



Digital Humanism

Technology
Report

Vienna,
May 2023

Dear readers,

For 10 years in a row, ICT has been one of the stand-out performers in Vienna's economy. Of Austria's federal states, Vienna remains the most important economic driver in the country's ICT industry in 2022. Vienna's ICT companies recorded sales of around 20 billion euros in 2022, an increase of 4.37 per cent on 2021.¹ Vienna is home to a total of 10,285 ICT companies, which employ a total of around 70,700 people. Alongside construction and transport, this makes ICT one of the most attractive technical fields in Vienna. With an average of 27.7 per cent of start-ups in the software sector and 7 per cent of start-ups in the hardware sector in the period from 2018 to 2022, this trend is also evident among Viennese start-ups.²

Digitalisation is still on the rise and has gained importance in all areas, both commercial and private, since 2020. Vienna's companies are also investing more in research and development in order to drive digitalisation and networking forward. The proportion of Viennese employees in R&D (research and development) is currently 5.6 per cent, which puts Vienna in third place in the EU. The research rate in Vienna is 3.6 per cent.³

According to various studies, Vienna also scores particularly high in innovative strength, comprehensive support for start-ups and a strong focus on sustainability. Vienna is also a front-runner in many "smart city" rankings. The location also impresses with its research-friendly and technology-friendly climate, geographic and cultural proximity to growth markets in the east, high quality of infrastructure and the educational system, and not least the worldwide highest quality of life.

In its "VIENNA 2030 – Economy and Innovation" strategy, the Austrian capital defined six key topics. These are areas in which Vienna will seek to provide global leadership over the next ten years and put forward powerful innovations (or "Viennese solutions", as the strategy calls them). One of these areas is "Digitalisation, Vienna-style". Digital solutions from Vienna should stand for fairness, transparency, security and self-determination all over the world. Vienna aspires to be the city in which digital solutions are developed and implemented – digital solutions that focus on people in a sustainable and inclusive manner, reflecting a new, digital humanism.

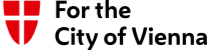
The Vienna Business Agency functions as an information and networking platform that enables Viennese technology developers to benefit from the city's full potential. The Agency networks companies with business, scientific and city

administration development partners, and supports Viennese companies with targeted funding and a range of advisory, coaching and networking services.

Together with the Vienna Science and Technology Fund, the Vienna Business Agency supports Vienna's research institutions and companies in strategically anchoring digital humanism in their own organisational structures and research and product portfolios.

This Technology Report provides an overview of the developments in digital humanism in Vienna and presents a selection of companies, individuals and research institutions behind trend-setting digital humanism projects in the city.

The Vienna Business Agency and the Vienna Science and Technology Fund hope you enjoy reading all about it!



1
www.ITWelt.at Special 2022 "ICT sector continues to grow" 31 August 2022

2
Austrian Startup Monitor 2022 "Startups in Austria" – Vienna, 2023

3
Vienna in Numbers 2022 Brochure "Vienna in Numbers 2022" – publication with statistical data

REACT-EU ALS TEIL DER
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COVID-19-PANDEMIE FINANZIERT.





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1.1 Digital humanism and the City of Vienna

The City of Vienna is playing a pioneering role in striving for a “humane” form of digitalisation. “Digital humanism, Vienna-style” is already an integral part of the City of Vienna strategy. With its Digital Agenda⁵, the City of Vienna has created a strategy paper which sets out the defining themes for the development of new technological potential. The City is working with many stakeholders from science, business and city administration to update the Digital Agenda for Vienna. With the Digital Agenda, the City of Vienna wants to set strategic guidelines for Vienna's path to digitalisation. The focus is on the topics of security and sovereignty, a commitment to transparency and openness and a consistent orientation towards the needs of the citizens in Vienna. The city administration is putting an emphasis on networking with other municipalities in Europe in order to promote legal measures for digital humanism in European and regional legislation. In addition, the basic principles of digital humanism are anchored in the area of leadership “Digitalisation, Vienna-style” in the Vienna economic and innovation strategy “Vienna 2030”⁶. The core values of high-quality digital solutions from Vienna are fairness, transparency, security and self-determination. Vienna's potential should be exploited to bring about sustainable and inclusive developments along the principles of digital humanism.

Digital transformation affects many areas of our lives. While technological progress can make everyday life easier in many ways, the increasing digitalisation of everyday life also poses challenges. In addition to grappling with the influence of algorithms on people's decision-making processes, the ownership of our ever-increasing inventory of data – with data sovereignty and data protection being major issues here – as well as the question of who can participate in and help shape the digital world, are key issues of our time.

○ **The “Vienna Manifesto”**
The “Vienna Manifesto on Digital Humanism” was drawn up by international researchers at a workshop at TU Wien (Vienna University of Technology) and published in May 2019. Since then, it has gained numerous supporters – both organisations and individuals.

The philosophy of “digital humanism” offers an answer to these concerns. Digital humanism aims to use the potential of digital technology in alignment with the values of humanism. It upholds the idea that technology can be used as a tool to improve human life by respecting human autonomy, dignity and freedom. In 2019, researchers called on interested parties to shape the use and development of digital technologies in accordance with human values and needs with the “Vienna Manifesto on Digital Humanism”⁴. It is a call for the development and use of digital technologies to be people-centred rather than profit-oriented. Technologies that are designed, produced and used by people should therefore be based on a sustainable and inclusive concept of digitalisation.

○ **Vienna's areas of leadership**
The six top topics of the City of Vienna's innovation strategy are ones in which Vienna already shows strength and which provide answers to existing challenges. These include smart solutions for life in the 21st-century city, Vienna as a metropolis of health, Digitalisation, Vienna-style, smart production in the big city, City of international encounter and Vienna as a metropolis of culture and creativity.

The City of Vienna is also a pioneer when it comes to protecting non-personal or sensitive data. By anchoring the principle “open by design”, the City of Vienna is helping to drive innovation and increase trust in data, its origin and the mutual trust of the actors involved.

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dighum.ec.tuwien.ac.at/wp-content/uploads/2019/07/Vienna_Manifesto_on_Digital_Humanism_DE.pdf
- 5
digitales.wien.gv.at/digitale-agenda
- 6
www.wien.gv.at/spezial/wien2030

The city promotes digital education and media literacy through various initiatives. These range from further education courses through the Vienna Education Server and the BildungsHub. Wien to the provision of technical infrastructure through DigitalCity.Wien. The Vienna Business Agency's “Hi, Tech!” programme provides workshops for school classes and families which teach young Viennese about innovative digital solutions made in Vienna and about future professions and attractive training opportunities in tune with digital humanism. Meanwhile, the Vienna Business Agency's Vienna Media Initiative promotes innovative media projects and contributes to a diverse and quality-oriented media landscape in Vienna. Digital media plays an important role in this. In 2019, the Department of Culture of the City of Vienna (Municipal Department 7) made 320,000 euros available for nine digital humanism research projects. The projects, which were all trans- and interdisciplinary, focused on democracy and participation as well as data protection and security. The goals ranged from empowering users to transferring humanistic thinking to the digital world.

Pioneers in Vienna
Vienna is home to numerous institutions, initiatives and companies that have done pioneering work in the field of digital humanism. This section introduces these pioneers and highlights their achievements. TU Wien not only played a significant role in the creation of the Vienna Manifesto, but is also responsible for the administrative organisation of the international “Digital Humanism Initiative”. The initiative aims to build a community of scientists, policymakers and industry players who are committed to ensuring that technological development continues to be geared to people's interests.⁷ With the “2nd ACM Digital Humanism Summer School”⁸, TU Wien has created a platform for interdisciplinary research and discussion of key areas of digital humanism. Renowned academics from the fields of computer science, social sciences and humanities illuminate and discuss topics of digital humanism. The goal of the Summer School is to bring together students from different disciplines as well as cultural and social backgrounds. TU Wien is also conducting research

into sub-areas relevant to how digital humanism can be made a reality. A research focus of the “Center for Artificial Intelligence and Machine Learning” at TU Wien is the topic “explainable AI and AI aspects in the context of digital humanism”. The researchers are making an important contribution to demystifying algorithms and the key area of transparency and trust in AI models – a concept labelled “trustworthy AI”. After all, using AI bears risks that we have to ward against. Artificial intelligence (AI) is programmed and designed by humans, meaning that bias and discrimination can creep into AI models, which are only as intelligent as the data they are trained with.

○ **What does digital humanism need?**
Bringing the values of digital humanism to the digital world requires suitable framework conditions. These include ethical standards and regulations, digital sovereignty and a fair data economy, as well as the protection of personal data (data privacy) and information security (cybersecurity)

The company leiwand.ai⁹ is also dealing with how much we can trust AI. In a project funded by the Vienna Business Agency, leiwand are developing a roadmap for building a living ecosystem to promote “trustworthy AI” in Vienna. This roadmap will include strategic steps and measures to encourage as many companies, non-profits and public administrations as possible to develop AI with clear humanistic values or to consciously use it for the betterment of society. In this way, the company offers a concrete alternative to the gold rush mentality in AI development.

The KNOW Center is a leader in researching trustworthy AI and data science. The company offers a comprehensive 360° model for the design and deployment of trustworthy AI. The model has been created in line with the regulations on the use of AI, which the team is currently helping to develop in various EU committees. For the KNOW Center, “stability & security, transparency, fairness, data protection, responsibility, social and ecological benefits and the design of human-machine communication”¹⁰ are the essential cornerstones of trustworthy AI.

The Vienna University of Economics and Business (WU Vienna) offers research access that starts with technology design. Value-based engineering (VbE) promotes the human-centred development of IT systems and supports organisations in addressing ethical challenges in their IT systems and prioritising social well-being. VbE provides a structured and transparent method to ensure that technical entities work towards value for stakeholders while taking human needs and values into account. VbE is based on the ISO/IEC/IEEE 24748-7000 standard, which was co-developed by researchers at WU Vienna, and integrates its best practices, concepts and recommendations.¹¹ WU Vienna also offers a course and specialisation in the field of VbE, training the “value leads” of tomorrow.

The VRVIs Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH aims to build a bridge between research and business in order to strengthen the innovative power of local companies and help them gain a technological advantage. Its focus is on the research field of visual computing, which is

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www.caiml.org/dighum/#dighum
- 8
www.caiml.org/dighum/summerschool2023
- 9
www.leiwand.ai
- 10
www.know-center.at
- 11
www.wu.ac.at/value-based-engineering

a key technology “for the development of HUMAN-CENTRED APPLICATIONS when dealing with our data-driven reality.”¹² As part of a project funded by the Vienna Science and Technology Fund (WWTF), VRVis is developing a roadmap that provides VRVis management and all R&D employees with an important action-guiding tool which integrates core digital humanism topics in the development of new visual computing technologies. Anchoring the roadmap at the management level introduces digital humanism to corporate partners and passes it on to the visual computing academic community.

The Complexity Science Hub Vienna also participates in digital humanism research activities. A team from the Complexity Science Hub is working on a WWTF-funded project to anchor the principles of digital humanism in complexity research.¹³

The Institute for Human Sciences promotes research activities in digital humanism with its “Digital Humanism Program” research programme and “Digital Humanism Fellowship”. The main topics are digitalisation and its interconnection with contemporary social, political and cultural developments – from algorithmic control to the role of AI in popular culture to the increasing dominance of digital devices in our lives.¹⁴

The experts from eutema¹⁵ confronted the topics of digital humanism early on. Managing director Erich Prem describes himself as a “technological/digital humanist”¹⁶ and has shared his expertise with the public right from the start. As experts in strategic technology management, they can support companies in anchoring digital humanism in their strategies.

SBA Research¹⁷, a research centre for information security, contributes significantly to creating the conditions for digital humanism. Information security helps to ensure data and IT system confidentiality, integrity and availability and thus protect against unauthorised access, theft or damage.

Data protection and data sovereignty also form part of the framework of digital humanism. Vienna boasts two pioneering civil society initiatives – noyb¹⁸ in data protection and OwnYourData¹⁹ in data sovereignty. As a non-profit organisation, OwnYourData offers various services and (open source) products that help people freely use their data for their own benefit. The noyb initiative, on the other hand, advocates for the fundamental right to data protection and privacy through strategic legal enforcement and supports private data protection lawsuits.

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www.vrvis.at/ueber-uns

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www.csh.ac.at/complexity-science-meets-digital-humanism

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www.iwm.at/program/digital-humanism-program

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www.eutema.com/de

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www.erichprem.at

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www.sba-research.org

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www.noyb.eu/de

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www.ownyourdata.eu/de





Digital humanism shapes the way we deal with data and digital applications in many areas. In the following section, we introduce some examples of how research institutions and companies are anchoring digital humanism in their structures, processes and products and putting an abstract concept into practice.

2.1 The world of work

Digitalisation is changing professions, work processes and how work is organised. Technologies are taking over tasks, but professional skills requirements are also changing, and new job profiles are emerging. People need to be ready for the working world of tomorrow. Technological developments have had some positive effects, such as giving disabled people easier access to the job market with digital tools. However, it can produce precarious working relationships and the risk of algorithmic discrimination and bias.

In a project funded by the Vienna Business Agency, the company Speedinvest Heroes Consulting GmbH²⁰ is dedicated to precisely this danger of algorithmic bias in recruiting. Together with their research partners at Johannes Kepler University Linz, they analyse the causes of algorithmic discrimination and identify potential countermeasures.

In the WWTF-funded project “ShapeTech”, Jörg Flecker (University of Vienna), Cornelia Gerdenitsch (Austrian Institute of Technology) and Nima Taherinejad (TU Wien) are researching the conflict between self-optimisation through electronic feedback tools and healthcare, and examining the design options and usage contexts of self-monitoring tools with the aim of humanising highly digitised work.²¹

The board and lodging provider Vollpension Generationen-cafe GmbH²² employs older people in its “generation cafes” to

tackle loneliness and poverty in old age and promote intergenerational dialogue. The company creates learning and meeting spaces for young and old at its three locations. Vollpension Generationencafe GmbH has committed itself to a different aspect of the digitalisation of work, as part of a project supported by the Vienna Business Agency. The key concept of this project is to make digital spaces more inclusive by increasing the representation of seniors and making access easier. The two main goals are to reduce poverty in old age and to expand digital jobs for seniors. In addition, it aims to reduce loneliness in old age by promoting intergenerational dialogue online. Another goal is to unlock practice-oriented digital education for seniors and to act as a showcase for digital humanism in the field of social business.

2.2 Education & media

Digital technologies must also be used responsibly in the areas of education and media. It's not enough to use them as tools for acquiring knowledge; they should be used to promote empathy, tolerance and social engagement. At the same time, it is important to support people in learning how to use digital technologies competently because this is the only way to help people detect fake news and benefit from the advantages of digitalisation. In addition, digital tools can facilitate teaching and make teaching content more accessible.

The Austrian Institute for Applied Telecommunications (ÖIAT) has been engaging with the issue of safe, responsible and competent use of digital media for 25 years.²³ In the WWTF-funded project for the development of a roadmap for “know-how transfer to non-profit and public organisations”, the ÖIAT, together with its partners the Vienna Chamber of Labour and the Austrian Federal Ministry of Social Affairs, is concentrating on involving representatives of civil society, administration and social partners to provide a better understanding of the current challenges in digitalisation from the perspective of digital humanism.²⁴

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www.hros.io

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www.wwtf.at/funding/programmes/ict/ICT20-034

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www.vollpension.wien

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www.oiat.at

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www.wwtf.at/funding/programmes/ei/RO22-005

The 4GameChangers Festival, an initiative of the Austrian media landscape, is also an important platform for the concerns of digital humanism. Its organisers are putting their trust in “the power of cooperation” and see it as the only way “to ensure that digital transformation is used to empower global well-being”.²⁵

Two media projects funded by the Vienna Business Agency are making a valuable contribution to (media) education in the digital age: BAIT is an innovative fact-checking medium that explains social media misinformation and conspiracy theories.²⁶ In contrast to conventional media, this channel is aimed specifically at young people aged 13 to 19 and therefore, fulfils an important educational function. Through appealing visual elements and dynamic editing, young journalists teach their peers how to detect false information themselves. The positive feeling of self-empowerment is the key factor here. Its editorial message is also aimed at a young audience. Young journalists from a variety of backgrounds dedicate themselves to topics that are important to young people. The channel advocates for diversity and transparency on the Instagram and TikTok platforms.

2.3 Production

The importance of human-centred developments is also recognised in the areas of production and manufacturing. As well as companies that implement this in their production processes, there are also companies that enable their customers to transition from a role as consumers to producers. In the spirit of digital humanism, active participation and individual creativity are encouraged by empowering people to design (digital) products and implement their own ideas.

The Vienna company Blue Danube Robotics²⁷ enables safe collaboration between people and robots with its AIR-SKIN® technology. Using special sensors, standard industrial robots can be upgraded for collaborative applications without protective grilles.

In a project funded by the Vienna Business Agency, together with TU Wien, the company beeproduced²⁸ is developing a strategy for a new cloud service that implements transparency, trust and fairness right from the design phase. The cloud service will be used in production and serve as a cloud manufacturing platform for networking customers and manufacturing service providers.

The current trend of consumers becoming producers has triggered an exciting change in the corporate landscape. More and more people not only want to consume products, but also want to actively participate in their development and design. Several Viennese companies and initiatives have sprung up as a result of this paradigm shift. HappyLab²⁹ and Maker Austria³⁰ offer open workshops and fabrication labs where members can implement their projects and ideas. In addition to sufficient room for working, these maker spaces also provide various items of equipment, from 3D printers and embroidery machines to electronic workstations with circuit board cutters. The Maker Faire Vienna³¹ is Austria's largest DIY festival with a varied programme for all age groups. Makers come together here to present their projects to a broad audience. Makers like to experiment and have fun doing things themselves. They are creative minds and technology enthusiasts, and can be found in all age groups.

The innovation community-building format “Industry meets Makers”³² brings together leading industrial companies and creative makers. Leading industrial companies tender challenges, so-called briefings, in future-oriented technology fields such as IoT, robotics, AI, blockchain, 3D printing and more and invite makers – self-employed developers, hobbyists, schoolchildren, students, SMEs or start-ups – to solve them in a process lasting about six months. The aim is to conclude deals from which both sides benefit.

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www.4gamechangers.io/de/m/philosophie

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www.digitalerkompass.at/bait

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www.airskin.io

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www.beeproduced.com/de

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www.happyfab.at/de_vie

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www.makeraustria.at

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www.makerfairevienna.com

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www.industrymeetmakers.com/#home



2.4 Art & culture

The art and culture scene is often a pioneer in the use of disruptive technologies. While generative AI applications in the field of text and media creation are revolutionising the art and culture sector, digitalisation can also help to make art and culture more accessible. This will open up the benefits of cultural and artistic experiences to more people.

It is precisely this that the Creativity & Business department of the Vienna Business Agency has made possible with its offers in its focal area “Culture & Technology: Focus Museum” with an initiative to fund digital cultural works. In a two-stage process consisting of an ideas and funding competition, museums in Vienna were given funding to create and implement innovative digital concepts. Ten winners were recognised for their innovative digital concepts in an ideas competition for Vienna’s museums. The following museums won over the jury with their ideas: Albertina, Jewish Museum Vienna, MAK – Museum of Applied Arts, Wien Museum, Austrian Film Museum, Austrian National Library – House of Austrian History, Sigmund Freud Museum, Vienna Museum of Science and Technology and ZOOM Children’s Museum. The concepts range from participatory approaches involving AI and blockchain to help design museum programmes to match augmented reality applications that turn the city into a museum and enable inclusive access to collections and archives. The following museums receive financial support for the implementation of their projects: The Clock Museum receives funding for its escape game “The Curse of Precision”. The game uses augmented reality and real-world elements to teach the history of timekeeping. The Museum of Applied Arts (MAK) uses blockchain technology for “MAK DAO” to actively involve the public in decision-making processes, the design of museum activities and their implementation. The Vienna Museum of Science and Technology will set up the new collection area “softwareLAB”, which will tell the story of Austrian games culture since the 1980s. “Everyday Adventure” is an Austrian Film Museum project aiming to preserve private film footage of Vienna for future generations.

In the WWTF-funded “Panzerknacker” project, a team from the Vienna Museum of Science and Technology is examining the use of digital infrastructures and their everyday use using two museum collection objects as examples. The aim is to develop a transdisciplinary package of methods that will serve to publicly document contemporary user experiences and to find new technical methods to keep historical software functional.³³ In its Digital Humanism Project, the University of Applied Arts Vienna is developing new methods for the teaching of technological principles in early childhood without increasing children’s screen time.³⁴ In the WWTF-funded project, the Wien Museum is investigating who its users are, who is not making use of the museum’s offerings, and what its users are missing both in terms of content and functionality. Are there barriers that need to be broken down on the path to equal access to knowledge? This and other inputs from inclusive technology and visitor research should lead to two concrete adaptations with practical applications that museums can implement in a user-centred manner.³⁵

2.5 Health

Digitalisation in the healthcare sector brings many advantages. Large amounts of data and computer-aided methods can unlock new insights which can be used for diagnostic and therapeutic purposes. The central management of e-medication and e-reports using health portals such as ELGA also allows disease progression and patient medication histories to be tracked. In other areas, such as medical engineering or “telemonitoring”, the everyday life of (chronically ill) patients can be made easier, for example through the recording and transmission of vital signs or the production of prostheses using 3D printing. However, the secure handling of sensitive data, which companies must guarantee, is a challenge. Health data requires particularly sensitive handling, but users are often unaware that sensitive data is transmitted to companies via smartwatches and health apps. Work is needed to raise awareness on the subject of data protection.

In the WWTF-funded project “Algorithmic governance of care”, a team led by Martin Kampel (TU Wien), Roger von Laufenberg (VICESSE)³⁶ and Vera Gallistl (Karl Landsteiner University of Health Sciences (KL))³⁷ is working on the use of AI in long-term inpatient care. Despite the growing use of AI in nursing, only a few studies have so far dealt with bias – i.e. systematic errors of AI systems) – in the nursing sector. The project aims to close this gap and also examines the use of explainable AI methods (XAI – explainable AI) and their applicability to care systems.³⁸

SAVD Videodolmetschen GmbH is a leader in audio and video interpreting in Austria and Germany.³⁹ SAVD’s expanded services, such as SAVD Telehealth and SAVD Phrasix, enable people worldwide to have secure, fast and needs-based communication and dialogue options – regardless of time and place.

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www.wwtf.at/funding/programmes/ei/RO22-006

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www.wwtf.at/funding/programmes/ei/RO22-008

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www.wwtf.at/funding/programmes/ei/RO22-011

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www.vicesse.eu

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www.kl.ac.at/de

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www.wwtf.at/funding/programmes/ict/ICT20-055

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www.savd.at

SAVD was financially supported by various Vienna Business Agency programmes.

The company cogvis⁴⁰ specialises in intelligently evaluating and using 3D data and images using advanced AI technology. The company was founded more than 10 years ago as a spin-off of TU Wien. Today, cogvis develops and sells state-of-the-art solutions for active and assisted living (AAL). These solutions are designed to make older people’s lives easier and safer. The company’s number one product is “fearless”, an intelligent fall sensor.

The bildfon tablets from bildfon Kommunikationengeräte GmbH also offers support in everyday life for seniors.⁴¹ The specially designed tablets enable easy and secure access to video telephony.

In the area of care, the digital solutions E-Care / Care-Tab® from Care Ring make nursing case management and nursing documentation easier.⁴²

The company contextflow⁴³ develops software to support radiologists in evaluating chest CTs. The company’s core product, ADVANCE Chest CT, provides comprehensive computer-assisted support in the detection of ILD, COPD and lung cancer. The product’s aim is to save time while improving the quality of reports and increasing the confidence of radiologists.

In a project funded by the Vienna Business Agency, the Radiology Center is working together with the Medical University of Vienna⁴⁴ to develop a user-oriented strategy for the use of AI in practical workflows in the field of imaging processes in radiology. The roadmap developed is intended to improve care and prevent undesirable developments in data use.

2.6 Sustainability

A healthy environment is a basic requirement for a future worth living. Digital technologies can help conserve resources and protect the environment and are therefore an important aspect of digital humanism. Areas of application for digital technologies range from mobility and energy to trade and the construction industry.

Online platforms refurbished⁴⁵ and markta⁴⁶ are helping to conserve resources with innovative trade concepts. While refurbished helps to reduce electronic waste by selling refurbished electrical products, markta uses its platform to improve access to direct sales of local food, thereby reducing transport emissions.

On the other hand, the company Hydrogrid⁴⁷ is increasing the efficiency of hydroelectric power plants through digitalisation. The fact that climate protection and digitalisation can also go hand in hand is illustrated by a flagship project of the City of Vienna 2030: InterXion data centre.⁴⁸ The waste heat from the data centre is used to heat the Floridsdorf Clinic.

The companies Gropyus⁴⁹ and Greenpass⁵⁰ have recognised the need for sustainable concepts for residential and urban spaces. While Gropyus optimises the efficiency of construction planning and enables sustainable, barrier-free and affordable living, Greenpass works on the implementation of solutions for planning climate-friendly cities.

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www.cogvis.ai
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www.bildfon.com
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www.care-ring.or.at
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www.contextflow.com
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www.radiology-center.com
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www.refurbed.at
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www.markta.at
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www.hydrogrid.ai
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www.interxion.com/at
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www.gropyus.com
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www.greenpass.io/de

2.7 Participation & inclusion

Participation and inclusion are key pillars of digital humanism that can be effectively implemented through the use of digital technologies. Participation means that everybody should be included in decisions and processes that affect their lives. This can be facilitated through the use of online platforms and social media. Inclusion means that all people, irrespective of origin, gender, religion or physical/mental condition, should be able to participate equally in social life. This can be made possible through barrier-free technologies and an inclusive digital environment. In summary, participation and inclusion in the digital age are important aspects of digital humanism to promote digital skills in a targeted and strategic manner and to make the positive effects of digitalisation accessible to everyone.

The companies atwork⁵¹ and Sign Time⁵² contribute to making virtual space more barrier-free through their innovative technologies. While atwork uses AI to translate sign language into subtitles, Sign Time uses it to create sign language avatars. Tetragon⁵³ is another company dedicated to accessibility in the digital space. The company is working on a Braille ring system that makes digital content easy to experience for the visually impaired.

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www.atwork-it.com/de

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www.signtime.media

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www.tetragon.at



3.1 The Vienna Business Agency’s services

The goal of the Vienna Business Agency is the continuous development of international competitiveness by supporting Vienna companies and their innovative power and the sustainable modernisation of Vienna as a business location. To achieve these objectives, the Vienna Business Agency offers all economic actors in Vienna free consulting in the areas of starting a company, business location or business expansion, business development and corporate financing. The Agency also provides networking contacts in the Vienna business sector. The Vienna Business Agency supports companies in carrying out research and development projects with individual consulting and funding. Depending on their requirements, companies can receive information on funding, financing options, potential development partners, research service providers and research infrastructure. The Vienna Business Agency views itself as an information and networking platform for the Vienna ICT and manufacturing sector and organises events and workshops on topical issues associated with digitalisation. Moreover, the Vienna Business Agency assists with business locations and internationalisation offerings.

There is also assistance for those founding businesses and young entrepreneurs in the start-up sector. Free workshops and coaching on topics relating to business life as well as small, affordable offices are offered. Founders Labs⁵⁴ help entrepreneurs and founders hit the ground running with a multi-week professional support programme. The Co-Creation Lab is another popular format.⁵⁵ This brings together innovative startups with renowned experts from companies, research institutions and administration, to develop new solutions. In its Technology

Reports, the Vienna Business Agency provides information on different trends and developments across various technologies and subject areas taking into account relevant experts and actors as well as activities in Vienna. For two sub-topics of digital humanism – cybersecurity and digital sovereignty – the “Open Source/Standards” and “IT Security” provide further information. The Vienna Business Agency supports companies with funding from the City of Vienna. The funding is available to all Viennese companies of varying sizes and from different sectors: from services and local supply to research and innovation up to the creative industry. With the current funding programme “Tech4People 2023”, the Vienna Business Agency supports research and development projects that lead to product and service innovations in the field of digital technologies and whose solutions directly benefit people.

3.2 WWTF services

The Vienna Science and Technology Fund (WWTF) is a private, non-profit fund to support outstanding science in Vienna. In 2019, as part of a study, it identified actors, instruments and topics for a digital humanism initiative in Vienna.⁵⁶ The first call for interdisciplinary research projects on digital humanism followed in 2020. Nine projects were examined in an international review process and selected for funding. These were projects in which computer scientists and researchers from the humanities and social sciences dealt with topics as diverse as health-care and AI, tools to combat online hate, and the effect of algorithms on democratic processes.⁵⁷

On 16 May 2023, the WWTF launched the second call for large research projects on the topic of digital humanism in the focus area of information and communication technology. This call for proposals is aimed at researchers in Vienna who would like to carry out an interdisciplinary research project (2–4 years) between ICT and humanities, social and cultural sciences, as well as artistic research that uses digital technologies and practices from a human-centred and social perspective in the field of digital humanism. A total of €3.5 million will be made available for this call. The WWTF is increasingly expanding its international digital humanism network in order to make the

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www.wirtschaftsagentur.at/gruenden-und-wachsen/founders-lab

55
www.wirtschaftsagentur.at/technologie/co-creation-lab-vienna/co-creation-lab

56
Akteure, Instrumente und Themen für eine Digital Humanism Initiative in Wien 2019
www.wwtf.at/upload/digital-humanism-wien.pdf

57
www.wwtf.at/impact-projects/digitalisation/digital-humanism

principles of an approach to digital humanism which embodies the spirit of “Digitalisation, Vienna-style” known beyond Vienna. The newly established doctoral programme in Digital Humanism will start in autumn 2024, in which young academics will conduct cross-disciplinary research. The call for proposals went out to universities in Vienna with the aim of forming a cross-institutional consortium to pool the competencies on digital humanism in Vienna. A total of around €5 million, financed by the City of Vienna, the WWTF and the participating institutions’ own contributions, will finance more than 20 doctoral positions by 2030 to provide the best development path for young digital humanism researchers in Vienna. The doctoral college will enable interdisciplinary work, promote networking between students, and include specific formats for career development. The topics discussed will also be embedded directly into social discourse through various formats.

3.3 Joint services offered by the Vienna Business Agency and the WWTF

In 2022, WWTF and the Vienna Business Agency signalled their commitment to the strategic anchoring of digital humanism in Vienna’s research institutions and companies with the joint call “Roadmaps for Digital Humanism”. The aim is to encourage organisations to keep people at the heart of technological projects. Together, the Vienna Business Agency and the WWTF put 400,000 euros towards digital humanism. The funding was aimed at both companies and research institutes. This required collaboration between various players from business, academia and civil society.

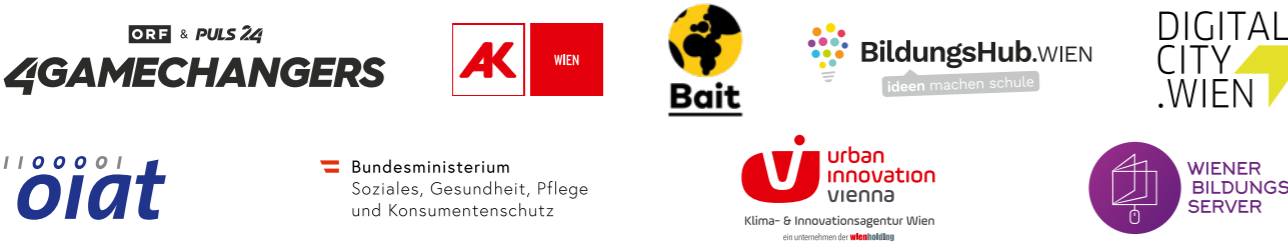
A total of 42 projects were submitted. Of these, 11 projects from Vienna Business Agency and six from the WWTF were awarded funding after the selection process involving local and international experts.

The great response shows that Vienna’s business and research community is working on incorporating digital humanism into digital products and services right now. It is important that the relationship with people is the priority during development. The funding supports companies in integrating social aspects more firmly into their commercial goals.

The world of work



Education & media



Health



Sustainability



Art & culture



Participation & inclusion



Pioneers



Production



Others



WWTF



Design

seitezwei.com

Producer,
Production site

Print Alliance HAV Produktions GmbH
2540 Bad Vöslau

 printed according to the Austrian
Ecolabel criteria for printed matter
(UZ 24), UW-Nr. 715

 **Klimaneutral**
Druckprodukt
ClimatePartner.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/en

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- Technology reports are available on the following topics:
- Additive manufacturing
 - Assistive Technologies
 - Big Data and AI
 - Blockchain
 - Circular construction
 - City Logistics
 - Cloud Computing
 - Data Sharing
 - Data4Good
 - Digital Twins
 - Digital Planning, Building and Operation
 - e-Commerce
 - e-Government
 - e-Health
 - Enterprise Software
 - Entertainment Computing
 - FinTech
 - Food
 - Green Building
 - HR-Tech
 - Impact Assessment
 - Intelligent Automation and Robotics
 - Intelligent Production
 - Internet of Things
 - IT-Security
 - Mobile Computing
 - Open Source/Open Standards
 - Rainwater in the city
 - Sustainable urban logistics
 - Urban Energy Innovation
 - Urban Foodtech

- Urban Mobility
 - User Centered Design
 - Vienna's Economy on the Road to Net Zero
 - Visual Computing
- The digital version can be found at
viennabusinessagency.at/technology/lets-talk-innovation

REACT-EU ALS TEIL DER
REAKTION DER UNION AUF DIE
COVID-19-PANDEMIE FINANZIERT.



Europäische Union Investitionen in Wachstum & Beschäftigung, Österreich.

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