

Longevity Industry in Switzerland

LANDSCAPE OVERVIEW 2019



Longevity Industry in Switzerland

Science, Technology, Policy, Business, Economics, Frameworks, Society, Trends, Forecasting

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Longevity Industry in Switzerland 2019

Companies - 100
 Investors - 80
 Research Labs - 35
 Non-Profits - 15
 Governmental - 10
 Organizations

Companies
 Investors
 Non-Profits

P3 Medicine

Governmental Organizations

Research Labs

Regenerative Medicine

AgeTech

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL



Companies - 100

AgeTech

Mobility



SWORTEC

Personalized

Meierhofer

Wearables



IDUN Technologies

pregnolia®

aktia

J U V A INJECTION SYSTEMS

evasensor



P3 Medicine

Personalized Medicine



NEBION



COVAGEN Advanced Biopharmaceuticals

Preventive Medicine



ct atlantic



ASCENEURON A Neurodegeneration Therapeutics Company



CeQur

atracosys INTERACTIVE SOLUTIONS

memocare



IFPMA

Auris Medical Cochlear therapies



AdipoGen LIFE SCIENCES

oncoethix the evidence makes the difference



NOVARTIS



Phot-Derma SA



CELESTIA BIOTECH



Dividat



CILIATECH

Precision Medicine

RodanoTech



frimorfo

maxwell BIOSYSTEMS



PIQUR TARGETED CANCER THERAPIES

BIOVERSYS

BalOnco

basilea PHARMACEUTICA



AMAL Therapeutics

DORPHAN

AC IMMUNE

MEMMO



aptissen

scailyte



ionctura



GLYCART biotechnology



Regenerative Medicine

Tissue engineering



Precision



Geroscience

COVALX Solutions for Protein Complex Analysis



covalys



Cell therapy

zeptosens Bayer Technology Services



Other

Vivendy Therapeutics Ltd

80 Swiss Longevity Investors

AgeTech



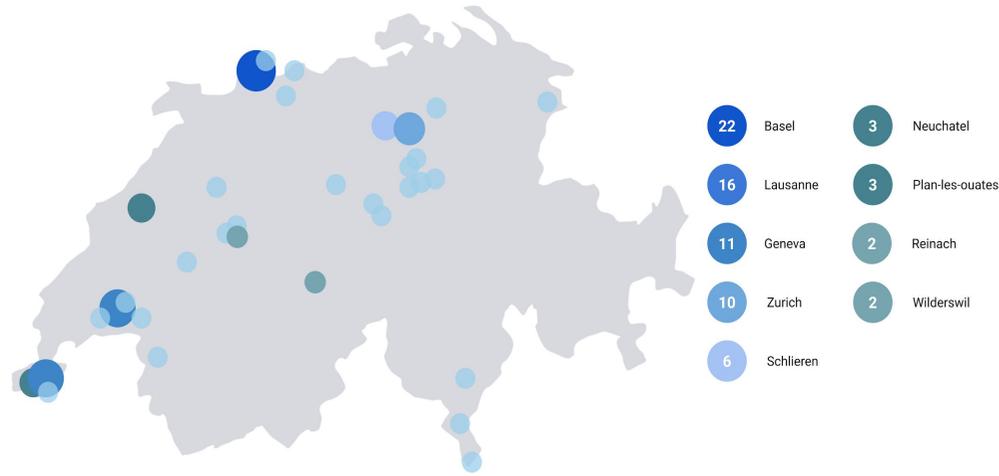
Regenerative Medicine



P3 Medicine



Top-100 Longevity Companies in Switzerland by City



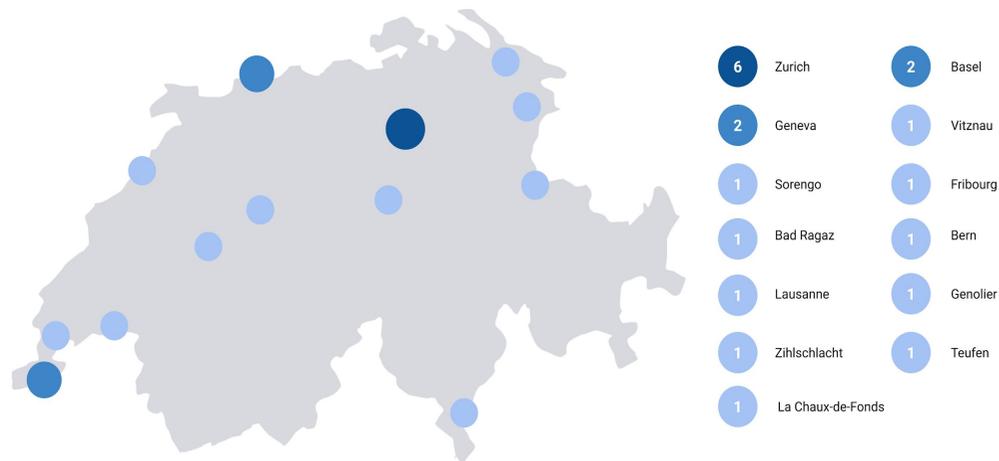
This map shows the distribution of Longevity companies in Switzerland. Note that as a direct consequence of being an academic powerhouse the BioValley cluster produces a number of spin-out companies. Spin-outs, and private companies are supported by a good financial network including both public and private financing initiatives as well as more traditional venture capital and private equity.

Top-10 Longevity Government Organizations in Switzerland by City



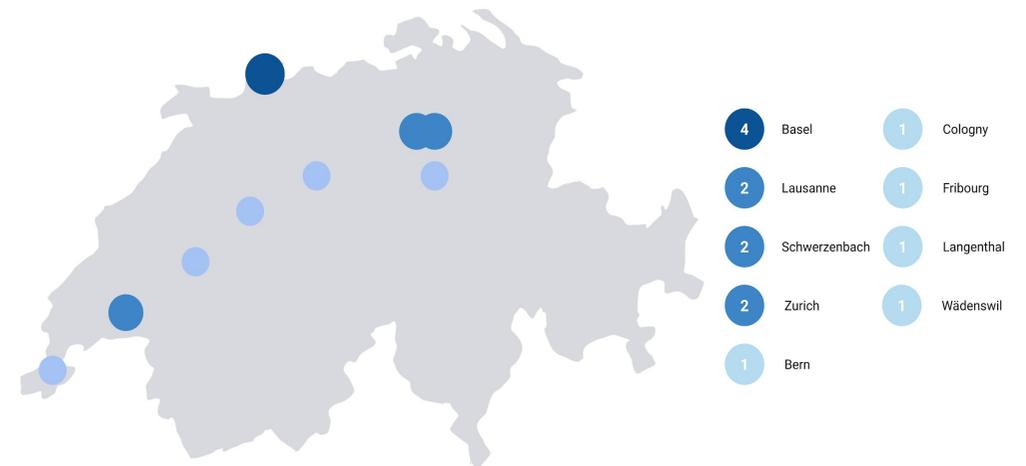
Bern is the de facto capital of Switzerland and is therefore the natural choice of location for governmental and quasi-governmental organizations. However, Switzerland's high degree of decentralization means that as the number of government organizations responsible for Swiss Longevity increases, the concentration of relevant organizations outside of Bern will likely remain evenly distributed.

Top-20 Longevity Precision Clinics in Switzerland by City



This map shows the top precision clinics across Switzerland. It should come as no surprise that such centres are clustered around Zurich, the nerve centre for Swiss BioTech. However, Switzerland faces an interoperability difficulty across cantons. The Swiss Personalized Health Network supports projects which involve all four of the five university hospitals (University Hospitals of Zurich, Bern, Basel and Lausanne as well as with ETH Zurich).

Top-15 Longevity Influencers in Switzerland by City



This map shows the top Longevity influencers across Switzerland. The most common types of influencers in Switzerland are scientists and entrepreneurs, and as such tend to congregate around large metropolises, and the many country's widely dispersed biotech hubs.

Institutional Partners



Aging Analytics Agency



Longevity Vision Fund



Longevity.Capital



Longevity Swiss Foundation



Longevity.International



Biogerontology Research Foundation

Longevity Industry in Switzerland 2019: Scope & Major Conclusions

Since its earliest publications, Aging Analytics Agency has been identifying the components that would need to work together in order to orchestrate a Fourth Industrial Revolution, a revolution in human Longevity that will transform the “silver tsunami” (global aging population) from a threat into an opportunity. Aging Analytics Agency predicted this revolution emerging from 'Longevity-progressive' countries, which it defined not simply as countries with high investment in biomedical technology such as the US or China, but countries most capable of integrating AI into their economic, financial, and healthcare systems.

We therefore described the typical Longevity-progressive country as 'small and technocratic'. Why? Because a Longevity-progressive nation is one that can focus on cross-sector collaboration - complex synergies between digital, biomedical and financial sectors - to accelerate innovation and progress.

And this requires government initiatives and industrial strategies. A small, intricately subdivided nation such as Switzerland has less bureaucracy, less political deadlock, and greater consensus at a national level. This makes national programs easier to develop and detailed visions easier to implement, a fact which makes possible Switzerland's unique multi-tier welfare system for example.

A related advantage here is the constitutional structure of Switzerland: both very small yet also very decentralised into administratively distinct 'cantons', in which services to the elderly are developed on a local basis, close to the needs of older people.

These two advantages combined could make Switzerland a rapid and efficient testing ground for political initiatives carried out for the benefit of its own population, with multiple permutations of each strategy visible to the federal government at once. But for now there is no overall monitoring or coordination mechanisms in place.

So what's missing? Political initiative.

***Longevity Industry in Switzerland: Landscape Overview* is a case study of one of the most Longevity-progressive countries of all: Switzerland. It offers a comprehensive analysis of the Longevity-related challenges and opportunities it faces ahead.**

15 Leading Longevity Scientists in Switzerland



Alejandro Ocampo Alexander Eggel Anna Jazwinska Müller Brigitte Galliot Christoph Handschin

Claudio De Virgilio Collin Ewald Joachim Lingner Johan Auwerx Matthias Altmeyer

Michael Hall Michael Ristow Simon Blanchoud Thomas Flatt Yves Barral

15 Longevity Influencers in Switzerland

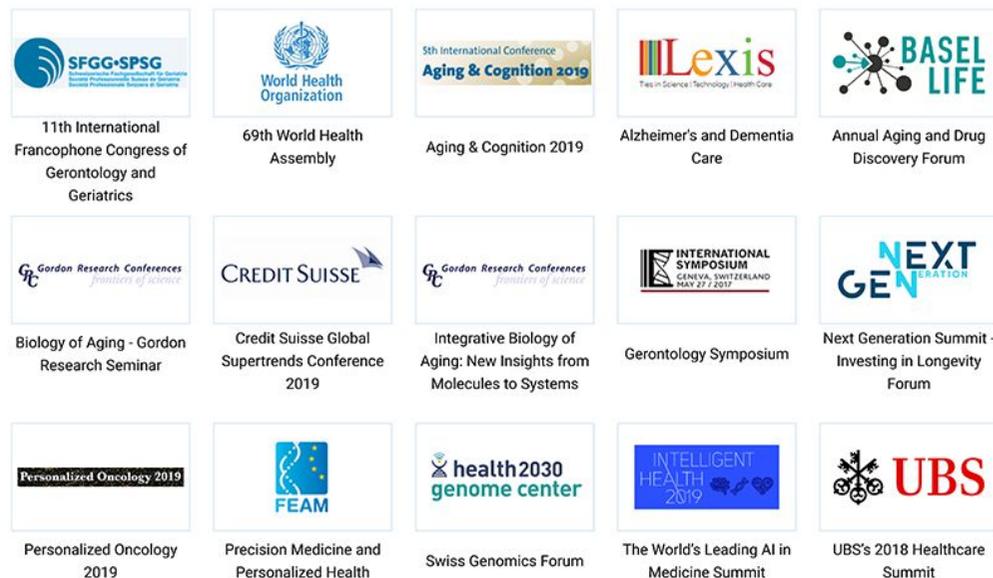


André Kudelski Claudio De Virgilio Collin Ewald Dominik Escher Eavan Dorsey

Johan Auwerx Johann Schneider-Ammann Klaus Schwab Mark A. Rubin Michael Hall

Michael Ristow Niko Beerenwinkel Severin Schwan Ursula Graf-Hausner Vasant Narasimhan

15 Conferences Focusing on Aging and Longevity

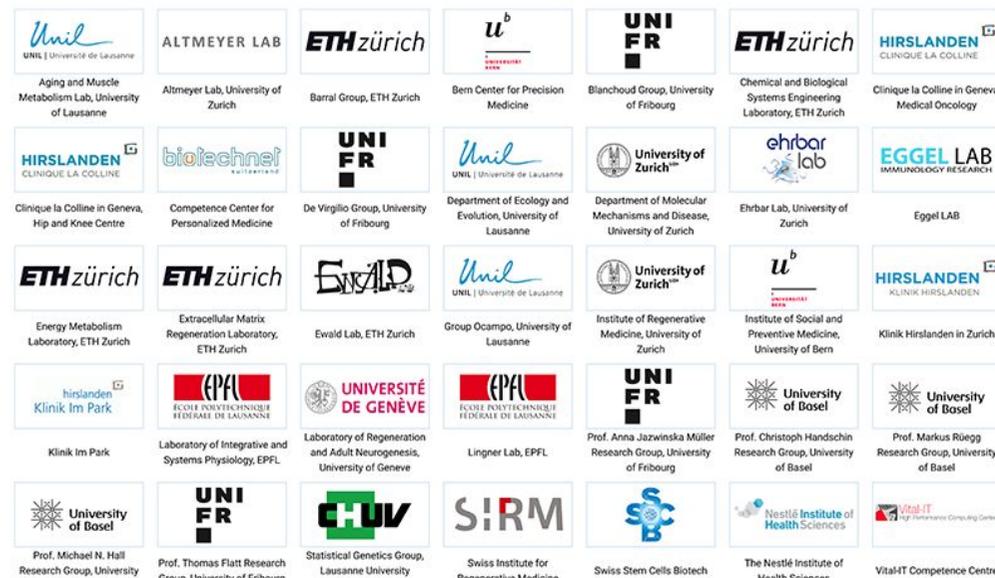


11th International Francophone Congress of Gerontology and Geriatrics 69th World Health Assembly Aging & Cognition 2019 Alzheimer's and Dementia Care Annual Aging and Drug Discovery Forum

Biology of Aging - Gordon Research Seminar Credit Suisse Global Supertrends Conference 2019 Integrative Biology of Aging: New Insights from Molecules to Systems Gerontology Symposium Next Generation Summit - Investing in Longevity Forum

Personalized Oncology 2019 Precision Medicine and Personalized Health Swiss Genomics Forum The World's Leading AI in Medicine Summit UBS's 2018 Healthcare Summit

35 Swiss Research Labs Focusing on Aging and Longevity



UNIL | Université de Lausanne ALTMAYER LAB ETH zürich u^b UNI FR ETH zürich HIRSLANDEN CLINIQUE LA COLLINE

Aging and Muscle Metabolism Lab, University of Lausanne Altmeyer Lab, University of Zurich Barral Group, ETH Zurich Bern Center for Precision Medicine Blanchoud Group, University of Fribourg Chemical and Biological Systems Engineering Laboratory, ETH Zurich Clinique la Colline in Geneva, Medical Oncology

HIRSLANDEN CLINIQUE LA COLLINE bioelectron UNI FR UNIL | Université de Lausanne University of Zurich ehrbar lab EGGEL LAB IMMUNOLOGY RESEARCH

Clinique la Colline in Geneva, Hip and Knee Centre Competence Center for Personalized Medicine De Virgilio Group, University of Fribourg Department of Ecology and Evolution, University of Lausanne Department of Molecular Mechanisms and Disease, University of Zurich Ehrbar Lab, University of Zurich Eggel Lab

ETH zürich ETH zürich EWALD UNIL | Université de Lausanne University of Zurich u^b HIRSLANDEN CLINIQUE LA COLLINE

Energy Metabolism Laboratory, ETH Zurich Extracellular Matrix Regeneration Laboratory, ETH Zurich Ewald Lab, ETH Zurich Group Ocampo, University of Lausanne Institute of Regenerative Medicine, University of Zurich Institute of Social and Preventive Medicine, University of Bern Klinik Hirslanden in Zurich

hirslanden Klinik Im Park EPFL UNIVERSITÉ DE GENÈVE EPFL UNI FR University of Basel University of Basel

Klinik Im Park Laboratory of Integrative and Systems Physiology, EPFL Laboratory of Regeneration and Adult Neurogenesis, University of Geneva Lingner Lab, EPFL Prof. Anna Jazwinska Müller Research Group, University of Fribourg Prof. Christoph Handschin Research Group, University of Basel Prof. Markus Rüegg Research Group, University of Basel

University of Basel UNI FR CTUV SIRM USC Nestlé Institute of Health Sciences VitaHT High Performance Computing Center

Prof. Michael N. Hall Research Group, University of Basel Prof. Thomas Flatt Research Group, University of Fribourg Statistical Genetics Group, Lausanne University Hospital Swiss Institute for Regenerative Medicine Swiss Stem Cells Biotech The Nestlé Institute of Health Sciences VitaHT Competence Centre

10 Swiss Journals

Focusing on Aging and Longevity



Cells



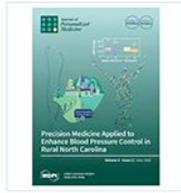
Frontiers in Aging Neuroscience



Frontiers in Genetics



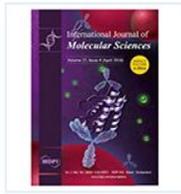
Frontiers in Neurology



Journal of Personalized Medicine



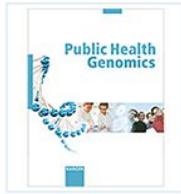
IN VIVO



International Journal of Molecular Sciences



Gerontology



Public Health Genomics



Tissue Engineering and Regenerative Medicine

10 Swiss Government Organizations

Focusing on Aging and Longevity



BaselArea.swiss



biotechnet



Federal Department of Economic Affairs, Education and Research



St Gallen Elderly Care Bank



Swiss Biobanking Platform



Swiss Clinical Trial Organization



Swiss Federal Commission for Innovation and Technology



Swiss Personalized Health Network



SystemsX.ch



World Health Organization

15 Swiss Precision Medicine Clinics



Bern University Hospital



Cereneo



Clinica Sant'Anna



Clinique Générale Ste-Anne



Clinique Montbrillant



Double Check



Geneva University Hospitals



Klinik Hirslanden in Munich



Klinik Im Park



Lausanne University Hospital



Lumen healthcare Clinic



Medbase Checkup Center



Medical Health Center Bad ragaz



Nescens Clinique de Genolier



Paracelsus Clinic

15 Swiss Non-Profit Organizations

Focusing on Aging and Longevity



BioValley Basel



Health 2030 Genome Centre



Gerontological Economic Research Organization



Life Sciences Switzerland (LS2)



Swiss Coordination Committee for Biotechnology



Swiss Institute for Regenerative Medicine



Swiss National Science Foundation



Swiss Society for Aging Research



Swiss Society of Gerontology



Swiss Stem Cell Foundation



The Geneva Foundation for Medical Education and Research



The Swiss Biotech Association



University of Zurich (UZH) Institute for Regenerative Medicine



Velux Stiftung



Vontobel Foundation

Why Switzerland?: **Political System**

Swiss government involvement in Longevity

2010	National Platform for Palliative Care Strategy The Confederation and cantons have promoted palliative care in Switzerland in a national strategy.
2012	Elderly Care Bank established St Gallen the first Swiss city to introduce a novel banking scheme in which retired care volunteers “deposit” hours worked looking after elderly people.
2013	Masterplan for the Promotion of Biomedical Research The plan impacts the entire chain, from research and development, clinical research, market entry for biomedical products, and pricing and reimbursement by social security, all the way to the availability of these products in day-to-day healthcare.
2014	Retirement 2020 Swiss government advocates that “living longer means working longer”.
2016	Roadmap 2016–2021 For developing the next generation of clinical researchers
2017	2017 Swiss Personalized Health Network (SPHN) established.
2018	Masterplan for the Promotion of Biomedical Research renewed The VIA project launched The overall goal of the VIA project is to promote the health of older people and to strengthen their self-determination and independence in order to maintain or improve their quality of life and overall well-being, allowing them to continue living at home for as long as possible.
2019	SPHN was chosen by Global Alliance for Genomics to becomes one of the 7 main international organisations that work to create frameworks and standards to enable voluntary and secure sharing of genomic and precision medicine data.



Swiss Government Intervention in Context



General metrics

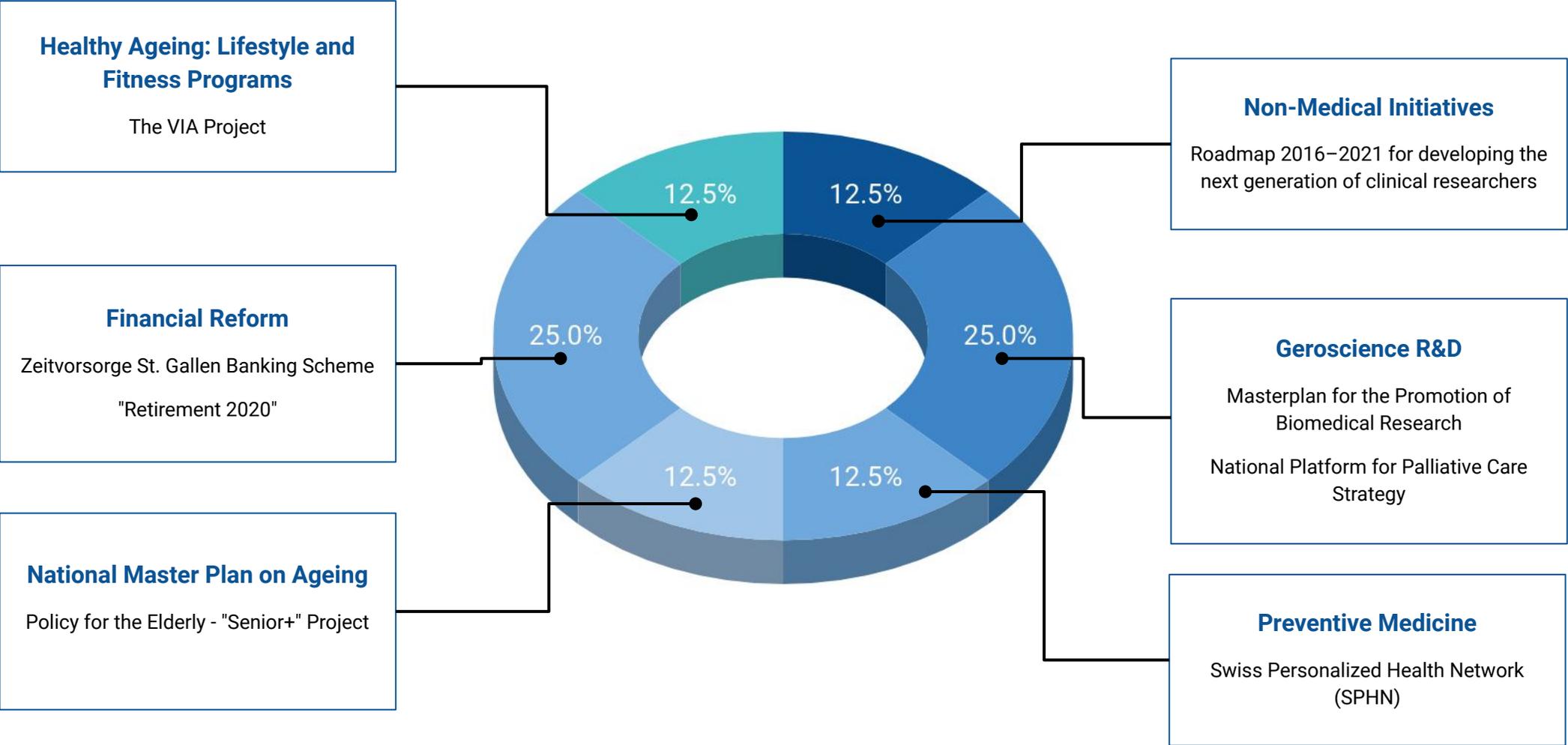
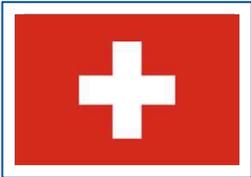
Life Expectancy	Both sexes life expectancy (2019)	81.8 years
	Male life expectancy (2018)	81.2 years
	Female life expectancy (2018)	85.2 years
GDP	GDP per capita, current prices (2018)	82.41 thousand (\$)
	GDP per capita, PPP (2018)	65.71 thousand (\$)
	GDP, current prices (2018)	707.54 billion (\$)
Population Ageing	Rate of population ageing	1.9 (2007-2017)
	Aged over 65 (2018)	18.34%
	Age dependency ratio (2017)	28%
Healthcare Efficiency	Health expenditure (2017)	12.3% of GDP
	Health expenditure per capita (2017)	8.009 thousand (\$)
	Healthcare efficiency score (2018)	58.4
Retirement	Total # retired	1 560 790
	Retired people proportion	18%
	Normal retirement age (Man/Woman)	65 years/ 64 years
	Early retirement age (Man/Woman)	63 years/ 61 years

Longevity Initiatives



- Age of relevant initiatives: **15 years**
- **3** of WHO age-friendly cities and communities
- **4** initiatives focused on non-medical improvement of quality of life
- **1** initiative focused on preventive medicine and healthcare approaches
- **2** initiatives involve research or R&D of medicines that directly impact on ageing

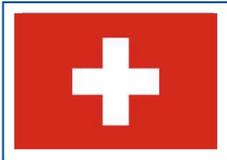
Swiss Government Initiatives Comprehensiveness



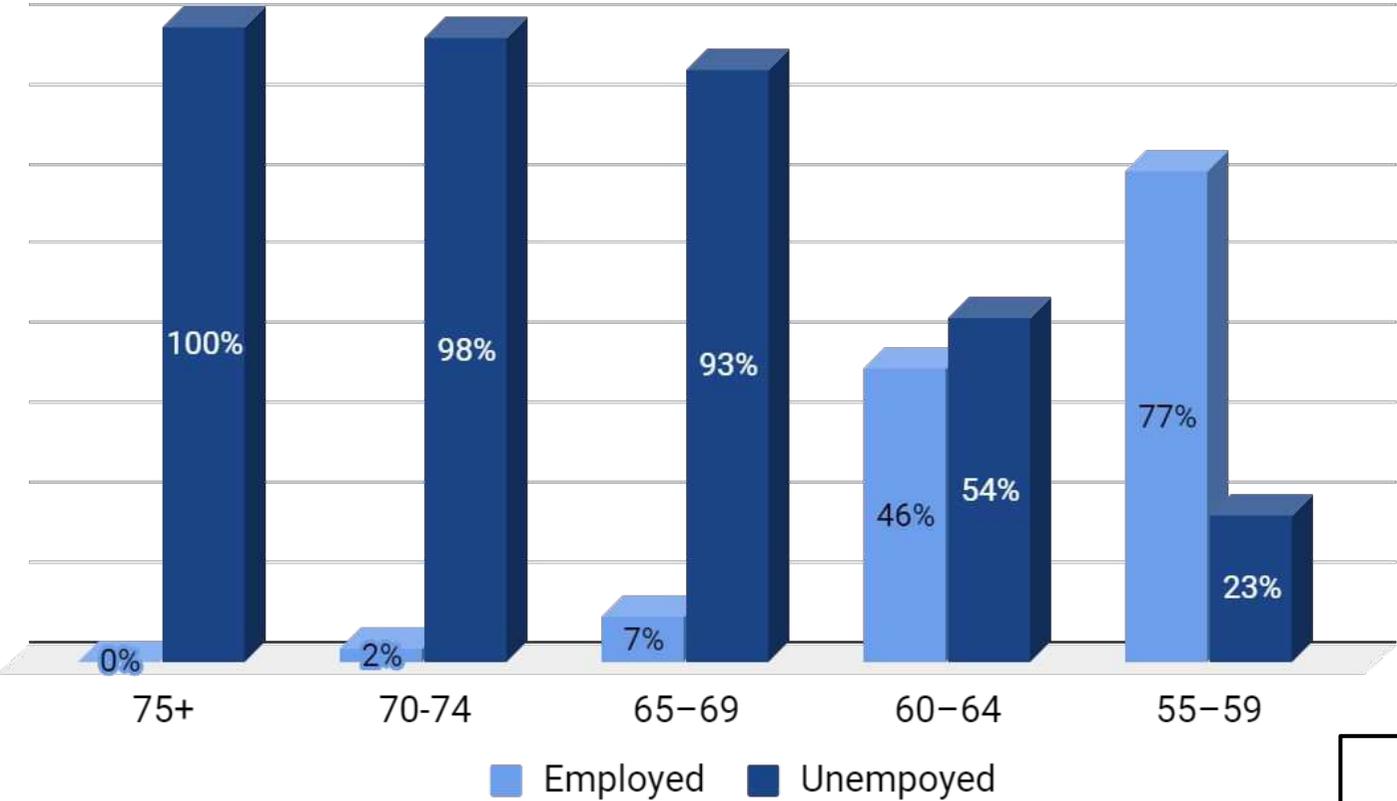
Underrepresented Initiatives

AgeTech	Elderly Healthcare Vouchers	Longevity Industrial Strategy	Continuing Education
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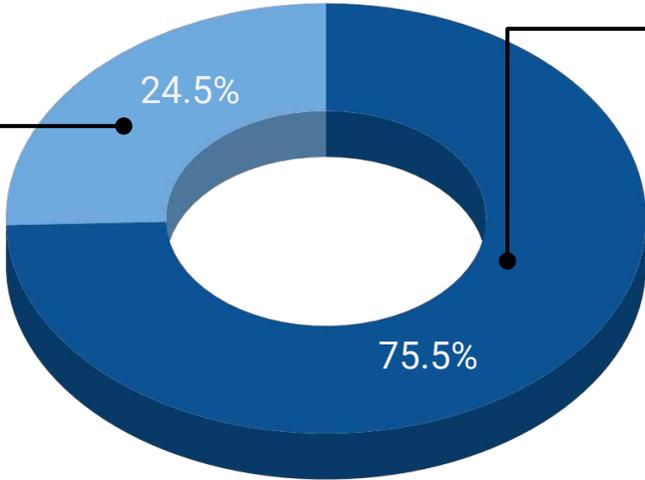
Switzerland Age/Employment Range



Fraction of the Unemployed by Age



Percent of people under 60



Percent of people over 60



AGING ANALYTICS AGENCY

Link to the Report: <https://www.aginganalytics.com/longevity-in-switzerland>

E-mail: info@aginganalytics.com

Website: www.aginganalytics.com

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