Mobile Computing and Networked Systems

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. With around 20 billion euros (corresponding to around 70 per cent of total sales), Viennese ICT companies recorded an increase in sales of 4.37 per cent compared to 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.

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, which is the second highest amongst Austria's federal states.[2]
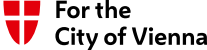
According to various studies, Vienna scores particularly well in innovative strength, comprehensive support for start-ups and a strong focus on sustainability. The city is also a front-runner in many "smart city" rankings and the location impresses with its research-friendly and technology-friendly climate, geographic and cultural proximity to growth markets in the east, high quality of infrastructure and the educational system, and not least, the highest quality of life worldwide.

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 Vienna-style digitalisation. 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 cooperation platform that enables Viennese technology developers to benefit from the city's full potential. The Agency helps companies to network with development partners and key customers in business, science and city administration, and supports Viennese companies with targeted funding and a wide range of consultancy and support services.

This Technology Report provides an overview of the various trends and developments in the field of mobile computing as well as a selection of companies and individuals who are active in the field of mobile computing in Vienna.

Your team at the Vienna Business Agency

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Mobile computing – the networked world of tomorrow

Mobile developments have found their way into many sectors, such as audio & video, navigation & positioning, interaction technologies, mobile games, sports, home automation and smart energy, as well as the Internet of Things and are used in various industries.

As a result of this and due to technological developments – take the example of the Internet of Things (IoT) – the variety of applications is increasing significantly. The Internet of Things is gaining ground in both private households and industry. By networking mobile (analogue or digital) devices such as sensors, VR, or AR devices, vast amounts of data are recorded, processed and stored. This data is usually meaningfully interpreted and further processed in software such as an app, providing mobile access to sensor data, for example.

Mobile internet use, "on the road" so to speak, naturally has advantages, and knowledge of the respective location, flexible use of the devices and their functionalities (e.g. when measuring bodily functions via wearables such as rings or watches), as well as mobile payment, offer many new opportunities. The report highlights possible limitations resulting from the constant increase in mobile use (e.g. insufficient network expansion). However, these are being counteracted by technical progress.

In times of great challenges and serious crises, digital networking is becoming increasingly important. Advances are being made in process and project innovation and are more present than ever. As a result, mobile computing has become increasingly important in recent years.

Mobile devices such as smartphones, tablets, smart watches and wearables and the apps installed on them have become an integral part of our daily lives. The technological development of portable devices, infrastructure and software continues to march on. Smartphones need to become even smarter, faster and more efficient. Infrastructure needs to be expanded further and become more intelligent. Software development helps with digitalisation and visualisation.

○ What does "mobile computing" actually
   mean?

By definition, mobile computing is mobile, networked technology support. It includes all types of non-stationary computer usage by people but also by automated devices (Machine2Machine).

It includes hardware such as smartphones, tablets, wearables, AR (augmented reality) and VR (virtual reality), devices, software like operating systems, apps, streaming and the infrastructure to enable the protocols and data exchange in daily private and industrial use.

If an internet connection is required, it is usually wireless via WLAN (Wireless Local Area Network), Bluetooth or LoRaWan (Long Range Wide Area Network). The energy supply is usually provided by accumulators or batteries, which means that no permanent connection to the power grid is required.

The requirements for mobile computing have changed rapidly over the last five years. Not only did we come through a worldwide pandemic, with many people having to suddenly switch from the office to working from home, but the economic situation also forced companies to come up with something to overcome the crisis. Remote access, mobile working, app developments, IT security, digitalisation of work processes and video conferences exploded in popularity. But even before this time of crisis, changes in the world of work were evident. They were referred to under terms such as New Work, Work 2.0 or work-life balance. This gave the ICT industry the opportunity to (further) develop new apps for the world of work and private users. User behaviour on mobile devices also shows strong demand for new applications. A total of 98 per cent of all Austrians use smartphones, apps and messaging. At the start of the Covid pandemic, the most frequently used functions were instant messaging (81 per cent) and web searches (76 per cent). Phone calls were in fourth place at 71 per cent.[3]

In Vienna, smartphones are used an average of 3.7 hours per day, while in western Austria, it is only 2.8 hours. A total of 54 per cent of app users use push functions, 76 per cent use GPS and only 17 per cent use NFC (Near Field Communication). Not only is the use of smartphones continuing to rise, but the number of apps per smartphone is also continually increasing; the average Austrian has almost 30 apps installed on their smartphone.[4]

Statistics show that internet use is becoming increasingly mobile. Around 80 per cent of internet usage is via apps or mobile browsers.[5]

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Mobile Communications Report 2020: More mobile despite less mobility, mmaaustria.at

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Distribution of Internet usage by device in Austria in November 2022
Internet usage in Austria | Statista,
de.statista.com/themen/2876/internetnutzung-in-oesterreich/#topicOverview

Distribution of Internet usage by device in Austria in November 2022

Source: see Austrian web analysis, © Statista 2023

22,4 % Desktop
49,9 % Apps
27,7 % Mobile Web

Mobile devices have been used for many years. Almost 100 per cent of Vienna's citizens use mobile internet, so it has to meet mobile requirements. Even as the intensity of competition continues to increase, Vienna appears to be well-positioned for all of these developments. Vienna is a centre for science and research combined with a high quality of life, well-developed infrastructure and a strongly networked ICT community. In addition, there is a wide variety of funding and support programmes that follow the trend towards digitalisation and mobile interaction (of people with a smartphone or computer).

Existing and newly emerging training courses are keeping up with the trend and will be further expanded to serve purposes such as counteracting the shortage of skilled workers and strengthening Austrian companies' power to innovate.

3.1 Research, science and training

With 5.6 per cent of employees in science and research, Vienna ranks third among the 241 EU regions and is the largest university city in the German-speaking region. At 3.6 per cent, the research rate in Vienna is well above the European average. Vienna has been constantly working on improving training opportunities in order to counteract the approaching shortage of skilled workers. Earlier embedding of IT know-how in primary schools is also planned in the next few years. Two main issues need to be addressed: giving children earlier access to IT-relevant topics and motivating girls to gain a foothold in the STEM subjects (science, technology, engineering, mathematics).[6]

Mobile application developers are in high demand, and this demand shows no signs of abating in the coming years. They work primarily in IT companies and agencies, but many also work as freelancers. Vienna is the most attractive federal state for employees in the ICT sector. A total of 50 per cent of all non-freelance workers employed in the ICT sector work in Vienna. Vienna has a very good employment rate in the ICT sector. The city has seen an increase in employment in the ICT sector of almost 40 per cent compared to 2008.[7] This growth, in turn, shows that Vienna is investing in companies to promote a high level of innovation and high research development, for example, in the area of mobile computing.

The available training is also adapted to the market. The Vienna University of Technology has its own course on the topic "Distributed Systems Group". Its main research topics include the Internet of Things, smart city, edge and fog computing and elastic computing. The course focuses on the entire computing continuum and bringing intelligence to the infrastructure. This, in turn, impacts automation because according to Prof. Dustdar from the Vienna University of Technology DSG (Distributed Systems Group), the system manages to constantly change the topology and no longer needs to be reworked by machine.[8] The Gartner market research institute would describe this trend as Infrastructure as a Service (IaaS).

With its research focus, the Vienna University of Technology wants to bring more intelligence into the infrastructure in order to exchange data more quickly without having to transport it back and forth. Where a high degree of automation is required, such as with VR, AR and AI (artificial intelligence), automated mechanisms are being developed that enable the machine to configure itself, a process also known as machine learning. These mechanisms make manual intervention less and less necessary.[9]

The focus of the University of Applied Sciences (UAS) Technikum Wien for Mobile Computing: With the master's degree in IoT and intelligent systems and the bachelor's degree in computer science, the university focuses on mobile computing for IoT devices and app development. The University of Applied Sciences (UAS) Technikum Wien also offers training courses for companies in the fields of infrastructure, app development and web development. The research focuses on the energy efficiency of mobile sensor nodes and development in the smart city and automation areas.[10]

The University of Applied Sciences (FH) Campus Wien offers a bachelor's degree in computer science and digital communications. The course focuses on smart city, eHealth or mobile app designs to help shape the digital future. Computer science and telecommunications form the foundation of the course. There is also a specially developed app for students on the FH campus to help them organise their student life. The Campus+ app helps students to maintain an overview of the timetable, their own courses, the cafeteria menu and their Campus Card balance (payment function for printing and copying, food, books and much more).

Research institutions are also increasingly researching mobile solutions – whether it's citizen science, industrial science or usage data. The Austrian Institute of Technology

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Mobile computing research priorities at Vienna University of Technology DSG

Source: see Prof. Shahram Dustdar (TU Vienna), from the interview on 19/10/2022
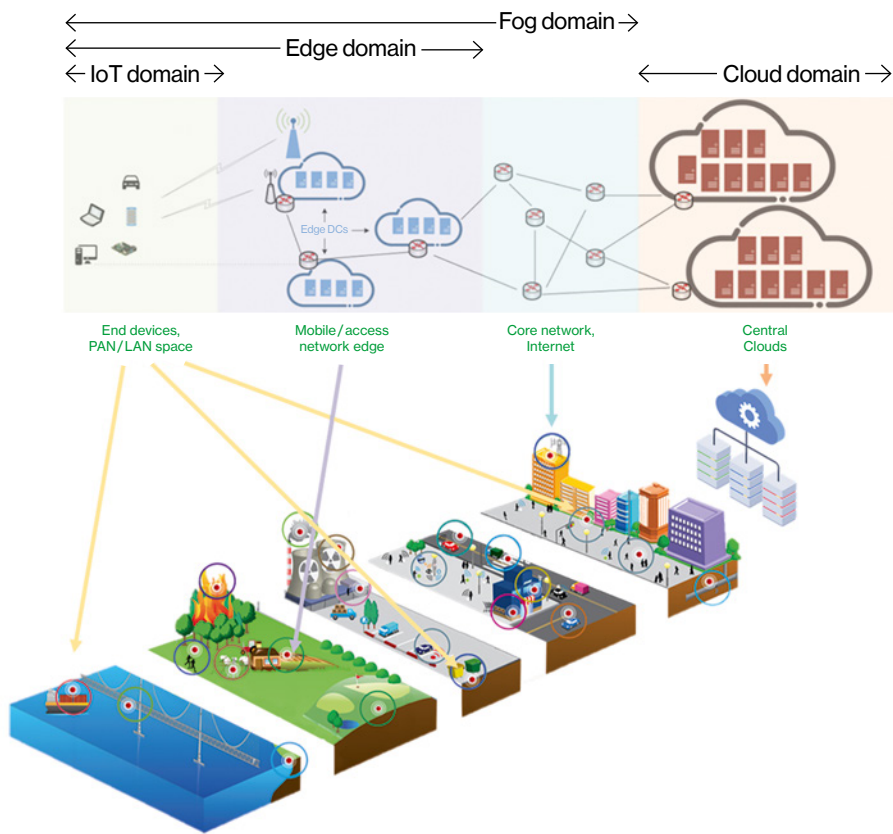
(AIT) is one of the most important research and science centres focusing on the mobile, networked world of tomorrow. AIT specialists are working on app concepts that facilitate access and improve acceptance of the latest high technologies, particularly in the areas of dynamic transportation systems, technology experience, integrated and human-centred mobility and technology and capturing experiences. One of AIT's many developments is the SUCCESS app. AIT's researchers developed an interactive app for relatives of people with dementia to support them and those affected in their everyday lives and help them to better understand the needs of people with dementia. The aim of the research project is to provide professional knowledge, training and quick assistance in challenging situations via smartphone.

Another example of AIT's research achievements in the field of mobile computing is the HVAC Positioner App. The Energy department developed the first app for the optical and acoustic positioning of heat pumps. The HVAC Positioner is the first and only app that uses augmented reality to optimally position a heat pump or cooling system in a real environment. The implemented real-time sound propagation calculation makes it possible to position the system perfectly according to current regulations and personal preferences.

VRVis (Center for Virtual Reality and Visualization) is the leading research institution in the field of visual computing. The centre's research focuses on the areas of computer science that fall under the topic of visual computing. These areas include visualisation, biomedical image processing, virtual reality, human-computer interaction, artificial intelligence or digital twins, to name just a few.

As part of the research project "Object-related flood forecast", VRVis has developed the "Level Alarm" app together with

the start-up SOBOS. Flood information and warnings throughout Central Europe are linked to the app. The app provides mobile data and uniform access to historical, current and forecast water data from measuring stations across Europe.

6/7
KIHS, ICT Status Report 2021

8/9
Interview on mobile computing with Schahram Dustdar (TU Wien), 19 October 2022

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Interview on mobile computing with Thomas Polzer (University of Applied Sciences Technikum Wien), 24 October 2022
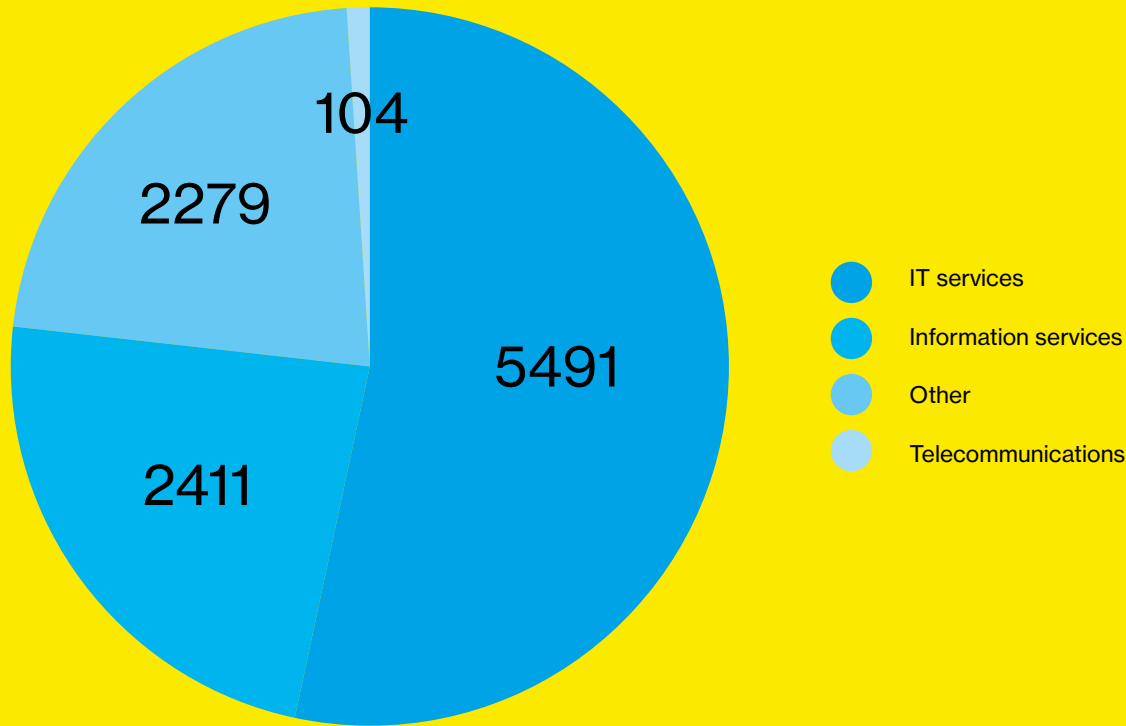
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2279

5491

2411

- IT services
- Information services
- Other
- Telecommunications

3.2 The employment situation

Vienna has once again been named the world's most liveable city. Vienna was ranked first in both the Smart City Index 2020 and the Economist Quality of Life Ranking 2022. This is a selling point for attracting professionals to Vienna. Developers are still in high demand.[11]

As a major city in the heart of Europe, Vienna is an ideal location for the industry. For talented developers from Austria and the surrounding area, this is often an argument for moving here. From the point of view of the industry, Vienna has another advantage; the high penetration of mobile devices means that the population is increasingly using the medium and the technology. In addition, Austria, as a highly developed but small country, is considered a very good test market for new developments.

Importance of Vienna as an ICT location for Austria

Vienna is recording positive development after the years of crisis; around 70 per cent of ICT sales are generated in Vienna. A total of 10,285 Viennese companies are listed as being in the information and communication sector. The diagram below shows the distribution of ICT priorities.[12]

Since the Covid-19 pandemic, the active IT industry has been described as a systemically important professional group because functioning IT infrastructure is important for every company. More than 10,300 ICT service providers keep the city of Vienna running. Vienna has gained 1,800 ICT companies in

the past five years.[13] These are companies across the entire IT value chain: they program apps, take care of cybersecurity in companies, optimise websites and online presence for search engines or provide server capacity and cloud computing.

11
Vienna in Numbers 2022 Brochure "Wien in Zahlen 2022" –
publication with statistical data

12
City of Vienna Statistics Yearbook 2022,
www.wien.gv.at/statistik/publikationen/uebersicht-pub.html

13
ITWelt.at Special 2022 "Erfolgsrezepte der pulsierenden IT-Metropole Wien
[The recipe of Vienna's success as a tech metropolis]" 31 August 2022

The project helped Vienna's museums fulfil their educational mission in their most challenging period and continue to sustainably ensure the communication of cultural heritage and Vienna's reputation as a cultural location.

NOUS sonic, developed by NOUS Wissenmanagement GmbH, is an interactive audio system with which digital sounds can be controlled via headphones by moving in space. Movement in space causes sounds to be triggered, stopped or superimposed (via the electronics integrated exclusively into the headphones). This is made possible through the use of ultra-wide-band technology, a highly precise localisation of visitors. Sound effects are transmitted in real time and, for example, make the world of the Vikings tangible through "augmented listening".

The company Artivive GmbH offers artists a new tool that creates a connection between digital and classical art. A simple app allows artists to transform their art into an augmented reality solution in just a few minutes. A video overlay creates an art video that allows you to experience a new dimension for static art and animated art. This encourages the active involvement of the viewer, resulting in a stronger emotional connection.

The Viennese "Mobile Computing Community" has already brought numerous extremely successful applications onto the market. These extend from augmented reality apps to industrial IoT solutions. Below is a selection of subject areas that have recently seen highly innovative applications come to fruition and, among other things, selected mobile computing projects that have been funded by the Vienna Business Agency in recent years.

4.1 Augmented reality in arts and culture

What does augmented reality actually mean? "AR" for short, it is an assistive extension of whatever it is you are looking at. It is an "artificially generated visualisation" superimposed onto objects in the real world, with technological innovations and developments. For example, retailers offer apps that allow you to virtually view furniture in your own bedroom or clothing on your body. Travel and museum guides also provide targeted information about attractions and objects using phone cameras and location tracking.

Vienna is a vibrant art and cultural capital that invigorates, expresses and opens new horizons. Here, too, there are innovative IT developments that make art and culture a digital experience or even cast it in a completely different light.

The MuseumStars app, for example, developed by Fluxguide Ausstellungssysteme GmbH, is a unique, digital knowledge transfer platform for museums. Users receive information about museums in the immediate area via the app and can deepen their knowledge with interactive learning tasks on the topics of art, culture, history, nature and technology.

4.2 Covid-19-related app developments

The issue of safety was extremely important during the pandemic. In-person meetings were avoided, and "social distancing" was emphasised virtually everywhere. The primary aim was to ensure the safety of systemically important professional groups. Security forces, doctors and nurses had a special interest in moving processes and procedures to the digital space.

Distanced ID Capture from Anyline GmbH uses innovative data capture technology to enable police officers and doctors throughout Austria to accurately capture data on ID cards, such as passports, ID cards, or e-cards, at a minimum distance of one metre. This made it possible to maintain a minimum distance of one metre and thus significantly reduce the risk of infection from COVID-19.

The tightening of hygiene and conduct rules in hospitals also had an impact on nursing and hospital staff. Specific hygiene guidelines and updates were communicated to the staff through various channels (email, intranet, training, notice board, etc.). This led to an information overload that made it almost impossible for staff to keep track or filter information quickly. At the same time, nursing and hospital facilities had no overview of whether employees had read and implemented the information. For this reason, Ovos Media GmbH developed a digital SARS-CoV-2 training & information system to help ensure sustainable and personalised training for all relevant employees in the inpatient and outpatient areas and thus prevent the spread of the virus. Ovos Media not only developed sustainable training for nursing staff, but also gender training for managers. The training app "Get Gender on the Agenda" helps managers define the most important facts and figures on the subject of gender in order to create working conditions suitable for all regardless of gender, origin and age.

4.3 Digital health and fitness

Since Runtastic was developed in Linz, digital health data has become an integral part of the sports and fitness sector. But more and more applications are not only moving towards digital fitness, but also towards "digital health". The trend of accessing health and fitness data on the go and from anywhere is particularly prevalent in the B2C sector. But companies and healthcare systems are also increasingly affected by these innovations (and increasingly due to the pandemic). Health data is recorded digitally and can be accessed anytime and anywhere, whether from doctors, in the pharmacy or on a smartphone. In Vienna in particular, many startups and other innovative companies have been very successful in this area.

The digital health company Scarletred has developed a clinically tested, objective and digital tool that enables the rapid analysis of around 3,000 different skin diseases. All you need is a skin sticker for colour and size reference and a smartphone. Apps are planned for use in geriatric care and in the telemonitoring of rare diseases.

The health data and preventative care of our four-legged friends are also becoming increasingly important. Tailored Apps has developed a health app called PEZZ Check. The aim is to provide a health test for dogs based on a urine test that can be carried out quickly and easily by dog owners "at home". The results are scanned, interpreted and presented in an understandable manner using the PEZZ app. The check serves as a preventive examination of the dog. This is important because dogs only show symptoms very late on during illness, which significantly reduces the chances of recovery. Other app features include dog activity tracking and a veterinarian database, which users can use to send test results directly to veterinarians.

The "integrated online classes" project made an important contribution to social health in times of social distancing. The government-ordered closures of sports facilities due to the pandemic meant that athletes were no longer allowed to go to the gym, and sports providers lost their entire work base and source of sales in one fell swoop. The software provider Eversport GmbH developed an integrated online class solution that maintained studio operations during this time. People could participate in exercise classes at home and they were made accessible to a wider audience.

Fitgame OG developed a fitness web app that can use AI to automatically record user workouts and provide constructive feedback on exercise execution. The app aims to improve user execution of movement sequences. The AI makes it possible to rate users' workouts and reward them by moving them up to the next training level. The additional gamification approach is intended to motivate people to complete more workouts.

Hilda GmbH is dedicated to dementia prevention. HILDAmed helps to slow down the onset of initial and new dementia symptoms. In this project, intelligent speech software is used to improve the performance of speech recognition. This special software overcomes barriers to natural conversation with the help of the app, in particular by reliably recognising pauses in speech and filler words, as well as understanding conversation in dialect. An AI-supported algorithm also predicts the course of the illness.

4.4 User experience

Companies, developers and research institutions are increasingly focusing on people. In particular, what users want should be taken more into account in order to increase acceptance and use.

"AI for good" is a project by atwork GmbH. The company focuses on automatic transcription for deaf people at online meetings and events so that deaf people can also participate in these virtual events. Users need a high-resolution camera, PC or smartphone in combination with an AI solution for German sign language. The aim is to help deaf people connect with people who do not speak sign language. This solution helps users participate in everyday digital life, making the inclusion of hearing-impaired people in the "new world of work" much easier.

Sign Time GmbH has dedicated itself to the topic of sign language databases. Deaf people find it hard to access texts and learning a written language is very difficult for them. Around 75 per cent of deaf people are illiterate. The ideal form of accessibility for deaf people would be fully automatic, real-time translation of texts into sign language. Sigtionary is a web app that links texts to a sign language database. Deaf people can then click on difficult or unfamiliar words in a text and immediately receive the explanation or description of the word in sign language.

Journi GmbH is developing a free mobile app for iOS and Android smartphones. The app enables users to automatically make and share personal travel experiences as a multimedia travel diary in just a few steps. The latest developments are also moving towards analogue applications – for example, to complete a baby, wedding or family diary with a single click. Journi GmbH wants to establish itself as an important player in the area of "personal storytelling" at the interface between digital and print.

4.5 Shopping and payment

The future of shopping lies in online retail and more and more products are being delivered directly to homes or to pick-up stations. The purchasing behaviour of Austrians has also changed as a result. More and more people are shopping online, preferably door-to-door, without human contact. In recent years, partly due to the pandemic, more and more companies have put (or moved) their shops online or to contactless concepts such as vending machine shops.

Der Automat – Harrer GmbH has developed vending machines with innovative functions which provide sales points around the clock. The machines are like vending machines but sell larger products in greater quantities. The RetailCube24 is a completely self-sufficient container that can be either mobile (e.g. for events) or permanent without the need for structural measures (e.g. to improve local supplies in remote locations). The software can be controlled via smartphone, tablet or PC. Customers can also pay on site with their smartphone.

The Viennese company markta, a digital farmers' market, also creates new access to regional (organic) products from small and family businesses, away from traditional supermarket structures. Their concept is to create a web platform for future-oriented, eco-social and local food. Over 450 companies offer their products across Austria on the online marketplace. As Austria's first digital decentralised food platform, markta enables the purchase of high-quality products from individual producers. A partnership with Veloce GmbH ensures that online orders are delivered quickly the next day to customers' homes or listed pick-up points in the Vienna area.

Gurkerl.at supplies products for everyday needs. Using the shopping app, customers can have purchases in Vienna and the surrounding area delivered within 3 hours. Gurkerl.at has a range of 7,500 products displayed in different categories in the app. The detail page of each product contains a detailed description of the nutritional values, allergens and the manufacturer.

In addition to new shopping opportunities, a lot has also happened in the area of payment and cash registers. Viennese company Ready2Order offers cloud-based cash register systems for retail, service companies and restaurants that can also be operated via smartphone, tablet or a fixed station. The mobile "readyGo" checkout app links the system to cash registers, printers and card readers and enables location-independent, contactless payment.

Pocketbill GmbH is a mobile online cash register for small businesses, EPUs and SMEs but also people in the medical sector who need to create invoices immediately after providing a service. The system runs on a smartphone, tablet or notebook, so small business owners always have a cash register with them.

4.6.1 Digital assistance

In 2018, one in two Austrians were using smart devices – such as a smart TV, intelligent lighting or networked heating. Today, 65 per cent of households in Austria use smart TVs.[14] The flexible and easy handling of platforms that can be used anywhere and technically smart devices is becoming increasingly important in our households. More than half of Austrians use YouTube, Netflix, Amazon Prime and ORF TVThek more often than daily television. People are watching TV using streaming services, particularly young people.

Most Austrians are used to taking the streaming services they want wherever they go. They want to have their content with them at all times and everywhere and watch their series and films wherever they are. Streaming services have proven particularly useful for people who travel, as it gives them a sense of being at home. Bitsfabrik GmbH has addressed the problem of how to play your programmes on the smart TV in your hotel room. Chromecast Hotel TV allows guests to use streaming services in hotels. The challenging thing about the project was that when using Google Chromecast, anyone on the network could stream to it. A technical solution was developed to prevent guests streaming to another guest's Chromecast. "like@home" has achieved exactly that, creating a TV solution for hotels that brings streaming services such as Netflix or YouTube to your hotel room.

E-Necker GmbH has dedicated itself to the topic of assistance in building automation for seniors. The company has developed a system that increases the comfort and safety of seniors. For example, its system can trigger an alarm if a resident has not left their bedroom at a certain time or has fallen in the bathroom.

In this case, relatives can connect to the apartment via smartphone or webcam and check whether everything is OK. In an emergency, it is also possible to open the entrance door remotely to give emergency services access to the apartment.

4.6.2 Industrial and smart home energy applications

The current energy crisis has brought the measurement and networking of electricity, gas and other energy sources to the fore. That's why several data measurement start-ups have emerged which make daily consumption and the resulting forecasts more tangible.

Startup nista.io has developed data analysis software that uses AI and sensors to analyse and continually optimise the energy consumption of companies and private households. With the "Energy Coach" app, nista.io helps end consumers track and reduce their electricity consumption in their own homes.

4.6 Internet of Things (IoT)

The Internet of Things refers to the digital networking of systems, which can include systems, machines and mobile devices. Machine-to-machine transmission enables direct communication between devices and enables them to implement tasks, requirements and processes completely autonomously and automatically. IoT is used in the private sector, such as in smart home developments or digital assistants, and there are applications in the area of IIoT, which stands for Industrial Internet of Things, which focus on "Industry 4.0". This refers to digitally networked machines and systems in industrial contexts that enable efficient, highly automated and self-organising production. Here too, the trend is moving increasingly towards the mobile, transferable use of smartphones and tablets.

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Share of households in Austria by technical equipment from 2014 to 2021 Entertainment Electronics in Austria | Statista, de.statista.com/statistik/studie/id/70240/dokument/unterhaltungselektronik-in-oesterreich

Hydrogrid GmbH has developed an exciting application in the field of hydropower management. Hydrogrid digitalises hydroelectric power plants in real time, increases their efficiency and thus reduces overflows. Weather and electricity data are combined with local sensor measurements from the power plant, allowing optimal deployment plans to be created. Using the app makes electricity consumption more measurable and plannable, and by digitalising power plants, companies can increase their sales by up to 18 per cent.

4.6.3 Industrial Internet of Things

Industry is increasingly networking and digitalising its systems. This means managing and utilising huge amounts of data. The increasing amount of data often presents a major challenge to companies. Organising the vast quantity of data and processing it correctly is often difficult for users. At the same time, it is necessary to secure the data and be able to access trustworthy data. The European Gaia-X project was initiated for this purpose. The Gaia-X project aims to define principles to provide organisations, companies and users with a framework for processing process data efficiently and economically and sharing it with each other while still maintaining control over it. The lead project for Gaia-X in the production environment is called EuProGigant. The main focus of the project is the smart and confident use of data in production. The core question is: "What does a data infrastructure that makes Europe's production and manufacturing industry more sovereign, more efficient, more resilient and more sustainable look like?" The project has a duration of four years and a budget of five million euros. You can find more information on this interesting topic in the Technology Reports "Automation and Robotics" and "Data Sharing".

IoT Trust GmbH is a service provider in the field of IoT. With its powerful data source and the resulting analyses, the company helps businesses and producers understand their customers and products better.

PlanRadar GmbH has developed an app for construction documentation, task and defect management in order to keep an overview on construction sites. Defect management on construction sites is still largely "manual", e.g. inspection with a camera, notepad, possibly a dictaphone, and is therefore very inefficient and prone to errors. The company developed a web-based automated system, a multimedia application for mobile devices with an intuitive touchscreen interface, that enables the recording, tracking and correction of construction defects and communication between different parties.

ToolSense GmbH has dedicated itself to the topic of "networked construction sites" through AR. The company develops solutions for networking energy-intensive and cost-intensive construction machines. These solutions record and analyse machine data from non-electronically controlled diesel and gasoline engines. The aim here is to give construction machinery manufacturers the opportunity to optimise their machines and, at the same time, support construction companies in managing and using their existing machinery. The ToolSense module in the device analyses sensor data directly on the built-in microcontroller and provides a wide range of information via a web front end and an app. In order to reduce data volumes and energy consumption while ensuring high data quality and data availability, "edge computing" is used (in contrast to cloud computing,

edge computing refers to decentralised data processing at the edge of the network).[15] Data is not processed in the cloud, but directly in the device.

Endiio GmbH is a young Industry 4.0 start-up based in Vienna. The focus of the work is developing innovative low-energy and real-time wireless technologies to reduce power consumption in industrial applications. Endiio GmbH has developed plug-out modules that can be attached very quickly and easily to industrial sensors in smart manufacturing, smart home and smart grid in order to put sensors that are not required into sleep mode. This helps the industry save 10,000 times more electricity than when it is running.

Using a digital twin (a virtual model with the same properties as the real model), TTTech GmbH has also implemented a fully digital simulation of the planning of pallet loads and packaging material with a packaging manufacturer. This digital twin is connected to the actual packaging system via a data stream. Using a mobile device and an app, the required material quantities and even the number of delivery vehicles required can be controlled and changed.

Vienna IT company LOOP21 Infrastruktur GmbH had a unique project concept – developing an intercom system for cable cars and other mobile applications. It combines WiFi and Voice-over-IP, using modern touchscreen tablets instead of outdated radio systems. This means that urban cable cars can better meet the safety requirements of public transport. In this way, the project made it possible to implement a modern and mobile technical solution in the cableway industry.

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Edge Computing – Wikipedia

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 consultati-ons 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. De-pending on requirements, they will receive information about sponsorships, financing opportunities, possible development partners, research service providers, or research infrastruc-ture, according to their needs.

The Vienna Business Agency sees itself as a network of the Viennese Green Tech & Social Tech industry and sup-ports 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. Assis-tance is provided to business founders and young entre-preneurs 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[16] 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: viennabusinessagency.at/funding/programs

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viennabusinessagency.at/startup-and-grow/lets-talk-founding-1/founders-labs

In the alphabetical listing on the following pages, you will find an overview of selected companies from the mobile computing and IoT sectors in Vienna. This list is an excerpt from the diverse mobile computing scene.

Companies in the field of
Mobile Computing and Networked Systems

COMPANIES	DESCRIPTION	WEBSITE
3DATAX GMBH & CO KG	3DataX develops custom solutions for gamification, edutainment, further education, playful training and augmented reality. The central features of the apps created for this purpose are platform independence, user-driven enhancement and social media challenges.	www.waltzingatoms.com
AAA – ALL ABOUT APPS	The company all about apps creates high-quality mobile solutions for medicine, industry and commerce as well as banks and insurance companies. With an expert team of over 30 "mobile aficionados", the company develops custom mobile applications. According to its own information, all about apps has already implemented more than 420 mobile projects and has a total of 152 million app downloads.	www.allaboutapps.at
ADAPTIVIA GMBH	Adaptivia GmbH is the result of years of research in the field of ubiquitous and pervasive computing and, due to its outstanding potential, was accepted into the INiTS incubator in May 2006. In 2007, the founder was presented with a prize for Best Business Idea at the European Semantic Technology Conference. The development of the WiseWater product began in 2008, a project funded and awarded by the Austrian Centre of Innovation and Technology. Adaptivia received the Vienna Future Prize for this project in the same year. The research in the area of infrastructure-free positioning (GoodSense project), which was intensified in 2009, was published in a scientific journal in 2010.	www.adaptivia.com
ADVANTAGE APPS	advantage apps specialises in app development and all areas of digital communication. As a full-service agency, advantage apps is not just a technical partner, but also provides all services from a single source – from consulting, design and technical implementation of digital solutions through to marketing. The advantage apps team combines competencies from the areas of web/mobile, advertising/marketing and business consulting.	www.advantage-apps.com

COMPANIES	DESCRIPTION	WEBSITE
ALYSIS	Originally founded as a classic IT service company, the alysis team has many years of experience in developing and supporting individual software in the enterprise and e-government environment. In addition to development work, the company's focus is on usability, user experience and accessibility. Users are seen as the most important stakeholders.	www.alysis.at
ANVARTEC	anvartec offers products for mobile platforms. The company pays particular attention to research in the area of mobile augmented reality (AR) applications. Anvartec makes reference to its comprehensive IT know-how, many years of experience with hi-tech product development and international marketing of new products.	www.anvartec.com
ANYLINE	Anyline offers text recognition solutions for smartphones. The flexible toolkit is installed in customer applications and adapted to the respective use case. The solution can be used to scan electricity meters and licence plates and turn them into text, just like passports or serial numbers.	www.anyline.com
APPTEC	apptec offers app development as well as the modernisation of websites and portal solutions or the design of marketing promotions.	www.apptec.at
ARTIVIVE GMBH	Artivive is an AR tool that artists can use to create new dimensions of art by combining classic and digital art. For museums, exhibitions, galleries and other art institutions, Artivive provides a new and innovative way to interact with exhibitions. Visitors only need to use their smartphones or tablets to experience the dimension of augmented reality.	www.artivive.com
ATWORK	atwork specialises in consulting and developing business applications in Microsoft Office 365 and Microsoft Azure environments. The focus is on business apps, cloud computing and internet solutions.	www.atwork-it.com

COMPANIES	DESCRIPTION	WEBSITE
AUXALA BY LINEAPP GMBH	auXala is an innovative, flexible and cost-saving streaming software that streams audio to mobile devices over the internet. In the spirit of "bring your own device", event visitors can receive the audio signal. This does away with the restrictions on freedom of movement at events and organisers no longer need to worry about transmission hardware. The streaming software can be used for various application scenarios, such as hearing assistance, as a broadcast tool for live interpretation by interpreters or for special events such as Silent Conference, Silent Cinema, and much more. auXala facilitates simple operation, inclusion, multifunctionality and flexibility at event venues.	www.auXala.com
BITSFABRIK	bitsfabrik is an owner-managed digital agency based in Vienna Margareten. We have been developing iOS and Android apps, websites and smart TV solutions since 2014. Be it experimental as an MVP or 360° project – we accompany our customers from the initial concept to maintenance of the finished product. We do not see ourselves as a pure contractor, but we enter into long-term partnerships with customers, for example, with the Austrian Lotteries, Immofinanz, Austrian Public Radio, Wienerberger or Hutchison Drei Austria.	www.bitsfabrik.com
BLUE MONKEYS	With the motto "your success is our banana!", the Blue Monkeys have been active on the market as a digital agency for many years. They provide strategic consulting services, as well as design and implementation of online solutions. Blue Monkeys creates applications for mobile shopping, infotainment, productivity for all operating systems and optimises existing websites for use on mobile devices.	www.bluemonkeys.at
BLUESOURCE	bluesource – mobile solutions gmbh develops mobile software solutions for well-known companies from a wide variety of fields, such as industry, retail and insurance and also works on tools in mobile marketing, mobile payment and mobile commerce. One of the best-known products developed by bluesource is "mobile-pocket" – a loyalty & couponing HUB to which, in addition to its own "mobile-pocket" app, other apps are also connected. This allows retailers to use a portal to add their content to multiple apps.	www.bluesource.at

COMPANIES	DESCRIPTION	WEBSITE
CAMPFIRE SOLUTIONS	The AI from nista.io provides a platform that enables you to maintain an overview of energy consumption and costs. The aim is to reduce costs and save energy and lower carbon emissions. Users can see comparisons with the industry average and savings potential.	www.nista.io
CODISTA	Codista develops customised digital products, web apps and websites for established companies, brand and innovation agencies and entrepreneurs.	www.codista.com
CONTROL CENTER APPS	CCA specialises in mobile apps and cloud-based services for business-critical applications, the implementation of which requires high technical competence. In the event of a flood, for example, it is possible to distribute current information on the situation to employees and partner organisations in a clear and direct manner, to communicate efficiently with employees and external actors using spoken announcements on smartphones, or – for example in crisis situations – to quickly form and manage emergency teams. The company has many years of experience in developing software for the areas of public transport, public safety and air traffic control.	www.cca.io
CREATIVE WORKLINE	As one of the premier app development companies in the German-speaking region, creative workline helps entrepreneurs and companies to create top-quality, innovative app products. As an app agency, the company's passion is to develop and design comprehensive mobile app solutions for platforms such as Android, iOS and the web. When it comes to developing mobile apps, customers from Austria, Germany and Switzerland have been putting their faith in creative workline for over 10 years.	www.creativeworkline.at
CSS COMPUTER-SYSTEMS-SUPPORT	CSS develops individual software solutions for medium-sized and large companies – including apps and mobile websites. The CSS team works intensively on software for mobile devices – both technically and with regard to the special requirements for usability, screen design and project management. The company relies 100 per cent on its production location in Austria and does not use any kind of outsourcing or offshoring models.	www.cssteam.at
CYBERTIME	cybertime is dedicated to app and game development and creates digital solutions in VFX, animation, post-production, web, apps, social media and games.	www.cybertime.at

COMPANIES	DESCRIPTION	WEBSITE
DERAUTOMAT HARRER GMBH & CO KG	We create retail robots at the POS based on our own software in combination with an innovative hardware basis, thereby enabling the goods exchange of the future. Today, we offer customer-specific solutions for application areas in retail, industry and logistics. Thanks to 100 per cent cloud-based digitalisation and connection to existing systems, 24/7 shopping is possible with the shopping experience of a web shop, digital payment and fully automated ERP integration.	www.derautomat.com
DIAGNOSIA	The e-health company Diagnosia develops innovative solutions for everyday clinical practice, including a medicine directory that is available as a smartphone app. The program is designed to help you choose the right medication by displaying information on dosage, use or interactions. The app also features an expert chat function, which offers doctors the opportunity to get a second opinion from experts.	www.diagnosia.com
DIGITALSUNRAY MEDIA	Digitalsunray is a digital full-service agency with a focus on cross-platform development, mobile marketing, digital advertising creation and media planning. The company is responsible for many creative implementations in the mobile-digital campaign environment as well as mobile media planning for well-known national and international brands and has developed a technical solution for key media houses and publishers with ADvantage, a marketing SDK and web framework.	www.digitalsunray.com
DOLPHIN TECHNOLOGIES GMBH	With solutions from Dolphin Technologies, insurance companies are transformed from regulators of damages that have already occurred into valuable companions for their customers in everyday life. They provide immediate help in emergency situations, reward good behaviour, warn of potential risks in good time, provide information when it is needed and provide support with intelligent services. Dolphin designs, develops, implements and operates scalable platforms, products and services in the areas of telematics, mobility and marketing automation. The Austrian company was founded in 2001 and has won national and international awards for its excellence in innovation.	www.dolph.in
DONKEYCAT	DonkeyCat develops gaming apps for mobile devices. Its core competencies lie in the development of casual mobile games with a focus on intuitive playability, multiplayer functions and high recognition value. The company mainly focuses on developing apps for traditional card games. In total, DonkeyCat has 1.1 million app downloads and 150,000 monthly users.	www.donkeycat.com

COMPANIES	DESCRIPTION	WEBSITE
EMAKINA	A new media agency that covers the entire digital value chain. From internet and IT services to multimedia, content and dialogue to mobile, online and social media marketing. For example, Emakina has developed a Smart Home Control App in cooperation with the Aspern Smart City Research (ASCR) research company. This helps users control heating, ventilation and various household appliances via smartphone or tablet.	www.emakina.at
E-NECKER	E-Necker offers smart home planning and installations based on KNX. The KNX building bus system has had all IoT features since the beginning of the technology. KNX devices can be seen as physical objects that are clearly identifiable and exchange data. The impressive thing about the decentralised bus system is the fact that the devices are compatible with each other and communicate directly with each other. This ensures, for example, high system availability.	www.e-necker.at
ENDIIO GMBH	Endiio digitises analogue systems and machines. The company also implements maintenance-free and wireless sensor systems. Endiio uses a modular system with modules, gateway and cloud, which enables quick and easy implementation.	www.endiio.com
EVERSPORTS	Eversports is an online search and booking platform for sports activities. The aim is to show sports events in the area and make access easier. The booking tool allows users to book and pay for court lessons, sports courses and camps for over 150 sports online.	www.eversports.at
FELGO GMBH	Felgo implements your project from the idea to a successful app in the App Store: The portfolio includes consulting, conception, design, development, publication, marketing (ASO) and maintenance of apps for the platforms iOS, Android, desktop, embedded and smart devices (IoT). With know-how from more than 200 published apps for companies in industry, telecommunications, medicine, automotive, retail, FinTech, government and entertainment, Felgo develops attractive and high-performance apps in record time and at lower costs than the competition. Their skills go beyond creating mobile apps and include areas such as backends, AR/VR, AI, machine learning, blockchain and gamification.	www.felgo.com

COMPANIES	DESCRIPTION	WEBSITE
FLUIDTIME DATA SERVICES GMBH	Fluidtime is a leading international technology provider in the field of mobility information systems. Since 2004, Fluidtime has been developing, operating and delivering user-friendly software solutions and mobile services in the areas of integrated mobility, traffic data management and transport operator services.	www.fluidtime.com
FLUXGUIDE AUSSTELLUNGS-SYSTEME	Fluxguide develops solutions for mobile knowledge transfer, visitor information systems and new learning – for indoors, outdoors, museums, events, hiking trails, trade fairs, hotels, cities or companies – as apps for smartphones, multimedia guides and touchscreens, including multilingual capability.	www.fluxguide.com
FOX EDUCATION SERVICES GMBH	SchoolFox is a collaboration platform for educators and parents that helps reduce organisational effort and improve teamwork between school and family. The SchoolFox app, available on smartphone and PC, helps send messages, photos, documents, sick notes, events, school information and more to the right contact persons.	www.foxeducation.com
GOODGUYS	goodguys is intensively involved in mobile applications and develops innovative mobile communities. AI has been its main topic since 2015. Its current focus is on Natural Language Processing (NLP).	www.goodguys.ai
GOOOD MOBILE	goood mobile, the first social mobile service, was launched in Germany in February 2017. After initial successes in Germany and collaboration with the German hip-hop band Die Fantastischen Vier, goood mobile was also able to start in Austria in October 2017. goood mobile customers make calls and surf the carbon-neutral A1 network, the market leader in Austria, and donate 10 per cent of their monthly flat fee to a good cause of their choice. goood also offers the donation platform developed for goood mobile as a plug-play solution to other impact-oriented companies that target sustainability-oriented customers.	www.goood-mobile.at
GURKERL.AT	Gurkerl.at is an online supermarket. You can only shop via the website or the app. We value regionality, quality and sustainability. We are supplied by numerous suppliers based regionally and beyond.	www.gurkerl.at

COMPANIES	DESCRIPTION	WEBSITE
HILDA GMBH	The digital conversation partner HILDA trains cognitive fitness for 15 minutes every day through personal conversations. It makes use of guided interaction combined with music. Interaction is primarily through speaking and daily training includes receiving health tips that support a balanced lifestyle.	www.hilda.pro
HEARONYMUS	Hearonymus specialises in the affordable creation of professional audio guides for culture and tourism for smartphones. Hearonymus also provides a platform for marketing and promoting audio guides.	www.hearonymus.com
HELLO MINT	The digital agency hello mint is active in both e-health and m-health and offers a wide range of services – from consulting to content production to websites and apps. Among other things, hello mint has developed an app that helps those with metabolic disorders record their daily food requirements, as well as an app for preoperative patient information. The agency also offers an ePharma Marketing Manager course.	www.hellomint.com
HYDROGRID GMBH	HYDROGRID Insight's intelligent autopilot is intended to optimise hydroelectric power plants. The modelling is based on machine learning algorithms. The algorithm is specifically used for modelling inflow, forecasting prices, optimising production plans or management reports.	www.hydrogrid.eu
INDOO.RS	The company, which is supported by the Vienna Business Agency and other bodies, develops and licenses software for precise positioning and navigation indoors. When you are indoors, GPS signals are only available to a very limited extent. This makes orientation in large buildings difficult. Using Bluetooth Low Energy Beacons (e.g. iBeacons) and specially developed algorithms, indoo.rs opens up revolutionary opportunities for both B2B customers and end users to explore buildings and use location-based services such as proximity marketing, analytics and asset tracking. Whether for airports and shopping malls or for heavy industry and high-security solutions – the areas of application are almost limitless. Headquarters in Lower Austria, development office in Vienna and a branch in Silicon Valley.	www.indoo.rs

COMPANIES	DESCRIPTION	WEBSITE
INS INSIDER NAVIGATION SYSTEMS GMBH	Insider Navigation (INS) is the first company to offer hardware-free augmented reality indoor positioning and navigation solutions for mobile devices. INS uses augmented reality and efficient navigation technologies to offer a unique global solution that enables customers to make buildings (factory halls, warehouses, etc.) easily recognisable by mobile devices and to implement significant added value using AR. The entire interactive AR platform can be set up in any kind of building (factories/production plants, warehouses, tunnels, etc.) to optimise navigation, inspection, inventory, maintenance and many other processes.	www.insidernavigation.com
INTEGIUS SYSTEMS GMBH	INTEGIUS Systems GmbH, based in Vienna, is a smart home specialist for high-end customers who want maximum living comfort. As an all-round service provider, INTEGIUS supplies a reliable, long-proven smart home solution that can be wired on standard electrical wiring, without insecure connections or additional construction work. The result is a fully-fledged (building and media technology) smart home solution that is extremely easy to use for the end customer and can be modularly expanded at any time.	www.integius.com
IN-U! OG WEBSOLUTIONS	in-u! develops applications to optimise business processes. Our portfolio covers the entire field of digital communication and the exchange of information between people and machines. From websites, individual solutions and smartphone apps to complex overall solutions for the Internet of Things. Since 2014, we have also been developing hardware prototypes and small series of IoT devices based on our customers' requirements so that companies can enter the Internet of Things.	www.in-u.at
IOT TRUST GMBH	The mission of IoT Trust is to connect the world – securely. IoT Trust offers groundbreaking solutions for smart home, smart city and industrial environments.	www.iot-trust.com
JOURNI GMBH	Journi develops mobile applications for iOS and Android to help people remember and share personal experiences in the form of automatically created digital stories and photo books.	www.journiapp.com
KALBECK VENTURES	Kalbeck Ventures offers development services in digital communication solutions, advertising & marketing, technology, strategy and communication consulting, provision and operation of technology infrastructures, as well as the licensing of software solutions.	www.kalbeck.com

COMPANIES	DESCRIPTION	WEBSITE
LOYTEC ELECTRONICS GMBH	LOYTEC electronics GmbH is now one of Europe's leading providers of intelligent network infrastructure products and automation solutions for building automation. LOYTEC only uses open and standardised communication protocols. Since April 2016, LOYTEC has been part of the Delta Group, a leading solution provider for energy and heat management, and acts as the Group's centre of excellence for building automation. LOYTEC develops, manufactures and sells router and gateway solutions, embedded automation servers and I/O controllers, the L-ROC room automation system, DALI lighting controls, the LIOB-AIR VAV system as well as touch panel/desktop graphic user interfaces.	www.loytec.com
LUXACTIVE	LuxActive is a team of graduate experts specialising in digital search, marketing and process optimisation solutions in tourism. One of its developments is the product oHA (online Holiday Assistant). oHA can increase tourism product sales and significantly boost tourism business service levels (24h/multilingual) for guests, positively influence guest reviews and provide statistics on the niche and service development of a business.	www.luxactive.com
LV7 MEDIA SERVICES	LV7 Media Services deals with the user-oriented design and implementation of electronic applications. Its primary activity is the research and development of search engine technologies for automatic data extraction and algorithms for their further processing. These approaches are currently used primarily for the automatic content generation of various web platforms.	www.LV7.ms
MARKTA	Markta, a digital farmers market, offers over 1,000 products from small and family businesses. Orders can only be placed via the online shop. Offering regional food with short transport routes helps the fight against climate change.	www.markta.at
MOKEY ARTS	Freelance designer specialising in web design, mobile design and illustration.	www.mokey-arts.com
MQUADR.AT	The company mquadr.at develops self-service software for telcos and ISPs, enabling their end customers to get online as easily as possible and to manage and solve problems in their home network. The solutions are available in both mobile and desktop versions and can be used with all internet and connection technologies as well as hardware (modems/routers, WLAN repeaters, powerline adapters, etc.). The integrated analyses and optimisations bring costs down in the support area of leading ISPs and are therefore an integral part of their service strategy.	www.mquadr.at

COMPANIES	DESCRIPTION	WEBSITE
M-SMARTSOLUTIONS GMBH	Smart home control systems must always be easy to understand and intuitive for users. With the M-Smart solution, you get a clear, well-structured user interface that focuses on essential functions, so you can control components easily and intuitively via touch panel, smartphone or tablet. The user-centric visualisation of the necessary control functions and the self-explanatory operating concept of M-Smart make this a firm user-friendly favourite among young and old.	www.m-smart.eu
MYSUGR	mySugr offers comprehensive app-based diabetes care. Many of the team are diabetics themselves. The purpose of mySugr is to improve the lives of people with diabetes and to offer them products and services that make everyday life with diabetes easier. In 2017, mySugr was acquired by the Swiss pharmaceutical giant Roche.	www.mysugr.com
NETRABBIT E.U.	NetRabbit developed the Repeato app. Repeato helps users test apps automatically without coding.	www.repeato.app
NOUS WISSENSMANAGEMENT	NOUS emerged in 2006 from a mediation project with digital handhelds in Vienna and is now one of the leaders in app development, mobile guides and digital transformation projects. Since its founding, NOUS has completed more than 200 projects of various sizes and orientations worldwide.	www.nousdigital.net
NYMEA GMBH	nymea.io supports the development and operation of intelligent products through a range of edge-oriented solutions. nymea also unlocks the monetisation of IoT products through innovative, logical product combinations. The basis of the solutions is a professionally maintained M2M stack and a solid OTA infrastructure. nymea-based products benefit from an APP/API store, continuous security and usability updates and expandable local applications.	www.nymea.io
OVOS	The agency focuses on developing online platforms and imparting knowledge in a playful way. ovos believes that people learn better when they are having fun. ovos applications help users learn about the topics customers want to learn about in an entertaining and playful way.	www.ovos.at

COMPANIES	DESCRIPTION	WEBSITE
PHACTUM SOFTWARE-ENTWICKLUNG	PHACTUM sees itself as a software development company that is primarily characterised by the wide-ranging backgrounds and industry experiences (telecommunications environment, e-government, software development, research, …) of its employees. Its product Tapkey turns your NFC-enabled smartphone into a secure and central key for your front door, your car and much more.	www.phactum.at
PLANRADAR GMBH	PlanRadar is a B2B software-as-a-service. Thousands of customers around the world use the platform for documentation, communication, task and error management. Customers in the construction and real estate sectors really value its functionality. PlanRadar offers a single platform for optimised information processes.	www.planradar.com
POCKETBILL GMBH	Pocketbill is a mobile online cash register and software for small businesses, EPUs and SMEs, as well as service providers from a wide range of industries. The advantage of Pocketbill is that it can be used on a computer, tablet or smartphone. This means that the entry costs can be kept very low.	www.pocketbill.at
RIDDLE & CODE GMBH	Riddle & Code is Europe's leading provider of blockchain-based end-to-end solutions. Riddle & Code's hardware and software stacks enable companies to master the challenges of our digital society such as machine identity, product provenance and supply chain management. Founded in Vienna in 2016, Riddle & Code is already working with international companies and has received prestigious awards for its technology.	www.riddleandcode.com
SCARLETRED	The digital health company Scarletred has developed a clinically tested, objective and digital tool that enables the rapid analysis of around 3,000 different skin diseases. All you need is a skin sticker for colour and size reference and a smartphone. A crowdinvesting target for further growth was recently met. Apps are planned for use in geriatric care and in the telemonitoring of rare diseases.	www.scarletred.com
SENSOR NETWORK SERVICES GMBH	SENS (Sensor Network Services GmbH) is an Austrian IoT joint venture between Kapsch BusinessCom, Microtronics and ORS comm. Based on the LoRaWAN radio standard, the company offers tailor-made network services and enables resource-saving and cost-effective data transmission solutions. Customer-specific complete IoT solutions are implemented from a single source in the fields of tracking, metering, public infrastructure and location and building management.	www.sens.at

COMPANIES	DESCRIPTION	WEBSITE
SIGNTIME	The company SignTime translates texts into sign language. The aim is to enable barrier-free communication in different media. SiMAX is a specially developed software for translating text into 3D animated sign language. A learning database in the background and deaf sign language professionals ensure high-quality translation. A wide variety of content is translated, such as websites, films, TV shows, museum tours, citizen and passenger information, as well as usage information for medications.	www.signtime.media www.simax.media
SKILLED EVENTS AND NEW MEDIA	Skilled Events and New Media mainly offer services and activities in the field of interactive entertainment. In addition to programming web applications such as Flash games, CMS-based homepages or web-based infotainment applications, they are also active in app development.	www.skilled.at
SMILE-IT	Smile-IT is a small consulting company with a focus on cloud computing, IoT, and digitalisation. Customers are supported through innovative approaches in the use and implementation of new technologies. The company itself works in a technology-agnostic manner. The focus is on IT and software architecture which uses innovative technologies and approaches as well as advice on strategic issues in these areas.	www.smile-it.at
SPOTTERON	SPOTTERON specialises in apps for science and environmental protection and has developed a customisable system for applications in the areas of citizen science, environmental protection and volunteer monitoring. All projects involving SPOTTERON consist of individual smartphone apps for iOS and Android and a map app for the browser that can be integrated into every homepage.	www.spotteron.net
SUBZERO.EU SOFTWARE	subzero.eu software designs and develops iOS and Android apps. The company has developed apps with names such as Wann, Wave and Zen Wars. These have been downloaded more than a million times in total. In addition to our own apps, we also design and develop apps for other companies.	www.subzero.eu
TAILORED APPS	Tailored Apps offers tailor-made solutions in the app sector – from native and hybrid app development to augmented reality and virtual reality. The company claims to have completed more than 450 projects, including the Hutchison Drei TV app, the Vienna City Card app and the Willhaben app.	www.tailored-apps.com

COMPANIES	DESCRIPTION	WEBSITE
TEAMWORX MEDIAMANAGE-MENT	The main project of teamworx mediamanagement GmbH is the digital health campus vielgesundheit.at. It is the work of a young and innovative team of digital natives. The campus provides nationally and internationally approved e-learning courses for all medical professional groups, including doctors, pharmacists and nursing staff. The focus is on film and animation.	www.vielgesundheit.at
TECHTALK	TechTalk supports companies in software development using agile methods. Industry focus: Industry focus: banking/insurance, public sector, online gaming, roads and infrastructure management.	www.techtalk.at
TELETRADER SOFTWARE	TeleTrader Software GmbH is a leading provider of real-time data, technology and solutions for the financial industry and specialises in the development and distribution of software apps for finance, web and mobile (Teletrader apps), back office and content provision.	www.teletrader.com
THEOBROMA SYSTEMS DESIGN UND CONSULTING GMBH	Theobroma Systems produces, develops and sells hardware and software system solutions for robotics, home automation and AI. The company also specialises in safety-critical applications. Theobroma Systems integrated combined know-how in software and hardware, from porting and expanding operating systems to developing overall solutions and compilers, into its own system and communication modules.	www.theobroma-systems.com
TOOLSENSE GMBH	ToolSense is developing an IoT industry standard for networking mobile, energy- and cost-critical construction and cleaning machines, creating added value for users and manufacturers in the process	www.toolsense.io
TTTECH COMPUTER-TECHNIK AG	TTTech Industrial is a leading provider of real-time communication and open computing platforms for the Internet of Things (IoT) and Industry 4.0. Through product platforms that combine traditional automation functionalities with secure access to IT services and deterministic connectivity, TTTech shows effective ways to anchor IoT in industrial systems. TTTech Industrial is part of TTTech Computertechnik AG, a cross-industry provider of security controls and real-time networks.	www.tttech.com
VIENOM	The IT service provider Vienom develops various products, from mobile applications to databases and database visualisations to guides for museums and game design.	www.vienom.com

COMPANIES	DESCRIPTION	WEBSITE
VIEWAR	ViewAR specialises in the creation of augmented and virtual reality applications. Applications range from creating apps in the furniture sector and visualising construction and architectural projects to optimising distribution in cases such as air freight planning for Lufthansa Cargo. ViewAR applications can also be used with 3D glasses such as HoloLens products.	www.viewar.com
WH-INTERACTIVE	Interactive agency with strategic marketing know-how, creative ideas and comprehensive IT expertise for successful implementation. Its services range from ideas, consulting, strategy and design through to implementation and support. The mobile portfolio includes, among other things, mobile websites (web apps), native apps for smartphones and tablets and geo-targeting.	www.wh-i.at

EDUCATIONAL AND RESEARCH INSTITUTIONS

COMPANIES	DESCRIPTION	WEBSITE
AUSTRIAN INSTITUTE OF TECHNOLOGY (AIT)	AIT specialists are working on app concepts that facilitate access and improve acceptance of the latest high technologies, particularly in the areas of dynamic transportation systems, technology experience, integrated and human-centred mobility and technology and capturing experience.	www.ait.ac.at
FH CAMPUS WIEN DEPARTMENT FÜR TECHNIK	The University of Applied Sciences (FH) Campus Wien offers a bachelor's degree in computer science and digital communications. The course focuses on smart city, eHealth or mobile app designs to help shape the digital future. Computer science and telecommunications form the foundation of the course.	www.fh-campuswien.ac.at
FH TECHNIKUM WIEN	With the master's degree in IoT and intelligent systems and the bachelor's degree in computer science, the university focuses on mobile computing for IoT devices and app development. The research focuses on the energy efficiency of mobile sensor nodes and development in the smart city and automation areas.	www.technikum-wien.at
TU WIEN DISTRIBUTED SYSTEMS GROUP	The Distributed Systems Group course focuses on research areas such as the Internet of Things, smart city, edge and fog computing and elastic computing. The course focuses on the entire computing continuum and bringing intelligence to the infrastructure.	www.dsg.tuwien.ac.at

COMPANIES	DESCRIPTION	WEBSITE
ZENTRUM FÜR VIRTUAL REALITY UND VISUALISIERUNG (VRVIS)	The centre's research focuses on the areas of computer science that fall under the topic of visual computing. These areas include visualisation, biomedical image processing, virtual reality, human-computer interaction, artificial intelligence and digital twins.	www.vrvis.at

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seitezwei.com

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

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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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