

E-Commerce

Technology Report

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Adresse Wirtschaftsagentur Wien, Ein Fonds der Stadt Wien,
Mariahilfer Straße 20
1070 Wien, Österreich
Telefon +43 1 40 00-86 70
Fax +43 1 40 00-86 720
E-Mail info@wirtschaftsagentur.at
Web wirtschaftsagentur.at



Introduction

Dear Readers,

Vienna is one of the top 5 cities for ICT in Europe. Around 5,800 ICT companies are based in the city, generating a revenue of around 20 billion euros per year. Around 8,900 national and international ICT businesses operate in the Vienna Region (Vienna, Lower Austria and Burgenland), accounting for approximately two-thirds of the total revenue of the ICT sector in Austria.

According to various studies, Vienna's particular strengths lie in innovation, comprehensive support for start-ups and its strong focus on sustainability. Vienna is also ranked highly in the "Smart City" rankings. The location boasts a research- and technology-friendly climate, geographical and cultural proximity to Eastern growth markets, excellent infrastructure and a good education system, as well as the world's highest quality of life.

The Vienna Business Agency acts as an information and cooperation platform for technology developers based in Vienna, with the aim of making the most of the city's potential. It connects companies with development partners and key customers from business, science and city administration and supports Viennese companies with targeted funding and a variety of consulting and service offers.

The Vienna Business Agency's Technology Platform, at technologieplattform.wirtschaftsagentur.at, supports in this process. Viennese businesses and entities in the technology sector can use the platform to present their innovative products, services and prototypes, as well as their research expertise, and find development partners and pilot customers.

This technology report provides an overview of the various trends and developments within the e-commerce sector, as well as current facts and figures for Vienna.

The team at the Vienna Business Agency

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Brick-and-mortar retail is going digital

Brick-and-mortar retail is experiencing a dramatic transformation as a result of increasing digitalisation and networking. Consumers are becoming better and better informed and expectations relating to availability, delivery times and additional services are constantly increasing. However, this is not the only challenge that domestic trade is facing.

Global players in the online sector, such as the likes of Amazon and Zalando, have also developed into serious competition for well-established brick-and-mortar businesses. Especially online, local providers in all sectors from electronics to clothing and food still need to catch up. For too long, they have relied exclusively on expanding their physical sales floors. In 2015, more than half of online revenue was still generated through online shops based abroad.¹ Domestic retailers are not only missing out on high revenue, but also on the opportunity to establish a relationship of trust with customers at an early stage. After all, if a customer is happy with their experience of a shop, they will shop there again next time because the provider has developed into a “trusted brand”.

In other markets such as Germany or in the Scandinavian countries, some businesses already have their own e-commerce managers, but Austrian trading companies still have a long way to go to reach this point. Here, e-commerce is often performed by marketing departments, taking a highly conservative approach to avoid having an impact on stationary trade. However, the figures speak for themselves: Today, online trade already accounts for more than 10 percent of the entire trade volume across Europe. By 2025, this proportion is expected to rise to up to 40 percent.

However, there are also some model examples: Viennese wine retailer Wein und Co. was very early in setting up a sophisticated and well-maintained online presence, featuring an integrated web shop and offering online customers products at attractive prices, available exclusively online. The wine is delivered directly to the customer’s home or office, packed safely. The approach is paying off: “The share of total sales from online trading is already at 15 percent – which is equivalent to the revenue of four brick-and-mortar shops, but costs less than one shop. I think we will soon reach 30 percent,” explains founder and managing director Heinz Kammerer.²

Wein und Co. is by no means an isolated case. More and more Viennese companies are recognising the signs of the times and relying increasingly on innovative technologies, solutions and services.

1 Current trends

From artificial intelligence to drone delivery: State-of-the-art technologies are revolutionising the way people shop today and in the future online on all platforms and devices.

1.1 Beacons and iBeacon

Beacons help to lead customers in certain directions. These small transmitters are installed at various points of a shop and as soon as somebody is nearby, transmit messages to their smartphone. A beacon is a transmitter or receiver that uses Bluetooth Low Energy (BLE) or Bluetooth Smart technology. It is effectively a kind of wireless technology that can be described as an extension of Bluetooth. It has been known for several years, but has become known by the wider public through its main marketer Apple, under the name iBeacon.³ iBeacon is based on a transmitter-receiver principle. For this purpose, small transmitters (beacons) are placed in the room and act as signal generators, sending out signals at fixed intervals.⁴

In Austria, beacon technology is currently being tested at IKEA’s Graz branch, for example. Elsewhere, the Hagenberg-based software developers from bluesource have implemented this new kind of customer communication for

¹ www.computerwelt.at/news/detail/artikel/110005-nur-16-prozent-schliessen-kaufabwicklung-ab/

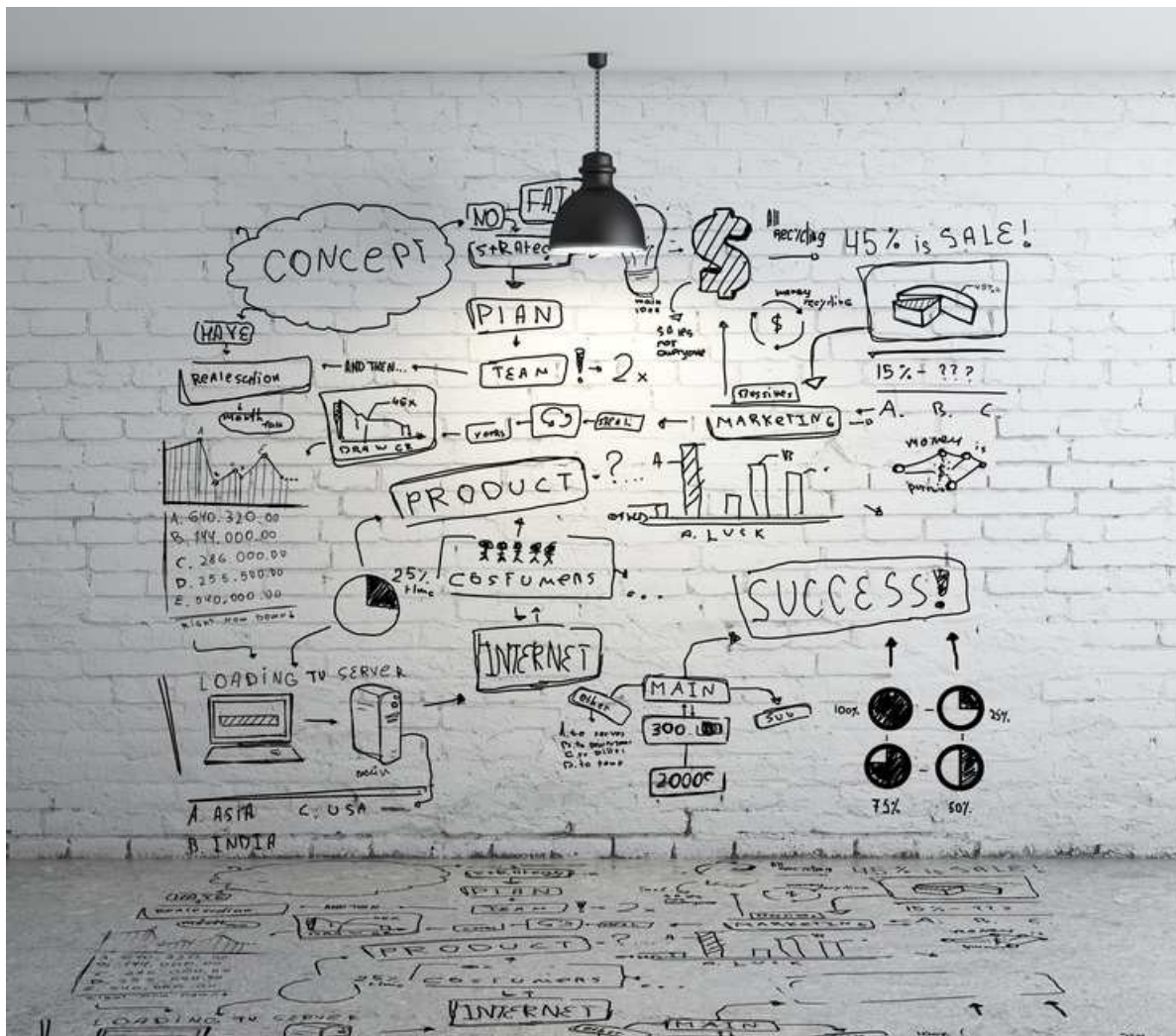
² <https://kurier.at/wirtschaft/wein-co-chef-was-wir-machen-ist-hochspekulativ/165.177.854>

³ <https://onlinemarketing.de/lexikon/definition-beacon>

⁴ <https://de.wikipedia.org/wiki/iBeacon>

sportswear chain Hervis with their customer card app “mobile-pocket”. Specifically, this means that when Hervis customers in Salzburg’s Europark enter the shop, a friendly greeting is sent to their smartphone, they receive vouchers or are informed of product offers. What’s more, multimedia content such as videos and surveys offer customers further opportunities for dialogue while deciding whether to buy. As soon as the customer reaches the checkout, the “mobile-pocket” app opens automatically with the Hervis customer card stored within it.⁵

“With beacons, customers can be reached exactly where they are. For this reason, beacons will, without a doubt, become a fixed component of every marketing campaign in the coming years,” explains Patrick Hombauer, Sales Director at mobile-pocket. The company offers over 50 different applications for beacons.



1.2 Chatbots

Recommendation systems on sales platforms that initiate dialogue with users, to guide them through the transaction process for example, are no longer uncommon – cue Chatbots, which combine a variety of technologies, such as artificial intelligence, big data analytics and enterprise search.

⁵ www.computerwelt.at/news/wirtschaft-politik/unternehmen/detail/artikel/112056-hervis-kommuniziert-mit-kunden-mittels-beacons-und-app/

E-commerce companies are also increasingly investing in technologies such as “natural language processing” and “natural language question answering” to make their systems more intelligent and thus more efficient. Example: Instead of receiving documents with a traditional search query, where the user has to seek out the answer they are looking for themselves, a question answering system aims to provide the user with a concrete statement, as they would receive in an (ideal) conversation between two people.⁶

The progress in this field is so great that dialogue systems where it is almost impossible for the user to find out whether they are communicating with a person or a machine, will soon be in use – the keyword here is the “Turing test”.⁷ Of course, a distinction must be made between automated answers (usually through messenger programmes), voice control and self-learning systems (or the combination of all or parts of them). In Vienna, a very active scene relating to chatbots and artificial intelligence has developed, operating under the name Botshub.org. Companies such as Monstyle are also working on intelligent recommendation systems.

1.3 Drone delivery

One trend currently still surrounded by much controversy is the delivery of goods using drones. The technical possibilities in drone technology are already so advanced that it is already possible to deliver low-weight packages to areas near the drone’s location. The pioneers in this area are online companies Google, Amazon and Alibaba.

According to Amazon, packages of up to 2.5kg in weight can be delivered significantly more efficiently using a drone. Amazon customers within a radius of 15km will receive deliveries in this way in the future, logistics provider DHL sees even greater potential for drone delivery. The company aspires to deploy its drones for isolated regions such as mountain farms, to expand its delivery area while still being able to guarantee swift delivery.

1.4 M-commerce

M-commerce, also known as mobile commerce, is a special form of electronic trade using wireless communication and mobile end devices. Generally speaking, this refers to online shopping with smartphones and tablets, a trend that is becoming increasingly popular.

According to a survey conducted by innovation centre Evolaris next level and the agency Menonthemoon on behalf of the Handelsverband (Retail Association Austria), two-thirds of internet users in Austria shop online at least once a month. 90 percent shop using their computer or laptop, while more than one-third also use their smartphone. This is a rising trend. In Asian countries and the USA, this trend has already progressed significantly. Here it is no longer about “mobile first”, but rather “mobile only”. According to the “Q1 2016 State of Mobile Commerce Report” from Criteo, 57 percent of all mobile transactions worldwide take place using an app.⁸ In Europe including in Austria, m-commerce has only really taken off in the last one to two years.

A study by MindTake Research conducted in cooperation with Sevenval shows the need for retail companies to respond to changing customer behaviour.⁹ Smartphones are not only suitable for completing a purchase, but are also involved in all stages of the purchasing process. “Smartphones are primarily supporting the sales process in the presales area. It is becoming more common for consumers to compare prices with other providers and brands using their phones before making a purchase in a shop. This means that companies that do not make their online offering compatible with smartphones are reducing their chances of making a sale both in the classic online shop and in the store itself,” explains Klaus Oberecker, Managing Partner of MindTake Research.

“For many, m-commerce is becoming a core competence and matter of survival,” says Luc Truyens, CEO of ING-DiBa Direktbank Austria.¹⁰ According to Truyens, this means that those who act quickly and are able to offer simple, quick and convenient mobile solutions will be successful.

⁶ www.computerwelt.at/news/detail/artikel/118648-gastkommentar-sechs-trends-die-das-business-2017-intelligenter-machen/

⁷ <https://de.wikipedia.org/wiki/Turing-Test>

⁸ www.etailment.at/criteo-studie-mobile-shopping-oesterreich-auf-wachstumskurs/

⁹ <http://research.mindtake.com/de/mindtake-research-und-sevenval-praesentieren-die-erste-m-commerce-studie-fuer-oesterreich>

¹⁰ www.computerwelt.at/news/detail/artikel/117194-ing-diba-umfrage-einkaufen-per-smartphone-im-aufwind/

The various payment options for users also play a large role in m-commerce. Aside from classic payment models that are not limited to smartphones (see chapter 2.6), there are also specific m-payment models. Premium rate SMS are increasingly being used for this purpose. In Germany and Austria, their use is only legally permitted for mobile communication services (such as ringtones) and so they do not (yet) play a significant role for m-commerce. Credit card swipe systems are also still in their early stages. Numerous providers are entering the market and trying to challenge established credit checkout providers mainly for smaller business customers, by enabling card payments via a card reader in combination with the salesperson's smartphone.

1.5 Multi-channel, cross-channel and omni-channel

Using a multi-channel approach, retailers have moved from selling through one channel – usually brick and mortar – to also selling through other channels, but there is still no link between the systems. The digital sales processes can be completely separate from physical stores.

In contrast to the multi-channel approach, cross-channel selling does not involve selling in separate channels, but instead allows the processes to be linked. Linking physical stores with the online shop allows for completely new methods of selling, such as reservations or orders made online for a branch store. And, taking the opposite approach, purchases or orders can be made in the physical store and sent out to the customer. The next evolutionary step is the omni-channel strategy, which offers a seamless shopping experience for customers across all channels, with fluid change between channels and a consistent brand experience.

According to the EHI study “Omni-channel Commerce 2015”, the following five services are key for implementing an omni-channel approach: online availability checks for products in physical stores, a click and collect service with online payment and the option to pay in store, in-store return options and in-store ordering.¹¹

In Austria, 174 of the 250 largest online shops deploy a multi-channel strategy, and therefore have multiple sales channels (see also Chapter 3.2).¹² 65 of these shops interlink the different sales channels and thus operate using an omni-channel strategy. One such company is the shoe retailer Humanic, which had a strong online presence with a web shop from very early on. “All of our communications and sales channels support one another. Online promotes offline and vice versa,” explains Dunja Bacinger-Tomaschitz, Managing Director for Multi-channel Retail at Humanic. The goal is to draw in customers where they are and to offer them the appropriate channel depending on the context. In addition to introducing further omni-channel services, Humanic is also aiming to launch a new customer programme and an app. Especially with apps – which are extremely important in a sustainable omni-channel strategy – Austrian online shops are already a step ahead of the competition from the traditional retail sector. 82.8 percent of Austrian suppliers have mobile websites and apps, putting Austria ahead of Switzerland, which has a market more similar to that of Germany. 78.8 percent of Swiss companies have this kind of offering at their disposal.¹³

“It is clear that the companies that best resist market consolidation are those that succeed in bringing together their physical and online business into an optimum omni-channel strategy, and in keeping their customers happy throughout the entire shopping process. This is the only way to reach the customer wherever they are – whether in the shop, in front of their laptop or out and about with their smartphone,” explains Managing Director of Klarna Austria, Christian Renk.¹⁴

1.6 Payment

The question of payment options in online shopping is becoming increasingly important. Almost three-quarters of online shoppers ultimately cancel their purchase if they are not able to pay using their desired method.¹⁵ Online retailers therefore need to consider not only the costs, but also their customers' preferences. Many payment methods used in physical stores are also available for processing e-commerce payments, but an increasing number of specialised providers with their own online payment processing systems have also become established in recent years.

¹¹ www.ehi.org/de/pressemittelungen/omnichannel-commerce-2015/

¹² <http://derstandard.at/2000048075369/Online-Shops-setzten-heuer-um-9-Prozent-mehr-um>

¹³ <http://derstandard.at/2000048075369/Online-Shops-setzten-heuer-um-9-Prozent-mehr-um>

¹⁴ www.computerwelt.at/news/detail/artikel/114142-gastkommentar-online-und-stationaerer-handel-verschmelzen/

¹⁵ www.management-circle.de/blog/was-das-bezahlen-im-e-commerce-wirklich-kostet/

The payment methods currently available range from pre-payment, payment on delivery, debit or credit card to special e-payment or m-payment methods for electronic trade.



According to a study by A.T. Kearney, cashless payment is becoming ever more popular.¹⁶ “Since 2010, we have observed an annual growth of six percent,” says Andreas Pratz, Specialist for Digital Payments at A.T. Kearney. Experts anticipate that revenue for digital payment system providers will increase from 80 billion to 111 billion euros in the next ten years. However, in Austria, people are lagging far behind in terms of cashless payments. Austrian customers pay by card 72 times per year, whereas Norwegians make 400 card payments per year. “Across Europe, we expect the number of cashless transactions to double to almost 238 billion euros by 2025,” reports financial expert Pratz. In Austria, an above-average growth in card payments by six percent is estimated. Systems of this kind are becoming ever more important for customers, because the payment process – such as when shopping online – is increasingly taking place online. For e-commerce and m-commerce, growth rates of ten percent can be recorded – for traditional retail in Europe, this figure is only around two to three percent.

E-payment refers to payment transactions that take place online, mainly in online shopping (see also: “FinTech” Technology Report). The greatest advantage of e-payment is flexibility (time and location), while the greatest disadvantage is the security risk. A differentiation can be made between prepaid, pay-now (pay when buying) and pay-later models. Mobile payment refers to payment methods via tablet or smartphone. This can include payment services such as premium rate SMS that are paid via the telephone bill, as well as modern payment systems, such as NFC (Near Field Communication). One example of smartphone payment is the “Blue Code” app from Austrian company Secure Payment Technologies.

In 2017, the initial offers for “real-time payments” are expected to be ready to enter the market. Paying when shopping online and transfers will take no longer than ten seconds. Instant payment services are to be introduced within the eurozone in 2018. The European Central Bank and various major banks are working on the project. A corresponding standard is in development.

¹⁶www.atkearney.at/documents/3709812/9764123/PM+Europäischer+Markt+für+Digital+Payments+wächst+AT.pdf

1.7 Virtual and augmented reality

Almost overnight, the game “Pokémon Go” showed even the non-tech-savvy population the meaning of augmented reality (AR) and the possibilities it brings. It therefore comes as no surprise that AR and virtual reality (VR) also have a strong foothold within e-commerce.

A current example is the “ARWatch” app programmed by Belgian developers: This app allows customers to use augmented reality to virtually try on various Apple Watch models and look at them on their wrist using their smartphone.¹⁷

VR can also make the idea of connecting online and offline trade a reality, without the disadvantages of physical retail. For example, the Chinese e-commerce platform Yihaodian opened 1,000 virtual shops in the most overcrowded and popular sights in China in one single night.¹⁸ These shops are only seen when using the VR Commerce app.

The app shows users the way to the next virtual Yihaodian store. As soon as the user enters the shop, the app acts as a personal navigator through the supermarket. Customers can stroll along the filled shelves and place their desired items in their shopping basket. Payment is processed directly through the app.

The advantages these virtual shops have over physical stores are obvious: there are no restrictions on the shop location, no energy costs, no rent and no regular staff. Virtual shops offer a cost-effective way to develop a chain of shops and gain more customers.

You can find more information on virtual and augmented reality in our “Visual Computing” technology report.

2 Market development

2.1 International

The United Kingdom is leading the way in online sales within Europe, with one in seven purchases in the UK already made online.¹⁹ According to the “Digital Market Outlook” from the Statista information portal, almost two-thirds of North American internet users are members of the online shopping community.²⁰ Statista analysts put this figure at 60 percent in Europe, and 30 percent in Asia. Nevertheless, the revenue generated with e-commerce in Asia is higher than anywhere else. The development in the Far East is considered a model for the rest of the world.²¹

While until recently, online shopping was limited to books, CDs and clothing, literally anything can now be bought and sold online – and delivered – whether household items, sports goods, health and beauty products, home and garden equipment, baby and children’s items, watches and jewellery, car and motorbike accessories or furniture. The next major trend is shopping for groceries online.

In view of the diversity of content across the globe, experts are anticipating a massive surge in the e-commerce sector.²² The proportion of users who shop online is still far below the number of web users. There is therefore potential to gain first-time online shoppers. In North America, this lies at 26 percent, and in Europe, at 19 percent. According to Statista, around one-seventh of the world’s population with access to the internet can still be gained for online shops.

Estimates for future e-commerce growth are therefore optimistic. In 2015, worldwide revenue through internet sales reached 780 billion euros. For 2016, an increase to 890 billion euros is expected. If this trend continues, business would grow by 10.7 percent every year over the five-year period from 2016 to 2020, while the number of people using e-commerce worldwide will rise from 1.5 billion to 2 billion.

¹⁷ www.giga.de/zubehoer/apple-watch/news/apple-watch-jetzt-anprobieren-mit-dieser-augmented-reality-app/

¹⁸ <https://thinkmobiles.com/de/blog/aufstieg-vr-commerce/>

¹⁹ <https://futurezone.at/meinung/e-commerce-stellt-die-handelslandschaft-auf-den-kopf/191.392.171>

²⁰ <https://cdn2.statista.com/static/img/emarkets/2015-dmo-methodology-en.pdf>

²¹ www.pwc.com/gx/en/industries/retail-consumer/global-total-retail.html

²² www.horizont.at/home/news/detail/milliarden-markt-der-boom-des-e-commerce.html



2.2 Austria

Business in Austria has developed approximately in line with the situation on the international stage in the past few years. Since 2010, sales achieved in e-commerce have increased with an average yearly growth of seven percent. In the past six years, domestic providers in particular have enjoyed growing popularity with online customers, and the volume of local trading partners has even risen by 17 percent per year.²³

In Austria, the top 250 online shops in 2016 generated a revenue of 2.3 billion euros, an increase of around nine percent compared with the previous year.²⁴ The ten companies with the highest sales achieved 1.1 billion euros in revenue, which represents 49.1 percent of overall revenue. In general, it should be noted that shops down to 200th place on the list are growing just as quickly as those at the top of the list. In addition, 44 new online shops were able to break into the top 100.

The top 10 online shops in Austria (Sales for 2015 in millions of euros)

²³ www.horizont.at/home/news/detail/milliarden-markt-der-boom-des-e-commerce.html

²⁴ www.etailment.at/studie-statistaehi-so-waechst-der-e-commerce-markt-in-oesterreich-und-der-schweiz

1. amazon.de	551.6
2. zalando	150.8
3. Universal	117.2
4. Otto	67.3
5. Tchibo	50.0
6. e-tec.at	49.5
7. amazon.com	43.6
8. H&M	37.1
9. Apple	31.4
10. Conrad	30.7

Source: Statista; EHI 2016

109 of the 250 online shops examined pursue a multi-channel strategy (see also Chapter 2.4). 65 shops link channels within a cross- or omni-channel approach. 82.8 percent of the top 250 companies also have mobile websites or apps. Mobile is therefore the most commonly offered additional sales channel.

More than half of Austrians reach for their smartphone when out and about in shops.²⁵ 60 percent of Austrian users compare prices online, 59 percent look for a specific shop using their phone and 58 percent find out more about a particular product on the web.

The most popular e-commerce apps in Austria are Amazon (64 percent) and willhaben (60 percent). In retail app use, the app from Hofer (28 percent) comes out on top, ahead of Billa (23 percent) and dm (19 percent). The ranks of furniture apps are led by IKEA (19 percent), XXXLutz (13 percent) and Möbelix (12 percent).

Good news for physical stores: 44 percent of those who compare prices on their smartphone still decide to make their purchase in a local shop if the products there are not significantly more expensive than they are online.

3 Vienna

3.1 Interest groups

e-center

The e-center is based in Vienna and, with 23 partner companies and representation in Berlin, Brussels, London, Hong Kong, New York and 100 advisors across all continents, it describes itself as the world's largest network for IT law.²⁶ The company, which was founded and is run by Prof. Wolfgang Zankl, ensures legal security in e-commerce and mobile business. Leading companies make use of the expertise and networking services of the e-center and consult it as a think tank and task force for legal issues in information and communications technology.

Under the umbrella of the e-center, Zankl developed the platform checkmycase.com – following scientific studies and experiments on the “wisdom of crowds”. It is based on the theory that under certain conditions a group of people make smarter decisions than an expert acquainted with the matter.

²⁵ MMA Communications Report 2016 (www.mmaaustria.at)

²⁶ www.e-center.co.at/

Co. all mentioned above. At this point, we will therefore only list companies that have made a special contribution within the entire value chain of e-commerce.

A-Commerce

A-COMMERCE was founded in 2013 under the name “aCommerce Team” with the aim of supporting companies in the production, trade and service sector facing the challenges of digitalisation. It provides professional e-commerce and digital strategies as well as support with the implementation of these innovative projects.

A team of e-commerce and digitalisation experts aims to ensure that news, trends and insights from and for the Austrian market are made available to both companies and end customers. Modern e-commerce and digitalisation strategies are developed with an innovative focus and hands-on mentality and then implemented in medium-sized companies throughout Europe. In 2016, the company organised the “A-Commerce Day” in Vienna for the second time, with around 550 attendees, which the company describes as the largest e-commerce event in Austria, and growing every year.

CheckYeti

Vienna-based start-up CheckYeti has launched a booking platform for winter sports offers. The company, which was founded by Stefan Pingerra and Georg Reich in 2014, now boasts more than 1,300 offers in over 150 ski resorts throughout the Alpine region.²⁷ These offers range from ski instructors and children’s ski courses to guided snowshoe walks. The offers can be compared with each other, and the service is free for all end users. With the portal, the two company founders are declaring war on established and local providers. However, they do not want to be seen as a purely online start-up: “Then we would be too far away from business. It is important for us to be close to the market, talk with people on site and to understand customer needs in detail,” explains Pingerra, talking about their philosophy. In summer, they continue to work diligently on expanding the offering at CheckYeti. “Primarily on offers for ski schools, ski instructors and guides in Switzerland and France,” says Pingerra. What’s more, they are working on developing the mobile app further, which is currently available for iOS and Android devices. Summertime outdoor activities can now also be booked through CheckYeti, from rafting adventures to mountain biking tours.

CheckYeti is an example of a successful e-commerce offer and an underlying service that customers would once have only been able to look for “offline” and in person at their destination at the start of their holiday – and usually, of course, with very limited opportunity to choose and compare.

²⁷ <https://kurier.at/reise/checkyeti-ski-lehrer-per-mausklick-buchen/164.940.447>



Content Garden

Content Garden Technologies is a technology company specialising in native content distribution. Using a patented distribution mechanism, the company provides optimised cross-media native content. Content Garden staff provide customers and partners with content production expertise and distribution solutions, to support them in implementing successful digital content marketing campaigns.

Among other things, Content Garden has introduced a patented advertising method known as “content-driven advertising” to the market. This combines neutral online content with classic digital advertising. Advertising matching the topic is then displayed around this content. The company was founded by Lucas Schärff and Sonny Damiri in 2013.

Coolshop

Vienna-based start-up Coolshop offers Austrian retailers the opportunity to offer (regional) products online. The company also provides technical infrastructure, logistics and the overall concept for launch and continuing operations. The start-up sees the core competence of trade as being regionality and individuality, which is therefore added value that major e-commerce giants are unable to offer. End customers have access to a wide range of local products online, can order them from home and then have the goods delivered directly to their home or pick them up in a shop.

Coolshop focuses on progressive digitalisation. Its objective is to bring all goods in physical stores to the internet. “On our website, you can find niche products that you would never find on Amazon,” says Johannes Meßner, CEO and founder of Coolshop. He says that digitalising the high street offers a lot of opportunities for regional products.

evolaris

evolaris is a Graz-based software developer with a large site in Vienna. evolaris develops digital solutions that improve the high street shopping experience and are aimed at expanding multi-channel measures from trading companies. evolaris strives to take a “customer-first” approach, putting the end customer at the centre of considerations, and assists them with personalised services throughout the shopping process. “Digitalisation has hit the retail trade with full force. We help our partners to use this situation as an opportunity and to take customer relationships to a new level by offering innovative services,” says Martin Schumann, Head of Smart Commerce at evolaris. In Smart Commerce, digital assistants in the form of mobile apps aim to complement multi-channel measures to reinforce

customer loyalty particularly in physical stores. Digital assistants to increase customer loyalty have already been developed and successfully implemented for several retail companies. At the end of 2015, Kapsch BusinessCom acquired a 50 percent stake in evolaris.²⁸

Geizhals

The price comparison platform Geizhals was founded by TU Wien graduate Marinos Yannikos in 1996 and was initially intended as a hobby project. In 1999, it was transformed into a commercial website. With the founding of Preisvergleich Internet Services AG in June 2000 and financing by e-matrix Online Business Development AG, the company, based in Vienna, made its real breakthrough.

In 2009, Geizhals began its expansion into the British market with the website skinflint.co.uk. One year later, the foundation was laid for the Polish branch, cenowarka.pl. In 2014, the majority rights to Geizhals were acquired by the German magazine publishing house Heise.²⁹

According to ÖWA, the platform had around 2.9 million unique clients in January 2015, making it one of the largest e-commerce platforms in the German-speaking region. In the Alexa ranking, Geizhals.at currently stands at 33rd place in Austria (as at October 2016).³⁰

Geizhals specialises in hardware and consumer electronics. Around 1.5 million individual products are continually managed editorially and are complemented with product information, links to test reports and user posts. Merchant ratings make up a significant component of the offer. Contributions are written by the customers themselves, to provide other customers with interesting information on suppliers and products, and to give merchants valuable feedback. Furthermore, merchants can communicate with customers on the Geizhals forums at any time. Geizhals.at is free of charge for consumers. Merchants are billed using a “pay-per-click” model, meaning that the merchant only pays for the actual number of users that visit its site via Geizhals.

Geizhals also enters into collaborations to drive forward the domestic e-commerce market – such as with the Economic Chamber. The project “The reputable Austrian photography retail sector online” aims to enable small and medium-sized retailers to present themselves in a promotionally effective and economical way online.³¹

KLARNA

KLARNA is a Swedish payment service provider with a branch in Vienna, which offers payment solutions in the e-commerce sector. Its core service consists of taking on traders’ payment claims and processing customer payments, thus eliminating the risk for buyers and sellers. Around 20 percent of all online purchases in Sweden are made via KLARNA.³² Overall, the group is represented in 50,000 shops in 16 countries.³³

KLARNA uses payment by invoice, meaning that unlike with credit cards, the customer only pays when the goods have arrived and have been examined. KLARNA has determined that only 16 percent of online shoppers actually complete their online purchase. “Many shoppers choose a product, add it to their basket and then abort the process when it comes to payment. Payment by invoice can significantly increase the conversion rate for retailers because it is the most secure option for customers. Many customers abandon their purchase before the payment process because they are unsure of the safety of their credit card details,” explains Managing Director for Austria, Christian Renk, discussing the business model.

Mon Style

²⁸ www.computerwelt.at/news/wirtschaft-politik/unternehmen/detail/artikel/113046-kapsch-businesscom-erwirbt-anteile-an-evolaris/

²⁹ <http://derstandard.at/1399462367567/Heise-Verlag-uebernimmt-Geizhals>

³⁰ www.oewa.at; www.alexa.com/siteinfo/geizhals.at

³¹ www.wko.at/Content.Node/branchen/oe/Foto---Optik--und-Medizinproduktehandel/Geizhals-Infos.html

³² <https://de.wikipedia.org/wiki/Klarna>

³³ www.computerwelt.at/news/detail/artikel/110005-nur-16-prozent-schliessen-kaufabwicklung-ab/

The team at Vienna-based company Mon Style consists of the three founders Mariel Noortman (CEO), Matthias Hecker (CTO) and Stephan Karner (COO). Mon Style offers an e-commerce platform for clothing, which learns using artificial intelligence and thus offers users a unique shopping experience. Using a combination of expert knowledge and technical features, the user can look for and purchase clothes in a highly individual and personalised way. The platform lists millions of products, which are suggested to the user by way of the self-learning engine based on their personal information.

Post E-Commerce/Shöpping

“Shöpping” is “a platform for domestic retailers”.^[1] The goal of the new marketplace is to provide Austrian traders with a platform that works simply and gives them the opportunity to sell their products in Austria. It is also aimed at making the shopping experience more attractive for local customers and therefore showcasing Austria as a location. The platform was initiated by Austrian Post, which created a dedicated unit with Post E-Commerce GmbH and also intends to handle delivery, the payment process and support.

Traders will benefit not only from the name and marketing budget, but also from the reach and advertising impact of Austrian Post.^[2] “More than 60 percent of all online orders by Austrian online shoppers are currently carried out in Germany. This is not a good development for the Austrian economy and Austrian trade. I hope that shöpping will contribute significantly to stopping this trend and if possible, even reversing it,” says Managing Director Eric Hofmann, summarising the platform’s objectives.^[3]

The initiative of the Vienna Business Agency and the Austrian Federal Economic Chamber focuses on this point. Together with Österreichische Post AG (Austrian Post), which was successful in an international call for tenders, the launch of the site wien.shopping.at is planned for 2018.

To motivate smaller companies in particular to get involved in the Vienna Shopping Platform, “Vienna Shopping Platform Funding” began on 1 November. The first 150 companies that want to register on the new platform will receive 1,000 euros in funding. The offer of the first shopping platform for trade in Vienna is rounded off with free consulting services and two city supporters to assist with any questions.

Current information on funding can be found on the Vienna Business Agency website

(<https://wirtschaftsagentur.at/foerderungen/programme/>).

Shpock

With its launch in September 2012, the boot sale app Shpock found a niche in the competitive second-hand market. The boot sale app replaced the endless reams of text of old platforms and optimised the marketplace for smartphones. Setting up a product on Shpock takes around 30 seconds.

In 2013, Norwegian investor Schibsted Classified Media joined Shpock and the app now has a user base of more than 30 million customers. The Shpock community trades products worth a total of six billion euros. “Not only have we secured our position among the most popular marketplaces in Austria, Germany and the UK, but we have also successfully sparked Shpock fever in three new countries – Italy, Sweden and Norway,” says co-founder Armin Strbac.

Smart Information Systems/SMARTASSISTANT

Vienna-based Smart Information Systems develops intelligent online consulting solutions that are aimed at helping customers in online shops to find the product best suited to their needs. The technologies used here fall under the term “guided selling”: Guided selling systems are software solutions that take on the role that the salesperson would have in a physical store, advising potential buyers and guiding them through the product selection process (see also Chapter 2.2 “Chatbots”).

The company was founded by Markus Linder and Martin Schliefnig and now has over eight branches in Europe and the USA. Its main product is the SMARTASSISTANT. The virtual product advisor can be used in a variety of ways: in online shops, on manufacturer websites, as a tablet solution in physical stores and as a mobile system.

^[1] <http://diepresse.com/home/wirtschaft/economist/5057885/Die-Post-stolpert-in-die-Zukunft>

^[2] www.a-commerce.at/hero1/shoopping-der-marktplatz-der-oesterreichischen-post/

^[3] www.a-commerce.at/interview/interview-eric-hofmann-oesterreichische-post-ecommerce/

According to the provider, the guided selling system from Smart Information Systems comes with the following advantages: a personalised and optimised shopping experience, 30 to 70 percent higher conversion rates, a sales increase of at least 20 percent, a reduction in returns by up to 10 percent, as well as greater customer satisfaction.

The company's customers include leading providers in Europe, the USA and Asia, such as Otto.de, Neckermann-Versand, Conrad-Electronic, Deutsche Telekom, Panasonic, Medion and Billiger.de, which use the SMARTASSISTANT in consumer electronics, unbranded products, fashion and services.

willhaben

With 6.3 million unique clients and 1.4 billion-page impressions per month, willhaben is one of the largest internet services in Austria.³⁴ The classifieds portal covers the specific areas of Property, Cars & Motors, Jobs & Career and a free market place for private advertisers. In October 2016, the platform had more than four million ads.

According to CEO Sylvia Dellantonio, the important pillars of willhaben's strategy for success are high brand awareness and a firm foothold in the everyday life of Austrian citizens. "The vast coverage and wide range of offers for many important areas of life offers the constantly growing community almost endless possibilities. Every month, half of all internet users in Austria use willhaben – and furthermore, the willhaben team supports the lion's share of real estate agents, car dealers, employers and advertising companies in the country," explains Dellantonio.

In September 2016, willhaben expanded its offering to include the new "native couponing" feature, which displays hand-selected promotions and vouchers from advertising partners in the entire app. The concept is based on mobile vouchers being able to be redeemed at the point of sale or in the online shop of the participating company, depending on the wishes and technical options of the provider.

Wirecard CEE

Wirecard Central Eastern Europe (CEE) GmbH, with its headquarters in Klagenfurt and a branch in both Graz and Vienna, is an Austrian pioneer when it comes to FinTech. The company has been active on the Austrian market since it was founded in 2000 and, since 2008, has been part of the Wirecard group and a competence centre for Austria and the CEE markets.

Wirecard CEE has developed into a single-source provider of cashless payment transactions (payment service provider) – independent of the sales channel and end device: "From sales in the online shop or at the point of sale through to risk management and customer loyalty programmes, we offer retailers large and small solutions that are easy to implement," says Roland Toch, Managing Director of Wirecard CEE, summarising the company's diverse offering.

As part of the Wirecard Group, the Wirecard Bank, which has a full German banking licence, also offers a "collecting model", which enables the acceptance of individual payment methods such as credit and debit cards, instant bank transfer and iDeal through a single contract.

The Wirecard Group currently has 200 connections with international payment networks in around 100 transaction currencies, as well as over 25,000 customers.³⁵

³⁴ www.willhaben.at/iad/presse

³⁵ www.computerwelt.at/news/wirtschaft-politik/unternehmen/detail/artikel/116241-30-jahre-computerwelt-roland-toch-wirecard/



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4 Companies from Vienna

Companies from Vienna							
Company	Since	Employees	Description	References (if publicly available)	Contact	Website	Email
A-Commerce	2013	4	A-Commerce was founded with the objective of supporting businesses in the production, trade and service sector facing the challenges of digitalisation. It provides professional e-commerce and digital strategies as well as support with the implementation of these innovative projects.		plusgrad GmbH, Wiener Straße 129, 2345 Brunn am Gebirge Tel. +43 664 3013669 Contact partner: Stephan Grad	www.a-commerce.at	office@a-commerce.at
Blue Code International AG	2011		Blue Code® is a European mobile payment solution for banks and retailers, which enables quick, secure and anonymous payments using mobile devices.	Billa, Merkur, Spar, Eurospar, Interspar, Adeg	Mario Linzbauer Wipplingerstraße 32/19b 1010 Vienna	www.bluecode.com	office@bluecode.com
Cards&Systems	1997	59	Cards&Systems is a technology and service company specialising in customer retention and customer care, which offers effective loyalty systems and clearing solutions to support its clients in strengthening their market position. Cards&Systems offers concepts, market research, technical implementation and comprehensive support.		Cards&Systems GmbH, Landstraßer Hauptstraße 5, 1030 Vienna Tel. +43 1 79033 Contact partner: Thomas Muchar	www.cardsys.at	service@cardsys.at
Check Yeti	2014	3	Vienna-based start-up CheckYeti has launched a booking platform for winter sports offers. The company now boasts more than 1,300 offers in over 150 ski resorts throughout the Alps. These offers range from ski instructors and children's ski courses to guided snowshoe walks. The offers can be compared with each other, and the service is free for all end users.		CheckYeti GmbH, Fleischmannngasse 1/26, 1040 Vienna Tel. +43 660 7030253 Contact partner: Stefan Pinggera	www.checkyeti.com	support@checkyeti.com
Content Garden	2013		Content Garden Technologies is a technology company specialising in native content distribution. Using a patented distribution mechanism, the company provides optimised cross-media native content.		content garden technologies GmbH, Gumpendorfer Straße 132/1/8, 1060 Vienna Tel. +43 1 59 50 100 10 Contact partner: Lucas Schärf	www.content-garden.com	info@content-garden.com

Company							
Company	Since	Employees	Description	References	Contact	Website	Email
Coolshop by Cool Media	2013	6	The marketplace solutions are specially tailored to retail and marketing communities. A combination of traditional brick and mortar with online trade. Multimedia advertising for additional marketing effects.	ShOP.TiROL, Salzburg-Shop.com and planned marketplaces in Vienna and Upper Austria	Cool Media GmbH, Heiligenstädterstraße 31/1/4, 1190 Vienna Tel. +43 676 311 61 05 Contact partner: Mag. Johannes Meßner	www.coolshop.at	office@coolshop.at
e-center	1998		The e-center is based in Vienna and, with 23 partner companies and representation in Berlin, Brussels, London, Hong Kong, New York and 100 advisors across all continents, it describes itself as the world's largest network for IT law.		JURANOVIT Forschungs GmbH, Graben 17/10, 1010 Vienna Tel. +43 1 53 54 660 Contact person: Prof. Wolfgang Zankl	www.e-center.co.at	office@e-center.eu
evolaris	2000	40	evolaris is a Graz-based software developer with a large site in Vienna. evolaris develops digital solutions that improve the high street shopping experience and are aimed at expanding multi-channel measures from trading companies.	e.g. Hervis, Kleine Zeitung, Legero, Austrian Lotteries	evolaris next level GmbH, Hugo-Wolf- Gasse 8/8a, 8010 Graz Tel. +43 316 351111 Contact partner: Christian Kittl	www.evolaris.net	office@evolaris.net
Geizhals	1996	60	Geizhals-Preisvergleich has existed as an independent online price comparison platform since 1996. Preisvergleich was initially run as a hobby project. Due to its great popularity, it was transformed into a commercial website as a sole proprietorship in 1999.		Preisvergleich Internet Services AG – Geizhals.at, Obere Donaustraße 63/2, 1020 Vienna Tel. +43 1 581 16 09 Contact person: Mag. Markus Nigl	https://unternehmen.geizhals.at	info@geizhals.at
KLARNA	2012	4	Klarna is a Swedish payment service provider with an Austrian branch in Vienna, which offers payment solutions in the e-commerce sector. Its core service consists of taking on retailers' payment claims and processing customer payments, thus eliminating the risk for buyers and sellers.		Klarna Austria GmbH, Wien Bahnhofcity Westbahnhof, Europaplatz 2/Entrance 1, 1150 Vienna Tel. +43 720 883810 Contact partner: Christian Renk	www.klarna.at	office@klarna.at

Company							
Company	Since	Employees	Description	References	Contact	Website	Email
Mon Style	2013		Mon Style simplifies online shopping by providing the opportunity to personalise all aspects of the shopping experience. The company combines fashion expertise with innovative and interactive technologies.		Mon Style GmbH Belvederegasse 18/9 1040 Vienna Contact person: Mariel Noortman, Stephan Karner (Managing Directors)	https://monstyle.io	office@mon-style.com
oratio	2016	9	oratio is a platform for communication with customers via WhatsApp, Facebook Messenger and Telegram. oratio develops chatbots for selected e-commerce companies aiming to open up new mobile sales channels.	e.g. nar, Flight Center, Danone, Panserve, La Redoute	oratio GmbH, Karl-Schweighofer- Gasse 12/5, 1070 Vienna Contact persons: Bernhard Hauser & David Pichsenmeister	https://oratio.io/	support@oratio.io
Österreichisches E-Commerce-Gütezeichen	2000		Verein zur Förderung der kundenfreundlichen Nutzung des Internet (Association for the Promotion of Customer-friendly internet use). The association awards the E-Commerce Trust Mark, which was developed on the initiative of the Austrian Institute for Applied Telecommunication.		Österreichisches E-Commerce- Gütezeichen – Verein zur Förderung der kundenfreundlichen Nutzung des Internet, Margaretenstraße 70/2/10, 1050 Vienna Tel. +43 1 595 21 12 59 Contact person: Dr Gerhard Laga	www.guetezeichen.at	office@guetezeichen.at
Paysafecard	2000	29	paysafecard is a globally active company in online prepaid payment methods and is part of the Paysafe Group. The company is headquartered in Vienna and represented in 43 countries worldwide. The main product, paysafecard, is an electronic payment method based on the prepaid principle. In 2015, the company was acquired by the international Optimal Payments group, which then rebranded itself as the Paysafe Group. paysafecard products are available from over 500,000 outlets worldwide.	e.g. Hofer, BP, Post, Shell, Eni, Hartlauer, OMV	paysafecard GmbH, Am Europl. 2, 1120 Vienna Tel. +43 1 7208380 Contact partner: Karin Korschach	www.paysafecard.com	info@paysafecard.com

Company

Company	Since	Employees	Description	References	Contact	Website	Email
<p>Post E-Commerce</p> <p>wien.shoepping.at</p>	<p>2015</p> <p>2018</p>	2	<p>Österreichische Post (Austrian Post) created the “Shöpping” platform, a kind of Austrian mini-Amazon for domestic traders, setting up a dedicated unit for the platform with Post E-Commerce.</p> <p>The Post operates the platform wien.shoepping.at, which was specially developed for trade in Vienna. The Vienna Business Agency and Federal Economic Chamber also provide funding and consulting services.</p>		<p>Post E-Commerce GmbH, Weintraubengasse 22, 1020 Vienna, tel. +43 5 7767-0 Contact person: Dipl.-Betriebsw. Hofmann Eric</p> <p>Contact partners: Birgit Bachmann (Funding) 01 4000 86192 Markus Rack (City Supporter) 0699 140 86702 Branislav Altus (City Supporter) 01 514 50 6745</p>	<p>www.shoepping.at</p> <p>www.wien.shoepping.at</p>	<p>info@shoepping.at</p> <p>Funding: bachmann@wirtschaftsagentur.at City Supporter: rack@wirtschaftsagentur.at branislav.altus@wkw.at</p>
Shpock	2012	121	The boot sale app optimises the marketplace for smartphones. Setting up a product on Shpock takes around 30 seconds. The Shpock community trades products worth a total of six billion euros.		<p>finderly GmbH, Donau-City-Straße 1, 1220 Vienna Tel. +43 1 934 66 29</p> <p>Contact partner: Katharina Klausberger</p>	www.shpock.com	info@shpock.com
Smart Information Systems	2006	28	Vienna-based company Smart Information Systems develops intelligent online consulting solutions that are aimed at helping customers in online shops to find the product best suited to their needs.	Medion, Quelle, Canon, Migros, Conrad, Otto, beko, OBI and many more.	<p>Smart Information Systems GmbH, Bayerngasse 3/5, 1030 Vienna Tel. +43 1 890 5318-0</p> <p>Contact person: Markus Linder</p>	www.smartassistant.com	office@smart-infosys.com
willhaben	2006	170	With 6.3 million unique clients and 1.4 billion-page impressions per month, willhaben is one of the largest internet services in Austria. The classifieds portal covers the specific areas of Property, Cars & Motors, Jobs & Career and a free market place for private advertisers. In October 2016, the platform had more than four million ads.		<p>willhaben internet service GmbH & Co KG, Landstraßer Hauptstraße 97-101 / Bürozentrum 1, 1030 Vienna Tel. +43 1 205500 – 0</p> <p>Contact person: Mag. Sylvia Dellantonio</p>	www.willhaben.at	office@willhaben.at
Wirecard Central Eastern Europe (CEE)	2000	70 (in Austria)	Wirecard CEE is a single-source provider of cashless payment transactions (payment service provider) – independent of sales channel and end device.		<p>Wirecard Central Eastern Europe GmbH, Taborstraße 1-3/10th floor, 1020 Vienna Tel. +43 316 813681</p> <p>Contact partners: Roland Toch, Michael Santner</p>	www.wirecard.at	vertrieb.at@wirecard.at

5 Legal notice

Vienna Business Agency. A service offered by the City of Vienna.
Mariahilfer Straße 20, 1070 Vienna, Austria
www.wirtschaftsagentur.at

CONTACT: Mag. Christoph Henrichs, Technology Services
T: +43 1 4000-87083, henrichs@wirtschaftsagentur.at

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SOURCES FOR ICT DATA: Statistik Austria, G. Haber, METIS, TU Wien, VRVis, Uni Klagenfurt, KMU Forschung Austria, Konjunkturdatenbank

AS AT: October 2017

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