Longevity Industry
Landscape Overview 2019
200+ Page
Infographic Summary

Deep Knowledge Group

AGING ANALYTICS AGENCY

Aging Analytics Agency - the world's premier Longevity Analytics provider, dedicated to the production of analytical reports on the topics of Longevity, Precision Preventive medicine and AgeTech. Operating for over five years, it began producing in-depth reports on Longevity long before it emerged as an industry. The company also provides strategic consulting in the fields of Longevity and Economics of Aging.

DEEP KNOWLEDGE ANALYTICS

Deep Knowledge Analytics - the analytical arm of Deep Knowledge Ventures, specialising in forecasting on the convergence of technological megatrends, conducting special case studies and producing advanced industry analytical reports on the topics of Artificial Intelligence, DeepTech, GovTech, Blockchain, FinTech and Invest Tech.

DEEP KNOWLEDGE VENTURES

Deep Knowledge Ventures - A data-science driven investment fund focused on the synergetic convergence of specific DeepTech verticals. Investment sectors include AI, Precision Medicine, Longevity, Blockchain and Invest Tech.

Sophisticated Multi-Dimensional Analytical Frameworks

Sophisticated Multi-Dimensional Analytical Frameworks

Specifically-Designed Comparative Industry Analytics

Aging Analytics Agency Produced Longevity Reports 10x Faster in 2018

In 2018, Deep Knowledge Ventures injected additional financing to support Aging Analytics Agency's ongoing and future projects. This enabled Aging Analytics Agency to extend the size of its analytics team by 10-fold.

This growth in brain power allowed us to proportionally increase the rate of production of their reports. Just in the past year, Aging Analytics Agency have doubled the number of high-quality reports compared to previous years, which include:

- Global Longevity Industry Overview, totaling over 1200 pages, which offers in-depth profiles of the top 100 companies, investors, non-profits and research labs active in the sphere;
- 850-page specialized case study on the Longevity Industry Landscape in the United Kingdom.

In line with this expansion, they are on track for publishing a greater number of diverse and in-depth reports in the coming year, with some reports expanding further in their prior scope whereas others will be targeting particular topics and niches within the Longevity Industry.

Longevity Industry in Singapore 2018

Longevity Industry in the UK Q4 2018

Longevity Industry in Israel 2018

Longevity Industry in California 2019

Multiple Special Regional Case Studies Planned for 2019

Following the success of their *Longevity Industry in UK 2018 Landscape Overview* report, they are planning to publish a number of additional regional case studies aimed at countries where the topic of Longevity is experiencing a particularly rapid development.

Such region-specific focus is present due to a number of factors, including the emergence of new Longevity sectors in specific countries, the rise of particularly powerful geroscience tech hubs and R&D nexuses as well as the launch of strategic national development plans proposed by progressive governments.

Longevity Industry in UK Q4 2018

Longevity Industry in Israel 2019

Longevity Industry in Singapore 2019

Longevity Industry in Switzerland

Longevity Industry in Japan

Longevity Industry in Hong Kong

Longevity Industry in Taiwan

Aging Analytics Agency
Upcoming Proprietary Analytics Q2 & Q3 2019

Web: Aging Analytics Agency Proprietary Analytics

Precision Medicine Clinics
Landscape Overview 2019

Advancing Financial Industry
Longevity / AgeTech / WealthTech

Longevity Industry Comparative Analysis
and Classification Framework

Top-20 Leading Longevity Investors
Comparative Analysis

Defining Hype vs Reality
in the Longevity Industry

Enhanced analysis of Top-30
Leading Longevity Companies

Open Access Analytical Reports by Aging Analytics Agency

Published / Q1 2019

Longevity Industry in California Landscape Overview 2019

Longevity Industry in Singapore Landscape Overview 2019

Longevity Industry in Israel Landscape Overview 2019

Longevity Industry in UK Landscape Overview 2019

Published / Q2 2019

Top-50 Women Longevity Leaders

Top-100 Longevity Leaders

FemTech Healthcare Landscape Overview Q1 2019

National Longevity Development Plans: Global Overview 2019 (First Edition)

Upcoming Analytical Reports by Aging Analytics Agency

Longevity Industry and the Microbiome Landscape Overview 2019

Longevity and Advanced Cosmetics Industry Landscape Overview 2019

USA Longevity Policy, Politics & Governance Overview 2019

Longevity Industry in Switzerland Landscape Overview 2019

Longevity Industry in Hong Kong Landscape Overview 2019

Longevity Industry in Japan Landscape Overview 2019

Proprietary Report: Advancing Financial Industry - Longevity / AgeTech / WealthTech

Aging Analytics Agency is currently producing a new proprietary report on the Longevity Financial Industry, titled **Advancing Financial Industry - Longevity / AgeTech / WealthTech**, which will offer key strategic insights on how large financial corporations can tap into the multirillion market of people in retirement, and retune their existing business models avoid stagnation under the economic pressures of a rapidly ageing population, transforming Ageing from a challenge to an opportunity.

The parties who gain early access to this report will acquire deep expertise on how their strategic agendas can be optimized and stabilized in order to manage and hedge Longevity risks, to surpass the challenges and to utilize the opportunities related to progressive biomedicine, ageing population and advancing financial technologies.

Proprietary Report: Precision Medicine Clinics Landscape Overview 2019: Most Advanced Clinics, Technologies and Methods

Aging Analytics Agency is producing a 1000+ page report, ***Precision Medicine Landscape Overview 2019: Most Advanced Clinics, Technologies and Methods***, which will feature a list of the Top-100 precision (personalised and preventive) medicine clinics globally, as chosen according to a multidimensional analytical framework that uses tangible, quantitative metrics to rank the level of clinics' scientific validation and technological sophistication. The report will also contain pragmatic, strategy-focused materials on the optimal configuration of integrated preventive and precision medicine service pipelines, as well as a better understanding of industry benchmarking and competitive landscape, targeted towards investors and business development executives, answering several key questions including The parties who will have early access to this report will gain deep expertise on how they can optimize their clinics' strategic, technological and scientific prospects in order to deliver the most sophisticated and comprehensive precision health products and services for their clients.

Precision Medicine Clinics Landscape Overview 2019 Most Advanced Clinics Technologies and Methods

www.aginganalytics.com

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Sophisticated Comparative Analytical Framework for Precision Medicine Clinics Ranking and Assessing the Breadth, Depth and Optimal Integration of Precision Health Pipelines

Aging Analytics Agency believes that the effective analysis of as complex and multidimensional an industry as Precision Medicine Clinics requires the application of an equally multidimensional analytical framework. This analytical framework presented in the present white paper includes metrics for identifying the breadth of the industry, identifying the degree of technological development, staff professionalism, range of provided services, financial position and scientific activity.*

Precision Medicine Clinics 3D Analytical Framework

Precision Medicine Clinics Industry Analytical Framework

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Precision Medicine Clinics Analytical Framework: Clinic Harmonization Analysis

Precision Medicine Clinics Product and Service Pipeline Therapeutic Depth vs. Breadth Analysis

www.aginganalytics.com

info@aginganalytics.com

National Government Development Plans Report Presented in UK Parliament

Because Aging Analytics Agency is the main source of Longevity industry data and analytics for the recently-established **All-Party Parliamentary Group for Longevity**, representatives of the agency presented some of the major conclusions of its recent "**National Longevity Development Plans Global Landscape Overview 2019**" report at the All-Party Parliamentary Group for Longevity **Strategic Advisory Board** meeting in **UK Parliament** on April 30th, arguing that the UK Government needs to extend existing efforts and create a framework to change the **deficit model** of the 'Ageing Society' to an **asset model** around 'Longevity' and be bold with a national strategy to harness the 'Longevity Dividend' to benefit all people in society.

National Government Longevity Development Plans: Country Scoring

POSITION	COUNTRY	COUNTRY SCORE	POSITION	COUNTRY	COUNTRY SCORE
1	United Kingdom	**5.29**	7	Hong Kong	**3.41**
2	Netherlands	**4.36**	8	Japan	**3.10**
3	Singapore	**4.15**	9	USA	**3.07**
4	South Korea	**4.00**	10	Spain	**1.94**
5	Israel	**3.94**	11	European Union	**1.88**
6	Switzerland	**3.93**	12	China	**1.85**

Aging Analytics Agency is Now the Main Source of Longevity Industry and Economics of Ageing Data and Analytics for the UK All-Party Parliamentary Group on Longevity

All Party Parliamentary Group for Longevity

Preventive Medicine
Innovations in Healthcare
Problem of Ageing Population
Financial Reform for Pension System

www.parliament.uk

Longevity uk
www.longevityinternational.org

Supporting Partners

AGING ANALYTICS AGENCY

COLLIDER HEALTH

AGETECH accelerator

Biogerontology Research Foundation
Prevent. Restore. Preserve.

FUTURE CARE CAPITAL

INNOVATION WAREHOUSE

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

APPG for Longevity Officers

Rt Hon Damian Green MP
Chair

Rt Hon Norman Lamb MP
Vice-Chair

Sir Peter Bottomley MP
Vice-Chair

Jonathan Lord MP
Vice-Chair

Kevin Foster MP
Vice-Chair

Lord Andrew Stone
Secretary

Baroness Sally Greengross
Treasurer

Lord Geoffrey Filkin

Executive Team Longevity International UK APPG for Longevity

Eric Kihlstrom

Head of Industry Collaboration

Tina Woods

CEO & Co-Founder
Secretariat Director

Dmitry Kaminskiy

Head of International Cooperation Division

Online Longevity Analytics Platform to Enable a Framework for Cross-Industry Stakeholder Dialogue and Industry Optimization

In 2019, to compliment these reports, Aging Analytics Agency is releasing an advanced online Longevity Analytics Platform and database featuring interactive visuals which can transform static analytical reports into dynamic infographics updated in real-time. This platform will enable complex interactions between industry entities and stakeholders to be visualized, filtered, searched and thus more easily understood.

Once created, this platform will be continuously updated with real-time industry developments and will be significantly upgraded with the integration of elements including:

- A stakeholder smart-matching engine
- Supply chain analysis
- Tools for the syndication of investment rounds
- Customized report production
- Peer-to-peer, distributed stakeholder ranking systems
- Big data analytics and other advanced tools and techniques

IT-Platform as the Investment Knowledge Nexus for Longevity.Capital

The platform will be open to qualified stakeholders, and will serve as the framework for industry optimization and cross-disciplinary dialogue and collaboration between companies, investors, entrepreneurs, scientists and government officials. The overarching aim of the platform is to promote the synergistic and integrated development of the Longevity Industry to maximize the benefits of all industry stakeholders.

The Longevity Industry continues to grow in size but remains highly fragmented, with different stakeholders displaying disparate opinions on where it is headed and how long it will take to get there. their platform aims to deliver a framework for proper industry unification. In prototype development for over a year, this interactive platform will ultimately serve as the investment knowledge epicenter of Longevity.Capital.

Moving forward, Aging Analytics Agency will serve as the main source of expertise behind Longevity.Capital, providing sophisticated Longevity Industry analytics in order to develop and de-risk the fund's investment strategies. Meanwhile, Longevity.Capital will follow through on and execute the strategy, and provide financial products similar to hedge funds.

GEROSCIENCE R&D

- Rejuvenation Biotechnology
- Gene Therapy
- Geroprotectors
- Regenerative Medicine
- Nutraceuticals
- Basic Research on Biology of Aging

P3 MEDICINE

- Personalized Diagnostics
- Personalized Biomarker Analysis
- Personalized Prognostics
- Personalized in vivo & in silico drug testing
- Personalized QALY & HALE Estimation
- Preventive Therapies

AGETECH

- Novel Retirement Plans
- Cognitive Enhancement
- FinTech for the Elderly
- NextGen Mobile Apps for the Elderly
- Continuing Education
- Entertainment for the Elderly

NOVEL FINANCIAL SYSTEM

- Longevity Index Fund
- Longevity Hedge Fund
- Longevity Stock Exchange
- AgeTech Bank
- Longevity Derivatives
- Longevity Trust

Paradigm Shift from Treatment to Prevention

The New Frontier - from Precision Medicine to Precision Health

Accelerating the Development of Precision Health through AI

AI-Driven Precision Diagnostics

- Multi-Omic Sequencing
- Continuous monitoring powered by Big Data Analytics
- Continuous monitoring of health state based on changes in biomarkers of aging

AI-Driven Advanced Prognostics

- AI-driven prognostics
- Advanced biomarker-based prognostics
- AI-driven predictive prognostics based on personalized multi-omics

Personalised Treatment Optimization

- AI-driven *in silico* personalised treatment optimization
- AI-driven personalised in vivo drug optimization
- Treatment optimization based on patient genetics

AI-Driven Preventative Treatment

- Maintenance state of precision health through preventive medicine
- AI-based predictions of optimal drug combination

THE BUSINESS of LONGEVITY GLOBAL INDUSTRY LANDSCAPE 2018

THE BUSINESS OF LONGEVITY

THE SCIENCE of LONGEVITY GLOBAL LANDSCAPE 2018

THE SCIENCE OF LONGEVITY

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Longevity Industry in UK Landscape Q4 2018

Companies - 260
Investors - 250
Non-Profits - 10
Research Labs - 10

Longevity Industry in Singapore Landscape 2019

Companies - 100
Investors - 80
Non-governmental organisations - 10
Research Centres - 15

Longevity Industry in Israel Landscape 2019

Companies - 160
Investors - 180
Non-Profits - 10
R&D Centers - 10

AGING ANALYTICS AGENCY

ISRAELI LONGEVITY ALLIANCE

Vetek (Seniority) - the Movement for Longevity and Quality of Life

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

LONGEVITY LABS

Other

Europe

USA

Palliative & Policy

Direct Research

Advanced Solutions

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

TOP LONGEVITY NON-PROFITS

Other

Europe

Palliative & Policy

Direct Research

Advanced Solutions

USA

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DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

FemTech Healthcare Landscape Overview Q1 2019

Companies - 120
Investors - 335

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DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

FemTech Healthcare Landscape Overview Q1 2019

Companies - 120

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DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Longevity Industry in California 2019

Companies - 200
Investors - 270
Research Labs - 25
Non-Profits - 35
Governmental Organizations - 15

California Longevity Companies - 200

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LONGEVITY INTERNATIONAL

Longevity Industry in Switzerland 2019

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

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DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

THE BUSINESS OF PROGRESSIVE MEDICINE 2019
PRACTICAL APPLICATIONS

Top 120+ Technologies & Therapeutics TRL 8-9

Technology Readiness Level (TRL)

9	Commercialized
8	Pre-Production
7	Field Test
6	Prototype
5	Bench/Lab Testing
4	Detailed Design

Technology Readiness Levels (TRL) are a common measure of how close a technology is for practical use, used in many engineering disciplines.
By applying it to progressive medicine, we can forecast how long it will take a given therapeutic or technology to witness practical applications in the clinic or home. The darkness of each hexagon represents its TRL, with darker colors indicating a low TRL and brighter colors indicating a high TRL.
All technologies and therapeutics shown here have a TRL between 8-9.

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THE SCIENCE OF PROGRESSIVE MEDICINE 2019 LANDSCAPE

Top 120+ R&D Topics TRL 4-7

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LONGEVITY INTERNATIONAL

Technology Readiness Level (TRL)

9	Commercialized
8	Pre-Production
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Technology Readiness Levels (TRL) are a common measure of how close a technology is for practical use, used in many engineering disciplines.

By applying it to progressive medicine, we can forecast how long it will take a given therapeutic or technology to witness practical applications in the clinic or home. The darkness of each hexagon represents its TRL, with darker colors indicating a low TRL and brighter colors indicating a high TRL.

All technologies and therapeutics shown here have a TRL between 4 – 7. Technologies surpassing a TLR of 8 are transferred to the practical applications of progressive medicine landscape overview.

Media Entities Covering Longevity and Advanced Biomedicine

Media Entities - 60

100 Journalists Covering Longevity
Breakdown of Subtopic Specialization

100 Journalists Covering Longevity Breakdown by Media Entities

Top-30 Longevity Conferences 2019-2020: Regional Distribution

AGING ANALYTICS AGENCY

United States

ICAA

AGING IN AMERICA 2020 ASA CONFERENCE March 24-27 | Atlanta, Georgia

GSA 2019 ANNUAL SCIENTIFIC MEETING
Strength in Age: Harnessing the Power of Networks

EXPONENTIAL Medicine

Future of Aging and Gerontology

RAAD FESTIVAL

LeadingAge LEADERSHIP SUMMIT

LONGEVITY therapeutics

Gordon Research Conferences
Frontiers of Science

Targeting Metabesity 2019
15-16 October 2019 | Washington, DC, USA

ENDING AGE-RELATED DISEASES
INVESTMENT PROSPECTS & ADVANCES IN RESEARCH
Thursday July 11th - Friday July 12th 2019
Cooper Union | Frederick P. Rose Auditorium | New York
CLICK HERE TO LEARN MORE AND BOOK YOUR TICKETS

Asia

THE LONGEVITY SUMMIT
Is Asia ready for 100?
September 27th 2018 Singapore

ISOAD

The Asian Conference on Aging and Gerontology

UK

LONGEVITY LEADERS

masterinvestor RESEARCH ANALYSE INVEST

BSAAM British Society of Anti-Ageing Medicine

Aging & Gerontology 2020

THE LONGEVITY FORUM

British Society of Gerontology
BSG 2019

Future of Ageing 2019

Canada

THE GLOBAL AGEING

15TH GLOBAL CONFERENCE ON AGEING

AGEWELL
AGE-WELL's 5th Annual Conference

Europe

NSLC

anature conference
Ageing, Health & Rejuvenation
Erasmus University Medical Center | Nature | Nature Medicine

Undoing Aging 2020

BASEL LIFE | Insilico Medicine 英科智能 | UNIVERSITY OF COPENHAGEN
The 6th Aging Research, Drug Discovery, and AI Forum

ICT4AWE 2020
6th International Conference on Information and Communication Technologies for Ageing Well and e-Health

LONGEVITY WORLD FORUM
NOVEMBER 14th-15th

Top-30 Longevity Conferences 2019-2020: Country Distribution

11	USA
7	United Kingdom
3	Canada
2	The Netherlands
1	Switzerland
1	Germany
1	Spain
1	Czech Republic
1	China
1	Japan
1	Singapore

This chart illustrates the country distribution of Longevity conferences. While the USA is the country with the largest proportion of conferences, Europe is home to the largest fraction of conferences in total, with only 3 of the Top-30 Longevity conferences being located in Asia.

Top-30 Longevity Conferences 2019-2020: Regional Distribution

This chart illustrates the regional distribution of the Longevity conferences. The largest proportion of Longevity conferences in 2019-2020 are held in the US. This confirms that the industry is developing rapidly in the country. However, it is important to note that other regions and countries, namely Europe, UK and Canada have the substantial share of the conferences, and that the proportion of conferences held in these regions appears to be growing. On the other hand, although Asia does not contain a large fraction of the conferences yet, the proportion is likely to increase in the coming years due to the large volume of Longevity-industry dealflow coming out of Asia-based Longevity investors.

Top-30 Longevity Conferences 2019-2020: Distribution by Main Topic

Although Longevity, aging and gerontology have similar and often-synonymized meanings, the characteristics of the conferences dedicated to each of this topics differ. While solely gerontology conferences are usually created for quite narrow circles of scientists, the conferences on aging as a whole are attracting a generally wider audience. The conferences that are held under the label of “Longevity” typically aim to attract the most influential people in the Longevity segment, with a higher degree of emphasis on Longevity investors, companies and entrepreneurs, and also typically have much greater entrance costs.

Top-30 Longevity Conferences 2019-2020: Fees

$0-$500

- BSAAM – British Society of Anti-Ageing Medicine
- The Economist Events – THE LONGEVITY SUMMIT – Is Asia ready for 100? – September 27th 2018 – Singapore
- AGEWELL – AGE-WELL's 5th Annual Conference
- ISOAD
- masterinvestor – RESEARCH ANALYSE INVEST
- LONGEVITY WORLD FORUM – NOVEMBER 14th-15th
- Future of Ageing 2019
- BASEL LIFE / Insilico Medicine 英科智能 / UNIVERSITY OF COPENHAGEN – The 6th Aging Research, Drug Discovery, and AI Forum

$500+

- ICAA
- Aging & Gerontology 2020
- LONGEVITY LEADERS
- EXPONENTIAL Medicine
- RAAD FESTIVAL
- AGING IN AMERICA 2020 – ASA CONFERENCE – March 24-27 | Atlanta, Georgia
- LEXISCONFERENCES – Ties in Science | Technology | Health Care
- LONGEVITY therapeutics
- British Society of Gerontology – BSG 2019
- ENDING AGE-RELATED DISEASES – INVESTMENT PROSPECTS & ADVANCES IN RESEARCH – Thursday July 11th - Friday July 12th 2019 – Cooper Union | Frederick P. Rose Auditorium | New York – CLICK HERE TO LEARN MORE AND BOOK YOUR TICKETS
- LeadingAge – LEADERSHIP SUMMIT
- Undoing Aging 2020
- The Asian Conference on Aging and Gerontology
- 15TH GLOBAL CONFERENCE ON AGEING
- ICT4AWE 2020 – 6th International Conference on Information and Communication Technologies for Ageing Well and e-Health
- a nature conference – Ageing, Health & Rejuvenation – Erasmus University Medical Center | Nature | Nature Medicine
- GSA 2019 ANNUAL SCIENTIFIC MEETING – Strength in Age: Harnessing the Power of Networks
- THE GLOBAL AGEING
- Targeting Metabesity 2019 – 15-16 October 2019 | Washington, DC, USA

Key Longevity Industry Influencers

AGING ANALYTICS AGENCY | DEEP KNOWLEDGE ANALYTICS | LONGEVITY INTERNATIONAL

Longevity Scientists

Michael West

Eric Verdin

Cynthia Kenyon

Aubrey de Grey

Steve Horvath

Joao Pedro de Magalhães

David Sinclair

Nir Barzilai

George Church

Brian Kennedy

Longevity Influencers

J. Craig Venter

Larry Page

Sergey Brin

Ray Kurzweil

Alex Zhavoronkov

Nathaniel David

Larry Ellison

Martine Rothblatt

Longevity Investors

Dmitry Kaminskiy

Bryan Johnson

Finian Tan

Jeff Bezos

Jim Mellon

Peter Thiel

Sam Altman

Sergey Young

James Peyer

Top 10 Lists

Top 10 Longevity Scientists

Michael West

Dr. Felipe Sierra

Cynthia Kenyon

Aubrey de Grey

Alex Zhavoronkov

Joao Pedro de Magalhaeres

David Sinclair

Nir Barzilai

George Church

Brian Kennedy

Top 10 Longevity Companies

UNITY BIOTECHNOLOGY
HUMAN LONGEVITY, INC.
AGEX THERAPEUTICS
RAPAMYCIN HOLDINGS
CELULARITY LIFE TRANSFORMED
GenSight
mitobridge
INSILICO MEDICINE
JUVENESCENCE.AI
Calico

Top 10 Longevity Venture Funds

APOLLO VENTURES
VICKERS VENTURE PARTNERS
OS FUND
Google ventures
THE LONGEVITY FUND
THIEL
DEEP KNOWLEDGE VENTURES
forever healthy
mann bioinvest
Ferghana Partners

Top Longevity Investors

Dmitry Kaminskiy

Bryan Johnson

Finian Tan

Jeff Bezos

Peter Thiel

Jim Mellon

Top 10 Research Institutions

EINSTEIN Albert Einstein College of Medicine
HAGR Human Ageing Genomic Resources
sens research foundation reimagine aging
PAUL F. GLENN CENTER FOR THE BIOLOGY OF AGING AT STANFORD UNIVERSITY
ILC International Longevity Centre Canada
Biogerontology Research Foundation Prevent. Restore. Preserve.
BUCK INSTITUTE FOR RESEARCH ON AGING
NIH National Institute on Aging
NUHS National University Health System
MAX PLANCK INSTITUTE FOR BIOLOGY OF AGEING

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Biogerontology Research Foundation
Prevent. Restore. Preserve.

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Top 10 Lists

Top 10 Reg Med Companies

ORIG3N
OXSTEM
NOVADIP
Universal Cells
Vitruvian NETWORKS
Juventas
semma THERAPEUTICS
NovaHep
Tissue-Engineered Vessels For Life

Top Gene 10 Therapy Companies

Vitruvian NETWORKS
bluebirdbio
Spark
agtc
REGENXBIO
NightstaRx
Sangamo
LYSOGENE
uniQure

Top 10 P3 Medicine Companies

VeritasGenetics
Helix
genos
emulate
editas MEDICINE
informGenomics
EVERIST HEALTH
bluebirdbio
color
KAILOS GENETICS
POPULATION BIO
A Precision Medicine Company

Top Longevity Influencers

Larry Page

Sergey Brin

Ray Kurzweil

Martine Rothblatt

Larry Ellison

Nathaniel David

Bill Maris

J. Craig Venter

Alex Zhavoronkov

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Biogerontology Research Foundation
Prevent. Restore. Preserve.

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Academic Writings & Meetings

Top Scientific Journals in Geroscience

Experimental Gerontology
Ageing Research Reviews
Oncotarget
Innovation in Aging
Gerontology
Rejuvenation Research
Aging Cell
Aging
The Journals of Gerontology Series A
npj Aging and Mechanisms of Disease

Top Longevity Conferences

Basel Life
The Economist
World Economic Forum
masterinvestor

Top Academic Books in Geroscience

Top Longevity Books

Top Scientific Meetings & Symposia

The 2017 Harvard / Paul F. Glenn Symposium on Aging, June 26, 2017
The Ageing Cell
Cold Spring Harbor Laboratory Mechanisms of Aging
2nd International Conference on Genetics of Aging and Longevity
2nd International Conference on Aging & Gerontology, June 26-27, 2017 | San Diego, CA, USA
Rejuvenation Biotechnology, a SENS Research Foundation Conference
Disease Drivers of Aging: 2016 Advances in Geroscience Summit
BAAM Bay Area Aging Meeting
2017 Barshop Symposium on Aging
The Burrill & Buck Aging Meeting

Top Longevity Online Resources

Human Ageing Genomic Resources
GenAge: The Ageing Gene Database
DAA Digital Ageing Atlas
DrugAge
Longevity International
GenDR
AgingPortfolio.org
Fight Aging!
CellAge
LongevityMap

Aging Analytics Agency
Biogerontology Research Foundation — Prevent. Restore. Preserve.
Deep Knowledge Analytics
Longevity International

Company Landscape

Regenerative Medicine

Universal Cells
Osiris Therapeutics, Inc.
Vericel
Silene Biotech
Atlas Regeneration
Semma Therapeutics
Athersys Inc.
AxoGen
NovaHep
OXSTEM
mesoblast – the regenerative medicine company
Cyfuse
Pluristem
cytori
Axonia Medical
Cell Habitats
鑫品生醫 (4170) VectoriteBiomedical
Celularity – Life Transformed
videregen
Progenitor Therapeutics
Fibrocell Science
PureTech Health

P3 Medicine

华大基因 BGI
editas Medicine
Kailos Genetics
Helix
color
Nox Technologies, Inc.
ORIG3N
BioLife Solutions
Population Bio – A Precision Medicine Company
Phigenix, Inc.
BioMarker Pharmaceuticals, Inc.
VeritasGenetics
bluebirdbio
微芯生物 ChipScreen
Eve Biomedical
Vault
Fronteo
DeepWave
Centrillion Technologies
genos
Everist Health
informGenomics

Gene Therapy

RegenXBio
Oisin Biotechnologies
SQZ Biotech
agtc
Signum Biosciences
Genescient
Osiris Green
antoxis
Abeona Therapeutics
MetaboMed
Sangamo BioSciences
Navitor Pharmaceuticals
uniQure
BioMarin
Harbour BioMed
Vitruvian Networks
Spark Therapeutics
Quark
Voyager Therapeutics
Lysogene
NightstaRx
genzyme – A Sanofi Company
Centagen

Geroscience

Alkahest
Juventas Therapeutics
Youth Laboratories
Juvenescence.AI
Proteostasis Therapeutics
Unity Biotechnology
mitobridge
NuSirt
Everon Biosciences
Chronos Therapeutics
eterly
BioAge Labs
Insilico Medicine
Juvenescence
Draxis
CohBar Inc.
Canada Cancer and Aging
Prana Biotechnology
Rapamycin Holdings
GC-Rise Pharma
Human Longevity, Inc.
CellAge
BioTime
AgeX Therapeutics
geron
Leadhexa Biotechnologies Inc. – Reducing Reactive Oxygen Species in the Mitochondria
Mitotech SKQ
MacuCLEAR
Longevity Biotech

Venture Firm Landscape

Regenerative Medicine

SPARK @nn arbor usa
HYDRA CAPITAL
ALEXANDRIA
EASTON CAPITAL Investment Group
BEZOS EXPEDITIONS
ACCUITIVE MEDICAL VENTURES
Deerfield Partners
EcoR1 CAPITAL
CP CARDINALPARTNERS
NEW SCIENCE VENTURES
SYNO CAPITAL 兴诺资本
OXFORD FINANCE
Groupe Nivelinvest
DEERFIELD
MERCK VENTURES
ARCH Venture Partners
BRCC BIOSCIENCES RESEARCH AND COMMERCIALIZATION CENTER
svb SiliconValley Bank
HORIZON VENTURES
GE Capital
VIVES Louvain Technology Fund
CAPITAL SPRINGBOARD
CIRM CALIFORNIA'S STEM CELL AGENCY
STARTUP +HEALTH

Geroscience

General Catalyst Partners
ODEY ASSET MANAGEMENT
OrbiMed Healthcare Fund Management
PiperJaffray REALIZE THE POWER OF PARTNERSHIP
AspireCapital Invested In Your Success
Shibuya
POLARIS PARTNERS
GE VENTURES
APOLLO VENTURES
G/
mann BIOINVEST
illumina
DEEP KNOWLEDGE LIFE SCIENCES
METHUSELAH FUND
Celgene
SYNTHETIC GENOMICS
THE LONGEVITY FUND
SPHERA ASPIRE HIGHER
DRAPER FISHER JURVETSON
First Analysis Securities Corporation
THIEL
ARKIN HOLDINGS

P3 Medicine

JENNISON ASSOCIATES
RAMIUS A Cowen Group Company
ARCH Venture Partners
CIRM CALIFORNIA'S STEM CELL AGENCY
CASDIN CAPITAL
F/PRIME
SANOFI-GENZYME BIOVENTURES
Fidelity INVESTMENTS
alsFINDINGaCURE
ATEL Ventures, Inc.
illumina
OS FUND
CYBERDYNE
#ANGELS
FORBION Capital Partners
CEDARS-SINAI
formation 8
ND
T.RowePrice
General Catalyst Partners
khosla ventures
FLAGSHIP PIONEERING SCIENTIFIC VENTURES FOR LIFE
ARCH Venture Partners
vertex VENTURES
SRIW INVESTMENT & GROWTH
WuXi Healthcare Ventures
RACAPITAL
LYZZ CAPITAL
EssexWoodlands
TORAY Toray Engineering Co.,Ltd.
De Novo VENTURES
VERSANT ventures
G/
TECHAMMER
THIRD ROCK VENTURES
Springboard Capital The Lending Hand
MAYO CLINIC VENTURES
LabCorp
TVM Capital HEALTHCARE PARTNERS
PARTNERS HEALTHCARE
TVM
venrock
brainchild
SUTTER HILL VENTURES
OMEGA FUNDS
Viking
WARBURG PINCUS
SWMF LIFE SCIENCE FUND
POLARIS PARTNERS

Geroscience Institutes by Region

USA

Harvey A. Friedman Center for Aging
SFU Gerontology Research Centre
USC | UCLA
Institute on Aging
sens research foundation
University of Massachusetts Boston Gerontology Institute
Paul F. Glenn Center for Aging at the University of Michigan
The BUCK INSTITUTE FOR RESEARCH ON AGING
Institute for Aging Research
Princeton Longevity Center
University of Michigan Geriatrics Center & Institute of Gerontology
Institute on Aging
UT Health Science Center
Tufts Jean Mayer USDA Human Nutrition Research Center on Aging
CREA
Wayne State University Institute of Gerontology
INDIANA UNIVERSITY SCHOOL OF MEDICINE
Center for Healthy Aging Research
Baylor College of Medicine
Michigan Gerontology Institute
CAC
Boonshoft School of Medicine
AGING INSTITUTE
Arizona Center on Aging
HUFFINGTON CENTER ON AGING
SBP
Medical Discovery Institute
Dartmouth INSTITUTE
Duke CENTER for POPULATION HEALTH & AGING
UAMS Donald W. Reynolds Institute on Aging
STANFORD UNIVERSITY
UC San Diego Health Sciences
Institute of Gerontology UNIVERSITY OF GEORGIA
Penn Institute on Aging
THE UNIVERSITY OF MAINE
CENTER FOR TRANSLATIONAL RESEARCH IN AGING AND LONGEVITY TEXAS A&M UNIVERSITY
UF Institute on Aging Department of Aging & Geriatric Research
The University of Iowa Center on Aging
KU MEDICAL CENTER
Landon Center on Aging

UK

MANCHESTER 1824 The University of Manchester Institute for Collaborative Research on Ageing
Newcastle University
CARDI Centre for Ageing Research and Development in Ireland
Centre for Integrated Systems Biology of Ageing and Nutrition CISBAN
Aston Research Centre for Healthy Ageing (ARCHA) at Aston University, Birmingham
UNIVERSITY OF Southampton
Keele UNIVERSITY
Centre for Cognitive Ageing and Cognitive Epidemiology
Newcastle University
Centre for Policy on Ageing CPA New attitudes to old age
Institute for Ageing
Newcastle Biomedical Research Centre
DRC DEMENTIA RESEARCH CENTRE
Swansea University Prifysgol Abertawe
CRAG
BIAS Brasted Institute of Ageing Studies
UNIVERSITY OF LIVERPOOL
Biogerontology Research Foundation Prevent. Restore. Preserve.
MAX PLANCK UCL CENTRE for Computational Psychiatry and Ageing Research
INSTITUTE OF AGEING AND CHRONIC DISEASE
STAFFORDSHIRE UNIVERSITY
INSTITUTE OF HEALTHY AGEING UCL
The Oxford Institute of Population Ageing

EU

IUF LEIBNIZ-INSTITUT FÜR UMWELT-MEDIZINISCHE FORSCHUNG
fli Leibniz Institute on Aging – Fritz Lipmann Institute
VELUX FONDEN DANISH AGING RESEARCH CENTER www.sdu.dk/darc
Ikäinstituutti
L-Università ta' Malta
universität innsbruck
ERIBA European Research Institute for the Biology of Ageing
INSTITUTE OF GERONTOLOGY
JENAGE JENA CENTRE FOR SYSTEMS BIOLOGY OF AGEING
MAX PLANCK INSTITUTE FOR BIOLOGY OF AGEING
CECAD COLOGNE
ifg
DZA German Centre of Gerontology
Institut für Gerontologische Forschung e.V.
International Institute on Ageing United Nations - Malta
UNIVERSITÄTS KLINIKUM FREIBURG

Other

RIA Research Institute for Aging Enhancing Life
University of Victoria Institute on Aging & Lifelong Health
CIHR IRSC
ARC AGING RESEARCH CENTER
CASE FACULTY OF MEDICINE | LUND UNIVERSITY
Tohoku University IDAC
香港大學秀圃老年研究中心 Sau Po Centre on Ageing The University of Hong Kong
IBIMA Curtin University
Alberta Centre on Aging
Western Canadian Centre for Activity and Aging
Institute of Aging Research, HZNU 杭州师范大学医学院衰老研究所
Centre de recherche sur le vieillissement Research Centre on Aging
AUSTRALIAN INSTITUTE FOR POPULATION AGEING RESEARCH
THE UNIVERSITY OF SYDNEY
UNIVERSITY OF MANITOBA Centre On Aging
Baycrest
INTERNATIONAL RESEARCH CENTRE FOR HEALTHY AGEING AND LONGEVITY
cepar ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH
CHU de Québec Université Laval

Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Anthony Atala

Joon Yun

Adam Antebi

Elizabeth Blackburn

Nursultan Nazarbayev

Bill Faloon

Peter Diamandis

Sally Greengross

Michael Kope

Stephen Johnson

Maria Blasco

Andy Conrad

David Finkelstein

David Botstein

John D. Furber

Bruce Ames

David Gems

Tina Woods

Steven Austad

Finian Tan

Eric Kihlstrom

Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Vitalik Buterin

Alexey Moskalev

Ilia Stambler

Edwina Rogers

Robin Farmanfarmaian

Christine Peterson

Linda Partridge

Bill Maris

Michael Greve

Maria Konovalenko

Calvin Harley

Leonard Guarente

Thomas Langer

Nils-Göran Larsson

Jose Cordeiro

Dmitry Itskov

Zoltan Istvan

James Strole

Bernadeane

Robert Young

Kevin Perrott

Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Arthur Bilger

Laura Carstensen

Henry Cisneros

Pinchas Cohen

Catherine Collinson

Joseph Coughlin

Fernando Torres-Gil

William Dow

Ken Dychtwald

Marc Freedman

Linda Fried

Lynn Goldman

Christopher Herbert

Michael Hodin

Jo Ann Jenkins

Yves Joanette

Becca Levy

Freda Lewis-Hall

Robin Mockenhaupt

Philip Pizzo

Andy Sieg

Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Youngsook Park

Keith Comito

Alexey Turchin

David Wood

Arielle Burstein

Rita Beamish

Paul Irving

Rodney Slater

Trent Stamp

Dana Ardi

Errol Barnett

Arthur Bilger

Fred Jonske

Alexander Klabin

Chip Conley

Richard Eisenberg

Chris Farrell

Sherry Lansing

Campbell Gerrish

Taimur Hyat

Robert Johnson

United Kingdom Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY | DEEP KNOWLEDGE ANALYTICS | LongevityXuk | Biogerontology Research Foundation — Prevent. Restore. Preserve.

David Sinclair

Baroness Sally Greengross OBE

Eric Kihlstrom

Helen Whately

John Bell

Matt Hancock

Charles Alessi

Aubrey de Grey

Jim Mellon

Tina Woods

Dmitry Kaminskiy

Narendra Patel

Malcolm Jackson

Tom Kirkwood

George P. Willis

Helen R. Griffiths

Martin Green

Anders Sandberg

Tim Spector

Ben Franklin

Andrew Scott

Qing-Jun Meng

Ilora Gillian Finlay

Leslie Arnold Turnberg

Dame Denise Platt

Philippa Whitford

Linda Partridge

David Kipling

Paul Keith Potter

Julia Neuberger

John Speakman

Suzanne Wait

Jon Date

Paul Thornalley

Janet Thornton

Manlio Vinciguerra

Thomas von Zglinicki

William Bains

Richard Barker

Richard Faragher

Robert Freitas

David Gems

Andrew Krentz

Aisling Burnand

J. P. de Magalhaes

Anne McArdle

Cleo Bishop

Dr Richard Siow

John Pattison

Maggie Throup

Peter Adams

Janet M. Lord

Colin Blakemore

Sally-Marie Bamford

David Amess

Israel Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Aaron Ciechanover

Alex Friedman

Anat Ben-Zvi

Assaf Sella

Benjamin Sredni

Boaz Misholi

Dan Peer

Doron Garfinkel

Doron Melamed

Dov Chernichovsky

Dov Shmotkin

Ehud Cohen

Eitan Okun

Eldad Tzahor

Eli Mizrahi

Eyal Banin

Gabriel Barbash

Gil Atzmon

Hadas Lewy

Haim Cohen

Hanan Tal

Howard Litwin

Idan Papier

Idan Segev

Ilia Stambler

Israel Doron

Itamar Harel

Itamar Raz

Joe van Zwaren

Jonathan Mandelbaum-Shor

Michal Neeman

Michal Schwartz

Mooly Eden

Natalie Yivgi Ohana

Nir Barzilai

Nirit Lev

Rafi Eitan

Ran Balicer

Raphael Gorodetsky

Ruth Arnon

Sami Sagol

Sara Carmel

Shai Brill

Shai Efrati

Shai Shen-Orr

Sivan Henis-Korenblit

Sol Efroni

Tal Dvir

Tzvi Dwolatzky

Uri Alon

Valery Krizhanovsky

Yael Benvenisti

Yakir Kaufman

Yaky Yanay

Yechezkel Barenholz

Yitzhak Brick

Yosef Gruenbaum

Yossi Heymann

Zorian Radomyslsky

Zvi Lanir

Singapore Longevity Influencers

Top Longevity Scientists and Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Finian Tan

Danny Soon

Gary Khoo

Bussarawan (Puk) Teerawichitchainan

Chong Hock Sia

Janice Chia

Jeffrey Lu

Carl Firth

Kanwaljit Soin

Christiani Jeyakumar Henry

Colin Stewart

Birgit Lane

Brian Kennedy

Hwee-Pink Tan

Kenneth Noonan

Lim Chwee Teck

Lok Shee-Mei

Melis Tay

Neo Kah Yean

Ng Huck Hui

Paolo Rampichini

Paul Si

Penny Wan

Judith Swain

Vishal Doshi

Wallace I. Torres

Wanjin Hong

Wilf Blackburn

Yu Cai

Lim Xinhong

30 FemTech Healthcare Influencers

AGING ANALYTICS AGENCY

DEEP KNOWLEDGE ANALYTICS

LONGEVITY INTERNATIONAL

Jill Angelo
Genneve

Elina Berglund
Natural Cycles

Anne Boden
Starlingbank

Tania Boler
Elvie

Kate Bolton
CommsForGood

Ghela Boskovich
FemTech Global

Marija Butkovic
Women of Wearables

Judith Campisi
Buck Institute for Research on Aging

Lina Chan
Adia Health

Nicole Dahlstrom
FemTech Collective

Alexandra Fine
Dame Products

Elizabeth Gazda
Embr

Robin Farmanfarmaian
RF

Molly Hayward
Cora

Angie Lee
The Angie Lee Show

Janet Lieberman
Dame Products

Liz Lumley
Rainmaking

Elena Medo
Medolac

Devie Mohan
Burnmark

Kate Moyle
Pillow

Nuala Murphy
Moment Health

Elena Mustatea
Bold Health

Anastasia Georgievskaya
Haut.AI

Katherine Ryder
Maven Clinic

Maria Molland Selby
Thinx

Nicole Shanahan
ClearAccessIP

Tammy Sun
Carrot

Ida Tin
Clue

Jennifer Tye
Glow

Adriana Vazquez
Lilu

Top-100 Longevity Leaders

AGING ANALYTICS AGENCY

14 Investors and Donors

AGING ANALYTICS AGENCY

Bryan Johnson

Dmitry Kaminskiy

Finian Tan

James Peyer

Jeff Bezos

Jim Mellon

Joshua McClure

Laura Deming

Peter Diamandis

Peter Thiel

Sam Altman

Sergey Young

Stephen Bloch

Vitalik Buterin

24 Entrepreneurs

AGING ANALYTICS AGENCY

Alex Zhavoronkov

Art Levinson

Bill Andrews

Bill Maris

Brian Kennedy

Craig Venter

David Botstein

David Gobel

George Church

John D. Furber

Katy Fike

Keith Leonard

Kevin Perrott

Michael Fossel

Michael Greve

Michael West

Mike Kope

Paul F Glenn

Ray Kurzweil

Reason

Robert Hariri

Stephen Johnston

Suzanne Wait

Tina Woods

11 Media and Publicity Influencers

AGING ANALYTICS AGENCY

Andrew Scott

Antonio Regalado

Bernadeane Brown

James Strole

Keith Comito

Lindsay Cook

Michael Rae

Paul Irving

Robin Farmanfarmaian

Steve Hill

Tony Robbins

40 Research and Academia

AGING ANALYTICS AGENCY

Alan Russell

Alexey Moskalev

Ana Maria Cuervo

Andrew Dillin

Anthony Atala

Antonei B. Csoka

Aubrey de Grey

Bruce Ames

Caleb Finch

David Sinclair

Elizabeth Blackburn

Eric Topol

Eric Verdin

George Martin

Gordon Lithgow

Gregory Fahy

Ilia Stambler

Irina Conboy

Jan van Deursen

Janet M Lord

Jerry Shay

João Pedro de Magalhães

Judith Campisi

Julie Andersen

Leonard Guarente

Lloyd Demetrius

Maria Blasco

Michael Rose

Ned David

Nir Barzilai

Rafael de Cabo

Richard Barker

Richard Faragher

Robert Young

S. Jay Olshansky

Steven Horvath

Thomas Rando

Tom Kirkwood

Alexander Koliada

Vadim Gladyshev

Top-50 Women Longevity Leaders

AGING ANALYTICS AGENCY

3 Investors and Donors
& 7 Media and Publicity Influencers

AGING ANALYTICS AGENCY

Investors and donors

Laura Deming

Rebecca Hughes

Sarah Thomas

Media and Publicity

Cameron Diaz

Lindsay Cook

Daisy Robinton

Ekaterina Batzoglou

Maria Entraigues

Robin Farmanfarmaian

Suzanne Somers

12 Entrepreneurs

AGING ANALYTICS AGENCY

Arielle Burstein

Bernadeane Brown

Elizabeth Parrish

Jill Angelo

Katy Fike

Kristen Fortney

Lisa Fabiny Kiser

Martha Deevy

Natasha Vita-More

Suzanne Wait

Tanya Jones

Tina Woods

15 Research and Academia

AGING ANALYTICS AGENCY

Adelaida Palla

Ana Maria Cuervo

Anne Brunet

Carol Greider

Cynthia Kenyon

Elizabeth Blackburn

Irina Conboy

Janet M. Lord

Judith Campisi

Julie Andersen

Linda Partridge

Maria Blasco

Maria Konovalenko

Patricia Olson

Polina Mamoshina

13 Politics, Policy and Governance

AGING ANALYTICS AGENCY

Camilla Cavendish

Daria Khaltourina

Diana S. Dooley

Edwina Rogers

Elena Milova

Hannah-Beth Jackson

Helen Whately

Joanna Bensz

Lora Connolly

Maggie Throup

Maria Shriver

Nancy McPherson

Sally Greengross

Leading Publications & Conferences

AGING ANALYTICS AGENCY | DEEP KNOWLEDGE ANALYTICS | LONGEVITY INTERNATIONAL

Top Scientific Journals in Geroscience

Experimental Gerontology
Ageing Research Reviews
Oncotarget
Innovation in Aging
Gerontology
Rejuvenation Research
Aging Cell
Aging
The Journals of Gerontology Series A
npj Aging and Mechanisms of Disease

Top Longevity Conferences

Basel Life
The Economist
World Economic Forum
masterinvestor

Top Academic Books in Geroscience

Top Longevity Books

Top Scientific Meetings & Symposia

The 2017 Harvard / Paul F. Glenn Symposium on Aging June 26, 2017
The Ageing Cell
Cold Spring Harbor Laboratory Mechanisms of Aging
2nd International Conference Genetics of Aging and Longevity
2nd International Conference on Aging & Gerontology June 26-27, 2017 | San Diego, CA, USA
Rejuvenation Biotechnology a SENS Research Foundation Conference
Disease Drivers of Aging: 2016 Advances in Geroscience Summit
BAAM Bay Area Aging Meeting
2017 Barshop Symposium on Aging
The Burrill & Buck Aging Meeting innovation from discovery to delivery

Top Longevity Online Resources

Human Ageing Genomic Resources
GenAge: The Ageing Gene Database
DAA Digital Ageing Atlas
DrugAge
LONGEVITY.INTERNATIONAL
GenDR
AgingPortfolio.org Tracking International Progress in Aging Research
Fight Aging!
CellAge
LongevityMap

Leading Publications & Conferences

AGING ANALYTICS AGENCY
DEEP KNOWLEDGE ANALYTICS
LONGEVITY INTERNATIONAL

	Palliative & Policy	Advanced Solutions	Basic Research
Europe	23rd Clinical Applications for Age Management Medicine November 2-5, 2017 JW Marriott Starr Pass Resort & Spa, Tucson, Arizona This activity has been approved for 26 AMA PRA Credits AGINGINAMERICA SAN FRANCISCO • MARCH 26-29, 2018 4th International Conference on Ageing in a Foreign Land Aging & Society: Seventh Interdisciplinary Conference 2017 November 3-4, 2017 University of California, Berkeley, Berkeley, CA, United States (Past)	Targeting Tau in Alzheimer's Disease and Related Disorders KEYSTONE SYMPOSIA Eukaryotic DNA Replication & Genome Maintenance September 5 - 9, 2017 Abstract Deadline: June 16, 2017 GENE THERAPY SYMPOSIUM FOR HEART, LUNG, AND BLOOD DISEASES REGENERATIVE MEDICINE WORKSHOP HILTON HEAD Telomeres & Telomerase May 2 - 6, 2017 Abstract Deadline: February 27, 2017 Genome Engineering: The CRISPR-Cas Revolution July 21 - 24, 2017 Abstract Deadline: May 25, 2017 SEE YOU IN WASHINGTON, DC 2017	Mitochondria in Health and Disease Cell Growth and Proliferation Mechanisms of Cell Division with Special Emphasis on Cancer Annual UCLA Research Conference On Aging Gordon Research Conferences AGE American Aging Association IAGG 2017 SAN FRANCISCO
USA	BGS British Geriatrics Society Improving healthcare for older people CPPEI 2017 ICT4AWE 2017 IFA INTERNATIONAL FEDERATION ON AGEING Global Connections 5th Helmholtz-Nature Medicine Diabetes Conference	Drug Discovery 2017 Cancer Genomics Stem Cells and Cancer Mechanisms of Stem Cell Aging, Cancer Initiation Progression IBIMA 2nd Zing Genomic Integrity Conference Big Data in Biology and Health 4th International Symposium on Peripheral Nerve Regeneration July 06th - 08th, 2017 - Barcelona, Spain FUTURE INVESTIGATORS OF REGENERATIVE MEDICINE 3rd Annual Cell & Gene Therapy Congress	Endocytic trafficking and signaling in health and disease Neuro-Immune Axis: Reciprocal Regulation in Development, Health, and Disease Modulating Ageing / Antiageing: from Molecular Biology to Clinical Perspectives The Ageing Cell 27-28 March 2017 BIO Europe
Other	2nd Interventions in Aging Conference Understanding Mechanisms & Compressing Morbidity in Aging Humans ACNM17 Aged Care Nurse Managers Conference 11th Annual ASM Conference GUT HEALTH: THE CORNERSTONE OF WELLBEING MENA GERIATRICS SUMMIT Stress Proteins in Growth, Development and Disease From Protein Folding to Misfolding Disorders: The Importance of Maintaining Proteostasis over a Lifetime FUTURE OF ELDERCARE OPERATIONS SEMINAR 2017	CiRA 2017 International Symposium Nov. 6-8, Kyoto Japan SYMPOSIUM REGENERATIVE REHABILITATION CSH Asia JSGCT Japan Society of Gene and Cell Therapy Mitochondrial quality control	ERA Emerging Researchers in Ageing Australia New Mexico CONSORTIUM XXII World Congress of Neurology AGEING: THE GOLDEN OPPORTUNITY ABAC 2017 Australian Biology of Ageing Conference KEYSTONE SYMPOSIA on Molecular and Cellular Biology

Top Longevity Journals

AGING ANALYTICS AGENCY
DEEP KNOWLEDGE ANALYTICS
LONGEVITY INTERNATIONAL

	Palliative & Policy	Advanced Solutions	Basic Research
Europe			
USA			
Other			

Longevity Scientific Articles

AGING ANALYTICS AGENCY | DEEP KNOWLEDGE ANALYTICS | LONGEVITY INTERNATIONAL

The diagnosis of mild cognitive impairment due to Alzheimer's disease

The age distribution of cancer and a multi-stage theory of carcinogenesis

The role of oxidative stress

The association between quantitative measures

Interactions between glutamatergic and monoaminergic systems

Early-onset Alzheimer's disease

Folate, vitamin B12, and serum total homocysteine levels

A DNA damage checkpoint response in telomere-initiated senescence

Selective loss of central cholinergic neurons in Alzheimer's disease

Basal lipid peroxidation in substantia nigra is increased in Parkinson's disease

Research criteria for the diagnosis of Alzheimer's disease

Body fat assessed from total body density and its estimation from skinfold thickness

Ageing and Parkinson's disease

Global prevalence of dementia

The relevance of the Lewy body

Segregation of a missense mutation

Multiple isoforms of human microtubule-associated protein tau

A voxel-based morphometric study of ageing in 465 normal adult human brains

Effect of age and high blood pressure on baroreflex sensitivity in man

Cerebral blood flow in dementia

The moulding of senescence by natural selection

Telomere reduction in human colorectal carcinoma and with ageing

Accuracy of clinical diagnosis of idiopathic Parkinson's disease

Identification of a novel aspartic protease (Asp 2) as beta-secretase

Oxidative stress in Parkinson's disease

Why do we age?

Age-specific relevance of usual blood pressure to vascular mortality

1 Billion People in Retirement Globally - a New Multi-Trillion Opportunity

Longevity, AgeTech & WealthTech Market

Globally
1 Billion in Retirement

In the UK
10 Million in Retirement

“ 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 age 60 and over will reach $15 trillion annually by 2020 “

~ *Bank of America Merrill Lynch.*

Source ft.com

Top-150 Financial Institutions
Advancing Financial Industry
Longevity / AgeTech / WealthTech

Asset Management Firms - 30
Pension Funds - 40
Reinsurance Companies - 15
Insurance Companies - 25
Banks - 40

AGING ANALYTICS AGENCY

Introduction: Longevity, Aging, and the Advancing Financial Industry: The Collision of Two Opposed MegaTrends

The present moment in history is marked by the impending collision of two opposed megatrends:

- exponential development in advanced biomedicine and the science of aging, which is creating a rapidly growing Longevity Industry capable of expanding healthspan, delaying age-related diseases and compressing age-related loss of function into the last few years of life;
- the oncoming Silver Tsunami (demographic aging), which poses major economic burdens not just for the healthcare systems of developing nations, but also for major financial institutions including pension funds, insurance companies, asset management firms and retail / private wealth banks.

All these classes of financial institutions will either gain or lose from the collision of these two opposed megatrends.

Those institutions that will be able to reinvent their business models to (1) reduce the economic burden caused by demographic aging through specific products and policies, and (2) tap into the rising AgeTech, WealthTech and Longevity Finance markets that are emerging as a result of the 1 billion people on retirement globally that can not only survive the oncoming collision of these megatrends, but can actually thrive and prosper as a result, maintaining their existing sources of revenue, while opening doors to an untapped ocean of the new ones. Those institutions that fail to recognize the oncoming collision of these two opposed megatrends and to reinvent their business models accordingly, will stagnate and be washed away.

Two Possible Scenarios of Longevity MegaTrends

Positive Scenario

Most progressive and technocracy-driven countries will work proactively to address these issues and implement a positive scenario. Financial institutions operating in those regions should have sophisticated long-term forecasting to reformulate their business models in order to minimize the challenges and to maximize the utilization of opportunities associated with these two opposed megatrends.

Pessimistic Scenario

In reality, most countries will fail to address these challenges in advance due to a lack of will and technological capability, missing their window of opportunity to benefit from the progress in biomedicine, and to neutralize the worst effects of population ageing. Financial institutions operating in those regions should utilize pragmatic forecasting, and to adjust and optimize their business models accordingly.

Longevity Financial Landscape Framework

AGING ANALYTICS AGENCY

PENSION FUNDS

- Population ageing may increase cost
- Dependant on policy regulations
- Higher mortality uncertainty

INSURANCE COMPANIES

- Leveraging longevity risk on macro and micro level
- Intersection with banks and asset management firms
- Longevity derivatives as a form of insurance

ASSET MANAGEMENT FIRMS

- Product diversification for different age groups
- Advanced trading strategies with longevity derivatives
- Population aging may make conservative investment strategies more popular

RETAIL AND PRIVATE WEALTH BANKS

- Providing services to other financial institutions
- Savings growth = additional pressure on interest rates
- Banks can substitute services of retirement planning

Top-Tier Finance and Business Media Conferences on Longevity

Longevity is now regularly embraced as a major topic of interest for panel discussions and entire conference series by top-tier finance and business media brands including *The Economist*, *Financial Times* and *Bloomberg*.

FINANCIAL TIMES LIVE

12:10pm **Aging and Longevity**

Dmitry Kaminskly, Co-Founder and Senior Partner, *Deep Knowledge Ventures*

Alex Zhavoronkov, CEO, *Insilico Medicine*

Joseph Antoun, Chairman & CEO, *L-Nutra* ; Chairman, *Global Healthspan Policy Institute*

Aubrey de Grey, Vice President of New Technology Discovery, *AgeX Therapeutics*

A GLOBAL NETWORK OF INNOVATORS

AGING 2.0

Top-Tier Financial Institutions and Business Analytics Firms Show Interest in Longevity Through Conferences and Reports

CREDIT SUISSE

Credit Suisse featured Health and Aging as one of four main themes in their 2018 Global MegaTrends Conference

Julius Baer held a major forum on the topic of "Investing in Longevity" featuring a keynote presentation by Aging Analytics Agency Founder Dmitry Kaminskiy

UBS featured "Living to 150" as one of six major topics in their 2018 Healthcare Summit, featuring a keynote presentation by prominent Longevity entrepreneur Alex Zhavoronkov

UBS also issued a report on the "largest survey of wealth investors in the world to date", concluding: ""Don't let skepticism about living to 100 keep you from planning for it. Life expectancies are rising, and it's a real possibility. In fact globally, nine in 10 investors are already adjusting how they are planning for their life and their legacy."

CitiBank released a landmark report detailing the rise of the Longevity Industry, and highlighting it as one of the quickest-rising sectors being driven by disruptive innovation today.

FROST & SULLIVAN

Frost and Sullivan also released two prominent reports on the emerging Longevity Industry, and in 2018 created the "Award for Innovation in Artificial Intelligence for Aging Research and Drug Development"

Level of Longevity Finance Activity and Prospects of 150 Leading Financial Institutions

Aging Analytics Agency's classification framework set up the ranking of 150 leading financial institutions according to their levels of activity in the Advancing Longevity Financial Industry.

Quantitative, tangible metrics are used for the comparative analysis to deliver three tiers: anti-ranking (non-active), medium ranking (active), and positive ranking (proactive).

This three-tiered system allows companies to be quantified not only the activity and future prospects of these companies, but also the lack of activity and assets that could be converted into future prospects.

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Next Multi-Trillion Underdeveloped Market for Financial Institutions

AgeTech Market

Globally
1 Billion on Retirement

In the UK
10 Million on Retirement

> The one billion retired people globally are a multi-trillion dollar opportunity for business
>
> — *Dmitry Kaminskiy interview in the Financial Times.*

The global aging demographic challenge, and the prospect of technological solutions (digital, biomedical and financial), are now recurring talking points at conferences hosted by major investment banks. The previous slides exemplify a sliver of such conferences from the past two years. The **Deep Knowledge Group**, consisting of **Deep Knowledge Ventures**, **Aging Analytics Agency** and **Deep Knowledge Analytics**, lies at the heart of the emerging Longevity industry and is committed to furthering the conversation via similar events.

Precision Medicine Clinics 3D Analytical Framework

Aging Analytics Agency believes that the effective analysis of as complex and multidimensional an industry as Precision Medicine Clinics requires the application of an equally multidimensional analytical framework. This analytical framework presented in the present white paper includes metrics for identifying the breadth of the industry, identifying the degree of technological development, staff professionalism, range of provided services, financial position and scientific activity.

Precision Medicine Clinics Industry Analytical Framework

General characteristics	Financial position	Marketing	Technologies	Services	Orientation	Focus level (Therapeutic depth factor)	Team composition	Science activity	Equipment		Targets of treatment	
											Targeted diseases	Alcohol/drug treatment
											Biological age measurement	Dermatology
									CT\PET scanner	CTC	Tracking the effect of therapies	Gastroenterology
HQ location									Non-Surgical Heart Therapy Device	Doppler Ultrasonography	Oncology	Ophthalmology
Regulatory jurisdiction								Number of publications	Medical ventilators	FlexArm	Cardiology	Orthopaedics
Regulation level					Personalized Diagnostics	Biochemistry level	Number of employees	Impact factor of publications	MRI machine	Isokinetic Dynamometer	Neurology	Rheumatology
Countries involved	Annual revenue	Media mentions		Personalized Prognostics	Personalized QALY & HALE Estimation	Genomic	Number of doctors	Number of licensed patents	DaVinci robotic	Dual-Energy X-ray Absorptiometry (DXA)	Endocrinology	Sleep disorders
Number of clinics	Ratio of funding to patents filed and grants	Customers interest level		Personalized Diagnostics	Personalized Biomarker Analysis	Proteins and Cell signaling	Number of specialized doctors	Number of collaborations with scientific establishments	GAINSWave	Fit3D	Maternal-Fetal medicine	Urogynecology
Size of all facilities	Number of investors	Participation in big industry conferences		Preventive Treatment	Personalized Prognostics	Cellular	Doctors/employees ratio	H-index	HRV optimization Device	SizeStream	Infectious disease	Dentistry
Stage of business`s life cycle	Amount of investments	Sponsorship activities	Data processing	Reactionary treatments	Personalized in vivo & in silico drug testing	Tissue level	Doctors qualification	Grants	MR-TRUS Fusion	Air Displacement Plethysmography system	Obesity	Otolaryngology
Collaboration	Number of subsidiary clinics	Events attended	Omics	Cosmetics	Preventive Therapies	Organs	Doctors' h-index	Participating in scientific conferences	CyberKnife	3D whole body photo-imaging system	Allergy	Immunology

SERVICES							
Reactionary treatments	Nuclear medicine	Infrared therapy	Ultrasound Therapy	Movement medicine	Abdominal medicine	General internal medicine	Robotic Surgery
	Ambulance	Family Medicine	Traveller medicine	Hormone therapy	Surgery	Hospice	Long-term care
Preventive Treatment	Microbiome engineering	Lifestyle programs	Non-surgical heart therapy	Heart Rate Variability optimization	3D bioprinting	Natural mimetics of validated geroprotectors	
	Small molecules & biologics	Tissue engineering	Genetically engineered cell therapies	Cell therapies	Gene therapies		
Personalized Diagnostics	3D imaging	Dual-energy X-ray absorptiometry scans	Total-body imaging	Non-invasive monitoring of biomarkers	Multi-Omics Sequencing		
	Qualitative functional tests	Database of personal biomedical data	Biomarker analysis	Telemedicine	Mobile Apps/AI assistants		
Cosmetics	Rejuvenated stem cell facelifts	Cosmetic medicines and surgeries	Cosmetic nutraceuticals targeted at the Hallmarks of Ageing	Personalised stem cell creams			
Personalized Prognostics	Disease outcome prognostics	Screening of hereditary diseases	Personalised in vitro prognostics	Virtual Human Prognostics			
TECHNOLOGIES							
Omics	Toxicogenomics	Pharmacomicrobiomics	Pharmacogenomics	Nutritional genomics	Foodomics		
	Transcriptomics	Glycomics	Lipidomics	Proteomics	Metabolomics		
Data processing	Bioinformatics	Cloud Computing	Deep Neural Networks / Deep Learning	Symbolic AI / Machine Learning	Big Data		

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Precision Medicine Clinics Analytical Framework

Focus level (Therapeutic depth factor)

Targets of treatment

Team composition

Orientation

Marketing

Financial position

Science activity

General characteristics

Services

- Personalized Diagnostics
- Personalized Prognostics
- Preventive Treatment
- Reactionary treatments
- Cosmetics

Technologies

- Omics
- Data processing

Equipment

- Imaging
- General diagnostic
- Therapy
- Robotic Therapy

Ranking of Top 100 Precision Medicine Clinics

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Precision Medicine Clinic Analytical Framework: Clinic Harmonization Analysis

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Precision Medicine Clinic Product and Service Pipeline Therapeutic Depth vs. Breadth Analysis

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Ranking Countries on the Strength, Scope and Relevance of their Government Longevity-Related Projects and Initiatives

POSITION	COUNTRY	COUNTRY SCORE
1	United Kingdom	5.29
2	Netherlands	4.36
3	Singapore	4.15
4	South Korea	4.00
5	Israel	3.94
6	Switzerland	3.93
7	Hong Kong	3.41
8	Japan	3.10
9	USA	3.07
10	Spain	1.94
11	European Union	1.88
12	China	1.85

Government Longevity-Related Projects and Initiatives Analytical Framework

Overall, there are 6 levels of proprietary metrics which differ based on the nature of the parameters they consist of.
Indicators, their growth rates and their ratios are calculated separately and then integrated in the final metrics system.

The whole metrics can also be subdivided into 2 categories based on the logic of the parameters, namely:

- Indicators of potential (or lack thereof);
- Indicators of actual success (or lack thereof).

Thus, the ranking system reflects both strengths and opportunities of different countries regarding the development of national longevity strategies. It can be applied for the evaluation of the current state of a country, as well as of its prospects.

Some metrics indicators are directly interconnected, since the ratios are derived from single values which are parameters themselves.

Government Longevity Related Projects and Initiatives Analytical 3-Dimensional Framework

Absolute values are enhanced by relative ones, and the use of both in combination enables a clearer understanding of interconnections between the parameters and provides the opportunity to investigate the relative roles of different factors in the overall country ranking process.

Each level of metrics is based upon the extension, further subdivision or comparative combination of the previous of the metrics in the preceding level, or is derived from insights provided by them.

The research is based on open source data and information given by WHO, OECD, The World Bank, and different institutions of each specific country.

All budget data is compared in US$ translated by the change rate of the starting year of the initiative without inflation taken into account.

Government Longevity Related Projects and Initiatives Analytical Framework

Government Longevity National Development Plans: Analytic Framework Metrics

The metrics used in this report's proprietary analysis are divided into 6 levels, according to their complexity and importance:

1st level – **absolute values** – primary values of analysed parameters, both economic and health-related;
2nd level – **indexes** – includes Inclusive Development Index (IDI), Healthcare Indexes and Melbourne Mercer Global Pension Index.
3rd level – **ratios** – includes ratios in 4 main categories: Retirement, Healthcare efficiency, Life Expectancy and Budget of initiatives;
4th level – **growth rate of the values**– calculated compound annual growth rates of five to six years for the used indexes;
5th level - **growth rate of ratios** - compound annual growth rates of Ageing Population, Healthy Life Expectancy and Healthcare Expenditures;
6th level - **effectiveness ratios** - ratios that use growth rates of parameters to analyse cost-effectiveness of expenditures on healthcare.

You can review this framework in a bigger scale by this link - Aging Analytics Agency Approach and Methodology.

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Total Number of Initiatives														
Number of Preventive Medicine Initiatives														
Number of AgeTech Initiatives														
Number of Initiatives with Closed Budgets														
Degree of Industrialisation of Longevity														
Age of Initiatives														
Social Security Insolvency														
Budget of Industrial Strategy														
													Age Dependency Ratio, CAGR (5 Years)	
Amount of Capital Committed to AgeTech	Normal Retirement Age Men					HALE/Life Expectancy							HALE / Life Expectancy, CAGR (5 Years)	
Amount of Capital Committed to Geroscience R&D	Normal Retirement Age Women				Senior Poverty Ratio	DALY	Employed, 75+ Years						Healthcare Expenditure / GDP per Capita, CAGR (5 Years)	
Absolute Amount of Capital Committed to Initiatives	Early Retirement Age Men	HALE	Integrity		Retired People Proportion	Healthcare Expenditure /GDP per Capita	Employed, 70-74 Years	Budget of Initiatives/ Government Spending				HALE CAGR (5 Years)	Healthcare Expenditure per Capita, CAGR (5 Years)	Life Expectancy CAGR (5 Years)/GDP per Capita, AAA, CAGR (5 Years)
Amount of Capital Committed to Preventive Medicine	Early Retirement Age Women	Female Life Expectancy	Adequacy	HAQ	Age Dependency Ratio, Old	Healthcare Expenditure/Government Spending	Employed, 65–69 Years	Budget of Initiatives/GDP		GDP, Current Prices, CAGR (5 Years)	Rate of Population Aging (65+ Years)	Female Life Expectancy, CAGR (5 Years)	Healthcare Expenditure per Capita / Government Spending, CAGR (5 Years)	Life Expectancy CAGR (5 Years) / Health Expenditure per Capita (Current US$), CAGR (5 Years)
Whether a Country has Dedicated Minister for Elderly	Total Number of Retired	Male Life Expectancy	Sustainability	Inclusive Development Index Score	Population 65 and over Rate	Health Expenditure per Capita Current PPPs	Employed, 60–64 Years	Budget of Initiatives/ Inclusive Development Index Score	Healthcare Efficiency Score, 5 Years Growth	GDP per Capita, PPP, CAGR (5 Years)	Average Growth of % of People in Workforce	Male Life Expectancy, CAGR (5 Years)	Growth of Population Aged 65+ / Population Growth, CAGR (5 Years)	Employed People Aged 65+, CAGR (5 Years) / Health Expenditure per Capita, CAGR (5 Years)
Number of WHO Age-Friendly Cities/ Communities	Population 60 and Over	Both Sexes Life Expectancy	Overall Value Index	Healthcare Efficiency Score	Population 60 and over Rate	Health expenditure (% of GDP)	Employed, 55–59 Years	Budget of Initiatives/ Healthcare Expenditure	Health Expenditure per Capita, CAGR (5 Years)	GDP per Capita, Current Prices, CAGR (5 Years)	Number of Employed 65+, CAGR (5 Years)	Both Sexes Life Expectancy, CAGR (5 Years)	Number of People Aged Over 65, CAGR (5 Years)	HALE CAGR (5 Years) / Health Expenditure per Capita (Current US$), CAGR (5 Years)
		Life	Melbourne			Health	Rate of	Budget of	Health			Life	Growth Rate of	Effective

Longevity Initiatives Classification Framework

Life Expectancy and GDP per Capita

Sources: World Economic Outlook | Geoba.se - Life Expectancy

Health Expenditure and Health Care Efficiency Score

Health expenditure (% of GDP), 2017

Health Care Efficiency (Bloomberg), 2018

Health expenditure (% of GDP), 2017		Health Care Efficiency (Bloomberg), 2018
17.2	USA	29.6
12.3	Switzerland	58.4
10.7	Japan	64.3
10.1	Netherlands	50.8
9.6	United Kingdom	58.9
8.8	Spain	69.3
7.6	South Korea	67.4
7.4	Israel	67
6.2	Hong Kong	87.3
2.2	Singapore	85.6
1.75	China	54

Sources: OECD.Stat - Health Status | Bloomberg Health Care Efficiency

Industrial Strategies, National Master Plans, Independent or Municipal Government Programs

BIRAX Ageing

Society 5.0

SEOUL METROPOLITAN GOVERNMENT

Seoul Metropolitan Government, South Korea ministry of Health and Welfare

CHARLS

北京大学 PEKING UNIVERSITY

China Health and Retirement Longitudinal Study led by Peking University

Modern Aging Singapore

NPTD

Silver Infocomm

National Population and Talent Division, Modern ageing Incubator, Silver Infocomm Junctions

National Master Plans

INDUSTRIAL STRATEGY

UK Research and Innovation

Industrial Strategy Challenge Fund

UK Research and Innovation, UK Industrial Strategy, Industria; Strategy Challenge Fund

Industrial strategy

OAA OLDER AMERICANS ACT

#BOLDAlzheimersAct

Affordable Care Act

Older Americans Act, The Building Our Largest Dementia, Affordable Care Act.

SPHN Swiss Personalized Health Network

Swiss Personalized Health Network

衞生署 Department of Health

HKCSS 社聯

勞工處 Labour Department

Department of Health, Labour Department, The Hong Kong Council of Social Service

durango Ciudad amigable con las personas mayores

Durango, Age-Friendly City

CHROCOS

Healthy Ageing Network

Deltaplan Dementie

Groningen Active Ageing Strategy, HANNN, Deltaplan for Dementia.

Independent or Municipal Government Programs

Ratio of Population over 65 vs. the Age of Relevant Initiatives

Source: National Bureaus of Statistics

Insolvency Predictions for Government-Funded Schemes

Sources: Bloomberg | MishTalk | Thediplomat | Reuters | Financial Times

Melbourne Mercer Global Pension Index 2018

Source: Mercer Global Pension Index

Health-Adjusted Life Expectancy vs. Life Expectancy

Source: GHO Life expectancy and HALE

Age Dependency Ratio and Early Retirement Age

Age Dependency Ratio, 2017		Early Retirement Age, 2017
45	Japan	60
30	Spain	60
29	United Kingdom	65
29	Netherlands	52
28	Switzerland	62
23	Hong Kong	60
23	USA	62
19	South Korea	50
19	Israel	65.8
18	Singapore	62
15	China	57.5

Source: Age dependency ratio - Data

New Specialized Index Hedge Funds Planned by Deep Knowledge Ventures for 2019

Deep Knowledge Ventures is launching a number of new investment funds in 2019

FemTech Longevity

Venture Fund

Longevity.Capital

Longevity Industry Index Hedge Fund

Pharma.AI

AI for Drug Discovery Index Hedge Fund

Aging Analytics Agency and Deep Knowledge Analytics will remain the main sources of expertise behind these funds, providing the necessary analysis to develop and **de-risk investment strategies**. The new funds will provide **financial products** similar to hedge funds.

The incorporation of both organizations' expertise into these new funds allows investors to enjoy the **profitability** of VC funds, but without the usual **liquidity** issues such as lockup periods.

Furthermore, Analytics Agency and Deep Knowledge Analytics are seeking to engage with potentially interested financial institutions to collaborate in promoting Longevity as a **concrete, realistic prospect** in the eyes of investors**.**

To better link investors with expertise, the Agencies are seeking prestigious venues where **investor relations** can be **cultivated**, **financial institutions** can **promote their brands** to HNWIs, and expertise can be made readily available and **free of charge**. In other words, we are seeking spaces to establish an **ecosystem** of **systematic cooperation.**

Aging Analytics Agency is primarily interested in strategic collaboration with international corporations, organisations and governments of progressive countries on projects and initiatives related to Longevity.

Aging Analytics Agency is open to engage with strategic clients via a variety of approaches, including:

- Conducting customised case studies, research and analytics for internal (organizational) use, tailored to the precise needs of specific clients;
- Producing open-access analytical reports;
- Offering customised analysis using specialised interactive industry and technology databases and IT-platforms.

In certain specific cases, if it fits our interests, Aging Analytics Agency is open to co-sponsoring research and analytics for the production of both internal and openly-access industry reports and special case studies on the topics of Longevity, Precision Health, Personalized Medicine, Digital Health, Blockchain in Healthcare as well as other advanced topics.

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