Market perspective on Health and Space

From Space to Earth: Innovations Enabling Accessibility on Earth

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09/11/2023
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: BASS, ESA BICs, Φ_LabNET, Accelerators, Investors, Patents, Transfer of technology, Business and technical expertise, End-users
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
Global Health Trends - Disabilities

Non-Communicable Diseases (NCD)

- Majority of all deaths related to NCDs (74%)
- Increase in ageing population, chronic health diseases
- Lifestyle related (smoking, physical inactivity, alcohol and unhealthy diets)
- 25% of NCDs triggered by environmental factors

Disabilities

- 1.3 bn people globally experience significant disability (16%)
- Majority living in low and middle income - prevalence highest in high income
- Health inequality increasing due to restricted accessibility
- Driven by environmental factors such as socioeconomic and political conditions
- Double the risk of developing conditions and shorter life expectancy (20 years)
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, user experience and accessibility
- Enabling technologies on the other hand are sensors, applications, wearables, mobile devices, robotics, meta verse and 5G/6G
- Enabling healthcare providers to embrace telemedicine and move towards outpatient care
- COVID-19 major accelerator for delivering healthcare in new digital formats
Emerging Platforms And Players On All Levels

- Big Data
- AI
- mHealth
- Applications
- Sensors

Accessibility of healthcare
Health Investments

- Increase in global health care spending, USD 8.3 trillion between 2000 and 2020
- Health companies capture venture capitalist funding despite regulatory barriers regarding national reimbursements schemes – covid a major driver
- Telemedicine USD 9.5 bn followed by data analytics 3.2 bn and mHealth 2.6 bn
- High economic and social dividends for investing in disability inclusive prevention and care for NCDs - 10 USD return per 1 USD spent

### Global Spending on Health

**US$ 8.3 trillion**
- Domestic public US$ 4.9 trillion (59.0%)
- Domestic private US$ 3.4 trillion (40.0%)
- External sources US$ 16 billion (0.2%)

### Top VC Funded Digital Health Categories in 2020 and 2021 in USD

<table>
<thead>
<tr>
<th>Category</th>
<th>2020</th>
<th>2021</th>
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<tbody>
<tr>
<td>Telemedicine</td>
<td>$5.0 bn</td>
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<td>Data Analytics</td>
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<td>Apps</td>
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<td>Wellness</td>
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<tr>
<td>Sensors</td>
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<tr>
<td>Practice Management Solutions</td>
<td>$1.1 bn</td>
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<tr>
<td>Clinical Decision Support</td>
<td>$0.9 bn</td>
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<td>Booking</td>
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<td>Benefits</td>
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<tr>
<td>Remote Monitoring</td>
<td>$0.6 bn</td>
<td>$0.9 bn</td>
</tr>
</tbody>
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### Health Tech Unicorns

- BenevolentAI
- mindmaze
- ottobock.
- CMR Surgical
- CureVac
- Nanopore
- Doctolib
Health

- Personalisation, treatment and precision medicine
- Ageing population and chronic diseases
- Emerging dedicated digital platforms
- Early innovation artificial intelligence, especially for prevention and diagnosis, will further support and complement decision-making
- Telemedicine & basic services and capacity development
- Need for more resilient and accessible health care systems
- Data centric approach to public health and individual patient care
- Streamline, improve visibility and efficiency across supply chains

Space

- Drug design and development
- Disease modelling
- Space medicine/life sciences (osteoporosis)
- Real time condition monitoring and preventative care of patients (e.g. IoT, wearables)
- Remote diagnosis/consultations enabling patients to engage with doctors
- Monitor pollution levels for respiratory and broader health risks (air, water)
- Early warning systems, epidemiology, disease surveillance, climate change
- Navigation & connectivity services for supply chain efficiencies and real time tracking capabilities
Diversity, Equity & Inclusion Call

- **Context:** Increase in *ageing population* requires tailored services & products + *discrimination* leads to economic inefficiencies

- **Scope:** investigate technical feasibility & viability of space technologies to address challenges related to DE&I + promote *fairness* & *equal* opportunities for all

- **Use-case:**
  - Inclusive cities
  - Inclusive Corporate Cultures and Business Models
  - Inclusive Society for Elderly Citizens

- **6-months Kick-Start study**

- ESA will provide funding of 75% for a maximum of €60k to each winning team

- **Opening date:** 20th November 2023

- **Closing date:** 26th January 2024

- **Condition:** team must be based in one of ESA’s member state supporting the Call

More information & registration to the webinar on November 8th: [Diversity, Equity and Inclusion | ESA Business Applications](https://www.esa.int/Programmes_and_activities/Business/Diversity_Equity_and_Inclusion)
Health innovation trends and opportunities for space business: [https://commercialisation.esa.int/market-trends/](https://commercialisation.esa.int/market-trends/)

ESA Commercialisation Days - Health and BioTech: [https://commercialisation.esa.int/2023/05/esa-commercialisation-days-health-and-biotech-summary/](https://commercialisation.esa.int/2023/05/esa-commercialisation-days-health-and-biotech-summary/)

ESA Health and BioTech community Linkedin group: [https://www.linkedin.com/groups/9352046/](https://www.linkedin.com/groups/9352046/)

Our Linkedin page: [https://www.linkedin.com/company/72161040/admin/feed/posts/](https://www.linkedin.com/company/72161040/admin/feed/posts/)
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