insurance
- Care insurance
- Accident insurance.

The accident insurance is obligatory for all enterprises. It is funded solely by the employer. For the remaining social insurance policies the employer and employee each pay a share. Equal financing applies to pension and unemployment insurance. For health insurance, this only applies to the general

¹² <https://www.demografie-portal.de>

contribution rate. There is a separate contribution ceiling for health and long-term care insurance as well as for pension and unemployment insurance.

Social security is a form of state-regulated care for important risks in life that is organized by self-administered insurance carriers. Depending on the federal state and/or on the insurance branch, social insurance is operated by state institutions, public corporations or private corporations.

3.2 Health Care System

Germany does not have a national health care system. Rather it is administered through several autonomous bodies and associations such as the statutory health insurance system (*Gesetzliche Krankenversicherung – GKV*). German citizens are automatically and compulsorily insured on entering employment if the regular monthly gross income exceeds EUR 450.

The employer is obliged to pay for sick leave due to non-occupational diseases and injuries for up to six weeks; from the beginning of the seventh week such payments are covered by GKV, which generally compensates the employer for 80% of the sick worker's salary.

Compensation for sick leave due to occupational diseases and injuries is covered by the statutory accident insurance system. The full amount of the salary is paid from the first day of sick leave. If a return to work remains impossible after two years, the sick employee will be retired under the statutory accident insurance scheme.

3.3 Healthy Life Years (HLY)¹³

In 2016, life expectancy in a healthy condition at birth in the European Union (EU) was estimated at 64.2 years for women and 63.5 years for men. The average life expectancy for women in the EU was 5.4 years longer than for men. However, most of these additional years tend to be lived with activity limitation, whereas on average men tend to spend a greater proportion of their shorter lives free from activity limitation.

The number of healthy life years at birth was higher for women than for men in 20 of the EU Member States. In 2018, healthy life years in Germany were estimated above the EU-27 averages for both women and men.

Figure 1: Healthy life years in Germany for women and men in 2018

	at birth		at age 65	
	women	men	women	men
Germany (2018)	66.3	65.1	12.2	11.5
EU-27 (2018)	64.2	63.7	10.0	9.8

The gender gap was considerably smaller in terms of healthy life years than it was for overall life expectancy. Life expectancy for women in the EU-27 averagely exceeded men's life expectancy by 5.5 years in 2018.

¹³ Sources for Healthy Life Years: Eurostat
<https://ec.europa.eu/eurostat/web/products-eurostat-news>
 Eurostat Healthy Life Years Statistics (2020):
<https://www.google.com/search?q=healthy+life+years+by+country&client>

3.4 Occupational Safety and Health System¹⁴

The German occupational safety and health (OSH) system exists since more than 100 years.

Throughout time, the system has proven to be resilient and adaptable. The system's strength is probably guaranteed through the close cooperation among the various relevant actors in occupational health – especially the strong and prevention-minded occupational accident insurance institutions and the labour inspection authorities, supported by very active social partner associations.

The German OSH system follows the conventions of the International Labour Organization (ILO). All OSH legislation is harmonized with EU directives. The OSH-system in Germany is characterized by a dual structure. It consists of the federal and state labour protection and of the self-administered accident insurance carriers. State committees draft state issued laws, ordinances and rules. The accident insurance institutions issue their own accident prevention regulations following a needs assessment and with the approval of the federal government and the states.

The companies are supervised and advised by the responsible state supervisory authorities and the accident insurance institutions.

In order to maintain, improve and promote the safety and health of employees through coordinated and systematically perceived occupational safety, the Joint German Occupational Safety and Health Strategy (*Gemeinsame Deutsche*

Arbeitsschutzstrategie – GDA) was developed for even better coordination in the area of prevention.

Health and safety at work is administered by the Ministries for Labour and Social Affairs at both federal and state level, reflecting the federal structure of Germany. This creates challenges in bridging the gap between health at work and general (non-work-related) health issues, which are supervised by the Ministry of Health and regional health offices.

The statutory accident insurance institutions are obliged by law to adopt accident prevention regulations, which are developed by expert committees and approved by the Federal Ministry for Labour and Social Affairs. Responsibility for the implementation and control of compliance with national regulations on OSH are placed on the individual 16 federal states' labour inspection authorities. The duty of the implementation of accident prevention regulations is assigned to the inspection services of the accident insurance institutions. Overall coordination of key stakeholders is achieved through the GDA, regional governments and accident insurance institutions with a permanent secretariat in the Federal Institute for Occupational Safety and Health. They meet to decide on the national planning, coordination, execution and evaluation of OSH measures. They regularly exchange information with social insurance institutions, professional associations, institutes and university departments dealing with or training in OSH and other stakeholders.

The German Social Accident Insurance (*Deutsche Gesetzliche Unfallversicherung – DGUV*) is the umbrella association of the industrial sector's statutory accident insurance institutions.

The National Occupational Health and Safety Conference (*Nationale Arbeitsschutzkonferenz – NAK*) is the central body for planning, coordination, evaluation and decision-making in the framework of the joint German OSH strategy. Its members include the federal Government, the federal states and the accident insurance institutions. The social partners participate in the NAK meetings, acting as advisors in developing OSH objectives. The systematic dialogue between the partners of the joint German OSH strategy and all

¹⁴ Sources for OSH-System:

<https://osha.europa.eu/de/about-eu-osha/national-focal-points/germany&prev=search&pto=aue>

<https://www.baua.de/DE/Aufgaben/Forschung/Kooperationen-und-Internationales/Focal-Point.html>

https://www.euro.who.int/_data/assets/pdf_file/0010/178957/OSH-Profile-Germany.pdf

relevant German stakeholders is conducted in the Occupational Health and Safety Forum (*Arbeitsschutzforum*), whose task is to advise the NAK. Participants in the Forum are the social partners, professional and industrial associations, health insurance and pension insurance funds, national networks in the area of OSH and representatives of the corresponding academic world.

3.5 Labour Laws and Regulations

Despite some efforts, no uniform codification of labour law exists so far. Regulations are, therefore, fragmented among others in a lot of different legal sources. Several laws regulate the legal relationships between individual employees and employers (individual labour law) as well as between the representative bodies of the employees and the employers (collective labour law).

The Occupational Health and Safety Act (*Arbeitsschutzgesetz*) is the primary German law on OSH. It directly implements the European Council Directive 89/391/EEC (Framework Directive) on the introduction of measures to encourage improvements in the health and safety of workers at work. The law emphasises the preventive approach and universal coverage of all employees in all enterprises of all sizes and in the public sector. Furthermore, it describes in detail the duties and rights of employers and employees with regard to health and safety in general. The so-called daughter Directives of the Framework Directive, focusing on individual hazards and exposures, are all implemented, largely by adaptation of previous corresponding legislation. The Act on Occupational Physicians, Safety Engineers and other Occupational Health and Safety Specialists (*Arbeitssicherheitsgesetz*) sets out the duties of employers regarding the provision of occupational health services (OHS), including the minimum annual working time of occupational physicians and safety specialists for enterprises of different sizes and in various sectors.

3.6 OSH in Companies

While larger companies usually have multidisciplinary in-house staff, often consisting of several physicians, safety engineers, psychologists,

physiotherapists, medical assistance personnel, etc., smaller ones contract externals for these services on an hourly basis.

Enterprises with 20 employees or more are obliged to establish an Occupational Safety and Health Committee. It is composed of the employer or his representative(s), the safety professional, the company doctor, the safety representatives, two representatives of the work council, and, if necessary, external OSH experts.

The implementation of OSH legislation is monitored and enforced by each federal state's labour inspectors and inspectors of the statutory accident insurance institutions.

Indicators on working conditions are collected primarily by the enterprise in the context of the obligatory risk assessment and also externally by authorities or accident insurers in connection with workplace inspection. Health data from statutory health insurance are gathered and provided by the German health insurance institutions.

Employers are legally obliged to perform risk assessment and management; they must also contract occupational health services or – as in the case of the employer model – provide access to such services. Non-compliance is subject to a fine.

As in most EU countries, there are no specific legal regulations on work-related stress and/or mental workload in Germany. However, legal regulations, and in particular the labour protection law, specify the obligation for employers to consider factors such as design of working hours and work organization in the context of risk assessment, which means that factors relating to job stress and/or mental workload are implicitly covered. Legal obligations in this respect are in principle enforceable. In the absence of a binding legal obligation, voluntary activities take place in the context of workplace health promotion (WHP), mainly in larger enterprises. As part of the New Quality of Work Initiative, the German Government has created a network wherein various partners provide recent research results, recommendations and examples of good practice on the prevention of work-related stress. Performing workplace

health promotion – whether work or lifestyle-related – is not mandatory for German employers. Accordingly, there are no particular legal obligations to prevent job stress in this context. The institutional responsibility for providing WHP rests entirely with the statutory health insurance funds and not with the occupational health and safety authorities or other public agencies.

The companies' Compliance with the regulations is checked by works councils. The tasks are regulated in the Works Constitution Act [*Betriebsverfassungsgesetz*] and the Co-Determination Act [*Mitbestimmungsgesetz*]. There are references to other labour laws and regulations (e.g. Workplace Safety Act or Ordinance on Workplaces).

In (often sector-related) collective agreements, binding rules are agreed upon by the social parties (mostly employers' associations and trade unions) within the framework of the autonomy of collective bargaining guaranteed by the Basic Law. These relate, among other things, to the content, conclusion and termination of employment relationships as well as to company and works constitution law issues, such as remuneration and working time, insofar as they exceed statutory minimum requirements (normative part). They regulate the rights and obligations of the parties to collective agreements (contractual part).

3.7 Work Ability and Demography as Subject and Matter of Regulations in Collective and Company Agreements

In some sectors and in – predominantly larger – companies, collective agreements have been concluded to deal with demographic change.

The chemical sector takes a pioneering role and has set a milestone in the history of collective agreements with the contract "Lifetime, Working Time and Demography". The formula incorporates four main elements: (1) creation of a company demographic analysis, (2) age-, aging- and health-appropriate design of the work processes, (3) qualification during the entire working life and (4) (personal) provision and use of tailor-made instruments for smooth transitions from education, employment and retirement. This costs money, which is why

a demography fund has been set up in every chemical company, into which the employer pays EUR 300 per employee per year.

In other sectors, such as the iron and steel industry, wood and plastics, railways and transport companies, local transport, postal services, dock workers of the German seaport companies, Banks, but also e.g. for kindergartens, the current state of occupational research on ageing-appropriate work and on Work Ability was taken into account.

Up to now, the only agreement that has aligned its structure with the Work Ability Concept, is the "Collective Agreement on Demographic Change and Intergenerational Equity" of the public transport company VHH in Hamburg.

4. Significant Research Projects in the Field of Work Ability – Overview on Published Articles

The Work Ability Concept and Age-/Ageing Management are widely applied in research, consulting and teaching in Germany. From the countless projects, only few can be named as examples here.

- A comprehensive overview on WAI-based tools has been published by the BAuA: The Work Ability Index in use for Work Ability and Prevention. Field reports from the practice. [5]
- A good general overview is provided by the publications on the annual conferences of the German WAI network – see e.g. [6]. The supporting organisation 'Institute for Work Ability' has compiled two (unpublished) population-representative WAI data sets containing a total of 6518 cases. In addition, there are other individual samples that contain a total of about 3000 cases.
- The INQA brochure 'Introduction to the WAI family' gives an insight into the use of the WA-concept with several advisory tools. [7]

- Prümper and Richenhagen [8] have clearly presented the application possibilities of the WAI.

Among current research findings the construct validation of the Work Ability Index, based on a representative sample of employed persons in Germany [9] deserves to be emphasised. This study shows the need for a two-dimensionality of subjective Work Ability: resources on the one hand and health conditions on the other hand. The author argues that the WAI should only be used as a screening tool for an initial overview of Work Ability and should be applied in combination with other instruments where possible.

For a demography-oriented personnel policy with references to the WAC, see for example the anthologies 'Personnel work in demographic change' [10] and 'Fit for demographic change? Results, instruments, good practice approaches' [11].

The scientific preoccupation with the Work Ability Concept seems to have largely come to an end. In recent years, counselling approaches with a large number of workplace change projects have gained in importance. An assessment of the international state of development is provided by Juhani Ilmarinen [12].

The current R&D project 'High patient satisfaction through age-/ageing- and life-course-appropriate work design and career models in nursing care' links the WAC with age-appropriate career paths [13].

5. Applying the Work Ability Concept and Age Management on Individual, Organisational and Company Level

Work Ability cannot be established individually, as conceptually it only arises in reference to work:

Work Ability is defined as the balance between work and individual resources. When work and individual resources fit together well, Work Ability is stable (excellent/good). In other words: if the balance between work demands and individual coping capacity is not proper, Work Ability is only moderate or even critical.

Nevertheless, the following applies: Every person can make her or his personal contribution to establish stable Work Ability. This concerns in particular activities to maintain and promote one's own health, maintain and develop qualifications and competences (readiness for lifelong learning), and commitment and motivation to perform a job.

This means that each person contributes his or her health and competences for being able and willing to cope with the job demands.

This requires the employing company to shape the prerequisites/working conditions in a way that allows people to do the work – in other words, that the work is free of harm, feasible, bearable and, if possible, conducive to personality development.

The WAI can in itself make a statement related to the individual's ability to work. If the person draws personal conclusions based on the result and, if needed, takes measures to strengthen his or her Work Ability, this is perfectly fine as a behavioural change. However, it usually has no influence on the working conditions and work requirements.

The application of the WAC in Germany will be explained in the following more precisely looking at three approaches to promote Work Ability in companies: Work Ability Coaching (section 5.1), Personal and Company Radar (5.2), and Age & Ageing Appropriate and Working Life Oriented Career Paths (5.3).

5.1 Arbeitsbewältigungs-Coaching (ab-c®) [Work Ability Coaching]

In a project on sustainable labour research¹⁵, the WAI was applied in several homecare companies. It became obvious that the employees' focus on their own activities to promote Work Ability was not sufficiently design-oriented – they demanded an extension of the approach to include workplace relations besides the scientific approach. The guiding principle “Start with the individual, but don't stop there” was the beginning of Work Ability as a consulting instrument.

The further development of the idea in an Austrian project led to the development of the workplace counselling approach ‘Arbeitsbewältigungs-Coaching’ [‘Work Ability Coaching’] under the slogan “Strengthen the individual, secure the company's future”.

After further projects and in consultation with the trade union concept of ‘Good Work’ and the development of the ‘Good Work Index’, a trademark was registered in Germany, Austria and Switzerland. Test runs to qualify consultants to use this tool and experiences in various publicly and company funded projects led to a revised and extended new edition as a guideline for the use in companies [15].

Work Ability coaching is a two-stage development process.

- (1) The personal and confidential ab-c dialogue is an offer to the company's employees. Participation in the interview which lasts about one hour is voluntary.

At first the current Work Ability situation is evaluated applying the Work Ability Index and the result is being explained. The interviewer asks questions that guide the person to identify personal as well as corporate

measures for the promotion (preservation, support, improvement or restoration) of her or his Work Ability and to think about implementation steps. The fundamental questions are the following:

- What can you do by yourself to promote your Work Ability?
- What do you need from the enterprise?

Both questions are asked in the areas of design in the House of Work Ability: health, competence, attitudes, working conditions, management/work organization, and reconciliation of work and private life.

The goal of the ab-c dialogue is self-observation (where do I stand?), self-regulation (what can I do/what do I want to do myself?) and also the development of suggestions for corporate measures for the preservation and promotion of Work Ability.

For the individual promotion resolutions, each person concludes an agreement with him- or herself: “I (want to) do: ... I like to start as follows: ...”. An individual and demand-oriented promotion plan for the achievement of one's own promotion and protection goals is created.

- (x) After the completion of the interviews the Work Ability survey report is created. In this report several structural company data (or data from the pilot area) are compiled besides the Work Ability situation of the staff. The promotion intentions and suggestions from the ab-c interviews are included in anonymized form so that nobody is identifiable. A sub-topic keyword list for each floor in the House of Work Ability enables the identification of important topics by a simple count of frequency.
- (2) The results of the survey report (including any topic mentioned by any participant) are presented to the enterprise's steering committee (the ‘Circle of Responsibility’) at the corporate ab-c workshop. The goal at this stage is to propose promotional collective measures based on the findings about the staff's Work Ability and the corresponding promotional needs. The central questions are:

¹⁵ The results of the research project “Participative and interactive interdisciplinarity for sustainable labour research” are published [14].

- What can the enterprise do to promote the staff's Work Ability?
- What kind of external support does the enterprise need?

The workshop aims at the agreement of at least one promotional measure – ideally at all levels of activity or as integrated interventions: health promotion, working conditions, personal development and career planning, management and work organization. The measures are assessed according to their importance/urgency and according to the feasibility of action. Afterwards they are transferred to the corporate development projects (planning of expenditures and resources).

ab-c has proven a powerful tool for promoting Work Ability, to change working conditions and to support coping with work demands in several different branches and businesses – from opticians to carpentry, from steel plants and automotive assembly to gear production, from ambulant elderly care to clinics, from kindergartens to waste management, as well as in health and pension insurance companies and other associations.

By the end of 2020, more than 1200 people have participated in 2-day trainings for the use of the counselling tool Work Ability coaching (ab-c®) in Germany, Austria and Switzerland. Roughly estimated, several thousand counselling processes have been carried out in which on the one hand individual self-awareness and the formulation of one's own support resolutions are supported (self-care empowerment) and on the other hand collective support measures are developed to promote Work Ability in companies.

5.2 Personal and Company Radar

In the early 2010s, a fundamental further development of the Work Ability Concept was promoted in Finland based on international experience. In the project “Good Work – Longer Career” a revised concept of Work Ability was tested, examined and implemented in about one hundred projects in the Finnish technology industry. The concept and some results of development processes in Germany have been published [16].

The instrument for the promotion of operational Work Well-being also consists of two interconnected elements as well as data evaluation and processing.

- (1) The Personal Radar (WAI 2.0) is a survey instrument to evaluate the state of the house of Work Ability: How is the overall balance in the house and what are the strengths and weaknesses on different floors in the House of Work Ability. The aim of the survey is to give a clear picture of items which need to be improved inside or outside of the house.

The survey WAI 2.0 has been substantially revised. The new instrument has been validated [17].

The written questionnaire consists of standardised and validated questions on work organization, management and individual resources, which are placed on to the four floors of the house as well as in family and social environment. Summary indices are created for certain groups of questions:

- Questions 1–17 evaluate the resources of work conditions and personal resources (Workplace Index)
- Questions 18–23 estimate the individual Work Ability (Work Ability Estimate)
- Questions 1–23 build the overall Work Well-being Index.

The scales of all questions 1–23 range from 0 to 10.

Additionally, three open questions¹⁶ are asked:

- (24) What do you like the most in your workplace? (Resources of the work)

¹⁶ These questions originate from the concept of the Appreciative Exchange of Experience according to Geißler et al. 2007 [18].

- (25) What disturbs you the most in your workplace? (Stress or strain at work)
- (26) Please imagine that a fairy suddenly appears and says: “Make a wish for your working life! Decide spontaneously what you wish for in order to be able to carry out your work well and write it down here”: ...

An online survey is useful in order to keep the data collection effort low; however, not all companies and employees have the necessary equipment.

- (x) For the analysis, mean values are calculated for each question and aggregated as indices. Additional evaluations of statistical correlations, e.g. for differences according to age, gender, type of activity, are sometimes required.

The answers to the open questions need to be assigned to the floors of the Work Ability House. Here, we are interested in the content of the comments, and how the answers touch upon the different floors and subthemes.

- (2) The Company Radar is a dialogue tool to determine priorities for the most important fields of action as well as action measures.

The results of the Personal Radar indicate the current situation in single items on different floors of the Work Ability House. Also, the results show the strengths and weaknesses of the company. Especially the weaknesses are paid special attention for necessary development.

The Company Radar is a process tool for the company, which enables a representative group of managers, workers and operational experts (it may be called steering group, advisory group, circle of responsibility or similar) to plan in a joint decision-making process how the Work Ability and Work Well-being should be developed.

In the Company Radar process the main results of the Personal Radar, the (ergonomic) key figures of the enterprise as well as the experienced

knowledge of the participants in the Responsibility Circle will be used for the planning of the implementation of strategic and/or operational measures for proactive promotion of Work Ability.

The main communication tool in the Company Radar process is the dialogue between the project members; the identification, prioritisation and implementation of promotional measures should be based on dialogue and common agreement.

An agreement on possible measures to improve the well-being at work by shaping the conditions is reached through systematic prioritisation: The Circle of Responsibility determines on which floor and in which field of action to start.

The measures are evaluated according to importance, urgency and feasibility. According to the SMART concept (specific, measurable, achievable (or attainable), relevant, and time-bound), goals, tasks, next steps and responsibilities are agreed upon. To demonstrate their sincere commitment to implementation, initial measures that can be realised quickly should also be agreed upon.

By the end of 2020, approx. 100 facilitators have participated in 2-day trainings in the use of the Radar tool work in Germany, Austria, Switzerland, and Czech Republic. In Germany about a dozen counselling processes have been carried out, e.g. in companies from cooling unit manufacturing, public transport, public administration, clinics, automotive manufacturing, automobile delivery centre and event location, and waste management.

5.3 Age & Ageing Appropriate and Working Life Oriented Career Paths – Co-Ageing Work

The term ‘age’ refers to a certain point in life. In everyday life, we often refer to the chronological age. In various sciences distinctions are made between e.g.

biological age (physical fitness, performance capacity), psychological age (self-awareness) and social age.

There is no scientifically valid standardised classification of 'old', as ageing becomes apparent to different degrees in individual ability categories and there is also considerable inter-individual variation.

A clear 'ageing' can be observed in a number of bodily functions. Physical and physiological capacities increase rapidly in childhood and adolescence, maintain their level over a longer time and, after reaching a maximum, decline more or less over the following years of life. A clear ageing process is evident in all biological functions with consequences for physical performance such as strength, speed and mobility, as well as in the perceptual systems. It should be emphasised that skills such as experiential and tacit knowledge as well as competences in the area of personality (social relationships, networks) tend to increase with the years of life and can remain at a high level for a long time.

The nature of the ageing process results from inter-individual and intra-individual differences in individual ability categories. These depend on a variety of influencing factors ranging from genetic disposition, socialisation, education, state of health, experience, performance requirements, learning stimuli and more to lifestyle (nutrition, addictive substances, exercise, etc.).

A performance-assessment as well as age-appropriate design are approaches only oriented towards the chronological age, which is not serving the purpose and should at best provide a (very) rough orientation.

Ageing-friendly work should already start with younger people and include persons of all age groups in order to have a long-term effect. Every age, every phase of life, and special life situations are to be taken into account.

- The life course is characterised by highs and lows. These are caused, for example, by transitions (school, training, change of job or employer, career steps) or by changes in the family situation (children, relatives to be cared for).

- The performance potential of older people is not 'worse' than that of younger people, but has changed over time. Although physical functionalities decline, experience, social competences, communication skills, etc. grow. The ability to learn remains essentially the same.
- Some jobs are/become more difficult to manage with age than others. For example, working at a hot workplace in a steel mill or the demands of shift work in nursing are physically and psycho-mentally quite different from those of an administrative job. When assessing the challenges of work, however, it is not primarily the calendar age that plays a role, but above all the duration of exposure to certain high stresses. Occupational science uses the term "work (or stress)-induced ageing".

According to Spirduso, we nevertheless speak simplified of age-critical conditions when in fact a combination of exposure duration and/or age is relevant. Some central influencing variables for age- and ageing-critical elements of work are summarized in the checklist "Ageing-critical activities" [19] which now includes aspects of mental and psychological demands, taking into account gender differences. They are confirmed by Seitsamo et al. [20]:

- Long-term physical overload (holding work, monotony),
- Chronic time pressure and overtime (especially for older workers),
- working in alternating shifts and especially in continuous/night shifts,
- inadequate management behaviour / lack of appreciation and recognition,
- frequent feelings of stress
- low autonomy of action,
- exclusion from further training.

The growing diversity should be taken into account by better aligning work requirements with the capacities of individuals. The concept of Work Ability is the guiding principle for the ageing-appropriate design of work.

Proactive Strategies for Co-Ageing Work – Work must Fit the Person

To begin with, it is important to consider working life not as an unchanging constant, but to apply the Finnish concept of Work Ability which acknowledges the interaction of individual physical, mental, psychological and social capabilities with work demands. Accordingly, the Work Ability is to be understood as a flexible and designable variable. The concept focuses on the change of individual capacities in the course of life and the changeability of work requirements. It is the task of companies and employees to pay attention to the relevant influencing variables (health, competence, values/attitudes and working conditions) and to adapt them if necessary, so the Work Ability can be maintained and productivity is ensured.

- Personal capacities change, e.g. occupational routine increases or physical capacity declines with advancing age.
- Individual needs change over the course of life, e.g. in terms of family responsibilities for raising children or caring for relatives, but also in terms of motives for working.
- But there are also developments in work requirements, e.g. through the use of new technologies, the development of new products/services or modifications in process organisation.

The task to be solved is to take into account the growing individual diversity of personal capacities at work. According to established occupational science findings, this can only be achieved through work design that is oriented towards the possibilities of the individual and thus – with a necessary degree of standardisation – allows for greater individuality. In terms of work organisation, this means that (especially older) employees must be offered more and more options for professional development and adjustments in work requirements.

In order to identify the current state and desirable as well as necessary work design options in workplaces and in organisational and personnel development, it is necessary to examine which activities are most suitable for which career and life phases. The counselling approach for “Ageing-appropriate working life – co-ageing work” [21] structures the survey on career paths with the following guiding questions:

- Which activities are most suitable for entry into the profession/company in order to build up experience and routine and to strengthen professional competences?
- What other activities with horizontal, diagonal and vertical job-development opportunities can be pursued afterwards?
- Which activities or elements of activities or framework conditions are critical for the person performing them with increasing age or longer duration of exposure to stress? What relief possibilities (other activities, job rotation ...) are available or imaginable?
- Which activities can people perform well, motivated, healthily and productively over a long period of time to remain employed (until normal retirement age), or are there specific exit options (preferably without loss of status and income)?

The basis of a proactive strategy for ageing-appropriate work is comprehensive knowledge of the current status. Essential requirements include company's structural data (age, qualifications, etc.), risk assessment of physical and mental/psychological hazards and stresses, job descriptions, and experience with previous change processes. In order to identify the options in organisational and personnel development, it is necessary to examine which activities are most suitable for which occupational and life phases. The guiding questions on career paths can be roughly summarised in a typology:

- Which activities are most suitable for entry into the profession/company in order to build up experience and routine and to strengthen professional and organisational competences?
- What other activities with horizontal, diagonal and vertical development opportunities can be pursued afterwards?

- Which activities or elements of activities or framework conditions are critical for the workers with increasing age or longer duration of exposure to stress? What relief options (other activities, job rotation ...) are available or imaginable?
- Which activities can people perform well, healthily, and productively over a long period of time (until normal retirement age)?

These and some other aspects are examined by means of a question guide in one-hour interviews with employees from different age-groups in the relevant area. The results from all interviews are processed according to two structural elements:

- What are the indications for designing ageing suitable work? → Work design according to the Work Ability model.
- What information is available on career paths? → Arrangements according to the typology of job histories.

In a workshop with the employees surveyed, the individual statements are summarized in collective proposals for measures. In a company steering committee a decision is made on measures that can be implemented.

In several projects, a career development matrix was organised for human resources development.

6. Educational and Counselling Activities for Work Ability Support

There is no university chair for Work Ability in Germany. Nevertheless, the concept is used in some study programmes, especially in Applied Health Sciences, Public Health, Workplace Health Management, human resource management and in occupational sciences, as well as in the specialist studies of company and works doctors.

Several bachelors' and masters' theses are published every year that deal with the Work Ability Concept.

The WAC, the WAI and the Personal and Company Radar are used in many consultancy projects in a number of branches. However, very often the results are not published owing to reasons of confidentiality.

The counselling tools presented in section 5 are taught in two-day seminars to academically qualified persons with fundamental consulting experience.

For more than 15 years, there have been support offers for companies to cope with demographic change. Various offers for qualification seminars of several days' duration qualify demography pilots or demography advisors.

7. Applying the Work Ability Concept for Unemployed People

Transferring the WAC to persons who are currently unemployed is methodologically difficult, since by definition a reference to work/employment is required. Nevertheless, the WAI can be used to estimate the individual Work Ability.

Only few publications deal with this topic. Recommendable for further project work is the contribution of Pensola et al. [22] who have shown that long-term unemployment in particular leads to a significantly lower Work Ability. "The Work Ability of long-term or recurrently unemployed persons was clearly poorer than that of those employed or those who had been unemployed only rarely and for a short time. ... Approximately one half of the difference ... could be explained by economic difficulties and poor education." [22: 129]

In the 4th symposium on Work Ability in 2010 [23] several contributions were presented on the subject area unemployment:

- Work Ability Score as an Indicator of Employability in the Course of Unemployment [24].
- Employability in the Course of Unemployment – A Participative Approach [25].

- Functional capacity and its associations with age, education and health among unemployed people [26].
- The impact of appreciation on health promotion for older long-term unemployed and nursing staff threatened by unemployment [27].

The German Federal Labour Office has not (yet) adopted an approach to promote Work Ability for its labour market advisers.

In order to avoid unemployment or early retirement, the prevention concept of company integration management is applied in Germany.

The German Pension Insurance has carried out a multi-year project on demography-oriented consulting for companies [28].

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Hungary

→ 1. Hungary – Introduction

1.1 Description of the partner organization

National Public Health Center and its Occupational Health Department

The Center (NNK) is a state budgetary professional background institute to the Ministry of Human Capacities (EMMI), which is responsible for health. The Center's task extends to a broad range of public health issues: occupational, environmental, radiation, nutrition and cosmetics, children health, chemical safety, health promotion, epidemiology and health care administration.

The predecessors of the Occupational Health Department (NNK-MFF) were founded in 1933 and 1949. The National Occupational Health Institute played crucial role in establishing European level occupational health for Hungary. In its current form NNK-MFF performs scientific research-, health service-, educational-, organizational-, and professional supervision duties and provides expertise for national and European policy making. The Department's most important tasks are within the following specialty areas: identification of occupational sources of diseases, early detection of these diseases, health surveillance, biological monitoring and working environment exposure monitoring, and evaluation of fitness to work. The employees of the Department cover a wide range of expertise and are active contributors in numerous international expert organizations. They take part in the work of several national- and international working groups and projects.

Although having a strong health focus, the Department's approach to work ability is holistic. Our vision is adapting working conditions to the individual. The Department has provided the official Hungarian version of the Work Ability Index and is committed to disseminate the methodology. *In our study, in addition to some theoretical approaches, we present the demographic and labour market situation of Hungary, policy guidelines and strategies related to*

*the employment of aging workers, related support and service tools, and their operation.*¹⁷

1.2 Introduction, the historical development of the concept of work ability in the country

According to the Hungarian Explanatory Dictionary, a person is *able to work* if their physical and mental health, and physical condition allow them to work.¹⁸ The *correlations between work and health* have been known for thousands of years. The work environment poses risks to health and safety that significantly outweigh the effects of other human environments, especially concerning occupational health. In Hungary, in the early 1900s, *the conceptual basis of work ability was health impairment* and its effects on the ability to work, which initially was mainly related to insurance. The introduction of new machines and technologies has increased the rate of accidents and occupational diseases, drawing attention to the health of employees. First, a 1907 law articulates the need for medical professionals to determine health impairment [1]. Then, in 1927, another law expands the previous scope of activities to include the examination of disability as a task of medical professionals [2]. After World War II, the definition of work ability was *mainly based on economic interests* and was limited to disability resulting from war injuries. From 1970, prevention also came to the fore regarding work ability and related services. From the 1990s, in addition to primary prevention activities, *health preservation also appears in the work of occupational health services*. The further stage of development of occupational health is characterized by the preference for primary prevention and health preservation [3].

¹⁷ The author, János Szellő, is an expert of the National Public Health Center in Hungary, honorary associate professor, and the head of the Labor Research of the Faculty of Cultural Sciences, Education and Regional Development of the University of Pécs.

¹⁸ Munkaképes. [07/01/2021]. Available from: <https://www.arcanum.hu/hu/online-kiadvanyok/Lexikonok-a-magyar-nyelv-ertelmezo-szotara-1BE8B/m-3FE0D/munkakepes-40494/>

There is *no legal definition for the concept of work ability*, but it is closely linked to the definition of *altered work ability*. In practice, until the mid-1990s, the concept of altered work ability focused on lost abilities (e.g., “reduced ability to work”). According to a 1983 decree, which has since been repealed: *a person with altered work ability is an employee, who, due to deterioration in their health, has become permanently unfit to perform full-value work in their original job without rehabilitation measures* [4]. The system of occupational rehabilitation has been transformed over the last twenty years. The changes require a new, needs-based approach from medical doctors, labour-related professionals, social workers, experts, alternative service organizations, employers, and, last but not least, from people with altered work ability. The emphasis has shifted to exploring remaining abilities (and their development if possible) under the framework of a complex rehabilitation process (medical, psychological, psychic, training-related, employment-related).

In Hungary, according to the Employment Act *“a person with altered work ability: a person with physical or mental disability, or whose chances of employment and job retention after medical rehabilitation decrease due to physical or mental impairment”* [5]. Under the Act CXCI of 2011 on benefits for persons with disabilities and amendment of certain acts, a person is entitled to benefits, and *can be defined as an employee with altered work ability* if their state of health during the complex qualification procedure is 60 per cent or less and they have a defined period of insurance [6]. The *2011 census defines a person with disability* (by their own admission) as having a permanent, lifelong physical, mental, intelligence or sensory disability, whether or not it impedes the performance of socially expected activities. In Hungary, the European Union Labour Force Survey, which is also used by the Hungarian Central Statistical Office, considers people with altered work ability to be disadvantaged in the labour market due to their permanent health problems, illness or other (physical, sensory, intellectual, etc.) limitations. A permanent disease is a health impairment that cannot be cured at the time of the survey but can be treated with drugs or other therapies [7].

Accordingly, both the term disabled person and person with altered work ability are used. As early as 2012, the Hungarian Office of the Commissioner for Fundamental Rights addressed the problem of the *diversity of concepts* and their different uses in different disciplines. In addition to people with disabilities, the concept of people with altered work ability includes people with impaired health, making the group quite complex and having different characteristics [8].

Nowadays, *the concept of work ability in Hungary follows a holistic approach*. It is not identical but contains several analogous elements with the definition of *employability* used in the labour market. According to this, employability includes *“individual factors”*, basic attributes, general skills and work-related knowledge. In addition, *“personal circumstances”* which include a range of socio-economic factors relating to the individual’s social and household situation, as well as *“external factors”* affecting a person’s employability, these include labour market demand conditions and support for employment-related public services [9]. *According to the definition of work ability*, a person is able to work only if they have at least one subset of abilities and skills, which is coupled with the physical, mental and social health necessary for the utilization of this competence. The individual has some professional skills, possesses specific qualities for the job, which are necessary to perform the goals (and/or work tasks) to be achieved through their work at least in normal quality. This depends on the *person* doing the work, *working conditions* and the *work task*. A person’s work ability is therefore a *dynamic trait*, as all three components can vary [10].

Work ability is thus a balance of workplace requirements and individual resources that take into account factors outside the workplace, such as family and society. While the nature, quantity, and organization of work, as well as the work environment and work community all influence workplace requirements, individual resources depend on health, competence, values, attitudes, and motivation.

2. Demographic development

In Hungary, as in other European countries, aging population poses a number of new policy challenges to employment, working conditions, living standards, health and well-being. At the same time, this trend also reflects a positive aspect of social change and the importance of active aging. Since the monetary crisis of 2009, in the accelerating economic competition, and in the transformed labour market, which shows a significant increase in demand, workers and jobseekers who belong to older age groups continue to be part of the vulnerable, disadvantaged population. Assisting their employability, maintaining their work ability, motivating their rehabilitation and their return to work can be crucial for both society and the economy.

2.1 Population size and expected development

The population of Hungary shows a continuously decreasing trend, in 2019 the population was 9,772,756 (9,769,529 in January 2020). Compared to the last ten years, we have experienced a loss of more than 200,000 people. The determining factor of population decline is natural decline, including a decrease in birth rate. Average life expectancy at birth has shown a slowly increasing trend over the last decade, with 72.86 years for men and 79.33 years for women in 2019.¹⁹ 17.1% of the total population is over the age of 65, the aging index is 132.5, and the dependency rate of the elderly population is 30.3%. Population decline is not expected to stop, various model calculations put the expected population size between 8 and 9 million in 2050. In particular, the basic model puts the expected number of the Hungarian population at 8.44 million, assuming a population decline of about one and a half million. This represents an accelerating population decline compared to the previous period. The projected population decline until 2050 may also bring significant

change in the age composition of Hungary's population. According to the basic calculation, the absolute number of the young (0–14 years) and working age (15–64 years) population will fall to 70–75% of its 2011 value, while the absolute number of those over 65 will increase 1.5 times (11). According to the results of the latest forecast of 2018 by the Population Research Institute of the Hungarian Central Statistical Office, the population of Hungary is expected to be 7,750,000 in 2070 in the basic version, the high version indicates a population of 9 million and 70,000, the low version indicates 6 million [12]. In 2019 the Central Administration of National Pension Insurance paid pensions (old-age, widow's, parental pension, orphan's benefit) or some other benefits (age-based benefits, benefits for the disabled, other annuities, emoluments) to more than a quarter of the population, 2.6 million people.²⁰ Aging is associated with deteriorating health in the case of many individuals; therefore, it is important to look at the number of people with permanent disabilities within the population. According to a survey conducted by the Hungarian Central Statistical Office in 2016, the number of citizens with disabilities and hindered due to health reasons is significant in the population. During the survey period, the number of disabled people was 408 thousand and their share in the population was 4.3%. The number of impaired persons due to self-declared (subjective) health reasons is significantly higher. According to the micro census, the estimated number of people in the total population who felt hindered due to their health in everyday life was 1,489,000, representing 16% of the total population. Regarding age groups, almost one-fifth of those aged 40-49 already consider themselves impaired. Over the age of 50, their proportion is growing rapidly, and the majority in the 60-year-old and older population is already impaired [7].

¹⁹ Hungarian Central Statistical Office: *Népesség és népmozgalom*. [08/01/2021]. Available from: <https://www.ksh.hu/nepesseg-es-nepmozgalom>

²⁰ Hungarian Central Statistical Office: *Nyugdíjak és egyéb ellátások, 2019*. [04/01/2021]. Available from: <https://www.ksh.hu/docs/hun/xftp/idoszaki/regiok/orsz/nyugdij/nyugdij19.pdf>

2.2 Employment situation of the aging population

Labour market conditions have changed in both Europe and Hungary, as the *supply-driven labour market* has been replaced by a *demand-oriented labour market*, the reasons behind this shift include globalization, the process of mobility and the appreciation of knowledge [13]. The *increase in the demand for labour* over the past decade has come at a time when labour resources have been steadily shrinking for example due to demographic reasons. Large age groups born in the first half of the 1950s are now exiting the labour market en masse and much smaller age groups born in the 1990s are entering it. In 2020, the working-age population aged 15–64 years included only 6 million 274 thousand persons, a decrease of 159 thousand compared to a 2008 assessment (6 million 433 thousand persons). The labour market consequences of the unfavourable demographic process can still be partially offset until 2022 by gradually increasing in the retirement age, even if women (under certain conditions) can retire earlier than their regular retirement age [14].

According to the data of the workforce survey in the fourth quarter of 2019, the number of employed persons in the population aged 15–74 was 4,520,000, and compared to the 15–64 age group, their employment rate was 70.1%. The employment rate of young people aged 15–24 fell by 0.5 percentage points to 28.5%, while that of those aged 55 and over rose significantly.²¹ In 2019 the changes in the contribution payments had a positive effect on the employment of retired people: they only have to pay the personal income tax of 15% and are exempt from paying other contributions.

Looking at the trends between 2010 and 2019 in terms of *labour market status relative to the total population* we can find that the proportion of the aging and older age groups has increased within the numerically declining economically

active population. On the one hand, due to the already mentioned retirement age and, on the other hand, due to the increase in labour demand. We should further consider that the number of people missing from the workforce as a result of emigration and foreign employment also generated demand. The same applies to the rising employment rates and declining unemployment (see Table 1).

Table 1: Labour market status ratio for age groups 45–74 (%)

Year	Economically active population					
	45–49 years	50–54 years	55–59 years	60–64 years	65–69 years	70–74 years
2010	75.5	69.2	51.1	12.6	4.9	1.5
2019	91.1	88.0	76.1	42.6	9.2	4.3
	Employment rate					
2010	74.6	69.1	49.1	10.1	3.6	1.0
2019	88.6	82.5	69.4	28.7	7.3	2.9
	Unemployment rate					
2010	11.6	9.9	10.1	4.4	-	-
2019	2.4	2.6	1.6	1.4	-	-

Source: Hungarian Central Statistical Office

²¹ Hungarian Central Statistical Office: *Munkaerőpiaci folyamatok, 2019. I–IV. negyedév.* [07/01/2021]. Available from: <https://www.ksh.hu/docs/hun/xftp/idoszaki/mpf/mpf194/index.html>

According to the data of the Hungarian Central Statistical Office for the second quarter of 2020, the number of the economically active population aged 15–74 was 4,622.4 thousand, thus, the activity rate was 62.4%. Out of the active population, 4,408.2 thousand were employed and the number of unemployed was 214.1 thousand. In the second quarter of 2020, the employment rate of the population aged 15–74 was 59.5%, according to the Hungarian Central Statistical Office. The average closing day number of jobseekers registered by the *Hungarian National Employment Service* was 356.8 thousand, which is a significant increase compared to the previous quarters due to the COVID-19 pandemic. The number of jobseekers belonging to the 45–55 age group was 60,900 (21.1%) and the number of people aged 55 and over was 74.7 thousand (25.7%). In practice, 46.8% of jobseekers belong to sensitive age groups. It is important to highlight that latent employment (job search) is higher than what was mentioned above; one reason behind this is public assistance. The duration of job search assistance in Hungary is 3 months, the lowest in Europe. In December 2020, 149.9 thousand jobseekers were entitled to cash benefits and 47.8% received social benefits. 48.4% of jobseekers did not receive any financial support in the examined month.²²

3. Legislative framework, reference to strategic documents

The concept of active aging, unlike traditional social policy, links different public policies and sets new goals. In Hungary, *classical old-age policy* refers to the *top-down* relationship between the nation-state and the local old-age policy. Aging policy also reflects those values that define the European approach to the elderly, such as independence, social participation and behaviour, security,

²² Latest employment figures by the National Employment Office in December 2020. [05/01/2021]. Available from: https://nfsz.munka.hu/nfsz/document/1/3/6/0/doc_url/nfsz_stat_merop_helyzet_2020_12.pdf

health and equal opportunities [15]. Old-age policy is also influenced by *economic and financial policies*, as population aging has potentially unfavourable macroeconomic consequences, for example in terms of productivity, labour and financial balance. State expenditure affected by aging includes pension insurance, health care and long-term care. As the growing number of beneficiaries of public pension schemes faces a declining number of contributors, the deficit of pension schemes and ultimately of the overall budget will increase, unless parameters are adjusted.

The *National Old-Age Strategy* [16] was adopted by the National Assembly of Hungary in 2009 and set the preservation of the activity and independence of the aging and elderly people as a basic objective, but also drew attention to social and community responsibility, emphasizing the strengthening of the value of solidarity. *The essence of the strategy is to adopt and enforce a change in social attitudes*, which instead of focusing on past losses concerning aging (deficit model) draws the attention to the necessity of considering and acting on the preservation of existing and the development of hidden skills (development model). In order to achieve this, the planned interventions are aimed at reducing negative stereotypes toward the elderly, improving intergenerational relations and cooperation, strengthening employment, labour market participation, expanding alternative training opportunities, creating income security in old age, and strengthening civic initiatives and volunteering.

From the point of view of social policy, it is essential to *ensure equal opportunities* for the aging age group. Discrimination based on age is *ageism*, and like other types of discrimination, can occur directly or indirectly, and its consequences are also similar. Equal opportunities have been included in all laws of Hungary starting from the Fundamental Law, these are not detailed here. The *Equal Opportunities Act* [17] acknowledges “*every person’s right to live as a person of equal dignity, intending to provide effective legal aid to those suffering from negative discrimination, declaring that the promotion of equal opportunities and social inclusion is principally the duty of the State.*” “*It is considered a particular violation of the principle of equal treatment if the*

employer inflicts direct or indirect negative discrimination upon an employee.” Following our topic, the issue of discrimination against aging employees in the labour market and equal opportunities in the workplace has been examined in several studies, two of which are discussed below.

The results of the *“Equal Opportunities and Diversity in 2014/2015: Equal Opportunities for Workplaces – The IV. National Benchmark Survey of Corporate Responsibility”* show that among organizations the exclusion of people over the age of 55 was almost twice as common as that of those under 25. In Hungary, in the case of recruiting new employees, *corporate age-friendly HR policy* tends to involve age groups that are better suited to the existing composition. At the same time, there was no significant correlation between the level of *diversity-friendly HR policy* and exclusion based on age in the employment of people under the age of 25 and over 55. On the other hand, higher levels of *age-friendly HR policy* were significantly related to lower levels of exclusion of people aged over 55 [18].

In 2018, the representative sample of the research titled *“Personal and Social Perception of Discrimination and Legal Awareness of Equal Treatment”* commissioned by the *Hungarian Equal Treatment Authority* consisted of 1000 persons, corresponding to the composition of the Hungarian population over the age of 18 by gender, age, educational attainment and place of residence. Based on the responses, age discrimination came first (about 12.2 percent of respondents reported that they occasionally perceived being discriminated against because of their age). The proportion of people over the age of 50 was 44.7% concerning age discrimination [19].

Employment policy assumes that labour processes are predominantly determined by the labour market, but at the same time an institutional system capable of dealing with tensions and performing social tasks must be developed: social partners must be involved, legal guarantees must be provided for employers and employees, and appropriate decision-making tools and mechanisms should be established. Both the social and the economic function groups should be present in the target system of employment policy in old age [20].

According to the *Policy strategy serving as the basis for the development of employment policy in Hungary for the period of 2014–2020*, the available activation tools require a more thoughtful use, especially with regard to the groups at risk of the labour market.²³ These objectives are expected to be maintained in the 2021–2027 programming period, complemented by the needs of Industry 4.0 and the employment policy challenges of accelerating automation and robotization.

Old-age policy has a number of instruments which, even if not sufficiently, contribute to the improvement of the labour market status of aging people. Employment for people over the age of 55 is promoted by the Workplace Protection Action Plan, which has been in place since 2013, moreover, a number of EU programs provides support to those over the age of 50 to increase their employment rate. In 2018 the number of people involved in *active employment policy instruments* was 342.5 thousand. Of these, 135.6 thousand people (39.6%) were involved in public employment, while 206.7 thousand people in other employment policy instruments. Expenditures on labour market instruments and services come from two sources: the decentralized part of the Hungarian National Employment Fund, on the one hand, and the European Union’s operational programs, on the other. In total, nearly HUF 60 billion was paid for activity-enhancing subsidies in 2018. *Labour market training*, within the subsidies, can be divided into two groups, the larger one consists of labour market training participants and the smaller one is made up of the participants in employer-organized education (see Table 2).

²³ Policy strategy serving as the basis for the development of employment policy in Hungary for the period of 2014–2020. [11/01/2021]. Available from: https://ngmszakmaiterulet.kormany.hu/download/a/4c/c0000/Fogl_Strat_14-20_elfogadott.pdf

Table 2: Distribution of participants in labour market training by gender and age in 2018. (year/person)

Name	Employment training	Employer-organized training	Total
Man	12 034	2 110	14 144
Woman	16 923	1 104	18 027
Total	28 957	3 214	32 176
Under 25 years	7 433	246	7 679
25-54 years	20 042	2 658	22 700
55 years and above	1 482	310	1 792
Total	28 957	3 214	32 171

Source: Hungarian Ministry of Finance

The table above shows that the proportion of jobseekers over the age of 55 in the group receiving training support (*employment training*) was 5.1%, while employees 55+ was 9.6% (*employer-organized training*). Concerning wage subsidies and wage costs the rates are better, with 37.6% of those over 55 receiving some form of subsidy (see Table 3).

Table 3: Number of wage subsidies by gender and age 2018. (year/person)

Name	Wage subsidies	Wage cost subsidy	Total
Man	7 131	50 574	57 705
Woman	6 480	56 848	63 328
Total	13 611	107 422	121 033
Under 25 years	5 546	58 763	64 309
25 - 54 years	6 952	41 293	48 245
55 years and above	1 113	7 366	8 479
Total	13 611	107 422	121 033

Source: Hungarian Ministry of Finance

Women and men were almost equally involved in entrepreneurship support, which is practically a self-employment scheme: this instrument affected the largest number of persons from the age group of 25–54-year-olds. 3.7% of people who received support were over the age of 55 [21].

4. Significant research projects in the field of work ability, overview of published articles

The Hungarian version of the *Work Ability Index (WAI)* was developed by the Occupational Health Department (then of the Hungarian National Labour Office, currently of the National Public Health Center), which also launched a national survey in 2014–2015.²⁴ The survey covered the target groups of workers over the age of 45 in six sectors (agriculture, automotive, construction, healthcare professionals, general practitioners and educators), enrolling a total of 5000 people. Besides the standard 7-item WAI, the Questions related to impediments, and the *Need-for-recovery* and the *Recovery opportunities* scales were included. In this cross-sectional study, weak and moderate WAI values showed a significant correlation with higher age, higher body mass index, longer weekly working hours and physical demands at work [22]. Musculoskeletal disorders and circulatory diseases were the most common health impairments with/without complaints. Presence of diseases was combined with elevated odds for poor-moderate WAI.²⁵ However, workers without health

²⁴ Workability Index Survey 2015 in TÁMOP-2.4.8-12/1-2012-0001. [10/01/2021]. Available from:

<http://tamop248.hu/2/index.php/eredmenyek/kiadvanyok?task=weblink.go&id=166>

²⁵ Kudász, F. et al. *Disease effect on the workability among ageing Hungarian workers*. International Interdisciplinary Conference Work, Age, Health and Employment – Evidence from Longitudinal Studies, University of Wuppertal, Germany 19–21 September 2016. [presentation, unpublished]

complaints ranked “lack of motivation” and “work-independent problems” higher. Odds were highest among workers who stated having substantial health or capacity related impediments.²⁶ These findings emphasise the opportunities lie in occupational health services (e.g. easy access to personal medical consultations, health promotion). Further analysis of the dataset is envisaged.

The *Research Centre for Labour and Health Sciences of the University of Pécs* has launched a research titled “*Possibilities for the joint examination of physical and mental competences to promote the employment of aging people*” within the framework of the European Union-funded Human Resources Development Operational Program. The specific aim of the research is to develop and test a methodology that analyzes the effects of separate physical and mental competencies in an exact and comprehensive way, and that examines and promotes old age employment, job retention and learning, contributing to the modernization of employers’ age management approaches and practices. The planned innovation is complex and includes labour sciences, health sciences, psychology, andragogy and sociology [23]. The most important tools include the WAI questionnaires, aptitude and personality tests. The implementation of the program began in 2017 and is currently being carried out with the involvement of thousands of employees. The *Hungarian Post Ltd*, the *Baranya County Entrepreneurial Centre* and several non-governmental organizations and trade unions are among the participating employers and organizations.

The survey was carried out in 2018 and was conducted voluntarily and on the basis of self-assessment following the nature of the questionnaire. The query and questionnaires were processed using the EvaSys online system. The questionnaire was completed by 2162 persons, which is 7.21% of the total number of employees of the Hungarian Post Ltd (29,945 workers), sufficiently representing that population. 72.9% of the respondents came from age groups over the age of 45. The main findings are summarized below.

²⁶ Kudász, F. et al. Workability Index among ageing Hungarian workers. Population Aging: Challenges and Opportunities Conference, Prague, Czechia, February 3–4 2017. [presentation, unpublished]

According to the summary of the survey, the WAI of the examined employees of the Hungarian Post Ltd is 41.38 points. Compared to the survey carried out by the Occupational Health Department of the Hungarian National Employment Service, it can be concluded that the average index of the employees of the Hungarian Post Ltd in the sample is higher than among those working in construction and health care (see Table 4).

Table 4: Work Ability Index comparison

Questions	Automotive	Construction	Health care	Education	General Practitioner	Hungarian Post Ltd
WAI (7–49 points) average	42,0	37,3	40,1	42,2	40,5	41,38

Source: Munkaképességi Index Felmérés 2015

The average (cumulative) number of illnesses per capita for persons working in postal services is 1.5; 1.69 for women and 1.32 for men, taking into account that some illnesses are more widespread. In terms of the nature of work (physical, mental and physical/mental), and assessing, analyzing and preserving work ability, the index of employees responsible for mental activities seems to be the most favourable based on the answers given to the seven set of questions, despite having more diseases than the other two groups. A more significant difference can be observed regarding the first question (*Current work ability compared with the lifetime best*) and the second question (*Work ability with relation to the demands of the job*). Overall, according to the data of the WAI measured among the respondents the following objectives can be set: 2.7% restore work ability, 13.9% improve work ability, 42.6% support work ability and 40.8% maintain work ability.

Table 5: Work Ability Index points by the number of persons

Category	WAI points	Number of persons
Poor	14–27	55
Moderate	28–36	302
Good	37–43	922
Excellent	44–49	883
Total		2162

Source: Szellő-Nemeskéri, 2019 (unpublished)

Thus, according to Table 5, there were 357 (16.6%) employees for whom intervention became urgent. In their case, in the absence of preventive and corrective measures, there is a risk of loss of work ability. At the same time, greater attention should be paid to strengthen and maintain the work ability of the other employees. As the majority of the target group consists of employees over the age of 40, the interventions could be:

- Reduction of work environment exposures (harmful physical exposures, ergonomic load).
- General prevention strategy developed and applied in the framework of occupational health protection.
- Work organization (micro-breaks, time constraint/rescheduling, human-centred shift scheduling, overtime reduction, part-time work).
- Adapting work to the employee's health, competencies and capacities. Age-sensitive risk assessment.
- In order to facilitate the restoration and improvement of work ability, the useful components of work (e.g., social contact, organization, meaningful daily activities) must be included into the individual plan of

the employee. Reduction of competence gaps by providing knowledge transfer (training).²⁷

The other essential element of the program is the *joint measurement of physical and mental competencies*. The devices simulating work tasks and conditions, as well as the system examining the requirements of the tasks and the physical capacity of the individual together, can help doctors and professionals to assess not only the extent of the damage caused by accident or illness, but also the remaining and improvable abilities and the effectiveness of full rehabilitation. The University of Pécs uses a three-panel *ErgoScope* simulator.²⁸ The measurements and tests performed with the equipment help to determine what kind of work and activities the examined person is able to perform, and what task they are able to perform. This provides an objective picture of an employee's or jobseeker's work ability [23].

Based on the *CEB Talent Measurement Solutions system for measuring mental competencies*, the task of the personality testing test structure is to examine the possibilities for the development of existing competencies and to determine the ability to perform activities. The process begins with an assessment of development needs. In the course of this, workplace expectations and personal competencies are examined, compared, and finally the development plan is jointly developed. Job analysis is based on the CEB competency model – using either qualitative or quantitative methods as required, and it includes the Adaptive Intelligence Test, the Adaptive Vocabulary Test and the Spectrum Intelligence Test [24].

Based on the established protocols, the physical and mental competence of 209 employees (sixty percent of them were over the age of 45) have been measured and evaluated so far. Feedback takes form as an evaluation sheet

²⁷ Szellő, J. & Nemeskéri, Zs. *Munkaképességi Index felmérés elemzése – Magyar Posta Zrt.* Pécs: Pécsi Tudományegyetem. 2019 [research paper, unpublished].

²⁸ In Hungary the device was developed by *Innomed Medical Zrt.*

written in a way that is comprehensible both to the employer and the employee. The experience of the applied test protocols and background research are synthesized within the framework of professional workshops.

Age management integrated into the scope of strategic human resource management activities may be able to make the best use of the methods described above. Ideally, age management uses a career-based approach and creates equal opportunities for all age groups. This indicates that workplace measures aiming to improve work ability must cover all dimensions of work, thus, developing work ability requires the cooperation of the employer and the employee. Due to the peculiarities of economic organizations in Hungary (the number and proportion of employers and small enterprises employing less than five people are significant), the operation of age management is included in the human resource strategy of large employers and multinational companies.

5. The application of the concept of work ability and age management on individual, organizational and company level

Society has also developed a definition of old age in the labour market that puts the line of old age early in the life cycle. This downward definition is linked to the culture of early retirement, as well as to the less marketable knowledge and poor health of the older workforce, and the negative attitudes of employers. The notion of “*labour-market old*” has emerged, according to which an employee can reach the old age at 45 years, but after the age of 50 they are definitely old.

The development of *individual strategies* is greatly influenced by health condition, but the main determinant is motivation. Motives that may encourage the elderly to learn, to improve oneself, for instance, can be personality-strengthening reasons, such as an interest in global events, recalling experiences that can lead to contentment concerning the individual’s life course, developing skills related to previous occupations, continuing their

job search, navigating new situations [25]. In the case of the unemployed aging group, in addition to *self-management*, it must also be taken into account that there is a chance for their reemployment only if they receive adequate assistance in the form of various benefits (wage subsidies) and services (career counselling, etc.) [26].

Most employers do not realize that aging workforce can cause problems in the supply and functioning of the workforce. In practice, employers only see a loss in the aging employee. Other employers, on the other hand, find older employees more loyal and trustworthy and believe they have great social and managerial skills. Therefore, the positive effects of aging are: increasing knowledge from work experience, higher leadership skills, greater social capital.

Corporate Social Responsibility (CSR) of employers, companies and economic organizations can guarantee the safety of aging employees. In this respect, we consider it important to note the prevailing role and the difference of the *employer’s interest* in the implementation of the safety factor. The primary interest of the employer is profit, and also to use the workforce (which produces profit) as efficiently as possible. The result of this is performance pressure (performance motivation) which, in many cases, overrides the humanism of CSR. Nowadays, it is no longer enough for a competitive company to offer jobs to employees and provide income in return, they need to take into account the needs and expectations of employee and meet them. The issues of responsible employment need to be faced: creating a motivating and inspiring workplace, taking a family-friendly approach, creating a healthy and human-centred work environment in order to value and protect aging employees [27]. It is important to support and disseminate inclusive workplace practices, to increase the protection of aging employees against workplace discrimination, and to promote empowerment measures. Consequently, *age management requires regulatory, policy and methodological support*, especially from insurers (pension insurance), preventive health care (occupational health services), lifelong learning (adult training and education), and the assistance of workforce management and human resources in order to ensure equal opportunities.

6. Educational and counselling activities for support of the work ability

Life-long learning and skill development are important factors for work ability and sustainable employability. People aged 50 and over have a harder time adapting to the rapidly changing needs of the labour market than, for example, members of younger age groups. There are significant differences between the knowledge-acquisition skills of 45–54- and 55–64-year-old people, the former group still maintains their achieved level of learning, some degree of decline may start around the age of 50, and the impact of one's sociocultural background becomes stronger. According to the Hungarian Central Statistical Office, participation in learning programs among people over the age of 45 is roughly halved every 10 years or so. People aged 45–54 are able to participate in formal and non-formal learning processes without any particular difficulty, while opportunities are more limited for people over this age. However, further development of occupational skills should still be given priority among them, as economic needs and labour market aspirations are still predominantly the main causes behind the learning needs of this age group. According to the *Digital Education Strategy of Hungary (2016)*²⁹, participation of adults in lifelong learning in Hungary is extremely low (7%) and falls short of the targets set in the Europe 2020 Strategy (15%). One of the main reasons behind this is the public perception of the importance and need for learning. Neither adults find it useful, nor does a significant proportion of small- and medium-sized enterprises see the need for their employees to learn.

In the field of education policy, the Adult Education Act [28], amended several times, does not specify what needs to be done to train aging citizens. The

*Lifelong Learning Policy Framework Strategy for 2014–2020*³⁰ includes the tasks that promote the learning and training of aging people. Lifelong learning covers the entire life cycle of an individual, from early socialization and pre-school education to the post-employment age. The fundamental idea is that the development of human resources and the continuous improvement of employability and competitiveness of the working-age population are essential for the development of the Hungarian economy. In addition to ensuring equal opportunities and the provide professionals with andragogical knowledge, the strategy also sets out:

- Identifying age-specific educational characteristics, providing education, vocational training and retraining programs, exploring and guaranteeing access to self-education, distance learning and e-learning opportunities in order to retain employees aged 50 and over in the labour market.
- A separate task and challenge is to utilize the knowledge of older people in trainings (which, among many other things, could be a pillar of intergenerational cooperation), especially in areas that require practical training [29].

The implementation of a knowledge-based society in adulthood would require a much higher rate of training participation than it is at the present that, which can be achieved primarily through the expansion of out-of-school and on-the-job training, as well as non-formal learning [30]. There are four possible areas of learning and education that can help to link the economic and social needs of an aging population: the health of the individual, strengthening society and family, productive employment and the cultural enrichment and development of the individual [31].

The purpose of adult education outside the school system may be, in addition to obtaining vocational qualification, language training or any vocational or other

²⁹ Magyarország Digitális Oktatási Stratégiája. [08/01/2021]. Available from: <https://digitalisjoletprogram.hu/files/55/8c/558c2bb47626ccb966050debb69f600e.pdf>

³⁰ Az egész életen át tartó tanulás szakpolitikájának keretstratégiája a 2014/2020 közötti időszakra. [08/01/ 2021]. Available from: <http://andragogiaiszakbizottsag.hahonlapkell.hu>

trainings (e.g., hobby training). Training organizations are predominantly for-profit businesses. Part of the training is publicly funded with the support of the European Union. *According to the Adult Education Act, such activities can only be carried out with a permit.* According to the register of adult educators in Hungary, there were 9750 such organizations in 2020.³¹ Experience has shown that in the case of corporate training, the proportion of enterprises supporting internal training is constantly increasing, while the proportion of enterprises supporting external training is constantly decreasing. In 2018 41.6% of 25–34-year-olds and 20.4% of those over 55 participated in some form of (out-of-school, corporate) training.³²

Economic renewal arrived hand in hand with the acceleration of informatics, requiring the development of digital knowledge. In Hungary 60% of adults aged 25–64, i.e., 3.4 million adult citizens of working age, have at most basic or no digital competencies at all. It is projected that 90% of jobs will require some level of digital competence in the near future, thus, a significant proportion of these 3.4 million Hungarian citizens will need to learn in order to be able to keep their job or find a new job.³³ The target group for the development of digital competencies includes the older age groups as well. For example, within the framework of the Digital Success Program Network, under the guidance of mentors 6500 elderly people have been able to learn how to use a computer [32].

³¹ Register of adult education establishments. [06/01/2021]. Available from: <https://far.nive.hu/publikus-adatok/felnottkepzok-nyilvantartasa>

³² A jelenleg működő szakképzési és felnőttképzési rendszer bemutatása, a rendszer legnagyobb kihívásai és kulcsproblémái, avagy oktatási helyzetkép. [05/01/2021]. Available from:

https://ikk.hu/files/Szakkepzes_4.0_II.pdf

³³ Digital Education Strategy of Hungary. [08/01/2021]. Available from: <https://digitalisjoletprogram.hu/files/55/8c/558c2bb47626ccb966050debb69f600e.pdf>

One of the barriers to learning in old age in Hungary is the lack of *related counselling services*. There is a lack of *career counselling*, which is an individual or group process, that emphasizes the importance of self-awareness and understanding, and helps to find a satisfactory and meaningful work-life balance. Another obstacle is the lack of andragogy specialists in business-oriented adult education organizations. There are no mentoring services that would help increase the willingness of older people to learn.

7. Examples of good practices in application of the programs for people with or without employment

Today employment policy is linked to the flexibility and security of the labour market. According to the common principles of *flexicurity*, *flexibility* is about creating setting up work organization. *Security* means protecting employment. Demand for labour will change in the future, as demand for technical, for emotional and social, as well as for higher cognitive competencies will increase. In the following, among the methods used by public organizations, we present examples and organizational frameworks that help to establish employability based on the competencies of the individual. Modern European methodology seeks to achieve a holistic approach, i.e., to explore the full set of competencies of the employee and the jobseeker.

The *profiling-based approach* is a common practice in Europe for assessing the employability of the unemployed. Profiling, as a client categorization system, includes the assessment (examination) of individual and professional abilities and competencies relevant to employment, and the comparison of the results with the requirements of the labour market in the region [33].

In Hungary, the *National Employment Service*, which has been reorganized several times in the last ten years, started developing the profiling method in 2005. Profiling category classification *indicates the jobseeker's current employment prospects*. The category is not definitive; it can be influenced or

modified by changes in the environment or the employability factors of the individual. The characteristics and methodological content of the categories are as follows:

- *independent jobseeker*: a person who, through self-information systems (electronically available information leaflets, job offers, internet networks) or with the minimal help of employment service, is able to find the right job opportunity independently, because they are able to manage themselves;
- *can be employed with assistance*: a person who can be returned to the labour market with the help of instruments (subsidies) provided by the employment service (e.g., has outdated professional knowledge or does not meet the needs of the labour market, thus participates in training);
- *at risk*: their return to the labour market is possible with the involvement of other cooperating organizations with the special support of the employment service. Characteristics: not motivated to find a job, has been unsuccessfully looking for a job for years making them long-term unemployed, struggling with mental, social and communication problems [33].

A 2019 study finds that the proportion of older people has increased among registered jobseekers. The majority of long-term unemployed people and aging jobseekers fall into the *third "at risk" profiling category* [34]. Further findings of the research suggest that most activation tools alone cannot achieve results, only *complex programs combining multiple tools* can help. Effective coordination of social and employment services is also key [35]. Currently, the organization and operation of an integrated service system (employment counsellor, social workers, psychologists, rehabilitation experts, occupational health services, etc.) would be the responsibility of employment policy. However, this is not reflected in the conceptually separate policy strategies.

Opponents of employment in old age believe that older workers lack new technical skills and the willingness to learn, also, that they are not creative and proactive enough. *Their health has deteriorated*, leading to absences at work and increased labour costs, in particular due to high levels of sick leave. Their

ability to perform, thus their labour productivity is reduced. In some job areas, the effect of stress will be greater, which can also hinder work. All of this is related to the presence or lack of employee health awareness. *Occupational health services* maintain and continuously monitor the health of employees at work and have primarily preventive roles.

According to relevant legal regulations (36) in Hungary, all employers are obliged to establish personnel, material and *organizational conditions for work that does not endanger health and is safe*, in order to protect the health and work ability of persons in organized employment and to humanize working conditions. The employer is further obliged to provide *occupational health services* to all employees. In line with the WHO, ILO and OSHA standards, Hungarian occupational health services are primarily preventive services whose tasks are:

- 1) tracing and continuously monitoring workload (physical, intellectual, mental) and work environment pathogenic factors (physical, chemical, biological, psychosocial, ergonomic);
- 2) proposing methods to keep them at a level that is not harmful to health;
- 3) adapting work to the abilities of employees according to their physical, intellectual and mental health;
- 4) monitoring the health of employees in connection with their work.

The service contributes to: the performance of employer's duties relating to the protection of occupation health, especially in exploring the sources of danger at the workplace and in solving occupational health tasks; the provision of material, personnel and organizational conditions for first aid at work; the organization of emergency medical care and the professional training of first-aiders; occupational rehabilitation; the development of the employer's plan for disaster prevention, response settlement and rehabilitation of the damages caused. The above tasks and medical surveillance activities are set in legislation [37][38]. However, practical occupational health care activities are wider than this. In addition to its multidisciplinary and cross-sectoral activities, they work with other authentic professionals (corporate and non-corporate), competent authorities, employers, employees, and their representatives in the field of

occupational health and safety. According to the 2019 activity report, there have been 2636 doctors in Hungary (64.1% of them working part-time) providing basic occupational health services to workers in organized employment [39].

In conclusion, *the development of industrial technologies* (automation, robotics, etc.) will lead to a major struggle to maintain active labour market status, which requires a different approach from both the employer and the employee in their attitudes and methods. Solidarity between different generations and cooperation between employees (and their representatives), employers and managers are essential, and they are in the interests not only of the aging population but of all ages. *Developing solutions to stimulate activity and productivity in old age*, helping the aging and the elderly to return to the labour market, and ensuring lifelong learning together call for a *wider application of age management*.

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Netherlands

→ 1. Netherlands – Introduction

1.1 Blik op Werk

Blik op Werk (BoW, Dutch for View on Work) is an independent organisation working on sustainable employment and quality of work. BoW supports professionals and organisations to improve the quality of work and working as professionals. For the Netherlands BoW is the exclusive national keeper of the license of the Work Ability Index and administer the WAI-database since 2008.

In the Netherlands, specialised private companies to improve working conditions (the so called *arbo-diensten*) can get a sub-license from BoW to improve their services for employers and employees. They use the WAI and shares the results with BoW. As a result, BoW has a database containing of more than 400.000 questionnaires since 2008. For a study of the development of workability in the Netherlands this database is an important source of information. Every year BoW makes an analysis of the developments and changes of/in the workability in the Netherlands.

1.2 The aim of the article

The aim of the paper is to present an overview on the challenge of ageing of the working population in the Netherlands and the way the concept of work ability is used to tackle this challenge. We shall use the WAI database, but we also present a survey of recent research on the work ability of workers in the Netherlands. Because we have a centralised database there is a fair amount of research on the WAI.

This research shows that the concept of work ability is useful to analyse the impact of the ageing of the working population. Work ability gives a scientific validated insight in the ability of workers to continue working. Work ability differs in this respect from employability: workability represents the current ability to continue working, whereas employability represents the future ability

to continue working. Work ability gives an insight in the physical and mental capacity of workers to continue working in the present and in the near future.

In this article we shall first discuss the historical development of the concept of work ability in the Netherlands. Then we will address the problem of ageing and the demographic changes of the working population in the Netherlands. As in other European countries the labour force in the Netherlands is ageing rapidly. Ageing is not the only challenge employers and employees are facing. There is a challenge as a result of the flexibilization of working relations, the growth of self-employed and the challenges of ‘big’ developments as robotisation and globalization. In the third chapter we will discuss the legislative framework on work, social security and also ageing in the Netherlands.

In the following (fourth) chapter we will discuss the Work Ability Index as an instrument to analyse work ability in the Netherlands based on the data of BoW.

In the fifth chapter we will discuss a number of studies on work ability in the Netherlands, especially on the WAI as a prognostic instrument on different levels.

In the sixth chapter we will discuss the use of the WAI in some educational programs for HRM-specialists at some of the Universities of Applied Science.

In the last chapter we shall discuss good practices that the private companies to improve working conditions (the Arbo-diensten) developed using the WAI, Personal radar etc.

2. Introduction, the historical development of the concept of work ability in the Netherlands

Since 2008 in the Netherlands we use a short and a long version of the WAI. The Dutch translation of the WAI is based on the English version of the Finnish WAI-standard form the Finnish Institute of Occupational Health from 1998. [22]

The aim of BoW is to improve sustainable employment in the Netherlands. As part of this aim BoW investigates the development of workability in the Netherlands. The activities of BoW are:

- Promoting and disseminating the WAI and the concept of workability as part of encouraging sustainable employment.
- Stimulate the professional use of the WAI, as well as to inform employers, employees and professionals about the WAI.
- To make the results and use of the national WAI-database available for researchers and policymakers.

In 2008, the Finish Institute of Occupational Health (FIOH), the Dutch Ministry of Social Security and the Blik op Werk foundation signed a contract, with the latter receiving the WAI license for the Dutch-speaking areas.

Incidentally, this was not the time when the concept of work ability was introduced in the Netherlands. There had already been scientific contacts before, for example, the Dutch professor K. Goudswaard together with professor Ilmarinen of the FIOH. Precursors of the WAI were used for scientific research, but also, for example, in periodic medical research. Particularly in construction, a predecessor of the modern WAI has long been used by the Arbouw foundation, an institute set up and managed jointly by employers and employees' organizations to improve working conditions in the construction industry.

So the contract between FIOH, the Dutch Ministry of Social Affairs and Employment and the Blik op Werk foundation in 2008 was certainly not a starting point for working with the concept of work ability. However, it can be seen as an attempt by the Ministry to promote the concept and to apply it with greater clarity based on the latest scientific insights. The interest on the part of the Ministry can undoubtedly be traced back to two dominant political policy trends with regard to the Dutch labor market. In the first place, this – which has existed for a longer time (since the 1980s') – is to reduce the number of employees who leave the labor process on disability benefits. Initially, the focus is mainly on limiting the influx into disability schemes by raising the barriers to entry and amending legislation and regulations, so that fewer categories of employees with disabilities can claim the schemes.

The second dominant political policy trend arises at the turn of the century under the influence of demographic developments: the population is ageing in a rapid pace. In short, it is anticipated that an ever-smaller number of people will have to pay for old-age benefits and pensions. Although the Dutch pension funds are rich, we may say very rich compared to other European countries, but the political conviction is growing that people will have to continue working for some more years. The age at which one can leave the labor force should be increased. Firstly, schemes that allow early retirement and the associated tax options will be abolished. Secondly, the age at which one receives an old-age benefit from the government – it was 65 years – is gradually increased (currently 67 and some months). The idea is that the increase of the retirement age is connected with life expectancy, so in the future it is possible that persons will retire at the age of 68 or even at 70 years old.

Laws and regulations allow you to shut down, cauterize or exclude people from access to schemes, but it does not prevent employees from wearing out physically, psychologically and mentally in the performance of their profession. In this sense, it is not surprising that the central government, even at the level of the minister, is drawing attention to the concept of (retention of) work capacity. To put it simply: the problem of the future is not the excess of labor force, but rather the imminent shortage. The result is the active role of the

Ministry of Social Affairs and Employment in acquiring the WAI license for all the Dutch language areas (so including Belgium).

There is still one cliff to navigate. From the point of view of the Dutch national government, it would be unusual to prescribe certain methods or interventions to keep people healthy in their functions for longer. The national government sets a framework by means of legislation, but how the goals are achieved within the boundaries of those frameworks is up to employers, employees or their joint consultation, whether organized or not. So, although a contract partner in the license agreement with the FIOH about the WAI, the Ministry does not prescribe this indicator for the work capacity of individual employees and the working population in Dutch labor relations. Another path is chosen.

The Blik op Werk foundation is co-signatory to the agreement and appointed as the administrator of the license. The foundation will be instructed to develop a license management system that guarantees the quality of the implementation in the coming period. In time, this system will have to be financed without contributions from the national government. In addition, the results of the indexes obtained under license will be stored anonymously, that is to say, cannot be traced back to individuals or companies that can be traced back to them, so that a database is created of the work capacity of the Dutch working population. In 2021, more than 400,000 records of Dutch employees spread across various industries have been recorded.

The Blik op Werk foundation manages the WAI and the database. The foundation itself does not purchase indexes but ensures that organizations with a sublicense use the WAI correctly and under the right conditions³⁴. In the Dutch situation, these may be the HR departments of – usually larger – companies, as well as specialized service providers that can be hired by companies. For the use of the WAI, those who do that must be registered. In addition to the WAI, Blik op Werk also has the license for the Personal and

³⁴ All licensees must follow a training in the use of the WAI.

Company Radar and manages the Werkscan. The WAI is included in full in these instruments. [25]

Other instruments

The WAI does not inquire into the cause of (possibly) reduced work capacity. That fits with the operation of the WAI. It can be seen as a thermometer for measuring fever. The ability to work can be measured, and the result can be used to conduct further research. The WAI is therefore a good method for large groups of respondents to identify subgroups with a reduced work capacity. Based on this, further research can be carried out to deploy targeted interventions aimed at strengthening and / or retaining the ability to work.

The Personal Radar

The Personal Radar was developed and validated by Prof. Juhani Ilmarinen in the Finnish technology sector. In addition to measuring the work ability with the WAI, the Personal Radar method also looks at where possible indicators of reduced work ability lie. On the basis of additional questions, a picture is sketched of a score of 0–10 on the various dimensions of the House of Work Ability:

- health
- competencies
- attitude and motivation
- work
- work-life balance

The Work Scan

The Work Scan was developed by the Work Expert Knowledge Center (AKC) on behalf of the Dutch Association of Work Experts (NVVA). In addition to measuring the work ability with the WAI, the Work Scan also looks at 8 areas for attention that influence work ability. These signal areas serve as determinants for work ability.

The determinants of work ability in the Work Scan are:

1. health
2. lifestyle
3. work
4. work-life balance
5. education / training
6. career development
7. career mobility
8. Self-sustainability

On the basis of additional questions, signals are collected. The signals indicate whether no action is needed, whether preventive action or immediate action should be taken.

The respondent's answers are about his perception of the signal areas. There may be a discrepancy between what is actually necessary to take action and what the respondent himself considers desirable. It is therefore quite possible that an overweight respondent does not see any reason to change his lifestyle. This is in line with the principles of the methodology: the work scan aims to connect with the respondent's perception of his world. After all, the follow-up discussions of the Work Scan focus on what someone wants to change and what motivation he has for this. By means of the interview technique of motivational interviewing, ambiguity in motivation can be sought and the respondent and work scan expert together examine where steps can be taken to initiate behavioral change.

3. Developments in the world of labour: demographic trends, ageing, flexibilization, robotisation and globalisation

In the Netherlands the composition of the working population has changed drastically in the past twenty years and ageing of the working population is one

of these changes. Ageing of the working population is the result of the increased life expectancies and declining fertility rates. Ageing is not the only important change that occurred on the labour market and in the labour relations in the Netherlands. Other developments are the flexibilization of working relations, the rapid increase of self-employed which is especially strong in the Netherlands and also the impact of robotisation and globalisation. The picture is complex and sometimes contradictorily: shortages in many sectors of skilled employees in contrast to rising unemployment in other parts of the labour market. Some speak of a silent revolution that is taking place on the labour market in the last decades. A silent revolution that will radically transform labour relations and the labour market in the coming years, but also the way we work and what kind of professions that will survive the impact of robotics on how we work. All these 'big' trends influence directly and indirectly the individual relations between employer and employees and the challenges they face. The picture is complicated. On the one hand, professions will disappear and / or task packages will change drastically, on the other hand, new technology will enable employees with disabilities to work and remain productive. [11]

And these developments are international developments: all industrialized countries are confronted with the impact these developments. What are the main developments and challenges in and for the Netherlands?

Demography: the Dutch labour force

The demographic challenge: ageing and declining fertility rates. As a result, there are more elder persons and fewer younger persons to replace them. For employers this ageing of the population is a challenge: how to retain older workers? How to keep them fit and motivated? How to design on workplace to improve the working conditions! But not only for employees ageing is a problem. It also results on more pressure on the welfare system especially the pension system in the Netherlands.

Ageing has taken different forms. When we look at the average age of the population between 2000–2020 there is an increase of four years. Based on the

calculations of the national statistical bureau (Centraal Bureau van de Statistiek, CBS), the average age of the Dutch population was in 2000 38,2 years. In 2010 this number has risen to 40,1 and in 2020 the average age of the Dutch population was 42,2 years.

When we focus on the labour force the increase is even stronger. The CBS has calculated that the so-called grey-pressure, (the ratio between the number of persons of 65+ and the number of persons between 20 and 65 years of age) has risen from 21,9% in 2000 to 33,1% in 2020. So, the number of older 'inactive' persons is clearly increasing, and the number of potential employees is relatively decreasing. [26]

These decreasing number of employees are increasingly older. In 2003 22,0% of the total working population was 55 years of age or older (866.000 persons). In 2010 this number had increased to 1.341.00 employees: 29,2% of the total working population. In 2019 more than 35% of the total working population was 55 or older 1.977.000 persons of 55 years and older. [27]

In the long-term ageing will stabilize as chart 1 shows but for the coming years ageing will grow and remain a big question for both employers and employees how to keep fit and productive for as we now, also form the research on the work ability most research shows a significant relation between ageing and workability: Age is one of the three factors that correlates with work ability in the sense with the growing of the years the work ability decreases. [15]

Chart 1: Population forecast in the Netherlands, 2010–2060

Year	Total population	0–20	20–65	65+	% 0–20	% 20–65	% 65+
2011	16,6	3,9	10,1	2,5	23,5	60,9	15,6
2020	17,2	3,7	10	3,4	22	58,3	19,7

2030	17,6	3,7	9,7	4,1	21,3	55	23,7
2040	17,8	3,8	9,3	4,6	21,5	52,6	25,9
2050	17,7	3,7	9,5	4,4	21,2	53,7	25,1
2060	17,7	3,7	9,5	4,4	21,2	53,9	24,8

*Source: Kerncijfers van de bevolkingsprognose 2010-2060 CBS. *: x 1 million*

The impact of the ageing workforce on the labour market will become clear in the next period of twenty years, a period of transition when also a great number of the so-called baby-boomers will leave the labour market and go with retirement. After 2035 when this shift has been completed the expectation is that no great shifts will occur.

Compared to other countries [28]: ageing is a European challenge. In the Netherlands, compared to other European countries ageing seems to be relatively mild. The challenges in other countries for example Germany are much bigger.

The challenge for society is rising costs of retirement and productivity loss as a result of labour shortages and a decreasing work ability. To cope with these challenges the Dutch government and social partners have taken measures to change de pension system, increasing the mandatory retirement age and discouraging early exit from the labour market. The aim is to increase employees to work until a later age.

The impact of ageing is closely connected with other developments on the labour market. For instance, the impact of globalization and robotization on the possibilities of employers to redirect production processes, new jobs that are a result of robotization but also the disappearance of jobs and the replacement by computers and robots. So, there is no linear connection between ageing and

for instance labour shortages or the strategies that employers can use to tackle the impact of ageing.

4. Legislative framework

The impact of the ageing of the workforce has been at the forefront in the debates on the future of the Dutch welfare state. It took quite some to build the Dutch welfare state. There were big debates on the principles on which to build the Dutch social security system. [14] After more than thirty years a compromise was reached and in a relative short period a broad welfare state was developed, in the words of a Dutch sociologist, A. De Swaan: a long fizzle and a short, big bang. [9] Up until recently the main characteristics were a combination of insurances against the risks of employment, retirement, sickness and disability (controlled by the state and the representatives of employers and employees) and state provisions for old age, the poor etc. In the last twenty years this so-called Rhineland-welfare model (a concept of a broad and more generous welfare state which we see in the Scandinavian-countries, Germany and the Netherland in contrast to a more liberal state with limited welfare arrangements) has been changed: for instances the sickness and disability insurances has been privatised, the role of the social partners has been altered and the welfare model has been replaced by a model of what is called the Participation society: the focus is to activate those who are depending on support from the state. One of the key elements was that the costs of the arrangements where to great, especially for the pension and retirement arrangements. Besides financial measures other measures to extend the working age has been taken. Sustainable employment, lifelong learning and more

To stimulate the possibility that employees can work longer or are more sustainable employable different programmes has been developed to stimulate education and intersectoral mobility. In the Netherlands education on the job is seen as a responsibility of the employers who makes agreements with the unions on educational programs and the funding of these programs in special

educational funds (the so-called opleiding en ontwikkelingsfondsen). The use of these educational funds is restricted and limited. In the last decade there is also for elder employees more and more possibilities to keep on learning to enhance their work ability and employability. Different programs, for instance in the metal and electronic industries has been set up to promote life-long learning and to keep workers employable and fit. There is a general consensus on the importance of 'permanent training' certainly for elder workers to maintain their work ability. In the different collective labour agreements, there are a lot of special arrangements on enhancing the training of elder employees.

On the level of state policy on the one hand there has been a lot of measures to stimulate employees to be able and fit and enhance their work ability and employability and on the other to increase the age when workers can go with retirement.

So, when it comes to making it possible to work longer, there is a clear division of tasks in the Netherlands. This is most clearly described in the advice "Of all ages" issued by the national Social and Economic Council (SER) on 21 January 2005 at the request of the House of Representatives. "In the Council's view, a two-track approach is necessary to promote the labor participation of older employees. This concerns both the improvement of the incentive structure of employment conditions and retirement schemes and the further development and embedding of an age-aware personnel policy in the company. Both the government and the social partners have taken a large number of measures to financially stimulate employees to work longer (the first track). The age-aware personnel policy in the company (the second track) is an important condition for the success of the policy that has already been implemented, which makes working longer financially attractive. This second track is primarily the responsibility of social partners, employers and employees. The government can play a supporting role in this."³⁵

³⁵ Van alle leeftijden, (2005) p. 10.

Pension Age Act

Recent there is an agreement on a very, very long-term debate on the pension funds and retirement question (even for the Dutch 'polder model' that is normally very slow in adapting new policies). In general, the age of retirement will develop with the development of the labour market. A special problem was about the so-called 'strenuous professions'. Those employees who are more at risk to become disable as a result of the gravity of their work. For instance, builders with strenuous manual work are more at risk to become disable than a high school teacher. [7]

In the pension agreement there are special arrangements that allow under strict conditions that employees can retire early, i.e., before the official retirement age.

However, agreements have been made in the pension agreement that, under certain conditions, make it possible to retire earlier. The conditions are:

1. Commencement date maximum 3 years before the state pension age.
2. The exempt amount for 2021 is 1,847 euros per month (= the net AOW benefit for a single person per employee.
3. The arrangement is temporary; the employee and employer can conclude an agreement until December 31, 2025, whereby the last payment can be made on 31-12-2228.
4. The scheme applies from 1-1-2021.
5. The total amount may be provided in one go or in several installments.
6. The amount of the benefit is independent of the wages earned, duration of employment and whether it concerns a full or part-time appointment.
7. The scheme is accessible to everyone.

Act Labour Market in Balance (Wet Arbeidsmarkt in Balans)

1. In the old situation, so before the introduction of the WAB, the transition payment in the event of dismissal for the first ten years of

service was $\frac{1}{6}$ monthly salary per half year of service. From ten years of service, the allowance became $\frac{1}{4}$ monthly salary per half year of service. The WAB will abolish the latter.

2. Before the WAB came into effect, there was a temporary arrangement that provided for an increase in the transition payment for an employee aged fifty or older (was Article 673a of the Civil Code). This scheme has been abolished as of 1-1-2020.

Act Age Equal Treatment (Wet gelijke behandeling op grond van leeftijd)

The law came into effect in 2004 and is intended for people who are discriminated against because of their age, for example because they are too young or too old.

In the Act on the age equal treatment special measures are taken to ensure that older employees are treated fairly. The government has decided that employees have to work longer and therefore the compensation for dismissal should not be intended to stop working earlier. Redundancy schemes, the purpose of which is to stop working earlier, are not permitted by the government. This is called an Early Retirement Scheme (RVU). This applies to employees over 55 years old. If employers nevertheless dismiss with the aim of early retirement, the employer will receive a tax fine of 52% on the severance payment.³⁶

In general

So, there is a combination of laws and changes of the welfare state to increase the age of retirement to prohibit that employees are retiring early and

³⁶ Wet van 17 december 2003, houdende gelijke behandeling op grond van leeftijd bij arbeid, beroep en beroepsonderwijs (Wet gelijke behandeling op grond van leeftijd bij arbeid).

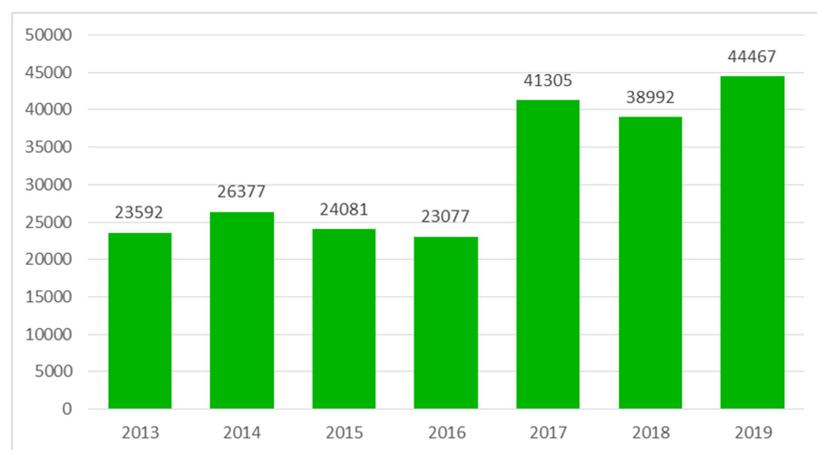
measures to improve working conditions and to stimulate both employers as employees to invest in education also for the elder employees and to facilitate on the work floor better working conditions.

5. Significant research projects in the field of work ability, overview of published articles

Since 2008 there is a central database of the WAI in the Netherlands managed by Blik op Werk. From 2010 onwards more than BoW 400.000 questionnaires are recorded over the last ten years. This database is used by scientist for research on workability and to develop HR-strategies and HR-instruments.

Who are the respondents? In table 1 the number of participants in absolute numbers is shown. We can also discern a positive trend of an increasing number of participants using the WAI.

Table 1: Participants work ability index, in absolute numbers, 2013–2019



Source: based on the WAI-database BoW

Over this period there are more men that uses the WAI than women, although the number of women is increasing. The distribution between the sexes is in 2019 62,7% men and 37,3% women. Other characteristics are that the respondents are relatively more highly educated, about 33% is working in industrial sectors and the most prominent group is between 45-55 years old. Interesting is that the number of older employees that is using the WAI is also increasing.³⁷ Furthermore, the majority of the respondents has a more secure position on the labour market and is working in the large companies: the share of respondent working for small companies is relatively low: the WAI is more an instrument that used by larger companies.

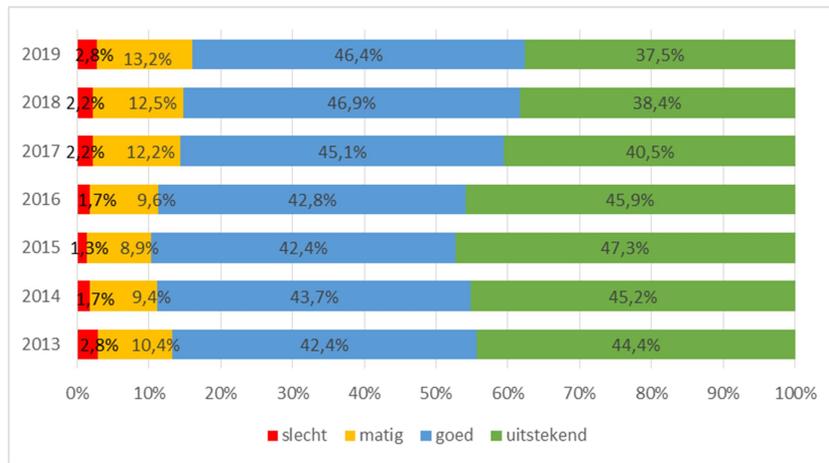
What are the results:

Figure 1 is showing the WAI score between 2013 and 2019

The different dimensions of the WAI have different outcomes. All these outcomes/scores together give an indication the work ability of an individual employee. This combined outcome is between the 7 and 49 points.

Figure 1: WAI-score- distribution in categories, 2013–2019

³⁷ For the database: dienstverlener@blikopwerk.nl (26)



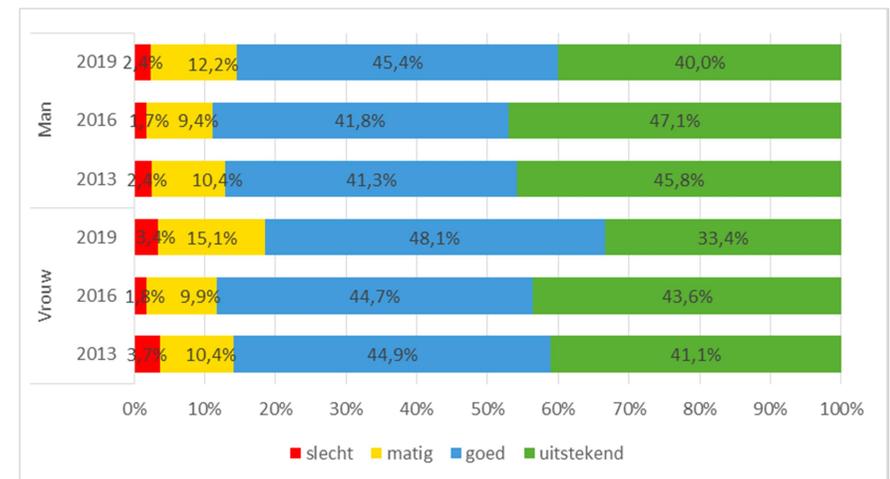
Source: based on the WAI-database BoW

WAI-score distribution in categories bad, moderate, good and excellent, per year. WAI score 7 t/m 27 = Bad work ability, 28 t/m 36 = moderate work ability, 37 t/m 43 = Good work ability, 44 t/m 49 = Excellent work ability.

De general trend is that workability is decreasing, especially after 2017. The figure clearly shows a shift from excellent to good and especially moderate.

This decrease is shown by men and women (see figure 2)

Figure 2: WAI-score- in distribution in categories/sex, 2013–2019



Source: based on the WAI-database BoW

The decrease is with the female participant slightly stronger than by the men. That is conforming other research that shows that women are giving a lower workability than men. Women are reporting for the whole period a lower work ability. It confirms the research of Osagie and De Lange et al. [15]: most studies measure a higher work ability with men than women.

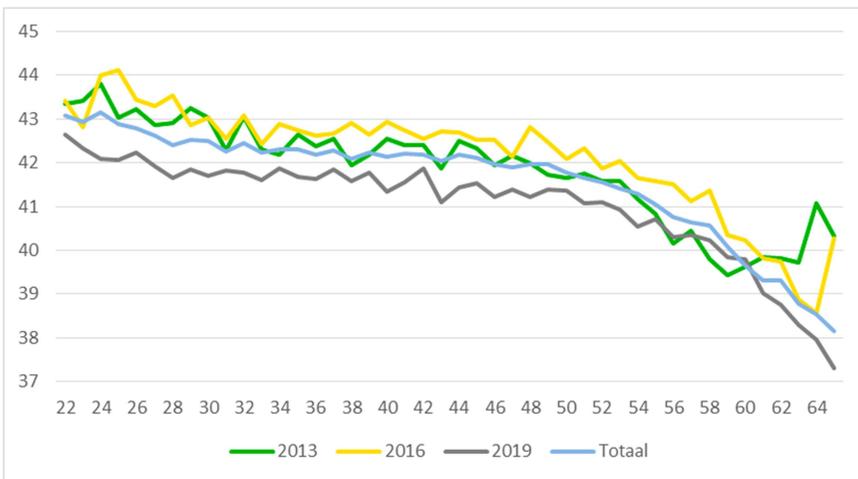
When we look at age, we see a decline of work ability by the younger age groups and by the older age groups, especially 65+. It is not surprising that workability is decreasing with increasing age. Another research has already shown this pattern. [20][7] The explanation is that the work ability of the elder is lower as a result of the decrease of the mental and physical capacity and increases health issues. That is also shown in figure 3.

The graph shows the average work ability of employees per age year in the period from 2013 to 2019. The average work ability of employees decreases as employees get older. The work capacity has three phases. In the first phases, starting workers fall between the ages of 23 and 31, they have the highest work

ability compared to older workers, but their work ability decreases slightly. Phase two shows that the work ability of workers between the ages of 31 and 49 is relatively stable. On average, workers between 49 and 65 years of age have a declining work ability.

What is striking is the increase in the work capacity of employees older than 60 years in 2013, but this increase will not be visible in 2019. The increase at the end is a well-known picture and is also referred to as the "healthy worker effect". This means that employees will have a higher average work ability by their retirement age, because older people around the age of 60 leave the labor market with a low work ability. This increases the average work ability among respondents.

Figure 3: Work ability and age



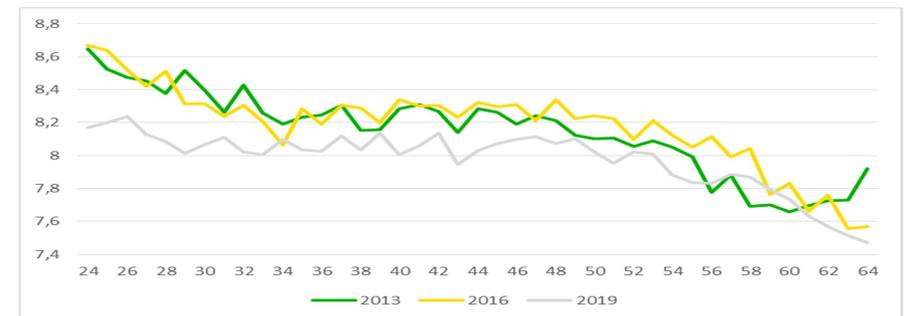
Source: based on the WAI-database BoW

It is remarkable that in 2019 no healthy worker effect did occur. Other aspect influences workability: the nature of work and the level of education. The next results are based in international research on the building industry and cleaners. Professions that have a big manual component.

Average WAI score by age and nature of work

The group of older employees who mainly perform physically strenuous tasks have a moderate average score at the end of their working life. Given the relationship between mortality and work capacity, this means that they die relatively sooner or are confronted with disabilities. Work ability declines with age. But also, remarkable we see a decline by the younger age-groups between 2013 and 2019.

Figure 4: Average WAI score by age and type of work



Source: based on the WAI-database BoW

Research into occupational groups shows a clear link with arduous occupations, especially physical work and work ability.

- 33% of construction workers with poor working ability go into the WIA. This is 9% with a moderate work ability and only 1% when the work ability is good [1].

- Previous research among construction workers aged 40 to 60 showed that those with poor work ability had a more than 20 times higher chance of becoming incapacitated for work within two years. [10]38
- Three quarters of Finnish cleaners [12] taking early retirement had poor or moderate work ability in previous years.

These figures show the relationship between work ability, incapacity for work and leaving the labor market. Poor or poor work ability more often leads to incapacity for work and premature exit from the labor market for construction workers and cleaners.

The large differences in the work ability of workers with physical and mental tasks and between different educational levels are also apparent from the WAI database. Of the lower educated (up to and including final medium general education MAVO), 23.7% (almost 1 in 4!) has poor to moderate work ability, while this is 11.8% for the higher educated. And if we look at the nature of the work, we see a similar picture.

The estimate of the work ability of the less educated is lower than that of the other two groups. Differences are mainly between the respondents who mainly do physically strenuous work and the respondents who mainly do psychologically strenuous work or a combination of both. Of the respondents who mainly do physically strenuous work, 77% expect that they will no longer be able to do this in two years. That was over 80% in 2013. The figures for the other groups are higher (around 90%) and stable.

The Personal Radar

The Personal Radar was deployed 1097 times in the Netherlands in 2019, mainly in the welfare and education sectors. Partly for this reason, it is not representative of all sectors in the Netherlands.

³⁸ See also the study of Liira et.al. This Finnish among construction workers aged between 40 and 65 shows that workers with poor work ability have a 10 times higher risk of becoming incapacitated for work within four years (Liira et al., 2002).

In summary, the scores on all dimensions are around the dividing line between “moderate” and “good”. The dimensions of health, competences, work and work-life balance are just below the dividing line and therefore score “moderate”. The attitude and motivation dimensions are the only ones that lies exactly on the dividing line and therefore scores just “well”.

The Work Scan

The Work Scan was deployed 987 times in the Netherlands in 2019 in various sectors, but mainly in the metal and government sectors. It is partly for this reason that it is not representative of all sectors in the Netherlands.

Table 2: Outcomes workscan 2019

Signal area	No action	Preventive action	Immediate action
Health	45,5 %	11,4 %	43,1 %
Lifestyle	49,7 %	0 %	50,3 %
Work	47,8 %	14,3 %	37,9 %
Work-life balance	55,4 %	23,7 %	20,9 %
Education / training	56,8 %	14,5 %	28,7 %
Career development	61,6 %	14,7 %	23,7 %
Career mobility	35,4 %	26,7 %	37,9 %
Self-sustainability	56,8 %	23,2 %	20,0 %

Source, based on Data of BoW

This table shows that 40–60% action is desirable in all signal areas, preventive or immediate. In the field of career mobility, as many as 64.6% indicate that (preventive or immediate) action is needed. In the signal areas of health, lifestyle and work, more than 50% also indicate that (preventive or immediate) action is required. It is striking that there is a clear division in the signal area of lifestyle: 49.7% think that no action is needed and 50.3% think that action is needed now. None of the respondents think that preventive action should be taken. The health signal area also scores very high on the answer "now action", namely 43.1%.

6. Other recent, scientific research on work ability

Because of the availability of the WAI-database there are quite a lot of studies on workability in the Netherlands. In general, on the WAI as an instrument: there are critical remarks on the WAI but in the outcome of most research indicates that it is a useful instrument to predict the workability of someone on the short term. [5]

Some of the research concentrates on the physical determinants of work ability. Most of this research is about the individual characteristics, lifestyle- and health factors, as well as working conditions are related to work ability. The associations with poor work ability are strongest for unfavourable physical and psychosocial working conditions. [21] The analyse the impact of obesity on work ability in workers with high and low physical workload. The main conclusion is that both workers with overweight and a high physical work demand have a synergistic effect on work ability and result in a low or moderate workability. Other research focus on the impact of common diseases and lifestyle-related and work-related factors on sick leave and work ability. Based on an analysis of 8364 Dutch health care employees the main message is that both common diseases and unfavourable work-related factors (such as high work demands, low job control, low rewards) were most strongly

associated with low work ability and sick leave. Other more 'medical' research focus on sick leave and work ability [4][20][18] [19]

Another line of research is about work-related and individual factors on workability. There is an interesting 'older' longitudinal study (2009) on the effects of work-related and individual factors on the Work Ability Index. One of the conclusions is that in programmes aimed at maintaining and promoting the participation of the labour force, interventions should be targeted at physical workload, poor physical work environment, and psychosocial demands as well as lifestyle factors, most notably leisure-time physical activity, and body mass. The study also indicates that older age in combination with lack of leisure-time, vigorous physical activity and a high physical work demands were associated with decreased work ability. [2]

A third line of research is on work ability as a determinant for productivity loss, disability benefits, health care use and intention to leave. In general, this research shows that poor and moderate work ability are associated with unfavourable work outcomes such as productivity loss at work, sick leave, disability benefits, intention to leave as well as with higher health care use. At the individual level the prognostic value of the work ability index is restricted due to a low specificity. On example is the study of Reeuwijk a.o. on the prognostic value of the WAI to identify workers at risk for sickness absence. Interesting is the conclusion that the WAI showed a reasonable ability to discriminate between categories of sickness absence but that although the WAI has a high specificity but a low sensitivity. Not all workers with a prolonged sickness absence will be identified by a low work ability score. Hence, additional factors are required to better identify workers at highest risk for prolonged sickness absence. [17]

Job control

Lack of job control is the topic of some research that clearly shows the importance of lack of control on work ability. Based on a study of more than 10.000 workers in 49 Dutch companies research shows that workers with a poor (5.5x as likely), moderate (3.5x) or good (2.0x) work ability are more likely

to have productivity loss at work compared to workers with an excellent work ability. Furthermore, workers with a lack of job control, poor skill discretion and high work demands are also more likely to have a productivity loss at work. The importance is that it can help employers to prevent productivity loss.³⁹

7. The application of the concept of work ability and age management on individual, organisational and company level

In a recent review study of Osagie and others [15] they argued that an integral HRM-policy with attention to different aspects on each of the three levels is necessary for an effective HRM-policy aimed at sustainable employment for employees. That is because the work ability of employees is affected by different personal, organisational and other factors that are connected. [7]

An integral HRM policy means a policy on three different levels, that are related and interconnected. The starting point is the concept of work ability that benefits workers' sustainable employability. What levels:

Micro

Many of the individual factors (age, education etc.) can be used by HRM for a policy aimed at improving the employability during the different life phases. The core is the conduct of a targeted phase-of-life-aware personnel policy for each individual employee.

That type of policy focuses on the specific needs of employees at their specific life phase and the physical and mental taxability (belastbaarheid) but also on the personal situation (for instance the situation at home and the distribution of the care of the children). Specially this type of HRM policy offers elder employees with special needs the possibility to keep on working until the reach

the normal retirement age. In addition to the above arrangements, it also concerns an HRM policy aimed at lifestyle-promoting measures, as the WAI also shows clear relationships between the effects of physical activities on work ability. Osagie et al. Further conclude that "A well-executed integrated HRM policy at the micro level, aimed at strengthening the mental and physical resilience of individuals, will also contribute to the strategic and economic objectives of organizations at the meso level.

Meso

Measures on meso-level are aimed at lowering job demands and changes in the work itself (labor conditions, labor relations etc.) In other words: measures that improve or influence the work autonomy, task content, working hours, working conditions and labor relations. Furthermore: possibility of education. All studies emphasize the importance of lifelong learning. In practice, however, we still see too much of a purely function-oriented interpretation of training. The research by Osagie, but also by many others, shows that a broader vision of training is necessary to maintain work capacity and to invest in employability. A development-oriented approach is needed to anticipate changes in the labor market at an early stage.

Macro

At the macro level, researchers argue for mapping the predictors of labor participation in relation to work capacity, for instance a lower labour participation, an early retirement (see Osagie et al, p. 41) including the studies of Wagenaar et al. [24] In addition, it concerns sector-transcending measures to promote inter-sectoral mobility, for example, and to remove measures that differ between sectors that may be an obstacle to switching to another sector. Examples include more individual training budgets of employees themselves, regardless of the sector in which they work. This kind of measures requires a national approach and the development of national labour market instruments with the employer and employees' organisations

³⁹ Van den Berg, Robroek, Plat, Koopmanschap, Burdorf, (2011)

7.1 Educational and counselling activities for support of the work ability

Work ability is taught at various universities and colleges. One institution is particularly notable for HAN, partly due to the efforts of one of the lecturers, Prof. Dr. A. De Lange. At HAN, the WAI, work ability, is, among other things, part of the training for strategic HR. BoW employees also provides introductory courses there. HAN students also do an internship at BoW and are involved in processing the results of the WAI.

Furthermore, Blik op Werk provides introductory courses for licensees according to the principle of train the trainer. Blik op Werk trains professionals who want to increase their knowledge and skills in the field of sustainable employability. The training courses are aimed at being able to apply the various instruments methodically and working in accordance with the WAI rules. For the instruments and methodologies that Blik op Werk manages in the field of sustainable employability, Blik op Werk guarantees the quality.

There is basic training for the WAI and further in-depth training for the various instruments. In order to obtain a license, the licensees must undergo training: necessary

to guarantee quality and to get as much results as possible from the WAI surveys. There are training courses for the WAI, Personal & Company Radar, Work Scan & Motivational Interviewing. BoW and the licensees form a learning network, in which results are exchanged and the results of the WAI are discussed.

7.2 Examples of good practices in application of the programmes for people with or without employment

Interventions aimed at the problem of ageing based on the WAI developed by specialised private companies to improve working conditions (the so called

arbo-diensten). These interventions will be further elaborated in the following papers. In general: the WAI is the basis for these interventions. The WAI has been further expanded, supplemented and further developed. Specially aimed at specific target groups or companies, but also individuals. An example are the modules of Prevendnet, a company that helps HR of companies to develop targeted interventions. A series of modules have been added to the WAI, with the 'Happiness meter' as the last loot. This is an interesting addition, especially in Corona times. Based on this, a specific HumanCapital Monitor has been developed, consisting of a questionnaire that then provides specific advice to individual employees on how to develop work capacity and remain committed.

Another example is the focus on health in combination with sustainable employability: exercise works (bewegen werkt). Here too, the basis is the Work ability Index, supplemented with research into working conditions and lifestyle factors. Validated questionnaires can be added per company to make the research and advice as specific as possible. The health-oriented approach certainly also applies to job seekers and not only to those who are employed. The approach is a combination of interventions aimed at the workplace and individual advice on how to strengthen the work capacity. The keyword is vitality.

Another example is Immensadvies. They have developed a tool, called informens. Informens is an instrument that can be used to map the lifestyle, health, fitness and thus the work ability of employees. The Net Employability Score (NES) to be derived from this is intended to provide a picture of the sustainable employability of an organization. The NES score is linked to a dashboard that aims to provide managers with insight at a glance into the state of the sustainable employability of employees within their department. Points of attention are life-style and vitality, work ability and work related aspects. Informens is also based on scientifically validated questionnaires and also maps the costs of absenteeism, insufficient work capacity.

A final example is the focus on absenteeism. This is the classic approach, the occupational health and safety services were originally focused on absenteeism and, by extension, on prevention. The WAI is an important source for this

approach to indicate the chances of failure and to organize targeted interventions. The WAI is often used in combination with periodic medical examinations. Here, too, the focus is on health and work ability.

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Blik op Werk:

[25] <http://www.blikopwerk.nl>, see for the WAI: Dienstverlener

Centraal Bureau voor de Statistiek, CBS:

[26] <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/37296ned/table?ts=1609248634273>

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Slovak Republic

→ 1. Slovak Republic – Introduction

1.1 Description of the partner organization

The Slovak Association of Age Management (SAAM) was established between 2016 and 2017, by joining forces of experts in the field of adult education, with previous experience in the area of age management from various smaller national and international projects.

The mission of the association is to connect organizations (legal and natural persons) aiding and engaging in age management issues within the scope of their operations, on a voluntary and professional basis.

The aim of the association is to actively engage in the field of human resources, help organizations and their employees prepare for the changes related to shifting demographics, and support the competitiveness and sustainability of the Slovak economy.

The purpose of SAAM is primarily:

- to promote a change of attitudes towards ageing, and the fight against age stereotypes and age discrimination,
- to increase the prestige and authority of the concept of age management,
- to develop cooperation with relevant entities at the national and international level in the area of sharing experience and adopting good practice,
- to organize and facilitate conferences, training, and discussion forums aimed at promoting awareness – mutually sharing information and experiences, maintaining professional and personal contacts between the association and other organizations, and media cooperation.

1.2 Demographic development

The global population ageing, which has been observable for several decades, is fully present in Slovakia as well. We can classify the European Union, of which Slovakia is also a member, as one of the ageing world powers. However, the EU is not a homogeneous entity and we can see national differences in terms of the population age composition, and the dynamics of population ageing. The ranking of individual countries with the oldest population changes all the time. Countries will change their rank depending on the ageing of their significant age cohorts (onset, culmination and progress of population ageing). The most elderly populations, currently led by Sweden, will gradually be replaced by countries such as Portugal, Greece and Spain around the year 2050, and should the not so encouraging forecasts be fulfilled, Slovakia might come to the forefront around the year 2080.

"According to the Eurostat EUROPOP 2013 forecast, the share of the elderly population in the EU 28 should increase from today's 18,2 % to 28,1 % by the year 2050 (of which 10,9 % will constitute people over 80, doubling their representation) and to 28,7 % by the year 2080 (of which 12,3 % will be people 80+). As we can see, the forecast predicts a degree of stabilisation in the development of the population age structure after 2050; the largest inter-decade increase in the proportion of the elderly population should occur between 2020 and 2030, when the dynamics of the increase of the elderly population proportion should culminate (an increase of 3,5 pp).“ [1]

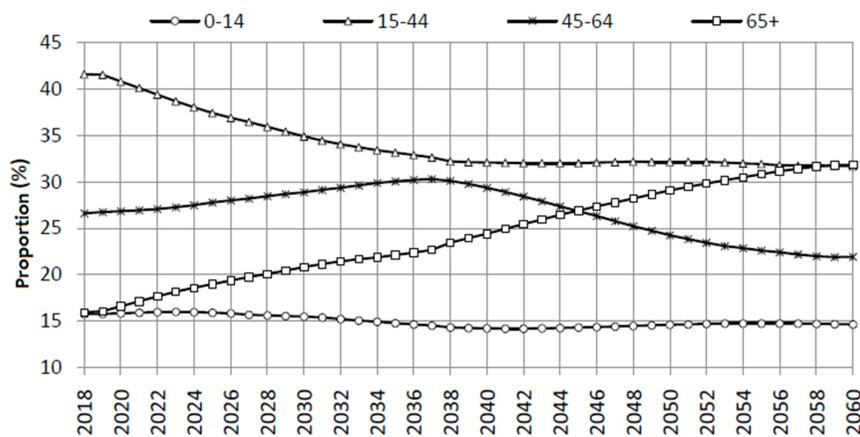
In this chapter, we will focus primarily on the trends in and forecasts for the changes in the population demographic structure. Let us realise that the division of the population based on their calendar age into the main age groups:

- pre-productive – the period of childhood and youth (0–14 years),
- productive – the period of adulthood, reproductive and economic activity (15–64 years),
- post-productive – the old age – often the period of economic passivity (65 and over),

does not capture the essence of the integrated smart age of the 21st century, however, this breakdown is necessary from the perspective of forecasting the development of the social and health situation, including planning for the workforce and its ability to work.

"The main demographic trends in Slovakia by 2060 is a decline in the population, with a high likelihood of happening, and intensive population ageing, which will be irreversible in the next decades. The productive population can expect a dramatic decline by 2060, while the post-productive population, on the contrary, a dramatic increase. In the period of 2017–2060, the number of people aged 15–64 will decrease by approximately 970 thousand, and the number of elderly aged 65 and over will increase by about 760 thousand, or 86 %."(2)

Figure 1: The forecast of the development of the main age group proportions in the population of Slovakia by 2060



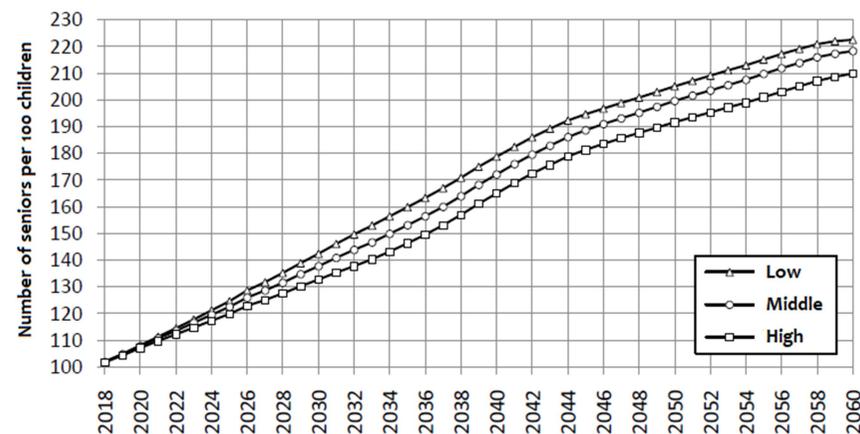
Source: Infostat

These changes are also markedly reflected in the ageing index, also known as the Savuy index, which directly quantifies the process of population ageing. It

represents the number of people in post-productive age per 100 people in the pre-productive age. Slovakia is among the countries with the most dynamic change in the ageing index.

While in 2011 we had been among the countries with the largest population in pre-productive age in relation to post-productive age (ratio: 100/80), in 2020 we were already at the level of 100/108,13. In 2060, we can expect to be leading the countries with the worst ageing index (ratio 100/220), showing more than double the increase compared to 2020.

Figure 2: Forecast of the ageing index development in Slovakia by 2060



Source: Infostat

The ageing index is the best indicator of the necessity and relevance of the topic of age management, as well as the management of the ageing population's ability to work itself.

“Life expectancy at birth in 2017 was 77,3 years, an increase of four years compared to 2000, but still almost four years lower than the EU average (80,9 years).” [3]

The number of healthy life years is an indicator that fundamentally defines the quality of life in old age. According to the 2017 SHARE survey from the Eurostat databases, Slovakia lags significantly behind the EU average healthy life years at the age of 65. Slovakia: out of an average of 17,4 years, we are expected to live only 3,9 years in good health and 13,5 years in illness, compared to the European Union average: out of 19,9 years, 10 years in good health and 9,9 in illness.

2. Legal framework, links to strategic documents

In the introduction to this chapter we can openly state the fact that the term "ability to work" is associated exclusively with health in Slovakia.

Slovakia does not recognise “ability to work” as a concept, a basic building block of age management, acknowledging also other dimensions of personal resources (not only health, but also knowledge, skills, personal attitudes, values, motivation, education, and functional capacity), and how they balance against work requirements attached to the term in practice.

Instead, terms including “altered work ability”, “incapacity for work” and “inability to work” are prevalent.

The unambiguous association and tendency to perceive work ability solely through the lens of health is best demonstrated by the fact that the term “employee with altered work ability” has been replaced by the term "employee with a disability" in the Labour Code no. 311/2001 Coll. [4].

The Labour Code recognises the work ability of employees only from the moment when the Social Insurance Agency, in accordance with Act no. 448/2008 Coll. on Social Services [5], issues a decision that an employee has a

disability. Subsequently, according to § 158 of Act no. 311/2001 Coll. the employer is “obliged to employ the employee with a disability in suitable positions, and to enable them to obtain the necessary qualifications through training or education, as well as to assume responsibility for its development. Furthermore, the employer is obliged to create conditions for the employee to be able to work meaningfully, and to improve the workplace facilities so that they can achieve, if possible, the same work results as other employees and to make their work as easy as possible” (Labour Code). In all other sections, the Labour Code addresses only the attributes of inability to work. The Labour Code has a dominant impact not only on the working life in the productive age, but also on the quality of life in old age itself, including the implementation of educational activities aimed at preparation for old age and ageing in the workplace. Age-adjusted working conditions, intergenerational relationships, organizational management attitudes towards the employment of older people all have a key impact on the moment of retirement, and the consequences of work duties (positive and negative) on the post-productive stage of life.

Health and safety at work is defined by the national and EU legislation in Slovakia, and its enforcement is supervised by the National Labour Inspectorate.

The National Labour Inspectorate states on its website that in order to effectively apply measures to uphold OSHA by the employers, it is necessary to apply the following principles in practice:

- the prevention of occupational injuries and illness takes precedence over compensation for work accidents and occupational illness, and over rehabilitation towards restoring the ability to work following an accident; or in the event of an occupational illness,
- occupational rehabilitation takes precedence over premature dismissal of employees from the employment due to incapacity for performing work duties,
- ensuring professional and effective performance of labour inspection, supervision and trade union control over OSHA regulations compliance,

- promoting a more active involvement of employees in the improvement of OSHA at their workplace, in particular in the assessment, prevention and management of the health damage risks,
- enforcing a more rigorous use of social dialogue agreements towards OSHA purposes,
- attending to the working conditions of older employees in order to promote long-term measures aiding in maintaining their safety, health and ability to work,
- paying increased attention to school graduates in order to provide them with expert information needed for the effective application of OSHA measures in their workplace, with the emphasis on preventing work injuries.“ [6]

In practice, however, we did not identify any tools aimed at preserving the maintenance and development of the ability to work, or other OSHA tools that would comprehensively respond to the ongoing and escalating demographic changes.

Another entity concerned with the ability to work is the department of preventive occupational medicine and toxicology in the field of public healthcare, which, among other tasks, performs duties aimed at preventing damage to health caused by harmful work and workplace factors, improving employee health, promoting a healthy lifestyle and maintaining employee fitness for work and increasing ability to work.

2.1 National Program for Active Ageing 2014–2020

The National Programme for Active Ageing (NPAS) [7] has been developed in cooperation with all relevant stakeholders, i.e. with all ministries in terms of subject matter, Statistical Office of the Slovak Republic, regional governing bodies, Association of Towns and Villages of Slovakia, Slovak Pensioners Union, Association of Christian Seniors, Forum for Assistance to the Elderly, Confederation of the Trade Unions of Slovak Republic, Association of Social Service Providers in Slovak Republic, National Union of Employers and the Federation of Employers' Associations of the Slovak Republic.

The program responds to the reality of population ageing, which is a consequence of the current demographic developments in nearly all EU countries. It is the first national document that recognizes the issue of supporting active ageing as an issue of public interest and a permanent political priority, providing a chance for a sustainable and better development for all, as a basic principle of the Slovak society. It encompasses a wide range of human life, and thus the diversity of positions and relationships in which people over 50 can act.

From the perspective of preparing for old age and ageing, we focus on Chapter 6 – Employment and Employability of Older People. This section also presents the topics of age management (the equivalent age management used in this document) and lifelong learning of older people.

Age management (subchapter 6.2.1)

The subchapter contains 4 specific objectives with measures and deadlines for their implementation.

Objective 1: Transform the Committee on Seniors into an advisory body of the Government of the Slovak Republic towards adaptation of public policies to the population ageing process.

Objective 2: Define age management and create age management guidelines for employers (in private and public administration).

Objective 3: Motivate employers (in private and public administration) to implement age management, promote the employment of older employees and motivate employees to remain in the labour market.

Objective 4: Establish the minimum scope of the necessary age management guidelines in practice, including a system to audit their implementation.

Lifelong learning (subchapter 6.2.4)

The NPAS argues that the benefits of education do not lie only in promoting an active way of life among older people, but also in the increased economic and

societal contribution of older individuals. The subchapter includes the following 6 objectives:

Objective 1: Develop new and further existing opportunities for the education of older people, promoting their active lifestyle and a broader involvement in the labour market, with the aim of improving their quality of life.

Lifelong learning is intended to create an environment in which a person can acquire and develop their qualifications throughout their life, as expected by the current state of the labour market.

Objective 2: Legally anchor the individual types and forms of education of older people into the educational system of the Slovak Republic.

In order to achieve this objective, legislation defining the position of the institutions providing education for older people must also be developed.

Objective 3: Financially secure the individual types and forms of education of older people.

A more intensive use of financial resources from the budgets of the central government administration authorities, universities, local governments, local governments, municipalities, as well as European Union resources should be applied towards meeting this objective.

Objective 4: Define an indicator of growing digital literacy of older people in order to improve their digital literacy when formulating the new programme timeline.

The aim is to not only promote digital literacy programs, but also to address older people's concerns about using ICT.

Objective 5: Implement programmes to increase the financial literacy of older people.

The development of career counselling for older people can contribute towards a better orientation in acquiring new competencies aimed at the labour market in order to increase their employability.

Objective 6: Strengthen and systematically develop the quality of training for career counsellors working specifically with older people.

Create educational programs aimed at the specific training of career counsellors for working with older people.

2.2 National Program for Active Ageing 2021–2030 (NPAS II.)

Presently, the NPAS II document is still in preparation, it was originally intended to be submitted to the session meeting of the Government of the Slovak Republic in December 2020.

NPAS-II. is a document directly building on the National Program for Active Ageing 2014–2020 (hereinafter “NPAS-I.”), reflecting the commitments of the Government of the Slovak Republic to address issues of promoting active ageing as a permanent political priority implemented within the strategy of building a sustainable society providing better opportunities for everyone. The sequential document is anchored in current value, knowledge and political frameworks of transnational nature, particularly within the challenges facing Slovakia from the UN 2030 Agenda for Sustainable Development (2015) outlined in the proposed Vision and Development Strategy of Slovakia by 2030. The document also builds on the experience gained from the preparation, implementation and evaluation of the objectives and measures contained in the NPAS-I., as well as on the experience of the cooperation between various stakeholders (government administration, local governments, public institutions, NGO sector, academic and scientific research sector or media) engaged in the process of fulfilling the responsibilities arising from this document in its closing period.

Based on international experience and recommendations, and also in line with the current practices, the future NPAS-II. is built on three basic principles:

- a) the principle of respecting the diversity of people's activities supported under the active ageing strategy,
- b) the principle of promoting active ageing during the whole life cycle (i.e. not only in the older age),
- c) the principle of participation and shared responsibility of various stakeholders for initiating, preparing, implementing, monitoring and evaluating the objectives and measures of the programme.

- a. **Act no. 353/2015 Coll. being amended and supplementing Act no. 5/2004 Coll. on employment services and on supplementing certain Acts, as amended, which amends certain Acts.**

Key Act no. 5/2004 Coll. on Employment Services [8], which defines basic terms including employee, employer, job seeker, etc. It further defines the employment services' tools to support and assist the labour market participants in finding and changing jobs, filling vacancies, and applying active labour market measures aimed specifically at the employment of disadvantaged jobseekers (this category also includes citizens over 50 years of age). The fourth section of the Act is focused on medical evaluation activities, assessing the medical fitness of jobseekers. An active labour market measure provides frameworks for professional counselling services, education and training for the jobseeker or employee (including the definition of approved costs for education and training for the labour market, and other benefits).

The fact that the main space for the implementation of age management and work ability management should be the work environment where employees spend most of their time during the productive stage of life, forces us to pay increased attention to the awareness of this Act. Not only in regard to the rights and obligations of job seekers and employers, but mainly at the level of the opportunity to obtain financial subsidies for the implementation of specific programmes for job seekers, as well as the employees themselves.

- b. **Act no. 568/2009 Coll. on lifelong learning, and on amendments and supplements to certain Acts**
 - Lifelong Learning Act no. 568/2009 Coll. (9) defines:
 - lifelong learning, in which further education build on the level of education achieved at school,
 - accreditation of further education programmes,
 - rules and procedures for the certification and recognition of further learning results aimed at acquiring both partial and full qualifications,
 - national qualification system,

- further education information system,
- monitoring and forecasting system for the educational needs of further education,
- assurance of compliance with the conditions of accreditation and compliance with the conditions for the authorization to perform an examination to test professional competences.

According § 4 par. 1 The types, forms and scope of further education include:

- a) further professional education in an accredited training programme leading to the supplementation, renewal, extension or furthering of a qualifications necessary for performing a professional activity,
- b) retraining in an accredited training programme leading to a partial or full qualification – the professional competence in one or more work duties in a profession other than that for which the natural person obtained a qualification via school education,
- c) continuing training in educational programs by which the participant complements, expands, furthers or renews their qualification as a prerequisite for the performance of professional activity in accordance with special regulations,
- d) leisure education, civic education, education of seniors and other education by which the participant fulfils their interests, participates in the public life and generally develops their personality. (Act no. 568/2009 Coll.)

3. Significant research projects in the field of the ability to work, overview of published articles

The issue of the ability to work is researched insufficiently in Slovakia and it does not hold the position it deserves among academic researchers. This is

evidenced by the lack of serious research work that would properly address the ability to work.

Part of this chapter is the analysis of research and writing devoted or related to the ability to work. We have used various international databases (*Scopus, WoS / CCC, google scholar*), *the Central Register of Final and Qualification Theses and the published reports of the Institute for Labour and Family Research to obtain information on published writing*). We then subsequently processed these sources and present them in this chapter of our publication.^{40 41} In the aforementioned databases, we have searched keywords including “pracovná schopnosť/práceschopnosť a vekový manažment” in Slovak, and “age management” containing the term “Slovakia” in English. Many search results addressed the ability to work predominantly in a health context, i.e. its link to illness (those studies are not reported in the present analysis), which corresponds to one of the pillars of the ability to work (compare for instance [23][12]). For the purposes of our work, we have briefly analysed only those studies that are related to the topic of our project. Vrašňáková et al. (2018) in their contribution titled *Generational Groups of Employees and the Importance of their Education in the Context of the Age Management Context* assessed the age management in industrial enterprises in Slovakia in the context of education of different generation groups. Šukalová and Ceniga [12] in the abstract of their contribution titled *Diversity Management in Sustainable Human Resources Management* state that globalisation promotes diversity of the workforce (e.g. with regard to nationality, race, gender and age), which business managers often need to deal with. According to the authors of the study, diversity management strengthens corporate social responsibility and competitiveness. The authors have focused in their research, among other

⁴⁰ A registry and archive of all bachelor's, diploma, dissertation, rigorous and habilitation theses defended in Slovakia since 2009, (<https://crzp.cvtisr.sk/>).

⁴¹ An entity concerned with research, analysis, conceptual activities, and advocacy with an emphasis on the current social issues (family and labour) in the Slovak Republic and abroad (<https://ivpr.gov.sk/>).

things, on the perception of diversity management by the middle management of various Slovak organizations. Citing the results of their research, “findings show the relationship between demographic development and diversity management in companies; in examining the perception of the issue of diversity management, we found the understanding of diversity management as synonymous with anti-discrimination measures. Our research led also to recommendations for implementation of diversity management for human resource management sustainability” [12].

In the *Central Registry of Final and Qualification Theses*, we have focused exclusively on dissertations and habilitation theses. The keyword “work ability” (in English), or “pracovná schopnosť/práceschopnosť” (in Slovak) appeared in one dissertation, which does not correspond thematically to the focus of our project, so we omitted it from the analysis. The keyword “age management” (in English), or “vekový manažment” (in Slovak) was found in two dissertations (Polakovičová, 2018; Spišáková, 2018). We will only analyse the dissertation of Spišáková (2018), which is thematically related to the present project. The author has found that the surveyed companies:

- do not implement age management,
- give preference to candidates under 45 in hiring,
- they do not consider the special needs of employees over the age of 45 in training and development,
- offer their employees only the benefits mandated by the law,
- do not consider the age of employees, nor the fulfilment of their needs under employee care,
- do not utilise the flexibility of work and working hours for employees over 45 years,
- do not allow employees to take a position allowing them to pass on their experience to younger workers prior to retirement (Spišáková, 2018, p. 115).

Furthermore, the author found that the use of HR management tools with respect to employee age would improve employee performance; regular training and development would lead to a better performance of employees

over 45; the support of employees by means of benefits and care affects their performance; as well as flexibility of work and working hours affects employee performance and productivity [14].

We consider the research findings of Bútorová et al. (2013a, b) and Bednárík (2019) to be particularly valuable and interesting to our project. Bútorová et al. [16] argue that the ability to work is the main category of older people's participation in the labour market, sustainability and promoting their employment. As part of the **Active Ageing Strategy** national project, they carried out extensive research demonstrating “widespread stereotypical, generalising ideas about older workers, as well as the lack of information and acceptance of the principles of age management and age-sensitive approach to employees. It identified a number of contradictions: for instance, the formal recognition of the important qualities of people aged over 50 towards meeting the employer's objectives is often combined with a tendency to overestimate their shortcomings and underestimate their strengths” [17]. Less than a quarter of people aged 50–64 and less than one fifth of employers favour the implementation of age-sensitive approach [17]. More often, a so-called age-blind approach is adopted [18].

Based on the presented findings, the authors proposed the following recommendations, aimed to contradict age stereotypes, motivate people to preserve their ability to work and change the attitude of employers and other entities to older people:

- “1. Activities aimed at improving the functional abilities, qualifications, competencies and work efficiency of people aged over 50.
2. Activities aimed at increasing the willingness of employers to hire people aged over 50.
3. Support for keeping older people employed, linked to the development of age management policies and support services.
4. Introduction of effective activation programs for unemployed people and workers at risk of losing jobs aged over 50.

5. Activities aimed at changing the public image of older workers.
6. Activities aimed at eliminating discrimination against older people on the labour market.
7. Individualisation of retirement opportunities, and reduction of conditions for passive strategies or being forced to exit the labour market by employers.“ [17]

Bútorová et al. (2013b), compiled an informationally dense publication in which they also paid attention to the dimensions of older people's ability to work based on extensive research. On the topic of education, they add that “over the last two decades, the educational level of the Slovak population has increased significantly. The number of people with a secondary education diploma and a university degree has increased, and the share of people with only compulsory basic education has decreased... Although there has been a significant shift in favour of higher education, Slovakia has still not reached the European Union average proportion of university-educated people“ [19]. According to the authors, another dimension of ability to work is the feeling of being able to meet the work demands and overall work performance. One interesting finding states that “while workers in pre-retirement age think they handle the physical work demands a little better than the mental ones (average rating 1,91 vs. 1,95), working pensioners see their physical performance slightly more negatively (2,03 vs. 1,90). In contrast, working pensioners perceive the handling of the mental work demands even more positively than workers in pre-retirement age (1,90 vs. 1,95)” [20]. The authors go on to state that “people with higher education frequently feel better able to cope with the physical and mental work demands. This applied to both a sample of people in pre-retirement age and working pensioners“ [20]. Regarding the overall work performance, the authors found that:

- with increasing age, workers (in pre-retirement and retirement age) self-report a decreased work performance,
- people with higher education perceive their work performance better, especially working pensioners,

- more complex work improves the sense of work performance in employees of pre-retirement and retirement age,
- people who work mostly manually during their lives perceive their work performance worse (compared to people working intellectually),
- jobs that do not correspond to the required qualification reduce the average assessment of the respondents' own work performance [20].

Bednárík [15] carried out research on the **Uplatnenie a podpora starších občanov na trhu práce** [*Success and support for older people at the labour market*] project] using a sample of 1116 respondents, job seekers aged over 50 registered at the office of labour from the entire Slovak Republic. The author presents the characteristics of the older unemployed people, unemployment (its duration and causes), barriers to employment and communication with potential employers, the activity of the unemployed people towards finding work, and older job seekers' views on cooperating with the offices of labour towards finding work. Respondents cited organisational reasons in the first place (34,7%), followed by non-renewal of employment contract (17,7%), health reasons (22,7%), and age reasons (8,5%) as the main causes of unemployment. In summary, age is the most common reason for unemployment according to the respondents (43,8%) [21].

Bridging the age gap

AGEGAP [22] is an international project that brings together employee organisations from seven European countries (HU, SK, SI, HR, RO, MNE, MK), with its activities co-financed by the European Commission. Slovakia is represented by the National Union of Employers in this project. The main objective of the project is to study various aspects of intergenerational issues and challenges. Introducing best practices that support active ageing via intergenerational solutions and promote employee involvement. At the time of writing, only the overall results of the AGE GAP survey were available. More than 500 respondents in 7 countries have taken part in the survey, with the following structure: 77% of respondents were employers, 13% trade unions, and 10% NGOs.

The main results of the survey:

- the study concluded that the older generation has some difficulties with new IT solutions, which are, however, manageable within the organisation,
- only 10% of the organisations surveyed have begun consulting the trade unions on labour ageing issues,
- more than 20% of respondents have criticised the loyalty of the younger generations, while respondents from all countries agreed that the fluctuation of young employees is not a serious concern,
- respondents in a specific area have agreed that the older generations possess sufficient professionalism and knowledge,
- 40% of respondents lack age management in their organisations; large companies are more open to addressing these issues,
- 75% of respondents believe that they are adequately involved in lifelong learning,
- more than 50% of companies motivate their employees to improve their digital skills,
- more than 50% of companies provide training regardless of employee age.

4. Application of the concept of the ability to work and age management at the level of individuals, and organizations and companies

In 2013, the HR SALON conference for HR managers, HR professionals and HR specialists took place. For the first time in the Slovak Republic, the topic of age management was included on the agenda. Partners from the Czech Republic, from Age management o.s. and AIVD ČR and SR, have attended as guests. The Manažment veku o.z. association was founded in 2014. Gradually, cooperation with these entities had been established and others also involved in the topic

were included – Aptet n.o. and Bagar o.z. Towards the end of 2016, they jointly founded the Slovak Age Management Association. Every year, they organize the Age Management SALON conference, as well as other projects, including: discussion forums, joint business meetings and training. They are attempting to interlink the professional public, spread awareness and recognition of this topic via these activities.

Slovakia has performed a standardised measurement of work ability WAI (work ability index) in 2005 under the NEXT international project. WAI measurements in 10 countries were performed in this scientific study (22 355 respondents), with 1 981 hospital nurses taking part in this project in Slovakia. This study focused on finding the answers to two basic questions using WAI:

1. What is the work ability of nurses according to age and country? Is it possible to identify risk groups?
2. To what extent does work ability contribute to early retirement?

However, due to the data being unavailable, it is impossible to analyse the findings from Slovakia and interpret them unambiguously.

5. Educational and counselling activities to support the ability to work

Towards successful seniority™ / Profesní seniorita® program as a part of adaptive education for UNIZA university teachers

Educational activity to support the ability to work, in which teachers in technical and economic disciplines strengthen their competence to teach in the context of key competencies. It is included as an introductory activity within the cycle of adaptive education, compulsory for all university teachers of the University of Žilina with less than three years of experience.

The philosophy behind the activity lies in motivating the participants to become active creators of their own action plan for professional and personal

development, and to link the regular evaluation of its progress with the annual evaluation of work performance.

Under the supervision of the programme instructors, a participant has the opportunity to:

- get to know themselves, become the creator of their own career success in connection with their health and personal life;
- be able to respond flexibly to the changes in the world of employment, to a potential change in job title, or change of job and professional expertise, be able to build a career using a professional portfolio and key competencies strengthened by the teaching and training during the programme.

The focus of the training participant on themselves, and the planning of their professional and personal goals creates the prerequisites for a more positive perception of the need for further professional development, which they complete during adaptive training.

The training also has a counselling dimension. Approximately one year after the training programme, the participants evaluate their action plan together with their superiors (or instructors). They work together to identify visions for their careers. They are an “example of good practice” of the university's age management.

5.1 Balance of competencies counselling program aimed at job seekers

When working with long-term unemployed jobseekers in recent years, the Slovak Republic has focused on the implementation of the “Balance of Competencies” counselling program (hereinafter referred to as BC). BC is a multidisciplinary, systemic tool used in more than 10 European Union countries, which and has been implemented in Slovakia under the "Podpora individualizovaného poradenstva pre dlhodobu nezamestnaných uchádzačov o zamestnanie" [*Support for individualised counselling for long-term*

unemployed job seekers] national project. The hiring rate of long-term unemployed jobseekers within 6 months of the end of the programme was 20%. The counseling program consists of 10 different, but interrelated, activities totalling 38 lessons (60-minute long) and will consist of: 4 individual activities (4×1 hour), 5 group activities (1×4 hours + 4×6 hours) and 1 final group monitoring interview (1×6 hours).

From the perspective of work ability management, as well as age management itself it is interesting to observe the extent to which BC overlaps with the "work ability house" model (hereinafter WAH) developed by the Finnish Institute of Occupational Health (FIOH). The analysis of the client's life situation, as well as the creation of a portfolio of competencies, considers not only at the competencies themselves (2nd floor of WAH), but also the health and functional capacity (1st floor of WAH), and the client values, attitudes, and motivation (3rd floor of WAH).

From the WAI – work ability index perspective: the fundamental distinction of analysing the job seekers' life situation and using the WAI questionnaire is that BC does not rely on the validation of the questionnaire by a medical practitioner, while WAI does. The assessment of the current state of the ability to work in BC takes the form of open-ended questions, also mapping the subjective perception of health and obstacles to employability, which often point to a worsened physical and mental well-being.

From the perspective of age: the activity participants – job seekers, have been registered with the Office of Labour, Social Affairs and Family for more than 12 months without any age restrictions. Similar to age management covering all age groups in the productive period of life, the balance of competencies is used for all age groups of the unemployed.

The functioning elements of the BC counselling program (especially recent experience with counselling of a heterogeneous age group) is a convenient starting point for the upcoming research activity "Metodika na riadenie podpory pracovnej schopnosti pre cieľovú skupinu nezamestnaných"

[Methodology for managing the promotion of the ability to work among the target group of the unemployed].

5.2 Age management consultant

The “Age Management Advisor” educational program [24] was created within the implementation of the international Age Management Uptake project, aiming to introduce the participants to the basic principles of age management, its goals, tools, implementation opportunities and measuring the employees' work ability using the Work Ability Index (WAI), and prepare them for activities in the environment of the employers' organizations. The participants will acquire the basic knowledge, competencies and skills necessary to act as an age management consultant via lectures, practical exercises, group work and their own experience. Graduates will be able to:

- navigate the theoretical outcomes and methods of age management,
- apply the principles of age management,
- explain and present the principles and aims of age management,
- identify the age management needs of an organization,
- analyse the needs of individual age groups at the workplace,
- select appropriate tools for the implementation of age management in organisations,
- create internal documents for the implementation of age management,
- design the procedures for the implementation of individual age management measures,
- monitor the implementation of age management in organisations,
- recommend modifications of age management implementation procedures,
- evaluate the contribution of the implementation of age management towards supporting the ability to work individual age groups at the workplace.” (Age Management Advisor educational activity project, p. 2)

A huge benefit of this activity is the professional training of future counsellors – experts in the field of age management, as well as the topic of the ability to work in its entirety.

The acquisition and effective use of skills is a necessary prerequisite for the ability of the Slovak Republic to prosper in an increasingly interconnected and constantly changing world. The Slovak Republic is left particularly exposed to the effects of digitisation, globalisation and demographic changes. All of its citizens will need a stronger and more specific set of skills, including cognitive, social and emotional skills, as well as skills needed for individual jobs that meet the needs of the labour market and can be applied effectively at individual workplaces.

5.3 Skills and competencies

We include the following among the skills and competencies that affect the ability to work:

- 1) **basic skills**, including literary, numerical and digital literacy,
- 2) **transversal cognitive and meta-cognitive skills** such as critical thinking, complex problem solving, creative thinking, etc.,
- 3) **social and emotional skills** including conscientiousness, responsibility, empathy, performance, ability to cooperate,
- 4) **professional, technical and specific knowledge and skills** necessary to meet the requirements of individual professions.

These skills can be acquired under:

- **Adult workplace-oriented education**, where adults develop the skills and competencies needed to successfully acquire and retain jobs and advance in a professional career. It can also refer to initial education, taking place for instance at vocational education and training (VET) institutions.
- **Adult education at the workplace**, which adults participate in while working or at the workplace. The skills and competencies they acquire may not be required for jobs alone.

In this sense, the workplace can also act as an “information strategy”, through which specific groups of adults may be approached via educational programmes.

Adult education at the workplace can be:

- **Formal:** occurring in an organized and structured environment and explicitly labelled as learning (in terms of objectives, time or resources), leading to a formal qualification (or partial qualification). Such training can take place within a VET programme / apprenticeship-type training (also at higher levels), or in short-term higher education programs.
- **Non-formal:** occurring in an organized and structured environment and explicitly labelled as education (in terms of objectives, time or resources), but which does not lead to a formal qualification. Such education can include, for instance, employer-specific professional training or courses, self-study or the so-called “job shadowing”.
- **Informal:** stemming from day-to-day activities at the workplace not specifically organised or structured; and not leading to a formal qualification. This type of training can include mutual learning, exchanging experience with colleagues or learning by doing.

5.4 Educational and counselling activities in the area of basic skills

Today, 750 million illiterate people live in the world, and unfortunately even in Slovakia we see the extreme – people who cannot read or write, and have not even finished primary education. The current international assessment of adult competencies PIAAC, administered by the OECD, shows that up to 9% of people in Slovakia possess low levels of competencies.

The low level of basic competencies is often the result of premature school leaving. The Slovak Republic has a historically strong tradition of formal school education and the proportion of the population leaving the primary education system prematurely is still relatively low. However, in recent years these figures have been growing. While Slovakia is doing relatively well compared to other

EU countries, the problem is that we do not have a support system for adults with low competencies.

The basic competencies of adults in the Slovak Republic, especially mathematical skills, are comparable to those of developed OECD countries, due to the historically high proportion of the population completing secondary education [25]. However, the skills most needed to succeed in a connected and digital world, such as problem-solving and digital competencies, are not at a high level. Only one in four adults in the Slovak Republic possesses strong problem-solving skills.

The current overview of the state of basic competencies, and educational and counselling activities for the people with low competencies in the Slovak Republic was compiled as one of the outcomes of the Blueprints for Basic Skills Development in Slovakia – BLUESS project [26].

The **Blueprints for Basic Skills Development in Slovakia – BLUESS, 2019–2021** project is supervised by the State Institute of Vocational Education under the European Commission's Employment and Social Innovation Program (EaSI) and administered together with partners: Office of Labour, Social Affairs and Family of the Slovak Republic, Ministry of Education, Science, Research and Sport of the Slovak Republic, European Association for the Education of Adults (EAEA), European Basic Skills Network (EBSN), AONTAS (Ireland), Association of Adult Education Institutions in the Slovak Republic (AIVD) and the Association for Career Counselling and Career Development.

5.5 Examples of educational and counselling activities in the area of gaining basic skills

At the local level, and especially for participants from socially disadvantaged backgrounds, the so-called second chance projects have been relatively successful. They facilitate a successful completion of primary education. They modify the learning content of the curriculum so that the participants can master the learning objectives of grades seven, eight and nine of primary

school during a single school year. However, these tend to be individual initiatives rather than a systematic solution.

Graduates of these initiatives can continue their studies at secondary school and further improve their qualifications. This will increase their chances of finding a suitable job, social standing and give them a better chance to fully integrate into a prosperous life.

Vulnerable target groups are assisted by community centres (e.g. in Romani settlements), various NGOs Vagus (homeless people), the civic association Odysseus (people with drug addictions), social enterprises (e.g. Wasco laundry). The completion of minimal basic education is facilitated by the second chance schools (primary and secondary schools). The education of people with low qualifications can also take place in cooperation with companies (e.g. Podbrezová Iron Works).

A good example of cooperation between the regional government and the non-profit sector in addressing the issue of long-term unemployment and social exclusion of people is the non-profit Job Agency of the Banská Bystrica region, created by the Banská Bystrica regional government together with the Človek v ohrození [People at Risk] organisation. The Človek v ohrození pilot program of employment support for the marginalised Romani communities, in cooperation with the BBSK, has been extended to other groups of disadvantaged job seekers on the labour market and gave the joint initiative an institutional character. The job agency prepares the long-term unemployed and socially excluded people who have lost their good habits and competencies, or who have never acquired them, for the labour market.

5.6 Educational and counselling activities in the field of further education

Another significant area of education that supports the ability to work is supplementary education (education for the labour market, leisure education and active citizenship). We define adult professional development and training in the context of the Slovak educational system as supplementary education.

Supplementary education is a part of lifelong learning and builds on formal school education.

The aim of supplementary education is to: supplement, renew, expand or further qualifications acquired in school education; acquire qualifications or to satisfy personal interests; and to acquire the capacity to participate in public social life.

However, it is not possible to obtain a higher degree of education in the current system by completing supplementary education.

The Slovak system of lifelong learning recognises four basic types of supplementary education:

- Continuing professional development in an accredited educational programme. This leads to the supplementation, renewal, extension or furthering of the qualification required for the performance of a professional activity.
- Retraining in an accredited educational programme leads to the acquisition of a partial or full qualification for one or multiple work activities. It means obtaining a qualification in a profession other than the person's original qualification obtained from formal school education.
- Continuing education, enabling participants in supplementary education to complement, expand, further or renew their qualification as a prerequisite for the performance of a professional activity in accordance with special regulations (for instance, the training of health professionals).
- Leisure education, civic education, education of seniors and other education enable the participant in supplementary education to fulfil their interests, participate in public social life and develop their personality in general.

A clear-cut distinction between the different types of supplementary education is sometimes impossible. For example, language or retraining courses for the labour market may sometimes feature active citizenship education. However,

all the above-mentioned types of supplementary education have a positive effect on an individual's ability to work.

5.7 Examples of further education

Language education

Language education is facilitated by various institutions offering a wide range of language courses and programmes. Most adult citizens attend foreign language courses at private or non-state institutions and finance these activities from their own budget. Foreign language education is often provided by employers, especially in medium- and larger-sized companies with international operations, but also in the state and public service sector, where the training to improve the performance of operations is mandatory.

Education and training of adults leading to a recognised qualification

The acquisition of a recognized professional qualification in adulthood is facilitated primarily by accredited educational programs of supplementary education. Various supplementary education institutions deliver numerous accredited educational programmes, with the aim of supplementing, renewing, expanding or furthering the qualifications necessary for the performance of professional activities.

There is interest in courses that are a condition for being granted a trade license, such as beautician, hair stylist, make-up artist, manicure, and pedicure courses among others. Individuals are also willing to pay for courses that will subsequently provide them with employment (care-giving, beauty courses, forklift operation...). Self-payers, as well as companies, keep ordering professional language training. Education is becoming more individualised, with distance learning experiencing a boom. The COVID-19 pandemic has also accelerated the digital transformation in the field of supplementary education.

The cost of accredited educational programs is usually financed by the participant themselves. In the case of registered jobseekers, there are tools

(e.g. the REPAS + project) to co-finance supplementary professional training from public sources via the Offices of Labour, Social Affairs and Family.

As part of continuing education, professionals with specific qualifications have the opportunity to obtain a certificate of professional competence. This certificate proves the attainment of professional competence to perform various activities, and is always regulated by the relevant legal norms. Examples of this are the certificate of professional competence under the Public Health Act, the certificate of professional competence under the Mountain Rescue Service Act, and similar.

Education and training training facilitating the entry or return to the labour market

Providing education and training for adults seeking employment is one of the active measures on the labour market within the competence of the Ministry of Labour, Social Affairs and Family of the Slovak Republic and. The enrolment in the job seekers' registry is a prerequisite for the provision of counselling services, as well as the provision of up to 100% subsidy of the eligible costs of education and training for the labour market. The relevant Office of Labour, Social Affairs and Family is subsequently responsible for providing the job seekers' education and training for the labour market.

The education and preparation for the labour market is carried out via accredited educational programmes, or educational programmes focused on the development of communication, computer, management, social, business and language competencies. The education and preparation for the labour market may also be implemented in the form of national and pilot projects. Jobseekers may also secure the education and training for the labour market on their own initiative. If the completion of the training led to the unenrollment from the job seekers' registry on account of starting a job or a self-employment activity, the job seeker is entitled to a subsidy of up to 100% of eligible costs, provided they are compliant with the published maximum cost limitations. In any case up to a maximum of 600 euros. The job seekers themselves choose the type of work activity for which they want to retrain. They also select the

retraining provider to facilitate the education and training for the labour market themselves. RE-PAS then acts as a confirmation to the educational institution that the Office of Labour, Social Affairs and Family will release the retraining subsidy. The same applies to competence courses implemented under the KOMPAS+ project.

Leisure education

A specific area of adult education is leisure education, which is directly related to leisure time, its active use and the interests of the person. Our society is also characterised by a gradual shift from a passive to an active way of spending free time, which is related to the increased interest in the field of leisure education for adults. The number of educational opportunities of this type is growing, creating a competitive environment. In addition, people are becoming more savvy and their extensive knowledge is driving an increase in the demands and requirements for the quality and originality of education. The quality of interest-based educational events is expected to meet a preconceived set of goals, while also expecting their participants to not only spend their free time in a particular way, but also to have an experience of something. A high-quality educational event in the person's area of interest also represents a way of helping the person to break out of everyday stereotypes or come out of their comfort zone.

Cultural and edifying activity

Institutions providing cultural and edifying activities, including for instance: the National Centre of Culture, the Slovak National Museum and the Slovak National Gallery also participate in leisure education of adults. In addition to their other activities, these institutions organise lectures, discussions and seminars, which make a significant contribution to the development of the cultural awareness of the Slovak society. The voluntary and business sectors are becoming increasingly relevant subjects within leisure education. They create a healthy competitive environment for state-supported institutions in the segment of education.

Universities of the third age

Universities of the third age are a significant provider of leisure education, having since 1990 expanded from Comenius University in Bratislava to our other colleges and universities. At present, universities of the third age exist under 17 universities and colleges in 13 cities in Slovakia. Their educational programs are prepared primarily for people in retirement age. In response to public demands, the age limit for enrolling students has been lowered to 50, 45, and eventually 40 years. The lecturers at the universities of the third age are mostly university professors, who teach classes for a symbolic fee.

The focus of the study programmes usually corresponds to the profile of the university and the course offer is based on the options and conditions of the Rectorate, faculties and co-organisers of the programmes.

In addition to the generally popular study programs, including the history of art, or human health, universities of the third age also uphold their social responsibility function and provide the necessary study programmes in the field of financial literacy or legal awareness.

Funding is provided from multiple sources. The patron university, donations and sponsorship, as well as the students themselves, in the form of an enrolment fee, usually all contribute towards funding. Some of the universities of the third age are also actively involved in fundraising by participating in various grant schemes and calls.

6. Examples of good practice in the application of programmes for employed and unemployed individuals

Towards successful seniority™ / Profesní seniorita®

Authorized companies:

- Aptet n.o.
- dm drogerie markt, s.r.o.
- Slovak Association of Age Management, o.z.
- University of Žilina, Žilina

This internationally acclaimed programme has been running in Slovakia since 2016 and is a part of the adaptive education of UNIZA university teachers. Since 2017, 36 university teachers have graduated with a very positive assessment of the content of the programme and its personal contribution.

There are currently no comprehensive programmes for the promotion and progress of age management in Slovakia. The Slovak Association of Age Management, via a partnership in the Erasmus + Work Ability Management project, offers products that are fully applicable in the conditions of the Slovak Republic at all levels (state, company, individual) to professional and lay audiences.

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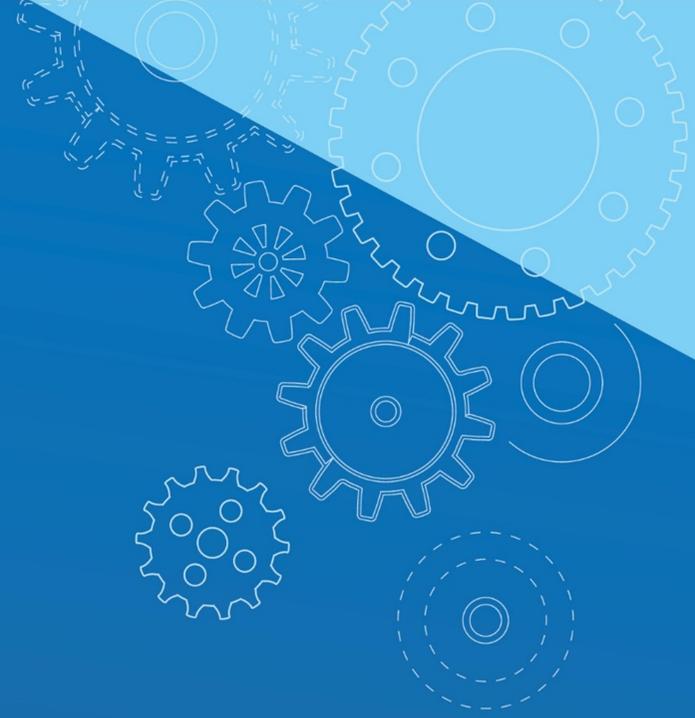
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Figure 2: Forecast of the ageing index development in Slovakia by 2060



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