

e-Government

Technology Report

Vienna,
March 2021

Dear readers,

The IT industry in Vienna comprises 5,900 companies and around 55,000 employees, making the city one of the five biggest IT hubs in Europe. These companies generate combined turnover in the region of €20 billion per year.

These figures illustrate the enormous significance of digital technologies for Vienna. The industry provides high-quality jobs that in turn require highly qualified employees. In addition to its first-rate education system, Vienna's excellent infrastructure and high concentration of (non-)university research institutions are also major plus points. Various studies have shown that Vienna also benefits from its considerable innovative power, the comprehensive support available to start-ups and a strong focus on sustainability.

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 of leadership is titled '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 work with people in a sustainable and inclusive manner, reflecting a new, digital humanism.

Vienna has placed particular emphasis on modern e-Government solutions since 1995 with the aim of simplifying administrative procedures for private individuals and companies and enabling Viennese residents to play their part in shaping the city. It is now possible to complete more than 250 administrative procedures online. Some 80 % of new business registrations are completed online and the City of Vienna's e-Government services are accessed around one million times per month.

This technology report offers an overview of the strategies, lighthouse projects and key players in relation to e-Government in Vienna.

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

vienna
business
agency

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



Europäische Union Investitionen in Wachstum & Beschäftigung. Österreich.



p.17	4. Strategy and showcase projects across Austria	
p.17	4.1	Strategy
p.19	4.2	Showcase projects
p.21	5. e-Government as an economic factor	
p.22	6. Trends and technologies	
p.24	7. Initiatives and events	
p.26	8. Services offered by the Vienna Business Agency	
p.29	9. Companies from Vienna	
p.35	10. Imprint	
p.6	1. Introduction	
p.7	2. Digital administration	
p.7	2.1	Austria as an international leader
p.8	2.2	Use and acceptance of e-Government in Austria
p.9	2.3	E-ID, mobile phone signature and citizen cards
p.9	2.4	Open government data
p.11	3. Strategy and showcase projects in Vienna	
p.11	3.1	Strategy
p.13	3.2	Showcase projects

to work with various partners to digitalise planning permission processes, from application submission through to approval. This could accelerate procedures by up to 50% in future, which would allow applicants to obtain planning permission faster and more easily.

The digital transformation presents numerous challenges for public administration. Austria, and Vienna in particular, have reacted swiftly and thereby secured pioneer status, as numerous rankings and benchmarks make clear. This required scrutiny and reorganisation of outdated and inefficient processes. Over time, other countries and cities have made up ground.

The coronavirus pandemic provided renewed momentum to this development, in part because the impact of Covid-19 has made clear just how important effective e-Government is in crisis situations. Yet, innovative technologies and developments such as artificial intelligence, chatbots and electronic identification (E-ID) are also opening up new possibilities.

Austrian authorities have continuously expanded and modernised their digital services in recent years. Examples include the Austrian government's oesterreich.gv.at platform, the 'Digitales Amt' smartphone app and – very recently – the 'JustizOnline' portal and digital driver's licences. The introduction of the 'once only' principle for data collection also promises to reduce administrative burdens, above all for entrepreneurs.¹

Vienna aspires to become the “European capital of digitalisation” and, in addition to expanding its digital offering, will also focus on greater personalisation. For example, the 'Mein Wien' portal² is to be expanded to serve as an interface and central point of contact with the City of Vienna's digital administration services, integrating e-Government help and services from the 'Virtuelles Amt'. In addition, the 'Mein Grätzl' platform³ provides information on local news and events. The aim is for these platforms to become part of citizens' everyday lives and get them acquainted with the City of Vienna's digital services.

A modern application system has also been conceived to help business owners obtain licenses for on-street tables and seating. In the BRISE project, the City of Vienna hopes

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www.digitalaustria.gv.at/initiativen/wirtschaft/projekte-wirtschaft/projekt-once-only.html (German only)

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mein.wien.gv.at/Meine-amtswege (German only)

3

mein.wien.gv.at/Mein-Graetzl (German only)

cial requirements throughout the entire life cycle, from founding and registering a company to recruiting employees and paying corporation taxes. At the same time, some business representatives have argued that Austria was a global trendsetter for a long period – such as in relation to finance and justice – but that it has now lost this advantage as other countries make up ground.

The 17th edition of the eGovernment Benchmark report, compiled by Capgemini and published together with its partners Sogeti, IDC and the Politecnico di Milano, casts light on the state of the digital transformation of public administration in Europe. Researchers evaluated 10,000 websites in 36 countries for the report.

○ Improvements in digital public services
Austria ranked 13th in the 2020 Digital Economy and Society Index (DESI)⁵ (2019: 14th) and was therefore slightly above the EU average. In terms of digital public services (e-Government), Austria improved its ranking from tenth to eighth position. Austria also scored well on other indicators, including 'pre-filled forms' (Austria: 81%; EU: 59%) and 'online service completion' (Austria: 97%, EU: 90%). At just 66%, Austria performed less well in relation to 'open data' – but still remained close to the EU average.

○ Innovative and smart
An index published by the Dutch bank ING⁶ put Austria in mid-table 10th place in a eurozone ranking. In a comparison of the Austrian federal states, Vienna still retains top spot. According to ING, the capital city's flourishing start-up scene is a significant factor in this ranking, as is the high proportion of employees working in the high-tech sector. The high proportion of young and educated people in Vienna was also a key contributing factor in its title defence.

Vienna was proclaimed the world's “smartest” city back in 2019 after the Austrian capital took first place in the Smart City Strategy Index⁷ published by international consulting firm Roland Berger, which examined digitalisation concepts from 153 cities. Vienna impressed above all with its framework strategy. Roland Berger praised the city's projects in the fields of environment, mobility, education, health and administration – such as the Open Data initiative.

2.1 Austria as an international leader

Digital administration in Austria is among the most advanced in the European Union. According to a report published by the European Union, Malta and Estonia lead the way, followed by Austria and Latvia. Overall, Europe is moving in the right direction. The gap between the frontrunners and laggards is narrowing, according to the annual eGovernment Benchmark report.⁴ This comparison is based on indicators taken from the European Union's Digital Agenda, namely user centricity, transparency, cross-border mobility and key enablers for on-line service completion.

In terms of introducing and implementing administrative services, Austria is 15% above average. Acceptance of digital services among Austrian citizens and businesses is at 81% (EU average: 70%). User friendliness in Austria is rated at 95% – slightly higher than the EU average (91%). In addition, Austria has now mobile-optimised 92% of the websites analysed in the report (EU average: 76%). These figures might be attributable to measures such as the launch of the oesterreich.gv.at platform and the 'Digitales Amt' app.

“The consequences of Covid-19 have shown once again how important it is to have effective e-Government services in crisis situations, but also for modern societies in general,” emphasises Bernd Bugelnig, CEO of Capgemini in Austria. “The next step will be the transformation to a very smart society tailored to its citizens; known as Society 5.0, it will provide increasingly automated services with the aid of artificial intelligence,” says Bugelnig.

Looking at the topic as a whole, e-Government has been particularly helpful to companies to date. This applies to offi-

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www.capgemini.com/at-de/news/leistungsstarke-digitale-verwaltungsdienste-auf-dem-vormarsch (German only)

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ec.europa.eu/digital-single-market/en/scoreboard/austria

6

www.ots.at/presseaussendung/OTS_20201019_OTS0027/ing-innovationsindexoesterreich-weiter-abgerutscht-bild (German only)

2.2 Use and acceptance of e-Government in Austria

A key indicator of the success of public authorities' digital services is their utilisation by citizens – and, in Austria, this has been rising for years. Back in 2015, around 57% of the population said they had used e-Government services for private purposes in the last 12 months. According to figures from Statistics Austria, this had risen to 72% by 2020.

The eGovernment MONITOR 2020 study⁹ recorded the same figure, with Austria still significantly ahead of Germany (54%) and Switzerland (60%). The most commonly used digital service was online search functions for information on authorities' responsibilities, opening hours and so on, which 83% of respondents said they had used. Other highly attractive services include filing tax returns electronically (74%) and downloading forms to prepare for or complete dealings with public authorities (69%). On average, Austrian users draw on public authorities' digital services 3.5 times per year; this figure is slightly lower in Germany and Switzerland at roughly three times per year. These figures have remained constant for some time, which the authors of the study believe is likely to be the average amount of contact needed with public authorities.

For 29% of Austrian citizens, the coronavirus pandemic has not changed anything in terms of their dealings with the authorities. However, 34% avoid non-essential in-person visits to public authorities and 13% take care of issues online more frequently than before the pandemic. Swiss citizens are very happy with how digital contact with the authorities has been facilitated during the crisis (58%), just ahead of Austria (52%), although Austrian respondents reported that their authorities had responded fastest to the new situation.

○ Awareness

The heterogeneous nature of the e-Government landscape is also reflected in the widely varying levels of awareness of individual online services. The most well-known service is the ability to search online for information on authorities' responsibilities, opening hours and so on (88%). This was followed by the ability to file tax returns electronically (83%), download forms (82%) and communicate digitally with public authorities (66%). However, only a quarter (26%) of respondents said they were aware that they could apply for a childcare allowance online.

○ Satisfaction

Across the DACH region, satisfaction with existing e-Government services is highest in Austria (79%). Second is Switzerland on 74%, with Germany on 62%. Decisive factors in satisfaction include convenience, system reliability – such as a stable connection – and ease of navigation. In fact, nine out of ten Austrians said they were happy with the systems for online tax returns and online appointment bookings.

○ Barriers

A lack of personal contact with administrative staff is the main barrier to e-Government in all three countries. According to the eGovernment MONITOR 2020 report, the motto in this regard is “humans over machines”. Other major hurdles include the obscure structure of some online services and the lack of continuity, i.e. the inability to fully complete an administrative procedure digitally using an e-Government service. At the time the survey was conducted, digital assistants provided little assistance with online administrative services; they are not well-known and are hardly used.

○ High acceptance for digital signatures

When using digital channels to contact public authorities, Austrians can prove their identity using a mobile phone signature (Handy-Signatur) or a card with an activated citizen card (Bürgerkarte) function. Almost half of Austrians with an internet connection have taken advantage of one of these options. A third of those who have not yet done so say they plan to in future. The report's authors say this shows a high level of acceptance, even if the figures remained somewhat stagnant compared to 2019.

The introduction of the Austrian government's oesterreich.gv.at portal and the 'Digitales Amt' mobile app (see “Showcase projects”) offer new potential in this regard. The app allows users to complete certain public administrative procedures using their smartphone if they have an activated mobile phone signature for verification. Figures show that around 20% of Austrians with a smartphone use the app.

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www.rolandberger.com/de/Insights/Publications/Smart-City-Strategy-Index-Wien-und-London-weltweit-fortschrittlichste-Städte.html

8

www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=022209

9

initiated21.de/egovmon20

2.3 E-ID, mobile phone signature and citizen cards

Key tools in relation to e-Government to date have been the mobile phone signature (Handy-Signatur) and citizen card (Bürgerkarte). The mobile phone signature, which is free of charge and, according to A-Trust, makes it possible to access over 200 public services, is a key e-Government application and now has more than 1.5 million active users. This puts Austria among the leaders in an international comparison. Although Estonia – currently top of the e-Government ranking – has made participation in a similar scheme mandatory, the mobile phone signature scheme is voluntary in Austria. Nevertheless, A-Trust says it has recorded high participation. The certified digital application specialist is also working with partners including the Danube University Krems on combining digital signatures with blockchain technologies as part of the QualiSig research project.¹⁰

Electronic identification (E-ID)¹¹ – an advancement of the mobile phone signature – is currently in the planning phase and will offer expanded functionalities. This will enable citizens to evidence their identity and personal data digitally for the first time. The Austrian National Council has already laid the legal groundwork for further steps towards the creation of an E-ID. For example, smartphone-based use of the E-ID explicitly requires an equivalent level of security technology in order to simplify the use of the E-ID for its holder, especially with apps. This legal amendment also aims to lay the foundations for digital driver's licences and vehicle ownership documentation.

However, it is not only the potential uses but also the registration process that is changing. Public authorities will also evolve, with applications automatically resulting in an E-ID. It will be possible to opt out. All active mobile phone signatures will be automatically converted when the E-ID goes live, meaning they will remain valid and will be recognised throughout the EU.

The E-ID will also be suitable for cross-border use and is therefore 'eIDAS-compatible'. eIDAS (electronic IDentification, Authentication and trust Services) is a regulation passed by the European Parliament and Commission regarding electronic identification and trust services for electronic transactions in the European Single Market. In any case, Brussels has already stressed the need for an alternative means of online identification. Everyone would then have the option to log in with their E-ID instead of “opening a door to their entire world of data when using a service,” says Margrethe Vestager, Executive Vice President of the European Commission. EU heads of state and government have called on the EU Commission to put forward a proposal for a “digital European ID” by mid-2021. It should ensure “people have control of their online identity and their data”. In addition, the E-ID should provide “access to public, private and cross-border digital services”.

2.4 Open government data

Austria, and Vienna in particular, are pioneers in relation to open government data (OGD). Back in May 2011, Vienna's city administration published its non-personal government data, becoming the first city in the German-speaking world to take this step. Since then, it has published new data and documents every quarter. “In 2021, we are celebrating the 10th anniversary of open government data in Vienna and continue to expand this service, step by step,” says Klemens Himpele, CIO of the City of Vienna.

The basis for this was laid by the Data Excellence Strategy¹² with the guiding principle ‘open by default’, which requires data, documents and services classified as public to be made freely available, free of charge and in a machine-readable format. The strategy includes numerous measures that make it possible to provide reliable data of the required quality. However, active interaction with the community naturally also contributes to its success. This is why the Open Government Competence Centre Vienna¹³ organises events including meet-ups, platform meetings and expos on the topic of open government. These events provide an opportunity for citizens to familiarise themselves with new datasets and resulting applications.

Vienna is also committed to Cooperation OGD Austria¹⁴, which works to promote common standards and effective framework conditions. There is also a cooperative international effort, OGD D-A-CH-LI¹⁵, between Germany, Austria, Switzerland and Liechtenstein.

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www.a-trust.at/de/presse/news/covid-19-a-trust-forscht-an-sicherer-behoerden-kommunikation (German only)

11

eid.egiz.gv.at (German only)

12

digitales.wien.gv.at/wp-content/uploads/sites/47/2019/03/Data-Excellence.pdf (German only)

13

digitales.wien.gv.at/open-data

14

<https://www.data.gv.at/infos/cooperation-ogd-austria/>

15

www.data.gv.at/infos/ogd-d-a-ch-li (German only)

○ More than 500 datasets available

Vienna has currently published more than 500 datasets, including information on one-way streets, real-time data on Wiener Linien (the city’s main transit network operator), historical aerial photographs, air pollution measurements and Wi-Fi hotspots. “This data is used by universities and technical colleges for educational purposes. In addition, there are around 300 applications based on the wealth of data provided through our OGD service,” says Himpele. He notes that the data also underpins the City of Vienna’s own services, such as the ‘Sag’s Wien’ app for reporting local issues and the WienBot digital assistant.

Even if the core function – making data and documents available – will remain the priority, Himpele says that efforts are underway to make data more tangible for people, such as through visualisations. This is the aim of the ‘ViennaVIZ’ project. It is based around an application that makes it easy to generate, design and save diagrams and then embed them in websites.

Furthermore, a platform has been created for smart city data made available to business and academia. As part of the EU’s Smarter Together project¹⁶ (2016–2019), the cities of Lyon, Munich and Vienna used sensors to collect large amounts of data regarding buildings and on the environment. This data is now available at smartdata.wien.at.¹⁷ The cities generated momentum for positive social dynamics and sustainable urban development in selected districts. The focus is on finding effective measures to promote climate protection and improve urban quality of life – such as integrated building renovations, eco-friendly energy systems and e-Mobility. The project’s work is being continued, with Smarter Together followed by WienNeu+, a new project launched in Vienna’s Favoriten district.

○ Datenkatalog data.gv.at

The central Austrian data catalogue at data.gv.at¹⁸ makes it possible to access and search the metadata of decentralised catalogues and currently contains over 32,000 datasets. This data has been provided by around 1,270 organisations, authorities and local administrative bodies. It has already given rise to more than 600 applications.

According to the 2020 edition of the Open Data Maturity Report¹⁹, an annual investigation into open data maturity across Europe, Austria is once again in an advanced position and setting the trend. It cites the ‘48er App’²⁰, which collates key information on waste disposal in Vienna, as an example of this. The report also refers to the efforts made to implement the Open Data and PSI Directive (Directive 2019/1024²¹ of the European Parliament and of the Council of 20 June 2019), which aims to make data more easily accessible.

Open data has also played a key role in the coronavirus crisis. At the outbreak of the pandemic, the COVID-19 Open Data Information Portal was set up at data.gv.at/covid-19²², publishing relevant open data such as COVID-19 case numbers and deaths. More than 40 coronavirus-specific applications and visualisations have been created based on this data.

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www.smartertogether.at

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digitales.wien.gv.at/projekt/plattform-smartdata-wien (German only)

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www.data.gv.at (German only)

19

www.europeandataportal.eu/en/dashboard/2020#country-overview

20

www.data.gv.at/anwendungen/48er-app (German only)

21

https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=uriserv%3AOJL_2019172.01.0056.01.DEU

22

www.data.gv.at/covid-19 (German only)

Digital humanism is based on the observation that today’s technology is a culture in its global dimension, in that it creates a new context on a global scale. Many researchers therefore believe that the next evolutionary step will in fact be co-evolutionary, including both people and technology. The challenge lies preserving a balance between social and technological progress.

Against the backdrop of its intellectual and political traditions, the City of Vienna pursues an admirable aspiration to advocate digital humanism and its interests. Of course, the city has produced revolutionary schools of thought before, such as the Vienna Circle and psychoanalysis. Digital humanism is the next step in this development – and Vienna offers a perfect breeding ground for this concept.

TU Wien, one of the city’s major universities, has a vital role to play in this context. In 2019, it initiated and organised a workshop that ultimately produced the international Vienna Manifesto.²³ Its objective was to raise awareness within computer science of the field’s social responsibility and emphasise the need for interdisciplinary and transdisciplinary approaches.

○ A strategic plan, not a rigid rulebook

Vienna’s strategy also underlines the importance of ensuring that the people of Vienna participate and help to develop digital projects. Launched in 2014, the first Digital Agenda Vienna was produced through a participatory process. The strategic plan is, therefore, not a rigid rulebook but rather an overview of current projects and future focus areas subject to continuous development. An ‘open working document’ like this makes sense, particularly from the perspective of the city administration, as citizens’ requirements and technical possibilities are constantly changing.

Since taking its first steps in the late 1990s, Vienna has offered an extensive range of e-Government services through its Virtuelles Amt²⁶ platform. “We offer citizens and business owners almost 600 help pages to explain and offer support with administrative processes, sometimes helping them to avoid having to contact the authorities entirely. It is now possible to complete around 250 administrative procedures online,” explains Klemens Himpele, CIO of the City of Vienna. The city administration aims to continue expanding and improve communication of this range of services. “Continuous development is the order of the day. The next step will be even greater personalisation of e-Government services,” says Himpele, outlining future plans.

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digitales.wien.gv.at/wp-content/uploads/sites/47/2020/04/PO19-00224-DigitaleAgendaWien_Ue-en.pdf

24

www.wien.gv.at/stadtentwicklung/studien/pdf/b008552.pdf

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dighum.ec.tuwien.ac.at

○ Personalisation of services on Mein Wien

In concrete terms, the aim to expand the ‘Mein Wien’ portal²⁷ to serve as an interface and central point of contact with digital administration services, integrating e-Government help and services from the ‘Virtuelles Amt’. It will enable people to engage with public authorities quickly, easily and on the move – such as ordering a parking permit through a chatbot or submitting a digital planning application. There are plans to improve user convenience and service quality in relation to data collection – such as by integrating and searching different registers. The aim is to provide the most commonly used administrative procedures as easily accessible online services. However, achieving this means adapting numerous background processes.

In addition, the ‘Mein Grätzl’ platform²⁸ provides information on local news and events. It is also set to be expanded with personalised services. “This has been developed with constant feedback from citizens and business owners,” says Himpele. The aim is for these platforms to become part of people’s everyday lives. Users who check ‘Mein Grätzl’ once a week to see what events are going on their neighbourhood will already be familiar with the platform. “You’ll have an idea for the ‘look and feel’, so you’ll see along the way everything you can do online and find it easier to use digital administrative procedures,” says Himpele. Of course, dealing with public authorities is hardly a favourite past-time for Viennese citizens and business owners. If you only come into digital contact with the city administration when you need to order a new passport, you will have to actively search the site for this service. It is hoped that the personalisation of services and the subsequent increase in usage will counter this.

○ New services for entrepreneurs

Services specifically set up for business owners include a modern application system to help business owners submit applications online for on-street tables and seating, as well as digital planning applications – which Himpele says is a highly complex issue. The BRiSE research project²⁹ is also working on the issue of digital planning applications, incorporating artificial intelligence (AI), augmented reality (AR) and building information modelling (BIM). This could make procedures up to 50% faster in future, which would allow applicants to obtain planning permission swiftly and easily. The experience gained in Vienna could benefit cities across Europe. Another innovation project has created a digital twin for Vienna that belongs to the city administration. This virtual depiction of Vienna makes it possible to monitor ongoing processes in the city, generate new data, simulate plans in specific scenarios and, ultimately, make better decisions.

○ “What would be feasible and benefit many people?”

When working on new services, Himpele says he always starts by asking himself one question: “What would be feasible and benefit many people?” If implementing a service electronically would require a lot of effort and benefit a relatively small number of people, digitalisation is less effective. “It takes a

certain mass for [a project] to be worthwhile. Programming the relevant software is one thing, but processes also have to be legally sound behind the scenes. This is where the potential benefits often don’t justify the required effort,” says Vienna’s CIO. At present, he explains, there is a strong focus on implementing things that matter to business.

“Our objective obviously has to be to structure our services to be as simple and location-independent as possible, because achieving cost savings in all administrative processes is a central requirement for a quality business location. We have to work continuously on that,” explains Himpele. Some 80% of new business registrations are already filed electronically. This figure rises as high as 94% for statistical reports in the tourism sector – “which makes optimisation more challenging,” says Himpele. Nevertheless, there are still some areas that require analogue contact, such as processes that require personal identification. The introduction of the E-ID (see “E-ID, mobile phone signature and citizen cards) should open up new possibilities in this regard.

○ Encouraging participation

Whether at an information exhibition, on walks through the city, in moderated discussions or in qualitative surveys, increasing public participation in urban development is another central focus for the City of Vienna. “This cooperation really helps us to offer new services with an even greater focus on our target groups. This isn’t some troublesome tick-box exercise, it provides crucial input for future development,” says Himpele. As he explains, this cooperation not only facilitates an exchange of ideas, it also helps the authorities to engage with real people, build prototypes and collect feedback.

A fundamental element in encouraging Viennese citizens to participate is timely, direct and clear communication, which has also been anchored in the masterplan for participatory urban development.³⁰ Public participation in municipal planning processes makes it possible to weigh up different interests and find the best possible solutions. The city administration provides a list of current urban development projects.³¹ The list also includes details of where citizens can find further information and how they can participate.

26 www.wien.gv.at/amtshelfer (German only)

27 mein.wien.gv.at/Meine-Amtswege (German only)

28 mein.wien.gv.at/Mein-Graetzl (German only)

29 digitales.wien.gv.at/projekt/brisevienna (German only)

○ Petitions can be started electronically

The City of Vienna has also set up a participation platform³² through which citizens are encouraged to share their thoughts on various issues, contribute ideas and provide feedback. New opportunities to participate are constantly being made available online. The petition platform³³ can be used to start and support petitions electronically. The topics range from redesigning the Danube Canal to creating new cycle paths, establishing new traffic-calmed areas and setting up external services in kindergartens. Petitions must attract at least 500 signatures before being considered by the city’s petitions committee. Citizens can also join a test community³⁴ to provide feedback on the user-friendliness of the City of Vienna’s digital formats.

The website wiengestalten.at³⁵ also provides an overview of where Viennese residents can get involved and shape their city and its services. It includes a database³⁶ of over 500 projects on various topics, such as: encouraging youth participation; landscaping public gardens, parks, streets and squares; developing individual districts; ‘private’ neighbourhood initiatives, urban renewal and district management.

3.2 Showcase projects

From the traditional visits to council offices to chatbots and online portals, the development of digital services in the Austrian capital has been a long road. Back in 1995, Vienna launched an internet portal that was expanded in recent years to form its ‘Virtuelles Amt’ (e-Government) service. The city is now working on extensive personalisation that should advance and simplify use of the service. Let’s look at an overview of the key online services:

○ wien.gv.at

The City of Vienna’s website – www.wien.gv.at³⁷ – went online in 1995 and has grown to become one of the most extensive in Austria. It comprises around 12,600 thematic and information pages, around 600 e-Government pages (see “Virtuelles Amt”), 320 online services such as appointing bookings, requests for official records and e-Payments, as well as over 14,500 pieces of legal information.

○ Virtuelles Amt

The Virtuelles Amt³⁸ is the City of Vienna’s e-Government offering. It helps both residents and businesses to find information to help them complete administrative procedures and comprises almost 600 help pages – from A for artist performance licences to Z for zoo permits. The most commonly used services are purchasing a parking permit, registering as a resident and applying for a voting card. Other services allow citizens to order criminal record excerpts and official documents, lodge requests, make comments and file complaints. Around 80% of new business registrations are already filed online, as are a similar number of dog registrations. In total, the City of Vienna’s e-Government pages record around a million views per months. Certain procedures require a signature as a conclusive form

of identification. The citizen card (Bürgerkarte) and mobile phone signature (Handy-Signatur) serve as digital forms of identification. The City of Vienna has decided it will not issue citizen cards in the form of physical chip cards in future.

○ Stadt Wien app

“The right information at the right time” is the motto of the City of Vienna’s most comprehensive app. It has information and news sections, a city map and a personal profile for the user. The app has already been downloaded more than 170,000 times. Following its most recent update and subsequent relaunch, the ‘Stadt Wien’ app³⁹ now features new city map functions – but that’s not all. The world’s first chatbot to be offered by a city administration (see ‘WienBot’) has been integrated in the search function. The map search function allows users to search the City of Vienna’s extensive map content and find shops, restaurants and bars. The news section provides up-to-date information, such as details of public transport disruption and weather warnings. Viennese residents can also use the new app to complete administrative procedures, including applying for licences for on-street tables and chairs and parking permits.

30 www.wien.gv.at/stadtentwicklung/studien/pdf/b008505.pdf (German only)

31 www.wien.gv.at/stadtentwicklung/projekte/index.html (German only)

32 www.partizipation.wien.at/de (German only)

33 www.wien.gv.at/petition/online (German only)

34 digitales.wien.gv.at/testcommunity (German only)

35 www.wiengestalten.at (German only)

36 www.wiengestalten.at/projektsuche (German only)

37 www.wien.gv.at/english

38 www.wien.gv.at/amtshelfer (German only)

39 www.wien.gv.at/live/app (German only)

○ Mein Wien

'Mein Wien'⁴⁰ is a major step towards e-Government personalisation. Not only does it enable users to access news and information on events in their neighbourhood, it also allows them to engage with public authorities – such as ordering a parking permit through a chatbot or submitting a digital planning application. The city aims to expand the platform to serve as an interface and central point of contact with digital administration services. There are also plans to integrate e-Government help and services from the 'Virtuelles Amt'. The portal, which is developed in a participatory process, is an experimental platform for new online administrative services.

○ Vienna provides space

The City of Vienna's 'Vienna provides space' project⁴¹ aims to promote sustainable use, design and administration of the public realm. The aim is to create a digital one-stop shop that provides Vienna residents with information and allows them to submit applications directly. This should make it easier to obtain permission to set up a neighbourhood oasis or hold an artistic performance. A digital assistant guides users through the process and answers their questions. Highly precise geodata was used to survey and digitally record available public spaces, buildings and street furniture, from bicycle racks to on-street tables, thereby laying the groundwork for the project. This also gives the city administration an overview of public spaces and the ability to remove on-street clutter. The image data also makes it possible to forgo site inspections. The data collected through the project can be made available to researchers, start-ups and businesses in future. The 'Vienna provides space' project has already received the Austrian Administration Award and the World Summit Award 2019.

○ WienBot

The world's first chatbot⁴² offered by a city administration was launched as an app in December 2019 and provides swift answers on different public services – from abandoned vehicle uplift and rubbish disposal zones to parking charges and TBE vaccinations. The results are shown clearly on the city map and users can also share the bot's answers – such as route maps. It already covers over 350 topics in total. In the most recent local elections in Vienna, users could even pose questions about applying for a voting card. The WienBot speaks German and English and learns with every question asked.

○ Coronavirus chatbot

In its fight against the coronavirus, the City of Vienna deployed the AI-based symptom checker [symptoma.at](https://www.symptoma.at).⁴³ Citizens tell the chatbot⁴⁴ their symptoms, answer some questions and then receive information about their personal risk of having COVID-19. In the first 24 hours after the service was announced, the AI processed some 1.5 million questions and answers. The chatbot is the world's first AI capable of digitally screening citizens' risk of illness. The special thing about this chatbot is that it can also take account of symptoms detailed in free text and calculate the probability that a user has COVID-19 within the context of 20,000 other illnesses. The solution has been certified as a medical device. It has

been validated in numerous scientific studies and over 40 million tests around the world in 36 different languages.

○ Sag's Wien app

The Sag's Wien app⁴⁵ enables citizens to inform the city administration of issues, hazards or disruption at any time and on the move using their smartphone. Registration is not mandatory, and photos can be attached to reports. The app's smart check verifies whether the authorities are already aware of an issue before creating a report. Other citizens can lend their support to an issue or click on "Follow" to receive push notifications regarding its status, such as when rubbish dumped on the street has been collected. The app was developed with citizens' participation as part of the Digital Agenda Vienna.

○ 'Wien stellt 'e' zu'

Official communications from the City of Vienna, such as invoices, debit notes and administrative notices, can now be sent and received electronically.⁴⁶ The city's 'Wien stellt 'e' zu' initiative includes folders, broadcasts and information events to convey the advantages of electronic communication. Receiving electronic communications from the City of Vienna requires a registration with either BriefButler⁴⁷ or E-Brief.⁴⁸ The primary target group is business owners, as they have significantly more contact with public authorities than private individuals.

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mein.wien.gv.at/Mein-Graetzl (German only)

41

digitales.wien.gv.at/en/projekt/wien-gibt-raum-vienna-provides-space/

42

www.wien.gv.at/english/bot/

43

www.symptoma.at (English version at www.symptoma.com)

44

coronavirus.wien.gv.at/site/symptomchecker (German only)

45

www.wien.gv.at/sagswien (German only)

46

digitales.wien.gv.at/e-government/elektronische-zustellung (German only)

47

www.briefbutler.at (German only)

48

www.post.at/p/c/e-brief#home (German only)

○ BRISE

In the BRISE (Building Regulations Information for Submission Involvement) project⁴⁹, the City of Vienna hopes to work with various partners to digitalize planning permission processes, from application submission through to approval. This could make procedures up to 50% faster in future, which would make it faster and easier for applicants to obtain planning permission. A preliminary check of planning reliability and immediate feedback will also allow applicants to make changes promptly. Instead of 2D paper-based plans, the system exclusively uses 3D building models. The use of augmented reality provides an easy-to-grasp visualisation of the proposed building. The project, which has been awarded €4.8 million of EU funding through the Urban Innovative Actions (UIA) initiative, is set to be launched by August 2022.

49

digitales.wien.gv.at/projekt/brisevienna (German only)



Austria⁵¹ in June 2020. This plan comprises strategic implementation measures to promote successful digitalisation in Austria. One of the action fields it specifies is ‘e-Government and administration’. The plan notes that, according to a study conducted in Bavaria, digitalisation of the public sector has the potential to reduce the cost to companies of interacting with public authorities by up to 54%. In the Austrian context, that corresponds to a productivity potential of over €100 million per year, according to the consultancy firm Accenture.

○ Founding a company, fully online

It also makes reference to the ‘Once Only’ project⁵², which aims to ensure that data only has to be provided and recorded on one occasion. Public authorities can then reuse and share this data internally – subject to adherence to statutory regulations and data protection requirements. The mooted potential benefits include making it possible to pre-fill online applications and therefore process them more quickly, thus reducing the burden on companies and public administrative bodies. In future, not only will it be possible to complete all steps of founding a company digitally in the government’s Business Service Portal (a possibility explored in the ‘e-start-up’ project⁵³), it will also be possible to complete registrations for administrative procedures under the ‘once only’ principle – such as registering to use services offered by the Austrian Economic Chambers (WKO), FinanzOnline and the social insurance system.

Public authorities have significantly expanded and modernised their services in recent years. Austrians can complete certain administrative procedures electronically at oesterreich.gv.at. While the Business Service Portal is the central starting point for business matters in Austria, the fiscal e-Government portal FinanzOnline allows citizens to file tax returns and submit certain applications from their own home (see “Showcase projects”).

In addition, there are numerous projects developing solutions for specific sectors and requirements. For example, Stamina⁵⁴ is a project led by the Austrian Institute of Technology (AIT) focused on developing an intelligent system to support the work of hospitals, first responders and crisis managers. It aims to ensure Europe is better equipped to deal with crises like the current coronavirus pandemic. It draws on modern processes and technologies, such as early-warning

4.1 Strategy

In the coming years, Austria hopes to become a pioneer in the field of digitalisation and catch up with the ‘Digital 10’, the world’s ten leading digital nations. The Digital Economy and Society Index (DESI)⁵⁰ ranks Austria 13th out of the 28 member states, one position higher than the previous year (see “Austria as an international leader”). The DESI is published by the European Commission and documents the state of digitalisation in EU member states.

Austria achieved its best result in relation to ‘digital public services’, where it was ranked in 8th place (previous year: 10th place). The summary of the DESI stated: “The Austrian public sector is digitally advanced compared to its EU peers, and an additional focus on open data and e-Government users will help Austria to join the Top 5 in the DESI ranking for digital public services.”

○ Electronic communication and the ‘once only’ principle

One possible reason for Austria’s advanced position could be a series of new regulations introduced in recent years. For example, the ‘right to electronic correspondence’ was introduced from the start of 2020. It requires Austrian authorities to offer the option of having important documents sent electronically. This allows citizens to contact the authorities without any media discontinuities. Companies – with certain exceptions – are obligated to use electronic correspondence. Austria has also introduced the once-only principle, which means companies only have to submit information once, with public authorities tasked with sharing information internally as required.

Furthermore, the Federal Ministry for Digital and Economic Affairs (BMDW) launched its Digital Action Plan for

50 ec.europa.eu/newsroom/dae/document.cfm?doc_id=66906

51 www.digitalaustria.gv.at/aktionsplan.html (German only)

52 www.digitalaustria.gv.at/initiativen/wirtschaft/projekte-wirtschaft/projekt-once-only.html (German only)

53 www.usp.gv.at/en/gruendung/elektronische-gruendung.html

systems based on social media analysis, in-situ screen methods and management tools. There are also plans to adapt various systems tested in the past – such as the ‘Emergency Maps Tool’ that collates geographical data in a shared information system, and the ‘Public Safety Hub’, which compares data from different areas – for use in pandemic management.

- Millions in support from EU funding programmes
At the European level, the Digital Europe Programme⁵⁵ has a total budget of €7.59 billion and is tasked with helping European societies and businesses to seize the benefits of the digital transformation. The aim is to promote and expand key capacities in the fields of supercomputers, artificial intelligence, cybersecurity, digital skills and collaboration. The programme is primarily aimed at SMEs, public administrations/authorities, infrastructure providers and educational institutions. The Digital Europe Programme also supports the implementation of European Digital Innovation Hubs (EDIHs).⁵⁶ These hubs are designed to act as one-stop shops, helping companies to react dynamically to digital challenges and become more competitive.

In addition, the Connecting Europe Facility (CEF)⁵⁷ aims to drive growth, employment and competitive power through targeted investment in infrastructure at the European level. The Vienna Business Agency is a project partner in the EU CEFAT4Cities⁵⁸ project. Together with the Brussels Chamber of Commerce, the FIWARE Foundation⁵⁹ and two companies based in Belgium and Berlin, the project aims to develop a technology to facilitate multilingual e-Government/Smart City services. It draws on and expands on existing FIWARE⁶⁰ developments. The CEF Telecom⁶¹ initiative supports topic areas including electronic identification, open data and e-Procurement.

The EU Commission also hopes to leverage the potential of data held by companies and public bodies, or voluntarily disclosed by private citizens. Internal Market Commissioner Thierry Breton and Digital Commissioner Margrethe Vestager have already announced proposals for new data governance legislation (Data Governance Act).⁶² Breton says that, in combination with the right investments and key infrastructures, this legislation “will help Europe become the world’s number one data continent”. Among other things, the European Commission hopes that the new legal framework will ensure that data flows not via US corporations like Amazon, Google and Facebook but through independent data fiduciaries.

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www.ait.ac.at/news-events/single-view/detail/6291/?no_cache=1&cHash=f605f6af50e9e73ddc477233152ef60d (German only)

55
ec.europa.eu/digital-single-market/en/news/digital-europe-programme-proposed-eu75-billion-funding-2021-2027

56
ec.europa.eu/digital-single-market/en/european-digital-innovation-hubs-digital-europe-programme-0

57
ec.europa.eu/inea/en/connecting-europe-facility

58
cef4cities.eu

59
www.fiware.org/foundation

60
www.fiware.org

61
ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom

62
ec.europa.eu/digital-single-market/en/news/proposal-regulation-european-data-governance-data-governance-act

4.2 Showcase projects

- BRZ eDem
The e-Democracy platform BRZ eDem⁶³ is a system to manage electronic surveys, brainstorming processes and consultations. It uses blockchain technology to prevent manipulation and ensure data integrity. The system has already been used to facilitate a secure and anonymous vote for the new board of Internet Service Providers Austria (ISPA) during a virtual general meeting.

- Digital driver's licence
Since early 2021, Austrian motorists have been able to carry their driver's licence on their mobile phone. The next step will be to digitalise vehicle ownership documentation. The background to these developments is that Austrian motorists are required to carry a lot of documents with them and produce them during inspections. Implementing this in practice requires amendments to the Austrian Motor Vehicle Act (KFG), the Austrian Passport Act (PassG) and the Austrian e-Government Act (E-GovG). The application also requires a citizen card (Bürgerkarte) or mobile phone signature (Handy-Signatur) for verification purposes. In future, it will be possible to download driver's licences using the 'Digitales Amt' e-Government app.

- ELGA
ELGA⁶⁴ is an information system of electronic health records, allowing various institutions across Austria to access patient data at any time. More than 200 inpatient healthcare institutions in Austria currently use the system, including public hospitals and care homes. Patients are automatically enrolled unless they actively opt out. However, only 3.4% of patients have done so. When visiting the doctor, patients present their e-Card to unlock their records. Patients can also access their records online using their citizen card (Bürgerkarte) or mobile phone signature (Handy-Signatur). In addition to information on prescribed and dispensed medications and medical findings, the ELGA system will soon include an electronic vaccine certificate, which is intended to replace the current paper-based version. All vaccinations will then be recorded in a vaccination register. Citizens will present their e-Card at their vaccination appointment. The doctor will record the citizen's data followed by data on the vaccine. The person to be vaccinated will then be able to view the vaccinations they have received via the ELGA portal. The system does not currently include the ability to add previous vaccinations or a reminder function, nor are there plans to implement them in future.

- FinanzOnline
Launched in 2003, FinanzOnline⁶⁵ allows Austrians to file tax returns and complete other fiscal procedures online. More than 4.8 million people and almost 365,000 companies have now registered. A chatbot called Fred answers users' queries.

- JustizOnline
The new JustizOnline portal⁶⁶ offers digital access to legal dealings. Users can view the current status of ongoing pro-

cedures, inspect records and submit petitions to courts and public prosecutors. A key bonus is that inspecting electronic records is free. Fees are only charged for queries relating to the land register and commercial register. Access is secured using a mobile phone signature (Handy-Signatur), while a glossary, a list of FAQs and a chatbot called Justitia also support users. For the moment, only natural persons can log in. There are plans to establish special access methods for legal professionals (i.e. lawyers) in future.

- oesterreich.gv.at and the 'Digitales Amt' app
The oesterreich.gv.at portal⁶⁷ has served as the central point of contact for digital administrative procedures and information in Austria since March 2019. It allows citizens to engage with public authorities online, completing tasks from changing address to using the Babypoint system to passport extensions. Alongside this portal is the 'Digitales Amt' mobile app.⁶⁸ It allows users to access all digital administrative services, available anywhere and anytime with verification through mobile phone signature (Handy-Signatur) and via Face ID or Touch ID. The latest survey data shows that around 20% of smartphone users in Austria use the app.

- 'Digitale Schule'
The 'Digitale Schule' portal (PoDS)⁶⁹ launched by the Austrian Ministry of Education serves to improve communication between pupils, teachers and parents. It brings applications including a digital timetable, a messaging system and a calendar together in one location. The PoDS also serves as an interface connecting numerous key digital educational tools – such as the Sokrates and Untis school administration programs.

63
edem.brz.gv.at (German only)

64
www.elga.gv.at/en

65
finanzonline.bmf.gv.at/fon (German only)

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justizonline.gv.at/jop/web/home (German only)

67
www.oesterreich.gv.at (German only)

68
www.oesterreich.gv.at/ueber-oesterreichgvat/faq/app_digitales_amt.html (German only)

69
www.bmbwf.gv.at/Themen/schule/zrp/dibi/pods.html (German only)



○ RIS

The Legal Information System (Rechtsinformationssystem – RIS) of the Republic of Austria⁷⁰ allows users to look up Austrian and European laws and regulations. The RIS primarily serves to publish legal regulations announced in the Federal Law Gazette and the law gazettes of individual states. There is also a mobile version of the RIS – the RIS:App.

○ Business Service Portal

The Business Service Portal (Unternehmensserviceportal)⁷¹ is the federal government's central one-stop portal for companies in Austria. Users can search for all important information and fulfil all reporting and notification authorities – such as sending e-Invoices – with a single sign-on. More than 300,000 companies have already registered. The portal offers numerous services, such as registering a new company electronically, submitting reports to the social insurance system, and an electronic mailbox, plus extensive information and tips across 3,000 pages on 120 different topics. A chatbot called Mona is also on hand to respond to queries.

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www.ris.bka.gv.at/defaultEn.aspx

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www.usp.gv.at/en/index.html

play a role, such as by helping authorities to position or make the best possible use of a digital system.

○ e-Government solutions as an export factor

Over the years, there have been frequent attempts to sell successful domestic e-Government solutions internationally. However, industry experts report that this has only been partially successful. Working with public authorities on such endeavours appears to be a promising approach. If they offer their support – such as by providing recommendations or helping to arrange meetings – then the prospects of a deal improve significantly. Government-to-government contracts have also been successfully agreed, such as in relation to justice.

There are no concrete figures detailing how much public administrative bodies are investing in external e-Government solutions or to what extent they are developing such solutions internally. Industry insiders suggest that, in total, the market for purchased services lies in the mid to upper eight-figure range per year.

According to current estimates, 90% of the actual IT work (that is, the technical implementation of these solutions) is carried out by specialist companies – such as the Austrian Federal Computing Centre (BRZ), Raiffeisen Informatik and global players such as IBM and SAP – while analytical and conceptual work takes place in-house. As a basic rule, the smaller the regional administrative body, the higher the proportion of external services it uses. The City of Vienna's approach is far from dogmatic, as its CIO Klemens Himpele explains. "We rely on external IT solutions where possible," he says. "If there are no suitable solutions on the market and it seems reasonable for security purposes, we develop in-house solutions."

The supplier structure in the field of e-Government is exceptionally diverse. In addition to a handful of international industry giants such as Atos, Accenture, IBM and SAP, leading players in Austria include the Federal Computing Centre (BRZ), Fabasoft and Raiffeisen Informatik. Highly innovative small and medium-sized enterprises also offer solutions, such as form systems and advisory systems. Freelancers and programming teams sometimes also work on larger projects.

According to industry outsiders, there is a two-figure number of suppliers who actually develop solutions in Austria. "The larger the company, the more likely it will act as an implementer," says Dieter Zoubek, founder and former head of the UBIT trade association's expert group on e-Government and FinanzOnline at the Austrian Economic Chambers. Furthermore, numerous advisors – often one-person businesses –

When examining current trends and developments, the impact of the coronavirus pandemic is inescapable. In the current climate, and in all likelihood long into the future, there will be strong demand for digital services from public institutions. There is interest in new information services (for rapid responses to current issues), open data services and innovative chat bots. These solutions are being driven forward by artificial intelligence (AI), process automation and other similar developments.

“The pandemic has pushed electronic services right to the fore,” confirms Himpele. He points to the proportion of online applications for parking tickets, which rose from 24 % to 90 % in Q2 2020 in Vienna’s Ottakring district. “The hope is, of course, that this is not a one-off effect and will lead to an enduring increase in the use of these services,” says the City of Vienna’s CIO.

New services have also been swiftly introduced, such as a home care app⁷² that enables citizens in quarantine to document the state of their health and securely access their diagnoses. The WienBot has also become an even more important channel during the pandemic. The use of AI and interfaces with public data sources have made it possible to provide updated and verified information on an ongoing basis.

However, the pandemic has also had a massive impact on the city administration itself. For example, in the first lockdown in March 2020, it was forced to purchase additional hardware. “We’re talking about 5,000 leased laptops for Viennese schools, 450 additional webcams and 200 hygienic keyboards and mice,” says Himpele. He explains that the city benefited from already offering numerous remote working options before the pandemic. Nevertheless, there were major challenges. “The number of people accessing the system from external locations rose from 500 to a peak of 9,000 per day, which is an enormous increase.”

The Austrian Federal Computing Centre (BRZ) believes that digitalisation has proven itself to be a vital crisis management tool, pointing to a recent study⁷³ by Arthur D. Little. In the acute phase of the pandemic, the main driver of progress in this field was the need to maintain business activities. “Companies accelerated the digitalisation of their business processes, with many switching to remote working in next to no time. In many places, this worked astoundingly well and the critical infrastructure in Austria withstood exceptional loads,” reports the BRZ.

The Austrian Federal Computing Centre says that the crisis bump-started many new projects and solutions. One example is the Austrian government’s dedicated area for coronavirus information on its oesterreich.gv.at platform. The BRZ also expanded the range of topics that the Business Service Portal’s chatbot Mona could handle. In addition, more than 30 visualisations and apps are available based on data published through the COVID-19 Open Data Information Portal.⁷⁴

“The ability to complete administrative procedures online is a major benefit and ensures that the current situation has not brought our lives to a complete standstill. Business has also realised that digitalisation is a must in order to stay agile and flexible in times of crisis,” emphasises A-Trust. The potential of digitalisation and e-Government has now been recognised.

Experts at the BRZ underline new trends and developments in the field of e-Government:

- **No-stop and one-stop shops**
Digital no-stop and one-stop shops structure administrative processes in a more efficient and user-friendly manner. No-stop shops are administrative transactions that no longer require active input from citizens. One example is form-free income tax equalisation.
- **Chatbots & AI**
The use of digital assistants on public administration bodies’ websites allows citizens to quickly obtain answers to standard queries when using these information portals. This simultaneously reduces the burden on help desk teams. Examples include the Fred chatbot on FinanzOnline, Mona on the Business Service Portal, and the City of Vienna’s WienBot

72
www.wien.gv.at/Homecare (German only)

73
www.adlittle.at/en/digitalisierung-treiber-zur-starkung-der-krisenfestigkeit-osterreichs (German only)

74
www.data.gv.at/covid-19 (German only)

- **Robotic process automation (RPA)**
RPA makes it possible to automate routine processes and thereby process enormous volumes of data around the clock. International experience has shown that RPA reduces processing times by around 90 % on average. The reduced burden on administrative employees allows them to focus their attention on decision-making, leadership and creativity.
- **Predictive analytics**
This involves using (historical) data, statistical algorithms and machine learning to forecast future developments and events. Applying predictive analytics methods to prepare and analyse data in depth can be used, for example, to improve risk management in the field of financial administration.

○ **e-Government Forum**
The e-Government Forum⁷⁸ is a platform created in 2001 to promote discussion and exchange on the topics of e-Government and e-Democracy. The initiative, founded by the Austrian Computer Society (OCG), aims to drive the move towards digital administration.

○ **govcamp vienna**
The 11th edition of govcamp vienna⁷⁹ was held as a virtual BarCamp for the first time under the motto “the person behind the computer”. Organised by the City of Vienna, the BRZ, the Danube University Krems and the Chaos Computer Club, the event allowed representatives from the fields of public administration, science and NGOs as well as members of the public to discuss the future of the digital society. Many of the sessions, organised by the participants themselves, focused on current issues related to the coronavirus pandemic. Public institutions worked to develop their open data services and set up chatbots. Sessions also addressed the topics of knowledge management in the public sector, crisis communications and digital literacy.

○ **GovLabAustria**
GovLabAustria⁸⁰ is an innovation laboratory for the public sector jointly operated by the Danube University Krems and the Federal Ministry for Arts, Culture, Public Service and Sport (BMKÖS). Its projects explore specific issues in collaboration with various partner institutions. It serves as the central Austrian hub for governance research and advances national and international networking. It also holds lectures and knowledge-transfer events at the Danube University Krems, the Federal Academy of Public Administration (VAB) and other institutions.

○ **ADV e-Government Conference**
The motto of the ADV e-Government Conference 2021⁷⁵ is “from e-Government to digitalisation”. The main topics at the conference will be digital humanism, participation and transparency, cloud services and risks, e-Health, and current digitalisation topics such as AI, process automation and IOT.

○ **ADV Data Governance Conference**
The fourth edition of the ADV Data Governance Conference⁷⁶ will take place in 2021. The event in Vienna will focus on topics including artificial intelligence, the human factor in relation to data government, and useful tools and technologies for measuring relevant key figures. The Austrian Data Governance Awards will also be presented during the conference.

○ **eAward**
The eAward⁷⁷ is an annual IT business award first presented in 2005. It focuses on topics and projects that serve as prime examples of the technological transformation in society, business and administration. In 2020, the awards recognised 15 projects from the fields of business and administration. A total of 44 projects were nominated in seven categories including training and development, Industry 4.0 and e-Government.

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www.adv.at/events/egovernmentkonferenz2021 (German only)

76
www.adv.at/events/data-governance-konferenz-2021 (German only)

77
www.report.at/award (German only)

78
www.ocg.at/en/node/364

79
barcamps.eu/govcamp-vienna-2020 (German only)

80
www.govlabaustrlia.gv.at (German only)



○ **Innovate**
Innovate 2020⁸¹ – Conference on Innovation Management in the Public Sector – was utterly dominated by the coronavirus pandemic and therefore focused on concomitant challenges for politics, administration, business and society. Eleven online workshops and eight virtual trade fair stands presented a series of current innovation projects.

○ **Open (Gov) Data meet-ups**
The Open Government Competence Centre Vienna⁸² organises events including meet-ups, platform meetings and expos on the topic of open government. These provide an opportunity for citizens to familiarise themselves with new sources of data and resulting applications.

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www.innovate2020.at

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digitales.wien.gv.at/open-data

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

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

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

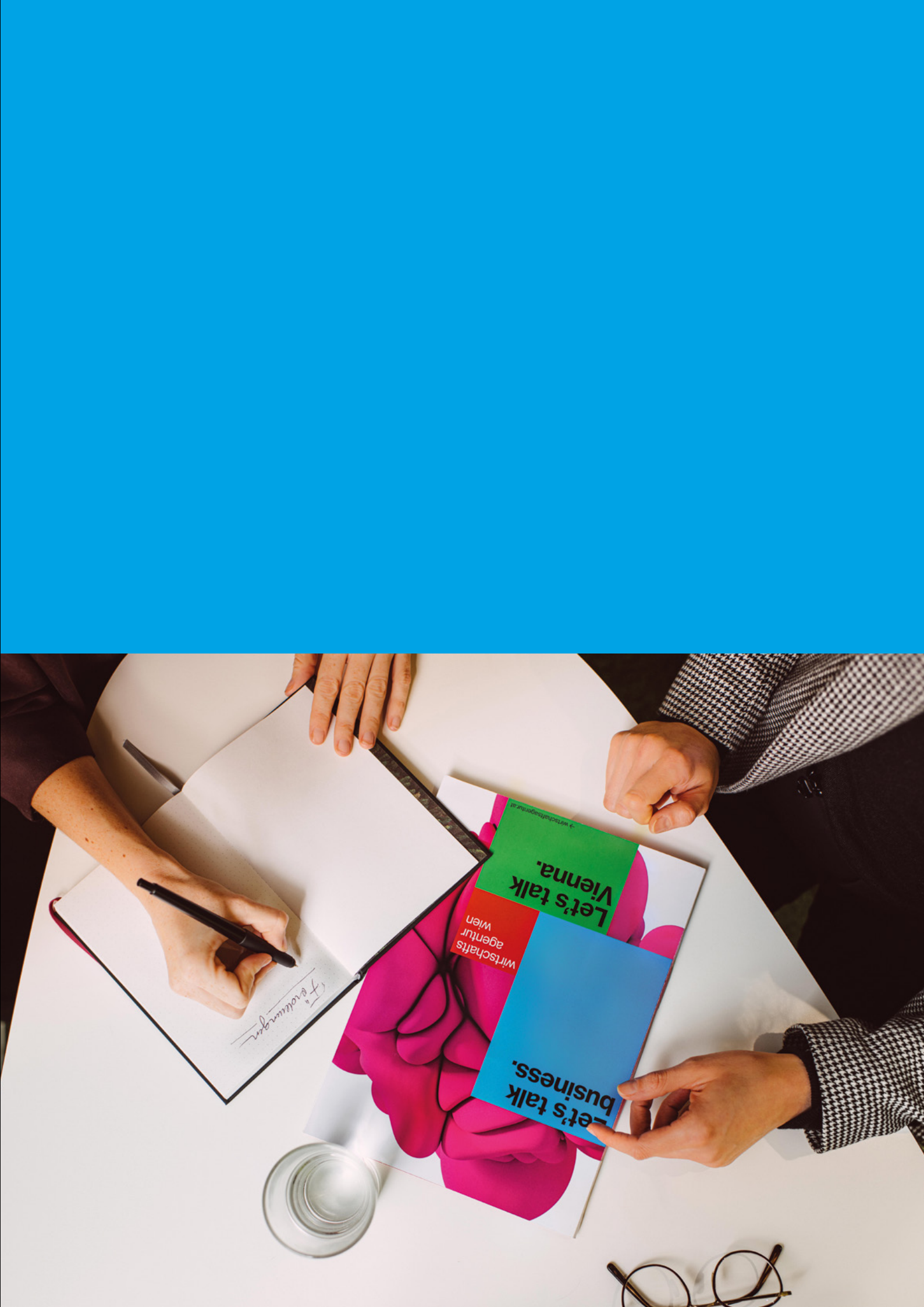
Additionally, the Vienna Business Agency helps with company relocations or internationalization services. Assistance is provided to business founders and young entrepreneurs in the start-up area. Free workshops and training sessions on topics of everyday business are offered as well as small, affordable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

Founders Labs⁸³ 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

83

viennabusinessagency.at/startup-and-grow/founders-lab-future-technologies/





The following pages contain an alphabetical list⁸⁴ of selected companies from Vienna that offer services in the field of e-Government.

Companies in the field of e-Government

NAME	DESCRIPTION	CONTACT
A-TRUST	A-Trust has specialised in certified digital applications and secure authentication in the digital and mobile world for over 20 years. The mobile phone signature (Handy-Signatur), which is free of charge and makes it possible to access over 200 public services, is a key e-Government application and now has more than 1.5 million active users. An electronic form of identification (E-ID) – an advancement of the mobile phone signature – is currently in the planning phase and will offer expanded functionalities.	Landstrasser Hauptstrasse 1b 1030 Vienna office@a-trust.at www.a-trust.at
ALYSIS	alysis has many years of experience in the development and management of individual enterprise and e-Government software. The company is a project partner in the development of Android and iPhone apps. It places particular emphasis on usability, user experience and accessibility.	Schrotzbergstrasse 6/1 1020 Vienna office@alysis.at www.alysis.at
BMD	BMD develops business software for over 30,000 clients. In the field of e-Government, BMD software facilitates cooperation with public authorities with the help of its e-Government Databox tool. Its software allows users to directly access and process tax assessments, commercial register services and responses from the Austrian public health insurance fund (ÖGK) via the ELDA data transfer system. Companies can also register new employees, file tax returns and access a wide range of other information directly in BMD software, including submitting information to portals such as FinanzOnline, the Business Service Portal and ELDA.	Storchengasse 1 1150 Vienna wien@bmd.at www.bmd.com

84
This list is not intended to be exhaustive.

NAME	DESCRIPTION	CONTACT
AUSTRIAN FEDERAL COMPUTING CENTRE (BRZ)	The BRZ is the centre of excellence for digitalisation of federal administration in Austria. As an e-Government specialist, the BRZ develops and operates IT solutions and has one of Austria's largest computing centres at its disposal. BRZ applications support processes including form-free child benefits, online company registration and digital estate administration. The most important services operated by the BRZ include: the oesterreich.gv.at portal and the 'Digitales Amt' app, which serve as central platforms for digital administrative processes and administrative information; FinanzOnline, and the Business Service Portal (USP) as the federal government's central one-stop portal for businesses. The JustizOnline is a recent introduction.	Hintere Zollamtsstrasse 4 1030 Vienna kommunikation@brz.gv.at www.brz.gv.at
GENTICS	Gentics specialises in content management and publishing solutions. The APA subsidiary can look back on 19 years' experience working with CMSs and portals. Gentics solutions can be found in the websites of many Austrian public authorities and help to create secure, accessible and easily scalable platforms. It places particular emphasis on security, accessibility and standardisation. For instance, Gentics products are used by the Austrian Federal Ministry for Social Affairs (BMSG-PK), social insurance funds, employee representation bodies, chambers of commerce, broadcasting and telecommunications regulators, the Lower Austrian state administration and the Austrian Federal Computing Centre. International projects include a new e-Government portal for the Swiss federal administration, which Gentics realised as a project partner to software firm RUBICON IT.	Laimgrubengasse 10 1060 Vienna salesdesk@apa.at www.gentics.com
HPC DUAL	Since 2006, hpc DUAL has provided consultancy, conceptual and implementation services for digital solutions to create integrated outgoing post and dispatch processes for business and public administration. Its 'BriefButler' delivery system supports the digitalisation of mail delivery and covers topics including identification and authentication, online forms, physical and digital dispatch channels and an integrated e-Payment function. This ensures that recipients can receive and digitally manage documents from public authorities as well as daily physical post. If a recipient cannot be reached digitally, the letter is printed, placed in an envelope and sent by post in a fully automatic process. hpc DUAL is aiming for BriefButler to completely replace national postal companies in the field of addressed letter delivery by 2030.	Hasnerstrasse 123 1160 Vienna info@hpcdual.at hpcdual.com/at

NAME	DESCRIPTION	CONTACT
IT-KOMMUNAL	IT-Kommunal GmbH is a public-private partnership with indirect customer participation through the Centre for Public Administration Cooperation (ZVK). It is tasked with developing, operating and providing collaborative e-Government services, primarily for Austrian cities and municipalities. It focuses on new digital applications that complement the landscape of established specialist municipal applications, such as finance, budgeting and taxation. In principle, the IT-Kommunal service portfolio covers the entire digital application process, from internal workflows to digital submissions and electronic delivery. According to current figures, IT-Kommunal is the current Austrian market leader in the field of online application services, offering the amtsweg.gv.at platform and providing services to around 60 % of local authorities across the country.	Pius-Parsch-Platz 9/14 1210 Vienna office@it-kommunal.at www.it-kommunal.at
KOMMUNALNET	Kommunalnet is a work and information portal for Austrian municipalities. According to current figures, its intranet platform is accessed around 690,000 times per month. Its core target groups are mayors, municipal officers, functionaries and municipal decision-makers. As the shared platform used by the Austrian Association of Municipalities, its state associations and Kommunalkredit Austria, Kommunalnet keeps municipal officers from more than 2,000 municipalities updated on the latest pertinent news. In addition, the portal reaches all 2,095 municipalities through its electronic newsletter (which currently has around 24,000 subscribers).	Wipplingerstrasse 19/2 1010 Vienna office@kommunalnet.at www.kommunalnet.at
LEKTON GRAFIK & SOFTWARE-ENTWICKLUNG	Lekton Grafik & Softwareentwicklung eG develops web applications with a focus on data visualisation (specifically open government data), graphic design and applications related to the Semantic Web. One example of its work is the ViennaVIZ data visualisation software created for the City of Vienna. Its clients include the Vienna Chamber of Labour (AK Wien), ecop Technologies, Kreativwirtschaft Austria, LieberLieber Software GmbH, ÖGB – Österreichischer Gewerkschaftsbund, Österreichische Nationalbank, the Vienna Museum of Science and Technology, sparx Services, the City of Vienna and the Federal Impact Controlling Office.	Pulverturm-gasse 17/3+4 1090 Vienna mail@lekton.at lekton.net

NAME	DESCRIPTION	CONTACT
MOBILE SERVICES FOR PUBLIC SAFETY (MOPS)	Vienna-based MOPS GmbH (moPS) is a company founded by International Public Safety GmbH (IPS) and snapworx OG (snapworx). The company has many years of experience in public safety and security and has a strong technological focus. moPS has developed a framework for mobile applications for public safety organisations. Its product portfolio also enables swift and target-oriented implementation of digital processes in the field of public administration.	Marchettigasse 14/1/Top 3 1060 Vienna kontakt@mops.eu www.mops.eu
ÖSTERREICHISCHE STAATSDRUCKEREI	The Österreichische Staatsdruckerei (Austrian State Printing House) produces highly secure ID documents. It developed the My Identity App (MIA), a unique product that facilitates secure identification in the digital world. The MIA integrates all identification documents and an E-ID function in a single app. Users no longer need to carry physical documents with them. No personal data is saved on the user's smartphone itself. Once the user has activated the MIA, a link is established between the devices that exchange data. Centralised management of all identification documents ensures both the requisite standardisation and user acceptance. Whether during vehicle inspections or when opening a bank account, this digital ID app means users can always prove their identity beyond doubt.	Tenschertstrasse 7 1239 Vienna office@staatsdruckerei.at https://www.staatsdruckerei.at/en/ www.mia.at
RUBICON	RUBICON IT GmbH is an international software company based in Vienna. It focuses on the digitalisation and continuous improvement of business processes, especially in the field of e-Government. The company helps public authorities to digitalise their administration processes and implement modern, online services for citizens. RUBICON software solutions are in use in public administrations across Europe at federal, state and municipal levels. Examples of its products include the lost property software Nova Find, the electronic records management solution Acta Nova, and the Acta Nova Dialog Portal for communication between citizens and public authorities without media discontinuity.	Gonzagagasse 16 1010 Vienna office@rubicon.eu www.rubicon.eu

NAME	DESCRIPTION	CONTACT
XITRUST	With locations in Austria and Germany, XiTrust offers a secure e-Signature platform for businesses. As co-owners of the digital trust service provider A-Trust, XiTrust offers services covering the entire spectrum of electronic signatures. Building on this infrastructure, XiTrust has developed MOXIS, a tool that enables institutions to process electronic signatures – both for internal purposes and as the 'last mile' for citizens. Prominent clients include the Austrian Social Insurance Institution for the Self-Employed (SVS), which processes payment instructions with support from XiTrust's MOXIS tool. The BMW Group, Adecco and AVL also rely on XiTrust.	Floragasse 7 1040 Vienna office@xitrust.com www.xitrust.com/en/



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