

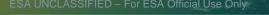
Market perspective on health and space

ESA COMMERCIALISATION GATEWAY

SPACE FOR BUSINESS **BUSINESS FOR SPACE**

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The ESA Commercialisation Gateway



Market intelligence for ESA programmes, Investors, industry and ESA Commercialisation Network

Creating links between new and emerging business sectors and ESA capabilities



Raise awareness and enable the use of space infrastructure and data for applications and services in Space and on Earth

Help newcomers find the path to ESA programmatic opportunities and collaborations

Provide an easy access to **ESA Commercialisation network** of resources:

ESA BICs, Φ_LabNET, Accelerators, Investors, Patents, Transfer of technology, SME initiatives, Business and technical expertise, End-users

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ESA COMMERCIALISATION GATEWAY Space for Business | Business for Space

Areas where ESA can help you



AVIATION



DATA PLATFORMS AND IOT



EDUCATION AND TRAINING



ENERGY



ENVIRONMENT, WILDLIFE AND NATURAL RESOURCES



FINANCE, INVESTMENT AND INSURANCE



FOOD AND AGRICULTURE



HEALTH



INFRASTRUCTURE AND SMART CITIES



MARITIME AND AQUATIC



MATERIALS, MANUFACTURING AND MINING



MEDIA, CULTURE AND SPORT



SAFETY AND SECURITY



SPACE TECHNOLOGIES



TOURISM



TRANSPORT AND LOGISTICS



1. Health Market















































Global Health Trends



Non-Communicable Diseases

- Majority of all deaths related to NCDs (71%)
- Lifestyle related (smoking, physical inactivity, alcohol and unhealthy diets)
- 25% of NCDs triggered by environmental factors

Communicable Diseases

- Mainly in low-and mid-income countries
- Globalisation and mobility risk factor for increase in CDs
- 75% of new emerging human infections from zoonotic agents

Cancers, cardiovascular, chronic, respiratory, diseases and diabetes

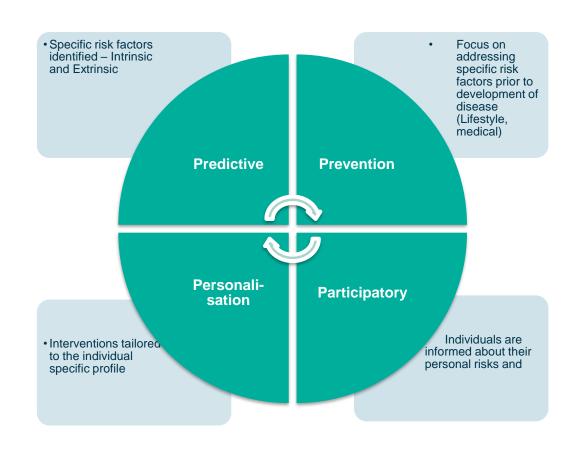
HIV/AIDS, tuberculosis, Malaria, **Covid-19**

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Health and The "P4" Revolution



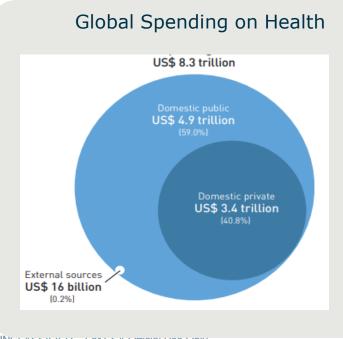
- Personalisation Tailor made therapies
- Prevention digital twins of patients, groups or populations
- Success factors of technologies rely on connectivity, data platforms and user experience
- Enabling technologies on the other hand are sensors, applications, weareables, mobile devices, robotics, AR/VR, and 5G/6G
- Largest sector in terms of medical technology market is in vitro diagnostics, cardiology and diagnostic imaging
- COVID-19 major accelerator for digitalisation of the sector

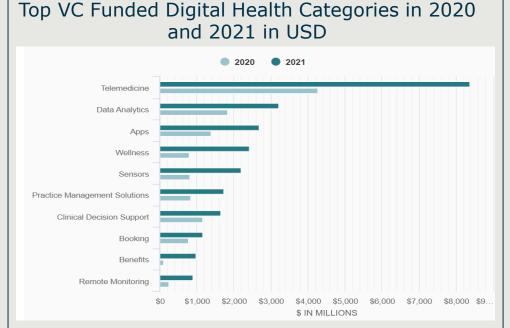


Health Spending Increasing



- Upward trend in global health care spending, USD 8.3 trillion between 2000 and 2020
- Health companies continue to captivate venture capitalist funding despite regulatory barriers regarding national reimbursements schemes
- Since 2010 USD 89 bn VC funding went into health of which 30.7 bn invested in 2021
- Telemedicine USD 9.5 bn followed by data analytics 3.2 bn and mHealth 2.6 bn





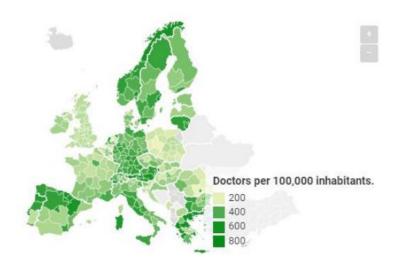


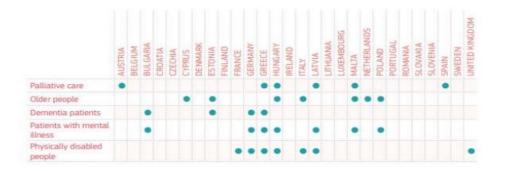
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Zoom on European Market



- Ageing population and rising prevalence of chronic diseases
- These developments and backlogs are putting a rising demand on healthcare systems across Europe
- Shift to preventative, primary and integrated care is needed for future effective and resilient health systems
- Falling high skilled medical practitioners causing 'medical deserts'
- Problems with timely access medical services exist
- Air quality across Europe still exceeding WHO guidelines and causing between 168,000 and 346,000 premature deaths
- More frequent extreme weather events due to climate change
- More frequent heatwaves and the risk of vector, waterborne diseases





Call for A Strengthened European Policy Lead



Initiatives on European level through

- New EU4Health programme (2021 2027)
 receiving significant funding for more resilient
 healthcare systems post COVID-19
- European Pharmaceutical Strategy
- Zero pollution action plan aiming to reduce premature deaths by 55% by 2030
- Call for a European Health Data Space
- Horizon Europe stimulating innovation with EU
 1.1bn budget for health for 2023
- Mission areas: Cancer, Green cities, Climate and health resilience...

PILLAR 2 PILLAR 1 PILLAR 3 **Excellent Science** Global Challenges and European **Innovative Europe Industrial Competitiveness** a) Clusters: a) European Research a) European Innovation Council Council Health Culture, Creativity & Inclusive b) Marie Skłodowskab) European Innovation Society Curie Actions **Ecosystems** Civil Security for Society Research Digital, Industry and Space c) European Institute of Innovation and Infrastructures Climate, Energy and Mobility Food, Bioeconomy, Natural Technology Resources, Agriculture and Environment b) Joint Research Centre Widening Participation and Strengthening the European Research Area

b) Reforming and Enhancing the European R&I System

a) Widening Participation and Spreading

Excellence

Emerging Platforms And Players On All Levels



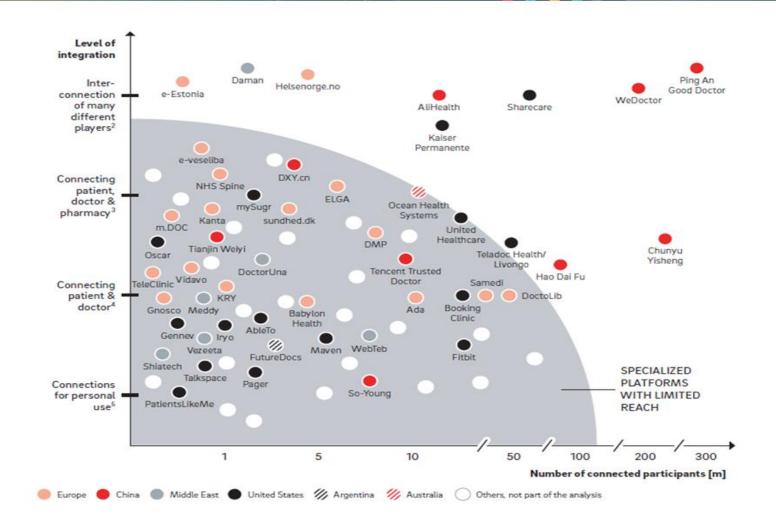


AI

mHealth

Applications

Sensors



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2. Health and Space

Medical and Biomedical Research

Telemedicine and Digital Health

Public Health Management

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Health and Space



Health

Personalisation, treatment and precision medicine

Ageing population (diseases)

Digital twinning (patient, groups or population)

Emerging dedicated digital platforms

Lifestyle related mHealth applications

Early innovation artificial intelligence, especially for prevention and diagnosis, will further support and complement decision-making

Telemedicine & basic services and capacity development, in low- and mid-income countries

Need for more resilient healthcare systems through

Data centric approach to population health and individual patient care

Streamline, improve visibility and efficiency across supply chain



Space

Drug design and development

Disease modelling

Space medicine

Real time condition monitoring and preventative care of patients (e.g. IoT, wearables)

Monitor pollution levels for respiratory and broader health risks (air, water)

Remote diagnosis/consultations enabling patients to engage with doctors through telepresence systems

Early warning systems, epidemiology, disease surveillance

Impact of global climate change and warming on disease outbreak

Real time tracking/monitoring capabilities for hospital supply chains

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→ THE EUROPEAN SPACE AGENCY

To conclude



- Increase in lifestyle related diseases, partially triggered by environmental factors
- Globalisation and mobility risk factors for CDs and increase in diseases from zoonotic agents
- Personalisation and preventative care driving digital health provision and new drug developments
- Increase in health expenditures and VC's investing in Health
- Ageing population, chronic diseases and backlogs straining European healthcare systems
- Emergence of digital platforms driving uptake of innovative solutions

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THANK YOU FOR YOUR ATTENTION

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