

ESIRA – ENHANCING SOCIAL INNOVATION IN RURAL AREAS

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Credits

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Module 5. Rural Depopulation and Demographic Challenge

Objective

This training module is an educational resource created as part of the ESIRA train-the-trainers programme, which forms part of Deliverable 5.2. Training modules, included in WP5 – Community-led innovation spaces and pilot social economy initiatives. The main objective of the train-the-trainers programme is to capacity build and to strengthen the skills of Multi-Actor Platform (MAP) facilitators and members, and rural actors to identify, support and ensure the sustainability of social economy initiatives and develop community networks in the rural territory.

The main objective of the Training Module 5 is to provide theoretical and practical knowledge and skills to training facilitators, MAP members, and rural actors in rural depopulation and demographic challenges.

Structure

This training module provides stakeholders with a comprehensive and in-depth understanding of the challenges that modern populations face due to changes in their structure and dynamics. By addressing topics such as population ageing, low birth rates, migration, and changes in family structures, this module aims to equip rural actors with the tools and knowledge needed to analyse these phenomena and their implications both globally and locally.

Additionally, the module highlights the crucial role of technology in solving demographic problems, providing examples of how technological innovations can improve the quality of life and productivity in a changing society. Ultimately, this module seeks to prepare participants to contribute effectively and sustainably to demographic planning and management in their respective professional fields.

The content of this training module is complemented by the following materials in Deliverable 5.3. “Training Modules Updated”:

- **ESIRA Guide for supporting innovative social economy initiatives.**
- **Practical Tools 5.1, 5.2, 5.3 and 5.4 (Annex).**

1.1 Rural Depopulation in Europe: Challenges, Responses, and Repopulation Initiatives

Rural depopulation is a critical social issue facing much of the inner Iberian Peninsula. It's a complex phenomenon driven by multiple causes, manifesting differently across various regions. Consequently, addressing it requires the coordinated efforts of numerous disciplines and the implementation of measures tailored to each area's reality. Fortunately, in recent years, this issue has gained prominence in public and political discourse, sparking social awareness and a variety of initiatives. However, a common mistake when addressing depopulation is to focus solely on the negative aspects, ignoring the potential opportunities the situation might present. It's time to discuss repopulation rather than depopulation.

This training module aims to serve as a forum for sharing successful initiatives that have attracted new residents to rural areas. Rather than isolated successful projects, these initiatives have transformed the local environments they've settled in. The module will also consider how rural communities can generate economic opportunities and attract new populations by drawing on examples from other towns that have managed to reverse declining population trends. Successful projects from around the world, each facing unique depopulation challenges, will be highlighted for their effective results.

a. Context on the Demographic Challenge

The demographic challenge encompasses the difficulties faced by populations as their structure and dynamics change, including ageing, low birth rates, migration, and shifts in family patterns.

Rural depopulation is an issue affecting several European countries, especially in areas where migration to cities is pronounced. Some affected countries and their unique characteristics include:

- **Spain:** Many rural areas, particularly in regions like Castilla y León, Galicia, and Aragón, have experienced significant depopulation. This is due to young people migrating to cities in search of employment and better opportunities. Additionally, the ageing of the rural population is a significant problem.
- **Italy:** Regions like southern Italy (for example, Calabria and Sicily) face severe depopulation. The lack of employment and basic services, as well as youth migration to other parts of Europe, have contributed to this phenomenon. There is also significant population ageing in these areas.
- **Greece:** The islands and rural areas of mainland Greece have seen a population decline, especially after the economic crisis. Migration to cities and abroad has left many villages uninhabited, and the lack of job opportunities exacerbates the situation.



- **Romania:** Many rural areas have lost population due to migration to EU countries in search of work. The northern and eastern regions are the most affected, where infrastructure and services are limited.
- **Bulgaria:** Bulgaria faces one of the highest rates of rural depopulation in Europe. Migration to cities and abroad, combined with a high rate of ageing, has left many villages uninhabited. The rural areas in the north and east are particularly vulnerable.
- **Portugal:** In this country, particularly in the interior, many rural communities are losing population. Migration to cities and the lack of economic opportunities have led to a youth exodus, leaving communities with an increasingly aged population.
- **Great Britain:** Experienced early industrialisation in the 19th century, which led to migration from rural to urban areas. This process still affects rural areas today, with a large concentration of the population in big cities like London, Manchester, and Birmingham. Specific aspects affecting the United Kingdom include rural population ageing, rising rural housing prices, and limited infrastructure and services in rural areas.
- **Ireland:** Historical emigration trends continue to impact rural areas, with young people still emigrating in search of better opportunities. There is a strong agricultural dependency, but modernisation and land consolidation have reduced the need for labour in this sector, driving depopulation. Furthermore, there are migration stimulus policies and a strong culture of rural identity and return.
- **Sweden:** Experiences major urbanisation in the southern region, with a high urban concentration in cities like Stockholm, Gothenburg, and Malmö, while the north, with a more extreme climate, is less populated. Sweden faces climate and geographical challenges, youth migration to urban centres, and has implemented digitalisation and online service programs to facilitate life in rural areas and maintain population levels, although the results are mixed.
- **Finland:** This country endures deep regional inequality, with depopulated northern areas and clear internal migration toward the south, where cities like Helsinki, Turku, and Tampere attract the majority of young people, leading to depopulation in northern regions. The healthcare and education infrastructure is centralised, consolidating services in urban areas and thus driving migration to these areas, leaving rural ones with fewer services and an ageing population. Finland has also developed relocation and remote work policies.
- **Lithuania:** Has experienced massive migration to Western Europe in search of better salaries and living conditions, which has particularly affected rural areas. There is low investment in rural areas: Lithuanian rural regions often receive less investment in infrastructure and public services, leading young people to migrate

to cities or abroad. The lack of rural employment and the rapid ageing of the population are serious problems that fuel rural depopulation. The Lithuanian government has implemented some return programs to encourage emigrants to return and live in rural areas, although with limited success.

- **Poland:** Suffers from rural exodus to Western Europe and major cities, an option that has been popular among rural youth seeking better economic opportunities. There is a strong inequality in regional development: Poland has notable differences between its regions, with Warsaw and other large cities attracting most investments and high-paying jobs, leaving rural areas economically lagging. Agricultural modernisation has reduced the labour needed in rural areas, contributing to rural-to-urban migration. Poland has also implemented European and national funds for rural infrastructure and revitalisation programs, although the effects are slow and limited in the face of constant migration.
- **France:** Has historically centralised opportunities and services around Paris and other large cities, encouraging internal migration toward these urban centres. Challenges in rural areas include ageing populations, economic reconversion, agricultural change, and rural revitalisation initiatives like improving services in towns and creating tax incentives to attract youth and families, although results have been insufficient.
- **Scotland:** Notable rurality in the Highlands and islands: Scotland's rural areas, especially in the Highlands and islands such as the Hebrides and Orkney, face serious depopulation due to a lack of job opportunities, limited connectivity, and challenging climatic conditions. Housing prices are an issue: In some areas, urban residents buying second homes have driven prices up, making it harder for locals and young people to stay in their communities. There is a lack of infrastructure: Scottish rural areas often have limited transport, healthcare, and educational services, which has prompted migration to cities like Edinburgh and Glasgow. In response to depopulation, Scotland has implemented rural development projects, including support for small local businesses, housing subsidies, and improvements in digital and transportation connectivity to revitalise these areas.
- **Slovakia:** A deep division exists between urban and rural areas: Slovakia shows a significant gap between urban areas, which are more prosperous and modern, and rural areas, which depend mainly on agriculture and have less access to services. There is substantial migration to Western Europe: After Slovakia's entry into the EU in 2004, many young people migrated to Western Europe for jobs, which has particularly impacted rural communities, resulting in a loss of young populations. The rural employment market is limited: Agricultural modernisation has reduced rural job availability. Additionally, investment in rural infrastructure and economic development has been limited. Slovakia has received EU funds to promote rural



development, improving infrastructure and services, although these programs have had partial success, and depopulation remains a challenge.

- **Serbia:** This country experiences strong emigration from rural areas: Serbia's rural areas have suffered significant emigration, both internally (to cities like Belgrade) and externally (to Western European countries), in search of better economic opportunities. There is a stark inequality between urban and rural areas: Serbia faces a major economic disparity between urban and rural areas, where agriculture and traditional industries dominate but offer few job opportunities to young people. Economic and social challenges are evident after years of economic hardship and conflicts that have affected the country's stability and accelerated rural depopulation. Moreover, access to basic services in rural areas remains limited. The Serbian government has launched programs to promote rural development, including incentives for small business creation, but emigration remains high due to the country's economic difficulties.
- **Croatia:** Displays strong migration since EU accession: Croatia joined the EU in 2013, facilitating migration to other European countries, especially Germany and Austria. Croatian rural areas have notably suffered from this youth exodus. The consequences of the Balkan conflict are evident; Croatian rural areas, particularly in the Krajina region, were affected by the Balkan war in the 1990s. Destruction and displacement left many areas depopulated and with damaged infrastructure. Croatia has a limited agricultural economy and is tourism-dependent: Croatian rural economies rely heavily on agriculture and seasonal tourism. In non-tourist rural areas, job opportunities are scarce, driving emigration. There are investments in rural development: The Croatian government, with EU support, has sought to revitalise rural areas through infrastructure modernisation, healthcare and education service improvements, and subsidies for agriculture and rural tourism, though the impact has been slow.

1.2 Factors Contributing to the Demographic Challenge

1.2.1 Population Ageing

This subsection provides a clear and detailed view of how population ageing affects various aspects of society and the economy and lays the foundation for understanding the challenges and opportunities it represents.

- **Definition and Causes:** Population ageing refers to the increase in the proportion of older people in a population. "Population ageing is largely due to advances in medicine and improved living conditions" (Fernández, 2021, p. 45).
- **Economic Consequences:** Population ageing has several significant economic implications:

- **Impact on the Workforce:** As a larger proportion of the population ages, the number of people of working age decreases, which can lead to reduced economic productivity and an increased demand for young workers.
- **Pension System:** The sustainability of pension systems is threatened, as fewer active workers must support a growing number of retirees. This may require pension reforms and an increase in retirement ages.
- **Health Expenditures:** Older people tend to require more medical attention, increasing healthcare spending and potentially straining public health systems.
- **Social Consequences:** Ageing also affects the social structure:
 - **Changes in Family Structure:** Families are transformed with the presence of a greater number of older people who need care and support. This can alter family dynamics and increase the burden on family caregivers.
 - **Demand for Services for Older Adults:** There is a growing demand for specialised services for older people, such as nursing homes, home care programs, and specific health services. These needs require significant planning and resources to ensure adequate and dignified care for the elderly population.

1.2.2 Low Birth Rate

This subsection provides a clear and detailed view of how low birth rates affect various aspects of society and the economy, setting the foundation for understanding the challenges and opportunities it represents.

- **Global Trends:** In recent decades, many countries have experienced a decline in birth rates. This phenomenon is especially pronounced in developed countries such as Japan, Italy, and Spain, where birth rates have fallen below the replacement level necessary to maintain a stable population. This trend has raised concerns about demographic sustainability and these countries' ability to maintain population levels and economic activity. According to the European Commission, "In many developed countries, birth rates have fallen below replacement levels" (European Commission, 2021, p. 98).
- **Socioeconomic Factors:** Several factors contribute to low birth rates:
 - **Education:** Access to education, especially for women, has led to a delay in the age of having the first child and a reduction in the total number of children. Women with higher education tend to prioritise their careers and education before having children.



- **Female Employment:** The growing participation of women in the workforce has contributed to the decline in birth rates. Many women find it difficult to balance work and family responsibilities, leading them to choose to have fewer children or none at all.
- **Family Policies:** Government policies that do not adequately support families, such as a lack of childcare subsidies and insufficient parental leave, also play a crucial role in the decision to have fewer children. Countries with more generous policies in this area, like the Nordic countries, tend to have higher birth rates.
- **Long-term Impact:** Low birth rates have significant consequences for population and economic sustainability:
 - **Demographic Challenges:** With a low birth rate, the population structure ages, resulting in a higher proportion of elderly people requiring care and fewer people of working age. This can impact a country's ability to sustain economic growth and maintain social welfare systems.
 - **Economic Impact:** A low birth rate can lead to reduced long-term economic growth due to a smaller workforce and lower demand for goods and services. This can also increase the tax burden on active workers who must support a larger retired population.
 - **Pension System Sustainability:** With fewer young people contributing to the pension system, it becomes more difficult to maintain benefit levels for retirees, potentially requiring significant and unpopular reforms.

1.2.3 Migration

- **Types of Migration:**
 - **Internal Migration:** Movement of people within a country's borders, typically from rural to urban areas in search of better employment opportunities and quality of life.
 - **External Migration:** Movement of people between countries seeking better economic, educational, or social conditions.
 - **Forced Migration:** Displacement caused by conflicts, persecution, natural disasters, or humanitarian crises.
- **Causes of Migration:**
 - **Economic:** Search for employment, better wages, and more favourable living conditions.
 - **Political:** Fleeing persecution, conflicts, and authoritarian regimes.

- **Social:** Family reunification, access to education and healthcare, and improvements in quality of life.
- **Impact on Countries of Origin and Destination:** “Migration can bring economic benefits but also poses social challenges” (Rodríguez, 2019, p. 67).
 - **Countries of Origin:**
 - **Benefits:** Remittances sent by migrants support the local economy.
 - **Challenges:** Loss of human capital, especially young and skilled professionals, which can affect the country’s development.
 - **Countries of Destination:**
 - **Benefits:** Increase in the workforce, cultural diversity, and economic contributions.
 - **Challenges:** Need to integrate migrants, provide adequate services, and manage potential social tensions.

1.2.4 Changes in Family Structures

- **Evolution of the Family:**
 - **Extended Families:** Traditional models where multiple generations live together, common in rural areas and in the past.
 - **Nuclear Families:** Families consisting only of parents and their children, more common in urban areas and modern society.
 - **Single-Person Families:** Individuals living alone, a phenomenon on the rise due to social and economic changes.
- **Influencing Factors:**
 - **Urbanisation:** The movement of people from rural to urban areas in search of employment and opportunities promotes the formation of nuclear families.
 - **Changes in Gender Roles:** Increased female participation in the labour market and changes in traditional gender roles.
 - **Increase in Divorces:** Higher divorce rates have led to an increase in single-person households and single-parent families.
- **Demographic Consequences:** “The reduction in household size has led to changes in care dynamics” (Fernández, 2021, p. 45).
 - **Reduction in Household Size:** Fewer children per family and an increase in households with one or two people.



- **Changes in Care Dynamics:** Greater demand for childcare and elderly care services, as well as the need for policies that support family caregivers.

1.2.5 Scarcity of Services and Economic Resources

- **Definition and Causes:** The scarcity of services and economic resources can exacerbate demographic challenges by limiting access to essential services such as healthcare, employment, and housing (López, 2020). Among the most affected services, which would be identified as threats and/or weaknesses in rural areas, we find:
 - **Healthcare:** In many areas, especially rural and marginalized communities, there is a notable lack of accessible and quality medical services. This includes shortages of doctors, nurses, and adequate health centres (Pérez, 2022).
 - **Education:** The lack of quality educational institutions affects the training of new generations, limiting their job opportunities and perpetuating poverty (Rodríguez, 2019).
 - **Affordable Housing:** The scarcity of adequate and affordable housing is a significant problem, especially in urban areas where demand exceeds supply, resulting in high rental and purchase costs (García, 2020).
 - **Social Services:** A lack of social support programs, such as childcare services, support for the elderly, and assistance for low-income families, which are crucial for the population's well-being (Fernández, 2021).
 - **Public Transportation:** Insufficient accessible and efficient public transport infrastructure that limits mobility and access to job opportunities and essential services, especially in rural areas (López, 2020).

1.2.6 Lack of Educational and Cultural Opportunities

- **Definition and Causes:** The lack of educational and cultural opportunities can limit the personal and professional development of the population, affecting social cohesion and economic mobility (Rodríguez, 2019).
- **Direct Consequences:** This would result in lower levels of innovation and perpetuate cycles of poverty and social exclusion (García, 2020), weakening and reducing services like:
- **Continuous and Professional Training:** The lack of continuous and professional training programs prevents adults from updating their skills and improving their job prospects (García, 2020).
 - **Access to Cultural Activities:** The absence of cultural infrastructure, such as libraries, museums, theatres, and community centres, limits

opportunities for cultural participation and the development of a strong cultural identity (Pérez, 2022).

- **Community Development Programs:** The lack of programs that promote community development and social participation can lead to lower social cohesion and increased social exclusion (López, 2020).

1.3 Economic and Social Consequences of Demographic Changes

1.3.1 Impact on the Labour Market

- **Reduction of the Workforce:** "Population ageing can lead to a reduction in the workforce" (Pérez, 2022, p. 98).
 - **Ageing Population:** As the population ages, there are fewer people of working age. This can lead to a smaller labour supply and reduced economic productivity.
 - **Decrease in Young Workers:** Low birth rates result in fewer young people entering the workforce, which can worsen labour shortages.
- **Changes in Employment Demand:**
 - **New and Growing Industries and Professions:** Sectors such as technology, healthcare, and services for the elderly are expanding, requiring new skills and job profiles.
 - **Disappearance of Traditional Jobs:** Automation and digitalization are replacing traditional jobs, forcing workers to adapt and acquire new skills.
- **Challenges and Opportunities:** How to adapt to a changing workforce.
 - **Adapting to a Changing Workforce:** Companies and governments must invest in training and retraining the workforce to ensure that workers have the skills needed for future jobs.
 - **Promoting Inclusion and Diversity:** Integrating different demographic groups into the labor market, including women, older people, and migrants, can help mitigate workforce reduction.

1.3.2 Pension and Social Security Systems

- **Financial Challenges:**
 - **Sustainability of Current Systems:** With fewer workers contributing and more retirees receiving benefits, pension systems face a deficit that threatens their long-term viability.
 - **Necessary Reforms:** Proposals to improve the sustainability of pension systems.



- **Improvement Proposals:** Some proposals include raising the retirement age, adjusting contribution rates, and modifying benefit calculations to reflect life expectancy.
 - **Incentives for Private Investment:** Encouraging complementary private pension plans can ease the pressure on public systems.
- **Case Studies:**
 - **Countries that Have Implemented Successful Reforms:** Countries such as Sweden and Germany have introduced structural reforms to their pension systems, including automatic adjustment mechanisms that help maintain financial sustainability.

1.3.3 Healthcare and Elderly Care Services

- **Growing Demand:**
 - **Increased Need for Health Services:** Population ageing leads to greater demand for medical services, chronic treatments, and long-term care.
- **Healthcare Systems:**
 - **Capacity and Efficiency:** It is essential to ensure that healthcare systems have the necessary capacity and resources to care for an ageing population, including the training of specialised healthcare professionals.
- **Innovations in Elderly Care:**
 - **New Technologies and Care Models:** Telemedicine, remote monitoring devices, and smart homes are examples of how technology can improve healthcare and quality of life for the elderly.
- **Inequality and Social Cohesion**
 - **Impact on Inequality:**
 - **Widening Gap Between Rich and Poor:** Demographic changes can exacerbate existing inequalities, especially if appropriate policies are not implemented to support the most vulnerable.
- **Social Cohesion:**
 - **Strategies to Maintain Unity:** Promoting social inclusion, strengthening community networks, and fostering intergenerational solidarity are key to maintaining cohesion in diverse societies.
- **Social Programs:**
 - **Initiatives to Support the Most Vulnerable Groups:** Specific programs aimed at supporting vulnerable groups, such as the elderly, low-income

families, and migrants, are essential to reducing inequality and improving social cohesion.

1.4 Policies and Strategies to Address the Challenge

1.4.1 Reforms in Social Security

- **Implemented Strategies:** Examples of effective policies.
 - **Adjustments in Retirement Age:** Some countries have raised the retirement age to prolong working life and reduce the pressure on pension systems.
 - **Mixed Pension Systems:** Combining public and private pension systems to diversify income sources in retirement.
 - **Defined Contributions vs. Defined Benefits:** Transitioning from defined benefit systems (where pensions are calculated based on salary and years worked) to defined contribution systems (where pensions depend on accumulated contributions and investment returns).
- **Results:**
 - **Evaluation of Reform Effects:** Studies have shown that raising the retirement age can ease the financial burden on pension systems and increase the labor participation of older people.
 - **Impact on Sustainability:** Mixed systems have demonstrated greater economic resilience by combining the security of public systems with the flexibility of private systems.
- **Recommendations:**
 - **Best Practices and Learnings:** Promoting active ageing policies, continuous education and training programs for older workers, and automatic adjustment mechanisms in pensions to adapt to demographic and economic changes.

1.4.2 Immigration Policies

- **Integration Models:**
 - **Successful Policies for Immigrant Inclusion:** Integration programs that facilitate access to employment, education, and social services, as well as promote civic and cultural participation of immigrants.
 - **Examples:** Canada and Germany, which have implemented inclusive policies and specific training and employment programs for immigrants.
- **Benefits and Challenges:**



- **Economic and Social Impact of Immigration:** Immigration can revitalise local economies, fill gaps in the labour market, and enrich communities culturally. However, it also poses challenges in integration and service provision.
- **Balancing Costs and Benefits:** The long-term benefits of immigration can outweigh initial costs if inclusion policies are effectively managed.
- **Case Studies:**
 - **Countries with Exemplary Immigration Policies:** Canada is recognised for its point-based immigrant selection system and integration programs, while Germany has significantly improved its refugee and asylum policies in recent years.

1.4.3 Incentives for Birth Rates

- **Support Programs:**
 - **Work-Family Balance Policies:** Implementation of paid parental leave, flexible working hours, and affordable, quality childcare services.
 - **Examples:** Nordic countries, which offer extensive parental leave and a strong support network for families, have achieved more balanced birth rates.
- **Impact of Incentives:**
 - **Evaluation of Measures such as Subsidies and Parental Leave:** Studies have shown that effective work-family balance policies can increase birth rates and female workforce participation.
 - **Success Factors:** The effectiveness of incentives depends on their design, funding, and accessibility.
- **International Comparison:**
 - **Examples of Countries with Birth Rate Incentive Policies:** France and Sweden have successfully implemented family support policies, resulting in higher birth rates than the European average.

1.4.4 Technological Innovation

- **Health Technologies:**
 - **Applications and Devices for Elderly Care:** Tools such as telemedicine, remote monitoring devices, and assistive technologies that enhance quality of life and reduce the burden on healthcare systems.
- **Automation and Robotics:**

- **Solutions to Compensate for Workforce Decline:** Assistance robots, industrial process automation, and services that maintain productivity and fill gaps in the labour market.
- **Sustainable Development:**
 - **Innovations that Support Demographic Sustainability:** Green and sustainable technologies that support balanced demographic growth and respect the environment, such as smart buildings, eco-friendly transportation, and renewable energy.

1.4.5 Programs or Plans for Culture and Leisure

Development of Cultural Infrastructure:

- **Community and Cultural Centers:** Creation and maintenance of community centers offering cultural, educational, and recreational activities for people of all ages. These centres can include libraries, theatres, art galleries, and meeting spaces.
- **Local Events and Festivals:** Organisation of events and festivals that promote local culture, traditions, and community participation. These not only strengthen cultural identity but also foster social cohesion.
- **Access to Recreational Activities:**
- **Programs for Seniors:** Development of recreational activities specifically designed for older adults, such as crafts workshops, dance classes, excursions, and book clubs.
- **Sports and Physical Activities:** Promotion of sports and physical activities through accessible programs, including yoga classes, gymnastics, hiking, and swimming. These programs contribute to the physical and mental health of the population.

b. Promotion of Lifelong Learning and Education

- **Classes and Educational Workshops:** Offering classes and workshops in a variety of subjects, from practical skills like cooking and gardening to academic and technological subjects. These programs can be held in community centers, public universities, and libraries.
- **Intergenerational Programs:** Creation of programs that promote interaction between different generations, such as mentorships, skill-sharing, and joint activities. These programs strengthen community bonds and facilitate knowledge and experience exchange.

c. Encouraging Cultural Participation



- **Grants and Support for Cultural Projects:** Provision of funds and resources to support community-involving cultural and artistic projects that promote cultural diversity.
- **Access to Digital Culture:** Implementation of initiatives to facilitate access to digital cultural resources, such as e-books, movies, music, and online courses. This is especially important in rural areas and communities with less cultural infrastructure.

d. Entrepreneurship Promotion Programs

Startup Incubators and Accelerators: Spaces and programs that provide support to entrepreneurs in the early stages of their projects, offering resources, mentorship, and funding.

- **Example:** Many cities have developed incubators and accelerators that assist entrepreneurs with initial guidance, seed funding, and access to networks, proving effective in launching successful new businesses.

Venture Capital Funds and Grants: Investment funds and specific grants for startups and entrepreneurs, providing the capital needed for the growth of new businesses.

- **Example:** Government and private programs offering venture capital funds and grants targeted at innovative, high-growth sectors, stimulating economic development and job creation.

Business Education and Training: Educational programs and ongoing training for entrepreneurs, including workshops, courses, and seminars on business management, finance, and marketing.

- **Example:** Universities and training centres offering specialised programs in entrepreneurship, equipping new entrepreneurs with the skills and knowledge needed to manage and scale their businesses effectively.

Support Networks and Mentorship: Support networks and mentorship programs connecting entrepreneurs with experienced businesspeople, facilitating knowledge and experience exchange.

- **Example:** Platforms that enable entrepreneurs to connect with mentors and industry experts, providing strategic guidance and emotional support during the development of their projects.

Coworking Spaces: Shared workspaces that offer infrastructure and basic services to entrepreneurs and small businesses, promoting collaboration and innovation.

- **Example:** Coworking spaces in urban and rural areas that facilitate networking and access to shared resources, increasing the viability of new businesses and projects.

1.5 Technology and its Role in Solving Demographic Challenges

Technologies for Elderly Care: Devices and applications that enhance the quality of life for older adults.

- **Remote Monitoring Devices:** Use of sensors and smart devices to monitor the health of elderly people in their homes. This includes devices that monitor vital signs, physical activity, and sleep patterns, alerting caregivers or doctors in case of abnormalities.
- **Mobile Applications and Telemedicine:** Enable elderly individuals to access medical consultations from the comfort of their homes, reducing the need for travel and improving the monitoring of medical treatments.
- **Assistance Robots:** Robots designed to assist with daily tasks, such as medication reminders, mobility assistance, and companionship. These robots can provide significant support to help elderly individuals maintain their independence.

Housing Solutions: Innovations in design and construction to accommodate an ageing population.

- **Accessible and Adaptable Design:** Homes that are designed to be accessible and adaptable to the needs of an ageing population. This includes features such as wide doors, ramps instead of stairs, and bathrooms adapted for wheelchair use.
- **Smart Homes:** Equipped with IoT (Internet of Things) technology that facilitates home management through connected devices. For example, lights and appliances that can be controlled by voice or through mobile apps, enhancing the safety and comfort of elderly residents.
- **Planned Communities for Seniors:** Residential developments that include integrated services such as medical care, recreational activities, and transportation, specifically designed to meet the needs of older adults.

Automation and Productivity: How automation can offset the reduction in the workforce.

- **Industrial Robotics:** Use of robots to perform repetitive or dangerous tasks in factories and warehouses, increasing efficiency and compensating for labour shortages.
- **Automation in the Service Sector:** Implementation of automated systems in sectors such as retail, hospitality, and customer service. This includes self-service kiosks, advanced ATMs, and automated phone systems.



- **Education and Retraining:** Online learning platforms that offer courses and certifications in high-demand skills, allowing workers to adapt to labour market changes and prepare for jobs in emerging sectors.

1.6 Success Stories

Facing the demographic challenge requires implementing innovative and effective strategies that can be adapted to different contexts and needs. This section will examine various success stories at the international and national levels that have achieved positive results in addressing demographic challenges. These examples provide valuable lessons learned and offer replicable models for other regions and countries facing similar situations.

At the international level, we will highlight countries such as Japan, Finland, and Canada, which have implemented innovative policies in areas like the labor participation of older adults, birth rate incentives, and inclusive immigration policies.

At the national level, we will analyze Spain's National Strategy for the Demographic Challenge and local examples such as the Next Deputy Office of A Coruña and the A Coruña Coworking Network, recognized for their efforts to attract and retain population in rural areas.

These success stories demonstrate that, with the right combination of policies, innovation, and collaboration, it is possible to tackle demographic challenges and transform these issues into opportunities for sustainable development and social welfare.

1.6.1 International

- **Japan:** Japan has implemented various strategies to address its ageing population, such as promoting the labour participation of older adults and investing in care technologies. These measures have helped mitigate some of the negative impacts of ageing. For instance, they use assistive robots, remote monitoring devices, and telemedicine systems to improve the quality of life for older adults. For example, the robot "Pepper" is used in nursing homes to provide companionship and assist with daily tasks.
- **Sweden:** In Sweden, smart housing systems have been implemented that allow older people to live independently while remaining connected to healthcare and emergency services. These systems include motion sensors, fall alarms, and communication devices that facilitate interaction with caregivers and family members.
- **United States:** In the United States, mobile applications and telemedicine platforms have been developed to allow older adults to access health services remotely. These technologies have proven effective in managing chronic diseases and providing medical care more efficiently.

- **Silicon Valley, United States:** Known for its ecosystem of incubators, accelerators, and venture capital funds that have supported the growth of numerous technology startups (Martínez, 2021).
- **Germany:** Germany has implemented training and retraining programs for elderly care workers, using advanced technologies like virtual reality and artificial intelligence to improve the quality of care.
- **Finland:** Finland has developed family support policies, such as generous parental leave and accessible childcare services, which have contributed to increasing birth rates.
- **Canada:** Canada has implemented inclusive immigration policies that have helped counteract low birth rates and attract international talent, benefiting its economy and society.
- **United Kingdom:** The United Kingdom's "AgeTech" program has pioneered the implementation of innovative technologies for elderly care. This program includes the use of remote monitoring devices, telemedicine applications, and assistance robots to improve the quality of life of elderly individuals. Additionally, smart housing solutions have been developed to allow elderly people to live independently while connected to healthcare and emergency services.
- **Chile:** Startup Program: A Chilean government initiative that offers funding, mentorship, and resources to entrepreneurs from around the world, fostering innovation and entrepreneurship in the country (García, 2020).
- **Spain:** Red Emprende Platform: A platform that connects entrepreneurs with mentors, investors, and resources, facilitating access to training and financing opportunities (Pérez, 2022).

1.6.2 National

Regarding national success stories, specific cases are not indicated here, as each partner is invited to highlight the cases, they consider relevant. Instead, suggested themes for these success stories are provided:

- **Technological Innovation:** Telemedicine and mobile applications, assistive robotics, remote monitoring systems for vital signs and elderly care.
- **Housing Solutions:** Smart homes, accessible design, or senior communities.
- **Immigration Policies:** Employment integration programs, social support services, and immigrant selection models.
- **Birth Rate Incentives:** Paid parental leave, subsidies and family support, access to childcare services, among others.



- **Social Security Reforms:** Retirement age, mixed pensions.
- **Economy and Entrepreneurship:** Emerging technology companies, entrepreneurship support programs, or social entrepreneurship initiatives.
- **Cultural:** Promotion of cultural diversity, preservation of traditions.
- **Education:** Educational innovations and accessibility in rural areas, environmental education programs.
- **Environment:** Renewable energy, ecosystem conservation.

Conclusion

This didactic module on the demographic challenge addresses the main challenges modern populations face due to changes in their structure and dynamics, such as ageing, low birth rates, migration, and transformations in family structures.

Through various sections, the module explores the factors contributing to these challenges, their economic and social consequences, and the strategies and policies implemented to tackle them.

It also presents success stories at the international level, like Japan, Finland, and Canada, and at the national level in Spain, such as the National Strategy for the Demographic Challenge.

The goal is to provide students with an in-depth understanding of these challenges, evaluate effective policies and strategies, and develop innovative proposals to address them. Technological initiatives are highlighted as key tools to enhance quality of life and productivity in a changing demographic context. This module offers an integral and multidisciplinary approach, supported by successful experiences, serving as a guide for analysing and applying effective demographic solutions in various contexts.

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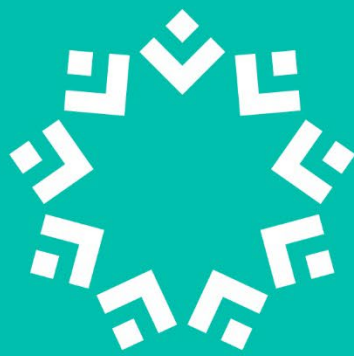
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