LAND BRANDENBURG

BERLIN

The Digital Health Ecosystem Berlin-Brandenburg

An Insight Report

THE GERMAN CAPITAL REGION

excellence in life sciences & healthcare

HealthCapital
BERLIN BRANDENBURG

Joint cluster management for a strong healthcare region

The **Healthcare Industry Cluster Berlin-Brandenburg – HealthCapital** supports and connects stakeholders from business, science and healthcare in the German capital region. The task of the cluster management is to implement the Healthcare Region Master Plan of the state governments of Berlin and Brandenburg and to further develop the region internationally as a leading center for the healthcare industry and life sciences. The joint cluster management is the responsibility of Berlin Partner for Business and Technology and the Economic Development Agency Brandenburg.

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Outline

1 Foreword

Dear Healthcare Innovators,

The Berlin-Brandenburg metropolitan region is an internationally leading hub for healthcare industry, health services, and life sciences. World leaders, renowned scientists, top-notch hospitals, innovative companies and startups, and specialized professionals from around the globe collaborate here to achieve excellence in both the regional and global healthcare markets. In Berlin-Brandenburg, patients of all ages and from around the world can receive efficient and well-connected medical care at the highest level.

The region‘s particular strength lies in its unique research and hospital landscape, as well as in the strong network of stakeholders from research, hospitals, and industry. At the interface with the IT sector, the German capital region provides ideal conditions for the development and implementation of Digital Health solutions.

To enhance visibility within the dynamic and rapidly expanding Digital Health ecosystem, we have conducted an assessment to identify its strengths, characteristics, and potential for growth. A particular emphasis is placed on the excellent networking among Digital Health stakeholders in the German capital region. Berlin-Brandenburg‘s ecosystem is characterized by notable and internationally renown technology providers offering patient portals, hospital information systems, Digital Health platforms and applications.

This assessment provides insight into the diverse landscape of Digital Health startups and scaleups, serving as a representative overview of the ecosystem. We hope this document sparks new ideas and encourages dialogue. The HealthCapital Cluster Berlin-Brandenburg is at your service as a point of contact, supporting the initiation and development of new projects. Please feel free to reach out to us at any time.

Dr. Kai Uwe Bindseil
Head of Division Healthcare | Industry | Infrastructure
Berlin Partner for Business and Technology

Petra Schmauß
Head of Unit MedTech | Healthcare | Digital Health
Berlin Partner for Business and Technology

Tobias Neisecke
Senior Manager Digital Health
Economic Development Agency Brandenburg

“The gross value added of the healthcare sector increased by 2.1 percent in Berlin and by 3.7 percent in Brandenburg in 2022, adjusted for price changes compared to the previous year. According to the Office for Statistics Berlin-Brandenburg, the growth in the German capital region significantly exceeded the national average of 0.2 percent. Brandenburg‘s overall economy grew by 3.3 percent in 2022. The gross value added of the healthcare sector amounted to 19,682 million euros in Berlin and 7,939 million euros in Brandenburg in 2022. Thus, in Berlin, approximately every eighth euro and in Brandenburg every tenth euro of the total economic output was generated by the healthcare industry.” [1, translated from German]

2 Methodology

The assessment was conducted from August to December 2023 with the support of the innovation agency Startup Colors UG.

It was important to us to adequately capture the great variety of the ecosystem in the German capital region. For this purpose, selected experts from the Berlin-Brandenburg capital region were identified in August 2023 to provide an initial qualitative assessment, representing various stakeholders of the ecosystem, including representatives from associations, healthcare facilities, Digital Health companies, research organizations, universities, as well as investors and founders.

In two ideation workshops involving a total of 16 experts, the desired scope of the assessment and the information needs of the ecosystem were defined. Following the workshops, an online survey with both qualitative and quantitative parts was conducted, assessing selected criteria on a scale from 1 (low) to 5 (high), inspired by the Global Entrepreneurship Index (GEI). The GEI is an annual index that evaluates the strength of startup ecosystems in 137 countries based on 14 criteria. Eleven experts participated in this quantitative evaluation, providing valuable insights into the strengths and opportunities of the sector.

Subsequently, selected players, initiatives, and projects from Berlin and Brandenburg are presented as notable examples identified by the expert group or through additional online research. As ecosystems are constantly evolving, this status report does not claim to be exhaustive. For the English version some examples have been updated.

We extend our heartfelt thanks to the supporters and experts who contributed to to this insight report.

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- **Jared Sebhatu**, digital health transformation eG
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3 The status quo

3.1 The entrepreneurship index of the Berlin-Brandenburg Digital Health ecosystem

What is an ecosystem, and why is it so crucial in the regulated healthcare market?

"In analogy to biological ecosystems, an economic ecosystem describes a dynamic structure of various loosely coupled social and economic players. These form a network and interact through shared technologies, languages, and institutions," says Professor Dr. Rainer Alt, University of Leipzig, Institute of Business Informatics. [3, translated from German]

The aim is to "create markets through mutual use of the material and immaterial resources of the participating partners and to create value for all players involved in a common business model. Ecosystems are subject to pronounced network effects, meaning the number of users determines their benefit and usage." [3, translated from German]

Successful ecosystems typically exhibit the following characteristics: [4]

- a wide variety of stakeholders,
- strong networks and connections,
- active knowledge transfer between research, industry, politics, and all other players,
- extensive resource provision,
- openness to innovation and entrepreneurship,
- high flexibility and adaptability,
- explicit promotion of regional growth with a focus on "Local First," and
- sustainable access to markets with the strategy of "Global Next".

The Digital Health ecosystem in Berlin-Brandenburg

„Strong networks promote the exchange between people, technologies, and data. Ecosystems enable entirely new possibilities for innovations – whether process or product innovations – and evidently improve the efficiency, quality, and accessibility of healthcare," affirms Digital Health expert Tobias Neisecke, Senior Manager Digital Health at the Economic Development Agency of the State of Brandenburg (WFBB).

The Digital Health ecosystem of the German capital region Berlin-Brandenburg is particularly dynamic. With more than 40 academic institutions, 151 hospitals, around 30 stationary rehabilitation facilities, and over 700 Digital Health startups – to name just a few active players – it is constantly evolving. [5] [6]

This constant change is successfully managed by the stakeholders of the Digital Health ecosystem in Berlin-Brandenburg. With an average score of 3.4 out of 5.0, the Digital Health ecosystem is in a favourable position. However, upon detailed analysis significant differences between the examined criteria become apparent.

The capital region has everything it needs to develop innovative solutions and products. One important point relates to the [...] competition for talent. The region, and Berlin in particular, is a very attractive place to live and work and, in my view, will continue to attract many young people in the coming years. Another point is the already existing diversity of expertise both in the public-academic sector and in the private sector, which – in combination with the people who are here – enables highly innovative work. [7]

Prof. Dr. Heyo K. Kroemer, Chairman of the Board of Charité – Universitätsmedizin Berlin, Cluster spokesman HealthCapital Berlin-Brandenburg

Foto © Charité | Wiebke Peitz

Success factors of the Digital Health ecosystem Berlin-Brandenburg

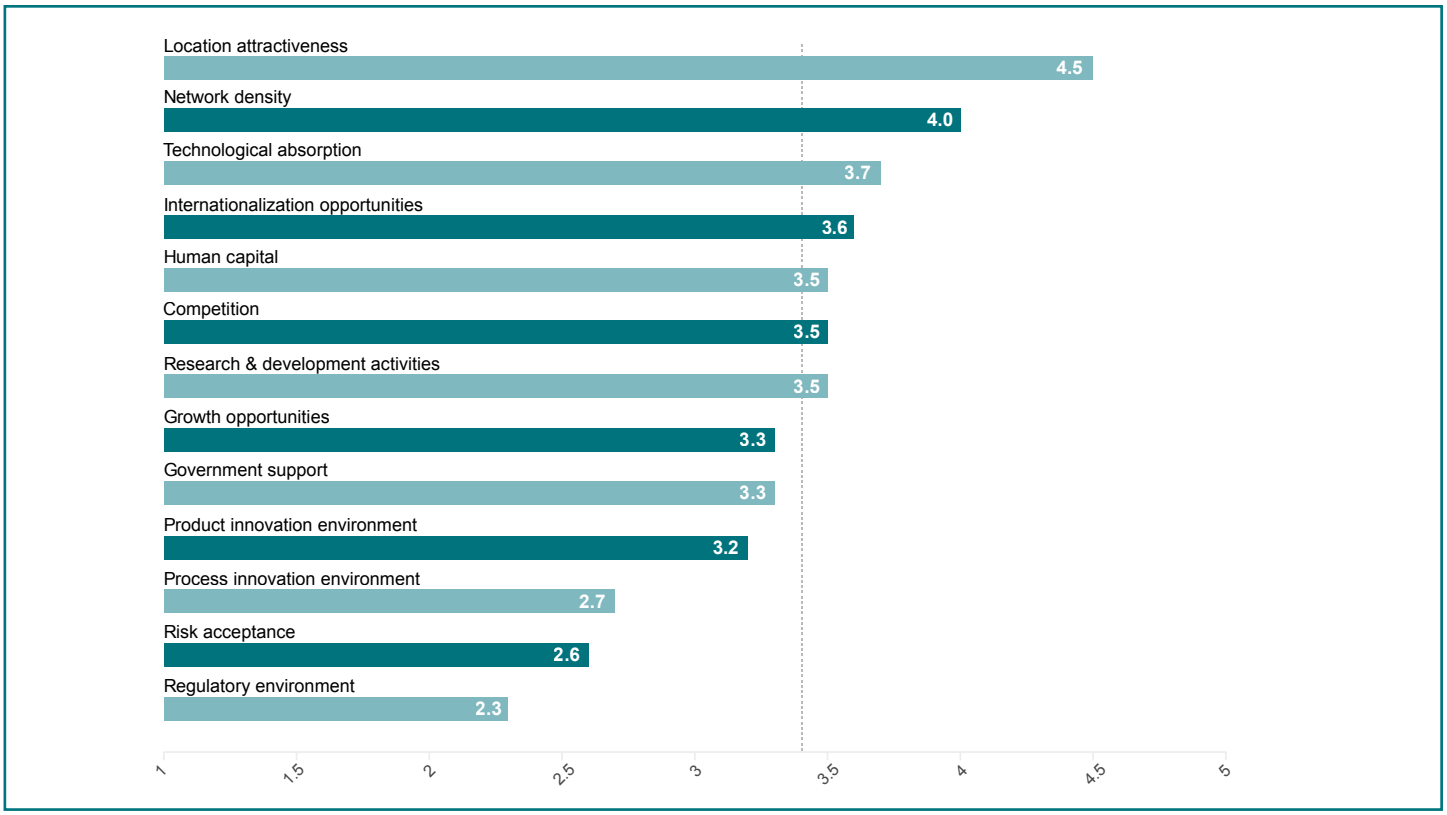

Figure 1: Survey results on the success factors of the ecosystem (Oct. 2023)

According to the experts involved, the German capital region scores particularly well with its attractive location (4.5) and the close networking of players in the ecosystem (4.0). Both criteria received above-average ratings (average 3.4).

In comparison with the Germany-wide Global Entrepreneurship Index, the German capital region is above the national average, particularly in terms of access to talent (GEI = less than 3) and networking (GEI = well below 3) with a rating of 3.4.

In terms of regulation and willingness to take risks, however, the experts' opinions differ. With a score of 2.3, regulation is viewed as a barrier to market access. However, this is not only the case in the Berlin-Brandenburg capital region. [8] Still, there is hardly any other area that polarized the discussion as much as the topic of regulation. While in particular representatives of the industry gave very low ratings, other experts valued the security guaranteed by regulation.

The sustainable transfer of results from research and pilot projects into healthcare is essential. According to Andreas Portmann, Managing Director of the DHZB Foundation, more "real-world laboratories for innovative products and services are needed - also in partnership with local clinics, university medicine and service providers in private medical practices."

Real-world laboratories are a field of action for which the state government has already developed concrete action plans. According to the government's coalition agreement, Berlin in particular will expand pilot funding for real-world laboratories.

The players are ready. However, it is still challenging to sustainably integrate innovative Digital Health projects in the provision of care beyond the pilot phase.

Jutta Klauer,
Associate Director Strategic Digital Partnerships,
MSD Deutschland

Foto © MSD Sharp & Dohme GmbH

3.2 The Berlin-Brandenburg capital region: All players in one hub

The regional Digital Health ecosystem is characterized by a diverse landscape of players. As part of the assessment, the experts identified important stakeholder groups and projects in the regional Digital Health industry. Outstanding players, institutions and platforms in the identified categories are presented below as examples:

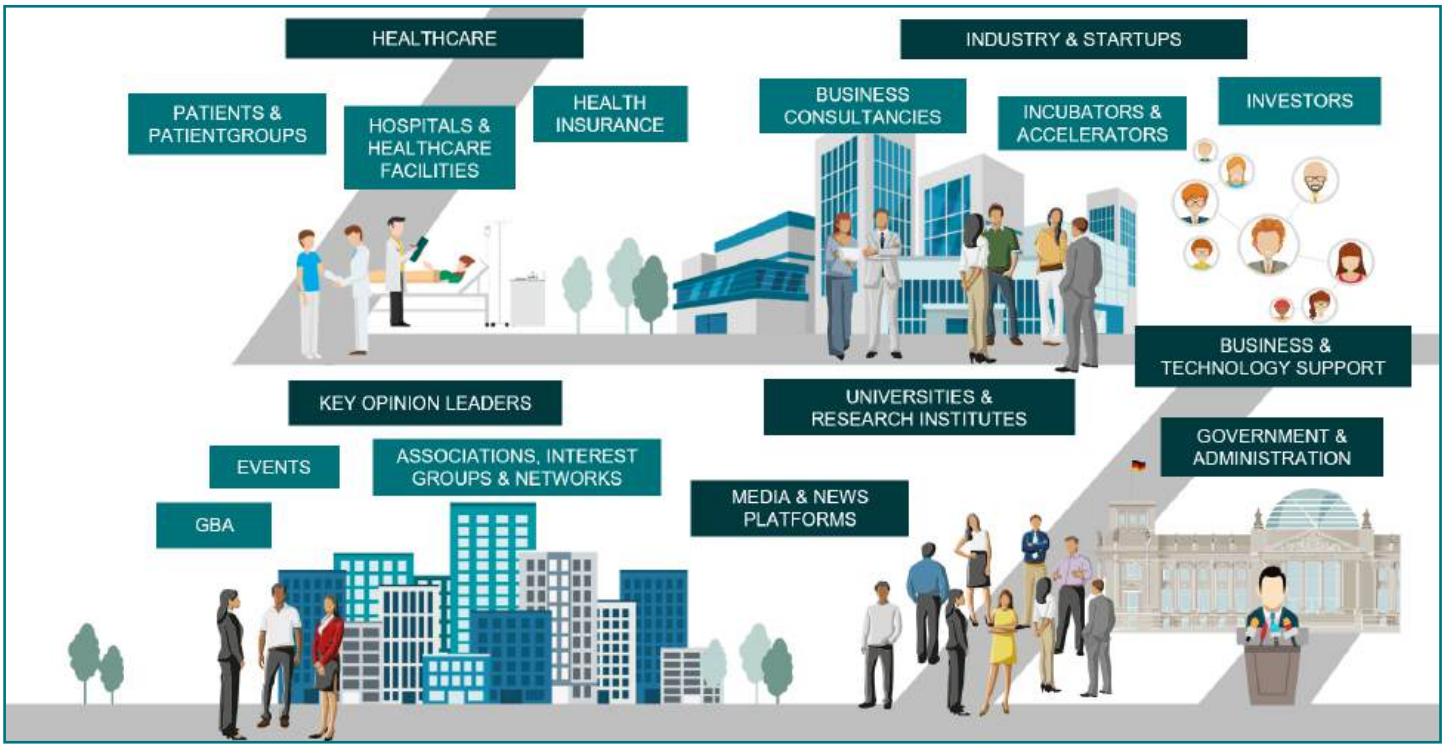

Figure 2: Players in the Digital Health ecosystem in Berlin-Brandenburg

As part of the study, success factors of the Berlin-Brandenburg ecosystem for Digital Health innovations were discussed with the Digital Health experts and supplemented with information from an online search. The overview of the following success factors represents a qualitative summary of the results.

10 reasons for successful Digital Health innovations in the capital region

1. **Strong startup culture:** The region is internationally renowned for its vibrant startup scene, and this also applies to the Digital Health sector.
2. **Innovation centers and clusters:** There are several innovation centers and clusters concentrated in the area that focus on Digital Health.
3. **Medical academic excellence:** The capital region is home to renowned medical research institutions and university hospitals.
4. **Support for the healthcare industry:** Economic development agencies offer various support services for players in the capital region.
5. **International networking:** The capital region offers access to global markets and talent.
6. **Diverse technological landscape:** The ecosystem offers a broad portfolio of solutions, ranging from telemedicine and telemonitoring to digital therapeutics and wearables.
7. **Investment readiness:** The region attracts investors from all over the world. This access to funding ensures the growth of startups.
8. **Interdisciplinary collaboration:** Doctors, data scientists and designers collaborate closely. There is also a close connection to other industry clusters, such as the creative industries.
9. **Patient focus:** The common goal is to make healthcare more accessible, efficient and user-friendly for patients.
10. **Active event community:** Numerous networks, virtual and face-to-face events promote networking.

Academia and research

The strengths of the Digital Health ecosystem lie in the unique research and clinical landscape and in the close networking between the players from research, clinics and industry.
The approximately 40 scientific institutions that contribute to the Digital Health ecosystem include Charité - Universitätsmedizin Berlin, the Brandenburg Medical School Theodor Fontane (MHB), the Berlin Institute of Health (BIH), the Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC), the Robert Koch Institute, the German Heart Center of Charité (DHZC) and other renowned Fraunhofer, Helmholtz, Leibniz and Max Planck Institutes. [9]

Around 30 universities and colleges currently offer around 150 degree programs [10] in the field of health and life sciences, including Freie Universität Berlin, the Technische Universität Berlin, Humboldt-Universität zu Berlin, Universität Potsdam and the Brandenburgische Technische Universität Cottbus-Senftenberg. The academic offerings are complemented by private-sector organizations such as inav - privates Institut für angewandte Versorgungsforschung GmbH and ePatient Analytics GmbH.

Excerpt list of relevant universities and research institutions:

Research institutions:

- Berlin Institute for the Foundations of Learning and Data (BIFOLD)
- Berlin Institute of Health (BIH)
- Center for biomedical image and information processing (CBMI) at HTW Berlin
- German Heart Center of Charité (DHZC)
- German Research Center for Artificial Intelligence (DFKI)
- Einstein Center Digital Future
- Hasso-Plattner-Institut (HPI)
- Max Delbrück Center for Molecular Medicine (MDC)
- Several Fraunhofer Institutes such as FOKUS, HHI and IZM, including the joint Leistungszentrum Digitale Vernetzung (Berlin Center for Digital Transformation)
- Center for Artificial Intelligence - Public Health Research RKI (in German)
- Zuse Institute Berlin

Universities:

- Berliner Hochschule für Technik
- Brandenburg Medical School Theodor Fontane (MHB)
- Brandenburgische Technische Universität Cottbus-Senftenberg (BTU)
- Charité – Universitätsmedizin Berlin
- Freie Universität Berlin (FU)
- HTW University of Applied Science
- Humboldt Universität zu Berlin (HU)
- Medizinische Universität Lausitz – Carl Thiem (MUL-CT)
- Technische Universität Berlin (TU)
- Universität Potsdam

Associations, interest groups and networks

According to the Bundestag's lobby register, there are currently more than 1,800 associations active in the healthcare sector [11] in Germany. More than 500 of these associations are based in Berlin-Brandenburg. [12] The following exemplary associations are focusing on Digital Health in particular:

The industry association **SIBB e.V.** connects the digital economy in Berlin-Brandenburg and represents its stakeholders in politics and society. The offer includes 13 expert forums - including topics like health IT, special training courses and various events on topics relating to the digital industry.

The **Bundesverband Managed Care e.V. (BMC)** has more than 230 members, including physician networks, hospitals, health insurance companies, pharmaceutical and medical technology companies, service providers and non-profit organizations. In working groups, they contribute their interdisciplinary expertise and develop solutions on topics such as innovative forms of care, Digital Health and nursing care.

The **German Society for Telemedicine e.V. (DGTelemed)** contributes to expanding knowledge about the diverse possibilities of the healthcare industry - in particular telemedicine and e-health - in healthcare, business, science and politics.

The **Spitzenverband Digitale Gesundheitsversorgung e.V.** acts as the common voice of all e-health providers and promoters in Germany and represents its approximately 170 members vis-à-vis other partners in the healthcare system, politicians and the public. As part of the Digital Healthcare Act (DVG), it is available to the statutory health insurance funds as a negotiating partner, among others.

Gesundheitsstadt Berlin e.V. aims to promote public healthcare in the Berlin-Brandenburg region by organizing events and providing information on health, demographics and medicine. Gesundheitsstadt Berlin organizes health congresses, conferences and various medical events and implements publicly funded research projects.

The **TMF - Technology and Methods Platform for Networked Medical Research e.V.** represents research, networking and digitization in medicine. It is the umbrella organization for collaborative medical research in Germany, within which top researchers exchange knowledge, jointly develop ideas and concepts and thus shape the future of medical research in the digital age.

In Germany, the **Bundesverband Gesundheits-IT - bvitg e.V.** represents the leading providers of health IT, whose products are used in up to 90 percent of the outpatient and inpatient sectors, including rehabilitation, care and social facilities, depending on the segment. Over 70 percent of the companies are active internationally. As the organizer of DMEA - Connecting Digital Health, the bvitg also organizes the largest health IT event in Europe.

The **Digital Urban Center for Aging and Health eG (DUCAH)** is a network for the promotion of digital and social innovations in the social and health economy. As registered cooperative it conducts research at the cross section of digitalization, urbanization, and health. Their services include field testing, a startup marketplace and consulting services, among others.

Healthcare service providers

Healthcare service providers include doctors, dentists, hospitals and pharmacies as well as a variety of other healthcare providers such as occupational therapists and obstetricians. The region's healthcare facilities include 151 clinics with more than 35,000 beds, around 30 inpatient rehabilitation centers, around 1,000 inpatient care facilities and around 1,400 nursing and care services. [5] [13] Charité - Universitätsmedizin Berlin, the largest university hospital in Europe, is located in Germany's capital. Research, care and teaching are combined here. There is increasingly close cooperation with Vivantes Netzwerk für Gesundheit, Germany's largest municipal hospital operator, in areas such as health IT. [14] Both organizations have introduced a joint digital treatment record and, given patient consent, exchange medical treatment data. [15] Several other hospital operators in Berlin and Brandenburg expressed their interest to participate in the data exchange cooperation.

The largest hospital in Brandenburg, the Carl-Thiem-Klinikum, will be establishing a new state university hospital in the coming years – the Medizinische Universität Lausitz – Carl Thiem. Other internationally renowned hospitals in the region include the BG Klinikum Unfallkrankenhaus Berlin (ukb) and the Klinikum Ernst von Bergmann in Potsdam.

In the outpatient sector, there are also over 14,700 contract physicians and psychotherapists working in the region, over 10,000 of them in Berlin [15] and more than 4,700 in Brandenburg. [16] They all play a crucial role in maintaining and improving healthcare by diagnosing, treating and promoting people's health.

Michael Hübner, Manager Innovation and Digitalization, Sana Kliniken AG

With Berlin's first approved cardiology telemedicine center (TMZ), Sana Kliniken Berlin-Brandenburg is supporting comprehensive, quality-assured and prompt patient care in Berlin and Brandenburg, thereby reducing the growing imbalance between treatment needs and care provision. This involves digitally observing the cardiac performance of heart failure patients through close monitoring.

Foto © M. Hübner

Larger hospitals and nursing homes in the area include, among others:

Hospitals:

- BG Klinikum Unfallkrankenhaus Berlin (ukb)
- Charité - Universitätsmedizin Berlin
- Ernst von Bergmann Klinikum Potsdam
- Helios Kliniken (Bad Saarow, Berlin-Buch and Emil von Behring)
- Medizinische Universität Lausitz – Carl Thiem
- Sana Kliniken AG (Lichtenberg, Paulinenkrankenhaus, Sommerfeld, Templin, Gottesfriede Woltersdorf)
- Vivantes - Netzwerk für Gesundheit GmbH (9 hospitals)

Nursing homes/ care providers:

- Agaplesion Bethanien Diakonie
- Caritas Altenhilfe
- Johannesstift Diakonie
- Johanniter Seniorenhäuser
- Pflegewerk
- Renafan

Further information on healthcare service providers of outpatient and inpatient care in Berlin-Brandenburg:

- Association of Statutory Health Insurance Dentists Berlin
- Association of Statutory Health Insurance Physicians in Berlin
- Brandenburg Association of Statutory Health Insurance Dentists
- Brandenburg Association of Statutory Health Insurance Physicians
- Central Institute for Statutory Health Insurance Physicians in the Federal Republic of Germany
- Federal Association of Medical Care Centers – Health Centers – Medical Care
- Federal Association of private social care providers – Berlin group
- German Hospital Association
- Hospital Association of Berlin
- Hospital Association of Brandenburg
- National Association of Statutory Health Insurance Dentists
- National Association of Statutory Health Insurance Physicians
- List of nursing homes in Berlin
- List of nursing homes in Brandenburg

Meetups and informal networks

According to the latest Startup Genome Report, the success rate of startups and so-called scale-ups increases significantly if they operate in an environment with a high degree of local and global networking. Early-stage startups even record twice as fast sales growth compared to startups that operate in less strongly connected local ecosystems. [17]

The Digital Health ecosystem in Berlin-Brandenburg therefore offers ideal conditions for business success. Formats such as the Digital Health Cocktail Hour or Bayer's Expert Mondays are examples of offerings in which various stakeholders and organizations work together in a targeted manner and actively network in the ecosystem.

Relevant networking events include:

- Bayer Expert Mondays
- Digital Health Cocktail Hour
- Healthcare Experience Meetups – IBM Health Lab in Berlin
- McKinsey Health Tech Network

Dr. Rabab Nasrallah, Principal, Earlybird Venture Capital

As co-hosts of the Digital Health Cocktail Hour, we bring together Berlin's vibrant digital health community every other month – making networking more accessible, especially for early-stage companies that may struggle with the high costs, time demands, and formality of traditional conferences. Our informal networking event encourages connections and provides opportunities to meet industry leaders in a one-on-one setting during our 'Office Minutes' format.

Foto © Earlybird Venture Capital

Media and news platforms

Berlin is the city in Germany with the largest number of daily newspapers. There are also numerous national trade journals.

Established publications with a focus on Digital Health include for example the **„Tagesspiegel Background: Gesundheit & E-Health"** format, which provides daily analyses and background information, current news and viewpoints to subscribers via email. However, Berlin-Brandenburg as a media location is also exploring new approaches. Innovative formats such as podcasts are becoming established, particularly in the field of Digital Health.

Relevant media include:

- BIH Newsletter
- BPI-Podcast by Bundesverband der Pharmazeutischen Industrie e.V.
- Brainwave newsletter
- Digital Health Forum Newsletter
- Gesundheit & E-Health – Tagesspiegel Background
- Podcast Visionaries of Health
- Weekly Digital Health Briefing (SVDGV)

Luisa Wasilewski, CEO, Brainwave Hub GmbH

The healthcare market is undergoing rapid and drastic change - towards new technologies, services and business models. Identifying and understanding the diverse dynamics, regulations and trends at an early stage is essential to successfully and proactively shape the digital transformation.

Foto © Brainwave Hub

Business consultancies

Around 184,000 business consultants were employed in Germany in 2020. 175 consulting firms generated an annual turnover of more than 50 million euros. [18] In addition to traditional strategy consulting, the companies also offer expertise in specific regulatory issues, including conformity assessment or approval as a Digital Health application (DiGA).

Business consultancies located in the German capital region specializing in Digital Health include, among others:

- Akquinet
- BAYOOMED
- BEO MedConsulting Berlin
- CEED
- Dierks+Company
- eHealth.Business
- _fbeta
- Flying Health
- inav – Private Institute for Applied Health Services Research
- Kalms Consulting
- 3R LifeScience

Investment companies

The investor landscape in the German capital region is diverse. It includes **venture capital firms** such as Earlybird, Point Nine Capital, Cherry Ventures and Project A Ventures, corporate venture capital (CVC) organizations such as Heartfelt_, **accelerators and incubators**, which are considered separately in this report, **business angels, crowdfunding platforms** such as Companisto as well as **government funding programs** and the growing private equity scene, which invests in more mature companies that are expanding or want to restructure.

The number of private investors in the Digital Health sector is increasing worldwide. According to Statista, a total of **1,344 investors** were active in this area across Germany in 2019. [19]

In the third quarter of 2023, 24 investments with a total volume of around EUR 184 million (USD 311 million) were recorded nationwide. The average deal size per startup amounted to around EUR 7.5 million (USD 8.2 million). [20]

In the German capital region, the Dealroom database lists **around 300 health-focused investor organizations**. [21] The venture capital companies with the largest number of investments in the Digital Health segment include High-Tech Gründerfonds (HTGF) and IBB Ventures.

Ute Mercker,
Investment Director,
IBB Ventures

Berlin has the strongest ecosystem for Digital Health in Germany, as startups here are in dialogue with all stakeholders in the healthcare sector, such as insurance companies, the pharmaceutical industry, hospitals and researchers. This is a great advantage for investors, as the founders have the necessary medical-regulatory as well as digital and commercial expertise.

Foto © IBB Ventures

Further information about funding opportunities:

- Berlin.de - Startup Funding
- Bundesverband Beteiligungskapital
- Startup-map Berlin

Investment companies located in the German capital region also active in the Digital Health sector include, among others:

- Brandenburg Kapital (ILB)
- Brückenköpfe
- Business Angels Club Berlin-Brandenburg
- Cherry Ventures
- Companisto
- Digital Health Ventures
- Earlybird Venture Capital
- Heal Capital
- Heartfelt_
- High-Tech Gründerfonds (HTGF)
- IBB Ventures
- Point Nine Capital
- Project A Ventures
- Springboard Health Angels

Incubators, accelerators and company builders

According to Startup Map Berlin, 99 incubators and accelerators were active in the capital region as of October 2023, 36 of them in the „Health“ segment. [22] In addition, company builders complement the broad field of startup promoters.

An incubator provides early-stage startups with resources, infrastructure and support such as office space, mentoring, access to funding, networking opportunities and educational programs. There are 14 incubators active in Berlin, which are implemented via the Berlin Startup Scholarship and with the support of the Berlin Senate, the European Social Fund (ESF) and the EU Commission. [23] The programs of the Berlin Startup Scholarship that focus on Digital Health include the Vision Health Pioneers Incubator and Science & Startups, which was implemented by a consortium of TU Berlin, FU Berlin and HU Berlin in cooperation with Charité - Universitätsmedizin Berlin.

An accelerator aims to accelerate the growth and development of startups that already have a product that meets the needs of the market. An example for an international accelerator active in Berlin-Brandenburg is Techstars.

A company builder, also known as a startup studio or venture builder, is an organization that creates new startups from scratch, often based on specific problems faced by established companies. Berlin-based company builders with a healthcare focus include RoX Health and Heartbeat Labs.

Startup promoters with a focus on health located in the capital region include, among others:

- BIH Digital Health Accelerator
- CDL-Berlin Health
- Heartbeat Labs
- RoX Health
- Techstars
- Science & Startups Incubator
- VentureBlick
- Vision Health Pioneers Incubator

Startups

The Berlin-Brandenburg capital region is the most important startup hotspot in Germany. Almost one in four startups is based in the region, with 20.8% of all German startups headquartered in Berlin and around 2% in Brandenburg, according to the latest German Startup Monitor (DSM 2023). [24]

Berlin-Brandenburg is also the location with the most financing rounds. According to the EY Startup Barometer 2023, 173 startups in Berlin and Brandenburg received financing in the first half of 2023. By comparison, this is the sum invested in startups in the federal states of Bavaria, North Rhine-Westphalia and Baden-Württemberg combined. [25]

According to the Dealroom database, between 700 and 900 startups are currently active in the healthcare industry in the Berlin-Brandenburg capital region. In total, the Berlin Startup Map, which is based on the international Dealroom database, counts more than 5,800 startups in Berlin-Brandenburg. [26]

This means that around 16% of all startups in the German capital region are active in the „Health“ segment. Nationwide, around 9.2% of all startups develop innovative solutions for the healthcare industry. [25] Accordingly, the percentage of Digital Health and Life Science startups in Berlin-Brandenburg (16%) is significantly higher than the national average (9.2%).

Laura Nelde,
Senior Insights Manager,
Flying Health

Berlin's digital health community is strong. Its startups rarely see each other as competition, but operate as allies working together to further develop digital health and make it an integral part of our healthcare system. [27]

Foto © Astrid Dill

Start- and Scaleups located in the capital region specializing in Digital Health include, among others:

- Ada Health
- AICURA medical
- Aignostics
- AssistMe
- Asterisk Womxn's Health
- Data4Life
- Doctolib
- Doctorly
- Famedly
- Fosanis (Mika app)
- Frieda Health
- GOREHA (Caspar Health)
- Likeminded
- Lindera
- mama health technologies
- mediaire
- Molecule
- MX Healthcare (vara)
- Nia Health
- Noah Labs
- NursIT Institute
- Oviva
- RAMP.medical
- Recare
- Samedi
- Scalable minds
- Selfapy
- Voize
- x-cardiac

Events and trade fairs

Numerous national and international events take place in the Capital region. More than 500 scientific conferences, public lectures and events are held annually at the four Charité campuses alone. [28] The most important industry sector in Berlin's congress market is the medical, pharmaceutical and healthcare industry, which accounts for 20 percent of the total event space. [29] Events and trade fairs offer unique opportunities for personal encounters and the exchange of ideas, which are particularly valuable in today's digital world.

„The investments in the region have paid off," confirms Dr. Kai Uwe Bindseil, Head of Department Healthcare | Industry | Infrastructure, Berlin Partner for Business and Technology GmbH. „Networking platforms such as the DMEA, numerous Cluster events and the Barcamp Health Innovation create ideal opportunities to bring Digital Health players together and establish regional and international networks. The attractive location of Berlin with its diverse art and culture continues to attract talent. It is now important to work on bringing innovations to users and patients."

Digital Health events in the German capital region:

- Ausgezeichnete Gesundheit – Zentralinstitut der kassenärztlichen Versorgung in der Bundesrepublik Deutschland
- BARMER Versorgungs- und Forschungskongress – BARMER Institut für Gesundheitssystemforschung (bifg)
- Berliner Pflegekonferenz – spectrumK GmbH
- BMC-Kongress – Bundesverband Managed Care e.V.
- #CHB – Connected Health Brandenburg – DigitalAgentur Brandenburg GmbH
- Clusterkonferenz Gesundheitswirtschaft Berlin-Brandenburg
- Digitalforum Gesundheit – Gesundheitsstadt Berlin e.V.
- Digital Health Conference – Bitkom e.V.
- E-Health Salon – hc:spirit GmbH
- Falling Walls Science Summit – Falling Walls Foundation gGmbH
- gematik digital – gematik GmbH
- Hauptstadtkongress Medizin und Gesundheit – WISO S.E. Consulting GmbH
- Health-IT Talk – BVMI, KH-IT, SIBB & TMF
- Kongress für Gesundheitsnetzwerker – BERLIN-CHEMIE AG
- Nationales Digital Health Symposium – TMF e.V.
- Nationaler Fachkongress Telemedizin – DGTelemed e. V.
- World Health Summit – WHS Foundation GmbH

DMEA – Connecting Digital Health

DMEA is Europe's central Digital Health meeting place and brings together decision-makers from all areas of healthcare, IT professionals, doctors, hospital and care managers, as well as experts from politics, business and science.

The DMEA reflects the different facets of Digital Health – from electronic patient records, ePrescription, artificial intelligence (AI) and DiGA (Digital Health applications), data protection, health data usage and green IT through to interoperability and IT security. With over 16,000 visitors, 700 exhibitors from 30 countries and more than 300 program items in 2023, the DMEA is Europe's most important Digital Health event.

With the DMEA nova Award, the DMEA specifically addresses startups from the Digital Health environment in order to offer them a stage at the DMEA where they can present themselves, their business models, products and services to a broad audience.

The event is hosted by the Bundesverband Gesundheits-IT e.V. (bvitg. e.V.), the organization is conducted by Messe Berlin.

In addition, also the German Society for Medical Informatics, Biometry and Epidemiology e.V., the Professional Association of Medical Informatiker e.V. as well as the Federal Association of Hospital IT Managers e.V. and CIO-UK (Chief Information Officers - University Hospitals) contribute to the program design.

Barcamp Health Innovation

The Barcamp Health Innovation is an interdisciplinary event format organized by the Cluster HealthCapital that promotes the interactive exchange between startups, SMEs, research institutions, clinics, health insurance companies and other players in the healthcare and technology-oriented industries.

With annually changing focus topics, the format thrives on the active involvement of all participants. They propose the discussion topics and, following a live-voting by the audience, offer a deep-dive into the selected topics in workshop sessions. The event creates space and inspiration for sharing experience across industry and sector boundaries.

Politics and administration

The German capital region is home to committees, administrative organizations and decision-makers at federal, state and municipal level. It is therefore an important location for political participation. An overview of important institutions in Berlin-Brandenburg related to healthcare policy and the self-administration of the German healthcare system is given here:

The **Federal Ministry of Health (BMG)** is a supreme federal authority of the Federal Republic of Germany with its second office in Berlin. The central tasks of the BMG include the further development of the performance of statutory health insurance and long-term care insurance, strengthening the interests of patients and ensuring the economic efficiency and financial viability of the German healthcare system. Its tasks also include health protection and disease prevention. The BMG provides the legal framework for the digital transformation of the German healthcare system.

The **Federal Joint Committee (G-BA)** is the supreme decision-making body for the joint self-administration in the German healthcare system. It ensures that the healthcare provided to the approximately 74 million people with statutory health insurance in Germany is adequate, appropriate and economical. The G-BA has the legal mandate to promote projects on new forms of healthcare and healthcare research as part of the Innovation Fund. The Innovation Committee set up for this purpose at the G-BA defines the priorities and criteria for funding in funding calls, carries out expression of interest procedures and decides on the applications received for funding. The Innovation Fund is currently limited until 2024.

The **Berlin State Office for Health and Social Affairs (LAGeSo Berlin)** is a Berlin competence center for tasks in the areas of healthcare, social affairs, consumer protection and care. The LaGeSo is responsible for monitoring and regulating healthcare in Berlin. This includes the licensing and supervision of healthcare facilities such as hospitals, care facilities and pharmacies. In order to further strengthen the German capital as an international hub for healthcare innovation, cooperation with the Virchow Foundation for Global Health was intensified in 2023, among others.

In Brandenburg, the **State Office for Social Affairs and Supply (LASV)** fulfills this role. Around 480 employees work at the LASV. The LASV is a subordinate authority of the Ministry of Social Affairs, Health, Integration and Consumer Protection of the State of Brandenburg. As a service provider and service partner, it primarily provides individual and institutional services at the Cottbus, Potsdam and Frankfurt/Oder locations to ensure an appropriate quality of life for people with disabilities and people in need of care in education, work, leisure and housing.

German politics, and therefore the capital city of Berlin, also provide important impetus for global health. Examples include the compensation of WHO funding by Germany following the withdrawal of the USA and the establishment of WHO's Global Hub for Pandemic and Epidemic Intelligence in Berlin. For the WHS, the city is an ideal place to make a contribution to global health. [30]

Prof. Dr. Axel R. Pries,
President of the
World Health Summit (WHS)

Foto © World Health Summit

3.3 Digital Health technologies in the Berlin-Brandenburg capital region

In a second part of the assessment, we focus on the state of technical innovations in the German capital region. The experts rate the acceptance of new technologies in the local Digital Health ecosystem as comparatively high. With 3.7 out of a possible 5.0 points, this aspect was perceived as strong. By comparison: According to the Global Entrepreneurship Index (GEI), the nationwide „technology absorption“, i.e. technology acceptance, is 3.9 points. [2] However, the GEI does not consider industry-specific characteristics and does not differentiate between technologies.

Established models were therefore consulted that provide indications of the degree of maturity, potential and degree of application of various technologies in the field of Digital Health.

One possible model is the Hype Cycle of the international consulting firm Gartner. [31] The Gartner Hype Cycle classifies technologies into five main phases:

- Technology Trigger
- Peak of Inflated Expectations
- Trough of Disillusionment
- Slope of Enlightenment
- Plateau of Productivity

A dedicated Hype Cycle of the Medical Futurists Institute, which was developed by trend researcher Dr. Bertalan Mesko and his team for emerging Digital Health trends in 2023, was consulted. [32]

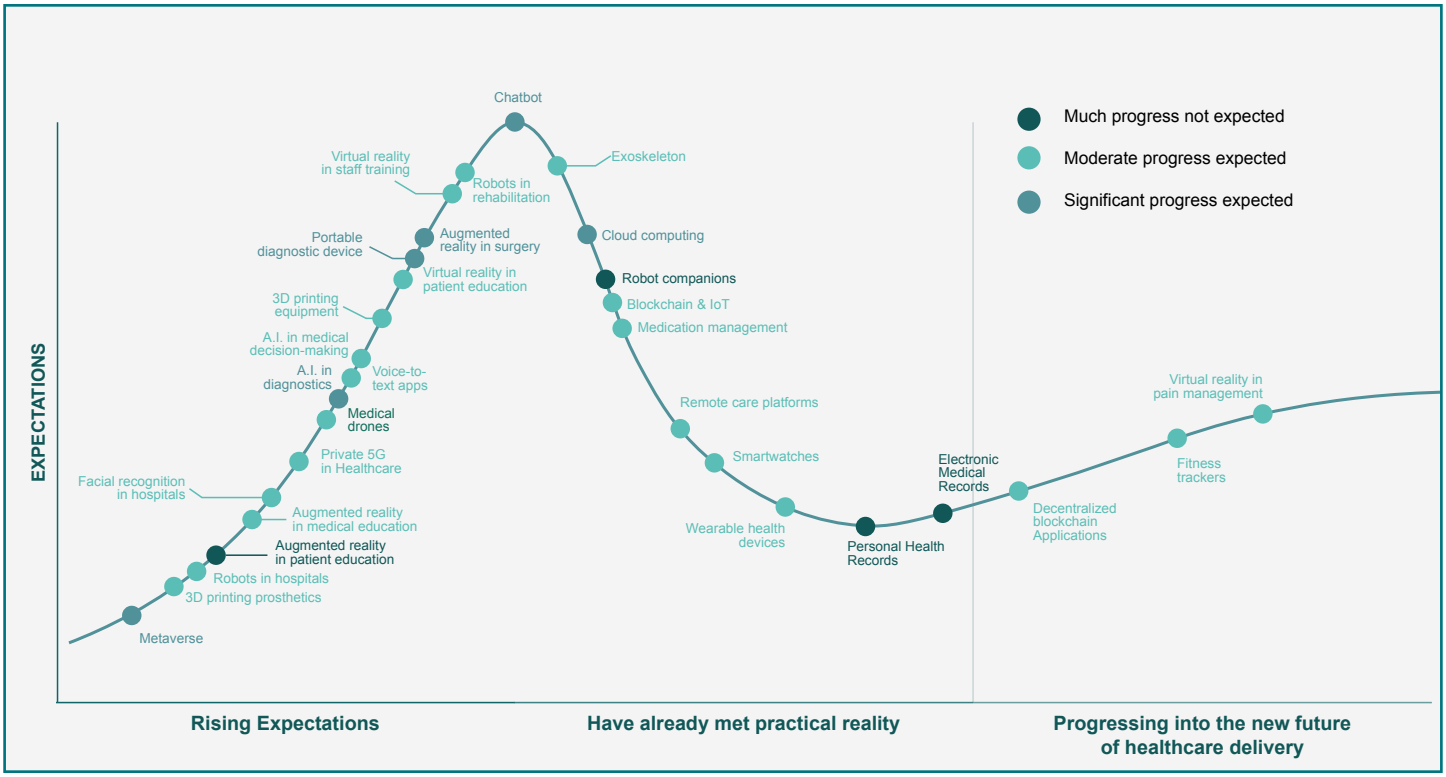

Figure 3: Hype cycle for current Digital Health trends (adapted from source [33] [34])

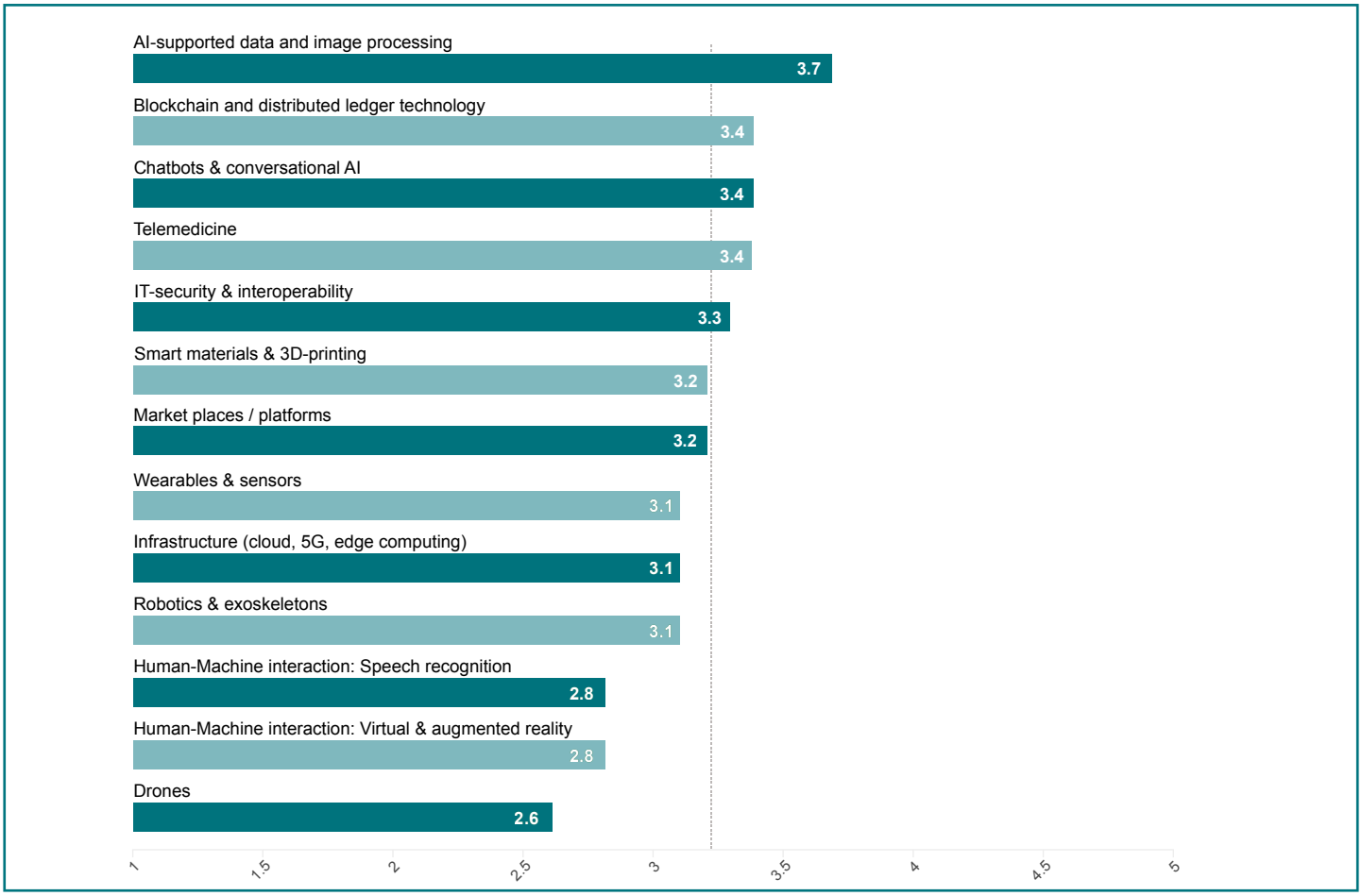

Figure 4: Survey results regarding the status of Digital Health technologies in the German capital region

Thirteen technologies were included in the analysis and rated by the experts on a scale of 1 (low) to 5 (high) with regard to their presence in the German capital region. The average score across all technologies was 3.2 points. Solutions in the areas of virtual reality (VR) and augmented reality (AR) (2.8) as well as speech recognition (2.8) and drones (2.6) were considered by the experts to be the least established in the Berlin-Brandenburg Digital Health ecosystem.

Chatbots and conversational artificial intelligence (AI) (3.4), blockchain (3.4) and telemedicine (3.4), on the other hand, were rated above average. AI-supported data and image processing (3.7) was identified as the most prevalent and most frequently used technology.

In the following, examples of applications of the four most frequently mentioned technologies in the Digital Health ecosystem of the German capital region are explained and representative projects are presented.

1. AI-supported data and image processing
2. Blockchain and distributed ledger technology
3. Chatbots & conversational AI
4. Telemedicine

AI-supported data and image processing

The human body is an infinite source of data on a variety of physiological processes. The healthcare system „translates“ this data into vital signs, biometric data, laboratory results, genetic information, neurological data, medical images or fitness and activity data. This data is supplemented by further clinical data, such as information from patient records, medical and treatment histories, which provide an overview of a person‘s health and medical care.

Data and image processing therefore plays a vital role in the healthcare sector and offer a wide range of applications for improving patient care, diagnosis and treatment.

The analysis of large volumes of health data enables, for example, the early detection of epidemics or the identification of risk factors for certain diseases. Image processing in healthcare includes the analysis, interpretation and evaluation of medical images and findings for **diagnostics, treatment planning and patient care.** In digital pathology, scanned images of tissue samples are processed to diagnose pathological findings.

Data and image processing encompasses the process of **converting raw data into useful information**. This includes capturing, storing, organizing, analyzing and interpreting large amounts of data. Artificial intelligence (AI) solutions build on this information to make intelligent and autonomous decisions. AI applications are diverse and range from speech recognition systems and robotics to personalized decision support systems and advanced diagnostic tools in healthcare.

Testing and Experimentation Facility for Health AI and Robotics (TEF-Health)

The EU-funded project „Testing and Experimentation Facility for Health AI and Robotics“ (**TEF-Health**) aims to facilitate and accelerate the validation and certification of AI and robotics in medical devices. The aim of the project is both to drive innovation in the field of AI and robotics and to support startups and SMEs in bringing their innovations to market.

TEF-Health is organized in nine European countries forming 9 nodes that provide an infrastructure of labs and high-performance computers and thus ‘realworld laboratories’. Based on specific use cases, the partners work together with startups and SMEs **to accompany and support the process of certifying and validating medical devices with integrated AI**. TEF-Health is building on a new concept of „agile certification“.

„We want to develop a parallelizable process that brings together all the players involved in the certification and validation of medical devices, i.e. the manufacturer of the medical device, the auditor and ultimately the certifying body, who must be an independent third party. That is why we need the ecosystem in TEF-Health. We need to bring all these players together in one place,“ says Dr. Dirk Schlesinger, Head of the TÜV AI Lab, member of the TEF-Health consortium.

Use case – stroke:

Robotic exoskeletons can help patients staying mobile if they have problems with the coordination of their outer extremities, for example after a stroke. As part of the TEF-Health project, so-called digital twins of the brain are being tested, which can be connected directly to such a robotic device. The aim is to tailor healthcare applications specifically to the needs of patients.

TEF-Health at a glance

- Start: 2023
- Partners: 52 partners from 9 countries
- Funding volume: EUR 60 million
- Focus: Accelerating the certification of medical devices based on AI and robotics

Bringing health innovations developed in Europe to the market requires far more than just research. It is about validation, confidence building, reliability, explainability and generalizability. These are all key concepts that need to be put into practice, i.e. the applications or innovations need to be tested, because the applications can make a difference to the health of individuals, they can make a difference to people‘s well-being. So we need a lot of testing and validation before these innovations can really serve patients.

Prof. Dr. Petra Ritter, TEF Health Project Manager, Director of the Brain Simulation Section at BIH and at the Department of Neurology with Experimental Neurology at Charité

Foto © Charité | Wiebke Peitz

Blockchain and distributed ledger technology

Berlin is Germany‘s blockchain hotspot. IT specialists in Germany’s capital region are actively collaborating to develop decentralized solutions.

Blockchain is a technology that enables the creation of a continuously expandable list of data records (known as blocks). The blocks are linked together using cryptographic processes. Important transaction data is stored decentrally on several servers and bundled in the form of a block. The algorithm compresses each additional transaction into a new block and cryptographically links it to the existing blocks. A mechanism ensures that once stored, the data can no longer be edited.

The BerChain association brings together the Berlin blockchain scene in the German capital region: It hosts events such as the Berlin Blockchain Week, organizes workshops, initiates research projects and issues publications. BerChain also represents the interests of the community in politics, just like the Berlin-based federal Blockchain Association.

Many internationally oriented blockchain organizations have also established a location in Berlin. For example, the Etherium Foundation [35], whose blockchain was developed in the German capital region and has established itself worldwide as the basis technology for numerous blockchain-based applications. In addition, the Web3 Foundation wants to realize the vision of a decentralized internet in Berlin. [36]

Another anchor of the Berlin blockchain ecosystem is the Blockchain Hub Berlin. The think tank is driving the development of blockchain technology with interdisciplinary working groups such as „Blockchain and Law“ and „Blockchain and Governance“, meetups, hackathons and startup competitions. IT specialists can find spaces to develop decentralized solutions with like-minded people in the blockchain coworking space Full Node. Since the end of 2019, Berlin has also been home to the community-oriented blockchain cooperative „govdigital“.

Blockchain solutions in the healthcare sector

Distributed ledger technology (DLT), in particular blockchain, offers a wide range of potential applications in the healthcare sector. This technology can help to improve safety, transparency and efficiency in various aspects of healthcare. Specific application examples include:

- Secure exchange of patient data
- Management of medication supply chains
- Digital identities for patients
- Automation through smart contracts
- Consent management
- Improvement of personalized treatment
- Interoperability in the healthcare sector

> *In the last 2 years, the number of blockchain companies that are incorporated or have a presence in Berlin almost doubled, It’s a city that has perfect conditions to become a global blockchain hotspot.*
>
> **Ricardo Garcia,**
> **Co-founder BerChain**

Blockchain: BloG³

Patient data summarized into a holistic health profile enables personalized treatment and support services, which lead to more efficient and effective medical and nursing care.

However, the German patient-related data is currently collected and managed independently by different entities.

In addition, the lack of interoperability of these heterogeneous systems leads to a fragmented, complex and individualized Digital Health profile for each patient. At the latest, this becomes problematic when it complicates information flows between organizations and affects patients negatively, e.g. causing duplication of treatment. Digital platforms have therefore been developed in recent years, which are intended to solve these problems by centralizing health data management.

The project at a glance

- Duration: 2020 – 2023
- Partner: 10 partners incl. Charité Comprehensive Cancer Center (CCCC)
- Focus: Discharge, aftercare and treatment management in oncology

Using the example of discharge management in oncology, the BloG³ project is developing and implementing a cross-organizational and cross-sector solution that combines the gain in data sovereignty for patients with a high degree of data availability for relevant service providers with the help of a blockchain solution.

The BMBF-funded project builds on preliminary work from more than 14 participating research and industry partners.

Chatbots and conversational AI

Chatbots and conversational Artificial Intelligence (AI) are technologies that aim to simplify communication between humans and digital systems and make it more natural. Although they are often used together, some differences exist:

A chatbot is a software program that provides automated responses to user input. It can be based on fixed rules and scripts or use advanced AI techniques. Many chatbots are designed for specific tasks and work based on a predefined set of rules and responses. They are effective in answering frequently asked questions or performing simple tasks.

Conversational AI involves technologies that use natural language processing (NLP) and machine learning to create a natural, human-like conversational experience. Unlike simple chatbots, conversational AI can learn from interactions, adapt and understand more complex requests. It can maintain context across multiple rounds of conversation and respond to a wider range of user requests.

Both technologies are employed for customer service activities, for example, to answer queries, provide support and improve the user experience. They automate interactions, reduce employee workload and provide quick responses outside of regular business hours. They can also process a large number of inquiries simultaneously.

While basic chatbots are ideal for simple tasks and frequently asked questions, systems based on conversational AI offer a more advanced, customizable and natural interaction experience. The use of these technologies depends on the specific needs and goals of a company or organization.

Chatbots and conversational AI in healthcare

Chatbots and conversational AI are also playing an increasingly important role in the healthcare sector. They offer innovative opportunities to improve communication between patients, healthcare providers and medical systems. Here are some application examples:

- Patient care and support
- Appointment scheduling and management
- Reminder services
- Symptom checker and preliminary diagnosis
- Support for healthcare professionals
- Psychotherapeutic support
- Collection of patient data
- Integration with wearables and health apps

These applications show how chatbots and conversational AI have the potential to increase efficiency in healthcare, improve patient care and increase the accessibility of healthcare services. Data protection, accuracy of information and compliance with medical standards are important aspects that need to be taken into account.

Some examples of the use of Chatbots and conversational AI are the chatbot from DialogShift, the Dementia VoiceBot from Thiem Research, or the Ada Health app.

DialogShift develops chatbot for Vivantes clinics in Berlin

DialogShift operates a conversational AI platform. The company enables automated customer communication (e.g. via virtual assistants such as chatbots) at various customer touch points. The business model is primarily aimed at the hotel industry.

The coronavirus crisis brought this market to an almost complete standstill. During the coronavirus crisis, the company developed a product diversification and now also offers coronavirus chatbots for hospitals. The newly developed chatbot answered around 1,000 questions a day at Vivantes clinics - in multiple languages (German, English, Turkish, Russian and Arabic) and around the clock. Artificial intelligence, combined with the ability to ask questions via chat, answers the most relevant questions about the virus, qualifies patients using an expert system and provides targeted recommendations for action.

The project at a glance

- Duration: 2020–2023
- Partner: DiaglogShift, PRIMO MEDICO, Vivantes
- Focus: Relief for service hotlines, reduction in waiting times for patients and citizens

Olga Heuser,
CEO, DialogShift GmbH

In times of crisis, when uncertainty is high and service teams in companies, organizations or crisis teams are under pressure because they have to deal with numerous inquiries by email or telephone, virtual helpers such as chatbots or voice assistants have great potential. Around 60-80 percent of these requests are the same. By using AI-based voice technology, such teams' workload can be reduced and constant availability can be guaranteed at the same time.

Foto © O. Heuser

Dementia VoiceBot

People with dementia may withdraw from their social environment. The Dementia VoiceBot concept aims to counteract this. The team wants to further stimulate and train the communication skills of people with dementia.

Pure chatbots are not always suitable for the given age structure and for use in rural areas. Thiem Research is therefore investigating the use of an AI-based telephone chatbot that imitates a normal person-to-person telephone conversation, but is conducted between the user and an artificial intelligence.

The aim is to use familiar speech and rehabilitation exercises to strengthen the social interaction of those affected, relieve the burden on relatives and care staff and have a positive effect on the disease state.

The project at a glance

- Start: 2023
- Project idea: Thiem-Research GmbH
- Focus: Supporting the cognitive abilities and social skills of patients suffering from dementia and their relatives in rural areas

The Dementia VoiceBot is being implemented at "Thiem-Research", the non-profit research facility of the Carl Thiem Clinic in Cottbus. The idea was awarded a prize of EUR 20,000 by the Federal Ministry of Labor and Social Affairs in June 2023.

Telemedicine

According to the German Medical Association, telemedicine comprises „various medical care concepts [...] [which] have in common the basic approach of providing medical services to the population in the areas of diagnostics, therapy and rehabilitation as well as in **medical decision support across physical distances with the help of information and communication technologies**." The term telemedicine does not include exchanges by post, fax and „traditional" telephony. [translated from German, 42]

The health insurance company AOK, for example, specifies: „As a rule, one speaks of telemedicine when medical services are offered over a physical distance. This involves [medical staff and patients] using **digital tools such as apps, teleconsultation platforms or video technology**. One example would be a remote telemedical examination in which the doctor uses image and sound transmission via smartphone for an initial assessment of the patient." [translated from German, 43]

Telemedicine is thus becoming an important part of medical care, especially in rural areas, for example in the state of Brandenburg. **By 2026, there should be a contact point for assisted telemedicine**, implemented by suitable specialist staff in pharmacies and health kiosks, for example, **in at least 60 percent** [37] of **underserved regions**. In addition, the current 30 percent limit on telemedicine treatments is to be lifted.

Important milestones in telemedicine according to the Federal Ministry of Health

Video consultations as a telemedical service have been regularly remunerated since 2017. Panel doctors can currently provide up to 30 percent of panel doctor services via video consultation in each treatment quarter. [38]

The Digital Healthcare Act (DVG) also provides for the regular remuneration of cross-sector teleconsultations. Since October 2020, teleconsultations can be billed to a large extent via the standardized valuation scale ("Einheitlichen Bewertungsmaßstab", EBM). The Hospital Care Relief Act (KHPflEG) also created the prerequisite for better remuneration of teleconsultations in the inpatient sector. [38]

The positive decision by the Federal Joint Committee (G-BA) on telemonitoring for heart failure has also helped to ensure that new forms of telemedical treatment are transferred to standard care. For example, since April 2022, tele-services provided by the medical on-call service can now also be reimbursed. [38]

COVID as a catalyst for telemedicine

In 2017, 4.5% of doctors in Germany offered telemedicine services. In 2021, the figure grew to 25%. In 2021, in particular psychotherapeutic care was requested. The average fee demand per patient for all billed services (telemedicine and other services) was above average compared to the rest of the population with statutory health insurance (2021: EUR 594) and amounted to EUR 1,777. [39]

Telemedicine was also implemented across Berlin at Charité in 2020: To care for the most severe COVID cases, patients in other clinics in the region received telemedical support. This allowed up to 60 visits per day, with up to 25 robots being used for televisits.

The German capital region as a pioneer for sustainable telemedicine

The Berlin-Brandenburg capital region set the course for the sustainable expansion of telemedicine at an early stage. Six pilot projects for the integration of video consultations into outpatient and inpatient care were extensively tested in real-world conditions by the project „Zukunftsregion Digitale Gesundheit (ZDG) Berlin-Brandenburg“ [40], an initiative of the Federal Ministry of Health (BMG). In addition, activities by private service providers such as the Sana Gesundheitszentren Berlin-Brandenburg contributed to advancements in telemedical care. Three examples are presented in the following:

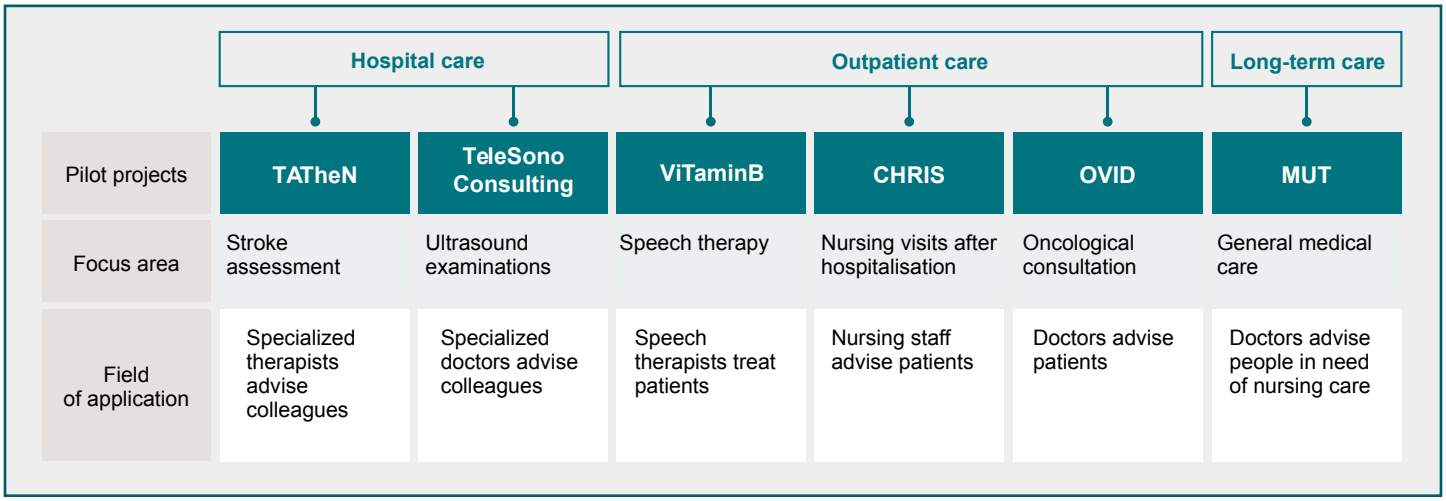

Figure 5: ZDG pilot projects for the integration of video consultation (illustration based on [41])

The telemonitoring center of the Sana Gesundheitszentren Berlin-Brandenburg

The Telemonitoring Centre (TMZ) at Sana Gesundheitszentren Berlin-Brandenburg is one of the first to be approved by the Association of Statutory Health Insurance Physicians and to provide standard services in the statutory health insurance sector. It supports the care of patients with advanced heart failure. Sana's cardiology practice forms the specialist core. Among other things, the TMZ is responsible for the management of the cardiac and vital parameter monitoring as well as the technical equipment of the patients – and also, upon consultation, for the tasks of the attending physician in case of substitution. Only cardiologists who meet certain additional requirements in the field of telemedicine can take on the tasks of the TMZ. Primary treating physicians work closely with the Berlin cardiologists.

The project at a glance

- Start: 2022
- Focus: Patients with advanced heart failure

Treatment is based on patient data, including blood pressure, ECG, weight and general well-being, which patients send to an electronic patient file at the TMZ via tablet. There, the data is pre-evaluated and assessed by the cardiologists in charge. If values deviate from the normal range of treatment, the TMZ practice informs the patients and treating physicians. This care has been proven to improve the success of treatment and the patient's well-being.

Telemed5000

Telemed5000 aims to develop an intelligent system for the telemedical co-care of several thousand high-risk cardiology patients. The project builds on the five-year Fontane Study conducted by Charité - Universitätsmedizin Berlin.

This was the first to prove that telemedical co-care can prolong the lives of heart failure patients and reduce the number of days they spend in hospital. It is equally suitable for patients in rural areas and in metropolitan regions. In Germany alone, around 2.5 million people suffer from chronic heart failure and around 300,000 new cases are diagnosed every year. These large patient groups cannot be adequately cared for with the current capacities of a telemedicine center.

The project at a glance

- Duration: 2019 – 2023
- Focus: Improving the medical care of patients with chronic heart failure using a remote patient management system
- Scope: Three clinical studies were conducted as part of the project

The German-Austrian consortium therefore broke new ground: with the help of deep learning and the Internet of Things, a system solution was investigated that makes it technically possible to manage large numbers of patients in standard care.

MUT

The MUT21 test phase, funded by the Federal Ministry of Health as part of the „Berlin-Brandenburg Digital Health Region of the Future (ZDG)“, was successfully completed in 2022. The project for telemedical, GP-based care for people in need of long-term inpatient care in rural care regions of Brandenburg built on the pilot phase carried out in 2020 with care facilities and three doctors‘ practices in Brandenburg.

The project at a glance

- Duration: 2020 – 2022
- Focus: Telemedical, general practitioner-based care for people with care needs in long-term inpatient care
- Scope: 130 people in need of care in 7 different care facilities, 8 GP and specialist practices involved

In the MUT project, a total of 130 people in need of care in seven different care facilities (care homes, dementia and intensive care residential communities) received telemedical care from eight practices (GPs and specialists). In the Elbe-Elster test region, the implementation of the MUT concept was coordinated by the MEDIS management company of the MEDIS medical network Südbrandenburg using the MUT action guide. The results of the project were published as an operational guideline for the nationwide dissemination of telemedical care in rural nursing homes and the definition of the necessary framework conditions.

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