



INNOVATIVE BUSINESS SOLUTIONS FOR THE ELDERLY IN THE LODZKIE REGION

Road Map for the Lodzkie Region
- I-CARE-SMART project

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I. Introduction

In the course of implementing the international project "Innovation ecosystem for smart elderly care" I-CARE-SMART, the Lodzkie Region implements tasks resulting from the diagnosed situation of the elderly in the region.

Activities include building and strengthening cooperation with organisations that are able to provide state-of-the-art technological solutions in health and social care for the elderly.

As part of the activities undertaken by the Lodzkie Region, as in the other six partnership regions from Austria, the Czech Republic, Germany, Slovakia, Hungary and Italy, Task4s expert groups were set up. This advisory body includes representatives of various organisations working on solutions for older people, research and science organisations, public authorities (representatives of municipalities), carers representing senior citizens and social activists.

The work of the Task4s group of regional experts involves jointly identifying the priority needs of older people and then seeking solutions to meet those needs. Task4s participants, by engaging in project activities on a voluntary basis, share their knowledge and experience in the field of social welfare, senior citizen policies, health promotion activities in the region as well as potential and existing business solutions. Members of the I-CARE-SMART project team share with Task4s experts the analyses developed and collected so far, as well as good practices developed within the project. In the course of the project, members of the Task4s team and the Task4s group will learn how to involve business and senior citizens in the process of creating more convenient and safer living conditions for senior citizens and tools supporting specialists responsible for health and social care.

Because of such planned activities and cooperation of entities representing different environments and experience, an international platform will be created, on which the identified needs from all partner regions participating in the project will be placed. The project consortium will select the most important needs and ways to meet them, which each partner will have to implement within the Regional Action Plan.

This document aims to describe the unmet needs of older residents of the Lodzkie Region in areas related to social and health policy, the silver economy and to provide an overview of possible business models and proposals developed by regional innovators and entrepreneurs. The I-CARE-SMART project assumes that these solutions respond to the needs of older people.

The following three strategic areas have been taken into account in the prism analysis:

1. Senior policy
2. Health promotion
3. The silver economy

Senior policy in Poland is a set of deliberate actions of public administration bodies at all levels and other organisations and institutions that carry out tasks and initiatives that shape the conditions for dignified and healthy ageing.

It can be understood broadly as a sum of all activities during a person's entire life, leading to the provision of conditions for prolonged activity, both professional and social, and for an independent, healthy, safe and secure life for the elderly, i.e. after reaching the age of 60.

Senior policy must fit into the model of state social policy, be consistent with state policy and respond to current challenges in the areas of social security, the labour market, health, education, infrastructure, housing and others.

Health promotion, as a process, enables individuals to increase control over their health and goes beyond the area of individual behaviour. Each of these activities creates a social sphere which should be based on the existing analysis of the unmet needs of older people.



The **silver economy** is an economic system designed to use the potential of the elderly and to take into account their needs. Its development is intended to make it possible to extend the period of professional activity and to ensure a better quality of functioning of older people in many dimensions.

It can be defined as 'existing and emerging economic opportunities arising from public and consumer spendings linked to an ageing population and the specific needs of the people over 50s'¹. According to Oxford Economics, the silver economy should be regarded as the sum of all economic activities that meet the needs of people in their 50s and over, including products and services that they buy directly and further economic activities (indirect and induced, which generate expenditure in the silver economy sector)².

The silver economy can also be understood as a system for the production and distribution of goods and services aimed at ageing populations, such as cosmetics and fashion, silver tourism, robotics services, health and wellness (including medical equipment, pharmaceuticals and telemedicine), functional food, safety, culture, lifelong learning, entertainment, intelligent and autonomous transport (e.g. self-propelled cars), assistive technologies, smart homes and cities, banking and financial services dedicated to the elderly³.

The term '**silver economy**' is used interchangeably with the term '**silver market**', which offers products and services aimed primarily at the wealthy over 50, such as luxury goods, high quality cars, private banking, tourist and medical services⁴ and includes special arrangements for trade between businesses to enable them to adapt to an ageing workforce.⁵

Due to population's progressive ageing and the increase in the number of senior citizens in the population as a whole, the focus should be on exploiting the potential of this group, especially at regional level.

Regional active ageing indicators have been developed in Poland, on the basis of which it is possible to determine the region's capacity to determine them, support for the implementation of active ageing and the development of the silver economy for the Ministry of Labour and Social Policy.

II. Methodological approach

This study was prepared on the basis of available literature, statistical data and existing regional analyses carried out within the framework of the I-CARE-SMART project, reports summarising research on the needs, barriers or limitations of older people and strategic documents created to optimise the social policy of the Lodzkie Region.

The analysis of data found in this study has been supplemented by a description of good practices (examples of implementation solutions for dedicated products or services) and a record of interviews and opinions of senior citizens, business representatives and health and social care professionals.

In this section we will try to answer the following research questions:

What are the priority needs of older people?

How does the innovative ecosystem function in the Lodzkie Region?

¹ European Commission, February 2015, Growing the European Silver Economy

² European Commission, 2018, The Silver Economy. Final Report.

³ Ł. Tomczyk, A. Klimczuk (2016), Smart cities friendly to ageing - examples from the Visegrad Group countries, Regional Development and Regional Policy No. 34, p82

⁴ Rembiah M. (2015), *Silver Economy as an Opportunity for SMEs*, "Zeszyty Naukowe Uniwersytetu Szczecińskiego. Economic Problems of Services", No 116, p.139

⁵ Enste P., Naegele G., Leve V., The Discovery and Development of the Silver Market in Germany, [w:] F. Kohlbacher, C. Herstatt (eds.), The Silver Market Phenomenon. Business Opportunities in an Era of Demographic Change, Springer, Heidelberg 2008, s. 330-331



Which business model proposals, based on the Business Model Canvas and the Value Proposition Canvas method, would have sufficient potential and would be applied in the I-CARE-SMART project?

From the point of view of the analysis carried out, it is important how to assess the effectiveness of the support system, in relation to existing policies adequate to the needs of older people.

The following research methods and techniques were used:

- Analysis of existing sources
- Presentation of good practices
- Presentation of conclusions from meetings of 2 focus groups with Task4s members
- Discussion of research results in expert interviews with Task4s members

In order to collect secondary data, the Lodzkie Region conducted research on internal and external sources, i.e. using the available literature, statistics, research and other documentation. These sources provided a solid basis for critical analysis.

III. Analysis of sources

The aim of the research was to diagnose the innovative ecosystem in the region (description of business environment institutions, business support system, possible advice for companies and entities originating from universities, creating solutions dedicated to the elderly (e.g. med-tech sector, start-ups, spin off, SMEs, etc.).

The analyses for the Regional Road Map of the I-CARE-SMART project focused on the following areas:

1. Demographic data and forecasts for the Lodzkie Region
2. Existing senior policy
3. Senior citizens' support system and regional institutions
4. The potential of the silver economy
5. The existing business ecosystem

These areas are characterised below in the next points.

III.1 Demographic data and forecasts for the region

The latest data was collected and developed in 2020 by the Regional Centre for Social Policy in Łódź as an associated partner. ⁶

As at 31.12.2019, the voivodship was inhabited by 2,454,779 people ⁷. In terms of population, the Lodzkie Region was invariably ranked 6th in the country.

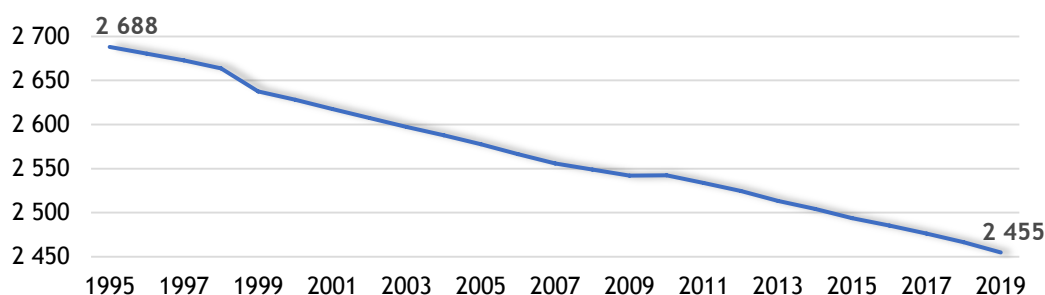
The **phenomenon of depopulation with an established trend** is observed in the Lodzkie Region. In 2019, the number of inhabitants of the Lodzkie Region was lower by more than 11.5 thousand people (about 0.5%) than in 2018, while in the years 1995-2019, this number decreased by nearly 233 thousand people, a decrease of 8.7%. The decrease in the population observed in the voivodship is **a result of a negative natural growth (natural loss) and a negative migration balance.**

⁶ "Assessment of social assistance resources of the Lodzkie Region for 2019, Łódź 2020 p.16-22

⁷ Source: CSO Local Data Bank; CSO (2020), *Population. State and structure of the population and natural traffic in the territorial section (as at 31.12.2019)*, Warsaw.



Figure 1. Number of inhabitants (in thousand people) of Lodzkie Region in the years 1995-2019



Source: CSO (2020), *Population. State and structure of the population and natural traffic in the territory (as at 31.12.2019)*, Warsaw.

In 2019, the Lodzkie Region had nearly 9.0 thousand fewer births than deaths (over 21.6 thousand live births compared with 30.6 thousand deaths), and the natural growth rate (i.e. the value of the natural loss calculated per 1000 inhabitants) was -3.6 (with the average for Poland being -0.9). In terms of natural growth, Lodzkie Region in 2019 was once again ranked last in Poland.

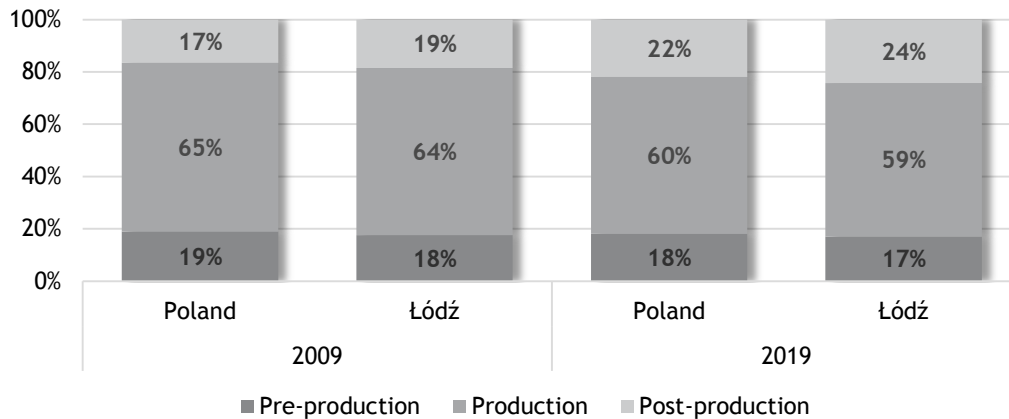
One of the most important negative phenomena observed in the Lodzkie Region is **the process of population ageing**. The age structure of the population of the Łódzkie Voivodship is undergoing unfavourable changes - the percentage of the population at working age is decreasing (in 2019 its share was 17.0%; a little over 417.1 thousand people) and (to a lesser extent) at pre-working age (59.0%; about 1,442.2 thousand people), and increasing - at post-working age (in 2019 24.0%; over 595.4 thousand people)⁸. A similar trend is observed in the whole country, but in comparison with the age structure of the population in Poland, the demographic situation in the Lodzkie Region is much less favourable. The dependency ratio, i.e. the number of people in post-working age per 100 people in working age, was 41.3 in 2019 compared to 39.9 in 2018.

The phenomenon of the ageing of society in the Lodzkie Region concerns representatives of both genders. In 2019, the age structure of the population was dominated by people aged 35-39 (8.1%) and 40-44 (7.8%), with relatively high shares of people in the 60-64 age group (7.6%) and 65-69 (7.0%). Particularly high proportions of the population in older age groups, including above all the oldest ones, i.e. 75-79, 80-84 and 85 years and more, were observed among women - the total share of women over 75 years of age was 10.1% in 2019, while that of men was 5.2%. At the same time, starting from the age group comprising people between 45 and 49 years of age, there is a growing (with age) surplus of women in relation to men living in the Lodzkie Region. An opposite situation is observed in the case of the population in younger age groups - there is a surplus of men in relation to women among people up to 44 years of age.

⁸ BDL GUS. Pre-productive age: up to 17 years, working age: men aged 18-64 and women aged 18-59, post-productive age: men aged 65 and over and women aged 60 and over.



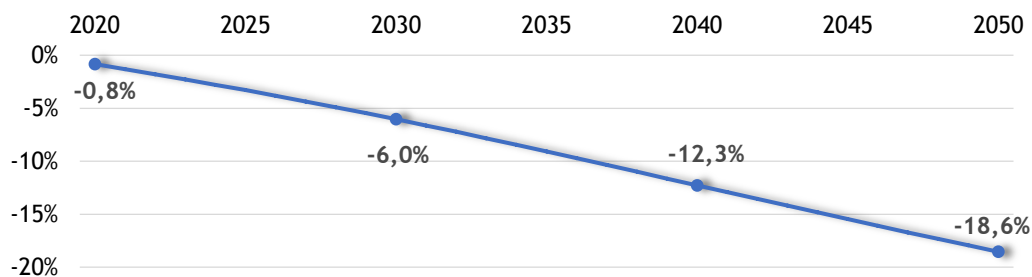
Figure 2 Structure (%) of population by working age in Lodzkie Region and Poland in 2009 and 2019



Source: study based on: BDL CSO; CSO (2020), Population. State and structure of population and natural traffic in the territorial section (as at 31.12.2019), Warsaw.

According to the population forecast for 2014-2050 prepared by the Central Statistical Office (GUS), in 2014, the downward trend in the population of the Lodzkie Region will be deepening. By 2050, the population of people living in the region will decrease by another 18.6% compared to 2019.

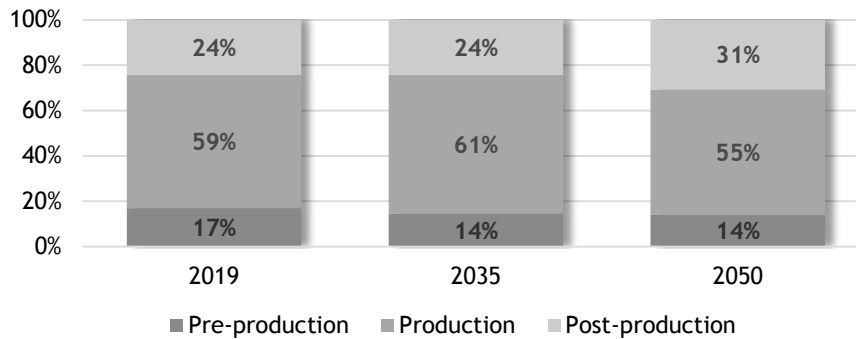
Figure 3 Forecast population declines (in %) in the Lodzkie Region between 2020 and 2050 (in relation to the actual situation in 2019)



Source: BDL GUS; Population. State and structure of population and natural traffic in the territorial section (as of 31.12.2019), Warsaw.

Additionally, the number of people in the post-working age (above retirement age) will increase in the Lodzkie Region - by 2050, the number of people in this group is expected to increase by nearly 19.6 thousand (3.3%) in comparison with 2019. The above phenomenon is particularly negative in connection with the expected decrease in the number of people in the working age (by nearly 337.0 thousand people; 23.4%) and pre-working age (by over 138.2 thousand people; 33.1%).

Figure 4 Average life expectancy (years) of women (left map) and men (right map) in 2018 by voivodship in Poland

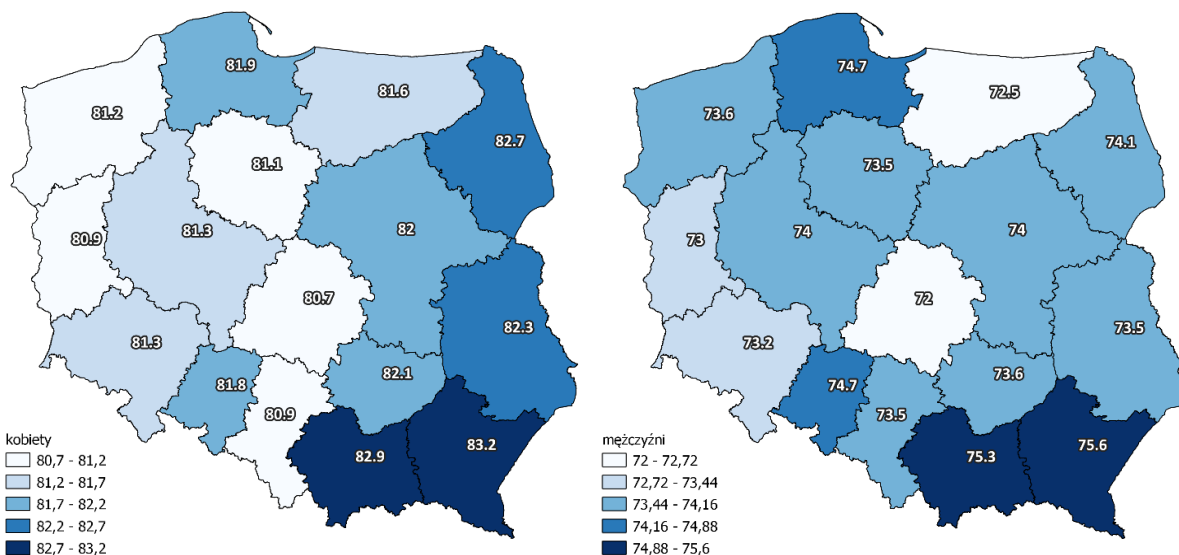


Source: study based on: BDL GUS; Population. State and structure of population and natural traffic in the territorial section (as at 31.12.2019), Warsaw.

According to the estimates of the Central Statistical Office, by 2050, the greatest increase in the number of people aged 85 and over will occur (more than doubling in relation to 2019), while the number of people aged 35-39 will decrease to the greatest extent, almost by half.

In 2018, the median age of ⁹the population in the Łódzkie Region was 39.7 years for men (40.5 years in cities and 38.5 years in rural areas) and 43.0 years for women (44.5 years in cities and 40.6 years in rural areas).

Figure 5 Average life expectancy (years) of women (left map) and men (right map) in 2018 by voivodship in Poland



Source: study based on the data of the Central Statistical Office.

⁹ Median age (middle age) - a parameter determining the age limit, which half of the studied population has already exceeded and the other half has not yet reached.



The average life expectancy of residents of the Lodzkie Region¹⁰ is shorter than the national average. In Poland in 2018¹¹, the **average life expectancy of women was 81.7 years** and that of **men was 73.8 years** (CSO data), while in the Lodzkie Region these values were 80.7 and 72 years respectively. In this respect, the Lodzkie Region recorded the worst result of all voivodeships. Similar (although slightly higher) values for the average life expectancy indicator - in the case of the indicator for women - were only achieved in Lubuskie and Śląskie, and in the case of the indicator for men - in Warmińsko-Mazurskie.

To sum up, a further decline in the population is to be expected over the next decades and, at the same time, an acceleration in the ageing of the population, which will have an impact on the socio-economic development of the region.

III.2 Existing senior policy

In response to the demographic processes of the region, a “Plan for counteracting depopulation in the Lodzkie Region” was developed.¹² The aim of the plan is to rebuild human capital by creating favourable conditions on the labour market, developing education and competences and improving the quality of life of the inhabitants of Łódzkie Voivodship through the implementation of short-term and long-term action plans in the area of activation, education, labour market, infrastructure and health.¹³

The plan for counteracting depopulation in the Lodzkie Region is subject to systematic monitoring of individual areas and assessment of the extent to which the objectives set have been achieved. As a result, the Regional Centre for Social Policy in Łódź developed a document entitled 'Monitoring Report of the “Plan for counteracting depopulation in the Lodzkie Region 2020 for 2018”¹⁴, which contains, among other things, data on the situation in the Lodzkie Region, including the silver economy sector.

III.2.1. Existing higher level policies

There are many documents relating to the regulation of older people or relating to their situation:

Community level:

- Charter of Fundamental Rights of the European Union
- Council of the European Union resolution of 2007
- The 2020 strategy: A strategy for smart, sustainable and inclusive growth
- European Year for Active Ageing and Solidarity between Generations
- European Innovation Partnerships on Active and Healthy Ageing
- Silver Economy Strategy

National level:

- Human Capital Development Strategy 2020
- Programme for Social Participation of Older Persons 2014-2020
- Long-term Senior Policy 2014-2020
- Initiatives of the Parliamentary Senior Policy Committee, including the Senior Citizens Act
- Government programme for social activity of older people for 2014-2020
- Government Senior Programme+
- Government Care Programme 75+
- Social policy towards older people 2030

¹⁰ The average life expectancy of people at birth.

¹¹ Average life expectancy data are published with a considerable delay. At the time of the report, data for 2019 were not available.

¹² The Lodz Plan for the Prevention of Depopulation of Family, Children, Labour, Lodz. Łódź, 2013

¹³ Ibidem, p. 32, 45

¹⁴ "Report on the monitoring of the Lodzkie Region Anti-Depopulation Plan 2020 " for 2018, 2020, p. 14



- Government programme 'Solidarity between the generations. Measures to increase economic activity of people aged 50+'.
- Policy Paper for Health Protection 2014-2020. National Strategic Framework.
- National Programme for Combating Poverty and Social Exclusion 2020. New dimension of active inclusion.

Regional level:

- Lodzkie Region Development Strategy 2020
- Voivodeship Social Policy Strategy 2020
- Lodzkie Region Anti-Depopulation Plan 2020
- Needs of people aged 60+ from the Lodzkie Region
- Situation of family carers in the context of care for 60+ people

III.3 Senior citizens' support system and regional institutions

Some of the theoretical concepts assume that **social support** is a kind of resource that a person uses in problematic situations when they are experiencing difficulties in life. The authors of a study "Social support system of the elderly in their living environment" claim that the assumption that environmental support for the elderly is a resource that should be available in the local environment not only in difficult life situations, but also in everyday life, so that it promotes the development of the individual and allows for the strengthening of social relationships. Social support is therefore needed by everyone, but its form and scope depend on the level of independence of older people. The World Health Organisation's report on ageing and health draws attention to the fact that the social environment provides older people with incentives for independent behaviour, while less independent people can reduce barriers to social participation and compensate for the loss of independence. In the simplified thinking of social support for seniors, two institutions are emerging: the family and the nursing home (for those who cannot or cannot count on it).

In that context the the activities of local and regional authorities can play an important part, while shaping the policy on own territory, and implementing the necessary support system. The public institutions and local government should be aimed at supporting both independence in the place of residence of the elderly and their families and informal support networks. Particular attention should be paid to the heterogeneity of the subpopulation of older people (factors determining the need for support and differentiating the population of older people are, apart from health, cultural resources, family situation, life phase, economic status). The need for support is dynamic - both in the individual dimension (it changes depending on changes in the personal situation of an older person) and in the community dimension. As the post-population ageing process progresses, an increase in the number of single-person households is observed, which increases the demand for social support. People living alone - mainly women - do not have the opportunity to obtain support from their spouse and are much less able to obtain support from other family members, especially if they live far away from the person who can potentially provide support.¹⁵

The study of the Ministry of Labour and Social Policy entitled "Long-term Senior Policy in Poland 2014-2020" defines the objectives and priority areas in which the state's activities aimed at senior citizens are conducted. The key areas of action are

- health and independence,
- professional activity,
- educational, social and cultural activities,

¹⁵ Support system for older people in the living environment - an overview of the situation, a model proposal. Collective work edited by Barbara Szatur-Jaworska and Piotr Błędowski, Warsaw, 2016



- The silver economy,
- relations between the generations.

The system of support offered to elderly people who need care because of their age, illness or disability can be implemented through:

- Care services - include meeting everyday life needs (cleaning, laundry, shopping, preparing meals), hygienic care, recommended by a doctor, ensuring contact with the environment.
- Specialist care services - are tailored to the specific needs arising from the type of illness or disability. They are provided by people with specialist training.

These services are free or payable in part or in full. The municipality decides about this.

In 2019, a team for the development of the regional senior policy programme was established in the Lodzkie Region Authorities. The premises for the preparation of the document result, among other things, from the need for: tidying up and making existing activities in the area of senior policy more coherent, taking into account the voices coming from the senior citizens' environment; obtaining the status of a reference centre in the area of active and healthy ageing - the Reference Centre for Active and Healthy Ageing within the European Innovation Partnership for Active and Healthy Ageing. The team consisted of 19 people, including representatives of the Social Council for Senior Citizens of the Lodzkie Region. During 6 meetings held in May, June and July 2019, the team worked out the main assumptions for the Programme. Work is currently underway on a document which will be subject to further consultations.¹⁶

In this connection, we are presenting **regional good practices** for developing the *silver economy* sector;

- Continuation of the "Senior Citizen's Charter of the Lodzkie Region", an action programme to support older people in the Lodzkie Region, which is a set of concessions and entitlements offered to the region's residents over 60 years of age. The programme's partners can be the voivodship's self-government units, institutions and companies.
- Continuation of the activity of the Social Council of Senior Citizens of the Lodzkie Region, established in 2017, which is an advisory and consultative body cooperating with the authorities of the region in creating regional senior policy.
- Implementation, in cooperation with the media, of a series of programmes devoted to the issues of older people - a series of programmes entitled "In a social maze" in the regional TVP3 Łódź and "Na Zakręcie" in the local TOYA TV channel
- The organisation of "Provincial Senior Citizens' Days", including workshops, performances and lectures, attended by about 3,000 people from 134 entities (e.g. universities of the third age, senior councils, senior citizens' clubs, non-governmental organisations, social welfare homes). In addition, the Grand Theatre organised the 'Provincial Celebration of Senior Citizens' Day 2018', which was of an integrative nature; due to the epidemiological threat in 2020, most outdoor events were cancelled.
- Implementation of a project on assisted housing services for people with neurological diseases, including Alzheimer's and Parkinson's disease and the elderly" (PO WER), which will develop solutions to enable people with specific needs to live independently.
- Organisation by the Łódź Cultural Centre (Department of Culture and Education) of cyclical activities as part of a cultural project called "Przystanek 60+" (Stop 60+), aimed at cultural,

¹⁶ Information on the situation of older people in Poland in 2019, Ministry of Family and Social Policy



social and educational activation of senior citizens from the area of the Lodzkie Region, among others, through art, music and theatre competitions, trips around the region, painting open-air events, artistic actions. Third Age Universities (UTW), senior clubs and other organisations associating active seniors are invited to create an offer as part of Przystanek 60+.

- Continuation by the Department of Promotion of the International Projects Department of the project entitled **Innovation ecosystem for smart elderly care (I-CARE-SMART)** within the framework of Interreg Central Europe, prepared in cooperation with regional institutions (including RCPS) responsible for the implementation of activities for active social policy and support for the elderly. The aim of the project is to develop effective solutions to the previously unmet needs of older people in the area of health care and social assistance (such as e.g. electronic exchange of patient data, e-health, life function monitoring bands and fall sensors, medical equipment, adjustment of the offer of services dedicated to seniors).

III.4 The potential of the Silver Economy

The older generation of people form a very diverse group. Its heterogeneous character implies phases of senior citizens' lives. The first 50-60/65, the second 60/65-75 and the third over 75 years old. Their separation is related to the needs and functions that a given person performs in each of these phases. It also creates an opportunity to use the potential of people belonging to this group in terms of intellectual, income, and social aspects.

The meaning of the term '*silver economy*', which was initially identified only with the *silver market* or *silver industries*, is also changing, as it is used to provide and modify products to make them as useful as possible for senior citizens. There is now a change of attitude towards the elderly consumer, who, as a result of his inactivity, is becoming an increasingly numerous and active player in the market. Age can create the level and structure of demand for goods and services and the attitude of older people to consumption. Seniors are beginning to be seen as a target group for business, which is worth targeting products and marketing.¹⁷

Senior citizens in the Lodzkie Region can benefit from support from government programmes, various institutions and entities in order to secure their needs (medical services, health care and prevention, care, social assistance, financial support, interpersonal interaction and social inclusion). Many initiatives, including business, are supported by the European Union.

The development of the silver economy involves institutional responsibility for developing the concept and its implementation at both regional and local level. Awareness of these issues implies actions aimed at the development of services for senior citizens, their social and professional activation and improvement of their quality of life.

Due to the diversity of seniors' needs, there is great potential for development facing business in the broad sense of the word, especially in connection with the modern technology industry.

III.5 Existing business support ecosystem

The factor defining the development of the economy is the ability to generate new solutions to meet the growing needs of consumers. The need to develop new ideas and to implement them efficiently and effectively forces entities to cooperate. This applies to cooperation on a substantive and financial level, but also on an institutional level. The group of innovators includes the following.

¹⁷ I. Kukulak-Dolata "The role of the silver economy in the conditions of demographic changes in the Lodzkie Region", Department of Economic Policy, Łódź University of Technology, Poland.



- R&D units
- enterprises (including start-ups)
- public governmental and local government institutions
- financial institutions
- business environment units
- clusters (so-called hubs)

In order for cooperation to be possible within such a broad group, a functioning ecosystem and an innovation management system are necessary. The efficiency of such an ecosystem translates directly into economic competitiveness. Components of innovation processes should be included:

- a coherent innovation strategy at regional and national level
- a system of product development and technology transfer, consisting of the activities of actors to transform knowledge into new technologies, services, solutions
- innovation awareness created by the education system, media, politicians - social consensus in favour of innovation

The ecosystem is made up of all the actors in symbiosis and their common goal is development through innovation. The actors are co-responsible for processes related to the development and commercialisation of innovation and the exchange of knowledge.

The key to creating an ecosystem of innovation is to bring together start-ups, businesses, leading technology companies, universities, investors and central and local administrations. The creation of such connections between sectors of the economy is made possible by clusters (innovation hubs), which "unite" all entities operating within the innovation ecosystem. The forecast percentage of companies defined as innovative, operating in the Lodzkie Region in 2020-2030 is 22-28%.

Currently, cooperation for the benefit of innovation is being carried out in the Lodzkie Region:

- Regional administration
- Academia
- Enterprises (innovators)

The Lodzkie Region supports the innovation ecosystem through the implementation of RPO projects, participation in companies' ownerships (e.g. Łódzka Agencja Rozwoju Regionalnego SA or Bionanopark Sp. z o.o., Łódzka Specjalna Strefa Ekonomiczna SA). The units dealing with this subject are Skyhub, CIB (Business Innovation Centre) and Export Support Office.

Such case is the "Łodzkie4business" project and surrounding it ecosystem. The project "Łodzkie4business +" provides a comprehensive system of supporting the regional economy. The axis of the "Łodzkie4business" concept of the project is the advisory system, which includes SkyHub, the Business Innovation Center and the Export Support Office.

SkyHUB

It is a non-commercial space combining co-working functions with complementary consulting services, a series of workshops, lectures and industry events aimed at creating a unique, creative and entrepreneurial community - it is the first space of this type in Poland created entirely by public administration.

It is an ideal place for students and graduates of universities, young start-up owners, freelancers, people starting a business or just about to start a business, as well as for scientists who want to implement their innovative ideas and companies looking for investors. SkyHUB is distinguished from ordinary coworking offices by its complementary advisory offer and the presence of cyclical business or motivational events inspiring the development of your own business, but also integrating young entrepreneurs and creating a



community for the exchange of knowledge, competences and skills. As part of the Sky Hub offer, mentoring and expert support, workshops, hackathons and networking events are implemented.

Business Innovation Center

The consulting system for enterprises is a unique solution on a national scale consisting in the launch of 7 Business Innovation Centers (CIB), operating in various cities of the Łódź Province - currently: Radomsko, Łowicz, Sieradz, Łódź, Zduńska Wola, Zgierz, Bełchatów.

CIB is a team of mobile advisers who travel to companies in the Lodzkie Region, providing professional support in the field of business development opportunities based on for a detailed diagnosis of needs and expectations. Depending on the result of the analysis of the company, advisors provide information about available sources of financing, training / development opportunities, and contact the company with a business partner, research center or business support institution corresponding to the needs, they also inform, inter alia, about current economic events, fairs and any other activities important from the point of view of the company's development.

Export Support Office of the Lodzkie Region

The Export Support Office is a team of internationalization consultants who provide free consultancy to entrepreneurs from the Lodzkie Region who want to start, develop export activities or are looking for new markets.

The Export Support Office of the Lodzkie Region offers comprehensive advice for companies from the region planning to start or expand their export activities, search for sources of export financing, services consisting in the presentation of export products of enterprises at national fairs and international, service for domestic and foreign investors, support in verifying sales markets, etc.

The role of the regional academia

Among the key academic centres, the University of Lodz, the Technical University of Lodz and the Medical University of Lodz should be distinguished. Appropriate foundations operate at these centres, and their aim is to support innovative solutions co-created by the students, provide meryrotic support and subsequently commercialise these solutions (spin-off companies). The academic organisations in operation include, among others

- Technology Transfer Centre of the Technical University of Lodz
- University of Lodz Technology Transfer Centre
- Innovation and Technology Transfer Centre Medical University of Łódź

The business support institutions in the Lodzkie Region are:

- Lodzkie Regional Development Agency S.A.

Regional Financing Institution in the Lodzkie Region cooperating with the Polish Agency for Enterprise Development in the implementation of programmes addressed to micro, small and medium-sized enterprises. Since 2011, it has been cooperating with Bank Gospodarstwa Krajowego as a financial intermediary in the implementation of the JEREMIE/JEREMIE 2 programme.

- Centrum Transferu Technologii Politechniki Łódzkiej Sp. z o.o.

A special purpose vehicle of the Technical University of Łódź, whose specialization is the transfer and commercialization of technology from university to business. It deals mainly with the licensing of inventions, know-how and software, as well as the sale of technology rights and the creation of spin-off companies. Moreover, she integrates entrepreneurs with scientists from the Technical University of Lodz.



- **University of Lodz Technology Transfer Centre**
Its mission is to ensure the coordination of innovative ideas in the scientific, business and public spheres, both nationally and internationally, through education and training, scientific and advisory activities.
- **Innovation and Technology Transfer Centre of Medical University of Lodz**
The Centre provides consulting, information and scientific activities in the field of technology commercialisation.
- **Innovation Centre - Technology Accelerator Foundation of the University of Lodz**
The statutory task of the Foundation is to act for the support of entrepreneurship, growth of innovativeness and competitiveness of the Polish economy, assistance in the creation and development of companies using innovations, transfer of knowledge from science to business and commercialisation of research results conducted at universities and research institutes.
- **Lodz Special Economic Zone S.A.**
The core business is to attract and serve investors, provide investment advice and assistance in establishing contacts with business partners providing services to investors.
- **Bionanopark Sp. z o.o.**
It offers investment areas and modern laboratories to entrepreneurs. It also serves as an incubator for new, creative companies.
- **Łódzki Regionalny Park Naukowo - Technologiczny Sp. z o.o.**
It supports business development, offers participation in startups, training, consultancy, the possibility of obtaining subsidies for innovation and entrepreneurship development.
- **Foundation for Enterprise Development**
Training and advisory centre for managers and employees of companies. It undertakes activities aimed at integrating the business environment, developing innovation, cooperation between enterprises and research units, knowledge and technology transfer, building a knowledge-based economy and supporting European integration.
- **Bełchatowsko Kleszczowski Park Przemysłowo Technologiczny Sp. z o.o.**
It offers consulting services to entrepreneurs (mainly SMEs) as well as financial instruments for running and developing their business.

Synergy with other projects implemented by the Lodzkie Region

A synegetic approach of the regional authorities should be also noted.

Translating Industry 4.0 to improved SME policy instruments targeting innovation (Interreg Europe) project. The aim of the InnoProvement project is to increase the number of SMEs implementing innovations in the Industry 4.0 area. (internet of things, big data, cloud computing, 3D printing, electronic



twin) and using advanced technologies in the field of robotics, automation, data analysis and processing by adapting the competition entries of the Regional Operational Program of the Lodzkie Region to the Industry 4.0 requirements set for SMEs in terms of the level of innovation and technological development and related educational offer with Industry 4.0 skills. <https://www.interregeurope.eu/innopromvement/>.

Creating knowledge and links between business angels and the public sector in terrestrial ecosystems to fill the financing gap for innovative startups (Interreg Central Europe) CE-Connector project aims to help in the development of startups by bridging the financial gap with funds available to their founders, building a balanced network of connections between business angels, public institutions, industry, and ecosystems of partner regions. Startups are one of the main drivers of innovation. This is mainly due to the opportunity to use the potential and enthusiasm of young people who want to devote their time to creating a new business. Thanks to these investments, the development of jobs in society is more effective in specific ecosystems than risk-taking by large enterprises and investors.

As part of the CE-Connector project, co-investment funds will be created for innovative startups whose activities are in line with selected strategic specializations included in Regional Innovation Strategies.

18 startups (3 for each partner country) will be invested from the funds, with each investment being carried out by a group of at least three Business Angels together with public institutions:

- Business Angels groups will provide 75% of investment costs;
- public suppliers 25% of investment costs in the form of in-kind contributions.

<https://www.interreg-central.eu/Content.Node/CE-Connector.html>

IV. Empirical research

IV.1 The needs of older people

In order to explore the issue, the meaning of the term “need” must be understood.

Need:

1. the object - as an object or feature external to the organism, the occurrence or absence of which improves the well-being and functioning of the organism
2. as subject - as an internal state of the organism, which feels a certain lack or excess, created as a result of disturbing the optimum life.

Needs are understood as unobservable and hypothetical variables, their existence is concluded on the basis of subjective experiences and objective human behaviour¹⁸.

Survey of the needs of the elderly from the Łódzkie Region "Needs of people aged 60+ from the Lodzkie Region" According to the classification of the needs of elderly people 5 basic psychosocial needs in this age group can be distinguished in the context of adapting to changing living conditions:

- belonging (relating to relationships with others, position in relationships with family and other groups, loneliness and loneliness),
- usefulness and recognition (subjective self-assessment),
- independence (which is the degree of autonomy of the individual),
- safety (the degree of use of the inhabited environment resulting from a sense of certainty),
- life satisfaction (subjective evaluation of satisfaction with one's own life course).¹⁹

¹⁸ <https://encyklopedia.pwn.pl/haslo/potrzeba;3961121.html>

¹⁹ Needs of people aged 60+ from the Łódzkie Voivodeship



Finally, in a study commissioned by the Regional Centre for Social Policy in Łódź, six basic categories of - needs of 60+ people were identified (assessing the level of their (non)satisfaction and its conditions). These were the needs of: belonging, independence, security, usefulness and recognition, life satisfaction, and cause.

A diagram of the needs identified in the RCPS report:

- SENSE OF CONTROL
- SATISFACTION
- USABILITY AND RECOGNITION
- AFFILIATION
- SECURITY
- INDEPENDENCE (SELF-RELIANCE)

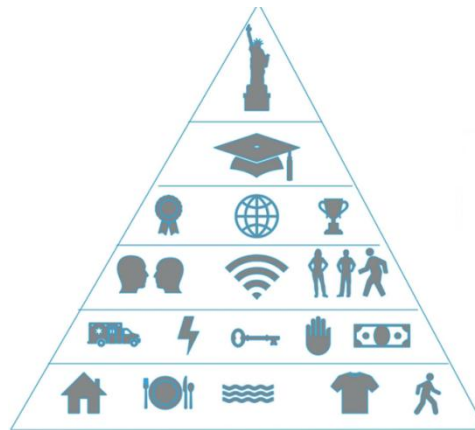


Figure 6. Structure of needs of older people.

The table below shows an overview of the different categories of needs.

Name	DESCRIPTION
NEED FOR AFFILIATION	It is understood as the need for contact and relationship with individuals and with formal and informal groups and to identify oneself as a member of a particular group combined with being perceived as a member of that group by others, primarily by other members of the group.
NEED FOR SENSE OF CONTROL	The cause is expressed in a sense of control over one's own life, one's own effectiveness, one's freedom, and is part of a positive self-image. In this study, the cause is defined as the willingness and willingness to act resulting from the conviction that you can change yourself and your physical and social environment.
NEED FOR INDEPENDENCE	The need for independence is a need to strive for: 1) a sense of autonomy, independence from others; 2) performing the most important activities from an individual's point of view and its self-identification; 3) a situation where there are no objective factors forcing an individual to seek help from others.
NEED FOR SAFETY	The need for safety manifests itself in the desire not to (feel) threaten of any kind. Safety was defined on several levels: Physical in the sense of personal integrity (no fear of encountering - physical or verbal aggression) and safety in space (no fear of



	<p>encountering a situation causing fear, helplessness, shame - e.g. uneven pavement, no public toilet),</p> <p>Mental (no fear of a crisis situation where we cannot cope alone or with our loved ones),</p> <p>The Commission's proposal is based on the conclusions of the Economic Affairs Council (no fear of being unable to meet current expenditure or of an emergency situation requiring unforeseen expenditure).</p>
NEED FOR UTILITY AND RECOGNITION	<p>It is understood as a need manifested through participation in institutionalised forms of social activity, the performance of activities for social groups and individuals, as well as through subjective evaluation of one's own usefulness and recognition.</p>
THE NEED FOR LIFE SATISFACTION	<p>Understood as a subjective evaluation of satisfaction with one's own - location in the environment, local satisfaction.</p>

The conclusions and recommendations of the research took into account the variability of needs depending on the specific socio-economic and demographic characteristics of older people, as well as the territorial specificity and diversity of needs at the local level.

The regional analysis of the Lodzkie Region also focused on establishing the situation and determining the needs of seniors.

Studies on the needs of senior citizens were carried out in November and early December 2019. The regional analysis consisted of one expert interview with the President of the University of the Third Age, two group interviews with older people and one focus group with carers and specialists working with older people. The analysis of the data already mentioned above was also used.

The following needs have been diagnosed in this study:

Need for a good life in old age

A good life in old age is associated with general needs such as a sense of security, mutual understanding and listening, health, fitness, but also the ability to pursue interests, fun, laughter and humour, lack of debt, constant curiosity and making new contacts, friends and social interaction and a caring family.

Need for accessibility

Respondents drew attention to accessibility issues, often especially in rural areas, lack of accessible public transport, cultural centres (mainly theatres). Accessibility to health services was also important. Older people more often than other groups have health problems and require support, as does access to the care system. The respondents also pointed to issues related to the sense of security.

Openness to technological innovation is mainly due to the nature and availability of equipment for financial reasons. There is a demand for offers that reduce the fear of contact with mobile devices, e.g. young people show mobile phone service, courses for beginners with few people and more time for quick personal help.

Older people are diverse in terms of digital experience. This is due to the internal diversity of this group. The age groups 60-70; 71-80, 81-90 have a completely different experience and the area of residence (rural-urban) is also a differentiating factor.

The urban-rural divide is crucial in terms of the diversity of the senior citizens' group. The experts stress that the availability of a wide range of services is different for the inhabitants of these areas. Only large cities offer easy access to social services, especially health care (including specialist doctors), which is related to road infrastructure, housing resources, etc. The differences in rural and urban areas are also



related to differences in access to culture. Many services offered in urban areas need to be extended and replicated in rural areas.

The need for face-to-face communication

Older people prefer personal contact. Many people use telephones, support e-mail and social media, but still prefer personal contact. This is because of the need for closeness - getting to know another person, life experience. This is important because older people do not check their e-mails every day, so when promoting events, it is important to remember to give time to respond, direct promotion is also important.

The majority of the diagnosed social needs can be entered into individual categories indicated by our RCPS partner. The need for accessibility can be combined with the need for care, independence and belonging. The need to communicate with security and belonging. The need for a good life is a resultant of all the above mentioned needs: belonging, independence, deed, safety, usefulness and satisfaction.

In summary, many factors need to be taken into account when determining the needs of older people: age, gender, place of residence (urban-rural), mobility, state of health, family situation, whether or not they have a degree of disability, and others.

It is not possible to make general statements about the generation, 60+, as a target group because it is not homogeneous. It is characterised by dynamism and strong differentiation.

Senior citizens are a group consisting of people in good health to those in need of care, from those who are digitally competent to those who have never dealt with computers, from those leading a rich social life to those living in isolation, from those who are fulfilled to those who are not satisfied with their own situation, with a diverse material situation and dynamically changing needs.

To be able to respond to them with a tailored offer, you need to see your partners, listen to their voice, opinions and expectations.

IV.2 Identification of business solutions dedicated to senior citizens

PROMOTION OF ENTREPRENEURSHIP AND CREATIVITY, DEVELOPMENT OF INNOVATION.

The innovativeness of the regional market has a positive impact on its level of competitiveness and economic growth, so it is necessary to support the development of this area. In 2017, the Lodzkie Region was ranked 197th in the group of moderate innovators (Source: Regional Innovation Scoreboard 2017, p. 28). Therefore, among other things, the development of companies from the Lodzkie Region is strengthened by the region's infrastructure, both existing and currently under construction, which is particularly important for companies operating in the area of smart specialisation. Taking into account the assumptions and main priorities of the Small Business Act in the Lodzkie Region, initiatives are undertaken to facilitate the functioning of SMEs on the market and their promotion on national and international markets through initiatives and projects.

According to the report prepared by Startup Poland in 2017 (compared to 2016), the number of start-ups created in the Lodzkie Region increased from 2% to 5%, which distinguishes our region on the map of Poland. Startups have taken a special place in the region's enterprise development policy. Numerous initiatives are being taken to support this sector.

The identified innovative solutions present in the Lodzkie Region, and addressed to senior citizens are listed below, as good practice, to be studied further and verified whether those can become the element of the I-CARE-SMART innovation system. The ideas present are generalised into groups of solutions, addressing different areas and involving different actors.



Type	Short description
Tele care - headbands	<p>The project assumed that 2000 Łódź citizens would be covered by Telecare. Telecare included providing each person with a safety belt with a rescue function, allowing to verify their basic life activities (heart rate), verify emergency events (SOS signal, fall, take off the wristband, leaving a safe location) and communicate with the emergency number and the Telecare Center.</p>
Multigenerational Housing Facility	<p>The idea of this innovative housing model in Poland is to create bonds between people, also outside the family. A similar program has already proven itself in several European countries such as Germany, the Netherlands and Switzerland. An important place in the Multigenerational House will be the Neighborhood Club, i.e. a common space where residents will be able to meet, pursue their passions and interests, and share ideas. In practice, it can be both sharing knowledge and skills: like recipes, residents can cook together, but also spend holidays or important events together.</p>
IT Training for senior citizens	<p>Training courses on IT skills offered for free for the senior citizens, using the facilities of culture houses, schools, universities or public administration. All designed with the attention to the needs of the trainees, their knowledge and experience (ot its lack).</p>
Living Lab solutions (EIT Helathe projects)	<p>Smart Ageing Camp</p> <p>Organized by the Medical Unioversity of Lodz in order to co-work with students and young professionals to look for innovative ideas that can be implemented in the futire, using design thinking methods. The thematic scope devoted to active and healthy ageing and social innovation.</p> <p>Co Active</p> <p>A project with the aim involve citizens in the co-design of their city and in the way their needs are addressed, through workshops, urban exchanges, co-design and the preparation of a citizens' event.</p>



V. Task4s Group

The Lodzkie region can support the development of the silver economy by strengthening the cooperation network of representatives of organisations working on solutions for the elderly, research institutions, regional and local authorities (representatives of municipalities and districts), as well as carers, representatives of organisations representing seniors and people involved in society (e.g. within the I-CARE-SMART project).

One of the activities implemented in the partnership regions is the creation of a group of experts (Task4s), consisting of representatives of organisations working on solutions for the elderly, conducting research, representatives of municipalities and districts, as well as organisations of carers representing seniors and social activists.

Ultimately, the established expert group is to create transnational cooperation teams in order to develop innovative solutions with broad market opportunities.

The actors involved mutually benefit from enhanced cooperation, which ensures the sustainability of links and contributes to reducing disparities in regional innovation performance.

V.1 Composition of the expert group

Full expert group in the table below.

Type	Name of organization	Name of member
Public authority	Lodzkie Region	Bogumiła Grzelczak
		Ewa Gabryelak
Knowledge Organisation	Regional Centre for Social Policy	Magdalena Błaszczyk
		Magdalena Rydz
		Aleksandra Pietrzyk
	University of Lodz, Faculty of Economics and Sociology, Department of Labour and Social Policy	Izabela Warwas
Care provider/Advocacy Organization representing seniors	Foundation “Medical Mission”	Magdalena Cedrowska
Business Organisation	ROBOKOBA	Katarzyna Koba
	SeniorApp Mroczek Marczak	Robert Marczak
Advocacy Organization representing seniors	Senior Activation System Foundation	Monika Burzyńska
	Senior Activation System Foundation	Tomasz Kopiec
S3 Responsibility authorities	Lodzkie Region	



V.2 Working methods

Co-creation is a new way of new product development, a process characterised by the involvement and active participation of users into decisions related to the product. It is a new form of collaborative innovation, in which users and developers and relevant stakeholders share and improve ideas together, instead of keeping them to themselves. Due to digitalisation, more and more data is produced and analysed; knowledge is growing and becomes increasingly accessible. More and more educated consumers want to become involved in the development of the products they buy; as a result, many companies have changed the way they develop their Business.

Following the joint guideline tailored for the project, Lodzkie Region has planned to take up significant actions. The below checkpoints are what give the orientation around the project and set the flow of the events:

- Setting up Regional Quadruple Helix Task Forces (Task4s)
- Revealing unmet needs of the elderly using engagement and co-creation techniques
- SilverStar Challenge - Call for innovative solutions addressing the unmet needs of the elderly
- Implementing regional pilot co-creation procedures
- Ensuring the sustainability and scaling up of regional quadruple helix co-creation process

In the case of I-Care Smart project, Task4s was not only to co-create the services themselves, but to be the part of the net of all six Task4s groups, which share the working progress and regional analysis to bring the Regional I-Care Smart Service Portfolio as a result. These six Task4s aim to create a sustainable business service portfolio, endorsed by a business plan and by the pilot actions carried out.

Working method step by step:

- selecting partners and setting up a Task4s,
- kick-starting the Task4s cooperation, including proper understanding of the project requirements,
- interviews within the Task4s, understanding the business cases, showcasing the possibilities and threats, Business Model Canvas-based interviews,
- analysing needs of the elderly by interviewing and gathering all the data.

V.3 Results of the Task4s group cooperation

As a partner in the I-CARE-SMART project, the Lodzkie Region, in addition to desk research presented in the first part of the study, also carried out empirical research consisting of

1. Preparation of assumptions and a set of questions for an expert interview.

Four expert interviews were conducted with representatives of the quadruple helix: with the president of the board of a non-governmental organisation implementing measures for the professional and social activation of older people, with a representative of the business sector, an innovator in the field of senior care, a representative of the scientific community, dealing with the social aspects of ageing and the system of support for older people in the Lodzkie Region, and with a reporter of the administration.

2. Conducting a survey together with an information campaign addressed to entrepreneurs, based on the assumptions of 2 methods: Business Model Canvas and Business Value Proposition.
3. Implementation of focused group interviews with representatives of two groups - seniors and entrepreneurs creating innovative solutions dedicated to the elderly.



The empirical material collected made it possible to develop a description of an exemplary senior citizen from the Lodzkie region. Using the assumptions derived from the marketing research, in the course of discussions with members of the Taks4s Regional Expert Group, PERSONS representing senior citizens of Lodzkie were developed. The results of statistical analyses presented earlier indicate that the group of seniors is not homogenous. Other needs, aspirations and expectations are shared by older people, who until recently were professionally active - seniors in the group of 60-70 years of age, other people over 70 years of age, the problems of people over 80 and 90 are also different. Due to differences in access to public services, informational structures or lack of them, seniors living in large urban agglomerations and those living in rural areas are also completely different.

Persona No 1

NAME	Adam
GENDER	Male
AGE	67 years
PLACE OF RESIDENCE	city with more than 50,000 inhabitants
NEEDS	<p>Activity:</p> <p>To stay active and independent, to be able to provide for the family members and stay fit and responsible for the majority of the tasks.</p> <p>To be able to do shopping and works around the hose independently, or with the help of family members or neighbours.</p> <p>To stay actively involved in the social circlly, eventhough he recently retired.</p>
OBJECTIVES	<p>Lifestyle change due to inactivity</p> <p>Changing sources of income, reducing income</p>

Persona No 2

NAME	Anna
GENDER	Woman
AGE	76 years
PLACE OF RESIDENCE	a village in Lodzkie Region (about 500 inhabitants)
NEEDS	<p>Public transport:</p> <p>Access to collective transport services so that it is easier to get to the nearest county town without the need for family transport.</p> <p>Healthcare:</p> <p>Unavailability of access to a specialist doctor, limited access</p> <p>Infrastructure:</p> <p>Insuficient infrastructure of the sourounding, the village and neighbouring city is not designed as to incorporate or address the needs of the senior citizen or a persion with mobility isuess, disabilities etc.</p>
OBJECTIVES	Ability to travel independently or in an organized form (self help)



	<p>system)</p> <p>Ability to access health care and social / cultural activities close to the place of residence.</p> <p>Financial independence and relieving the geographical barrier in the access to the cultural and social events..</p>
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Persona No 3

NAME	Jadwiga
GENDER	Woman
AGE	85 years
PLACE OF RESIDENCE	city over 200,000
NEEDS	<p>Health issues:</p> <p>Certain health problems, mobility issues and required medical assistance is hindering the senior form activity.</p> <p>The lack of sufficient support system (due to costs and limitation in number of places with the assisted home care).</p> <p>Social activities;</p> <p>Lack of social interactions, due to the limitations of health as well as regulations and restrictions of Covid 19 epidemic situation.</p>
OBJECTIVES	Assistance and care provided by both family member and a professional

The needs of elderly people from the Lodzkie Region identified within the I-CARE-SMART project can be divided into the following categories:

- Health related - depending on the general situation of the senior as the common health issues are related to cardiac problems and hypertension, mobility issues, neurological and memory loss related issues (mostly old age related Alzheimers and Parkinsons).
- Economic - due to a drastic change in the income of the retiree or pensionaire, when the difference on monthly income is grand and the living costs and especially health related expences are proportionally important. The old age can be in some areas associated with poverty threat.
- Social - referring the the insufficient social and support structure and lack of cultural, sport, free-time related activities offer, as well as non-existent social network.
- Depending on the place of residence - the difference in the offer and infrastructure of the urban and rural areas are an important factor that needs to be taken into consideration. The difference in competences and skills of seniors vary also in the context of rural/urban areas.

The support and offer designed in the I-CARE-SMART premises have to consider those factors and differences.



Presentation of research results in expert interviews with Task4 members

The research included one-on-one interviews. Experts selected for the interviews represented each of the sectors making up the quadruple helix.

Cooperation between representatives of science, the economy and the public sector allows for the development of new and innovative solutions based on the different perspectives and experiences of the actors involved. This is particularly evident in the planning and implementation of regional innovation projects. Using the relations between these sectors, it is possible to co-create and implement innovative projects which significantly change the conditions for development in the EU regions. The development of the triple helix with an additional dimension of civil society allows to look at the dynamics of links and network impact from a wider perspective.

Experts with knowledge and experience of existing and potential business models identified in the study of secondary sources and documentation of existing good practices from the Lodzkie Region were invited to the study. This research approach allowed to identify potential business opportunities suitable for older clients. Four expert interviews were conducted.

Target group characteristics:

In order to facilitate the needs assessment process, relevant actors should be involved. The perspective of 3 different categories of actors will be taken into account:

Solution providers

- business in the field of elderly care;
- service providers;
- manufacturers of assistive devices/customers;
- equipment suppliers (wheelchairs, beds,...);
- health tourism companies;
- start-ups (mostly IT-oriented);

The Lodzkie Region will explore the potential and existing business proposals related to the needs of older people. Thanks to the existing support system and the use of the network of business entities and the evaluation of RIS implementation, the LR can evaluate and interact with various business entities.

Potential customers

- Third century university students;
- Senior management board members;
- professional workers caring for the elderly;
- employees of the elderly care facility;

The Lodzkie Region will assess the needs of senior citizens through various organisations and using the existing care system.

Politicians and local/regional authorities

- Gminas in the Lodzkie Region;



- Regional Centre for Social Policy;
- LR authorities;

The existing innovation ecosystem and the policies implemented and evaluated will be used to describe and facilitate the implementation of regional arrangements for senior, social and health policies.

Presentation of conclusions from meetings of 2 focus groups with Task4 members

The aim of the research was to discuss with a group of regional experts cooperating with the Lodzkie Region - TASK4s business models, the needs of seniors based on the method: business model canvas and business value proposition of existing business solutions. The use of focus groups made it easier to develop and describe hypothetical and existing solutions (in terms of products and services) in the region that would meet the needs of seniors. At the same time, during the TASK4s meetings (both in the traditional form and due to epidemiological constraints in online contact), materials collected during the study of secondary sources were consulted. The focus group members had the opportunity to refer to the collected material, developed with the participation of the Regional Centre for Social Policy in Łódź, in relation to the needs, opportunities and obstacles of older people in the Lodzkie Region. Two focus groups were carried out covering areas - the needs of seniors and existing business innovations.

Scope of questions:

1. THE NEEDS OF SENIORS

First of all, we would like to talk to you about the needs of older people. What kind of services do you lack in your daily life? What services do you think can affect the quality of life of older people?

We also want to talk to you as customers to whom innovative and modern solutions can be addressed.

1.1 What do you consider to be important services that can affect the quality of life of older people?

1.2 Have the needs of older people been taken into account in your activities so far?

1.3 Do you think that the 'silver economy' is an important part of the economy, and can lead to building competitive advantages in the region?

1.4 Do you think that seniors can be important customers (both in terms of services and products)?

Please list examples of services and products:

1.5 Do you think that older people's carers (professional and informal) can be important clients (both in terms of services and products)?

Please list examples of services or products:

2. BUSINESS SOLUTION

Now we would like to talk to you about existing initiatives and ideas, which you know, implemented by companies from the Lodzkie Region. We want to find out what types of services or products offered to older people or their carers could be useful.

2.1 What potential business solutions do you think could be useful for senior citizens from the Lodzkie Region?

2.2 What potential business solutions do you think could be useful for senior citizens' carers from the Lodzkie Region?

2.3 In your opinion, what are the potential and existing barriers to older people's access to innovative business solutions?



3. DEVELOPMENT OF INNOVATION

We would like to ask your feedback on whether, and if so how, the voice of seniors could be used by companies to create services or products that would respond to the real needs of seniors, facilitate their daily lives or support their carers.

How do you think we can support the development of such solutions? How to create a platform for understanding and cooperation between seniors (customers) and solution providers (companies from the Lodzkie Region)?

3.1 What initiatives do you know about existing initiatives supporting the development of innovative solutions?

3.2 How did you find out about them?

3.3 From your perspective and experience, please identify the 3 main barriers to innovation in the sector you represent?

3.4 From your perspective and experience, please indicate 3 reasons for developing innovation in the sector you represent?

When planning business solutions, were you thinking about consulting your ideas with your customers?

Conclusions:

THE NEEDS OF SENIORS	EXISTING SOLUTIONS IN THE REGION	INNOVATION DEVELOPMENT
<p>not homegenious strongly age and health related general:</p> <ul style="list-style-type: none"> • rural and urban dichotomy • insufficient infrastructure and services • lack of offer designed for the needs of seniors • necessity to use social context • being able to provide services closer to home and in the vicinity of the place of residence 	<p>The existing services and business propositions are fragmented and generally do not consider or use co-reation methods, involving end users and their relatives.</p> <p>Lack of connection and cooperation between diferent actros ionvolved in cerating solutions addressing diferent spectrum of the sinior’s needs: economic, social, cultural, helath related, as those interconnect and should be approached jointly, in order to develop an efficient senior polity and silver economy.</p>	<p>Initiatives that integrate the community are one of the most importanta factors for success.</p> <p>Co-ceration methods as a way to involve the seniors in establishing the arease where they need professional assistance.</p> <p>A necessity to develop a best practice or inspirations to discuss and share with the end users.</p> <p>Using multigenerational approach and experience and facilitating the process by involving different actors (quadruple helix approach).</p> <p>Creating or facilitating the process usiung existing innovation networks, incorporatong the topics targeted towards the needs of senior cisizens.</p> <p>Multi or inetrdisciplinarity.</p> <p>Involvement of local aothorities</p>



THE NEEDS OF SENIORS	EXISTING SOLUTIONS IN THE REGION	INNOVATION DEVELOPMENT
		(as testing grounds) for business solutions facilitated by the regional authorities.

Presentation of good practices

The following examples of three companies/entities/institutions from the Lodzkie Region which successfully use intelligent solutions for seniors in their activities., were presented and discussed within the Task4s cooperation.

Senior App
<p>Description:</p> <p>Senior App - Help at your fingertips. Implementation of a business model based on innovation by launching an application adapted to the operating systems of mobile phones, tablets and the web version. The Senior App is a platform aimed at crossing technological barriers in an easy and intuitive way. We want the elderly to find help and support in their courts in an easy and safe way in a short time. At the same time, we want to enable people who want to help to offer help, activate the unemployed, and give an opportunity for additional income.</p> <p>The Senior App includes services such as: senior care, cleaning, night care, shopping, internist consultations, rehabilitation, official matters, nursing services, etc. Each service provider is verified by the application administrator. Safe payments are possible.</p> <p>Key partners:</p> <p>Academic facilities, local and regional authorities.</p> <p>Distribution channels:</p> <p>Social media, cooperation with seniors and their family members mas well as with service providers, using recriutmenr portals and adds.</p> <p>Later on using mass media and tarditinal media as well as adds.</p> <p>Customer relations and customer characteristics:</p> <p>Channels for building relationships with seniors and caregivers are the technology of mobile applications adapted to various systems in Adriod, iOS, HarmonyOS and websites, a public hotline to support seniors, social media, websites, communication in regional media, workshops in the "technology closer to seniors" series.</p> <p>Senior App is targeted towards 2 groups: 1: seniors and or persons with disabilities and their relatives, 2: care and aid providers, being unemployed, or not employed in full time, students etc.</p> <p>Additional custommers (indirect): med and pharma business companies, universities and high schools of the med profile, research and consultancy companies, innoavtors on the job market.</p> <p>Finacing:</p> <p>Own financing</p>



AI RoboKoba WORKSHOPS

Description:

The product uses a combination of innovative technologies, including virtual reality, verable sensors, and Progressive Web App in pychoeducation and therapy of people with sensory integration disorders. The tool is designed to help build emotional balance and psychophysical resilience in children and adolescents. It can also be used with good vision in the elderly as a tool for rehabilitation and therapy.

Key partners:

Academic facilities, local and regional authorities, business, NGOs, psychological and pedagogical counseling centers.

Distribution channels:

Social media, cooperation with health care facilities, NGOs, senior care facilities and specialists.

Customer relations and customer characteristics:

The tool is intended for therapists and educators of sensory integration (psychotherapists and physiotherapists) so that they can motivate to action and monitor changes in psychophysical activity occurring in patients with sensory dysfunctions, during regular, remote movement and breathing sessions using the most innovative technologies.

At present in Poland there are 1100 psychological and pedagogical counseling centers, over 67 000 physiotherapists. The estimated growth in the e-services shows the potential for a fas development especially in education and health related services. In relation to VR (virtual reality) this change is estimated from 1.8 billion in 2018 to 12,6 billion EUR in 2025.

Finacing:

Own funding, European grants, Croudfunding

Senior Citizenship Activation System Foundation

Description:

Building a comprehensive, public process tool for the exchange of information on the queue system in the use of primary and specialist health care services with the possibility of booking visits. Electronic queue management and communication between citizens and the health sector (including referrals and appointments of doctors in primary care facilities and hospitals. Also used as a mobile application.

Key partners:

Academic facilities, local and regional authorities, business, senior care facilities, NGOs, Polish Federation of Hospitals.

Distribution channels:

Social media, cooperation with health care facilities, NGOs, senior care facilities and specialists.

Customer relations and customer characteristics:

Foundation is cooperating with active senior citizens by motivating them to be and stay active, take part in cultural, educational and social activities as a free time occupation offer. The custommers are reached mostly via social media .

The customers are mostly 60+ tahta need to stay active in order to preserve health, especially in



the times of covid-19 pandemic. The scope of the activities are also targeted towards younger generation to teach them about healthy habits, as they will be the future elderly.

Financing:

Public funding, European grants

V.3.1. Synthesis of business models

Lodzkie Region together with the associated partner the Regional Centre for Social Policy and the Task4s members during traditional and on-line meetings discussed the existing innovation ecosystem and the regional actors that in the future will be involved in establishing, creating and providing the I-CARE-SMART service.

Customer segments and key partners

Startups - Innovators with great potential in various fields using advanced technology, eg. AI, VR/AR, as well as software houses, mostly IT-oriented companies.

Investors - Economic zones and business hubs to play a connector and/or investor role.

Communication partnerships - Third Age Universities and Lodzkie Region through various senior-oriented organisations (Regional Centre for Social Policy etc.)

Senior/relatives - seniors themselves, as well as caregivers and family members are customer segment. It depends on the health condition of the senior, as well as final service provided.

Universities - Third Age University students are the great opportunity for the business solution, both as the end-user and the service hand-to-hand carrier.

Universities - researchers involved in the fields of social services, medical services, business support and innovators at the Technical University of Lodz, University of Lodz and Medical University of Lodz. Teams of researchers and specialists interested in implementing business solutions as spin-offs from the academia as well as consultancy for the existing solutions.

NGOs - active involvement of the third sector actors working with and for senior citizens as an outlet for the endusers

NGOs - organizations working in the local communities and at the regional level in cooperation with the administration, developing services and designing activities for seniors and their caregivers and well as involving the support system

Public authorities - Regional arrangements for senior, social and health policies are going to be handled by LR authorities, together with appropriate parties etc. Gminas (Region districts), Regional Centre for Social Policy

Revenue streams

Grant - public funds, EU grants, involvement and monitoring of the future funding opportunities attracting different actors.

Grants - synergy of funds for the consultancy and research involvement, in cooperation with the academic sector.



Regional funds and EU funds - Regional Operational Programme of the Lodzkie Region (ERDF and public financing) as a way to support the usage of the necessary infrastructure.

VC - via business hubs and investor zone within the LR units.

Customer relationships and channels

Long term relationships - the links between the customers and the providers using the facilities of the Lodzkie Region, allows for the longer relation and evaluation of the service.

Live and on-line events - using both existing innovation ecosystem of the LR as well as the opportunities of the business support .

All parties involved in the development of the project on the regular basis.

Media channels involved - website, social media profiles, promo events organization.

Top down communication via LR dependent units as well as LR media channels.

Value propositions and key activities

Network facilitation - Business development supporting systems for the I-CARE-SMART project within regional business hubs and accelerators, eg. Skyhub, Lodz Special Economic Zone S.A. Attracting investors, NGOs etc. and connect them with talents.

Network facilitation - Community driven actions using regional centres to provide hands-on user feedback and showcase the forthcoming service innovations and game-changing solutions.

Consultation - Consulting and business advisory boards system within the LR dependent units, as well as project support for SMEs and startups - used for I-CARE-SMART research and structure organisation within the participants.

Research - facilitation of the connections between researchers, innovators and customers, in order to benefit and use the existing data and research for the development of the service.

VI. Summary

The following research questions were asked at the beginning of the document:

--What are the priority needs of older people?

- How does the innovative ecosystem function in the Lodzkie Region?

-Which business model proposals, based on the Canvas Value Proposition Canvas business model, would have sufficient potential and would be applied in the I-CARE-SMART project?

The priorities for the Lodzkie Region in relation to the senior policy and silver economy should be in line with the policy adopted on the national and regional level. The activities should involve the end users, professionals working in the field and incorporate the existing ecosystem that is existing in relation to innovation and business development.

The priority areas are:

- development of new and alternative forms of care and aid to seniors as close to their place of residence as possible,



- promotion of economic activities related to care and aid to seniors,
- promotion of innovative business activities in the silver economy sector,
- working on qualifications of both professional and non-professional care providers (creating job opportunities),
- promoting of VR, AI and IT in the silver economy sector and the use of innovation in the health and care sector,
- facilitation of the process of cooperation between local and regional communities,
- use of existing social and economic infrastructure,
- change in the perception of the old age and the problems associated with the elderly in the society.