

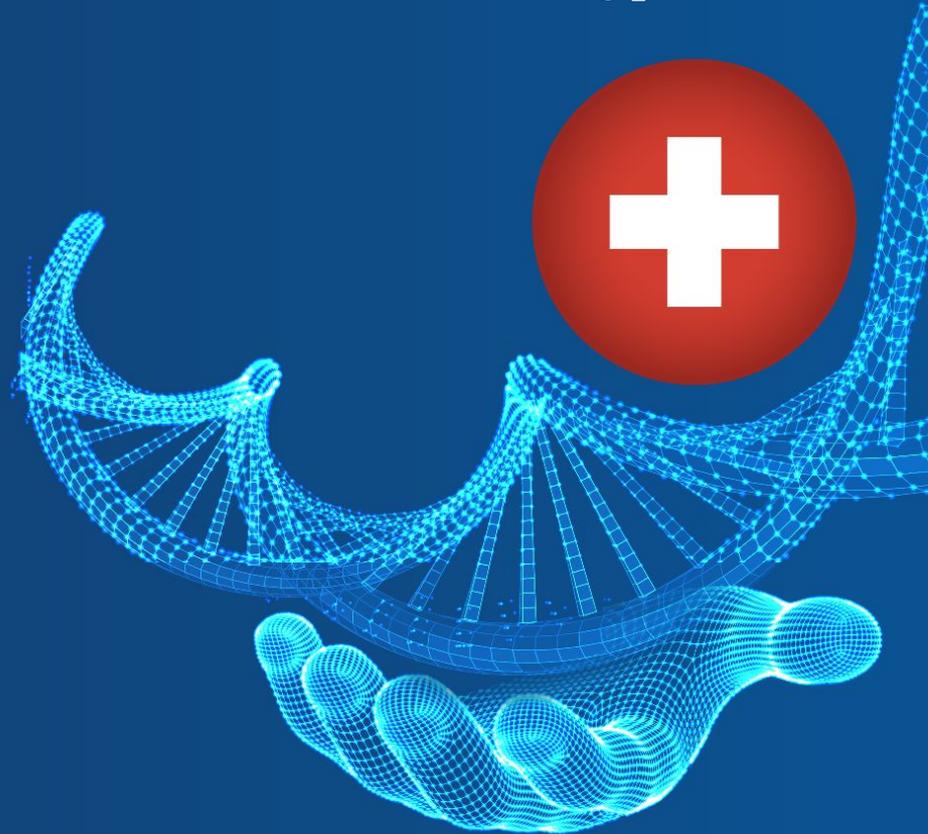
# Longevity Industry in Switzerland

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## Landscape Overview

December, 2021

[www.aginganalytics.com](http://www.aginganalytics.com)



# Introduction

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## Introduction

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## Report Overview

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## Introduction

This report reveals **key developments in the Swiss Longevity Industry**. This is accomplished by highlighting major Swiss players in the field of Longevity, covering pertinent scientific and technological trends and advances, analyzing existing and projected governmental policies, and providing an overview of underlying demographic and economic data.

By utilizing a variety of infographic mindmaps, the report first enables to quickly identify its core analytical findings and conclusions. Its subsequent chapters then introduce readers to specific areas of the Longevity industry in Switzerland. The report also presents an unified industry framework based on a vast industry database: **660 companies, 325 investors, and 130 organizations**.

This analytical case study identifies relevant companies, investors, R&D organizations, and non-profit organizations that operate, interact with, or are involved in any other way in the Longevity Industry. The key purpose of this report is to support all industry entities and stakeholders in strategic decision-making to gain maximum value.

# Report Overview

## Database

**660**  
Companies

**325**  
Investors

**100**  
R&D, Laboratories, and  
Universities

**15**  
Governmental  
Organizations

**15**  
Non-Profit  
Organizations

## Data Sources

**Media  
Overview**

**Industry  
Specialized  
Databases**

**Publicly  
Available  
Sources**

**Industry  
Reports and  
Reviews**

## Applied Research and Analytics Methods

**Descriptive  
Analysis**

**Mixed Data  
Research**

**SWOT  
Analysis**

**Comparative  
Analysis**

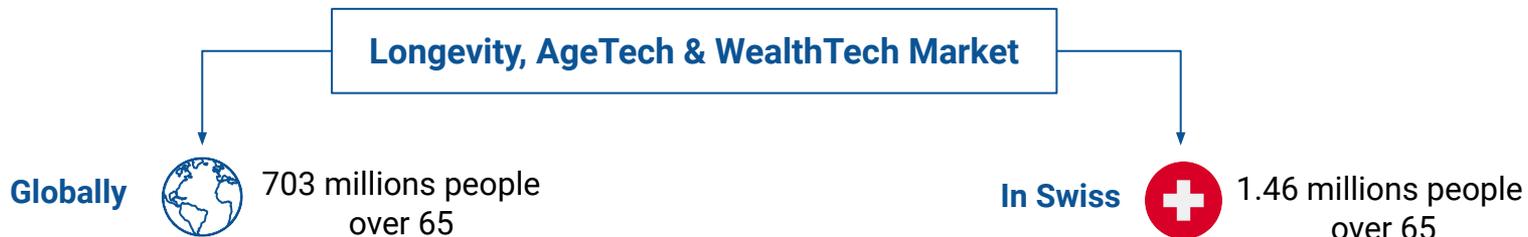
**Qualitative Data  
Collection**

**Data  
Filtering**

Containing a comprehensive overview of the Longevity Industry, the report relies on various research methods and analytics techniques. The report was compiled to give a detailed systematic description of the leading companies, investors, R&D, and other organizations related to the longevity industry located in Switzerland. Switzerland is a Longevity Hub with one of the highest densities of biopharmaceutical enterprises globally and has an incredible pool of talents and specialists. The combination of innovative science and technology solutions brings together preeminent researchers to the country and creates prominent development prospects.

# Longevity Industry Overview

**Longevity** has become a significant focus of some of the largest financial institutions in the world, with many major institutional investors seeking opportunities to contribute to the development of the Longevity industry by investing in AgeTech, Longevity Fintech, Longevity Biomedical companies, and startups. Aging has become more than a challenge at the intersection of many of the most acute problems of our time - it also presents one of **the most promising opportunities**.



**"The one billion retired people globally are a multi-trillion dollar opportunity for business."**

~ Dmitry Kaminskiy, interview in the Financial Times



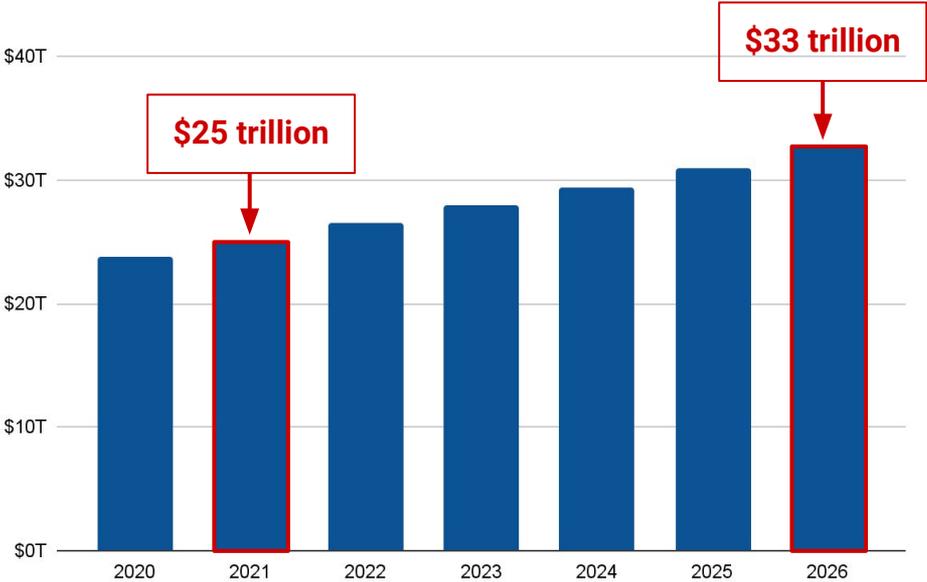
**"The global spending power of those aged 60 and over will reach \$15 trillion annually by 2020."**

~ Bank of America Merrill Lynch



# Global Longevity Industry Outlook

## World Longevity Economy Size Projections



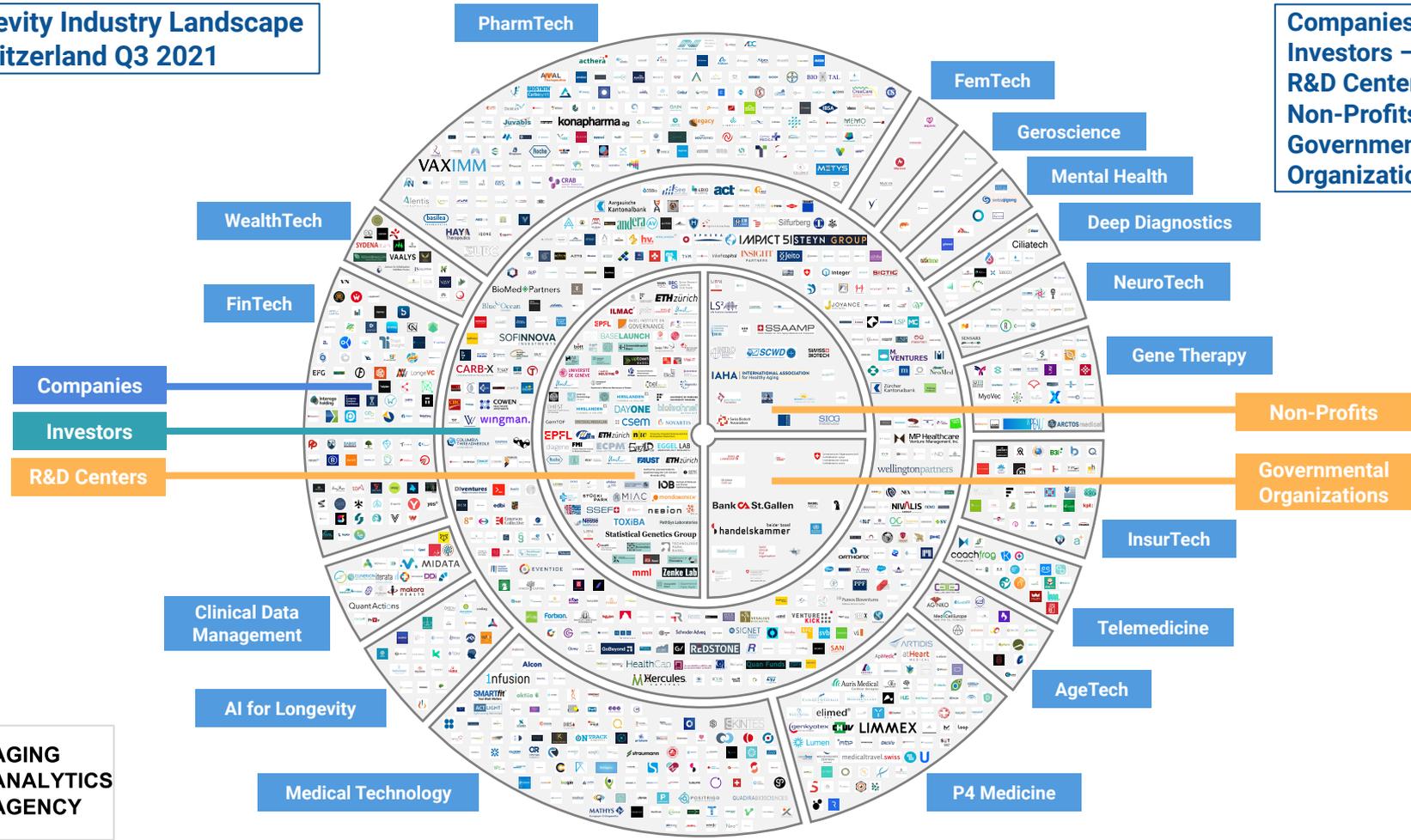
Source: Longevity Investment Digest

To estimate the **size of the Longevity Industry**, Deep Knowledge Group combined global healthcare spending (**ca. \$9 trillion**), the combined capitalization of publicly listed Longevity companies (**ca. \$6 trillion**), the capitalization of Longevity-related insurance and reinsurance companies, banks and pension funds (**ca. \$9 trillion**) and privately held Longevity companies (**ca. \$1 trillion**).

**Deep Knowledge Group's growth forecasts** for the combined capitalization of the Longevity Industry is driven primarily by the oncoming "Silver Tsunami," which is a demographic phenomenon that forecasts a growing proportion of retired people in the global population in the coming decade. These senior citizens will be a profound and disruptive force in several areas of society, first and foremost in the Longevity Industry. Financial institutions such as investment banks, pension funds, and insurance companies can sink or swim when hit by this oncoming Silver Tsunami.

# Longevity Industry Landscape in Switzerland Q3 2021

Companies – 650+  
 Investors – 300+  
 R&D Centers – 100  
 Non-Profits – 15  
 Governmental Organizations – 15



# Swiss BioTech Clusters and Hubs

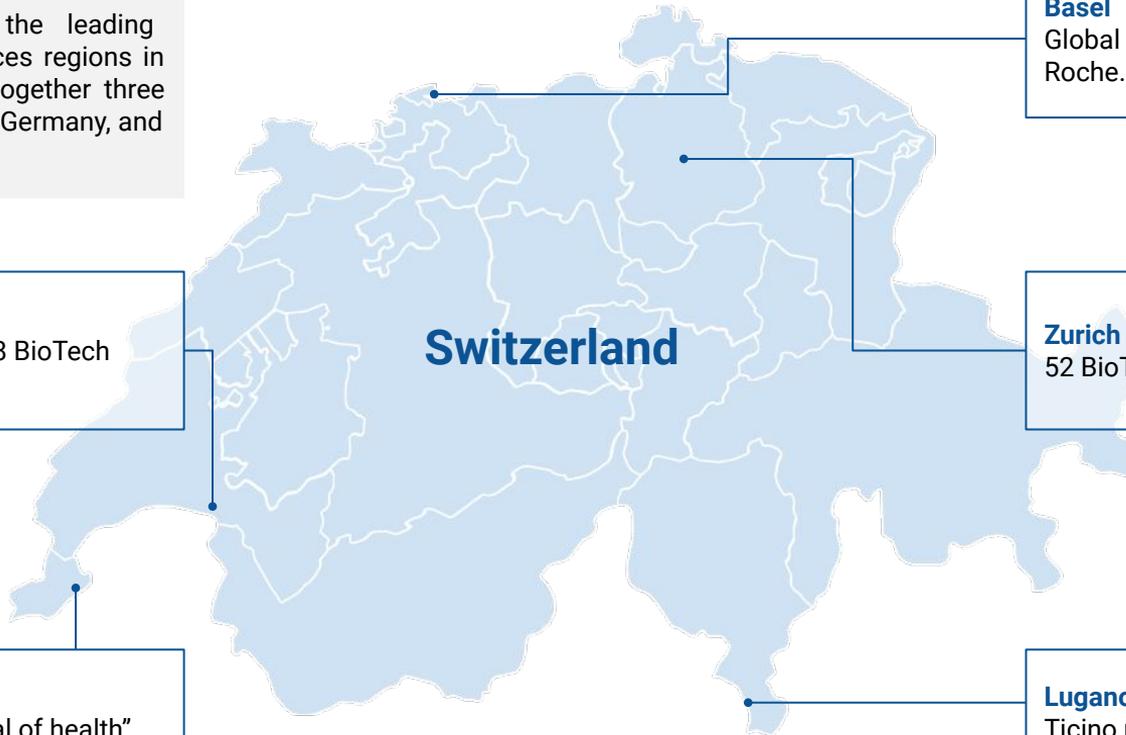
**BioValley**, one of the leading European Life Sciences regions in the world, bringing together three regions from France, Germany, and Switzerland.

## Lausanne

Lake Geneva region: 48 BioTech companies.

## Geneva

Unofficial "world capital of health"  
Home to UN, WHO and Red cross.



## Basel

Global headquarters of Novartis and Roche. 69 BioTech companies.

## Zurich

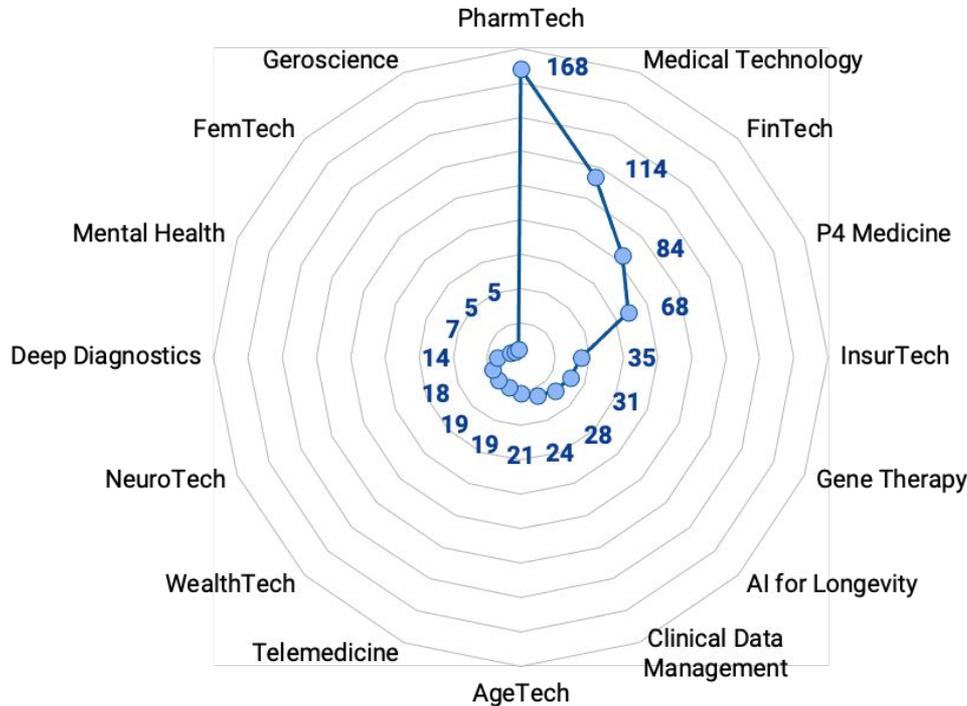
52 BioTech companies.

## Lugano

Ticino region: 26 BioTech companies.

# Longevity Industry in Switzerland: At a Glance

## Distribution of the Longevity Companies in Switzerland by Category



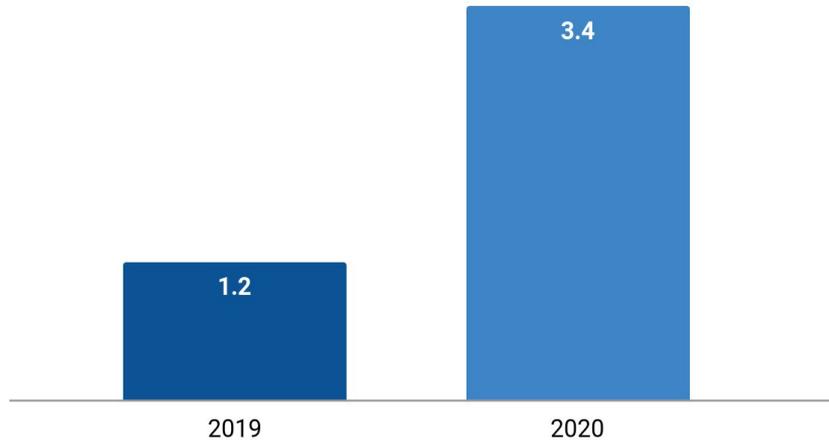
660 Longevity companies in Switzerland were distributed into 16 main categories: **PharmTech** category includes companies that deal with drug production and distribution. **Medical Technology** refers to the companies which deal with medical devices, their production, and distribution. **FinTech** category includes companies that provide saving products, financing for businesses, and products to fund lifestyle and social care. **InsurTech** and **P4 Medicine** categories contain companies that deal with insurance and precise diagnostics, respectively. **Gene Therapy** includes companies that develop techniques and drugs that modify a person's genes to treat or cure diseases. **AI for Longevity** category contains companies that provide AI-based solutions for healthcare. **Clinical Data Management** companies help Clinical Trials companies to deal with their data. **AgeTech** refers to digital tech companies that are built around the needs and wants of older adults. **Telemedicine** companies provide services for remote diagnostics and treatments. **WealthTech** category includes companies that develop initiatives and digital tools focused on the management of investments and savings. **NeuroTech** and **Deep Diagnostics** categories contain companies that deliver solutions that benefit people living with neurological diseases and companies that provide deep diagnostics services, respectively. **Mental Health** companies aim at helping people with mental disorders. **FemTech** category contains companies that are focused on women's health and wellbeing. And **Geroscience** companies accelerate research into the fundamental mechanisms driving aging.

# Switzerland Longevity Landscape Overview

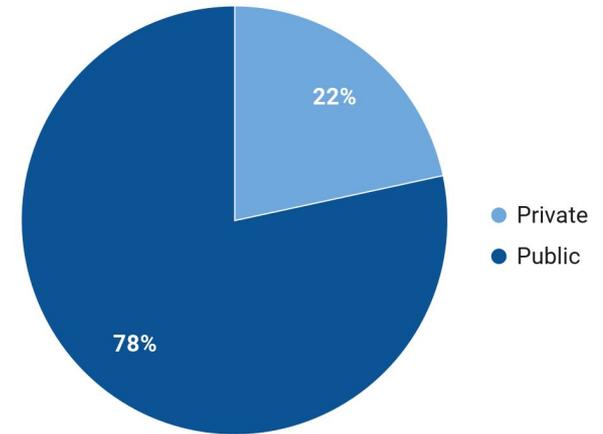


# Capital Investments Growth

Capital Investments in Swiss BioTech Companies, in Billions CHF



Capital Investments in Swiss BioTech Companies in 2020



Companies collected **3.4B CHF** versus **1.2B CHF** a year ago, meaning a growth of **183%**. The major part of funds was raised by public companies, which accounts for 78%. The brightest example is **ADC Therapeutics**, which managed to collect **260M CHF** during IPO and an additional **210M CHF** with the implementation of follow on financing. Other examples include CRISPR Therapeutics **940M CHF**, Idorsia with **866M CHF**, and Molecular Partners with **80M CHF**. Among private companies, it is worth mentioning that VectivBio has managed to collect **135M CHF** and Sophia Genetic with **100M CHF**.

Source: Swiss Biotech report 2021

# Top 5 Investments Deals to Watch in Swiss Longevity Industry

## Wefox

\$584M is a digital insurer focused on personal insurance products, such as household insurance, motor insurance and personal liability insurance. In 2020, its sales exceeded \$140 M.

## Nexthink

\$162M to discover, monitor and proactively improve the digital services. It is the global leader in digital employee experience management.

## CeQur

\$108M to develop a discreet and straightforward insulin delivery system that can replace mealtime injections for people with diabetes.

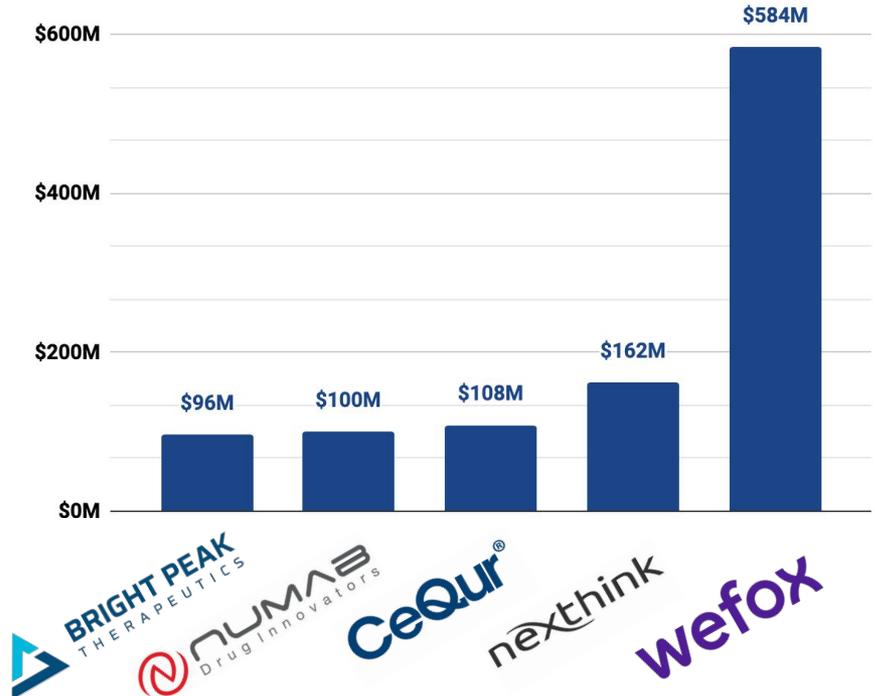
## Numab

\$100M, Numab's pipeline includes drug candidates for immunotherapies against cancer and inflammatory diseases. A first multispecific antibody is being tested on a patient with advanced solid tumors.

## Bright Peak Therapeutics

\$96M, using chemical synthesis ETH Zurich spin-off Bright Peak Therapeutics produced proteins that have never before existed, which holds great potential for cancer immunotherapy.

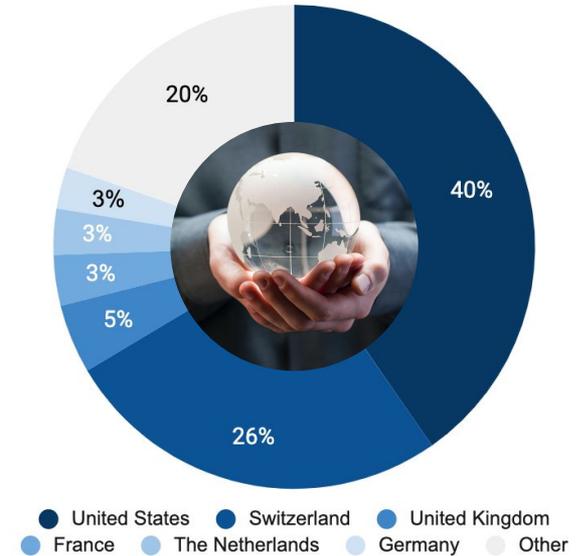
## Top 5 Investment Deals in Longevity Industry in Switzerland



# Longevity Industry in Switzerland: At a Glance



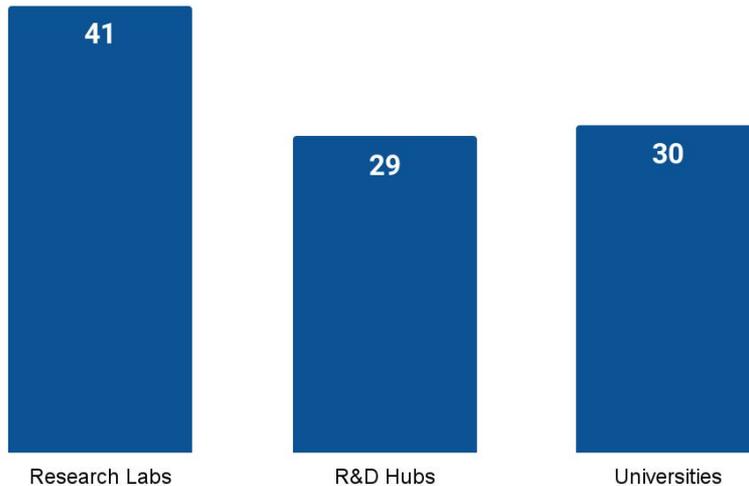
## Location of Longevity Investors



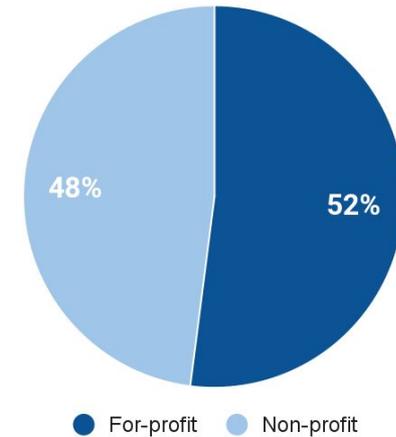
Having **131 investors**, the **USA** becomes the biggest contributor to the Swiss Longevity Industry. **139 investors** or **40%** are **EU** based companies, while 86 of them are from **Switzerland**. The rest **17%** are evenly distributed around the globe.

# Longevity Industry in Switzerland: At a Glance

## Distribution of R&D Organizations by Category

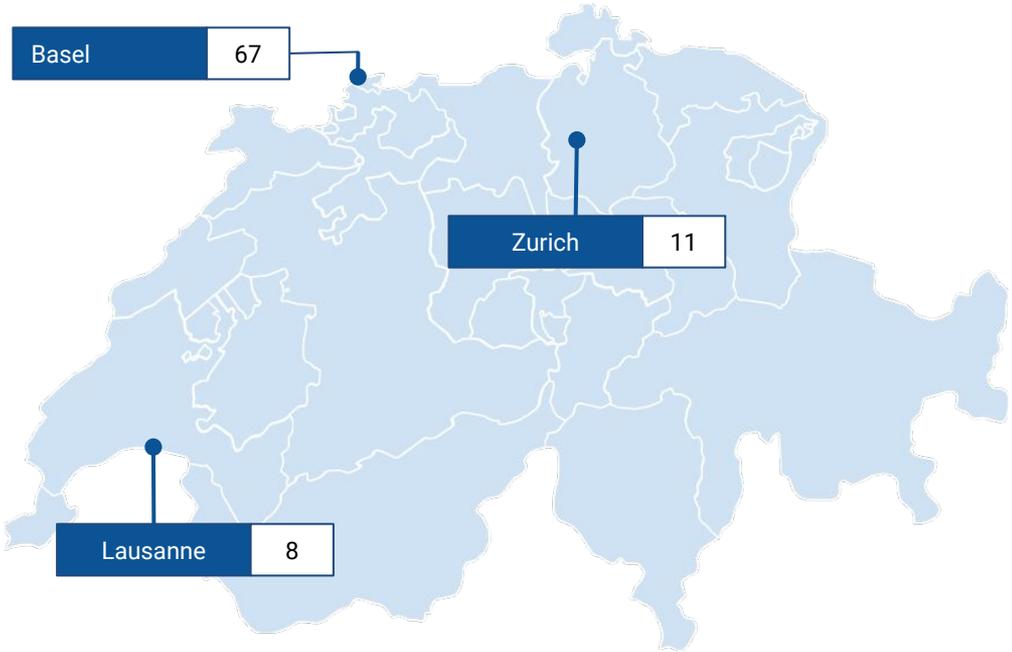


## Distribution of R&D Organizations by Type

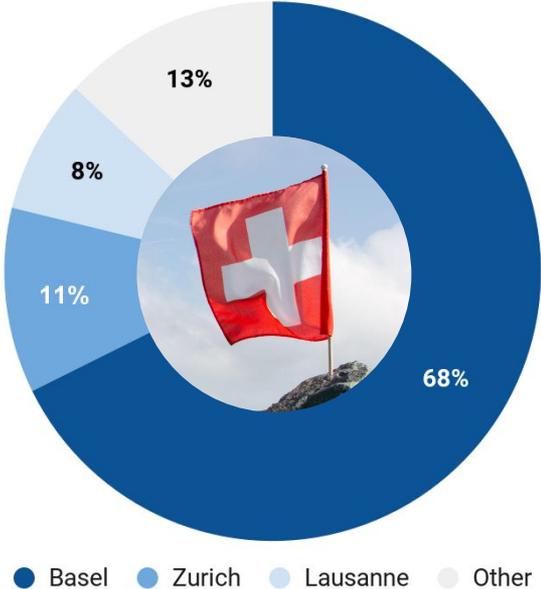


There are **100 R&D institutions** located in Switzerland focused on research in the Longevity area. Research Labs are the most common type of R&D institution, reaching 41 units in total. The rest 59 institutions are equally distributed among R&D Hubs and Universities. The majority of organizations (**52%**) operate for profit.

# Longevity Industry in Switzerland: At a Glance



### Distribution of R&D Organizations by Location



The largest R&D center, which accounts for **68% of organizations**, is **Basel**. Among the following contributors are Zurich and Lausanne, where 10% and 8% of the total amount of Swiss R&D institutions focused on Longevity are located.

# The Largest Longevity R&D Centres in Switzerland



The University of Basel has an international reputation for outstanding achievements in research and teaching. Founded in 1460, the University of Basel is the oldest in Switzerland and has a history of success over 550 years.



University for science and technology dates back to 1855 when the founders of modern-day Switzerland created it as a center of innovation and knowledge. ETH Zurich performs many services for the federal government and uses its expertise to make significant contributions to public debate.



Located in Switzerland, EPFL is one of Europe's most vibrant and cosmopolitan science and technology institutions. University builds bridges between researchers at EPFL and other academic institutions, fosters innovation, and contributes to advancing and sharing knowledge on specific themes within and beyond the academic world.



The Aging and Muscle Metabolism Lab performs translational research projects covering multiple metabolic diseases in human and non-human models to elucidate molecular mechanisms underlying altered muscle metabolism with aging. Understanding the effect of aging and exercise on muscle metabolism is the main theme of our lab. To respond to this quest, they progress through three synchronous aims, which, taken together, allow an integrative vision.



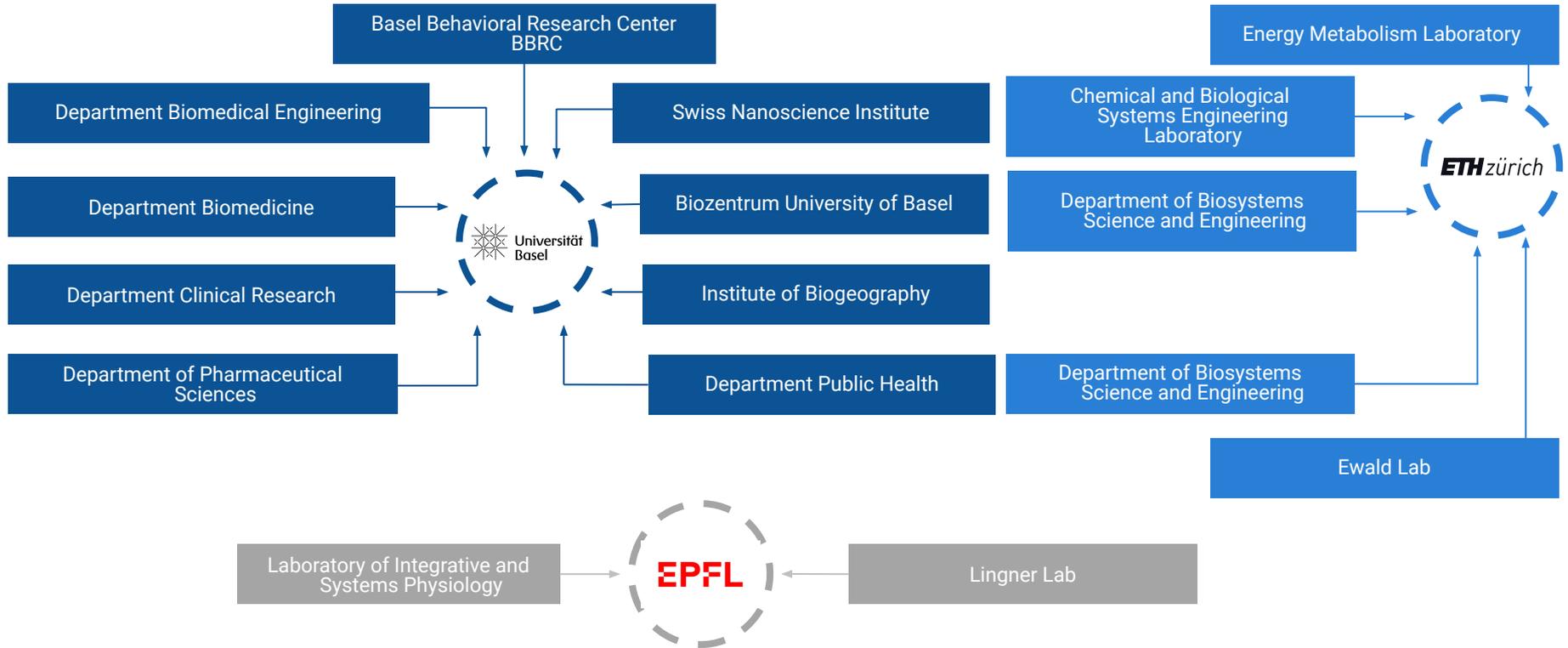
Laboratory of Regeneration and Adult Neurogenesis is interested in the molecular and cellular basis of regeneration and the regulatory networks that control adult and de novo neurogenesis. To investigate these questions, they are using the Hydra model system. Their research focuses on the following questions: what mechanisms maintain dynamic homeostasis in Hydra? What tools support regeneration, including de novo neurogenesis.

Swiss TPH



Swiss Tropical Institute (STI), now the Swiss Tropical and Public Health Institute (Swiss TPH), is an Institution for teaching, research, and services in International Health Development. The institute has research programs in epidemiology, public health, and medical parasitology.

# The Largest Longevity R&D Centres in Switzerland



# The Largest Longevity R&D Centres in Switzerland

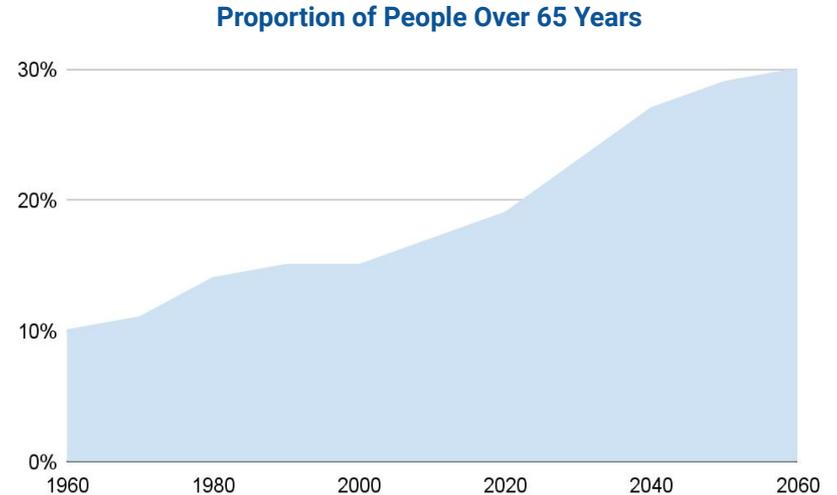
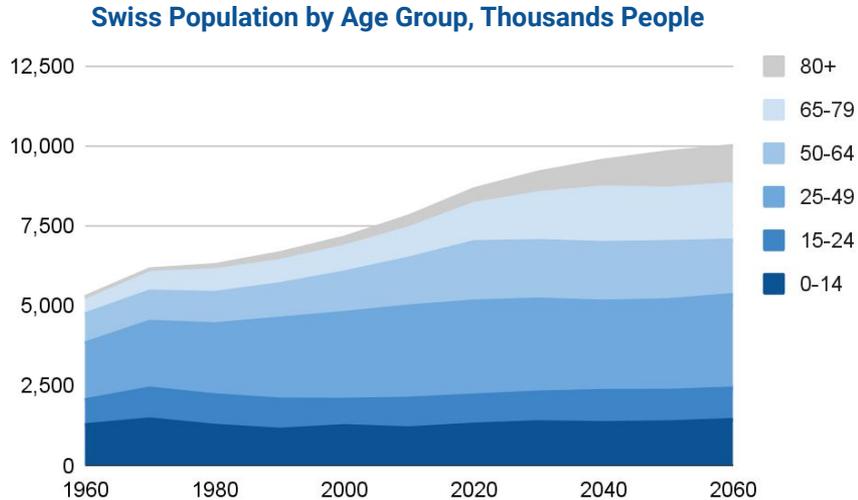
- 1 Longevity-promoting interventions and Rejuvenation therapies:** Reversion of the age-associated defects of the immune system and hematopoietic stem cells, de novo neurogenesis, epigenetic reprogramming to revert/prevent diseases, nutritional strategies able to revert the age-related defects, transplantation medicine and tissue bioengineering, etc.
- 2 Age-associated chronic or metabolic diseases - research on key involved cell signaling pathways.** These include Target of rapamycin complex 1 (TORC1) signaling axis, Rag GTPases, amino acid signaling, Protein kinase A (PKA) signaling, Insulin/IGF-1, nutrient signaling, etc.
- 3 Genome integrity, Epigenetic regulations and Post-translational protein regulation in a context of aging:** Telomere structure and function (role in cancer, cellular senescence) epigenetic dysregulations (that drives age-associated diseases), DNA damage response, DNA repair, noncoding RNA functions, chromatin modifications, etc.
- 4 Stem cell research and therapies:** Hematopoietic stem cell transplantation, T-cell based therapies, studies of age-related deficiency of stem cells ( for example, impaired tissues` regenerative capacity linked to stem cell exhaustion or weakened immune system), etc.
- 5 Reactive oxygen species defects of mitochondrial and energy metabolism research:** Mitochondrial metabolism dysregulation in metabolic disorders, metabolic sensing, Reactive Oxygen Species within the mitochondria (for example, mitohormesis), mitochondrial stress studies, Mitophagy, energy metabolism in myofibers
- 6 Cellular senescence, autophagy studies:** Senescence mechanisms, immunosenescence and resulted in age-related immune system dysfunctions and response, autophagy sensing, and dysfunction, the role of autophagy in the self-renewal of adult stem cells stocks,

\* trends within academic Switzerland laboratories focused on age-related studies

# Longevity Governance and Policy in Switzerland



# Aging in Switzerland

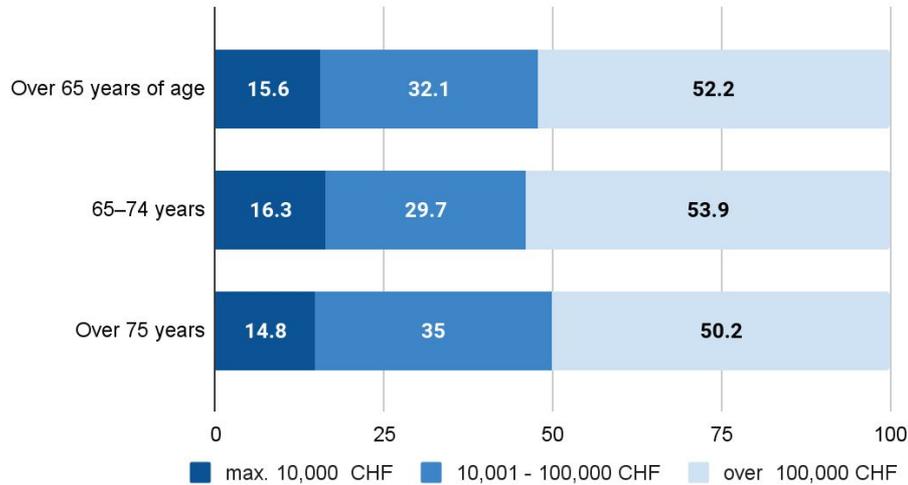


Rapid immigration boosted population growth between 1960 and 2000, while the fertility rate has significantly decreased during the same period. This is because immigrants tend to be younger. Nevertheless, Swiss society is aging, so the number of retired people is expected to rise sharply. **In 2020 proportion of people over 65 years has reached 19%**, and according to UN projections **will get 30% by 2060**. These developments bring Switzerland a Longevity Industry range of opportunities, but they are likely to put extra pressure on the state budget to push public spending up.

Source: [United Nations \(2019\), World Population Prospects: The 2019 Revision, Online Edition](#); [OECD Economics Department Long-term Model](#)

# Financial Well-Being of Swiss Retirees

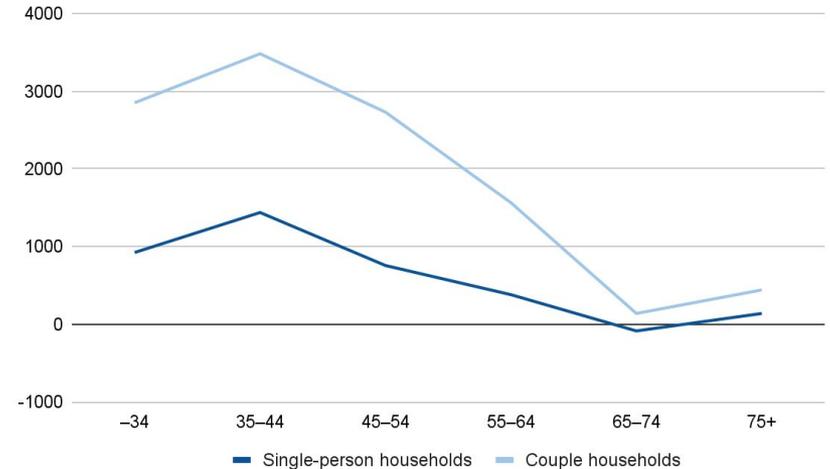
## Proportion of People Aged 65 and Over with Liquid Assets, in Percent



Balances on bank and post office accounts and total value of shares, bonds and investment funds of all household members (gross liquid household assets).

Source: [Poverty in old age, update 2020](#) by Federal Statistical Office (FSO)

## Average Savings by Age Group, in CHF per Month



Savings = income - all expenditure from a household's gross household

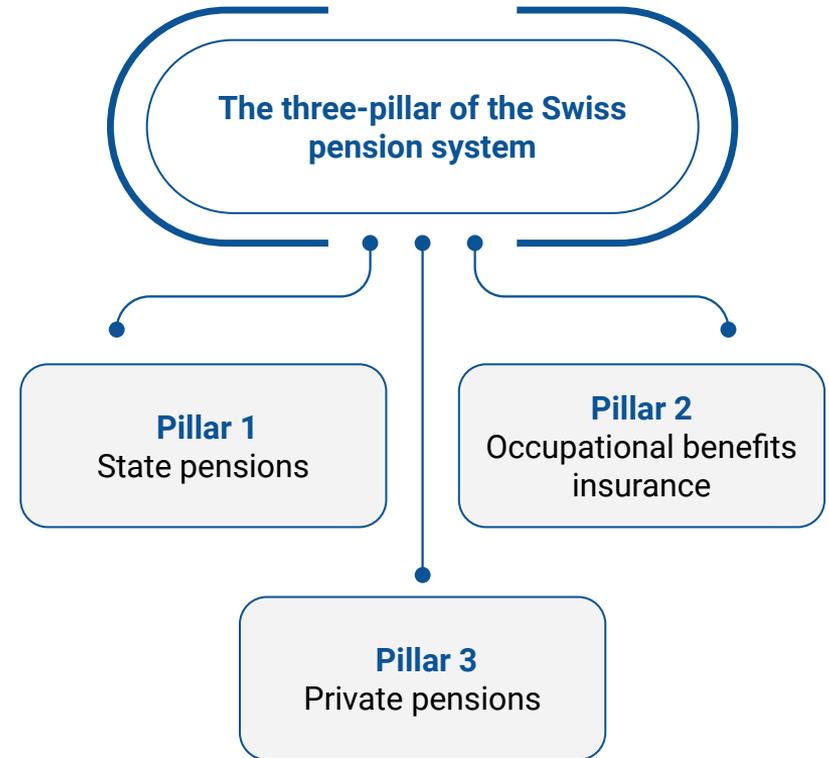
According to FSO data, more than half of **people aged 65 have savings over 100k CHF**. The income of the average aged Swiss household exceeds its expenditures, which means that individuals do not have to spend their savings even after retirement.

# The Swiss Pension System

The purpose of **the Swiss pension system** with its three pillars is to ensure financial security for people in Switzerland in their old age, in the event of disability and death cases. This pension model is one of the most reliable in the world. It has proven its merits over many decades, and it dates back to the establishment of Old-Age and Survivors' Insurance (AHV), Disability Insurance (IV/DI) and Loss of Earnings Benefits (EO) in 1948.

**The three-pillar system** has been enshrined in the Federal Swiss constitution since 1972. It is based on the interaction between state protection of basic livelihood, occupational benefits insurance (which includes employers), and tax-privileged private pension provision. The Swiss pension system is a key supportive factor in the social and financial security of people living in Switzerland.

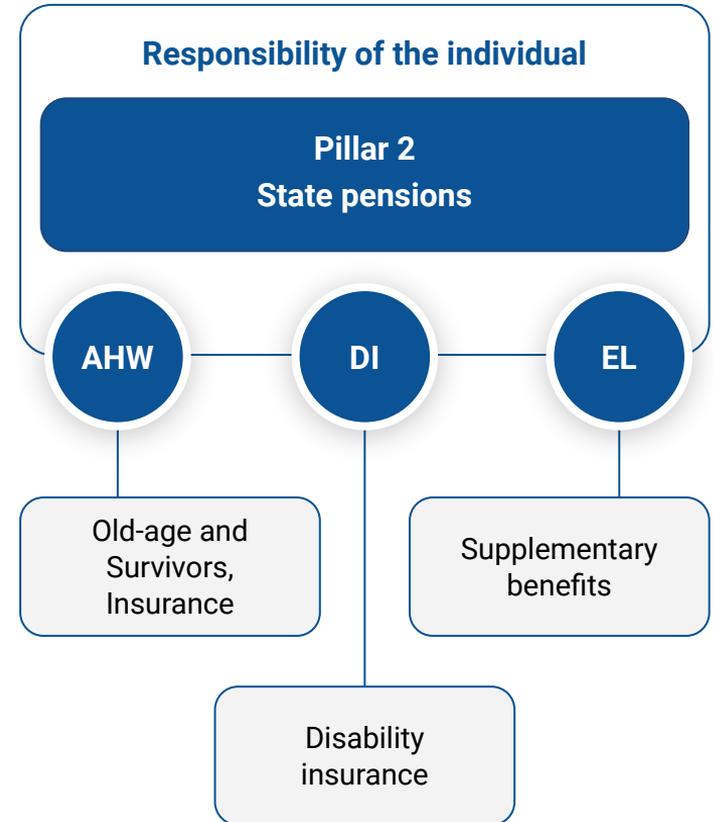
**Switzerland's pension system consists of three pillars:** state, occupational and private pension provision. The purpose of Pillar 1 – old-age, survivors' and disability insurance, or AHV – is to secure livelihood. Pillar 2 – occupational benefits insurance, or BVG – is intended to maintain the accustomed standard of living in old age. Both Pillar 1 and Pillar 2 are mandatory. Pillar 3, which is voluntary, enables you to build up private pension provision so that you can be secure in old age, but it also allows you to save on taxes and insure risks such as death cases and occupational disability.



# The three-pillar of the Swiss pension system

**Pillar 1 is divided into two parts:** AHV/DI (old-age, survivors' and disability insurance), and supplementary benefits under loss-of-income insurance (EL). Pillar 1 also includes earnings compensation during military service (EO) and for maternity, as well as unemployment insurance.

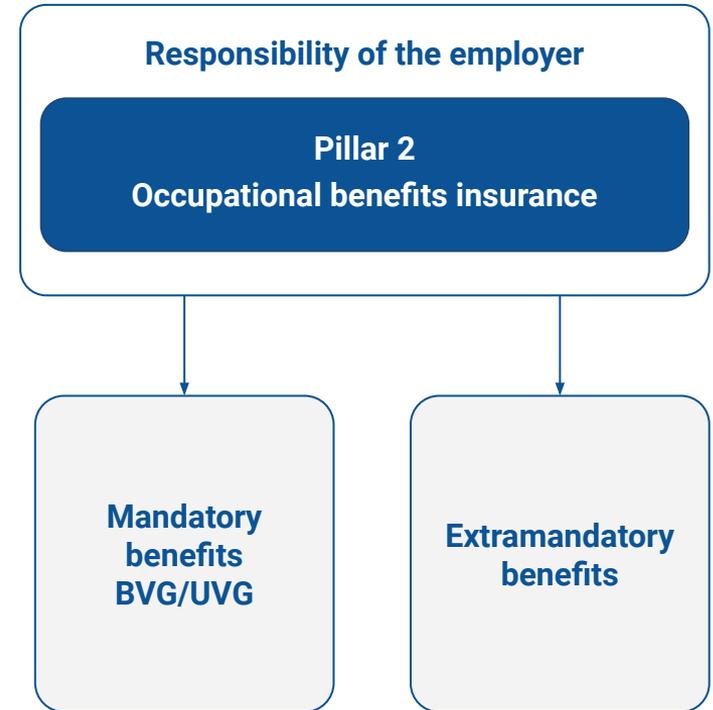
**AHV/DI and supplementary benefits (EL)** differ mainly as regards the way they are financed. AHV/DI is financed by a pay-as-you-go method based on the principle of solidarity. For this purpose, pensions in progress and other benefits disbursed are paid for by the salary contributions of the working population. On the other hand, supplementary benefits are funded directly from Federal and cantonal tax. Old-Age and Survivors' Insurance is Switzerland's mandatory state pension insurance. It secures a person's financial livelihood in old age, and pays surviving dependants' pensions to widows and widowers following a death, the normal full pension is at least CHF 1,195 and at most CHF 2,390. If a person is simultaneously entitled to draw a widow's / widower's pension, the higher pension is paid out. Persons who, for health reasons, cannot be reintegrated into the work process to an extent of at least 40% are entitled to draw benefits from disability insurance. As well as paying pensions, the DI finances various reintegration measures. Anyone who draws an AHV or DI pension but whose income does not cover their minimum living costs is entitled to supplementary benefits, which are financed by the working population on a pay-as-you-go basis, supplementary benefits are funded from Federal and cantonal taxation.



# The three-pillar of the Swiss pension system

Pillar 2 of the Swiss pension system consists of occupational benefits insurance (BVG), also commonly referred to as the "pension fund". The purpose of occupational benefits insurance is to supplement the benefits from AHV/DI in old age, in the event of disability and a death case, and to ensure that your accustomed lifestyle can be maintained. All employees with income above the annual salary subject to AHV contributions (minimum annual BVG salary) are insured by the pension fund chosen by their employer, and through the automatic BVG deductions. Like the insurance coverage under Pillar 1, occupational benefits insurance is therefore part of mandatory pension insurance. The second pillar also includes occupational accident insurance, daily sickness benefits insurance and the vested benefits institutions.

**Mandatory occupational benefits** insurance consists of one mandatory portion and another extra-mandatory (voluntary) portion. Annual salaries up to a specified maximum amount are insured in the mandatory portion. Portion of the salary above this amount is regarded as **extra-mandatory**. The concept of mandatory pension provision covers various risks. For instance, it is activated to provide security in old age (BVG pension), in the event of an accident or disability, or in a death case. Other components of occupational benefits insurance include daily sickness benefits insurance, i.e. ensuring continued salary payments in cases where an employee falls sick, as well as the vested benefits institutions

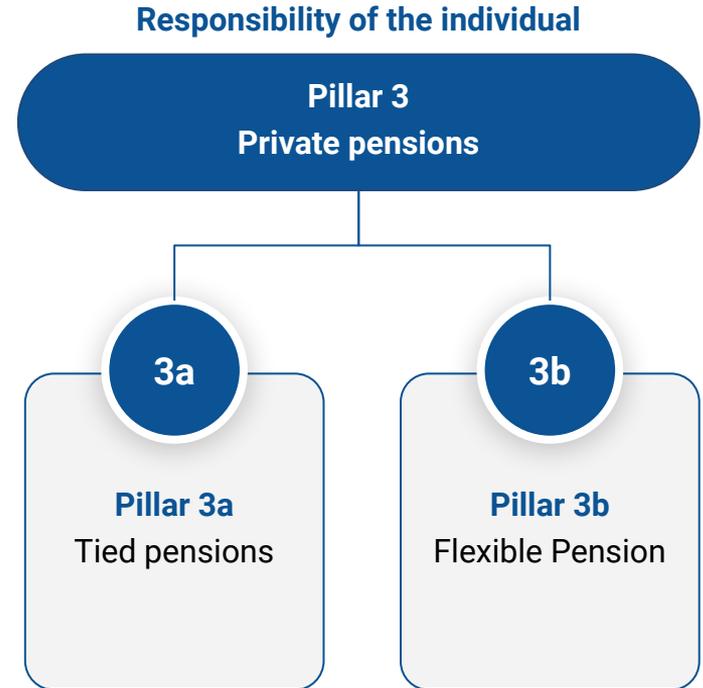


# The three-pillar of the Swiss pension system

The third pillar (comprising Pillar 3a and Pillar 3b) is a voluntary addition to the benefits from AHV/DI and occupational benefits insurance. Nowadays, benefits from Pillars 1 and 2 will often be insufficient to maintain a person's accustomed lifestyle in old age. For this reason, many people in Switzerland opt for additional private pension provision based on Pillar 3, in order to avoid unpleasant income gaps. The third pillar consists of tied pension provision (Pillar 3a) and flexible pension provision (Pillar 3b). Contributions to 3a tied pension provision are tax-privileged and can be deducted from taxable income, up to a defined maximum.

**Tied pension provision (Pillar 3a)** is long-term pension provision; as its name suggests, the capital remains "tied" for private retirement provision. Advance withdrawals are only possible subject to certain conditions; on the other hand, savings on tax are possible by paying in contributions up to a specified maximum amount. Pillar 3a tied pension solutions are often integrated as components of financial products such as life insurance, pension accounts or pension custody accounts.

**Pillar 3b flexible pension** provision (also known as non-tied retirement provision) is a private pension solution that is a good way to close a pension gap, because the pension from the pension fund is often insufficient to continue the person's accustomed lifestyle after retirement. It is not subject to government requirements regarding amounts paid in, availability or timing of disbursement.



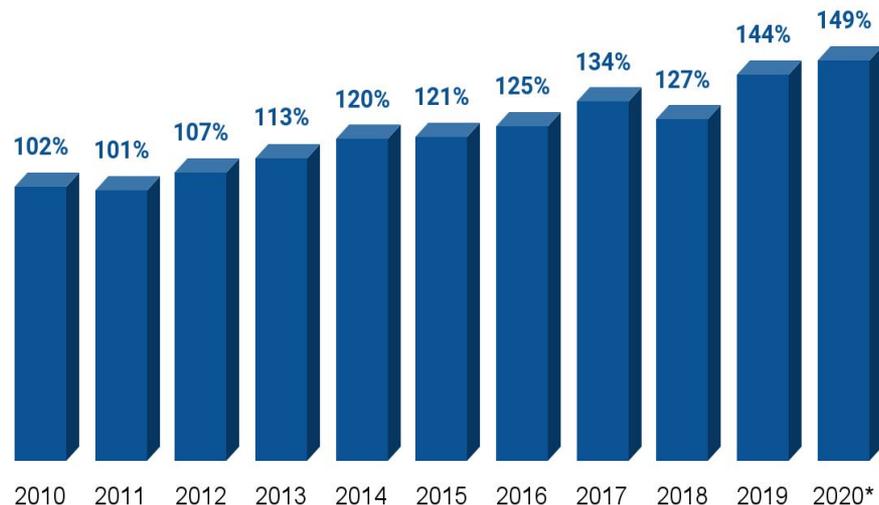
# Swiss Pension Funds

According to the annual Global Pension Assets Study, global institutional pension fund assets in the **22 largest markets (the “P22”) continued to climb in 2020 despite the impact of the pandemic, rising 11% to \$52.5 trillion at year-end.**

Switzerland’s pension assets grew by 12.5% in 2020, in dollars terms, putting it ahead of the global average growth rate. In 2020 the Swiss Franc was the strongest reported currency, gaining nearly 10% versus the dollars. During the last ten years, Swiss pension assets grew by 5.8% p.a. (in dollars), ahead of the global annualized average of 5.4%, to reach an estimated **\$1,163bn (CHF 1,030bn).**

However, this shouldn’t mask the growing set of challenges that industry leaders face, particularly around addressing broader stakeholder groups’ needs and wants while continuing to deliver financial security for their fund members.

Pension Funds’ Assets as a Percentage of GDP in Switzerland



Notes: \*preliminary

Source: [Global Pension Assets Study by Willis Towers Watson 2020](#)

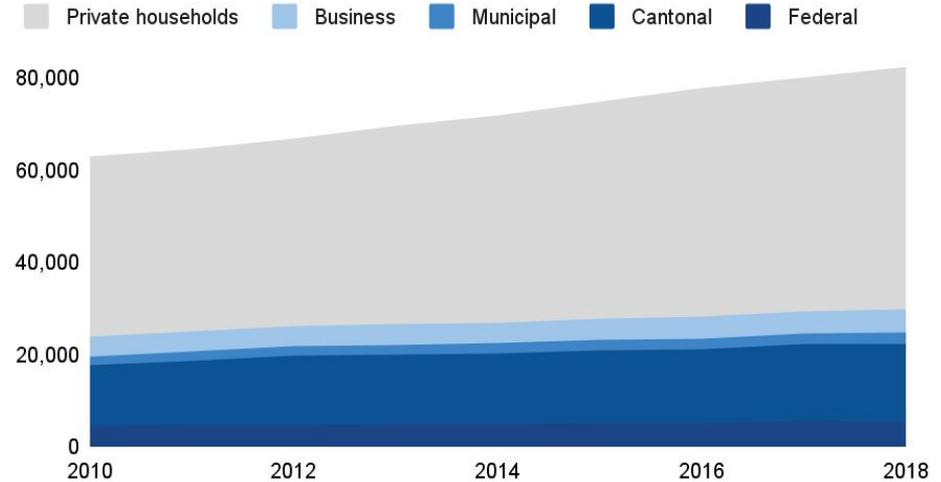
# Healthcare Spending in Switzerland

Healthcare Expenditures as % of GDP, 2018



Source: [FSO](#), 2018

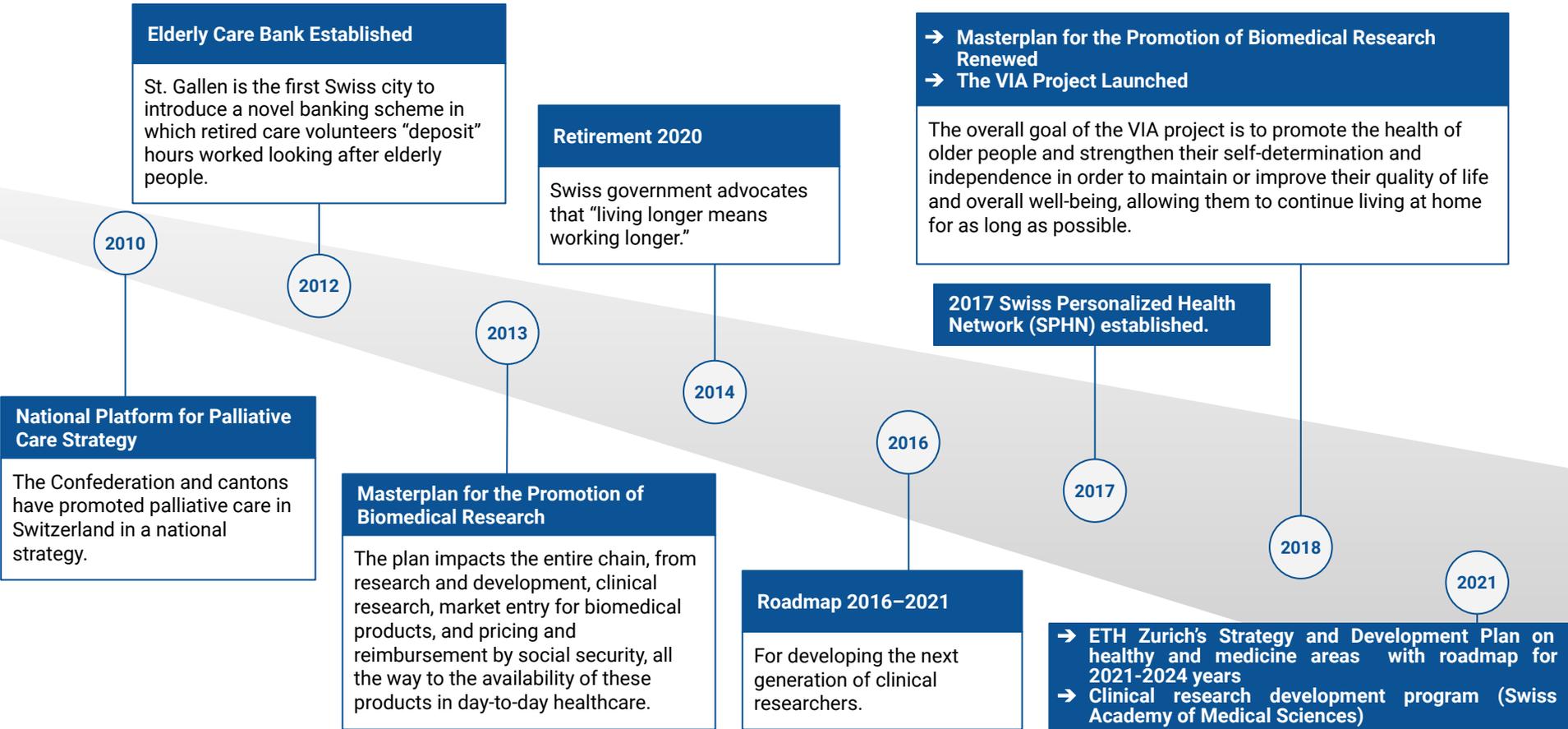
Healthcare Spending and Financing in Millions CHF



Source: [FSO](#), 2018

**Switzerland is second among OECD member countries** in terms of healthcare spending as % of GDP. The latest figures show that the total costs of the Swiss healthcare system are comparatively high and that they are rising every year. In 2018, the **total expenditure increased by 2.8% to 81.9 billion CHF**. The most notable contributor to financing the Swiss healthcare system is private households that account for 64% of the total spending. Among state financing, which is constituted by federal, cantonal, and municipal budgets, the most significant contributor is Swiss cantons.

# Timeline of Swiss Government Involvement in Longevity



# Age Friendly Strategy: AGE-NT 2021-2024

AGE-NT is the largest national research project dealing with the challenges and opportunities of demographic change. The aim of the project is to identify knowledge and best practice examples in selected priority areas, both nationally and internationally, and to make them visible and accessible to a broad public and decision-makers.

## Fields of Activities

**Technologies  
for Older  
Adults**

**Dementia:  
Prevention  
and Care**

**Employment  
in Retirement**

**Longevity**

**Social  
Inclusion**

## Ongoing Projects



### **Technology and Active & Assisted Living**

Long-term tests of a chest strap with innovative humidification elements to measure heart rate variability



### **Easier Phone**

Development of an Age-Appropriate Smartphone App



### **Heroes**

Improvement of speed and cost-efficiency of nursing recruitment through an online platform

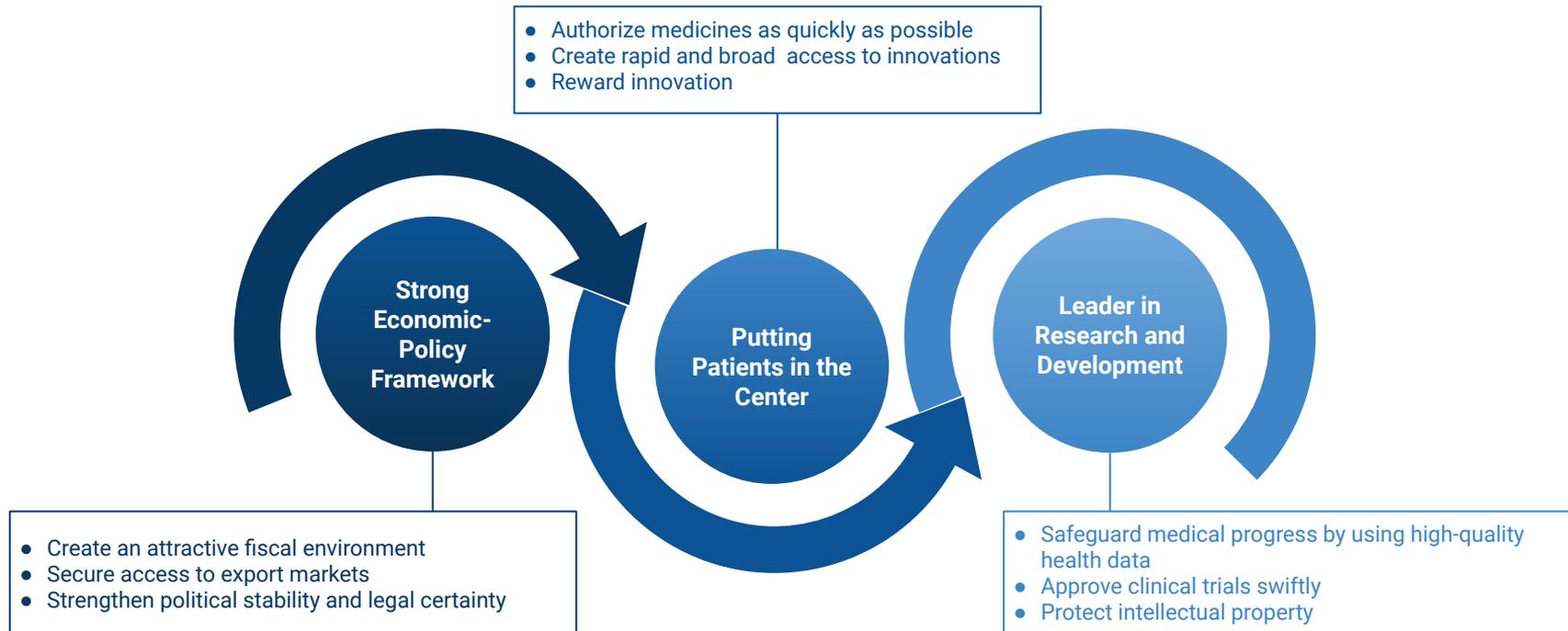


### **Robotics**

Successful use of service robotics in the care and nursing of older adults through Human Centered Design

# Industry Development Strategy: Pharma HUB 2030

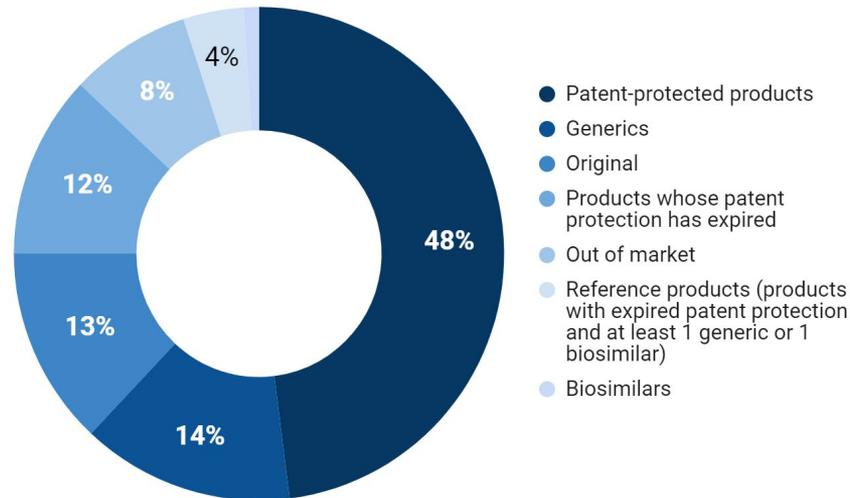
Interpharma, the association of Switzerland's research-based pharmaceutical industry, has presented its strategy to develop and maintain its crucial role in Switzerland, creating higher than the average value for Switzerland and its inhabitants in 2030. Strategy stays on three pillars: patients and their environment, Switzerland as a centre of research activity, and the economic policy framework.



Source: Interpharma, Pharma Hub Switzerland 2030

# Economic-Policy Framework

## Composition of the Pharmaceutical Market, 2019



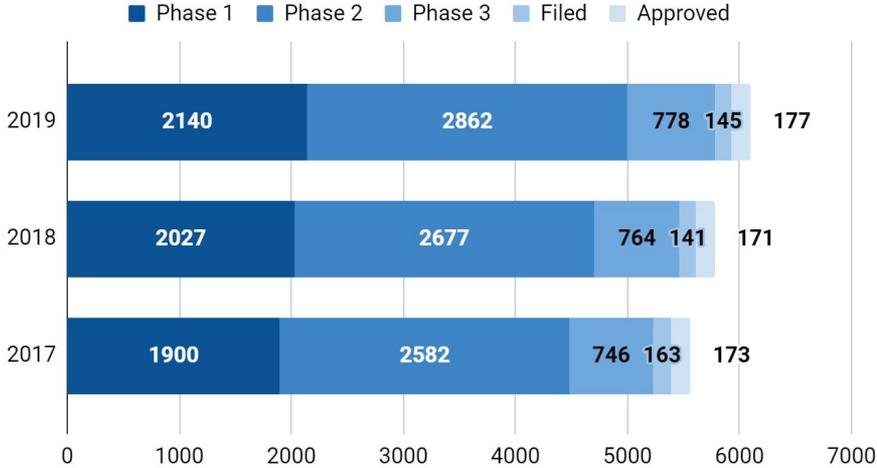
## Change of Individual Components at Ex-Factory Prices, 2019



**Patent-protected medicines** account for the largest share of the Swiss pharma market at 48%. The generics-eligible market, comprising off-patent products, originals and generics, account for 39% of the market. **The pharma market in Switzerland grew by 2.8% in 2019.** This growth was driven mainly by the volume of medicines sold (+2.9%). New products – e.g. for cancer or autoimmune diseases – have likewise contributed to this growth. There are ever more medicines for hitherto untreatable diseases. **The triennial price reviews** by the FOPH have led to a **2.7% decline** in the overall market. With these savings, **the pharmaceutical industry is making a significant contribution to help contain the growth of costs in the healthcare system.**

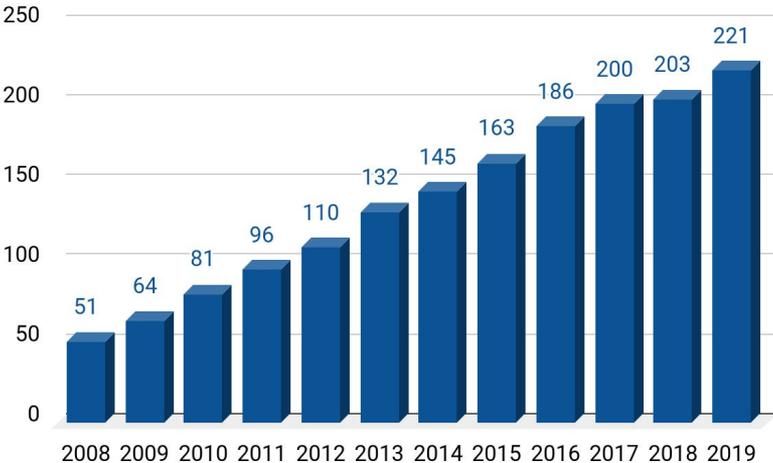
# Patient Centered Care

## Number of Active Agents in Development Stages



Source: Interpharma Health Panorama 2020

## Dynamic of Indications with Orphan Drug Status

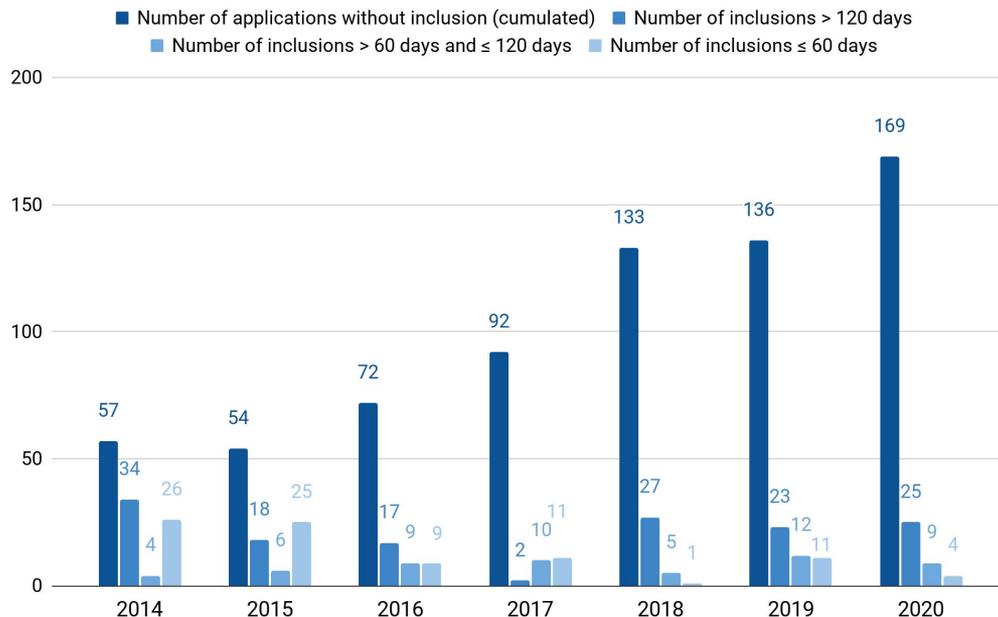


In 2019, a total of 6,100 active agents were in various stages of development. Compared with the previous year, the number of products in development were up by 5.6%. The steady growth of new products reflects medical progress and the fact that pharma companies reinvest a lot in research and development.

A disease is considered rare when it affects fewer than 5 out of 10,000 people. Since there are known to be 6,000 to 8,000 such diseases. The number of indications with orphan drug status is continuously rising because many pharma companies research rare diseases. In 2019, there were 162 approved medicines with orphan drug status.

# Patient Centered Care

## Time Elapsed between Swissmedic Authorisation and Inclusion in List of Specialities, Plus Cumulative Non-Inclusions, in Days



Source: Interpharmaph Health Panorama 2020

**Access to innovations in Switzerland comes with a delay.** As of the end of 2020, a total of 169 applications for approval had not yet led to inclusion in the Specialities List (SL). Since 2015, there has been a sharp increase in approved but not yet reimbursed medicines. In 2020, only 4 of 38 products (11%) were included in the SL within the 60 days laid down in the ordinance. **66% of all products (25 of 38) took more than 120 days to be included in the SL in 2020.**

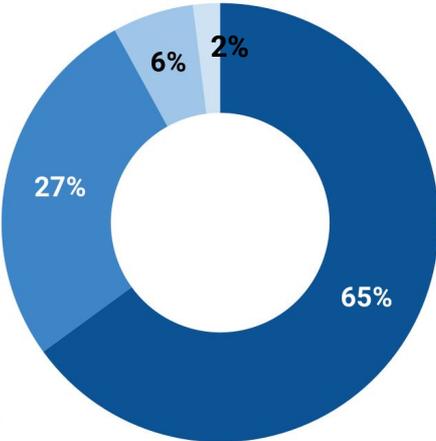
It is taking longer for basic medical insurance to reimburse the price of innovative treatments following market authorisation by Swissmedic. At the same time, the number of complex applications of the Health Insurance Ordinance (HIO) is increasing.

**The Patient Access Scheme (PAS)** has been developed to support the existing reimbursement process by providing new ways of assessing benefits. **It aims to prevent valuable time from being wasted** by initiating dialogue between the Federal Office of Public Health (FOPH) and the manufacturer at an early stage and providing for the earlier submission of the reimbursement approval dossier. Furthermore, it is planned that **a committee** of experts will assist the FOPH in its decision making. Finally, there are **flexible reimbursement models** to address highly innovative treatments.

# Leader in Research and Development

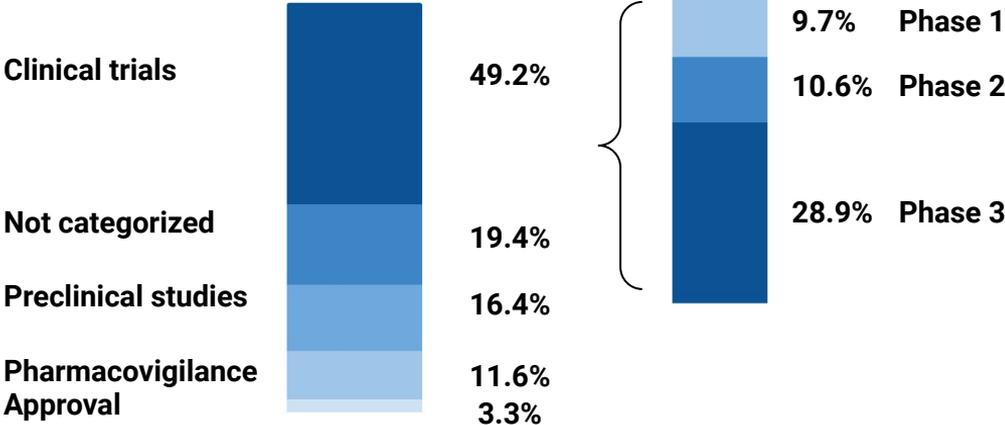
Financing of the R&D by Sources of Funding, 2019

● Private sector ● Federal government ● Abroad ● Others



Source: FSO

Distribution of Research Expenditure by Operations, 2018



In 2019, a total of CHF 22.9bn was invested in research. Of these investments, 67% came from the private sector. The pharma sector was the most important investor, accounting for almost 40% of private-sector research expenditure. The public purse plays a part at the federal level, accounting for 27% of spending on research and development.

Almost twice as much is ploughed back into research in Switzerland for every franc earned by pharma companies. These high levels of investment in Switzerland as a research hub are only possible because of the successful international operations of Swiss pharmaceutical companies. Around 50% of research spending goes on clinical trials. In phase 1 to 3 trials, the efficacy and safety of the medicines are tested in humans.

# Clinical Research Development Program

The working group, set up by the Executive Board of the **Swiss Academy of Medical Sciences (SAMS)**, outlines the following **seven goals** which constitute an action plan for change to make Switzerland an international leader in patient-centered clinical research:



Create a national platform to coordinate publicly funded stakeholders in clinical research;



Establish strong partnerships with society, citizens, and patients;



Promote a healthcare system that systematically integrates clinical research: good care comes with – and from – good science;



Invest in the development of innovative and dynamic clinical research approaches, designs, and technologies enabled by digital tools;



Strengthen translational, multidisciplinary, and integrated clinical research teams;



Ensure an environment that is attractive to clinical and health researchers and support them at all career levels;



Increase the efficiency and accelerate the delivery of clinical research by reducing the complexity of regulatory and data-related processes.

# Key Takeaways

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**Growing Interest in the Longevity Industry.** As a result of aging and the upcoming Silver Tsunami, there has been an increase in interest in the Longevity industry. Currently, the size of the global market is estimated at **\$33 trillion**. The major players include national healthcare companies and Longevity-focused financial companies.

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**Aging-Prevention Researches.** As far as aging and increased life expectancy are associated with the progression of chronic metabolic disease, swiss research and development laboratories are mainly focused on aging-prevention researches. The primary research trend is the early detection of age-related diseases and disorders to avoid preliminary aging.

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**Age-Friendly Projects.** A wide range of projects have been launched and successfully finished during recent years. Broad support from government and non-profit organizations has enabled technology, employment, prevention and care projects to support people after retirement.

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**Increase in Healthcare Costs.** Due to demographic change, the proportion of the population aged 65 and above is increasing, and, with it, keep raising healthcare expenditures. In 2018, the **total healthcare expenditure increased by 2.8% to 81.9 billion CHF**. The most notable contributor to financing the Swiss healthcare system is **private households** that account for **64%** of the total spending.

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**Swiss Longevity Valley.** Together with the government, research institutes and industry experts have been developed a range of strategies aiming to make Switzerland a hub for pharmaceutical and biotech companies from all over the world. Procedures cover topics such as securing pharmaceutical export, promoting clinical research and others.

# 10 Upcoming Longevity Events in 2021

Date	Name	Location	Description of the event
Aug 29 - Sep 02, 2021	<b>International Symposium on Medicinal Chemistry</b>	Basel	EFMC-ISMC 2021 will cover advances in drug discovery in major therapeutic areas, including bacterial and viral infections, brain, heart, respiratory system diseases, fibrotic diseases, and cancer.
Sep 07, 2021	<b>Swiss Biotech Day 2021</b>	Basel	The Swiss Biotech Day is not only the place to be for members of the Swiss Biotech Association, who traditionally meet for the association's Annual General Assembly. In addition, the event draws entrepreneurs, investors, researchers, analysts, political decision-makers, and industry stakeholders from across the world.
Sep 08-09, 2021	<b>Intelligent Health</b>	Basel	Professionals in AI and healthcare worldwide will gather around 100 internationally renowned groundbreaking thinkers and doers to progress discussions about how AI can be used to prevent and solve some of the world's most significant healthcare problems and improve the health of the human race.
Sep 09-12, 2021	<b>Basel Life 2021</b>	Basel	The Basel Life conference will be revised to be a series of smaller meetings that will be both virtual and live, starting at the end of 2021.
Sep 10-11, 2021	<b>EFMC Young Medicinal Chemists' Symposium</b>	On-Line	The program of this virtual event will include Keynote lectures by Prof. Pablo Rivera Fuentes and Prof. Angela Russell. Moreover, the program consists of 12 Oral Communications by invited prize winners from national young medicinal chemist meetings in Europe.

# 10 Upcoming Longevity Events in 2021

Date	Name	Location	Description of the event
Sep 13-15, 2021	<b>[BC]2 Basel Computational Biology Conference</b>	Basel	The conference unites scientists from academia, industry, and healthcare workers in a broad range of disciplines: from deciphering spatiotemporal gene expression patterns to modelling evolutionary dynamics or acquiring a better understanding of how genetics influence human health.
Sep 16-17, 2021	<b>International Conference on Pharmaceutical Testing and Pharmaceutics ICPTP</b>	Zurich	The International Conference on Pharmaceutical Testing and Pharmaceutics aims to bring together leading academic scientists, researchers, and scholars to exchange and share their experiences and research results on all aspects of Pharmaceutical Testing and Pharmaceutics.
Sep 27, 2021	<b>Longevity Investors Conference</b>	St. Moritz	That's where the Longevity Investors Conference comes in. This one-day conference has speakers ranging from prominent scientists like David Sinclair and Aubrey de Grey to entrepreneurs and investors like billionaire Jim Mellon of Juvenescence to VCs and fund directors like Alexandra Bause of Apollo Health Ventures is a crash-course in investment opportunities and fundraising vehicles for longevity.
Oct 05-06, 2021	<b>Annual Healthtech Innovation Forum</b>	Basel	Annual Healthtech Innovation Forum anticipates over 200 delegates, covering innovation in the digital health and MedTech and devices sectors, with the target audience being corporate and financial investors/partners and advisors.
Oct 19-20, 2021	<b>Annual Biocontrol Industry Meeting ABIM</b>	Basel	The Annual Biocontrol Industry Meeting ABIM will be providing the biocontrol industry with a platform on 19-20 October 2021. The program will feature topical keynotes and panels with industry leaders and over 20 corporate presentations.

# 15 Swiss Non-Profit Organizations Focusing on Aging and Longevity



**Institute for  
Regenerative Medicine**



**Life Sciences  
Switzerland**



**Swiss Coordination  
Committee for Biotechnology**



**Health 2030 Genome  
Center**



**Gerontological Economic  
Research Organization**



**BioVaalley**



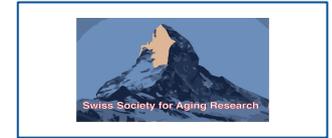
**Swiss National  
Science Foundation**



**Swiss Stem Cell  
Foundation**



**Swiss Society of  
Gerontology**



**Swiss Society for  
Aging Research**



**The Geneva Foundation for  
Medical Education and  
Research**



**Swiss Institute for  
Regenerative Medicine**



**Velux Stiftung**



**The Swiss Biotech  
Association**



**Vontobel Foundation**

# 15 Swiss Government Organizations Focusing on Aging and Longevity



swiss  
clinical  
trial  
organisation

Swiss Clinical Trial  
Organization



Swiss Personalized  
Health Network



biotechnet  
switzerland

Biotechnet



SystemsX.ch



life sciences  
cluster basel

Life Science  
Cluster Basel



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LANDSCHAFT 

Administration of the  
Canton of  
Basel-Landschaft



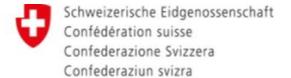
**Bank  St.Gallen**

St. Gallen Elderly  
Care Bank



Federal Department of Economic Affairs,  
Education and Research EAER  
**Agroscope**

Federal Department of  
Economic Affairs,  
Education and Research



 Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Federal  
Statistical Office FSO



 **handelskammer** beider basel

Basel Chamber of  
Commerce



Swiss Biobanking  
Platform



 Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra  
  
Swiss Confederation  
  
Commission for Technology and Innovation CTI

Swiss Federal Commission  
for Innovation and  
Technology



WHO



Canton  
of Basel-Stadt

# 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 Science



Journal of Aging &  
Gerontology



Public Health Genomics



Tissue Engineering and  
Regenerative Medicine  
Journal

# Key Swiss Longevity Influencers



**Patrick Aebischer**  
Chairman and  
Co-Founder at  
Amazentis



**Marc P. Bernegger**  
Co-Founder at  
Longevity Investors



**Achim Regenauer**  
Chief Medical  
Officer at PartnerRe



**Alexis Iglauer**  
Head of Analytics  
and Technology  
at PartnerRe



**Jim Allison**  
Head of Longevity  
Valuation  
at PartnerRe



**Tim Gosswiler**  
Head of Pricing  
Longevity  
at PartnerRe



**Olga Donica**  
Head of Innovation  
at CLINIQUE LA  
PRAIRIE



**Roger Baumann**  
Board Member at  
Longevity Partners



**Yvonne Arivalagan**  
Consultant at  
World Health  
Organization



**Lars Gehrmann**  
Strategic Advisor at  
Deep Longevity



**Nikola Cihoric**  
Founder at  
Wemedoo AG



**Nick Chadwick**  
Longevity Risk  
Consultant at Club  
Vita



**Dr. Sanja Tomovska**  
Head Strategic  
Integrated Portfolio  
I Board Director at  
VAB



**Sophie Chabloz**  
Co-Founder and  
CPO at Maximon  
Venture



**Siham Ceballos**  
Founder and  
managing partner at  
BioArtemis



**Stefan Hascoet**  
Managing Partner at  
Deep Knowledge  
Group



**Valentina De Donato**  
Founder Longevity  
Mission at Vendita



**Jurgi Camblong**  
Co-Founder and CEO  
at SOPHIA GENETICS



**Gunter Festel**  
Founder and  
Chairman at Swiss  
Institute of  
Longevity



**Filippo Ongaro**  
Founder & CEO at  
Metodo Ongaro  
Switzerland SA



**Paulo Fontoura**  
Global Head and  
SVP Neuroscience,  
Immunology and  
Rare Diseases at  
Roche



**Kevin O'Regan**  
CEO L&H EMELA at  
PartnerRe



**Jean-Claude Artonne**  
Owner at Trustinsight



**P n lope Andreux**  
R&D Group Leader  
at Amazentis Life  
Sciences



**Vincenzo Sorrentino**  
Group leader Aging  
and muscle health at  
Nestl 

# Key Swiss Longevity Influencers



**Lauranne Stas**  
Co-Founder & CEO  
at Swiss Vitality  
Institute



**Kari Sarvanto**  
Board Advisor,  
Founder at Cancer  
Research and  
Biotechnology AG



**Marco Bucci**  
Global Marketing  
Director Entresto at  
Cardio-Renal-  
Metabolic Franchise



**Raphael Leiteritz**  
Product  
Management  
advisor & investor at  
Raphael Leiteritz



**Oksana Souter**  
CEO at Swiss  
Organic Solutions



**Elena Catsicas**  
Project manager in  
Longevity  
Investments at  
Skyviews Life  
Science



**Elena Katsyuba**  
Head of bioassay  
development at  
Nagi Bioscience



**Tristan G. Heintz**  
Head of Research at  
Rejuveron Vascular  
Therapeutics AG



**Marcell Zambo**  
Manager in Finance  
& Company building  
at Rejuveron Life  
Sciences AG



**Francesco Paneni**  
Prof. Dr. med. at  
Universität Zürich



**Nicu Danilov**  
CEO at Soglas  
Invest LLC



**Manaswini  
Sivaramakrishnan**  
State Head in  
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Hematology, Rare  
diseases at Roche



**Frank Kumli**  
Head of Innovation  
& Entrepreneurship,  
Basel Area Business  
& Innovation



**Bernard Cuenoud**  
Global Science Lead  
in Aging & Energy  
Metabolism at  
Nestlé Health  
Science



**Nazanin  
Sédille-Mostafaie**  
Head of Institute for  
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Global R&D Lead of  
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Health Science



**Patrick C. Fraering**  
Director of Translational  
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Axanton Technology  
GmbH



**Philipp Gut**  
Cell Biology  
Department Head at  
Nestlé



**Jérôme Vasamillet**  
Sales Director at  
InvestCloud, Inc.



**Jeffrey Sevigny**  
Chief Medical  
Officer at Prevail  
Therapeutics



**Andrea Rappagliosi**  
Vice President of  
Public Affairs EMEA,  
Canada and LATAM  
at Edwards  
Lifesciences



**Tobias Reichmuth**  
Co-Founder and Host  
at Longevity  
Investors



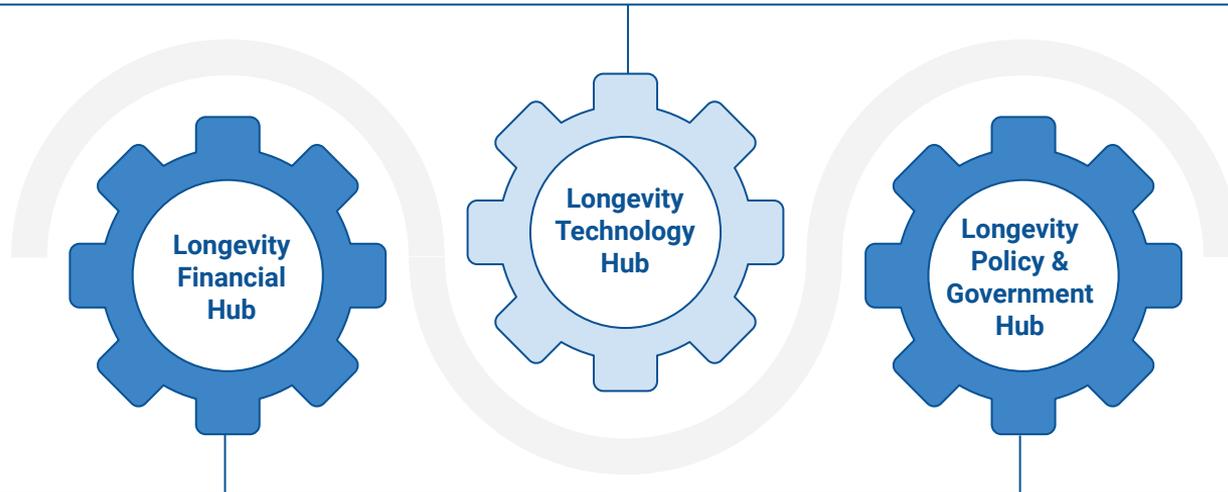
**Steven Neftel**  
Vice President of  
Thematic Private  
Equity at Credit  
Suisse



**René Bläuer**  
CEO at SSAAMP -  
Swiss Society for  
Anti Aging Medicine  
and Prevention

# Deep Knowledge Generation and Implementation

Every industry needs an innovative out-of-border approach that can be accelerated by the intense research & development sector. Close collaboration between academic and industrial representatives of the BioTech community may create an auspicious ecosystem. In such an environment, high-tech startups rise, attracting new investments and talents, daring to find solutions to modernity's most difficult aging-related issues.



The main objective of Longevity Financial Hub is to develop strong global connections and focus on the needs of the economy and serve as an international financial platform for particular regions and the global economy in general. Progressive asset management firms, investment banks, pension funds, and insurance companies based in Longevity Financial Hubs will develop new business models using AI to improve analytics quality.

Additional efforts are needed to maintain further and develop the industry's existing strengths, including government support for research and development and other stakeholders in the Longevity Industry. Aging proliferation as a growing problem is turning into an opportunity for governments to develop progressive policies for the pension system, an ecosystem of insurance companies, and a national strategy for intensive healthcare system development.

# Swiss Longevity Valley

I.

## Swiss Government Engagement on National Longevity Development Plans and Initiatives

Proactive engagement with Swiss government agencies and members of the Swiss Parliament to establish a framework for a National Swiss Longevity Development Plan and Industrial Strategy to grow Switzerland's Longevity ecosystem to scale and enable extension of the national Health-Adjusted Life Expectancy.

III.

## Coordinated Development of AI Centres for Longevity to Enable the Shift from Treatment to Prevention

Though the intensive application of AI to advanced biomedicine, Switzerland can lead the world in Precision Health, utilizing the latest innovations in AI, Longevity, Biomarkers of Ageing and Advanced Biomedicine to become nation leading the world in preventive, personalized and precision health care for its citizens.

II.

## II. Cross-Sector Dialogue with All Major Longevity Industry Players

A focus on cross-sector dialogue, projects and initiatives spanning government, industry, academia and other relevant spheres of activity, Swiss Longevity Association aims to achieve a maximum level of synergy and convergence, growing every aspect of Switzerland's Longevity ecosystem to scale.

IV.

## Support of Progressive Longevity Financial Reform to Neutralize Economic Burden of Ageing Population

Swiss Longevity Association will work alongside large Swiss financial institutions including pension funds, insurance companies, private wealth banks and other relevant entities to roadmap initiatives and policy proposals to turn the problem of ageing population into the economic opportunity of Healthy Longevity.



Swiss Longevity Valley

# Stay on Top of the Latest Intelligence

Stay on top of the latest information about Switzerland's DeepTech Industry with our analytical case studies and interactive IT platforms.



**FemTech Industry in Switzerland**  
Landscape Overview Q4 2021  
November 2021  
www.femtech.health

FemTech Analytics



**Mitochondria-Longevity Research in Switzerland**  
Special Analytical Case Study  
Q3 2021

Aging Analytics Agency



**Basel Area Life Sciences Ecosystem**  
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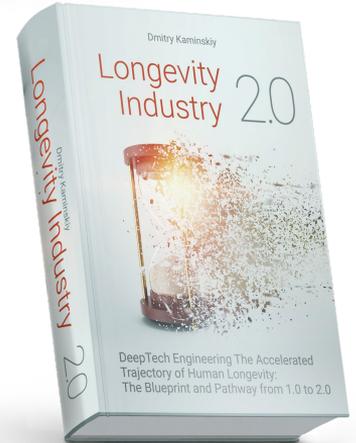
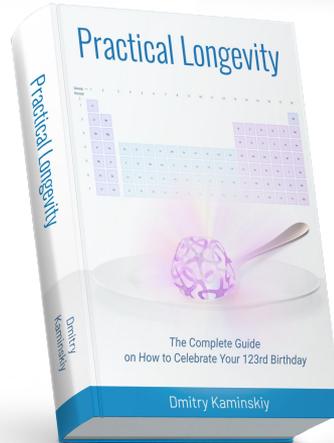
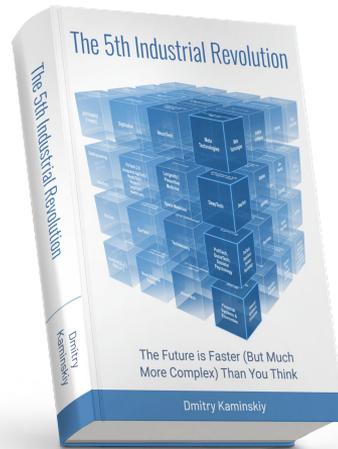
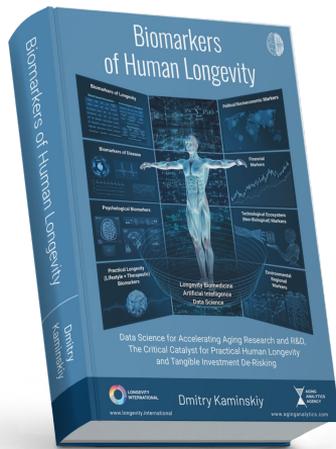
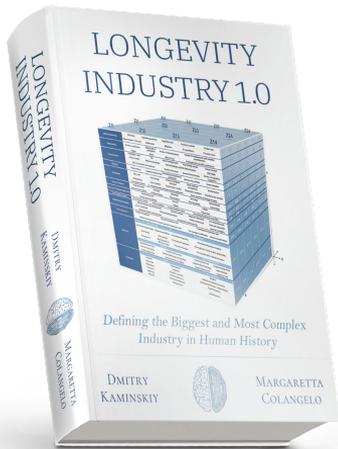
**Artificial Intelligence Industry in Switzerland**  
Landscape Overview 2021/Q3  
Teaser  
August, 2021

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**InsurTech in Switzerland**  
Landscape Overview  
November, 2021  
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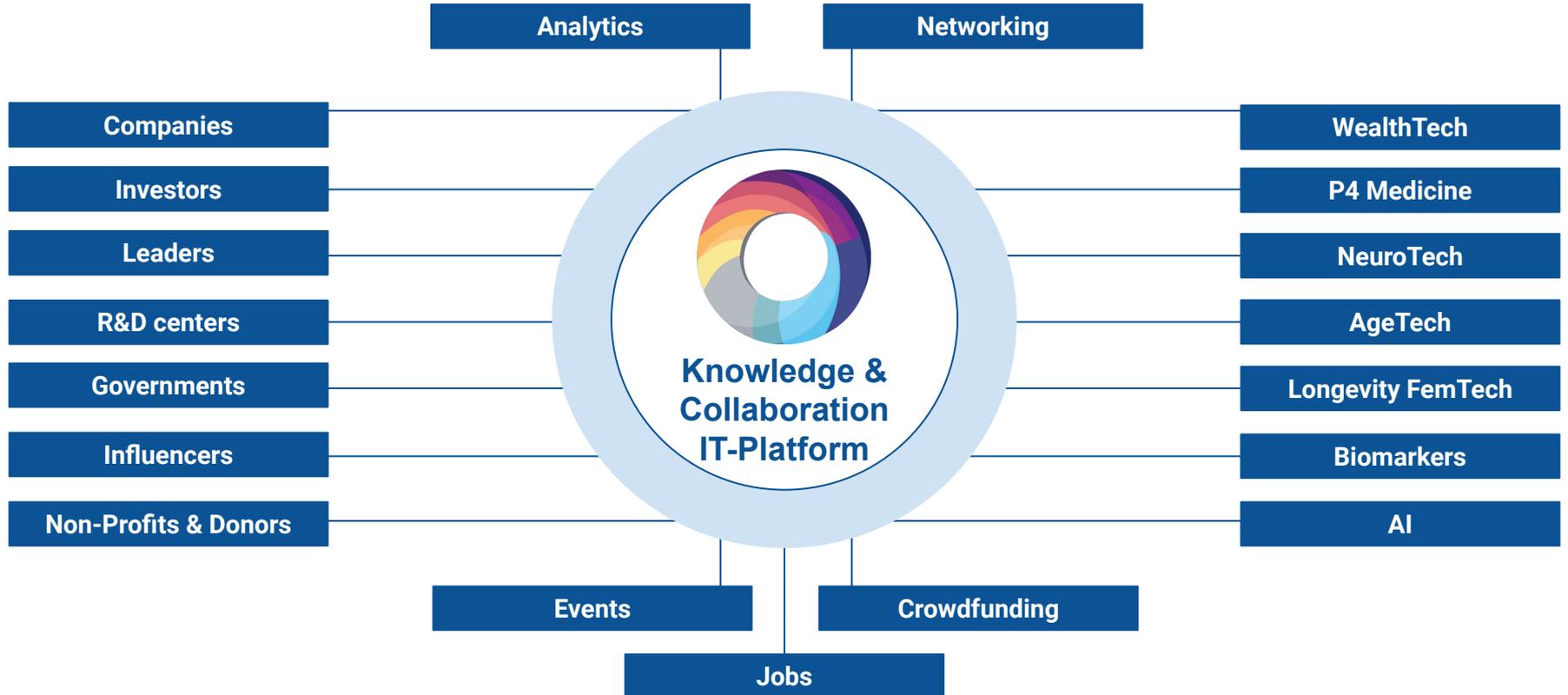
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[www.longevity-book.com](http://www.longevity-book.com)



# Longevity.International: One-Stop Platform for Longevity Industry Knowledge



# About Aging Analytics Agency

[Aging Analytics Agency](#) is the world's premier provider of industry analytics on Longevity, Precision Preventive Medicine, the Economics of Aging, and the convergence of technologies such as AI, Blockchain, Digital Health and their impact on the healthcare industry.

# About Deep Knowledge Analytics

[Deep Knowledge Analytics](#) is a DeepTech focused agency that produces advanced analytics on DeepTech and frontier-technology industries using sophisticated multi-dimensional frameworks and algorithmic methods that combine hundreds of specially designed and specifically weighted metrics and parameters to deliver sophisticated market intelligence and pragmatic forecasting and tangible industry benchmarking.

It is an analytical subsidiary of [Deep Knowledge Group](#), an international consortium of commercial and non-profit organizations focused on the synergetic convergence of DeepTech and Frontier Technologies (AI, Longevity, MedTech, FinTech, GovTech), applying progressive data-driven Invest-Tech solutions with a long-term strategic focus on AI in Healthcare, Longevity and Precision Health, and aiming to achieve positive impact through the support of advanced technologies for the benefit of humanity via scientific research, investment, entrepreneurship, analytics, and philanthropy.



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ANALYTICS

# Aging Analytics Agency: Value Proposition

Visit Website



Aging Analytics Agency is the only specialised analytics agency that focuses exclusively on the emerging Longevity Industry. They are recognised internationally as the premier analytics agency for advanced data analysis, industry reports and next-generation infographics on Aging and Longevity.

## Aging Analytics Agency is focusing on three key activities:

### Providing Commercial Services

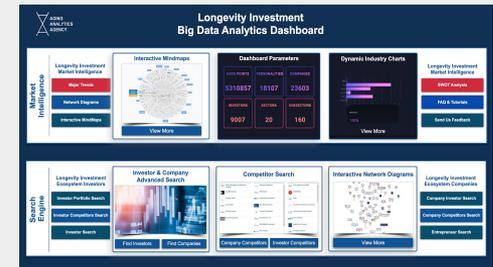
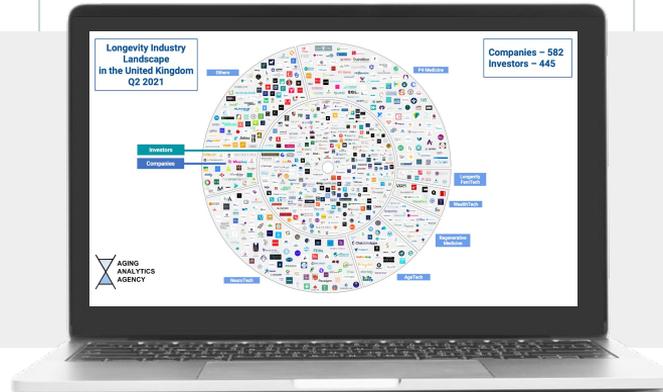
Conducting customized case studies, research, and analytics for internal (organizational) use, tailored to the precise needs of specific clients.

### Preparing Open Access Reports

Producing regular open access and proprietary analytical case studies on the emerging topics and trends in the Longevity Industry.

### Building Big Data Analytics Platforms

Offering customized analysis using specialized interactive industry and technology databases, IT-platforms, and Big Data Analytics Dashboards.





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ANALYTICS  
AGENCY**

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**Website: [www.aginganalytics.com](http://www.aginganalytics.com)**

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