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Scenarios on Pan-European Issues

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1 General Description

The work package 6 of the FutuRes projects implements the "FutuRes Policy Lab" as a collaborative platform at the interface of science and policy to compile research evidence, political perspectives, practitioner experience and citizens' perceptions. To do this, the consortium organizes several participatory events through the course of the project in order to establish a constant workflow of stakeholder and citizen engagement activities (scenario workshops, high-level policy expert meetings, stakeholder dialogue events). This will be worked out into a number of publications (strategic foresight documents, policy briefs, discussion paper) and communication activities (WP7). Among these are three participatory scenario development workshops organized and run by consortial partner VDI/VDE-IT. The intention of scenarios is to outline possible futures and to give the opportunity to stakeholders and policymakers to get an impression of key factors, driving forces and the resulting trajectories and outcomes representing developments derived from scientific findings and analysis. As an outcome of this process, the VDI/VDE-IT will deliver a set of qualitative scenarios for resilient European societies in demographic change that describe and illustrate possible future developments. This will then become a tool for the design process of policy strategies that both respond to resilience and demographic change and for the formulation of a comprehensive set of policy recommendations targeting crisis resilience.

2 Material and Method

2.1 Qualitative Scenario Building

Qualitative scenario building is a structured foresight method which focuses on creating narratives about how the future could unfold based on different driving forces, uncertainties, and trends. These scenarios are plausible stories rather than predictions, which makes them a flexible tool for decisionmaking in uncertain contexts. The method is particularly useful when quantitative data alone cannot capture the complexity or ambiguity of future developments.

Scenario thinking became highly productive and popular approach during the rise of the field of future studies in the 1960s and 1970s. Peter Schwartz, a key figure in the intellectual foundations of foresight, popularized the approach with his book The Art of the Long View (1991). Over the past two decades, qualitative scenario building has been a central tool in anticipatory governance processes at the EU level and worldwide. Since the 2010s, the Intergovernmental Panel on Climate Change (IPCC) has been using scenario building to create pathways for understanding how different emissions trajectories could impact global climate change. These Shared Socioeconomic Pathways (SSPs) and Representative Concentration Pathways (RCPs) are examples of combining qualitative and quantitative foresight methods to shape international climate policy and anticipatory governance. In recent years, the European Commission has increasingly relied on qualitative scenario building as part of its Strategic Foresight initiatives as well. For instance, the 2020 report Shaping Europe's Digital Future used scenarios to anticipate the impacts of emerging technologies like artificial intelligence and 5G networks, ensuring that policies were forward-looking and adaptive to different possible futures. The VDI/VDE-IT team organizes a series of participatory scenario building workshops with stakeholders from research, policy and civil society in order to describe a variety of futures for European societies in demographic change. The prospective scenarios include key factors determining future developments and are based on quantitative (fertility rate, migration scenarios, economic forecasts and projections etc.) and qualitative (weak and diffuse signals, situational descriptions, case studies etc.) expertise of the FutuRes consortium. The outcome of these workshops are provided as Scenario/Strategic Foresight Documents and flow into the policy dialogues and broader stakeholder events of the Policy Lab.

2.2 Morphological Box

The morphological box, introduced by the Swiss astrophysicist Fritz Zwicky in 1971, plays an important role in qualitative scenario building, particularly in helping to systematically explore a wide range of possible future scenarios. The morphological analysis (Tom Ritchey, *General Morphological Analysis*, 2002) is a method for structuring and investigating the relationships between different factors or dimensions that define a system or problem space. In scenario building, it serves as a tool to explore all potential combinations of variables and their interactions, ensuring that scenario developers consider a broad and diverse set of possibilities. The box serves as a framework holding key factors and a range specific variations building on which the participants pre-cast scenario pathways by connecting specific variations of the key factors following the principle of logical consistency.

2.3 Identification of the Key Factors

The topics and analytical questions for the workshops build on the work of the FutuRes research partners. Indeed, one of the goals of the scenario building process was to create synergies between research and policy advising, guarantee the utilization of the FutuRes research findings, and gather input from external experts to build on the work of the consortium.

During the initial phase of the process key influencing factors for resilience in European demographic development were identified and verified iteratively in consultation with the FutuRes consortium. Each project partner was asked to answer the following questions based on their expertise and research findings in order to constitute the evidence base for the discussion during the workshops:

- 1. What are the key influencing factors for resilience in Europe's demographic development?
- 2. What impact on policy-making do they have?
- 3. Which different types of European countries do you identify in your research? Based on which social policy criteria should we cluster the different European countries at hand?

The preparatory consultation with the consortium partners allowed to determine 12 key factors for the development of European policies around resilience and demography. The VDI/VDE-IT team synthesized and consolidated the key factors provided by the consortium partners and formulated three plausible projections for each of them (cf. appendix 5.1). The projections were revised iteratively with the consortium, shared with all workshop participants beforehand and used as building blocks for the scenarios during the events.

2.4 Workshops

In the second phase of the process, a total of 31 representatives from European countries attend the qualitative scenario building workshops. The invited participants are selected based on a comprehensive search for European experts on demography in the research, policy or civil society sector, as well as within the broad FutuRes network. The representatives are clustered into three groups according to their welfare state "type" based on the social policy models of their country (first group: Continental Europe; second group: Anglo-Saxon and Nordic countries; third group: East Europe and Mediterranean countries; the delimitation of the country groups is validated in consultation with the project partners beforehand). In addition, international journalists and members of international organizations such as the International Organization for Migration (UN) are distributed evenly among the three groups. FutuRes Principal Investigator Prof. Dr. Arnstein Aassve as well as Work Package Lead representative Kate Dearden from Population Europe attend each workshop as well, in order to present the FutuRes project and integrate the specific expertise from the consortium into the discussion.

During the events, the experts discuss the key factors for resilience in European demographic development and policy based on the input of the project partners. They connect different projections in the morphological box in order to build various consistent future scenarios (cf. appendix 5.2). Given the cultural, political, economic and social diversity, the futures developed do not represent a

homogeneous Europe, but rather show alternative futures that outline the average overall structure of the European Member States.

2.5 Results and Output

All three FutuRes workshops were run successfully and each group developed two to three scenarios collaboratively. The implementation of the scenario building method resulted in different levels of appreciation, some participants being very positive and sharing thank you notes afterwards, while other showed more resistance. Based on the results of the workshop, the VDI/VDE-IT team developed and wrote integrated qualitative scenarios (s. below). Two of them are indicated as reference scenarios based on their high level of consistency. The development of scenarios draws directly from the results of the experts' consultation as well as from the morphological box, and integrates them into consistent narratives.

The scenarios facilitate an exchange on foreseeable, conceivable or even desirable developments and the possible courses of action that can be derived from them. They produce manageable results for policymakers to allow undesirable developments to be identified at an early stage so that countermeasures can be taken in time, and/or desired developments to be initiated through targeted strategies, instruments and measures.

3 Scenarios

3.1 Optimistic

3.1.1 Reference Scenario 1: Thriving Democracy

Orderly and regular immigration, successful implementation of digital technologies in labor market and social life, diversity and tolerance, supportive family policies

#resilient, #inclusive, #innovative

In this scenario, Europe experiences a sustained increase in immigration, managed successfully through targeted policies, robust integration programs, and enhanced access to the labor market. Inclusion and social justice are central to the organization of societal coexistence, with a thriving middle class as well as state support ensuring compensations for vulnerable groups. While significant challenges like the climate crisis and migration have been addressed, the political landscape remains marked by ongoing tensions; In fact, right-wing parties are dedicated to the fight for upper limits for migration, and the ideological struggle between democratic and anti-democratic forces persists across all levels of decision-making and society.

The European economy benefits from positive growth impulses driven by the dual transformation green and digital innovation. Increasing technological sovereignty and competitiveness create new opportunities for both the state and private individuals. Continuous advances in technology, particularly in artificial intelligence, automation, and digitalization, enhance efficiency across sectors, unlocking new avenues for growth and prosperity. Moreover, targeted immigration, inclusive policies, and age-friendly environments open new labor potentials. While automation initially caused job losses, in the long term, Al-driven business models have created more jobs, alongside shorter working hours. Productivity gains are distributed fairly and thus lead at least to a preservation of prosperity or even to gains in prosperity. This technological progress is accompanied by innovative reforms to pension systems, offering personalized options for different population groups. The promotion of flexible pension products encourages private provision and diversifies retirement financing schemes.

Economic prosperity, socio-technological innovation, and flexible work models help reconcile work and family life, though families increasingly rely on technology rather than state support to achieve this

balance. The ability to integrate work and family responsibilities demands strong organizational skills, adaptability, and financial resources, leading to visible social disparities in the work-life balance. These disparities extend to cultural perceptions of family life. While society embraces a plurality of family forms-such as single-parent families, rainbow families, and patchwork families-this acceptance reflects broader social integration and tolerance, especially in light of ongoing migration. However, these societal shifts do not lead to significant changes in fertility rates, which remain stable. Gender equality progresses steadily, with women achieving greater representation in leadership roles and equitable conditions in the workforce. Both men and women share caregiving responsibilities, supported by technological innovations and automation that assist care workers. Despite this. disparities in access to care resources remain, highlighting the continued need for systemic support to ensure all families benefit from these advancements.

3.1.2 Institutional Democracy

Successful immigration policies, thriving labor market, productive technological innovation, social tolerance and self-sufficient organization of family life

#inclusive, #strategic, #self-reliant

In this scenario, Europe responds proactively to demographic shifts through a comprehensive and sustained immigration strategy. Targeted immigration policies, investments in integration programs, and enhanced labor market access pave the way for positive migration management. By fostering intercultural understanding, Europe not only accommodates rising immigration but also strengthens social cohesion. Mechanisms are put in place to guarantee compensations for communities disproportionately affected by climate change, ensuring equitable living conditions and fostering solidarity across regions. This emphasis on fairness strengthens the social fabric, contributing to a resilient and cohesive society. The political landscape is defined by a resurgence of democratic forces. One of the main factors that previously fueled the rise of antidemocratic movements—unorderly migration and challenges in social integration-has been effectively addressed. With these issues resolved, democratic institutions regain their credibility. Transparency, efficiency, and accountability become hallmarks of governance, while citizen participation is actively encouraged. As a result, public confidence in democratic processes reaches new heights, further stabilizing European societies. Therefore, populist parties only play a minor role in political discussions and decisions.

Europe experiences a positive economic transformation driven by dual forces: the green and digital revolutions. Targeted migration policies play a crucial role here, as migration is strategically organized to fill labor gaps and bring in specific technological know-how in critical sectors. This contributes to sustainable economic growth, creating opportunities for both public and private sectors to flourish. European societies witness significant productivity growth, achieved through adaptability to new work models and a quantitative increase in the labor force, notably from managed migration flows. The adoption of digital tools and agile organizational structures allows both firms and workers to meet the demands of an increasingly globalized and digitalized economy. Flexible working time models and lifelong learning initiatives become integral to workforce development, ensuring that Europe remains competitive in the evolving global market. Hence, Europe experiences a significant increase in labor force participation, driven by targeted immigration policies, inclusive integration measures, and agefriendly environments. These efforts unlock new labor potential, bringing more individuals into the workforce. While the short-term impact of digital technologies and AI initially results in some job losses, the longer-term effect is positive. Al-based business models generate new employment opportunities, with the added benefits of a fair distribution of productivity gains and a reduction of the average number of working hours per week.

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Demographic shifts prompt a comprehensive and sustainable reform of Europe's pension systems. At the state level, pension reforms are designed to adapt to the changing population structure, with a personalized approach to retirement provision for specific population groups. Population growth, successful integration of migrant labor, and increased workforce demand all contribute to broadening the retirement contribution base, making more pensions financially sustainable. Simultaneously, flexible pension products that encourage private provision gain popularity, complementing state pensions. However, disparities remain: lower-income earners often continue to face structural disadvantages due to their smaller individual contributions, while wealthier individuals benefit from a combination of state pensions and private savings.

Despite population growth driven by immigration, fertility rates in Europe remain stagnant at low levels, posing challenges for social infrastructure and the policies of welfare states. Regular and orderly immigration brings targeted flows of skilled workers, many of whom come from countries with lower fertility rates. Even among immigrants from higher-fertility regions, the second generation tends to have fewer children, leading to minimal impact on overall birth rates. Contrary to historical trends, there is no automatic correlation between economic growth and increased fertility. The assumption that a thriving economy boosts birth rates no longer holds in modern, complex economies. Thus, while Europe benefits from demographic change through migration, the underlying issue of low fertility remains unresolved. In this scenario, there are no significant advancements in family policies. State support remains limited, and family care responsibilities are largely should red by private households. Employers, while generally supportive of work-life balance, vary in their accommodations depending on the sector. Social class continues to strongly influence the realities of individual families, shaping their access to resources and support. The organization of social life reflects the diversity of family structures and lifestyles in European societies. Non-traditional family forms—such as single-parent, rainbow, and patchwork families—are widely accepted and integrated into the social fabric. This diversity is further enriched by ongoing migration, contributing to a tolerant social climate. However, despite a generally accepting mentality, the implementation of equality measures within households remains stagnant. Care work, particularly for children and dependent adults, becomes increasingly formalized, with greater recognition and remuneration. Many women continue to work part-time while assuming caregiving responsibilities, but the role of care work as a valuable social activity is acknowledged by both society and the state. Support for families caring for relatives is enhanced, but the burden of care still disproportionately falls on certain groups, reinforcing existing social inequalities.

3.2 Contrasted

3.2.1 Reference Scenario 2: Stagnant Stratification

Undefeated demographic and socio-economic pressures, technological innovation and sectoral economic prosperity, libertarian organization of social life, structural class-based inequalities

#unequal, #static, #individualistic

In this scenario, Europe is confronted with a significant increase in unsafe, unorderly and unregular immigration, which overstretches integration capacities and threatens social and political stability. The impacts of climate change exacerbate existing socio-economic inequalities. Lower-income populations, with limited access to resources, are disproportionately affected, unable to adapt their living conditions to evolving climate threats. In parallel, migration management struggles under the additional burden of climate displacement, heightening the vulnerability of already marginalized groups. Inequalities grow as climate impacts intensify, threatening social stability. European democracies face continuous tension between democratic and anti-democratic forces. Far-right movements gain traction amid immigration and climate challenges, exploiting fears and social unrest.

This struggle permeates all levels of society, with heightened social conflicts and political polarization. However, moments of solidarity and community response offer a counterbalance and swings of democratic values in the face of rising populist forces.

The green and digital transformations drive economic growth, despite uneven development across regions. Some areas experience significant growth spurts, while others stagnate due to infrastructure or policy lags. Innovation in green technologies and digitalization enhances competitiveness and sovereignty, creating new opportunities for both the public and private sectors. Nevertheless, disparities in growth rates across the EU create a patchwork of advancement and stagnation. General productivity stagnates as a result of persistent structural issues, such as outdated infrastructure, inefficient labor markets, and ineffective social inclusion policies. While migration helps increase labor force numbers, the lack of targeted immigration strategies and skill mismatches lead to underutilization of this potential. The rise of informal economies and uneven labor standards across regions further hamper productivity growth. The shrinking labor force due to Europe's aging population leads to widespread labor shortages, particularly in essential industries. Restrictive immigration policies and slow digitalization fail to address these gaps. Without successful integration of migrants into the labor market, the quantitative increase in population does not translate into sufficient workforce growth, hampering economic output.

Public pension systems come under increasing strain as demographic shifts and economic pressures reduce their sustainability. Many older Europeans face poverty, with wide disparities in pension access between different population groups. Migrants contribute marginally to pension systems, but if poorly integrated, large segments of the population remain outside formal welfare structures, exacerbating inequalities and placing additional pressure on healthcare and social services.

Family policies stagnate in the face of economic and social challenges. State support is minimal, leaving family care responsibilities to private households. While some employers are open to flexible work arrangements, accommodations vary across sectors, and social class continues to influence the realities of family life. This trend aligns with the broader pension crisis, with care work becoming a private burden rather than a public responsibility. Informal care and community-based support mechanisms fill gaps left by the state, reinforcing the role of families in caring for both children and dependent adults. Although automation plays a role in care, the preference for human caregivers remains strong, and technological solutions are resisted in favor of personal, human interaction

The Second Demographic Transition theory explains a shift in population dynamics where declining birth and death rates give way to changes in family structures and reproductive behaviors. It is characterized by lower fertility rates, delayed marriages, increased cohabitation, and a rise in diverse family forms, driven by cultural shifts toward individualism, gender equality, and self-fulfillment. This shift reflects the broader transition towards social integration and acceptance of non-traditional constellations in family life, while continuing migration contributes to the plurality of lifestyles too. While gender equality advances in many areas, it remains unevenly distributed across social groups. In some circles, women achieve equal representation in the workforce, and care responsibilities are shared equally. However, entrenched inequalities persist in other parts of society, with political and social barriers hindering progress. The stratification of gender equality leads to a divided experience of social justice across Europe.

Variation 1 – Neoliberal Social Structures

In this alternative version of the scenario, Europe experiences a decline in immigration due to restrictive policies, economic factors, or international developments that reduce its attractiveness. Most factors manifest similarly – ongoing demographic pressures and structural inequalities remain the bottom line of the scenario. Though in this variation, in light of the decrease in foreign population circulation, the economic outlook is marked by cyclical downturns, including recessions, reduced

investment, and weakened competitiveness. The collapse of the pension system is prevented by a growing net debt of the member states, which reduce the EU debt rules to absurdity. The resulting austerity measures and cautious consumer behavior further hinder recovery, leading to uneven productivity growth where technological advances drive efficiency in some sectors, while structural barriers, such as inefficient labor markets, cause stagnation in others. Another striking marker in this version is the lack of family friendly policies and social integration measures which leads to a great individualization in the organization of social life. In addition to the obvious challenges that these developments entail, forms of social innovation are catalyzed as well, such as the continuous equalization – and in some regards dissolution – of gender roles, with a fair labor distribution between women and men on the formal job market for instance. However, informal care work increases due to a lack of informal/formal household support within communities, the stagnating family policies as well limited state funding, placing greater strain on families.

3.2.2 Antagonistic Politics

Focus on immigration policies, lack of support for private households, political division and stagnating economy

#liberal, #progressive, #divisive

Europe's political landscape is characterized by deep divisions and conflicting interests. Governments with opposing agendas are the norm, with portfolios strictly divided along party lines and managed according to vested interests. This antagonistic policy-making leads to progress in individual areas, but in the big picture it paralyses the system. Liberal policies prioritize big economic issues such as immigration and climate justice, but tend to neglect social policies affecting private households such as families or dependent people. In contrast, an open society has emerged as a result of a proactive immigration policy. The social climate is characterized by individual life plans and personal freedoms. However, everyday life experience shows that immigration causes - in one form or another, at least initially/temporarily - social problems or exacerbates existing ones (e.g. educational equality).

In this vision of the future, immigration is actively encouraged; the integration of immigrants is a key policy area and inclusive programs are well funded. Among other things, this has a positive impact on the access of new Europeans to the labor market. This includes language courses, vocational training and mentoring programs specifically tailored to the needs of the labor market. Cities and municipalities play a key role in integration, supported by knowledge-sharing networks. Another important policy area is climate justice. The focus here is on compensation for particularly affected groups. This includes both the international and national dimensions. At the international level, climate justice funds are supported to help developing countries cope with climate damage and adapt to climate change. This includes measures such as the energy-efficient renovation of social housing, the expansion of green spaces in disadvantaged neighborhoods to reduce heat stress, and the provision of funds for climate policies, and to achieve a fair distribution of the burdens and opportunities of climate protection.

In contrast to these progressive immigration and climate justice policies, there is a lack of state support for family care work and the promotion of gender equality. This additional private burden falls mainly on women. Reconciling work and family life, gender equality and caring for children and dependent adults is seen as a family responsibility. While families with high household incomes often have good conditions for reconciling work and family life and benefit from state subsidies for flexible pension products that provide incentives for private provision, families from weaker social strata are disadvantaged. The situation is particularly difficult for family members providing care, as low-income

earners are structurally disadvantaged by the individual contribution to their pension and their relatives suffer from an increased workload. The political disregard for family equality also perpetuates social barriers while encouraging specific societal groups such as prosperous left-wing educated milieus.

These conflicting political priorities are a hallmark of the ongoing struggle between opposing political camps. The result is a strict division of portfolios and, overall, incoherent policymaking that is heavily influenced by vested interests. This policy of opposing camps has a negative impact on Europe's productivity. The camps obstruct each other. This is reflected in outdated infrastructure, a lack of investment in research and development, and inefficient labor markets (immigration and the open society are encouraged, but care work is politically ignored as a private matter). Added to this is the increasing ageing of the population in Europe and the decline in the birth rate in the long term. The labor shortage is reflected in bottlenecks in various industries and sectors, which leads to a significant decline in overall economic performance. Particularly affected are the healthcare and nursing sectors, skilled trades and the IT sector, where vacancies often remain unfilled for months. This leads to delays in important infrastructure projects and overburdens the healthcare system. Companies are forced to reduce or relocate production capacities abroad, which further exacerbates the economic situation. The digitization strategy cannot be effective because it was not designed for the overall system. Instead, isolated solutions and incompatible systems coexist, preventing the hoped-for efficiency gains. These factors together significantly slow down Europe's ability to innovate and its international competitiveness; the European Commission's 2030 report on European competitiveness highlights the consequences for the continent's future development and its declining geopolitical weight.

3.2.3 Lowest Common Denominator

Productive globalization, just climate protection, flourishing labor market and socio-technological innovation, inclusive social climate, stagnating social policies

#liberal, #globalized, #reductive

The political landscape in Europe is characterized by the fact that, after periods of denial and ignorance, the pressing problems of the 21st century are now being taken seriously. Climate justice has now become a high priority for the organization of coexistence. Various programs have been set up to ensure a fair balance for particularly affected groups. Climate protection and adaptation to the consequences of global warming are a key political factor. Positive growth impulses from the Green Deal, the Net Zero Industry Act and other – national – means are also emerging in the economy. The dual transformation (green & digital) is having an impact from the local to the European level. A clear indication of this is the increasing competitiveness and technological sovereignty that characterizes the European Union. In addition, there are positive effects on productivity growth in Europe as a result of greater adaptation to new ways of working, which can be seen as one of the major successes of the transformation effort.

These developments create new opportunities for governments, companies and organizations, as well as for individuals. Both companies and employees have adapted to the demands of a globalized and digitalized economy. Flexible working time models, agile organizational structures and lifelong learning are the European standard. This has led to a quantitative increase in the labor force. Socio-technological innovations and individualized solutions are making a significant contribution to reconciling work and family life and improving inclusion. Previously excluded groups are being given the opportunity to participate in the working society beyond the low wage sector.

The diversity of the working environment also leads to changes in the social context. The social climate is characterized by social integration and tolerance. The cultural perception of families is characterized by diversity and plurality. This is reflected not least in the equal social acceptance of

alternative family forms and lifestyles such as single-parent families, rainbow families, patchwork families and other non-traditional constellations. Nevertheless, the stagnation in the implementation of gender equality policies has a clear impact on private life. The political focus is on the major European challenges, such as tackling the consequences of climate change and seizing the opportunities and minimizing the risks of digitalization, and combining these two areas of transformation to support the economy with specific policies and programs. The social challenges faced by individuals in their daily lives are largely ignored by policymakers. This policy barrier hinders progress and manifests existing inequalities. Despite the diversity of family constellations, it is women who work part-time and provide care for children, sick and elderly family members and friends. These difficult conditions show in the stagnation of the fertility rate at a low level, putting the pension system under pressure.

Another area that receives little political attention is pension policy. Europe's public pension systems are under pressure. This is partly due to demographic changes resulting from the decline in immigration to Europe, and is exacerbated by the lack of reforms in family and social policies. As a result, some groups are excluded from adequate pension provision and social inequalities in old age are high. Although broad sections of the population are benefiting from the opportunities offered by digitalization, it is becoming apparent that the high demands on organizational and interactive skills, as well as the need for financial resources, are leading to a social divide.

This one-size-fits-all policy, which ignores the concerns and needs of individuals, is rooted in the ongoing struggle between democratic and anti-democratic forces. All camps agree on the need for transformation efforts, especially in the context of international competition. The political shaping of social challenges is characterized by conflicting interests and, as a result, political paralysis.

3.3 Pessimistic

3.3.1 Short-Term Politics

Dominant anti-democratic forces, undefeated ecologic crisis, blocked immigration and anti-Europeanism, labor market sclerosis and economic isolation

#isolating, #stagnant, #repressive

In this future scenario, anti-democratic forces have gained significant influence in many European countries. Populist and extremist parties hold important decision-making positions and anti-democratic forces are driving government action. Populist parties promise protectionist policies, higher wages, and a return to economic sovereignty, which appeals to those who feel that traditional parties have neglected their economic well-being. The governing parties also emphasize a nationalistic rhetoric, promoting the preservation of traditional values and cultural homogeneity. The dominant anti-immigration rhetoric argue that mainstream parties have failed to control immigration, leading to concerns over job competition, social services, integration issues, and security risks. However, driven by what they perceive to be majority opinion, most political decision-makers are not pursuing solution-oriented policies. As a result, the effects of environmental, economic, social and societal challenges are increasingly felt in society as a whole and in private life.

The economy is in prolonged recession. Europe becomes an increasingly unattractive place to do business, as international investors are reluctant to commit capital to European markets due to political uncertainties and restrictive economic conditions. Alleged fiscal consolidation catalyzes austerity measures in the public sector and are leading to falling investment and a loss of competitiveness. Europe's former leadership in areas such as renewable energy and manufacturing has been lost. Policies that focus on short-term party political gains rather than solving problems have led to the creation of structural barriers. Populist parties have tried to address complex challenges

such as climate change and digital transformation with alleged radical and unbureaucratic solutions, exacerbating these problems. The result is inefficient labor markets characterized by high unemployment and skills shortages in key sectors. Infrastructure is in disrepair, with years of underinvestment in the maintenance and expansion of transport routes, energy networks and public facilities. Digitalization has been slow, putting Europe further behind in global competition. These developments have led to a brain drain and the relocation of innovative companies, exacerbating economic stagnation.

In addition, the combination of a falling birth rate and restrictive immigration policies is significantly accelerating the ageing of the European population. This demographic trend is leading to a significant decline in the working population, with serious implications for the labor market. The shortage of labor is reflected in bottlenecks in various industries and sectors, particularly in the health and care sectors and in technology-intensive industries. Many companies are forced to reduce production capacity or postpone projects because they cannot find enough qualified workers.

The development of family policy has stagnated in the face of serious economic challenges. Public pension systems are also under pressure from demographic changes and insufficient reforms. Some population groups are excluded from adequate pension provision. This leads to a sharp increase in informal care work and the associated burden on families. The individual burden, especially for women, is exacerbated by the increasing dependence of families on single incomes. The consequences of this development show in a rollback of gender equality. Women are increasingly excluded from decision-making processes, and traditional gender stereotypes continue to shape society. There is a high degree of social inequality in society as a whole, and the lack of social cohesion manifests itself in intolerance and exclusion.

Europe has lost its status as an attractive destination for immigrants. The lack of investment to combat climate change and adapt to its consequences is exacerbating socio-economic inequalities. Extreme weather events, such as heat waves, floods and droughts, particularly affect vulnerable groups. People with lower incomes and limited access to resources are affected in many ways by the consequences of misguided interest policies. They suffer from rising food and energy prices and unsafe working conditions. Political restrictions on press freedom and civil society rights threaten the stability and functioning of democracy. Critical media and civil society organizations face increasing reprisals. These developments have led to an erosion of democracy, once seen as a model, is facing its greatest challenge.

3.3.2 Burden on Future Generations

Economic recession and public infrastructure decay, gender inequality and conservative family structures, increased informal care work, divided society

#traditional, #stagnant, #segregating

The fertility rate in Europe is very high and will continue to rise. This development is the cornerstone of maintaining the social infrastructure. However, it is the only positive development in the context of demographic and economic developments. The average European society is characterized by a mixture of increasing immigration, economic stagnation and a return to traditional values. The challenges of the first half of the 21st century have become the problems of today. Overstretched social systems and a stagnant economy have led to many migrants living in segregated neighborhoods, cut off from the opportunities of mainstream society. This has fueled the rise of

populist parties, which are now in power in many European countries and are pursuing restrictive migration policies.

Economic development is facing a cyclical downturn characterized by recessions and falling investment. Europe's competitiveness is weakened. Under these conditions, European productivity is also suffering. Structural obstacles such as inefficient labor markets, growing gender inequality and a sharp increase in informal care are weighing on society at all levels. Although the use of automation technologies and artificial intelligence dominates the labor market, this has not led to positive changes, despite promises to the contrary. As many jobs have been automated, the demand for labor has fallen. The impact is particularly felt in the low-wage sector. And because this is a disproportionately large area of employment for people with a migrant background, and because immigration to Europe has increased significantly due to the consequences of global warming, politics and the economy are under enormous pressure. The economic and social challenges are reflected in almost all policy areas. Integration capacities are overstretched, social inclusion policies are failing and public pension systems are under increasing pressure.

In this climate of uncertainty, a conservative family model has reasserted itself. Although birth rates have risen, the reasons for this are complex. On the one hand, traditional family models have become more popular; on the other, there is a lack of state support for alternative living arrangements. Traditional family images and roles shape society. Childless couples, single people and same-sex couples face a society characterized by intolerance and exclusion. Women are increasingly excluded from decision-making and gender stereotypes shape society. A rollback of gender equality policies and women's rights in society at large contributes to this situation. Women are increasingly being pushed out of the labor market and shoulder the bulk of unpaid care work. Reconciling family and work has become a challenge, as family policies have stagnated and support for families depends mainly on their social class. In addition to social problems, workers are also suffering from the difficult economic conditions. The reconciliation of work and family life is highly dependent on sector and social class. Older people are particularly affected by poverty. There is great uncertainty among people who depend on state pensions.

As well as the lack of progress in family policy, public services and infrastructure are at a turning point. Austerity measures in the public sector are leading to reduced consumer spending and investment in the private sector. A lack of investment in research and development exacerbates the economic challenges. The populist and extremist parties that have gained influence are unable to cope. As they have become the dominant political force, climate policy has taken a back seat. Targets for climate neutrality have been lowered and in some cases abandoned altogether. The implementation of climate change policy has stagnated, even though the consequences of global warming have led to catastrophic changes across Europe. Decision-makers are overwhelmed by the effects of demographic change, in particular climate-induced migration within Europe and from other parts of the world. To cover up system critique, the freedom of the press and the rights of civil society are being severely curtailed, and the stability and functioning of European democracy are under serious threat. Future growth depends on whether it is possible to create this new economic confidence in Europe as a place to do business.

Despite the large number of immigrants, Europe is not an open society and the levels of social inequality, intolerance and exclusion are high. Demographic policies have failed to respond adequately to the complex interactions between migration, the economy, climate change and social values. The result is a divided society, with traditional family models and conservative values becoming more prevalent, while social and economic inequalities increase. Europe's future will depend on its ability to reverse these trends and create a more inclusive, sustainable and equitable society. The future of Europe is in the hands of the next generations.

4 Conclusion and Outlook

As the output of the participatory scenarios building workshop series, the scenarios describe different plausible and consistent futures of European societies based on key factors of resilience. Some scenarios display optimistic views on resilience, with common threads such as an increase in orderly, safe and regular immigration in the EU paired with democratic integration policies, a continuous innovation and implementation of digital technologies, a social climate characterized by diversity and tolerance, as well as liberal and supportive social and family policies. More contrasted images of possible futures share depictions of divided political landscapes incapable of mitigating the impacts of demographic change, a rather individualistic organization of social life and a lack of state support for private households, as well as an economic stability, in part due to ongoing socio-technological innovations. Pessimistic future narratives entail influential anti-democratic forces, compromised immigration and repressive integration measures, anti-European policies linked with economic isolation, social ruptures and a backsliding of social equality. Overall, the developed scenarios each represent a different combination of the key factors, according to the discussion and selection by the experts during the workshops. Interestingly enough, bearing in mind that each group worked with the same set of key factors, each of them came up with different scenarios. This goes to show the plurality of possible futures, the impact that different development of single factors can have on large-scale developments, as well as the variability of future imaginations based on the individual reality and background.

The different narratives of the future developed here are intended to spark anticipatory thinking for decision-makers, provide guidance on possible developments and entanglements of phenomena, as well as stimulate reflection on current policies and future directions. In the context of the FutuRes project, the scenarios will be presented to and stress-tested by EU policymakers during a high-level meeting ran by consortial partner Population Europe end of 2024. Building on these results, the VDI/VDE-IT team will then continue the participative scenario building process in 2025, shifting the focus toward regional issues, in order to generate complementary future narratives.

5 Appendix

5.1 **Key Factors**

Key factors for resilience in European demographic development

Field of Impact	Key Influencing Factor with Projections
Global	1. Migration
	Projection 1: Increase of immigration through targeted immigration and integration
	policies
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	This projection is based on the assumption that Europe will experience a sustained
	increase in immigration. Through targeted immigration policies, investment in
	integration programs and labor market access, and the promotion of intercultural
	understanding, Europe will be able to manage immigration positively and strengthen
	social cohesion.
	Projection 2: Decline in immigration
	The projection assumes that Europe will experience a decline in immigration. This
	could be due to restrictive policies, economic conditions or international
	developments affecting Europe's attractiveness as a destination for immigration.
	developments anecting Europe's attractiveness as a destination for immigration.
	Projection 3: Integration challenges posed by uncontrolled immigration
	This projection is based on the assumption that Europe will be confronted with a
	significant increase in immigration, which will overstretch integration capacities and
	threaten social and political stability.
	2. Impact of Climate Change on Coexistence
	Projection 1: Climate-induced migration to Europe
	This projection is based on the assumption that the implementation of climate
	change policies will stagnate and that the targets set for climate neutrality will be
	progressively lowered or even reduced. There will also be an increase in climate-
	related migration within Europe and from other parts of the world.
	Projection 2: Sustainable adaptation and resilient communities
	This projection assumes that climate justice will be a priority for the organization of
	coexistence, in order to enable compensation for particularly affected groups.
	Projection 3: Climate crisis and socio-economic inequality
	In this projection, climate change exacerbates existing socio-economic inequalities
	in Europe. People with lower incomes and limited access to resources are more
	vulnerable to the impacts of climate change as they do not have the means to adapt
	their living conditions.
	3. Democracy in Europe
	3. Democracy in Europe Projection 1: Strengthening democratic forces and institutions

	This projection assumes that democratic forces in Europe will continue to strengthen. Institutions become more transparent and efficient, and citizen participation is institutionally promoted. Public confidence in democratic processes and institutions will be high.
	Projection 2: Rise of anti-democratic forces and polarization
	In this projection, anti-democratic forces have gained influence in Europe. Populist and extremist parties opposed to democratic norms and institutions hold key decision-making positions. Press freedom and civil society rights are severely restricted, threatening the stability and functioning of democracy.
	Projection 3: Coexistence and competition between democratic and anti-democratic forces
	This projection continuous struggle between democratic and anti-democratic forces at all levels of decision-making and in society. This leads to a constant struggle for control and direction of the political landscape, increasing social tensions and conflicts, to be additionally used for political purposes. The stability of democracy is constantly challenged.
System	4. Pension System
	This projection assumes that pension systems in Europe have been sustainably reformed to cope with demographic change. Productivity gains from digitalization are an important source of funding for the reform model, that is capable of providing adequate and financially sustainable benefits
	Projection 2: Pension crisis and growing poverty in old age
	In this projection, public pension systems in Europe are under pressure. This is due to a combination of demographic changes, inadequate reforms and economic pressures. High levels of poverty and insecurity among older people dependent on pensions are widespread. Some population groups are excluded from adequate pension provision and there are high levels of social inequality.
	Projection 3: Innovative pension systems and the personalization of retirement provision
	This projection is based on the assumption that innovative pension systems, including personalized pension provision, will prevail in Europe. The promotion of flexible pension products, which provide incentives for private provision, has diversified pension provision. However, low-income earners remain structurally disadvantaged due to the individual share.
	5. (General) Productivity
	Projection 1: Increasing productivity through technological advances This projection is based on the assumption that productivity in Europe has
	increased as a result of continuous technological progress. New technologies such

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	as artificial intelligence, automation and digitalization are increasing efficiency in various sectors of the economy and creating new opportunities for growth and prosperity.
	Projection 2: Productivity stagnation due to structural barriers
	This projection assumes that Europe's productivity will stagnate due to structural obstacles such as inefficient labor markets, unproductive social inclusion policies, outdated infrastructure or lack of investment in research and development.
	Projection 3: Increased productivity by adapting to new ways of working and flexibility
	In this projection, productivity growth in Europe will be achieved through greater adaptation to new ways of working, a quantitative increase in the labor force due, inter alia, to migration flows, and flexibility through the use of digital tools. Firms and workers adapt to the demands of a globalized and digitalized economy by integrating flexible working time models, agile organizational structures and Lifelong learning.
	6. Economic Situation
	Projection 1: Recessionary phases characterize the economic situation
	Economic development is characterized by periods of recession, falling investment and declining competitiveness. Austerity measures in the public sector and consumer reticence in the private sector.
	Projection 2: Economic stagnation
	Stagnating economic growth and tight public budgets, low wage growth in most sectors.
	Projection 3: Growth through dual transformation
	After difficult years, positive growth impulses as part of the dual transformation with increasing competitiveness and technological sovereignty. New room for maneuver for the state and private individuals.
-	7. Fertility Rate Development
	Projection 1: An increase in the fertility rate to a sustainable level
	This projection assumes that fertility rates in Europe have risen to levels that are sustainable for the maintenance of social infrastructures and the policies of democratic welfare states.
	Projection 2: Fertility rates stagnate at low levels
	The projection assumes that fertility rates in Europe will stagnate at low levels threatening the social infrastructures and the policies of democratic welfare states.
	Projection 3: Fertility rate decline

	This projection assumes that Europe's birth rate will continue to fall, hindering the maintenance of social infrastructures and the political guidelines of democratic welfare states.
Surroundina	8. Measures for the reconciliation of work and family life
Surrounding	 8. Measures for the reconciliation of work and family life Projection 1: Progressive family-friendly policies and comprehensive support for families This projection is based on the assumption that progressive family policies will enable to better reconcile work, care and family life. They will receive comprehensive support, for example through measures such as generous parental leave schemes, free or highly subsidized childcare, as well as for the care work of adults in the circle of friends or family, and flexible working arrangements and other financial support. Projection 2: Stagnation of family-friendly policies and limited support This projection is based on the assumption that there will be no further developments in family policy due to economic and social challenges. State support is limited, family care work is mainly left to private households, employers are generally open to reconciling work and family life, but are more or less accommodating depending on the sector. The reality for individual families depends
	strongly on their social class. Projection 3: Socio-technological innovation and customized solutions In this projection, socio-technological innovations and individualized solutions contribute to the reconciliation of work and family life. Instead of relying on state support, families are increasingly turning to technology to give them the freedom they need to reconcile work and family life. As this requires a high degree of organizational and interactional skills, professional flexibility and also financial resources, there is a clear social differentiation here.
	9. Cultural Perception of Families Projection 1: Traditional family images and role models This projection assumes that traditional family images and role models are popular in society. Women do the caring work and men are responsible for the family income. Childless couples, single people and same-sex couples face a society characterized by intolerance and exclusion.
	Projection 2: Diversity and plurality of family forms and lifestylesIn this projection, the cultural perception of families is diversified and pluralized.Alternative family forms and lifestyles such as single-parent families, rainbowfamilies, patchwork families and other non-traditional constellations are accepted bysociety on an equal footing. This is also true in the context of further diversificationas a result of continuing migration. The social climate is characterized by socialintegration and tolerance.
	Projection 3: Alienation from traditional family concepts

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	This projection is characterized by the fact that the cultural perception of the family has become increasingly individualized and alienated from traditional concepts; traditional family bastions are confined to strongly religious groups or to certain socio-ethnic groups. The idea of the family as the primary social unit has lost its relevance. Individual life plans and personal freedom determine the social climate.
	40. Labor Fares
	10. Labor Force
	Projection 1: Labor shortages due to advanced population ageing
	This projection is based on the assumption that Europe's ageing population is accompanied by labor force shrinking. Labor shortage is reflected in bottlenecks in various industries and sectors, leading to a significant decline in overall economic output. Restrictive immigration policies and sluggish digitalization cannot counteract these developments.
	Projection 2: Technological progress and automation lead to job losses
	This projection is characterized by the use of automation technologies and artificial intelligence. Many jobs could be automated, reducing the demand for labor. This will particularly affect the low-wage sector, which is a disproportionately large area of employment for people with a migrant background.
	Projection 3: Growth in the labor force as a result of immigration and integration
	Frojection 3. Growth in the labor force as a result of infinigration and integration
	This projection assumes that Europe will experience an increase in the labor force due to immigration and ageing policies. Targeted immigration policies, integration measures, inclusive policies and age-friendly environments have opened up new labor potential. The use of digital technologies and AI has only led to job losses in the short term; overall, new AI-based business models etc. have led to more jobs with fewer working hours per week.
Individual	11. Care Work
Individual	Projection 1: Formalization and professionalization of care work
	This projection assumes that care work for both children and adults will become more formalized and professionalized in the future. Care work is increasingly recognized as a valuable social activity and is very well paid. Careers enjoy a high level of recognition. Families are supported in caring for relatives.
	Projection 2: Increase in informal care work and family burdens
	This projection assumes a sharp increase in informal care work and the associated strain on families. Caring for children and dependent people is seen as a family responsibility. Family careers are under a heavy workload.
	Projection 3: Technological innovation and automation in care work
	This projection assumes that technological innovation and automation will be used in care work. Through the use of robotics, artificial intelligence and other advanced technologies, care and support tasks will be carried out efficiently hand-in-hand with care workers.
	12. Gender Roles and Equality

Projection 1: Gendered roles dissolve
In this projection, women's and men's professional careers enjoy increasingly equitable conditions and importance, more and more women are represented in managerial positions. Parents and other caring relatives share the responsibility for care work, and in childcare this is particularly true for care work in the first years of life. The progressive gender equality and anti-discrimination political climate supports this situation.
Projection 2: Gender equality stagnates
This projection assumes that there has been stagnation in the implementation of equality measures in individual households. Political and social barriers hinder progress and existing inequalities are manifested. Most women work part-time.
Projection 3: Backsliding on equality
In this projection, gender inequality is a common reality for individual households, women are increasingly excluded from decision-making processes and gender stereotypes characterize society. A rollback on equality policies and women's rights in societies at large contributes to this situation.

5.2 Morphological box

Morphological box with all scenarios (outcome of the three workshops):

Key Factor		Global			System	tem			Surroundings		Individual	
	Migration	Impact of climate change on coexistence	Democracy in Europe	Economic situation	(General) productivity	Pension system	Birth rate development	Labour force	Measures for the reconciliation of work and family life	Cultural perception of families	Gender roles and equality	Care work
Projection 1	Increase of immigration through acgeted immigration and integration policies	Climate-induced migration to Europe	Strengthening dem ocratic forces and institutions	Recessionary phases characterive the economic siteation	Increasing productivity through technological advances	Sustainable pension reform and adaptation to dem ographic change	An increase in the birth rate to a sustainable level	Labour shortages due je advanced poduation agoing	Progressive family- friendly policies and com prehensive eupport for families	Traditional family images and role models	Gendered roles dissolve	Formalization and professionalization of care work
Projection 2	Decline in immicration	Sustainable adaptation and resilient communities	Rise of anti- dem operatic forces and collarization	Economic stagnotion	A coductivity stagnetion due to structural barriers	Pension crisis and arowing poverty in old age	Birth rates stagnate at low levels	Technological progress and automation lead to job losses	stagh alion of family find dy policies and limited support	Diversity and plurality of famity form s and lifestyles	Gender equality stagne s	Increase in informul care work and family ourdens
Projection 3	Integration challenges posed by uncontrolled im migration	Glimate crisis and solve economic inequality	Coexistence and connection between dem ocratic and anti dem ocratic forces	Growth through dual transformation	Increased productivity by adapting to new ways of working and flexibility	Innovative pension systems and the personalisation of refirement provision	Bruh rais decline	Growth in the labour force as a result of immigration and integration	Socio-technological innovation and customised solutions	Alienation from traditional family concepts	Back sliding on equality	Technological innovation and autom ation in care work
Projection 1	Increase of immigration throughtargeted immigration and integration policies	Climate-induced migration to Europe	Strengthening dem orratic forces and institutions	Recessionary phases charactorize the economic shration	Increasing productivity through technological advances	Sustainable pension reform and adaptation vo den ographic phange	An increase in the birth rate to a sustainable level	Labour shortages due to advanced population ageing	Progressive family- friendly policies and comprehensive support for families	Traditional family im ages and role model	Gendered roles dissolve	Form alization and professionalization of care work
Projection 2	Decline in immigration	Sustainable adap tarion and rogilian communities	Rise of anti- dem occarc forces and polarization	Economic stagnation	P coductivity stagnation due to structural barriers	Pension person growthy poverty in old age	Birth cates stagnate at low labous	Technologilaal progress and automation read o job losses	Stagnation of famile-frieady policies and limited support	Diversity and plurality of family forms and lifestyles	Gender equality stagnates	Increase in informal care work and fame burdens
Projection 3	Integration challenges posed by uncontrolled im migration	Climate crisis and socio-economic inequality	Coexistence and competition betwein dem ocratic and anti dem ocratic forces	Growth through dual trosformation	Increased productivity of adapting to new ways of working and flexibility	Innovative persion systems and the personalisation of retirem ent provision	Birth rate decline	Crowth in the labour force as a result of immigration and integration	S ccio-technological innovation and customised solutions	Alienation from traditional family concepts	Baksiding on equary	Technological innovation and autom ation in care work
Projection 1	Increase of immigration through targeted immigration and integration policion	Climate-induced migration to Europe	Strengthening dem ocratic forces and institutions	Recessionary phase characterize the economic situation	Increasing productivity through technological advapted	Sustainable pension reform and adaptation to dem ographic change	An increase in the birth rate to a sustainable level	Labour shortages due to advanced population ageing	Progressive family- friendly policies and comprehensive support for families	Traditional family images and role models	Gendered roles dissolver	Formalization and protessionalization of care work
Projection 2	Decline in immigration	Custainable adapterion and resilient communities	Rise of anti- dem ocratic forces and polarization	Economic stagnation	Koductivity staghetion due to structure tharriers	Peoplion crisis and growing poverty in old ego	Birth rates stagnate at low reveals	Technological progress and automation lead to job losses	Structure of family monary policies and limited support	Diversity and elements of Admity form s and lifestytes	Gender equality stagnates	Increase in informal care work and farmy burdens
Projection 3	Integration challenges posed by u controlled im migration	Climate crisis and socio-economic In quenty	Creatistence and competition permodratic and anti dem ocratic forces	Growth through dual transformation	Increased productivity by adapting to new ways of working and flexibility	Innevative persion systems and the personalisation of retirement provision	Birth rate decline	Growth in the labour force as a result of immigration and integration	Socio-technological innovation and custom ded solutions	Alienation from traditional family concepts	Backsliding on equality	Textnological innovation and automation in care work