

GovTech Industry Landscape Overview 2021 Q4: Support of Longevity Governance

Teaser

November, 2021



GovTech Industry Landscape Overview 2021 Q4: Support of Longevity Governance

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Introduction

Developed by GovTech Division of Deep Knowledge Analytics, **GovTech Industry Landscape Overview 2021 Q4: Support of Longevity Governance** report contains a comprehensive overview of the global GovTech industry in connection with Longevity industry. The **report focuses on how GovTech companies could support national longevity strategies in different countries, how they participate in the policy implementation and evaluation, and help governments to monitor the impact of policies on the population.**

During the research **300 GovTech companies** were analysed, as well as nearly **400 investors** and **150 ministries**. The **development of new technologies will benefit healthy ageing and longevity**, enabling people to lead healthier and more fulfilling lives at any age.

The **report discloses a wide range of services** that GovTech companies could provide support to governments in terms of longevity. This includes elderly support, education, FinTech services, healthcare services, insurance, communication solutions, etc.

There is a global ageing trend, especially in developed countries. This leads to a rapid increase in the burden on social security. One solution that is gaining attention as the key to solving this problem is to **increase healthy life expectancy** so that everyone can continue to live a healthy and autonomous life.

Approach

Database

Identification of relevant:

- Companies,
 - Investors,
 - Universities & Research Centres,
 - Government Ministries, Departments & Agencies,
- that operate, interact with or are somehow involved in the GovTech and Longevity industries.

Applied Research & Analytics Methods

Descriptive
Analysis

Mixed Data
Research

Exploratory Data
Analysis

Comparative
Analysis

Qualitative Data
Collection

Data Filtering

Data Sources*

Media Overview
(Articles, Press Releases)

Industry-Specialised Databases

Publicly Available Sources
(Websites)

Industry Reports and Reviews

Containing a comprehensive overview of the GovTech and Longevity industries, the report relies on various research methods and analytics techniques. Since there is no clear definition of the GovTech-Longevity market, our assessment is based on certain assumptions. Deep Knowledge Analytics is not responsible for the quality of the secondary data presented herein; however, we do our best to minimize possible risks by cross-checking data and using different analytics techniques. Please note that we did not deliberately exclude certain companies from our analysis due to the data-filtering method used or difficulties encountered. The main reason for their non-inclusion was incomplete or missing information in the available sources.

Executive Summary

During the last century, life expectancy has rapidly and noticeably increased due to multiple factors such as improved lifestyles, rising living standards, advances in healthcare and medicine. Based on WHO's latest statistics, global life expectancy at birth for both sexes is estimated at the age of 73. In 2020, for the first time in history, individuals aged 60 or older outnumbered children under five.

These remarkable gains are due to improved public health, better nutrition, better healthcare and, most recently, technological innovations, big data and artificial intelligence to improve healthy life expectancy and meet the demands of an ageing population.

The rise of new technologies will benefit healthy ageing and longevity by enabling people to live healthier, more fulfilling lives at all ages. For example, technological innovations have been deployed to keep people physically active, facilitate independent living such as by detecting falls, intelligent home technology, early detection of diseases and management of disease conditions, maintenance of social connections by reducing social isolation and continued engagement in the workforce, to name a few.

300
Companies

~400
Investors

~150
Ministries

12
Categories

64.0%
Companies in
North America

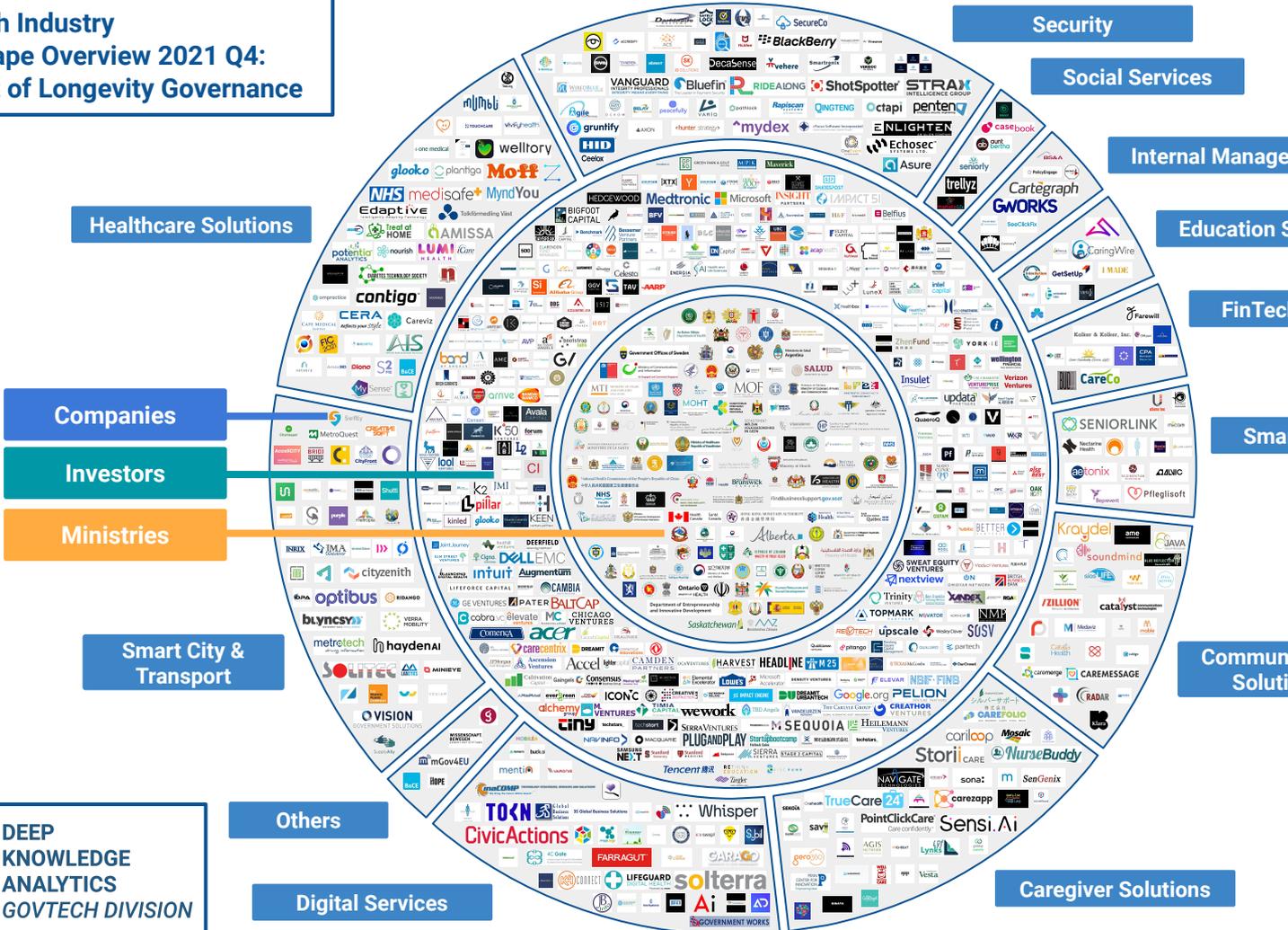
69.6%
Investors in
North America

16.7%
Of GDP was spent on
healthcare in the USA

Japan
Highest HALE*
in the world

**GovTech Industry Landscape Overview 2021 Q4:
Support of Longevity Governance**

**Companies - 300
Investors - 395
Ministries - 140**



Security

Social Services

Internal Management

Education Solutions

FinTech Solutions

Smart Home Tech

Communication Solutions

Caregiver Solutions

Healthcare Solutions

Companies

Investors

Ministries

Smart City & Transport

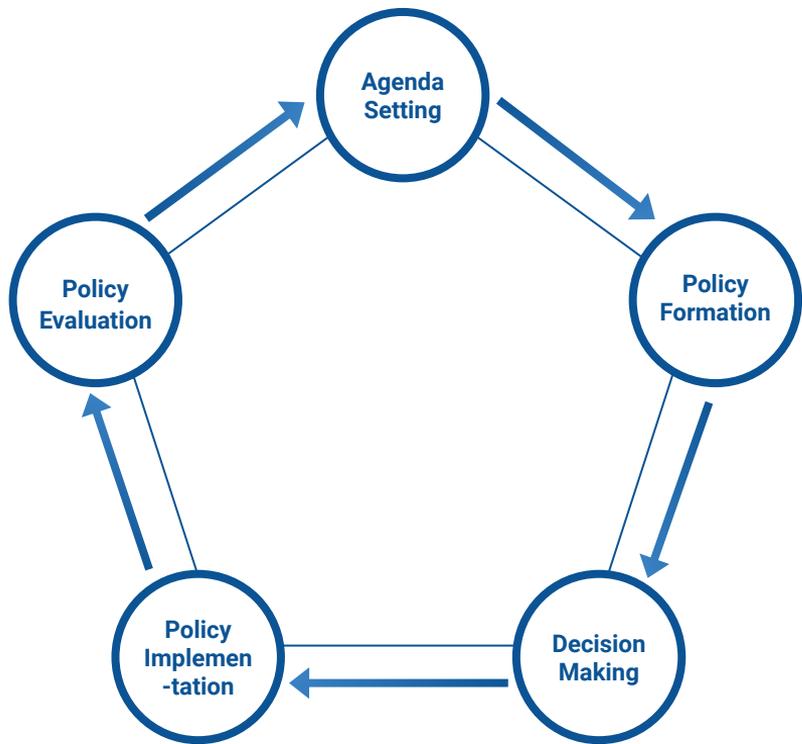
Others

Digital Services



Policy Making Process: Where is GovTech?

The process of formulating public policy plays a central role in the life of the population. The government's primary goal is for legislators to set guidelines and then government officials to enforce those policies. They affect the life of every citizen, from how and when to vote, to where everyone can park, and what is a crime and what is not.

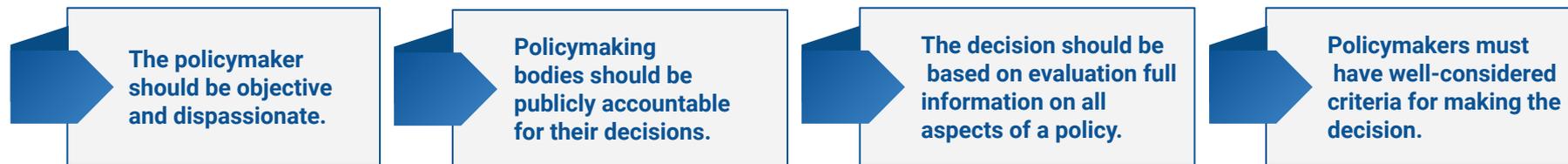


Public Policy Process Cycle

GovTech companies participate in the policy implementation and evaluation phases and help governments implement their chosen public policy option. GovTech companies are the **link between the government and the immediate population** of a particular country. Such companies are the executive body when governments pass laws (in our case, concerning longevity). Stakeholders inside and outside the government **monitor the impact of a policy** and determine whether it achieves its intended goal. This can lead to further changes in public policy, taking into account the influence of the original policy.

Healthcare Policy Making Process

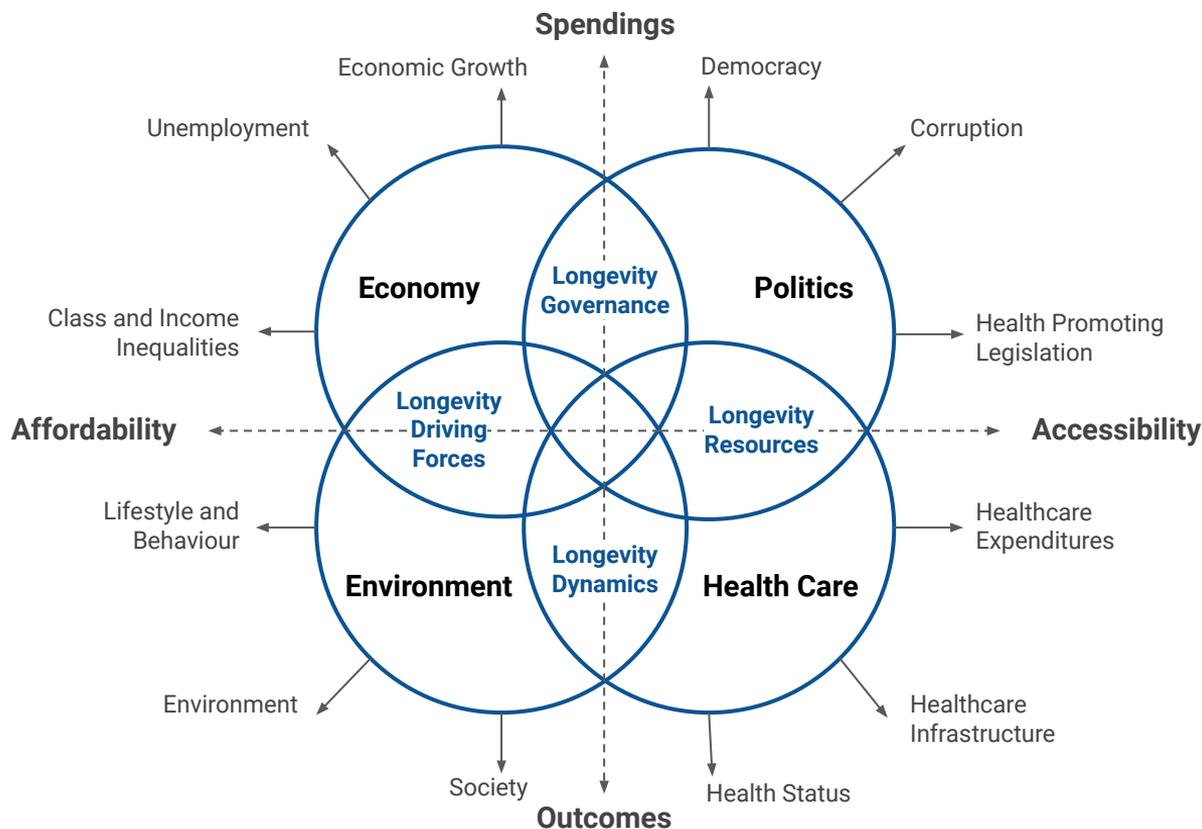
Four Factors that are Important for Developing Health Policies



Steps in Policymaking



Healthy Longevity Progressiveness

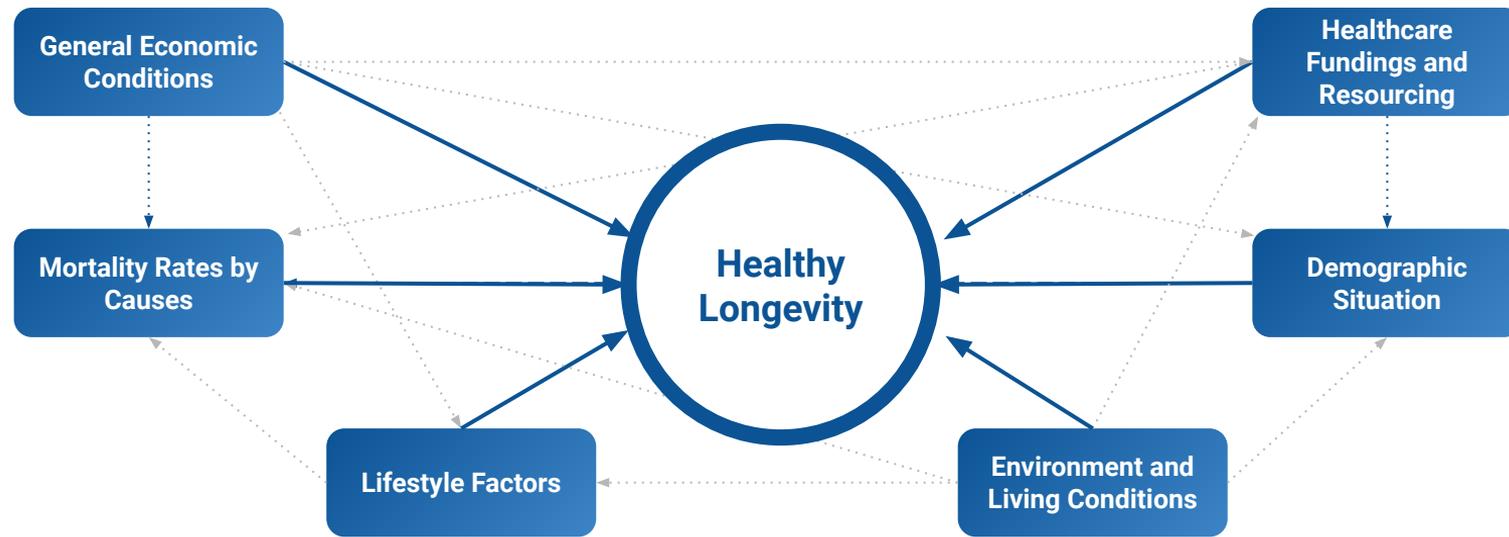


Longevity progressiveness is essential for driving economic progress and competitiveness – both for developed and developing economies.

Healthy Longevity is affected by many groups of factors such as **socioeconomic status, demography, income**, wellbeing, the quality of the health system and the ability of people to access it, health behaviours such as tobacco and excessive alcohol consumption, poor nutrition and lack of exercise, **social factors**, genetic factors and **environmental factors** including overcrowded housing, lack clean drinking water and adequate sanitation.

Longevity progressiveness should be based **on four pillars**. They are good health outcomes, cost-efficiency, affordability of healthcare treatment for the population and most complete access to services and products.

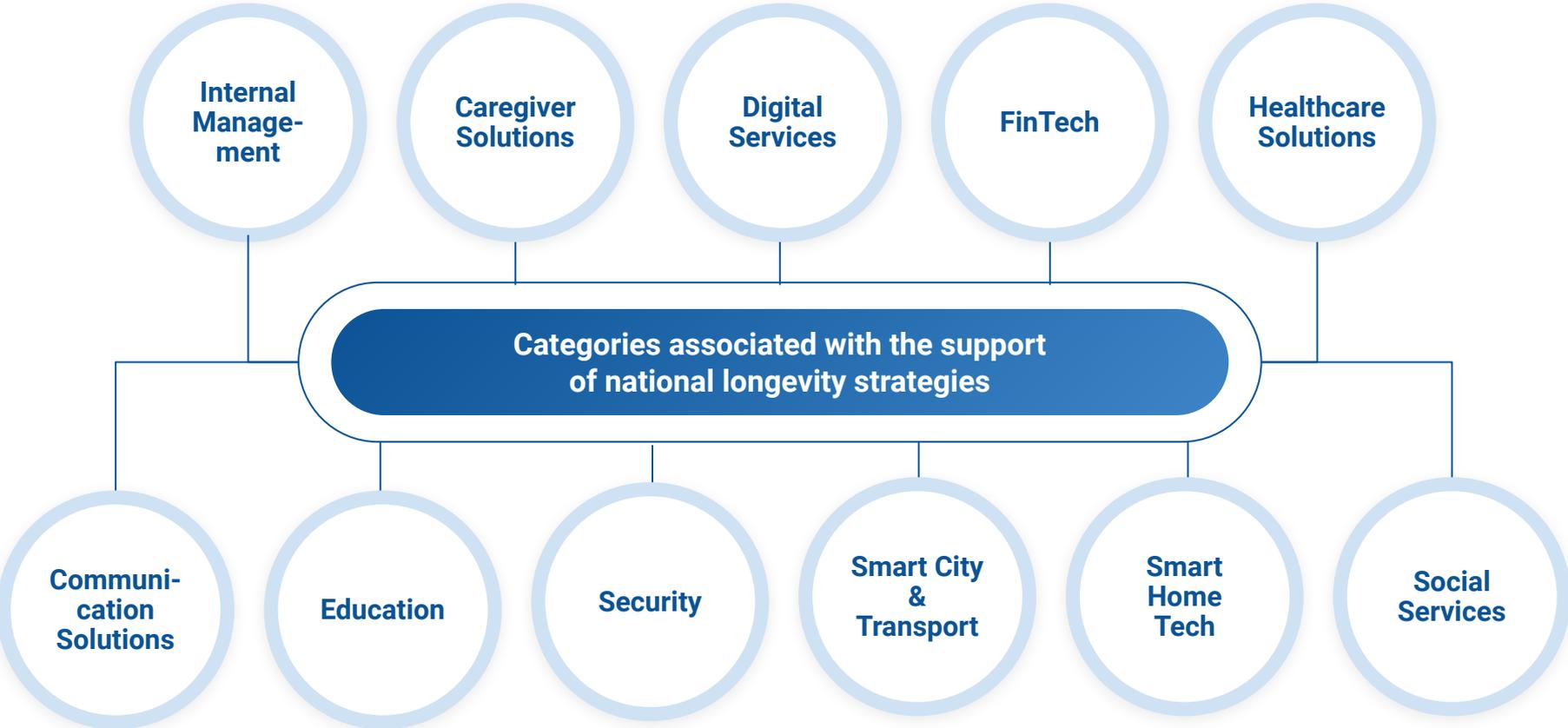
Healthy Longevity Determining Factors



The Network Graph is used to display relations between various factors that determine Longevity. All parameters are divided into **six pillars**: general economic conditions, mortality rates, lifestyle factors, environment, demography and healthcare.

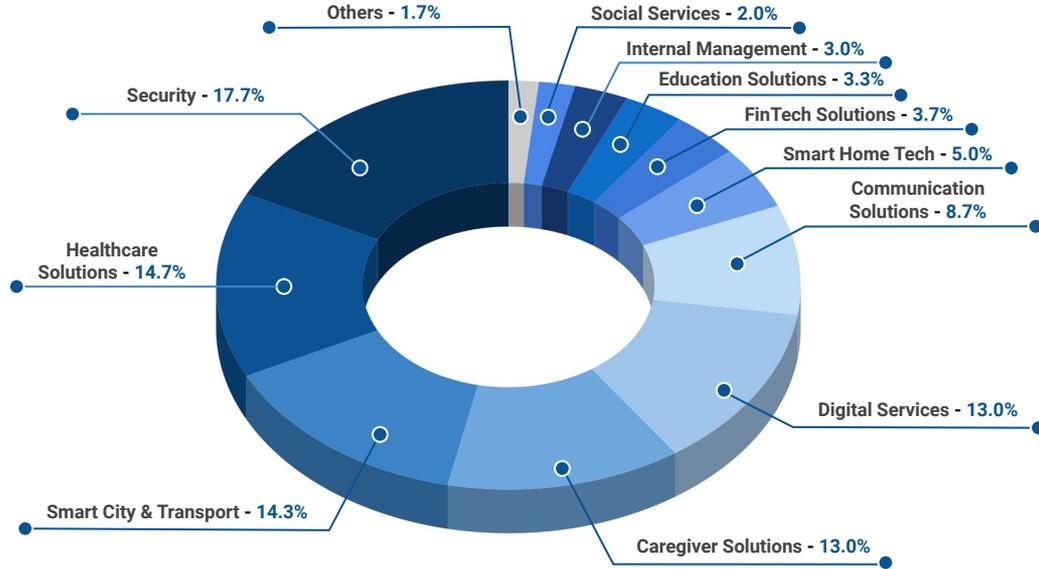
The graph itself visualizes how metrics are interconnected with each other. The relationship between them is displayed with lines. **Bold arrows** indicate the direct impact on healthy longevity, determined as the difference between life expectancy at birth and health-adjusted life expectancy. **Dashed lines** reveal **multicollinearity**, a state of very high intercorrelations or inter-association among the independent variables, factors across different groups.

GovTech as a Support of National Longevity Strategies

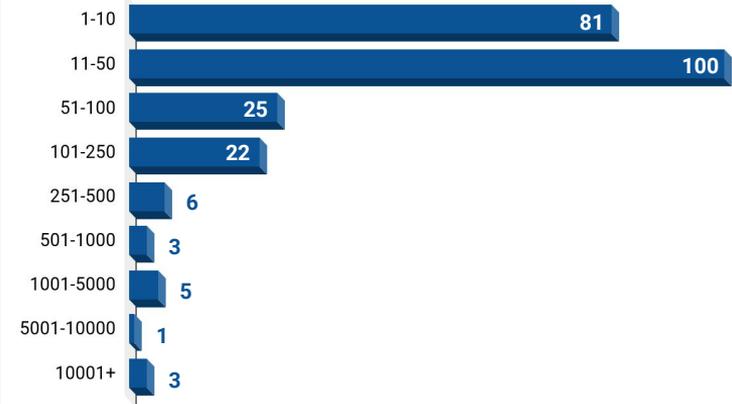


GovTech Companies' Distribution

Distribution of Companies by Categories



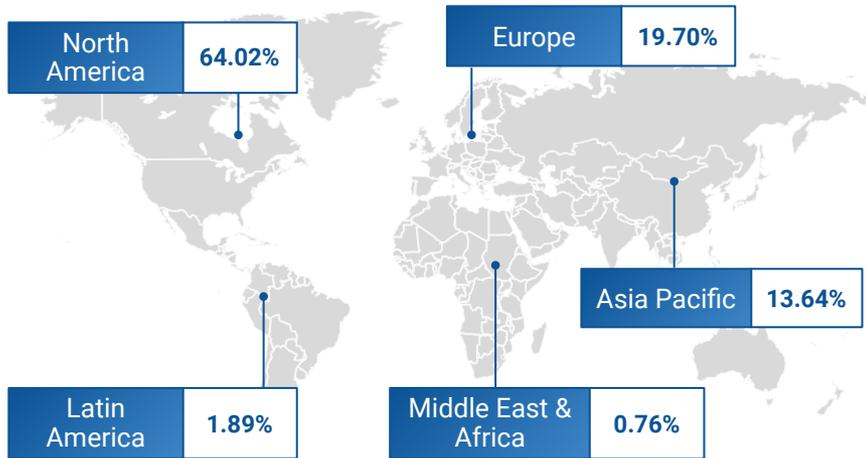
Distribution of Companies by Number of Employees



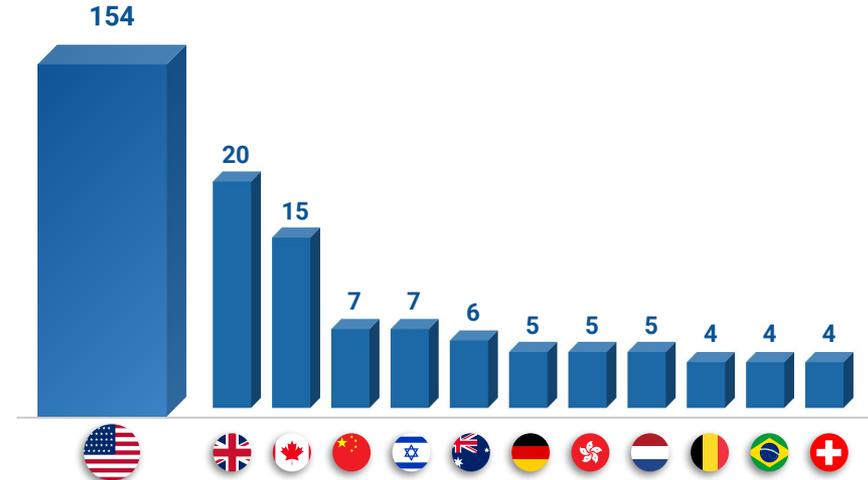
During the research, 300 GovTech companies that are aimed to support national longevity strategies were analysed. Security is the largest category, with 17.7% of all surveyed companies. The second and the third biggest types are Healthcare Solutions and Smart City & Transport with 14.7% and 14.3% of all analysed companies.

GovTech Companies by Regional Distribution

Companies: Regional Proportion



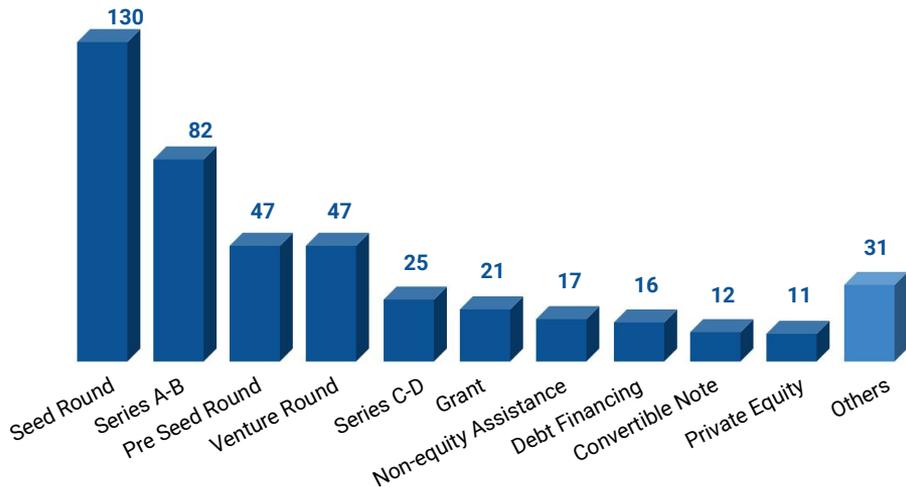
Top Countries by Number of Companies



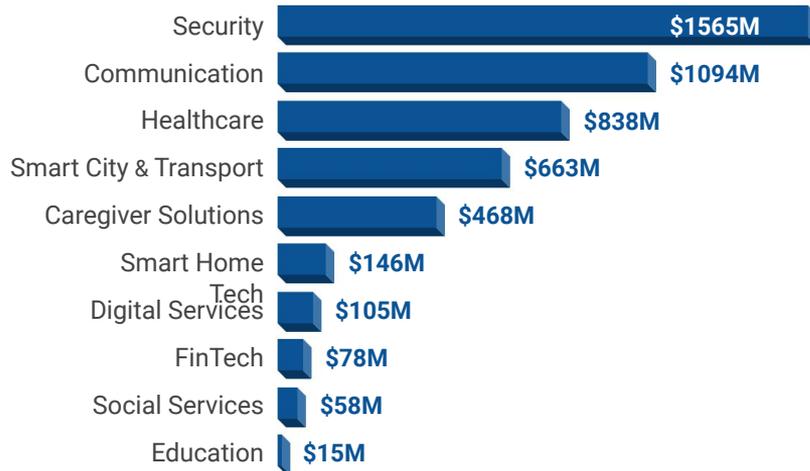
More than half of the companies are located in North America. The second biggest region by investors' location in Europe with a more than 19% share. The Top-3 countries by the number of analyzed companies are the United States (154), the United Kingdom (20), and Canada (15).

GovTech Companies' Funding

Number of Funding Deals Summarised, 2015-2020



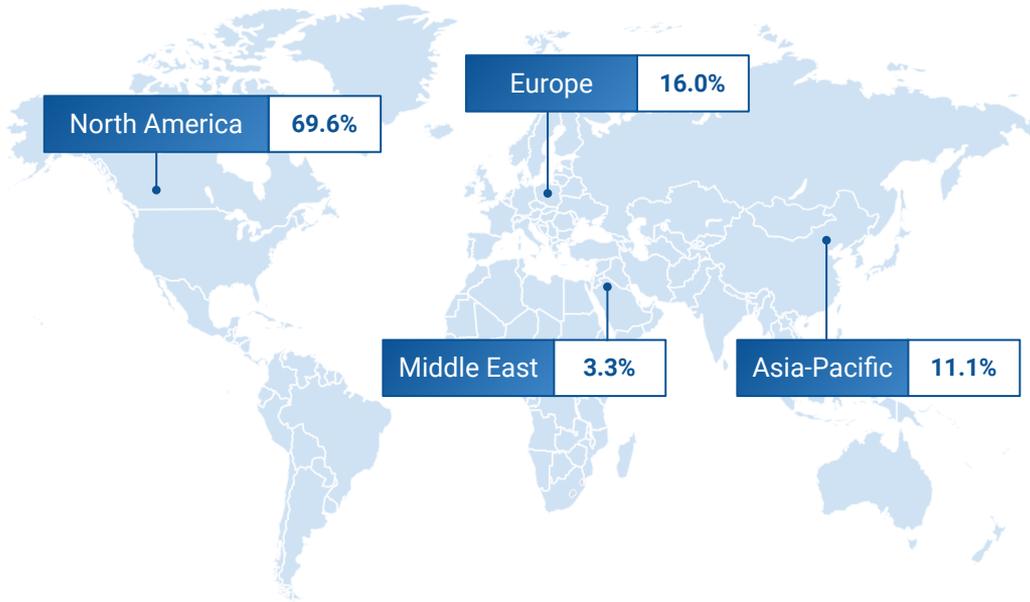
Top-50 Companies' Total Funding by Category



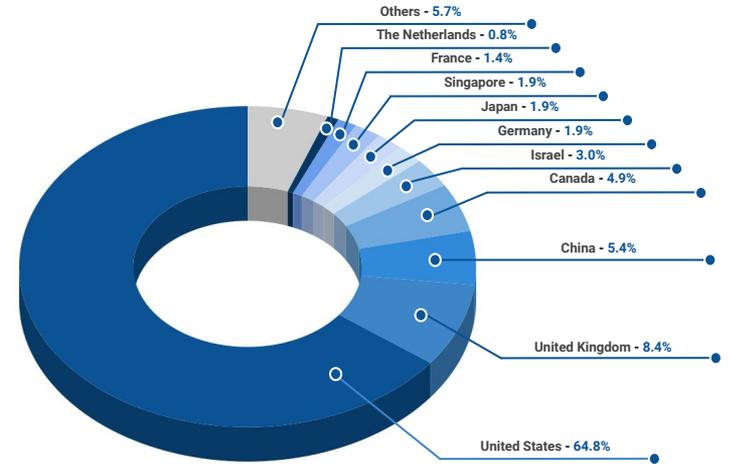
Most deals in GovTech Longevity companies were made during Seed Round, Series A and B, and Pre Seed Round. Security companies raised more than \$1.5B, followed by Communication and Healthcare Solutions companies.

Investors of GovTech Companies

Investors: Regional Proportion



Distribution of Investors by Countries

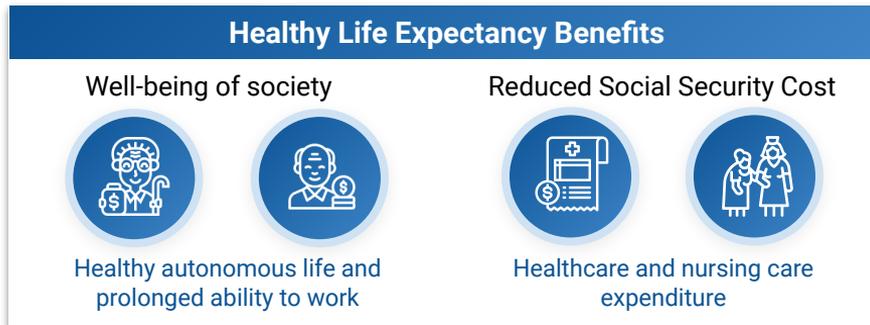


Most investors interested in GovTech companies that support national longevity strategies are based in North America, especially in the United States (64.8% of all analysed investors). The second region is investors in Europe (16.0%), followed by Asia-Pacific (11.1%).

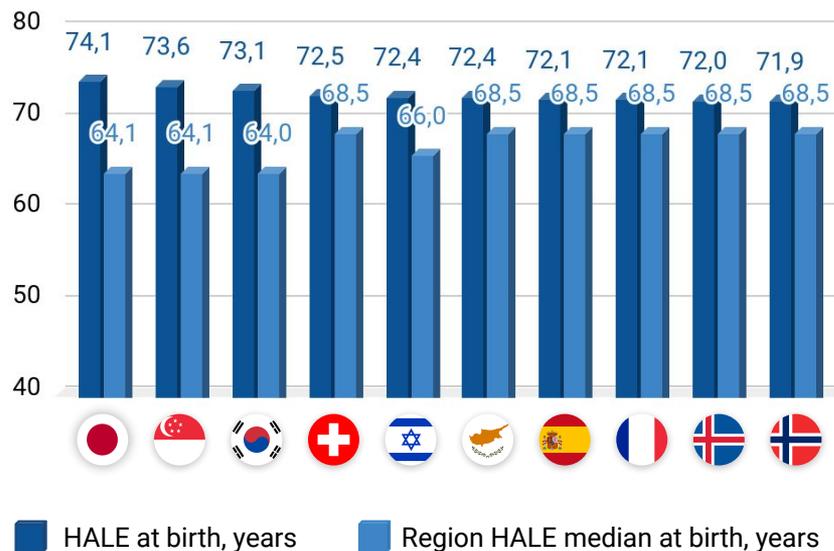
Healthy Life Expectancy as a Key to a Sustainable Longevity Society

There is a global trend of aging, especially in developed countries. It leads to a rapid increase of social security burdens. One solution gaining attention as a key to resolving this issue is to extend healthy life expectancy so that everyone can continue to live healthy and autonomous lives.

As the super-aged society continues to develop in Japan, social security costs are forecast to increase as the ratio of elderly continues to increase rapidly. The reason for staying behind rising social security costs in Japan is the difference in healthcare expenses by age. There are also concerns that the current social security system will not support a longevity society, whereas the difference between average life expectancy and healthy life expectancy (HLE) is significant. Properly reducing social security costs and building a sustainable community are now urgent issues facing the government. This is a common situation that developed countries face.



Top-10 Countries by HALE with the Region Median, 2019



Current Expenditure on Health

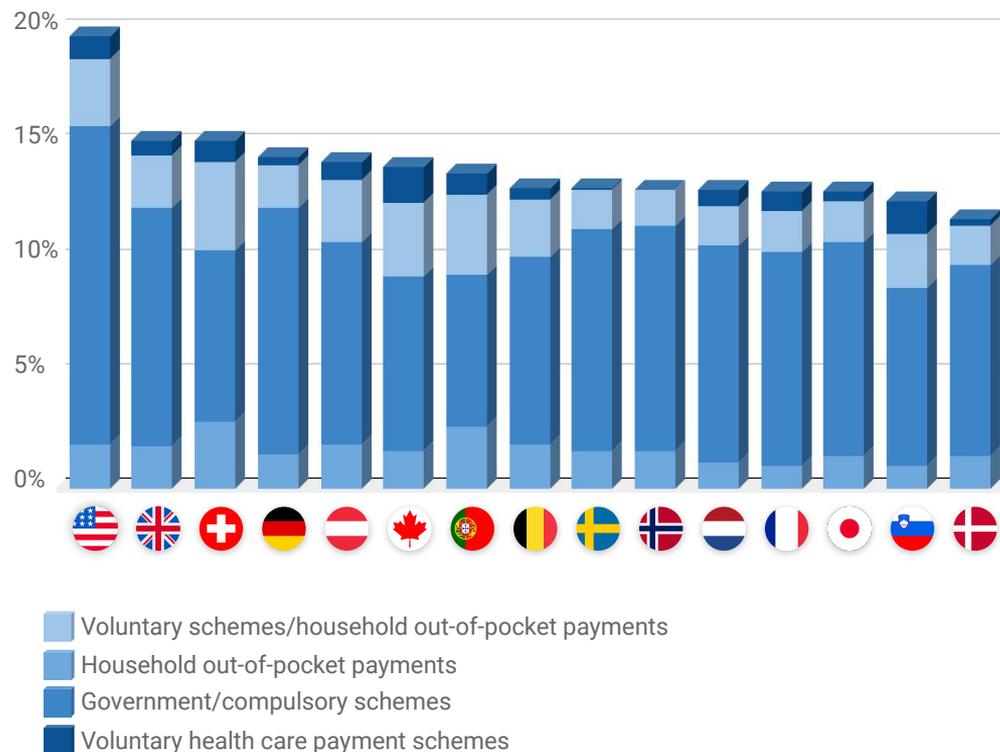
Current Expenditure on Health is distributed unevenly across countries, as each country has particular political, economic, and social features.

High-income countries account for about **80%** of global spending, but the middle-income country share increased to **19%** of global spending (compared with **13% in 2000**). The main driver of this change was income growth in many large countries (mainly India and China) as they moved to higher-income groups.

Just **over 40%** of the world's population lived in low-income countries in 2000, and now this number is **below 10%**. The most significant spending increase was in upper-middle-income countries, whose population share more than doubled over the period (due to China's large population joining that group), while their share of global health spending nearly doubled.

In 2019, the United States spent about **16.7% of GDP** on health expenditures – more than twice the average of developed countries.

Top-15 Countries in Terms of Expenditure on Health, (2018-2020, % of GDP)



Implementation of Data-Driven Healthcare Systems

Government-Led Initiatives in Denmark

Denmark is actively involved in government-led data utilization to realize a healthier society. Personal medical record information is associated with an individual's CPR number and centrally managed. People's access to this data helps to increase health awareness and can be used for health management and preventive medicine.

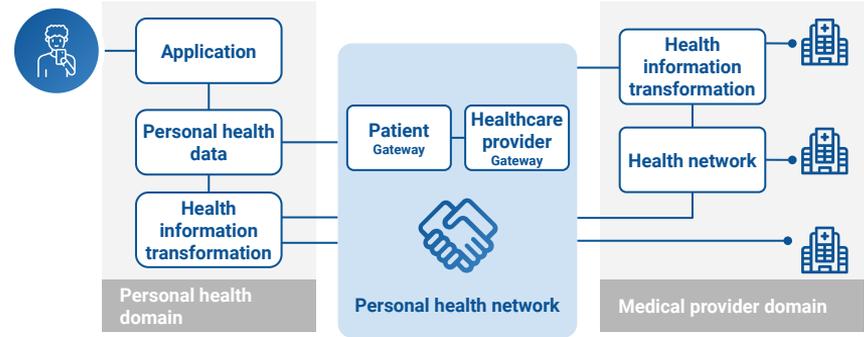
Private-Sector-Led Efforts to Extend HLE in the Netherlands

Promotion of the use of data toward extending HLE is underway in the Netherlands. In 2016, the "MedMij" project used personal health records (PHRs). This initiative in the Netherlands is based on voluntary health promotion through the self-reliant efforts of citizens. The role of the government extends to providing a rough policy and leaving the operation of services to private organizations and corporations

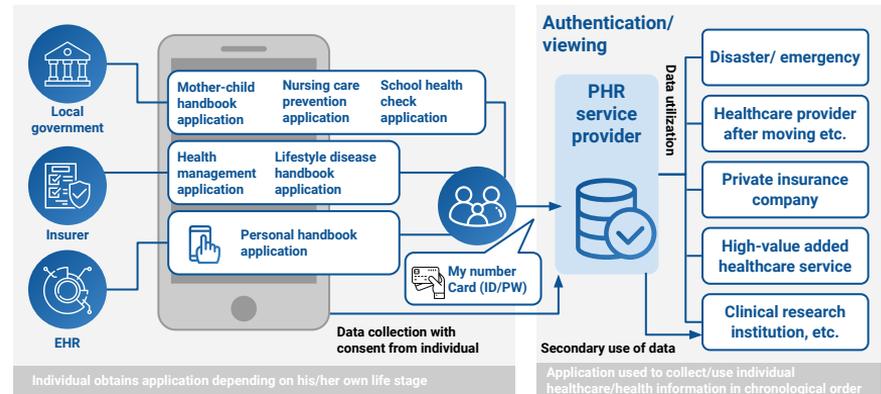
Japanese Government's Next Generation Healthcare System

One of the goals of using data in healthcare is the extension of healthy life expectancy. The government has set a policy of promoting data as a foundation for providing health, healthcare, and nursing care services. Government research institutions continue to work on research projects to develop PHR service models that cover four life stages and research to establish foundational technologies. Private service providers are also making more use of individual healthcare data with the consent of individuals.

Health Information Exchange model in Netherlands



PHR Service Model in Japan



Ageing Europe: EU Meets Societal Challenge of an Ageing Population

With populations ageing across Europe, pensions, healthcare and long-term care systems risk becoming financially unsustainable, as a shrinking labour force may no longer be able to provide for a growing number of older people.

EU Longevity Policymakers



Active ageing is the **European Commission's** policy directed towards helping people stay in charge of their lives for as long as possible as they age to contribute to the economy and society



The **European innovation partnership on active and healthy ageing** aims to foster innovation that will promote active ageing and raise healthy life expectancy



The **European pillar of social rights** stresses the right to affordable long-term care services of good quality, in particular home-based care and community-based services



The **Social Protection Committee** provides adequate and sustainable long-term care in ageing societies, through investing in preventative care, rehabilitation and age friendly environments

European Strategy to Foster Innovation in Longevity

Horizon Europe (2021-2027) is the European Union's new programme dedicated to research and innovation. The programme has a budget of **EUR 95.5B** and is divided into three pillars

Pillar I

Excellent Science, which aims to increase the global scientific competitiveness of the European Union

Pillar II

Global Challenges and Industrial Competitiveness, which will support research activities aimed at solving societal challenges through 6 clusters, including **health**

Pillar III

Open Innovation, which aims to position Europe as a world leader in innovation and market creation through the European Innovation Council (EIC)

The 2021-2022 work programme of the health cluster has a budget of **EUR 221M** and encompasses measures related to the promotion of healthy ageing, as one of its main objectives is to enable citizens of all ages to remain healthy and independent in a rapidly changing society by promoting healthier lifestyles, behaviours and environments, developing improved evidence-based health policies and more effective solutions for health promotion and disease prevention.

Trends and Obstacles



Trends

Data-Driven Healthcare Systems

Electronic personal health records, which everybody can access and share in a private, secure and confidential environment, can only benefit society. Prevention of diseases, care and treatment data continues to develop the healthcare systems.

Startups & Government Collaboration

Startups and GovTech Investors have increased their involvement during the past years to provide secure, reliable services. Their efforts in building software meet the exacting needs of the government sector.

Wearable Devices

The databases holding digital records from wearable devices improve health by tracking the activity, sleep, vital signals. Governments' help in linking these devices with personal health records would allow people and their doctors to monitor their health more efficiently.

Emerging Technologies Implementation

Artificial Intelligence in healthcare like Natural Language Processing technology and medical Machine Learning is helping to organize patient workflows. Using these technologies, doctors have access to any healthcare information they need.



Obstacles

Social Security Costs

Due to the rapid progression of the super-aging society, social security costs are expected to increase more than 10% every five years. Among these continuously rising social security costs, healthcare and nursing care payments are growing exceptionally rapidly.

Data Protection, Security and Confidentiality

By using amounts of private data, security and confidentiality may be a concern for some people. Data protection should be a priority for the government to ensure citizens' safety and trust.

Financial Limitations

Implementing digital government strategies and public sector reforms is difficult, especially being financially limited. Substantial investments are needed for the transition to integrated digital solutions and shared platforms.

COVID-19 Challenges

The COVID-19 pandemic has shown how poor the healthcare system is in what concerns technological implementation. COVID-19 has speeded the adoption of digital technologies by several years, making it much easier to receive medical help from home.

Predictions



The global Telehealth market is estimated to be valued at USD 25.30 billion in 2022.

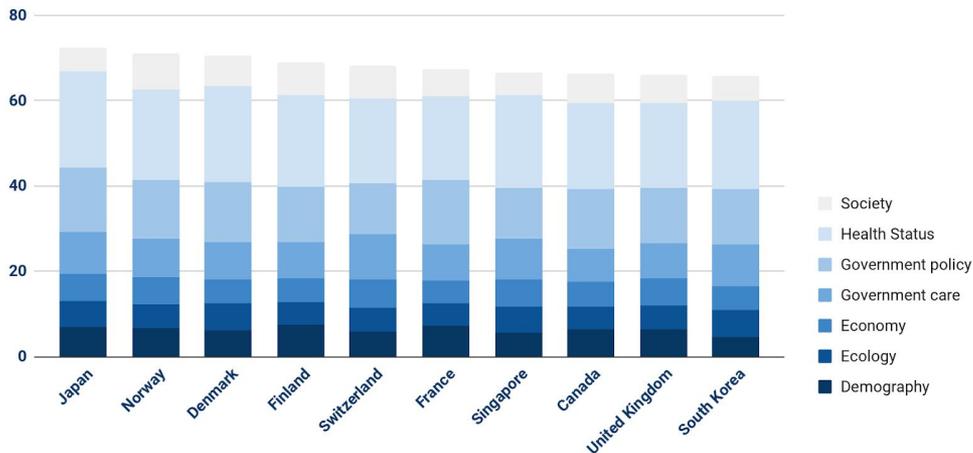


Patient-doctor interactions will go virtual globally – since the physician will no longer be required to be physically present.

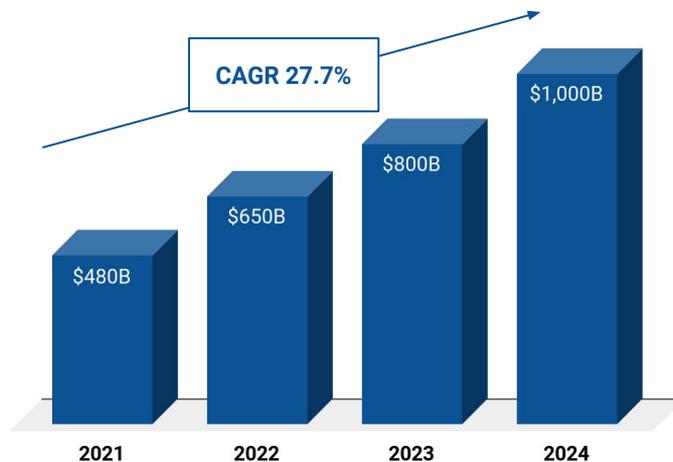


Extensive usage of AI, drones, blockchain, robots, etc., will increase the resilience of national economies, state data, healthcare, and security systems.

Top-10 Countries by Government Longevity Development



GovTech Market Size Predictions 2021-2024



Key Takeaways

- » What the world has learnt from 2021 is that governments must adapt to change fast. Any technology used is vital and needs to be flexible and user-centric to take off staff pressure by serving people better and quicker.
- » **Good health outcomes, cost-efficiency, affordability of healthcare treatment** for the population and most complete possible **access to services and products** are the four pillars that DKA has mentioned in its report to make significant progress in what concerns longevity.
- » DKA analysed 300 GovTech companies which are working to support and contribute to national longevity objectives. Based on the research, **Security** (17.7%) is the largest category among these companies, followed by **Healthcare Solutions** (14.7%) and **Smart City & Transport** (14.3%)
- » **North America** is the leader in hosting GovTech investors interested in companies that support national longevity strategies. Regarding the number of investors, Europe's second region (16.0%), followed by **Asia-Pacific** (11.1%).
- » More than half of the GovTech companies are located in North America, the second biggest region being Europe. The Top-3 countries by the number of analyzed companies are the **United States** (154), the **United Kingdom** (20), and **Canada** (15).
- » Longevity is the focus of Governments worldwide. As the population gets older, the governments are working towards promoting healthier lifestyles and behaviours, improving health policies and more effective health promotion and disease prevention solutions.
- » The European Union has made its goal to foster innovation in Longevity. By launching **Horizon Europe** (2021-2027) dedicated to research and innovation, the EU aims to promote healthy aging, enabling citizens of all ages to remain as healthy and independent for as long as possible.

GovTech / E-governance Global Industry Landscape Dashboard

Landscape Analytics

GovTech Industry Landscape

- GovTech Companies
- GovTech Investors
- GovTech Hubs

GovTech Industry Landscape

Full Report | Teaser | One Pager

Static Mindmaps | Interactive Mindmap by Categories | Interactive Mindmap by Regions

View More

Dashboard Parameters

500 | 500 | 30+

80+ | 12 | 5

Full Report

GovTech / E-governance Global Industry Landscape in the Post-Pandemic World Q2 2021

View More

GovTech Industry Landscape

- Mindmap (Sectors)
- Mindmap (Regions)
- Mindmap (Static)

Industry Developments

GovTech Industry Landscape 2019

- Landscape Overview
- Interactive MindMap
- Teaser

Interactive MindMaps

View More

Matching Tool

STARTUP

View More

Predictions and Conclusions

GovTech Predictions 2022-2024

2021 | 2021-2022 | 2022-2024

View More

Downloadable Materials

- Report
- Teaser
- One Pager

Visit Dashboard: <https://www.dka.global/govtech-dashboard>

Longevity Governance Big Data Analytics Dashboard

Market Intelligence

Longevity Governance Market Intelligence

- Full Analysis
- Interactive Mindmaps
- SWOT Analysis
- Dynamic Charts

Full Big Data Analysis

View More

Dashboard Parameters

DATA POINTS	PARAMETERS	REGIONS
11984	240	50
LAYERS OF FRAMEWORK	DYNAMIC CHARTS	SWOT ANALYSIS PROFILES
6	100	50

SWOT Analysis

View More

Longevity Governance Market Intelligence

- Pre-Subscribe for Beta
- COVID-19 Dashboard
- 3D Visualization

Search Engine

Longevity Governance Search Engine

- Benchmarking Charts
- Major Trends
- Practical Recommendations
- Big Data Framework

National Healthy Longevity Interactive MindMaps

View More

Longevity Progressiveness 3D Visualization

Longevity Progressiveness Benchmarking Charts

View More

Longevity Governance Search Engine

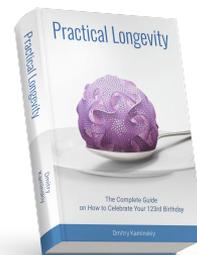
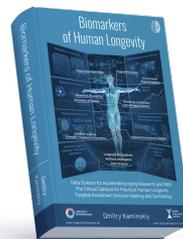
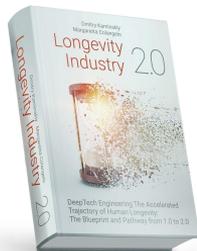
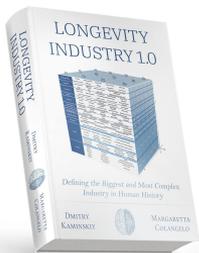
- Health-Adjusted Life Expectancy (HALE) Gap and Life Expectancy
- Health-Adjusted Life Expectancy (HALE) Benchmarking

Visit Dashboard: <https://www.aginganalytics.com/longevity/governance-dashboard>

Deep Knowledge Analytics

23

Deep Knowledge Group: Books

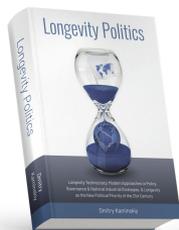


Longevity Industry 1.0
2010-2020: Evolution of the Longevity Industry from Zero to 1.0

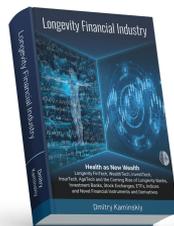
Longevity Industry 2.0
2020-2025: DeepTech Engineering The Accelerated Trajectory of Human Longevity – The Blueprint and Pathway from 1.0 to 2.0

Biomarkers of Human Longevity
The Critical Catalyst for Practical Human Longevity, Tangible Investment De-Risking, and Accelerated Ageing Research and Longevity R&D

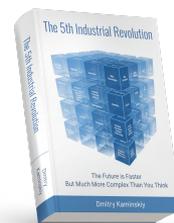
Practical Longevity
Practical, Market-Ready Tools, Approaches and Frameworks for Optimizing Personal, Practical, Healthy Human Longevity



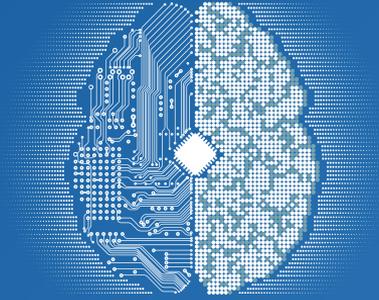
Longevity Politics
2021-2030: The Rise of Longevity Politics, and the Solidification of Longevity as the New Political Priority of the 21st Century



Longevity Financial Industry
Health as New Wealth, Engineered Solutions to Bridge the Longevity Liquidity Gap, and the Rise of Longevity Investment Banks, Stock Exchanges and Financial Instruments



The 5th Industrial Revolution
2030-2035: Defining, Forecasting, Optimizing and De-Risking the Accelerated Trajectory of Progress Toward the 5th Industrial Revolution



Link to the Report: www.govtech.global/govtech-longevity-governance

E-mail: info@govtech.global

Website: www.govtech.global

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