

# Assistive Technologies

Technology Report

Vienna, August 2021

# Assistive Technologies Technology Report

# Dear readers,

Vienna is one of the most successful metropolises in the field of sustainable innovations. In all, around 9,200 companies in Vienna are active in the field of urban and environmental technologies. Over 90,000 people generate an annual turnover of approx. 40 billion euros, i.e. 16 percent of the total turnover of Viennese companies.

According to various studies, Vienna scores particularly highly on innovative strength, comprehensive support for startups and a strong focus on sustainability. Vienna also

holds top positions in several "Smart City" rankings. The key objective of Smart City Vienna is to provide optimal life quality, while at the same time ensuring the greatest possible conservation of resources by 2050. The Smart City Wien Framework Strategy is implementing this objective through many innovative individual projects. As a location, Vienna also wins approval with its research and technology-friendly climate, its geographical and cultural proximity to the eastern growth markets, the high quality of its infrastructure and educational system and, last but not least, the highest quality of life worldwide.

In order to make optimal use of the potential at this location, the Vienna Business Agency acts as an information and cooperation platform for Viennese technology developers. It connects companies with development partners and key customers from business, science and city administration and supports Viennese companies with targeted subsidies

and a wide range of consulting and support services. Target groups are companies from the fields of energy and environment, mobility and construction, as well as social innovations and assistive technologies.

This Technology Report provides an overview of a wide variety of trends and developments in the field of "Assistive Technologies", as well as a selection of companies that are active in this field in Vienna.

We hope you enjoy reading it! Your Vienna Business Agency team









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# The Assistive Technologies Market

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the participation of people. Examples of assistive technologies include electronic aids that make it easier for blind or visually impaired people to use an IT system, or even make it possible in the first place. An example of this is a screen reader, i.e., software that records and processes screen content and makes it accessible via blind-specific output media such as a speech output and a Braille display.

It is also essential that the development of assistive technologies should and must be influenced as well as accompanied by people who use them. The UN Convention on the Rights of Persons with Disabilities also states in Article 4¹ that assistive devices are to be offered and developed in so-called 'universal design' in order to be able to respond to the diversity of people's support needs.²

# 1.2 Ambient Assisted Living (AAL)

As a sub-area of assistive technologies, Ambient Assisted Living (AAL, also Active and Assisted Living) technologies aim to maintain or improve the quality of life of older people through the use of information and communication technologies (ICT) and to support their independence, especially in their own homes. Demographic change is one of the greatest societal, social and political challenges of our time and requires the development of new types of products and services. AAL offers the opportunity to facilitate a wide range of areas of life, from health and care to leisure activities. Accordingly, modern technologies that support older people and caring or nursing relatives in their daily lives are becoming increasingly important. Essential for the development of AAL products is the combination of new technologies and social factors in order to place people at the centre of the technology.

Assistive technologies support people in everyday situations on the one hand, on the other hand they also help caregivers to be able to carry out their support activities more easily. The essential characteristics here are, that the technology serves people without having to be "operated" separately. In this sense, assistive technologies are characterised by easy comprehensibility and thus enable people to carry out everyday tasks more comfortably and with more pleasure into old age. In this way, the technologies help to find answers to demographic change with its consequences of an ageing and increasingly intercultural society, in order to ensure people a life in safety, health and with a high quality of life.

# 1.1 Assistive technologies to support people with disabilities

According to common definitions, the field of assistive technologies includes all those technical 'aids' that lead to the maintenance or improvement of a person's functional resources and can compensate for functional limitations. These primarily deal with aids for people with sensory, motor, mental or psychological impairments in order to make it easier for them to carry out an activity or to enable them to do so in the first place. This area includes not only specially manufactured or adapted aids (such as wheelchairs or everyday aids), but also possibilities for adapting, accessing and making conventional products barrier-free.

In any case, assistive technologies support the achievement of quality of life through accessibility and thus ensure IN-Behindertenrechtskonvention: <u>broschuerenservice.sozialministerium.at/Home/</u>Download?publicationId=19

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Assistierende Technologien (AT) und unterstützte Kommunikation (UK): docplayer.org/68166526-Assistierende-technologien-at-und-unterstuetztekommunikation-uk html For intelligent assistance technologies, there are a number of areas of application and use in which they can provide support for seniors and caring relatives. The TAALXONOMY, a classification system for AAL applications and services, describes such areas of application for intelligent ICT and services to support independence and self-determination in old age. Examples of AAL products and services are home emergency call systems, telehealth systems, navigation systems for pedestrians or wheelchairs with voice control. The classification system consists of eight main categories or application areas, each of which is subdivided into subcategories.

Basically, AAL technologies are subject to the requirement to cover the – especially in old age – increasing comfort and safety needs, to enable communication and integration with the social environment and to be attractive for all generations through universal design. Accordingly, solutions should be designed in such a way that their use is possible for as many people as possible without specific adaptations, for example to impairments or different abilities.

# 1.3 Use as a medical product in rehabilitation and care

In addition to applications in the lifestyle sector, it is precisely in medical fields of application that assistive technologies can achieve tangible and measurable benefits for patients. Here, there is still a need for information and counselling among medical professionals and the users themselves. Specially trained specialists for assistive technologies can help here to find the most individually helpful in view of the variety of technical offers.

The approval process for assistive technologies as medical devices is a challenge. The differences between medical-technical aids and generally used devices are becoming increasingly blurred here, and the approval process for medical devices takes considerably longer.<sup>4</sup>

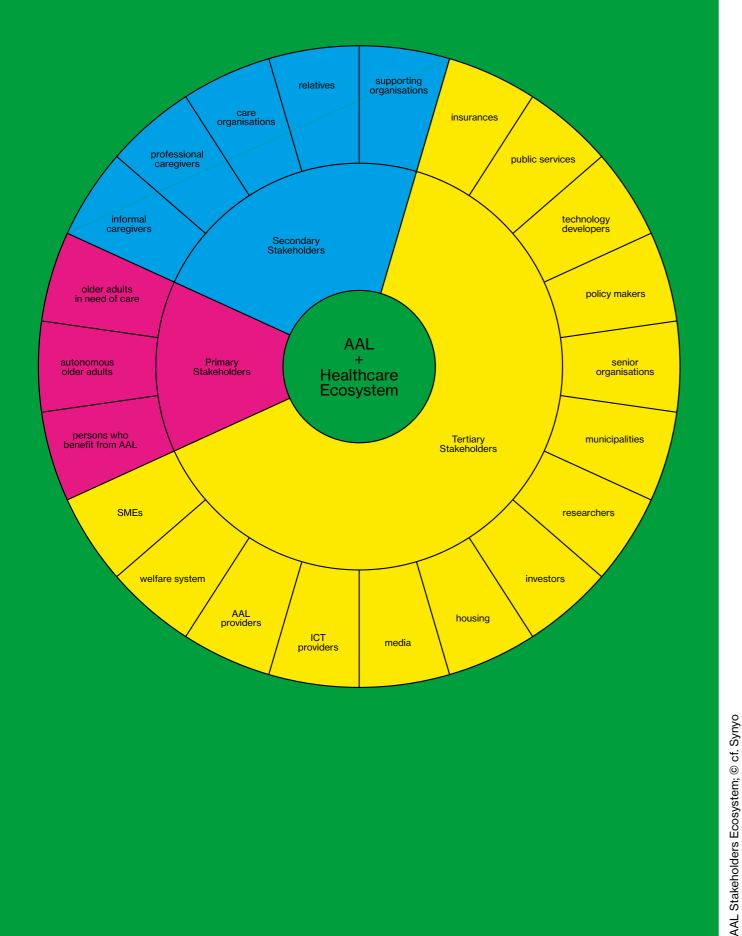
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As part of the 9th call for the benefit program by the former Federal Ministry for Transport, Innovation and Technology, managed by the Österreichische Forschungs förderungsgesellschaft mbH (FFG), the partners SYNYO GmbH, the University of Innsbruck and the European Academy of Bolzano carried out the TAALXONOMY study – development of a practicable taxonomy for effective classification of AAL products and services. taalxonomy.eu

4

Innovationsreport (2018): Technik unterstützt Inklusion in der Arbeitswelt: www.innovations-report.de/sonderthemen/bildung-wissenschaft/technik-unterstuetztinklusion-in-der-arbeitswelt

# **AAL Stakeholders Ecosystem**



# Classification System for AAL Products and Services

## TAALXONXOMY: AAL Product and Service Categories

#### Health & Care

Health & Care comprises products and services which collect and manage medical data, which support therapy and care activities, as well as those assisting in nutrition and personal hygiene.

## **Mobility & Transport**

Mobility & Transport consists of products and services that on the one hand serve as transportation measures for persons and goods, and on the other hand offers travel information, navigation and orientation solutions.

## Living & Building

The category Living & Building covers products and services for water and energy supply, light management, room climate as well as measures for design barrier-free rooms. Additionally, maintenance and access control are in this category.

## Work & Training

Participation in the working life is covered by the category Work & Training. It contains work supporting measures and products and services for job-specific learning and training.

## Leisure & Culture

The category Leisure & Culture consists of products and services which enrich or enable recreational activities in leisure time, and cultural activities. Sports, media and games are covered, as well as culture, religion and travelling.

# Safety & Security

Safety & Security includes products and services which prevent damages and burglary or which support the user in cases of falls. Furthermore, localisation and emergency management is part of this category.

### Vitality & Abilities

The category Vitality & Abilities includes products and services that support, train or enable basic physical, mental and social abilities that are essential requirements for independent living.

## **Information & Communication**

Information & Communication contains products and services which on the one hand present knowledge and offer advisory functions, and on the other hand support and enable interpersonal communication and organisation of daily living.

cf. Synyo

TAALXONOMY Classification System, ©

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dementia. Typical products include hearing aids, wheelchairs, glasses, prosthetic limbs and memory support devices. Considering this, the global market size for assistive technologies was around USD 19.78 billion in 2020, will be around USD 21 billion for 2020 and is expected to reach almost USD 31 billion by 2026. Key drivers of this development are an increasing elderly population worldwide and the general need for assistive technologies to reduce activity limitations in old age, although – amid the COVID-19 crisis – the data had to be revised.

|      | worldwide            |
|------|----------------------|
| 2020 | 19.78 BILLION<br>USD |
| 2021 | 21.30 BILLION<br>USD |
| 2026 | 30.76 BILLION<br>USD |

2.1.1 Difficult access to assistive technologies

Despite the global need and recognised benefits of assistive technology products, access to them remains limited for certain income groups. The Assistive Technology industry currently mainly serves the needs of high-income households. Small, local assistive technology manufacturers in low-income countries are often unable to meet this demand. Assistive technology services are also often in short supply. However, addressing these unmet needs is essential to making progress towards the Sustainable Development Goals (SDGs) and the realisation of the Convention on the Rights of Persons with Disabilities.

Against this backdrop, the World Health Organization (WHO) advocates for access for all consumers worldwide. Factors such as increasing digitalisation, the ageing of society as well as the need for alternative care concepts underline that the demand for assistive technologies is constantly growing. The Global Research, Innovation and Education on Assistive Technology (GREAT) Summit, coordinated annually by the WHO Global Collaboration on Assistive Technology (GATE), seeks

# 2.1 International

About one billion people worldwide need assistive technologies. Two billion people around the world are expected to need at least one assistive product in this area by 2030. Despite these figures, only about 5–15% of the demand for assistive technologies is actually met.<sup>5</sup> Across the European Union, one in six people live with a mild to severe disability – that means around 80 million people are prevented from fully participating in social and economic life.<sup>6</sup>

Improved access to high-quality and affordable assistive

technologies for all people worldwide is a cornerstone for a healthy, productive and dignified life in all phases of life. The

market for assistive technologies is in a complex area of tension

between applied research and the development of marketable

solutions, which are increasingly being used in the medical

health & social care (hospitals, doctors, insurance companies,

clinics, etc.), informal care networks (relatives, NGOs, volunteer

groups, churches, etc.), industrial and technology companies, research institutions and innovation companies, as well as

policy makers and investors. Cooperation between these

stakeholders is of particular importance to ensure the devel-

opment and low-threshold availability of assistive products.

Essential here are stakeholders from the areas of care,

sector and must therefore meet special requirements.

Given the growing need for assistive technologies, numerous start-ups and small and medium-sized enterprises are trying to find a place in this future market. While everyone is likely to need an assistive technology at some point in their life, they are most often used by adults, children with disabilities and people with chronic conditions such as diabetes and

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Rohwerder (2018): Assistive Technologies in developing countries: <a href="www.gsdrc.org/">www.gsdrc.org/</a> wp-content/uploads/2018/03/Assistive\_technologies\_in\_developing\_countries.pdf

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The European Commission supports research and innovation on technologies to break down barriers for people with disabilities: digital-strategy.ec.europa.eu/en/news/european-commission-supports-research-and-innovation-technologies-break down-barriers-people

7

Disabled & Elderly Assistive Technology Market Research Report by Product, by Region—Global Forecast to 2026 – Cumulative Impact of COVID-19, 360iResearch™: www.researchandmarkets.com/reports/4896671/disabled-and-elderly-assistive-technology-market#rela0-528007

See more reports: www.researchandmarkets.com

solutions to enable access to assistive technologies for the widest possible range of people in need.

### 2.2 Austria

The increasing proportion of older people and the resulting costs in the areas of care and nursing underscore the innovation potential for the national market of assisting technologies. By 2030, the number of people in need of care in Austria will increase to more than 800,000 and thus far exceed the capacities of professional assistance and care systems. The number of people with long-term illnesses is also considered an indicator of market potential: In 2016, around 1.26 million people in Austria fell into this category. In 2012, about 440,500 people in Austria received long-term care benefits, for which about 2.5 billion euros were spent.

All measures that enable older people to remain in their previous living environment for longer, and all measures that prolong the independence of an ageing person, thus bring a double benefit: on the one hand, a significant increase in the quality of life, and on the other, a reduction in public and private costs. However, this development also raises ethical questions about the reasonableness of increasing mechanisation. <sup>10</sup>

#### 2.2.1 Conferences & Events

National platforms and events facilitate discourse between stakeholders to advance development in this area.

#### Smarter Lives Conference

One example is the annual Smarter Lives conference. The platform offers the opportunity to learn about technology-based products and services as well as research activities for active and supported living in old age and for the care and support of older persons. The concept has its origins in the West Austrian research project West-AAL, in the course of which the event was held for the first time.<sup>11</sup>

#### O AAL Practice Conference

AAL Austria's annual AAL Practice Conference also offers an Austria-wide exchange of experience, together with established AAL test regions. The event provides information from the practical operation of AAL solutions in Austrian households and offers insights into digitalisation solutions for the ageing society. The conference addresses numerous stakeholders, such as health and social service providers, AAL product and solution providers as well as the interested community. Many other events will take place in cooperation with AAL Austria and other organisations.

#### O Diaconia of the Protestant Church

The Diaconia of the Protestant Church deals with the potential of assistive technologies and demands a legal entitlement to technical aids for people with speech disabilities. Special attention is drawn to the inconsistent and unclear support services throughout Austria for people who depend on communication tools. Access to funding is regulated differently in

each province, so it is important to create a "one-stop shop" as a central contact point for those affected. <sup>12</sup>

#### O Zero Proiect

The Zero Project of the Essl Foundation, supports the goals of the UN Convention on the Rights of Persons with Disabilities, which give everyone – with and without disabilities – equal opportunities in society. The project advocates "independent living and political participation" for people with disabilities. The main topics are education, employment, accessibility and self-determined living and political participation. The annual Zero Project Conference was able to inspire more than 600 people from over 80 countries to participate in 2019 and 2020, and also implements projects within Austria with its own department.<sup>13</sup>

#### International Conference on Computers Helping People with Special Needs

The Institute for Integrated Studies at the Johannes Kepler University in Linz is intensively dedicated to research in the field of information and communication technologies (ICT) and accessibility/disability and organises the International Conference on Computers Helping People with Special Needs (ICCHP) every two years.

#### ○ IKT-Forum

KI-I, KOMPETENZNETZWERK INFORMATIONSTECHNOL-OGIE organises the annual IKT Forum, a conference with practical, research and development topics for people with and without disabilities. For many years, this has been a showcase for inclusive conferences.

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Kryspin-Exner (2013): Assistive Technologien als Unterstützung von Aktivem Altern: scienceblog.at/assistive-technologien-als-unterst%C3%BCtzung-von-aktivem-altern#YT7vsStxeUm

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Assistec: Universitätslehrgang Assistierende Technologien: <a href="https://www.iktforum.at/">www.iktforum.at/</a> IKTforum2006/Vortrag/Barbara%20Hengstberger\_Assistec.pdf

10

Zagler (2014): Welche Möglichkeiten eröffnen technische Hilfsmittel? Was passiert in Österreich und auch international? <a href="https://oeksa.at/wp-content/uploads/2020/08/Technik\_und\_Menschlichkeit.pdf">oeksa.at/wp-content/uploads/2020/08/Technik\_und\_Menschlichkeit.pdf</a>

11

Smarter Lives: www.smarter-lives.eu/rueckblick

12

Evangelical Church in Austria: Diakonie calls for legal entitlement to assisting communication technologies: <a href="mailto:evang.at/diakonie-fordert-rechtsanspruch-auf-assistierende-kommunikationstechnologien">evang.at/diakonie-fordert-rechtsanspruch-auf-assistierende-kommunikationstechnologien</a>



Assistive technologies can promote professional development potential. The transformation of the world of work through innovations in the digitally assisted production process requires lifelong learning and flexible skills acquisition on the part of workers. Assistive technologies and adaptive systems that adapt to individual cognitive requirements can also provide targeted support for activities and learning processes and open up professional knowledge potential – especially in the inclusion of older people and people with disabilities in society, education and the labour market.

#### 2.2.2 Databases & Platforms

#### AAL Products

With AAL Products<sup>14</sup> a product catalogue for assistive and smart technologies is available, which is aimed at both solution providers and solution seekers. The online catalogue was created in collaboration between the team of the Institute for Strategic Marketing and Tourism of the University of Innsbruck and the EURAC Bolzano and is based on the TAALXONOMY classification scheme described in the definitions (chapter 1) for a clear presentation and transparent comparability.

#### AAL project database

An overview of Austrian and European AAL projects is provided by the AAL project database 15, which also offers a targeted search for specific fields of application, technologies, products and project partners. The working group presents the competences of the respective participating organisations through an extensive collection of AAL-relevant projects, products and services, and contributes to the networking and revitalisation of the AAL landscape in Austria. A key aspect here is the

transfer of know-how between all Austrian AAL stakeholders in the fields of research, business and user organisations.

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Zero Project: zeroproject.org

14

AAL Products - Datenbank: www.aal-products.com

15

AAL project database: www.aal.at/aal-projektdatenbank

16

Horsley (2019): The 3 Big Trends Influencing Assistive Technology: <u>remarkable.org.</u> au/trends-influencing-assistive-technology

17

Bericht über globale IoT-Trends 2021:  $\underline{\text{at.farnell.com/iot-trends-2021}}$ 

18

Geyer, A. & Good, B. (2016). Evaluierung der österreichischen Beteiligung am Ambient Assisted Living Joint Programme (AAL JP 2008 – 2013). Endbericht, Wien. 3. Current trends and core technologies

13

# 3.1 International

Closely related to assistive technologies are the fields of eHealth and mHealth as well as telecare and telehealth. This involves the use of digital technologies in healthcare for diagnosis, prevention, care, monitoring and rehabilitation.

Central to all technical solutions is the close involvement of users in the development of solutions through user-centred design – this ensures that in a field that aims to bring technology closer to a specific target group, solutions meet the needs of users.

Various devices and mobile apps now play a crucial role for many patients and their female doctors in preventing and living with chronic diseases. By combining IoT development with telemedicine and telehealth technologies, a new Internet of Medical Things (IoMT) has emerged. This approach includes the use of a range of wearables, including ECG monitors. Many other common medical measurements can also be taken, such as skin temperature, blood glucose levels and blood pressure readings. By 2025, the IoT industry will be worth around \$6.2 trillion. The COVID 19 pandemic has further accelerated rapid IoT implementation in medicine and medical technology; moreover, numerous companies agree that healthcare will be the next major industry to leverage IoT innovations for human health and well-being. 17

The implementation of artificial intelligence with humanlike information processing and decision-making is emerging as another trend in the field of assistive technologies and opens up many new possibilities. Artificial intelligence can improve the precision, speed and efficiency of diagnoses. Al-driven analyses enable early treatment and thus support healthcare providers in finding the individually right approach.

Chatbot technology is also establishing itself as another area of application for machine learning. Chatbots could be used to support patients in self-diagnosis and to assist female doctors in making diagnoses.

#### <u>User-centered design:</u> Increasing user expectations will increasingly need to be reflected in services. In response, companies will personalise support and provide proactive services and one-click features.

Many assistive technologies are still monofunctional, expensive

and cumbersome. In this respect, numerous manufacturers

have set themselves the goal of overcoming existing barriers

and creating technology solutions that are easy to use and

affordable. Already, technologies such as robotics, wearables,

sensor technologies and artificial intelligence are helping

people with disabilities to overcome barriers and are becom-

ing a strong driver of inclusion. In the coming years, numerous

trends will become the driving force for further development

in the field of assisting systems. These include: 16

- Big Data & Al: Customers expect personalised user experiences, but at the same time are sceptical about whether personalised data is kept secure. Data and Artificial Intelligence are used to provide personalised customer access
- <u>Seamless Integration</u>: The seamless integration of assistive technologies into everyday life should help to remove the stigma of disability and establish these technologies as an integral part of our lives.

## 3.2 Austria

An evaluation of Austria's participation in the Europe-wide AAL Joint Programme<sup>18</sup>, carried out for the period 2008–2013, shows that Austria is one of the most active countries: Austria ranks third in the number of funded projects and project partners by country. This shows the high relevance of AAL in the Austrian funding landscape. Furthermore, the evaluation has shown that Austrian project partners have a disproportionate participation especially in the application area of mobility & transport as well as in the area of health & care. Austria's participation in the AAL Joint Programme was linked to the goal of improving the performance and networking of Austrian companies, research institutions and services of general interest within the thematic framework of the programme through cooperation and the inclusion of users, also in an international context.



#### 3.2.1 AAL Vision for Austria 2025

In 2018, an AAL Vision 2025 for Austria was developed following a call for proposals from the benefit programme of the current Federal Ministry of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) and the Austrian Research Promotion Agency (FFG). The consortium of three partners – SYNYO GmbH, Salzburg Research Forschungsgesellschaft m.b.H. as well as the Austrian Platform for Interdisciplinary Ageing Issues (ÖPIA) – collected relevant target areas, sub-goals and measures to achieve the goals for the 2025 horizon on the basis of a comprehensive literature analysis, quantitative and qualitative surveys as well as two validation workshops with relevant stakeholders from the AAL sector. Based on the findings obtained in the course of the study, the AAL Vision 2025 is as follows:

- In 2025, simple, cost-effective and customisable technologies will be available to us people in Austria for quality of life into old age. Self-determined living, social participation, dignified ageing and modern care concepts will be supported.
- Older people are accompanied by appropriate applications on the move and at home. These are developed in close cooperation between research, companies and user groups; interested people can try them out and test the application. This is done in consideration of ethical aspects and in the sense of an open innovation approach.

 Optimal framework conditions, created by politics, administration and interest groups, promote the sustainable dissemination of affordable solutions among institutions and citizens while expanding existing ecosystems and creating new ones.

The AAL Vision 2025 focuses on the primary users of AAL solutions, i.e., older people who are supported by ICT in order to live independently and in their own homes for as long as possible. In addition, secondary stakeholders – individuals and organisations that are in direct contact with primary users as formal or informal caregivers, e.g., family members, friends, neighbours as well as care organisations – and tertiary stakeholders (public or private organisations that are not in direct contact with primary users) are considered.

# 4. Highlights and key players

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#### O Technical University of Vienna

The Vienna University of Technology is also involved in some projects in the field of Assistive Technologies. In particular, the Faculty of Computer Science and the Human Computer Interaction (HCI) research area at the Institute of Visual Computing and Human-Centered Technology offer AAL-relevant training areas. At the university's own Centre for Applied Assistive Technologies, research was carried out on a barrier-free toilet that uses voice commands to support people with limited mobility when going to the toilet.<sup>24</sup>

#### Austrian Institute of Technology

The Austrian Institute of Technology, Austria's largest "Research and Technology Organisation" (RTO), is involved in a large number of AAL projects. Several centres are dedicated to the topic of AAL; these include the Center for Innovation Systems & Policy, the Center for Health & Bioresources, and the Center for Technology Experience.

Other research institutions that carry out projects in the area of assistive technologies include the Institute for Technology Assessment of the Austrian Academy of Sciences, the Vienna University of Economics and Business Administration and the University of Vienna.

Representatives from science, business, politics & administration address the challenges in the field of assistive technologies and work to enable opportunities for a self-determined life in the face of physical and mental limitations.

#### O FH Campus Wien

FH Campus Wien offers research activities with a focus on the development of technology-supported everyday objects, smart living spaces, target group-oriented health technologies, innovative transport concepts and technologies to support care and therapy for the target group of older people. A number of degree programmes are linked to this interdisciplinary field of research – from Advanced Integrative Health Studies and Health Assistive Engineering to physiotherapy and occupational therapy.

#### O FH Technikum Wien

Several institutes at the FH Technikum Wien are involved in AAL projects and offer corresponding training opportunities; for example, the Institute for Embedded Systems & Cyber-Physical Systems and the Institute for Biomedical Engineering. The Smart Homes and Assistive Technologies degree programme is also dedicated to technologies for people with special needs and older people. Numerous initiatives founded at the FH Technikum contribute to the development of assistive technologies, such as the "Knowledge Hub Barrier-Free Technologies" or the "Competence Team Embedded Platforms". 20

#### AsTeRICS Foundation

The AsTeRICS Foundation<sup>21</sup> (Assistive Technology Rapid Integration & Construction Set) was founded with the aim of making assistive technologies freely available to people with disabilities at the lowest possible cost. The non-profit association operates in close cooperation with the FH Technikum Wien.

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Competence Team Embedded Platforms: <a href="mailto:embsys.technikum-wien.at/projects/EmbPlat/index.php">embsys.technikum-wien.at/projects/EmbPlat/index.php</a>

#### 21

AsTeRICS Foundation: www.asterics-foundation.org

#### 22

Science.orf.at Aktiv im Alter dank neuer Technologien? science.orf.at/v2/stories/2798519

#### COMET Competence Centers for Excellent Technologies

The COMET Competence Centers for Excellent Technologies conduct application-oriented cutting-edge research at the highest level. They conduct research in areas that are strategically important for the Austrian economy and are funded by the Republic of Austria – specifically the Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK) and the Federal Ministry for Digitalisation and Business Location (BMDW), the federal provinces as well as participating companies and research organisations. 23

- <u>VRVis</u>: Relevant for the area of assistive technologies are above all VRVis – a COMET centre in which the areas of visualisation, virtual & augmented reality, visual analytics and bioinformatics are researched.
- SBA Research: As a research centre for information security, SBA Research also makes a valuable contribution to the development of secure, assistive technologies.

#### O AAL Austria

On the initiative of the Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK), the AAL Austria platform<sup>24</sup> based in Vienna – was founded with the aim of networking the heterogeneous stakeholder landscape in the field of AAL in order to promote the establishment and expansion of an Austrian AAL community and the visibility of the topic of AAL at all levels of public perception.

# O The Austrian Platform for Interdisciplinary Issues of Ageing

The Austrian Platform for Interdisciplinary Issues on Ageing (ÖPIA) is a national science platform dealing with issues of age(ing) and the perspectives of societal ageing. This includes analyses of demographic ageing, the development of strategies for (Austrian) society in an international context, the strengthening of public awareness and improvement of society's image of ageing, as well as the function as a link between research, practice and politics in age(n) and generation issues.<sup>25</sup>

#### Project DIANA

The DIANA project $\frac{26}{}$  funded under the benefit programme, focuses on potential solutions for care support. The project, which runs from February 2020 to January 2023, will help caregivers improve the quality of life and safety of elderly impaired people through new action and behaviour recognition solutions using Al-driven 3D sensors. In addition, DIANA assists with numerous complex tasks such as monitoring patient safety, monitoring for wandering at night or responding to alarms from existing sensors.

#### O Project 24h QuAALity

The 24h QuAALity project<sup>27</sup> was developed for quality assurance and support in the field of 24-hour care and offers a comprehensive digital solution in the form of distributed client-server software. The project seeks solutions to typical challenges in 24-hour care. The application software developed in the project has been tested in more than 100 households since mid-2020.

#### LICA Linked Care

LICA Linked Care<sup>28</sup> – Continuous Information Provision in Mobile Care and Support is a comprehensive digital system designed to ensure a stringent flow of information and continuous information provision in mobile care, support and therapy. To this end, the FFG project networks all those involved with the aim of ensuring that people in the health care professions work together efficiently and at low cost with those affected themselves, their relatives, doctors, therapists and pharmacies.

#### O T4ME2

T4ME2<sup>29</sup> provides a supportive and autonomy-enhancing smart toilet solution for the well-being of older people and people of all ages with disabilities when using a toilet in public or semi-public environments (e.g., community centres, town halls, shopping centres, museums, theatres, hotels, etc.). The basic idea is a motorised toilet that supports sitting, sitting down and standing up as well as personal hygiene and offers the possibility to use preferred personal settings.

#### 23

 $\hbox{COMET-Competence Centers for Excellent Technologies:} \underline{\hbox{www.ffg.at/comet}}$ 

#### 24

AAL Austria: www.aal.at

#### 25

Österreichische Plattform für Interdisziplinäre Altersfragen. www.oepia.at/willkommen

#### 26

DIANA Digital Intelligent Assistant for Nursing Applications projekte.ffg.at/projekt/3383056

#### 2

24H-QUAALITY PILOTREGION

www.aal.at/24hquaality/#:-:text=Das%20Projekt%2024h%20QuAALity%20wurde,einer%20verteilten%20Client%2DServer%20Software

#### 28

LICA - Linked Care: projekte.ffg.at/projekt/3985704

#### 29

T4ME2 – Toilet for me too, supporting active living in (semi-) public environments by suitable toilets: projekte.ffq.at/projekt/3381418

#### O AAL Test Region WAALTeR

The Vienna AAL Test Region WAALTeR<sup>30</sup> was funded under the benefit programme and ran from December 2016 to November 2019. The region addressed demographic and health policy challenges and combined the ubiquitous digitalisation of everyday life with the requirements of current Viennese concepts. The focus was on prevention and care strategies in an urban context, as well as practicable and integrated solutions that are tailored to the users and their living environment. For this purpose, individually tailored service packages were developed that enable older people to live a self-determined life in their familiar environment with a high quality of life.

#### O Project AALbin

The project AALbin – Aktiv im Alter mit Digitalisierung (Active in old age with digitalisation) aims to whet senior citizens' appetite for digitalisation. The City of Vienna wants to encourage its older tenants to actively engage with new technologies and their possibilities. Within the framework of the project, a total of 30 senior citizens were equipped with tablets and smart watches including a mobile emergency call. 31

#### FIT4AAL pilot region

In the FIT4AAL pilot region<sup>32</sup> in Vienna and in the city and province of Salzburg, an expandable, affordable plug & play system solution consisting of smart home and smart service components was implemented, tested and evaluated. On the one hand, the region is to make it possible to experience the benefits of assistive technologies in healthy years of life or when entering a new phase of life. On the other hand, a healthy lifestyle is to be promoted in order to encourage as long and autonomous a life as possible in one's own four walls.

#### O Network Aging 2.0

The 20,000 members of the global network Aging  $2.0^{33}$  develop, finance and produce innovative solutions for the challenges of ageing. The goal of the Vienna Chapter is to establish a network platform for all local stakeholders in Vienna (and all provinces of Austria) who deal with topics related to ageing. The establishment of local ecosystems should also promote intergenerational research, analysis and counselling, as well as innovative product and service developments in different age spectrums.

#### O Platform digitalseniorInnen

The platform digitaleseniorInnen<sup>34</sup> enables social participation and increased independence in old age and promotes inclusion in society. The initiative, which is funded by the Federal Ministry of Social Affairs, Health, Care and Consumer Protection, offers various training materials, e.g., on how to deal competently with the internet, smart speakers and cybercrime. Counselling services round off the offer and support people who are only getting to grips with digital media in adulthood.

#### O Fonds Soziales Wien

The Vienna Social Fund (FSW) $\frac{35}{2}$  supports with counselling on care and support services in Vienna. This also includes the best possible care in one's own four walls, as well as support for caring relatives.

#### Office of the Vienna Senior Citizens' Representative

The City of Vienna has set up the Office of the Vienna Senior Citizens' Representative specifically for senior citizens. Their team serves as a mediator between society, the city and politics and coordinates topics in areas such as exercise and sports, leisure, work, prevention and health.

# O Training and further education centre AWZ Soziales Wien

With the AAL showroom, the AWZ Soziales Wien $\frac{37}{2}$  training and further education centre demonstrates how independent living in old age can be possible with the help of technical innovations and thus promotes the visibility of the topic of AAL at all levels of public perception.

#### 30

Vienna AAL test region WAALTeR: www.waalter.wien

#### 31

Project AALbin: www.iba-wien.at/projekte/projekt-detail/project/aalbin

#### 32

FIT4AAL pilot region: www.aal.at/fit4aal

#### 33

Network Aging 2.0: www.aging2.com/vienna

#### 34

digitaleseniorInnen: www.digitaleseniorinnen.at

#### 35

Fonds Soziales Wien: www.fsw.at

#### 36

Office of the Vienna Senior Citizens' Representative (Buero der Wiener SeniorInnenbeauftragten): www.senior-in-wien.at

#### 37

AWZ Soziales Wien: www.awz-wien.at

#### O Dachverband Wiener Sozialeinrichtungen

The Dachverband Wiener Sozialeinrichtungen (umbrella association of Viennese social institutions) sees itself as a communication and networking platform of the Viennese social economy. The essential task of the umbrella association is to support its member organisations in implementing Vienna's social policy. People in difficult life situations are supported by theoretically sound work in the form of research or, for example, the preparation of quality standards. 38

# O Hilfsgemeinschaft der Blinden und Sehschwachen

The Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs (Association for the Blind and Visually Impaired in Austria) actively advocates for blind and visually impaired people. As the oldest and, with more than 6,000 members, also the largest self-help organisation for the visually impaired, the association represents the interests of around 318,000 blind and visually impaired people throughout Austria. 39

#### LIFEtool

LIFEtool $^{40}$  is a non-profit company of the "Diakonie" and the "Austrian Institute of Technology" that provides free counselling and develops assistive technologies and accessible learning programmes.

#### 38

Dachverband Wiener Sozialeinrichtungen: <u>www.dachverband.at</u>

#### 39

Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs: www.hilfsgemeinschaft.at

#### 40

LIFEtool Wien: diakonie.at/einrichtung/lifetool-wien

#### 41

 $\hbox{Horizon Europe: European Innovation Council: } \underline{\hbox{eic.ec.europa.eu/index\_en}}$ 

#### 42

FFG Programm benefit: www.ffg.at/programm/benefit

#### 13

Ambient Assisted Living Joint Programme: <a href="https://www.asl-europe.eu">www.asl-europe.eu</a>
www.asl-europe.eu

#### 44

Diakonie Austria: Right to communication. No one is speechless! diakonie.at/recht-auf-kommunikation

# 4.1 Funding and support services

#### O European Innovation Council

The European Innovation Council (EIC) also promotes innovations in the area of assistive technologies that have the potential to become global market leaders through possible disruptive effects. Both thematically open and thematically targeted calls for proposals give small and medium-sized enterprises the opportunity to bring their innovations in the area of assistive technologies to the market.<sup>41</sup>

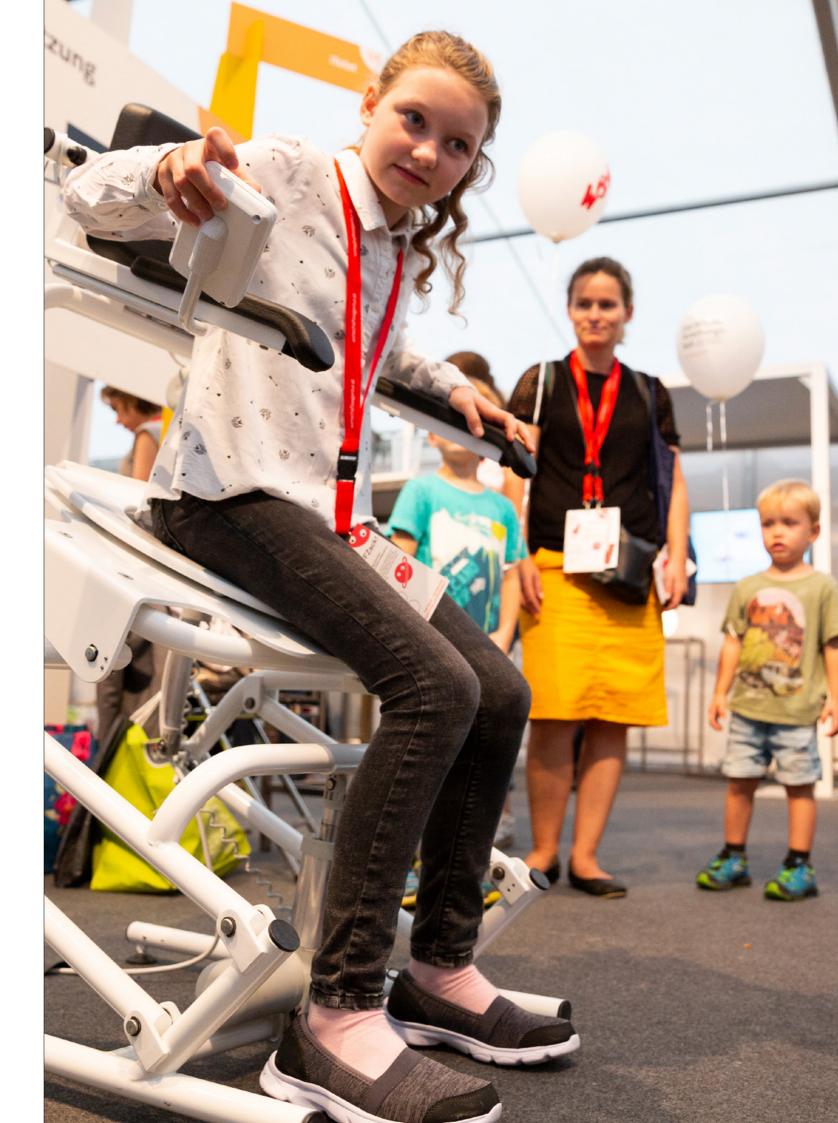
#### O Programme ICT of the Future: benefit

The FFG programme "ICT of the Future: benefit – Demographic Change as an Opportunity" promotes the development of technology products and technology-based services aimed at maintaining and improving the quality of life of older people and enabling them to live as long and autonomously as possible in their own homes. Numerous projects in the area of assisting technologies were carried out in the course of benefit and supported by the FFG. Currently, the programme focuses on the topic of care. 42

#### O Ambient Assisted Living Joint Programme

The Ambient Assisted Living Joint Programme (AAL JP) is a joint funding programme for research and development with European partner countries and support from the European Commission. The programme aims to increase the quality of life of older people on the basis of ICT-supported products, services and systems.<sup>43</sup>

In Austria, there is still neither a legal entitlement to, nor a uniform financing aid for assistive technologies. About 63,000 people are directly affected by this circumstance, about 250,000 people indirectly – e.g., relatives, carers. 44



The objective of the Vienna Business Agency is the continuous development of international competitiveness by support-ing both Vienna-based companies and their innovative strengths, and the sustainable modernization of the city as a business location. To achieve this, the Agency provides free consultations to all entrepreneurs in Vienna on the topics of business creation, business location or expansion, business support and financing. Furthermore, networking contacts in the Viennese economy are also made available.

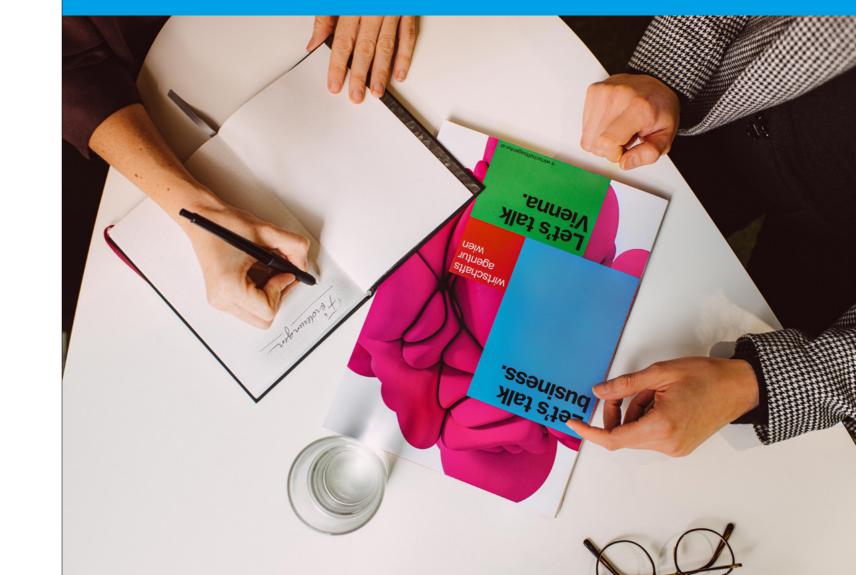
The Vienna Business Agency supports and helps busi-nesses complete their research and development projects with both individual consulting and monetary funding. Depending on requirements, they will receive information about sponsorships, financing opportunities, possible development partners, research service providers, or research infrastructure, according to their needs.

The Vienna Business Agency sees itself as a network of the Viennese Green Tech & Social Tech industry and supports businesses with consultations, as well with distribution and networking among themselves. Events and workshops on topics from the sustainability sector are held regularly.

Additionally, the Vienna Business Agency helps with company relocations or internationalization services. Assistance is provided to business founders and young entrepreneurs in the start-up area. Free workshops and training sessions on topics of everyday business are offered as well as small, affordable office spaces.

Founders Labs<sup>45</sup> support aspiring entrepreneurs and founders with a two-month, part-time program to help them get started.

All funding programs of the Vienna Business Agency can be found here: <a href="mailto:viennabusinessagency.at/funding/programs">viennabusinessagency.at/funding/programs</a>





6. Companies in Vienna

23

In the alphabetical list<sup>46</sup> on the following pages, we offer you an overview of selected companies from Vienna that offer services in the assistive technologies sector.

# Companies in the field of assistive technologies

#### PROTAGONISTS DESCRIPTION AND COMPANIES

**CONTACT** 

AAL AUSTRIA – INNOVATIONS-PLATTFORM FÜR INTELLIGENTE ASSISTENZ IM ALLTAG The innovation platform AAL AUSTRIA represents a network of stakeholders in the highly interdisciplinary field of Active & Assisted Living. AAL AUSTRIA connects research organizations, commercial companies and (health) care organisations as well as public institutions to disseminate AAL relevant information and share experience among stakeholders. AAL AUSTRIA is a non-profit organisation and has currently about 100 members associated.

Laudongasse 21/13 1080 Vienna

kontakt@aal.at www.aal.at

HILFSGEMEIN-SCHAFT DER BLINDEN UND SEHSCHWACHEN ÖSTERREICHS The Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs represents the interests of blind and visually impaired people throughout Austria. It offers free counselling and also shares its knowledge in the field of accessibility with companies, institutions, authorities and schools. The subsidiary HGBS GmbH develops and supports the development of assistive technologies. In addition to specialist support for start-ups and established companies with regard to the requirements of people with disabilities, the focus is also on the distribution and operation of assistive technologies.

Jägerstrasse 36 1200 Vienna

info@hilfsgemeinschaft.at www.hilfsgemeinschaft.at

#### References and projects:

- Web Accessibility Certificate Austria: www.waca.at
- WADcher: <u>www.wadcher.eu</u>

LITHME: www.lithme.eu

This list is not intended to be exhaustive.

#### PROTAGONISTS DESCRIPTION AND **COMPANIES**

#### CONTACT

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY **GMBH** 

The AIT Austrian Institute of Technology is Austria's largest research and technology organisation and is the specialist among European research institutions for the central infrastructure topics of the future. Against the background of demographic development, technologies to promote active ageing represent an essential strategic pillar. Several AIT research groups are working on solutions for active, safe and independent living, monitoring solutions for a healthy lifestyle and open AAL platforms.

Giefinggasse 4 1210 Vienna

office@ait.ac.at www.ait.ac.at

#### Proiects:

- HiStory: hi-story.eu
- DAPAS: projekte.ffg.at/projekt/2844993
- ISA: projekte.ffg.at/projekt/3311821

#### FH CAMPUS WIEN

The activities of the University of Applied Sciences Campus Vienna in the research field Active and Assisted Living focus on the development of technology-supported everyday objects, smart living spaces, target group-oriented health technologies, innovative transport concepts, technologies to support care and therapy for the target group of older people, their environment (caregivers, therapists, nursing staff) and other stakeholders from business and politics.

1100 Vienna

office@fh-campuswien.ac.at www.fh-campuswien.ac.at

#### Proiects:

- 24h QuAALity: projekte.ffg.at/projekt/3076586
- LICA Linked Care: projekte.ffg.at/projekt/3985704
- ReMIND: Robotic ePartner for Multitarget Innovative activation of people with Dementia: projekte.ffg.at/projekt/2842842

Favoritenstrasse 226

Proiect:

#### PROTAGONISTS DESCRIPTION AND **COMPANIES**

#### CONTACT

#### **FH TECHNIKUM** WIEN

**TECHNISCHE** 

UNIVERSITÄT WIEN

Research and development in the field of embedded systems and cyber-physical systems is a major area of relevant research at the University of Applied Sciences Technikum Wien. It includes the basic technology areas of testing and verification of distributed embedded computer systems as well as design of embedded computer systems plus the application area of smart homes and assistive technologies. In addition, there is the Internet of Things with more base technology relevance and Navigation & Control as a further base technology area.

Höchstädtplatz 6 1200 Vienna

info@technikum-wien.at www.technikum-wien.at

#### References:

- Research Group Embedded Systems: embsys.technikum-wien.at
- Knowledge Hub for Accessible Technologies at the University of Applied Sciences Technikum Wien: wbt.wien

The multidisciplinary Human-Computer-Interaction Group

(HCI) at the Technical University Vienna brings together tech-

nical engineering and social science research with practical

design of – in particular – mobile, tangible and sensor-based

technologies. Areas of application include user involvement,

acceptance and introduction of new technologies, ethics and

social impact of information and communication technologies.

Karlsplatz 13 1040 Vienna

www.tuwien.at

● T4ME2: projekte.ffg.at/projekt/3381409

Chapter 6, Companies in Vienna Chapter 6, Companies in Vienna

| COMPANY                                   | DESCRIPTION   | CONTACT  |
|---|---|--|
| ALYSIS GMBH                               | alysis is an IT service company with focus on user experience & usability, app development, software development and user experience training, also in the field of AAL. The human-centered development process enables products and services to be designed to meet the needs and requirements of users and customers. Users are involved in the entire development process.   | Schrotzbergstrasse 6/1<br>1020 Vienna<br>office@alysis.at<br>www.alysis.at |
|   | <ul> <li>References:         <ul> <li>App to support the everyday life of COPD patients and information portal: copdapp.at</li> <li>Urtikaria App of Österreichische Lungenunion: www.lungenunion.at</li> <li>Multilingual Urticaria App for the Global Allergy and Airways Patient Platform: de.gaapp.org</li> </ul> </li> </ul>   |  |
| BILDFON<br>KOMMUNIKATIONS-<br>GERÄTE GMBH | bildfon is the European competence and distribution centre for the Videophone. From its location in Vienna, bildfon provides support to customers throughout Europe and independently develops special product enhancements such as the multi-user videophone: care facilities can use it to make low-threshold video calls for relatives of persons under care on a regular basis, safely and with minimal effort for their own staff.   | Elisenstrasse 47 1230 Vienna  office@bildfon.com www.bildfon.com           |
|   | Reference:  • The multi-user videophone is currently in a test phase at care facilities in Austria, Switzerland and Croatia.  |  |
| CARECENTER<br>SOFTWARE GMBH               | CareCenter is specialized in developing software solutions for elderly care, disabled care, rehabilitation and more. In order to continually expand the area of operations, CareCenter is working in the AAL area with research centers and national and international organizations and is a business partner in various projects.  Projects:  ISA: projekte.ffg.at/projekt/3311821  LICA - Linked Care: projekte.ffg.at/projekt/3985704  TACTILE: mytactile.eu  FreeWalker: www.freewalker-aal.eu  T4Me2: toiletforme.com | Hietzinger Kai 133 1130 Vienna office@carecenter.at www.carecenter.at      |

| COMPANY                                   | DESCRIPTION   | CONTACT  |
|---|---|--|
| CAREGENCY GMBH                            | Caregency is working on mobile emergency call solutions for people who live alone, work alone or are on the move. The claptic smartwatch automatically detects an emergency and alerts selected friends and relatives or a relief organisation. These are informed with relevant emergency data and the current position of the person in distress, so that help can arrive quickly.  References: Cooperation with:  Caritas  Rotes Kreuz  Siemens  ÖBB   | Sterngasse 3 1010 Vienna mail@caregency.com www.caregency.com                    |
| CARETEC<br>INTERNATIONAL<br>GMBH          | CareTec has been developing, producing and distributing aids for blind and deaf-blind people since 1988. These are sophisticated electronic products such as colour recognition and blood sugar devices, as well as simple non-electronic life aids, such as the CashTest. This is a template with which banknotes can be measured and their value determined in this way.  | Stubenbastei 1<br>1010 Vienna<br>office@caretec.at<br>www.caretec.at             |
| CARE RING GMBH                            | Care-Ring specialises in case and care management. The company deals with issues, concerns and developments around the care sector with topics such as care documentation, quality assurance, staff satisfaction, health policy and distributive justice as well as integrated care and family-oriented care.   | Ferstelgasse 6/9<br>1090 Vienna<br>office@care-ring.or.at<br>www.care-ring.at    |
| COGVIS SOFTWARE<br>UND CONSULTING<br>GMBH | cogvis focuses on the intelligent evaluation and use of 3D data and images. Founded 10 years ago as a spin-off of the TU Vienna, the company today develops and sells AAL solutions, allowing to ease the life and increase the safety of the elderly and senior citizens. The main product is cogvisAI, which uses intelligent 3D smart sensors to detect and analyze movements in the room and triggers an alarm in the event of critical situations or events. Additionally, cogvis is working on further innovative workplace solutions for rehabilitation and the support of care. | Wiedner Hauptstrasse 17/1/3a<br>1040 Vienna<br>office@cogvis.at<br>www.cogvis.at |
|   | Projects:  WAALTeR: projekte.ffg.at/projekt/1733840  DIANA: projekte.ffg.at/projekt/3383056  T4ME2: projekte.ffg.at/projekt/3381409   |  |

| COMPANY  | DESCRIPTION   | CONTACT   |
|--|---|---|
|  | DESCRIPTION   | CONTACT   |
| DREAMWAVES<br>GMBH                             | Dreamwaves – A navigation and orientation solution that is also suitable for blind and visually impaired people and assists them in overcoming their mobility challenges. The key aspect of the solution is that people can understand where they need to walk to, in the most natural and intuitive way.  Projects:  softpinna: projekte.ffg.at/projekt/3186953 SONICOM: cordis.europa.eu/project/id/101017743   | c/o Impact Hub Vienna<br>Lindengasse 56/Top 18-19<br>1070 Vienna<br>info@dreamwaves.io<br>www.dreamwaves.io |
| EQUALIZENT<br>SCHULUNGS- UND<br>BERATUNGS GMBH | equalizent is a social enterprise with many years of expertise in deafness, sign language and diversity management. By means of training, the company includes deaf people in the working world. Hearing people can learn Austrian Sign Language at equalizent. We use the latest digital tools in our exciting adult classes. equalizent also operates the interactive exhibition called HANDS UP and organizes the annual Diversity Ball. Currently, they are expanding into the German market with the equalizent Social Franchise.  References:  Ausstellung HANDS UP: <a href="https://www.handsup.wien">www.handsup.wien</a> equalizent Social Franchise: <a href="https://www.equalizent.eu">www.equalizent.eu</a> | Obere Augartenstrasse 20<br>1020 Vienna<br>office@equalizent.com<br>www.equalizent.com                      |
| FLUXGUIDE<br>AUSSTELLUNGS-<br>SYSTEME GMBH     | Fluxguide designs digital knowledge transfer for visitor experiences, e-learning and smart cities and develops solutions for culture, tourism, outdoor, events and companies. The company offers workshops, conception, time/budget planning, implementation and support. A special focus: innovative technological solutions for more accessibility, such as apps for people with visual impairments or blindness as well as content & interactive formats in sign language.  References:  Kennedy Space Center Florida  BVG Berlin  Deutsches Technikmuseum Berlin  Museum Niederösterreich  Deutsches Museum München  Dom Museum Wien  Nationalpark Hunsrück Hochwald  | Kandlgasse 15/5 1070 Vienna office@fluxguide.com www.fluxguide.com  |

| COMPANY  | DESCRIPTION  | CONTACT  |
|--|--|--|
| JOHANNES<br>STŘELKA-PETZ, BSC  | Oskar is a mechanical smartphone keyboard and mobile Bluetooth remote control. Blind and visually impaired people write 4 times faster and 2 times more accurately with Oskar than on the smartphone screen. The compact Braille keyboard requires only 8 keys.  | Hasnerstrasse 93/15-16<br>1160 Vienna<br>info@oskars.org<br>oskars.org               |
|  | References:  WINTEC 2019 – Science prize "Inclusion through natural sciences and technology" broschuerenservice.sozialministerium.at/Home/Download?publicationId=739  Martin PragerIntegration award 2019 www.netidee.at/oskar   |  |
| JOHANNITER<br>ÖSTERREICH<br>AUSBILDUNG UND<br>FORSCHUNG<br>GEMEINNÜTZIGE<br>GMBH | Johanniter Ausbildung und Forschung is part of Johanniter-Unfall-Hilfe (JUH) in Austria. In 1974 the JUH was established to provide professional emergency care and is care provider. The aims are to provide health related knowledge to the broad public as well as training and education to medical professionals in care and emergency medical services.  | Ignaz-Köck Strasse 22<br>1210 Vienna<br>forschung@johanniter.at<br>www.johanniter.at |
|  | Projects:  24h QuAALity: projekte.ffg.at/projekt/3076586  LICA: projekte.ffg.at/projekt/3985704  RoboGen: projekte.ffg.at/projekt/3008901  CARUcares: projekte.ffg.at/projekt/3292736  |  |
| LEADME HSW GMBH  | LeadMe are ordinary looking glasses with a bunch of sensors and haptic feedback to recognize obstacles and to make the user aware of them. They are an easy-to-use solution to facilitate everyday life and thus make the live more enjoyable for blind people   | Neulinggasse 29/2/13<br>1030 Vienna<br>office@leadme.at<br>www.leadme.at             |
| LELLIS GMBH  | Lellis is developing a smart solution for people with Parkinson's Freezing to help overcome the symptom, consisting of an everyday solution – helpsole – and an app that monitors the progression of the disease – Pocket Neuro App. helpsole is a sensory shoe insert that detects freezing and uses a stimulus on the foot to help overcome the symptom. Pocket Neuro monitors the gait data in order to be able to make a targeted statement about further therapy and the course of the disease. | Josef-Kutscha Gasse 2/4<br>1230 Vienna<br>info@helpsole.com<br>www.helpsole.com      |

| COMPANY                             | DESCRIPTION  | CONTACT   |
|-------------------------------------|--|---|
| MEMOCORBY<br>SYSTEMS GMBH           | Memocorby is an E-Health company and develops digital tools for speech therapy for stroke patients, patients who suffer from dementia as well as for kids with special need to relearn and retain language. Memocorby is based on neuro-scientific research about sustainable learning.  | Weyrgasse 8/1 1030 Vienna office@memocorby.com www.memocorby.com                |
|                                     | References:  LogopädieAustria Neurologisches Therapiezentrum Kapfenberg Logopädie- und Arztpraxen AIT Austrian Institute of Technology Spital Hietzing/Memory Klinik FH Krems/Institut für Pflegewissenschaften Kuratorium Wiener Pensionisten-Wohnhäuser  | www.memocorby.at  |
| MYABILITY SOCIAL<br>ENTERPRISE GMBH | myAbility helps companies to recognise and use the potential of people with disabilities as employees and customers. The company offers recruiting services, management consulting, DisAbility trainings, accessibility consulting and accompaniment.  | Kärntner Ring 12/2b<br>1010 Vienna<br>office@myability.org<br>www.myability.org |
| MYREHA GMBH                         | myReha is a digital therapy platform with which those affected by strokes and other neurological diseases can work on their personal weaknesses in the areas of language, cognition and everyday skills in an evidence-based manner, independent of time and location, using a tablet app. In this way, you can receive high-quality and individualised therapy not only in the rehabilitation clinic, but also afterwards, and make full use of your personal rehabilitation potential. | Schönbrunner Strasse 48/19<br>1050 Vienna<br>info@myreha.ai<br>www.myreha.ai    |
| NOUS WISSENS-<br>MANAGEMENT<br>GMBH | NOUS Wissensmanagement was founded from an art education project with digital handhelds and develops multimedia exhibition guides for art and cultural institutions. The company offers app development, mobile guides as well as support and implementation of digital transformation projects.  Projects:  HiStory: projekte.ffg.at/projekt/3110110  24h QuAALity: projekte.ffg.at/projekt/3076586   | Ullmannstrasse 35<br>1150 Vienna<br>info@nousdigital.net<br>www.nousdigital.net |

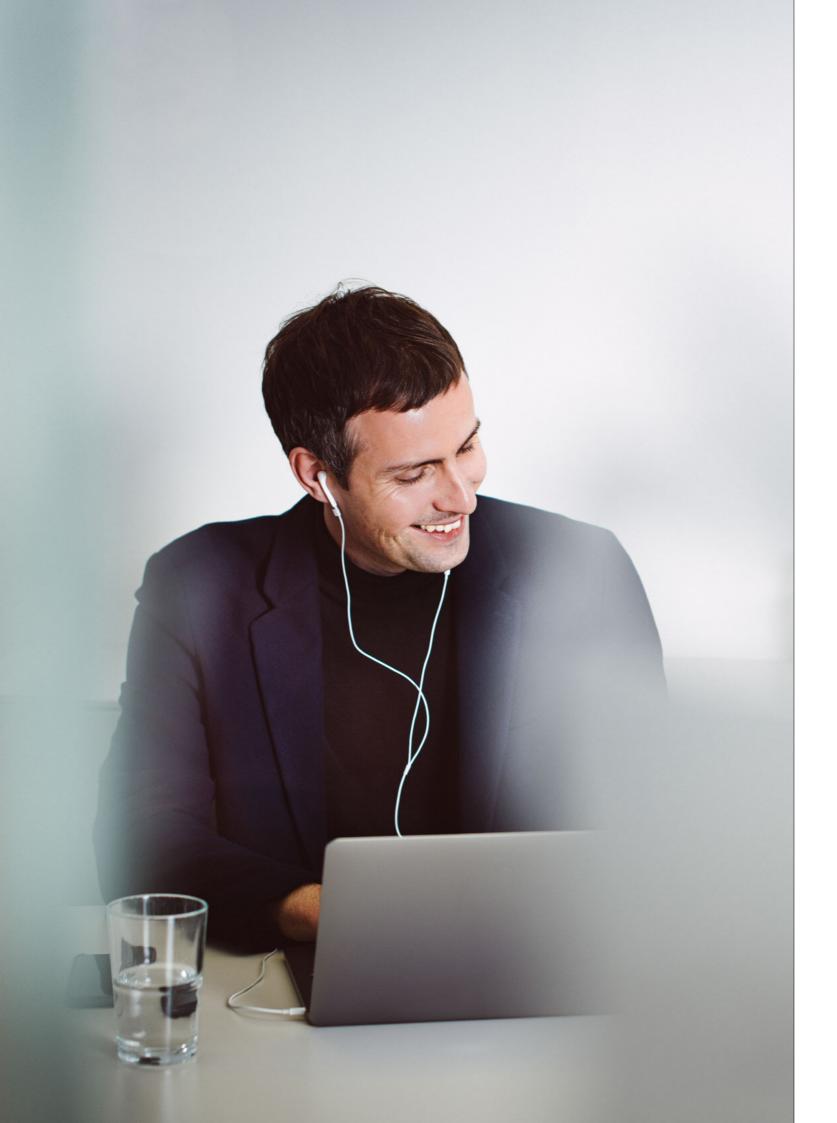
| COMPANY                                     | DESCRIPTION   | CONTACT  |
|---|---|--|
| REHA BUDDY GMBH                             | reha buddy is a medical technology start-up from Vienna whose vision is to support people to remain independent and mobile for a long time. The company focuses on physical therapy and supports medical staff and hospital operators with digitized mobility assessments.  | c/o Impact Hub Vienna<br>Lindengasse 56/ Top 18-19<br>1070 Vienna<br>info@rehabuddy.at |
|   |   | rehabuddy.at   |
| SIGN TIME GMBH                              | Sign Time translates spoken and written language into animated sign language using an avatar system. The aim is to enable accessible communication in different media. Sign Time translates websites, travel information, citizen information and patient information leaflets for medicines.   | Schottenring 33<br>1010 Vienna   |
|   |   | office@signtime.media<br>simax.media   |
|   | References:  Landschaftsverbände Westfahlen Lippe (LWL) und Rheinland (LVR)  Stadt Heidenheim Universität Hamburg Boehringer Ingelheim Verkehrsbetriebe Frankfurt am Main Wiener Linien u.a.  |  |
| SPEECH CODE<br>PRODUKTSICHER-<br>HEITS GMBH | The accessible information media SpeechCode turns any text into audio files via the online Speech Generator. Audio files can be presented as printed codes, NFC Tags or online Links. With the free app "speechcode" users transfer the data without any internet connection to their smartphone. The content is shown on the display and read out aloud. The accessible and easy to use app enables the use for AAL support – providing audible instructions for use, menu cards, programmes, etc. | Frankenberggasse 13/13<br>1040 Vienna<br>office@speechcode.eu<br>www.speechcode.de     |
|   | References:  AAL West – Musterwohnungen in Innsbruck Hofheimer Bau GesmbH (DE)  |  |

# 

| COMPANY                          | DESCRIPTION   | CONTACT  |
|----------------------------------|---|--|
| SYNYO GMBH                       | SYNYO has a focus on research, innovation and technology based in Vienna. The company explores new methods and develops user-oriented solutions in the context of various challenges of the digital age. In the area of Ambient Assisted Living (AAL), SYNYO focuses on advising organisations on the selection and procurement of technological solutions with a strong focus on B2B and B2G. In addition to the established knowledge of the national and international AAL provider land-scape and based on a structured decision-making methodology, SYNYO also hosts a comprehensive database of relevant hardware and software solutions. As a result, a fast screening and targeted assessment for selecting the best suppliers, products and services can be carried out together with the respective organisation. | Otto-Bauer-Gasse 5/14<br>1060 Vienna<br>aal@synyo.com<br>www.synyo.com   |
|                                  | <ul> <li>References and projects:</li> <li>SYNYO led the creation of the classification system for AAL solutions called TAALXONOMY, which is now used by many programmes and organisations in Austria and Europe.</li> <li>With ActiveAdvice, SYNYO has created a decision support system that provides a comprehensive market overview and digital consulting services to various stakeholders in the AAL ecosystem.</li> <li>SYNYO coordinated the development of the "AAL Vision 2025 for Austria" with the involvement of all stakeholders and international trends.</li> </ul>   |  |
| TEC-INNOVATION<br>GMBH           | Tec-Innovation developed the shoe called Innomake, which helps blind, visually impaired, motor-impaired and elderly persons as well as security organisations to make their daily lives easier and safer. The shoe is equipped with intelligent electronic and warns the user for steps, curbs, lanterns and other objects, except the ground itself.  References und projects:  Streetview 4VI: projekte.ffg.at/projekt/3715536  Research cooperation with Infineon Technology Austria on the use of radar technology for obstacle detection   | Zachgasse 1 1220 Vienna office@tec-innovation.com www.tec-innovation.com |
| TETRAGON BRAILLE<br>SYSTEMS GMBH | TETRAGON is developing an innovative refreshable Braille display that will be small and, nevertheless, be capable of showing long lines of text. This is achieved by a technology which presents the Braille characters on the inside of a rotating ring.   | Bennoplatz 4/2/9<br>1080 Vienna<br>office@tetragon.at<br>www.tetragon.at |

| COMPANY                                   | DESCRIPTION   | CONTACT  |
|---|---|--|
| TÜV TRUST IT TÜV<br>AUSTRIA GMBH          | Manufacturers of assistive systems must comply with a large number of directives and normative requirements. TÜV AUSTRIA offers manufacturers, users and research and development laboratories project-accompanying services such as CE Check and CE conformity investigations, risk assessments based on ISO 12100, IOT security analyses and pentests for successful product development and the safe operation of collaborative applications.  References: | Vienna Twin Tower Wienerbergstrasse 11/Turm B, 2. Stock 1100 Vienna trustit-wien@tuv.at www.tuv.at |
|   | <ul> <li>Independent Certification Body for the Web Accessibility<br/>Certificate Austria: waca.at</li> </ul>   |  |
| VITAKT – SOZIALER<br>NOTRUFDIENST<br>GMBH | Vitakt is a young company, embedded in the holding structure of the "Hel-Wacht Group", and deals with stationary and mobile emergency call as well as services around the topic of emer-  | Burggasse 94a<br>1070 Vienna   |
|   | gency call and security. The company offers the home emergency call system "myStella".  | service@vitakt.at<br>www.vitakt.at   |
|   | Project:  ■ WAALTeR: projekte.ffg.at/projekt/1733840  |  |
| WETOUCH E.U.                              | WeTouch programs touchscreens, designs interfaces and develops matching hardware.   | Leitermayergasse 25<br>1170 Vienna   |
|   | Project:  ■ Memento – keeps my mind: www.mementoproject.eu  | info@wetouch.at<br>www.wetouch.at  |

Chapter 6, Companies in Vienna Chapter 6, Companies in Vienna



#### Blockchain

Big data and Al

 Additive manufacturing Assistive Technologies

- City Logistics
- Cloud computing
- Data4Good
- Digital Planning, Building and Operation

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- e-Commerce
- e-Government
- e-Health
- Enterprise Software
- Entertainment Computing
- FinTech
- Green Building
- HR-Tech
- Intelligent automation and robotics
- Intelligent production
- Internet of Things
- IT-Security
- Food
- Mobile Computing
- Prototyping from conception to product
- Rainwater in the city
- Sustainable urban logistics
- Technologie erleben
- Urban energy innovations
- Urban mobility
- User Centred Design
- Visual Computing

The digital versions can be found at viennabusinessagency.at/technology/lets-talk-innovation/ sustainable-technologies

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# Contact

Sylvia Göttinger Technology Services T + 43 1 25200 - 543 goettinger@wirtschaftsagentur.at

# Text and Editing SYNYO GmbH, Otto-Bauer-Gasse 5/14, 1060 Vienna

# Design seitezwei.com

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The Project "Fit für die Zukunft" contributes to the development of corporate research and innovation activities in Vienna, encourages cooperation and awakes enthusiasm for research and innovation among young Viennese. Additional information on the www.efre.gv.at.

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## Contact

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