

EOS JOURNAL

THE MAGAZINE FOR CLIENTS OF THE EOS GROUP – ISSUE 03.2018

BIG DATA TRENDS

Predicting the future, making better decisions and using bots to ensure data compliance

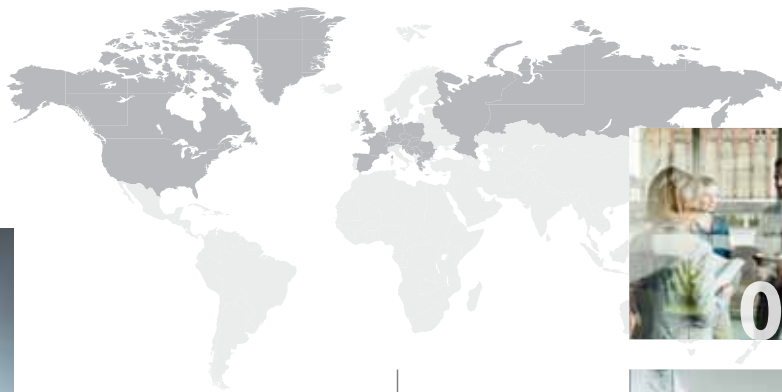
DIGITAL DEBT COLLECTION

How EOS is making receivables management smarter using analytical models

Focus

Data
in use





Klaus Engberding
Chairman of the
EOS Group's Board of Directors

Dear readers,

Thanks to the use of Artificial Intelligence (AI), by 2030 global gross domestic product will grow by 14 percent to EUR 13.5 trillion. That is what consulting company PwC is forecasting. Reasons for this increase: AI technologies enable companies to operate more efficiently. And allow them to customize their products more precisely to individual clients. Initial outlines of both are already apparent at EOS. With our new analytical platform, we use machine learning, a sub-specialty of AI, to improve debt collection results and also to better address defaulting payers in a more personalized manner. To find out how we succeed in doing that, please read as of page 16.

Digitization changes more than just our processes. Like many other companies, the EOS Group is going through a transformational stage. Our new vision empowers us to set the direction for the coming years: starting on page 6, you can read why we are securing our future success as a technology-based investor.

Incidentally, you will soon be able to see tangible evidence of one of the changes planned at EOS for the near future: As of the next issue, the EOS Journal will get a new look and new thematic priorities.

Keep questioning.

Klaus Engberding



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Digital service

EOS is developing an innovative client portal. Users say what it should be able to do.



The leap into a different galaxy: Torben Hiller (at right) and the Stargate team fulfill client requirements

The Stargate project run by EOS Deutscher Inkasso-Dienst (EOS DID) and EOS Technology Solutions in Hamburg, Germany, opens up new dimensions. There, the Stargate team is developing a state-of-the-art customer portal. "This enables us to satisfy our clients' needs for fast processes and digital services," says project manager Torben Hiller, Consultant Client Onboarding & Projects at EOS DID.

For instance, in the future, client employees will be able to communicate directly with their contact persons at EOS via the portal. It will take just one click to view receivables data, trans-

mit payment notifications and call up invoicing documents. They also will have the option of round the clock retrieval of reports showing the development of their receivables.

EOS employees along with select client companies have formulated their requirements for the portal from the very beginning. They regularly provide feedback on the interim results of the agile development process. First milestone: a "Minimum Viable Product", which amounts to a simple initial version of the portal. At this early stage users can get a sense of all the options the portal will provide in the future. ■



Sebastian Pollmer: Is building the business with secured portfolios at EOS

Moving securely into a new business sector

EOS reinforces its position in the area of secured non-performing receivables.

European banks are increasingly selling secured non-performing debts. With the new Secured Portfolio Valuation Department at its headquarters in Hamburg, Germany, the EOS Group is solidifying its role as an investor in this segment. "In recent years, Risk Management at EOS has supported companies in many countries in the valuation of transactions such as these. Now, our international colleagues have an entire team of specialists available to support them in pricing secured portfolios," says Sebastian Pollmer, Head of Secured Portfolio Valuation. One of their key tasks is assessing the quality and value of properties used as loan collateral in the portfolios. The objective is to find fair prices for the packages. "In the future, we would like to continue developing this business segment within the EOS Group and expand into new markets," Mr Pollmer explains. ■

Rating score A for the 14th time

For the 14th year in a row, EOS Holding has been awarded an "A" rating by Euler Hermes Rating. The auditors placed special emphasis on the company's market leadership in Germany as well as its strong market position in Western and Eastern Europe. The company's long-term experience in purchasing receivables and processing non-performing debts also contributed to the decision. In addition, this year, Euler Hermes Rating provided a positive assessment of the continuous development and expansion of expertise in the valuation, development and utilization of real estate. Subsequently, the auditors certified EOS as presenting a low financial risk due to its very stable cash flow and its ongoing and consistently very high earnings level.



Strong market position: Euler Hermes Rating commends the high earnings level at EOS Holding



Successful team:
The strategy of increasing investment in secured non-performing receivables is paying off

FISCAL YEAR 2017/18

Outstanding results

Plans exceeded, revenues increased and a new record set: The EOS Board of Directors takes a look at the past fiscal year.

In the 2017/18 fiscal year EOS Consolidated continued its success story. At EUR 271.5 million, earnings before taxes (EBT) were 39 percent above the previous year. “With very strong operational development, we succeeded in substantially exceeding expectations”, explains Justus Hecking-Veltman, Member of the EOS Group’s Board of Directors and Chief Financial Officer. In the recently completed reporting year, the company also increased its sales for the third time in a row. As compared to the previous year, sales increased by 19.8 percent to EUR 795 million (see charts at right). Because the EOS Group changed its fiscal year end to February 28, 30 companies in Western and Eastern Europe contributed two additional months to the results.

Germany remains the largest market

With sales of EUR 327.5 million EOS Consolidated achieved an increase of 7.2 percent in Germany. “Thanks to our long-term experience and stellar reputation, we ex-

ceeded the results of the previous year for unsecured debt collection,” says Andreas Kropp, Member of the EOS Group’s Board of Directors who is responsible for Germany. The same applies for the processing of debts secured by property and the purchase of real estate. “Moreover, we have once again invested in the development of our new receivables management software that we are gradually introducing until 2022. That is how we are enhancing the productivity of our debt collection processes and, as the largest market within the EOS Group, are making substantial contributions to its high earnings level,” Mr Kropp says.

Highest growth rate in Western Europe

The Western European region is exhibiting the greatest growth in sales. “Overall, we generated EUR 240.4 million in sales, 46.4 percent more than in the previous year,” says Dr Andreas Witzig, Member of the EOS Group’s Board of Directors who is responsible for the Western European and North American regions. The operational business

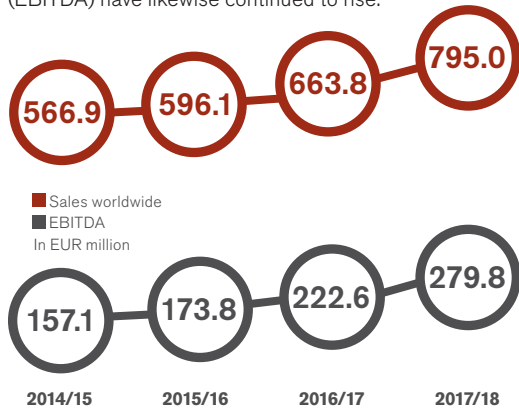
development in France, Belgium, Spain and Switzerland is particularly gratifying. “In France and Belgium, the increase in revenue is due to the first full-year inclusion of the Contentia Group of companies which we acquired in July 2016,” Dr Witzig says. In North America, sales were below those of the previous year.

Eastern Europe is investing

In the Eastern Europe region, EOS Consolidated registered a new record. “We generated EUR 183.2 million in sales, thus increasing the already outstanding level of the previous year by 39.4 percent,” says Marwin Ramcke, Member of the EOS Group’s Board of Directors responsible for this region. In particular, substantially increased revenues from debt purchases in Croatia and Hungary have contributed to growth. EOS has again intensified its investments in this region. “The strategy of investing in non-performing receivables that we initiated at the end of 2016 is paying off. We continue to pursue this,” says Mr Ramcke. ■

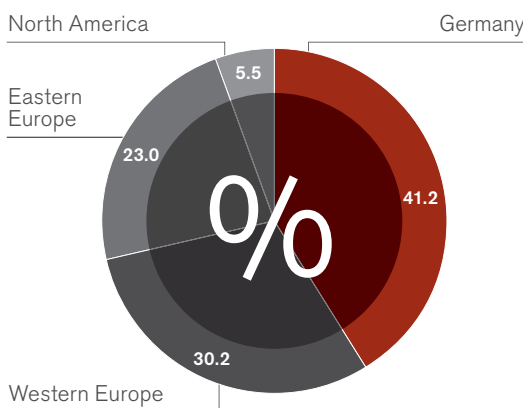
Sales continue to grow

Since 2014/15, EOS Consolidated has increased sales year after year. In the 2017/18 fiscal year, sales reached EUR 795 million. As in the past four reporting years, earnings before interest, taxes, depreciation and amortization (EBITDA) have likewise continued to rise.



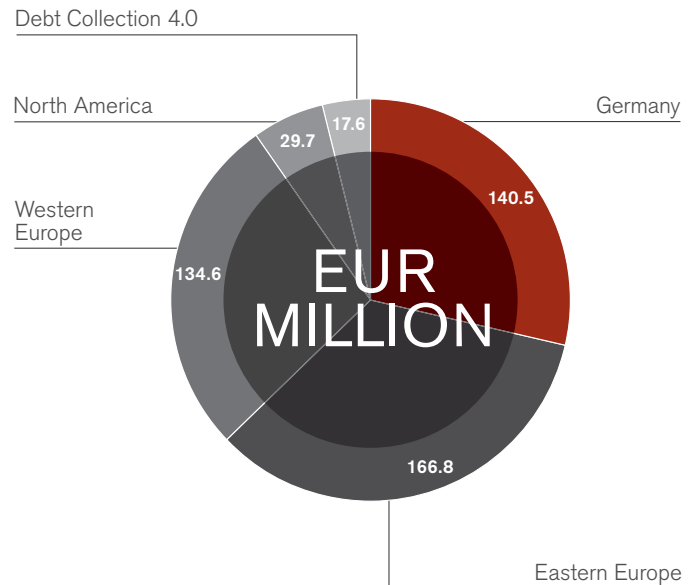
Changed revenue shares

With a share of 41.2 percent of corporate sales, Germany remains the most important regional market. The share of sales for Western and Eastern Europe has increased considerably.



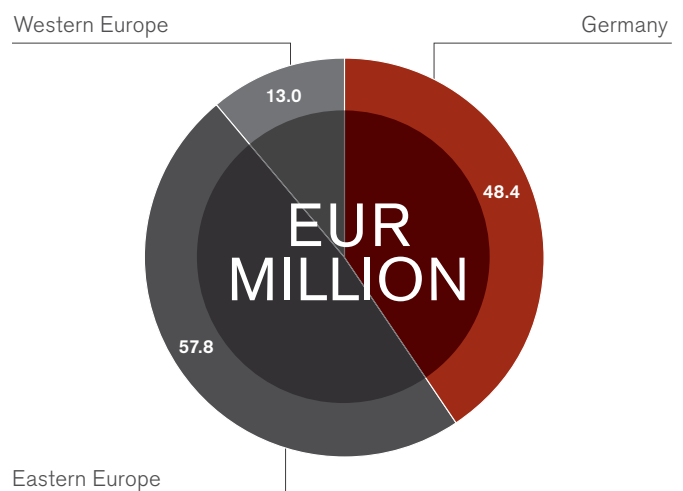
Eastern Europe leads in investments

In the 2017/18 fiscal year, EOS Consolidated reinforced its position as an investor. Overall, it invested EUR 489.2 million for debt purchases and buildings. With EUR 166.8 million, EOS made its greatest investments in the Eastern European region. Debt Collection 4.0 describes investments which EOS Consolidated makes in countries where it does not have its own company. Partner companies process the purchased portfolios there.



Investments in secured receivables

During the most recent fiscal year, EOS Consolidated invested a total of EUR 119.1 million in secured receivables and real estate. The region of Eastern Europe accounted for the lion's share of the investments. EOS Consolidated also made several acquisitions in this business sector in Germany.



MORE EXCITING INSIGHTS



In the company's annual report "Insights" you can read how the EOS Group has been able to successfully meet the challenges brought by digitization, services and solutions for its clients. Simply order your copy at: www.eos-solutions.com/publications. Or read the online version with additional information and videos at www.eos-solutions.com/insights.

INTERVIEW

“We have the courage to head in new directions”

Klaus Engberding has been running the EOS Group for one and a half years now. In this interview he explains how the new vision will ensure the future success of the company as a technology-based investor.

Mr Engberding, this is the first time you can look back on an entire business year as the CEO of the EOS Group. What is your conclusion?

I took over the Group when it was in an extremely strong position. Nevertheless, it was clear to me that we would have to make some decisions that would set us on a successful course for the future. In the past year we took the first important steps in that direction. For me, not just our outstanding operating results are a great success. Our progress with digitization and cultural change is just as important. Our new vision reflects what we will be doing in the future and what our core business will be: We are a globally connected financial investor driven by technology and entrepreneurial spirit.

How did you develop this vision?

In the Board of Directors, we asked ourselves which growth areas we would like to occupy based on our expertise and our technologies. We used to be an analog debt collection company. But technological accomplishments such as advanced analytics provide us with new opportunities. On one hand, they help us process receivables more efficiently. Our self-learning debtor-centric software solution analyzes large volumes of pseudonymized data in a very short time, in order to trigger the best next step in processing individual receivables. Moreover, data analyses help us better assess receivables

Klaus Engberding
CEO of the EOS Group



Our vision says: We are a globally connected financial investor driven by technology and entrepreneurial spirit.

and portfolios, thus enabling us to offer sellers of receivables packages particularly attractive prices. Our goal is to continue to further expand our role as an investor.

The market for debt purchases is highly competitive. How do you intend to intensify your commitment in this area?

We already have sufficient experience in the appraisal and utilization of real estate. In the future, we would like to make use of this expertise in even more countries. Thus, we want to intensify our acquisition of secured debt portfolios. Furthermore, instead of purchasing only non-performing receivables as we currently do, in the future we could conceivably also buy impaired and normally serviced debts.





Visionary:
CEO Klaus Engberding ensures
the future success of EOS



Workshop: Klaus Engberding
(at left) works with his
colleagues from the
EOS Group's Board of
Directors to develop the new
direction of the company

What part does the global network of the EOS Group play in your success as an investor?

Due to the increasing application of digital technologies such as Artificial Intelligence and Machine Learning, we are expanding our knowledge of receivables. That allows us to adjust their processing even more efficiently. At the same time, however, we don't have to assume servicing ourselves. Therefore, we are increasingly capable of purchasing portfolios in countries where we are not represented by a company of our own. In Portugal, for instance, we have already successfully acquired several receivables packages with a partner who is now responsible for their processing. We want to continue with the global expansion

of this model, which we call Debt Collection 4.0.

The vision emphasizes the entrepreneurial spirit of the EOS Group. Why?

Digital technologies are only one key to future success. Our cultural transformation process, Cultural Journey@EOS, allows us to embed a dynamic mindset at EOS. In many areas, we are creating the fundamentals for collaborative, flexible and sustainable work. By giving our employees greater scope for action, we become more agile and thus better. That is how we strengthen entrepreneurial thinking and acting. This new attitude at EOS becomes apparent in the courage to venture into new areas and in the confidence that we will be successful in doing so. ■

EOS Survey “European Payment Practices” 2018

Mastering digitization

What are the tasks European companies have to face in receivables management? Why don't European customers pay on time? What are the consequences for the companies affected? An EOS survey provides the answers.

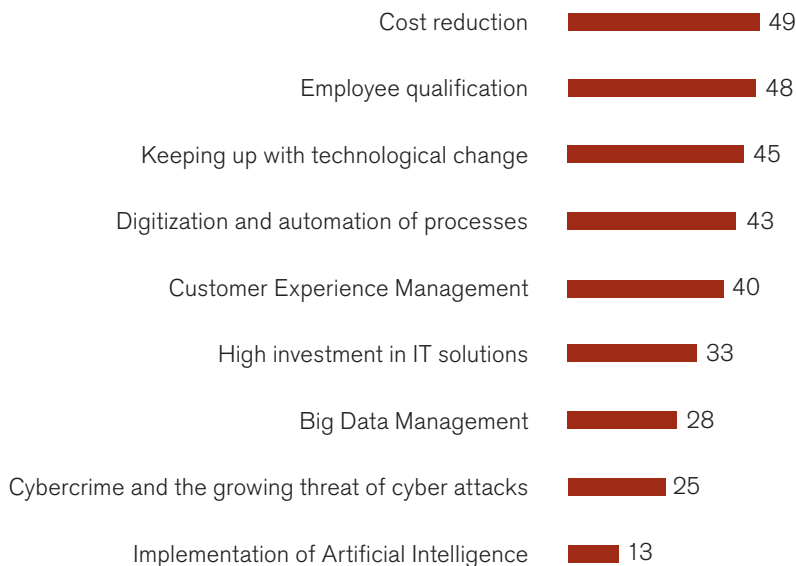
In the midst of the technological revolution

More than just a buzzword, digitization is bringing changes to receivables management in European companies. Seven of the nine major challenges in this area refer directly to the latest technological developments. This is borne out by the EOS Survey “European Payment Practices” 2018, for which 3,400 decision-makers from 17 countries were interviewed. The challenges include keeping up with far-reaching technological changes and digitizing or automating business pro-

cesses. Cost reduction and employee qualification are the two top concerns. New software, for example, can help accomplish tasks more quickly, thereby saving money.

However, employees must first be trained and IT investment made. Managers also consider the handling of Big Data and the growing threat from cyber attacks on proprietary networks as challenges they can no longer avoid. Digitization is simply ubiquitous.

Challenges in receivables management



Figures in percent

“In your opinion, what are the major challenges for receivables management at your organization in the next two years?”

More information

For more findings of the EOS Survey “European Payment Practices” 2018, go to bit.ly/EOS_Survey2018 or scan the QR code.



Sources (all images): EOS Survey “European Payment Practices” 2018, n = 3,400

Temporarily cash-strapped

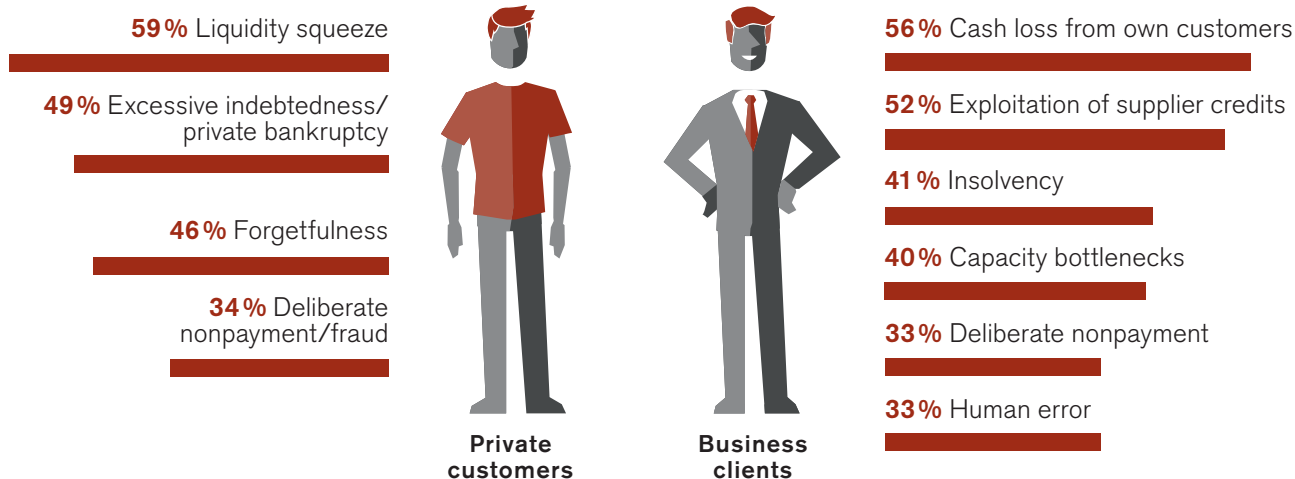
Why don't business and private customers pay their bills on time? The latter are most often temporarily short of cash, are in private bankruptcy or heavily indebted, or simply forget to pay a bill. Of the surveyed decision-makers, 34 percent believe

they are being cheated by private customers.

For business customers, however, the primary reason is the result of a chain reaction. Since their customers do not pay or do not pay punctually, they cannot

settle their own debts on time. The second reason is exploitation of supplier credit, and third is insolvency. Deliberate non-payment and human error rank lower, but were mentioned by one third of the respondents.

Why customers pay late



"To what extent do you agree with the following statements on reasons for late or non-payment of invoices?" Responses were ranked on a 5-point scale (1 = completely agree, 5 = totally disagree)

Breaking the vicious circle

The economy in Europe is doing better than it has in a decade. But despite the economic momentum, payment behavior has improved only slightly as compared to the previous year. The share of on-time payment receipts stands at 79 per cent. Of all outstanding invoices, 18 percent

are settled late, and 3 percent not at all. The consequences: 42 percent of companies complain of profit losses, 38 percent of liquidity squeezes, and 32 percent of higher interest expenses. As a result, companies must forego investments (23 percent), or deal with a situation that threatens their existence (14 percent).

are settled late, and 3 percent not at all. The consequences: 42 percent of companies complain of profit losses, 38 percent of liquidity squeezes, and 32 percent of higher interest expenses. As a result, companies must forego investments (23 percent), or deal with a situation that threatens their existence (14 percent).

"Professional receivables management is thus of major importance. It can break the vicious circle and bring back sales," says Klaus Engberding, CEO of the EOS Group.



"In your opinion, what are the financial consequences of late or non-payment?"

ENERGY UTILITIES

Sustainable relationship with the environment and customers

CEZ Group is Romania's largest producer of renewable energy. And when it comes to customer service, the utility operates just as sustainably as it does when generating electricity. This is why its subsidiary CEZ Vanzare is relying on the expertise of EOS KSI to collect receivables.



SHORTCUT

- The CEZ Group is pushing the energy transition in Romania.
- Thanks to EOS KSI, CEZ has optimized its receivables management.
- For all companies within the Group, a respectful relationship with customers is a top priority.

Between the Danube and the Black Sea in the Romanian region of Dobrukscha, the average wind speed is 25 km/h. While this is a problem for farmers in the area, as the strong and steady breeze causes their fields to dry out, it makes a different kind of harvest possible. Since 2012, 240 wind turbines have been spinning round there, 17 kilometers west of the Black Sea. The six by 12-kilometer

area is the location of Fântânele/Cogealac, the largest onshore wind farm in Europe. The Romanian offshoot of the Czech CEZ Group took over the project while it was still under construction in 2008 and has invested EUR 1.1 billion in the massive project. This has made CEZ the biggest investor on the Romanian energy market.

One of the most important investments

"The Fântânele / Cogealac wind farm is one of the most important investments we have ever made," says Cornelia Szabo, Executive Director of energy utility CEZ Vanzare. The company is one of the eight Romanian subsidiaries of CEZ Group.

This was an enormous construction project. For example, 190 kilometers of access roads had to be built and around 650 kilometers cable laid underground. The components for the 100-meter-high

01 Responsible investing:
Alexandru Manda, CFO at CEZ Vanzare, Cornelia Szabo, Executive Director of CEZ Vanzare, and Dan Malinici, CFO at CEZ Romania (from left)

02 Green and conventional energy:
CEZ Group supplies energy to more than 1.3 million customers in Romania



**Europe's biggest
wind farm:**

17 kilometers from
the Black Sea,
240 wind turbines
spin around

CEZ GROUP

- In 2005 CEZ, a utility owned by the Czech state, began its international expansion among other things by acquiring the Romanian energy company Electrica Oltenia.
- Nowadays, CEZ Group is one of the ten largest energy companies in Europe with a market capitalization of around EUR 10.8 billion.
- It employs approximately 27,000 people in some 100 subsidiaries in Central and Eastern Europe. Around 1,800 people work at the Group's eight Romanian companies, 64 of them at CEZ Vânzare.
- The distribution network of CEZ Group in Romania comprises 336,000 kilometers.
- In 2017, CEZ Group reported operating revenues of EUR 7.9 billion and an EBITDA of EUR 2.1 billion.

wind turbines came from Germany, Brazil, Czech Republic, Denmark, Poland and China. Following completion, the power plant, which has a capacity of 600 megawatt, now supplies more than a million households with green energy. When the wind turbines went onto the grid, the total of electricity generated by renewable energies rose to 10 per cent. In addition to the wind farm, CEZ also operates hydropower plants in Romania. "In this country, we are the largest producer of energy from renewable sources. As a result we are helping Romania meet the EU Directive, which specifies that 20 percent of energy consumption should be from renewable sources by 2020," says Ms Szabo.

But green energy is significant for CEZ not just at the operational level. "We are also supporting the spread of e-mobility," says the Executive Director. The company has installed charging stations, for ▶

example, and employees of CEZ in Romania can use the two electric cars from the company's fleet for business trips and customer visits.

A partner to companies and municipalities

As well as green power, CEZ Vanzare also sells conventionally generated electricity and natural gas. "We supply around 1.3 million private customers and 50,000 SMEs. For the latter we offer tailored solutions to business customers," explains Ms Szabo. In addition, the Group is involved at municipal level, for example by upgrading street lighting in Giurgita, in the south-west of the country, with energy-saving LEDs.

Through its SMART project, CEZ is currently transforming itself into a digitalized and automated company. One outcome is that between 2012 and 2016 the company reduced power cuts by half. In other respects too, customer satisfaction is very important to the company. For CEZ, transparency is part of offering a good

Doing all it can for customers:
CEZ Vanzare always looks for ways to improve its customer service



Cornelia Szabo
Executive Director,
CEZ Vanzare



Thanks to our collaboration with EOS KSI, we are achieving much better success rates in receivables management.



AWARD-WINNING IDEA

The well-being of consumers matters to CEZ Vanzare above and beyond supplying them with energy. Inspired by its customer Vasile Tiucsan, who is visually impaired, CEZ Vanzare created an audio library that now includes some 140 books by Romanian and international authors. The books are recorded by volunteers from the company. For this initiative CEZ Vanzare won, among other accolades, the "Best campaign in the Balkans" award at the SABRE Award EMEA 2017.

service. "We provide our customers with readily understandable information e.g. on billing data, payment methods and ways of saving energy," says Ms Szabo.

Good results by taking the legal route

Characteristics like integrity, excellence and respectfulness, and a constant desire to improve things, are also what CEZ Vanzare expects of its debt collection provider. Since 2009, the company has outsourced its receivables management to EOS KSI. "The collaboration with CEZ Vanzare began with pre-litigation receivables management. Shortly afterwards we also took over cases of judicial debt collection," explains Cristian Manea, Head of the Sales Team at EOS KSI in Romania. In the meantime, the two parties renew their agreements every one to two years, following corresponding bidding processes.

At EOS KSI, a team consisting of collection specialists with a legal background, legal advisors and lawyers works on behalf of CEZ Vanzare, handling around 3,000 pre-litigation and 100 post-litigation cases a month. "We generally advise our customers to go down the legal route if pre-litigation collection is not successful. This is how we achieve the best results," says the specialist.

More time for new business

The results speak for themselves. On average we resolve 30 percent of cases in pre-litigation processes within three months. And our success rate for judicial collections is 20 percent on average," reports Mr Manea. "The results have improved from year to year," says Ms Szabo, praising the team. She sees a lot of benefits to the collaboration: "Thanks to the extensive experience and insight of EOS, the specialists achieve good results even in the case of late payers who find themselves in bankruptcy proceedings. In such cases the prospects for success are usually very low," says the Executive Director. "And ultimately, every minute that we don't need to spend on receivables management can be used to initiate new business. Overall, we are in a much better position as regards receivables management, thanks to our partnership with EOS KSI." ■

INTERVIEW

We are constantly improving our efficiency

Cristian Manea, Head of the Sales Team at EOS KSI, talks about tact, professional communication and artificial intelligence.

What experience in debt collection does EOS KSI offer energy utilities?

We work for all the country's major providers. Besides CEZ Vanzare, we service five other energy groups, so we cover about 85 percent of Romanian territory.

When collecting debts for utilities, what special aspects need to be considered?

There are some specific features involved in receivables management for energy providers. For example, the utilities cannot simply switch off the electricity or gas supply if a customer has failed to pay a bill. In addition, a part of the portfolio consists of what are called "non-technical losses", in other words theft. These cases have a criminal law component and have to be processed using a defined procedure within certain time limits. We are always very careful to protect the reputation of our clients. To this end we communicate matter-of-factly and professionally with late payers, we record the content of the conversations and advise our customer if there are ever any problems or complaints.

How important is digitization for EOS KSI?

We are always looking for technological solutions that can help us improve our efficiency even more. At the start of 2018 we began to install data-driven and more extensively automated solutions for the collection process. With the help of artificial intelligence we can process cases even faster and better. This means that our customers benefit from a more efficient collection process. And it allows us to approach late payers in a way that is tailored even more to their individual circumstances and puts them more at ease.



Cristian Manea: Head of Sales Team at EOS KSI in Romania

EOS KSI IN ROMANIA

- The company started out in 2002 under the name KSI Kasolvenzia. Since it was acquired by the EOS Group in 2005, it has operated under the name EOS KSI.
- Today, the company employs more than 600 people at 14 locations. In addition to Bucharest, the company also has offices in the most important cities in the country like Cluj, Timișoara and Iași.
- The more than 40 customers of EOS KSI in Romania mainly consist of financial services providers, telecommunication companies and utilities.



Infos ro.eos-solutions.com/en
For more about EOS KSI in Romania.

BIG DATA

New use for data

Big data is being used in a lot of companies. And the potential applications are becoming increasingly more sophisticated, as reflected in trends like prescriptive analytics and digital twins.

SHORTCUT

- Data allows companies to make better decisions.
- Digital twins find individual strategies.
- Robots help ensure regulatory compliance.

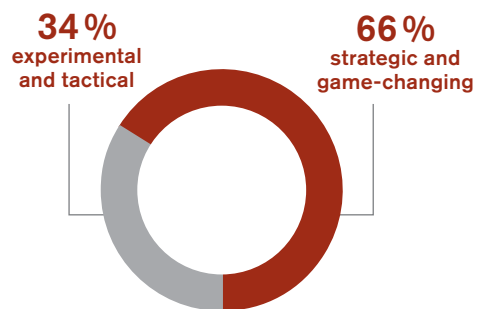
Every time consumers submit a search engine query, sensors record the condition of a machine or bank customers process a financial transaction, data is always produced. According to a survey by market research group International Data Corporation (IDC), the volume of digital information worldwide was around 16 zettabytes in 2016. This figure is likely to rise to 163 zettabytes by 2025. This roughly corresponds to the volume that would occur if the entire repertoire of film streaming service Netflix was viewed 489 million times. Companies can use this information – big data – to gain insights into the interests, purchasing behavior and risk potential of customers and make better decisions (see also page 16). And the potential applications are becoming increasingly more sophisticated.

Using data to see into the future

This is also reflected in the big data trend prescriptive analytics. It is the next stage of predictive analytics, in which data analyses predict the probability of future events. Prescriptive analytics aims to show the user how various behaviors and activities influence the operating result and recommend appropriate courses of action. For example, parcel service UPS is using sensors on its trucks to track their whereabouts and the traffic situation. It then uses the data obtained to optimize the routes taken by its delivery drivers. Juan Perez, Chief Information Officer at

ROLE OF BIG DATA

66 percent of companies worldwide see big data as strategically important or game-changing. 34 percent use data for tactical or experimental reasons.



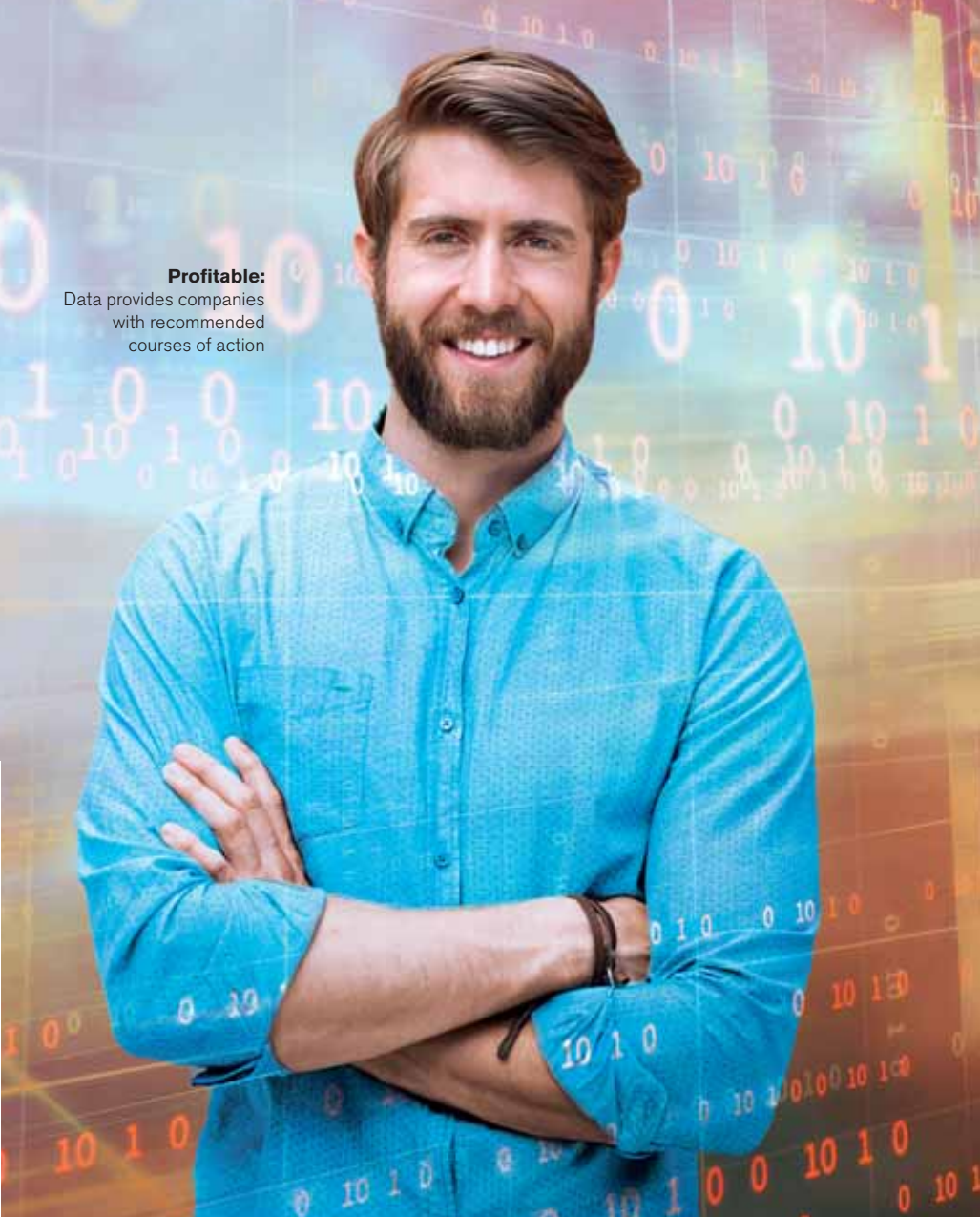
Source: Atscale „2018 Big Data Maturity Survey“

UPS, explains: “If we can shorten the distance driven by each driver by a mile a day in the USA alone, we will save USD 50 million within a year.”

Digital twins gain ground

Using data to make better decisions is also the idea behind digital twins. These are virtual reproductions of objects, processes or services based on data. The concept originated in industry, where sensors and the Internet of Things provide information on the status of the object to be reproduced. Analytics solutions evaluate this data and make forecasts about future events. In car design, for example, crash tests can be conducted using digital twins. According to estimates by Gartner analysts, half of all large industrial companies will be using digital twins by 2021.

Digital twins also provide the financial sector with genuine added value, as they can simulate the decisions of real bank cus-



Profitable:
Data provides companies
with recommended
courses of action



tomers, for example. They compile predictions on the customers' individual behavior, such as their expenditure and the amount of money they will need in retirement. In this case, the digital twin is based on e.g. general socio-demographic, financial and health data, and insights from behavioral research. This data is then complemented by data from the company. By constantly incorporating new insights about e.g. the customer's spending and saving habits, their virtual counterpart is constantly learning something new about them. For example, it can then work out the optimum savings and investment strategy for the particular customer. Nevertheless, companies can only use this kind of individual data if customers and regulatory authorities allow it.

Robots help compliance with regulatory requirements

In general, regulatory requirements for data use are increasing. For example, within the

HOW TO BEST EXPLOIT THE POTENTIAL OF BIG DATA ANALYTICS

Management consultants McKinsey give tips on how banks can profitably use advanced analytics. According to their advice, lenders should

- analyze in detail the potential of analytics solutions
- get managers involved at an early stage in the process so as to develop models that really solve their problems
- not constantly start new experiments without implementing them fully
- exhaust the full potential instead of investing in technical infrastructure, engaging data scientists and using analytics only on a project basis
- ask the right questions to obtain important insights with algorithms

scope of the EU General Data Protection Regulation (GDPR), which entered into force in May, companies must on request provide customers with information about the use of their data or delete this data. To quickly provide the relevant information in the event of a customer query, companies are increasingly automating processes for the analysis and evaluation of data using robotic process

automation (RPA). In this process, software robots, called bots, collect, process and save the data. For example, RPA can quickly search for personal data from various sources. Bots are therefore an option for companies to ensure that they not only use data profitably but also in compliance with regulations. And it is precisely this interaction that makes big data lucrative for companies. ■



The Data Experts:
 Mohamed Maamoun,
 Joachim Göller and
 Patrick Witte from the
 Center of Analytics at
 EOS (from left)

CENTER OF ANALYTICS

EOS gets a central brain

Digitization simplifies processes is the widespread assumption. Is that really the case? What's happening at EOS shows that it's true – digital debt collection is good for everyone.



Patrick Witte
 Team Manager Business
 Analytics at the Center of
 Analytics



Thanks to analytical models, we can make better decisions about the best next debt collection action.

SHORTCUT

- The analytical platform of the Center of Analytics makes EOS even more digital.
- First applications show that forecasting analytical models improve debt collection results.

Until now, payment reminders EOS sent to defaulting payers were based on decades of specialists' experience. Making contact via letter had paid off in similar cases. The fact that the experts at the EOS Group know how efficient receivables management works has been proven in the more than 40 years since the company was founded. None-



01 A call at the right time: Thanks to digital debt collection, EOS contacts defaulting payers in the most effective way

02 Analytical services: The analytical platform plows through huge amounts of pseudonymized data at high speed

theless, nothing is so good that it can't be improved. That's why EOS now combines experience with digital technology.

"Statistical models and machine learning help us decide even more precisely and objectively which next debt collection action we should take to best address a defaulting payer individually," explains Patrick Witte, Team Manager Business Analytics at the Center of Analytics (CoA).

Models deliver predictions

With the CoA, EOS in Hamburg, Germany, has created a strong basis for the digitization of the entire Group. An analytical platform has been evolving there since the middle of 2017. "We are building the central brain of the EOS Group. In the future, the platform will hold all our expertise," elaborates Joachim Göller, Head of Center of Analytics (also see interview on page 19).

The platform plows through large amounts of data at high speed and structures them. This process is compliant with data protection, because all data is pseudonymized and does not allow conclusions

to be drawn about actual defaulting payers. The platform recognizes recurring patterns in the data. Software programmers build models based on the findings. "Such a model can predict, for example, the likelihood of a defaulting payer to settle receivables within the next three months. Another model can calculate the prospects of success with a letter," says Mr Witte. The forecasts then flow back into the debt collection system of the EOS company that handles the respective receivable. The data trigger the most promising next step.

Something bigger emerges

What is the point of all this? At the beginning of the digitization process at EOS, the only assumption was that data-based debt collection could be more efficient than the traditional means. Conclusive proof had not yet been obtained. In the meantime, application examples of the platform show that the assumption is justified. The first debt collection systems have been connected. For example, a new German debt collection system is currently ►



Internationalization: The EOS Group rolls out its digital strategy

being developed by a project team in Hamburg, Germany. It should be fully operational in 2022. However, a minimum viable product already exists, in other words an initial basic version of the system. EOS is using it to first process a few receivables from a select customer.

Originally, the analytical platform was intended exclusively for the new software. "But when something this big is created, as many EOS companies as possible should benefit from it," says Mr Göller.

Significantly higher payment receipts

The German project "Data Driven Decisions" (D3) also will be linked to the platform in the coming months. In the pilot phase, EOS Deutscher Inkasso-Dienst (EOS DID) shows how data-driven control over processes improves recovery results.

In the existing debt collection system "Fidibus 2", EOS DID processes receivables as it always has. At the same time, analytical models developed by a comparison group of the D3 team are running calculations in the background and providing employees with the best next debt collection activities. "Our algorithms take into account, among other things, the level of incoming

payments and the costs of the measures," explains Stefan Theuerkauf, Head of Data Science at EOS DID. The impact: In 2017, D3 generated approximately 10 percent more payment receipts than the conventional Fidibus 2 strategy. "Since we already know today how a defaulting payer will react to our activities tomorrow, we can deliver better and faster results to our clients," says Mr Theuerkauf.

Defaulting payers also benefit. "Our goal is to offer each of them a realistic, tailor-made solution to settle their receivables," says Mr Göller of the CoA. "We can now more easily address defaulting payers on the channel that is most convenient for them. By reaching them faster, we help them avoid unnecessary costs." Ultimately, they should be able to reduce their debts as quickly as possible or eliminate them completely.

Internationalization has been launched

Mr Göller and his team are gradually rolling out their digital strategy internationally to allow all EOS companies to use data-supported debt collection in the future. "Since July, data analysts and scientists in our group-wide data and analytics community

CENTER OF ANALYTICS (COA)

- The core of the EOS Group's CoA is the analytical platform.
- Data scientists develop analytical models on the platform that predict the best next debt collection action.
- CoA experts are training data scientists so that they can develop analytical models on the platform themselves.
- In addition, the CoA networks developers from different companies so that they can share their results. Thus, the individual companies can adapt models that have already been proven to work elsewhere.
- The individual debt collection systems always take into account national legal requirements.

have been meeting monthly via videoconferencing to share their best practice solutions," he explains. Here, external experts can also report on market trends. This is how the specialists throughout the company enrich each other with their ideas and expertise.

Better than planned thanks to Scrum

The CoA analytical platform will gradually be used internationally. A few months ago EOS France became the first company outside Germany to link to it. "In July, the French debt collection system "Oyo" initiated its test phase after connecting to the platform in Hamburg, Germany," says Mr Göller. It took seven months to dock "Oyo" with the platform.

The Hamburg team worked together with colleagues from EOS France in Lille and Paris. "One of the success factors was our project management using the agile Scrum method. Because we did our planning in two-week intervals instead of over a period of seven months, we had functioning partial results much more quickly," explains Mr Göller. In addition, the team continuously adjusted the plan over time. "Actually, we wanted to develop only one model for France and in the end we had three. The result is now much better than what was originally planned." Last but not least, defaulting payers and customers of EOS in France benefit. ■



Joachim Göller:
Advances the digitization
of the EOS Group
internationally

INTERVIEW

"Making a decision in less than a second"

Since the end of 2017, Joachim Göller as the Head of Center of Analytics has been making the EOS Group even more digital. France, for example, shows how EOS rolls out the strategy internationally.

The French debt collection system "Oyo" is now working with the predictions of the analytical platform in Hamburg, Germany. How does that work in practice?

Once the project goes live, EOS France starts with an energy supplier's large trust portfolio. With this portfolio we benchmark with a competitor. We have to show that our digital debt collection is better than the competition. Our goal is always to provide our clients with the best results. At the same time defaulting payers benefit from being individually approached.

How does such a conversion take place in France?

We are proceeding step by step. We initially process a large part of the portfolios according to the previous strategy, for a smaller part we use the predictions of the analytical models. With the help of the test group, we can see exactly what improvements the new strategy generates. If the strategy works out well, the proportion of receivables we process this way will increase. At some point, the new strategy will become the standard.

What models does "Oyo" work with?

We developed three models with French data, specifically for this client. They predict the level of costs and the recovery amount for the next sub-process. We want to predict the next step "Oyo" should take, for example whether we should send an SMS to the defaulting payer or make a phone call. For cases at a more advanced stage, the models help to assess whether it is advisable to hand them over to judicial debt collection. Thanks to the models, "Oyo" makes such decisions for each individual case in less than a second.

SIMPLY EXPLAINED

How does digital debt collection work at EOS? The following short video clearly explains it: eos-solutions.com/insights or via the QR code.



MACEDONIA



Bustling cities and unspoilt nature

Are you seeking a European country with great potential for singular travel experiences? That would be Macedonia. EOS employee Maja Koteska from the capital city of Skopje presents her homeland.

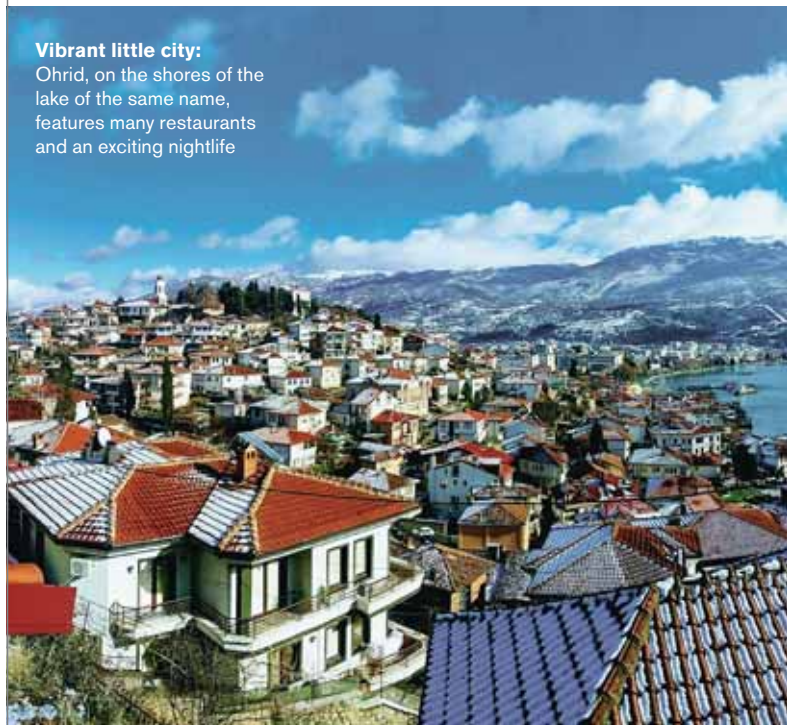
Macedonia is a genuine insider tip. To all who prefer uncommon experiences, unspoilt nature and real contact with the country and its people, we warmly recommend exploring this small nation of only two million inhabitants in central South-eastern Europe. There is a lot to satisfy both nature lovers and city tour fans. Mountains and lakes are great for hiking and swimming, while the capital Skopje is a rewarding destination for history enthusiasts and shopping fans. So it's not surprising that back in 2014, well-known travel publisher Lonely Planet added Macedonia to its list of "Best of Travel" destinations for the year.



Probably due to its location, Macedonia has been spared large hordes of tourists. Situated among Albania, Kosovo, Serbia, Bulgaria and Greece, the country does not have its own access to the sea. Yet it does have something to offer swimming and water sports fans. "Lake Ohrid in the southwest is a popular destination for excursions and vacations," says Maja Koteska, Head of Operations at EOS Matrix in Macedonia. In 1979, the 200 million-year-old lake and the city of Ohrid, population 42,000, were declared a UNESCO Natural and Cultural Heritage site. The region has been inhabited for 5,000 years, with the first mention of the city dating back to the early Middle Ages. Its long his-



Historic view: The monastery Church of St. John at Kaneo, on Lake Ohrid dates back to the 13th century



Vibrant little city: Ohrid, on the shores of the lake of the same name, features many restaurants and an exciting nightlife



Sun-drenched inland: Grapes have thrived for centuries in the environs of Tikveš



Wine press: The juice of the vine ripens to perfection in old wooden casks



Relaxed: Berovo is blossoming into the spa destination of the country



Meditative: The peaceful landscape around Berovo is great for relaxation

MACEDONIA FOR CONNOISSEURS

The Tikveš region in the central region of the country has long been known for its wines. In the nineteen eighties, 80 per cent of Yugoslavian wine was produced in Macedonia. Berovo (above), on the eastern border of the country, is in the process of making a name for itself as a wellness location.

tory is evident. Picturesque cobblestone alleys wind up the hills past historic houses, churches decorated with impressive frescoes and an ancient amphitheater. At the same time, Ohrid also offers many great restaurants, beach cafés, bars and a vibrant nightlife in summer.

Tikveš: Superb wines

“Anyone who enjoys red wine in one of the beach restaurants is most probably drinking a bottle from the fertile Tikveš plain, which, with 300 sunny days per year, has the most beautiful weather in Macedonia,” says Koteska. Wine was being produced there as early as the 13th century BC, before Ottoman rule put an end to that by prohibiting viticulture. Only within the past few decades have the vineyards been cultivated again. Eighty per cent of the grapes are red and include Cabernet Sauvignon, Merlot, and several domestic varieties such as Vranec, Prokupac and Kratosija. White



Maja Koteska

Head of Operations, EOS Matrix in Macedonia

Maja Koteska came aboard at EOS Matrix in Macedonia 15 years ago as its third employee and was there from the very beginning, helping build the company as well as the entire debt collection industry in the country. The educationist began as a telephone operator – and today manages a team of 60 employees.

wines are produced from Smederevra, Welschriesling, Chardonnay and Sauvignon Blanc. Travelers can visit many of the vineyards where they are sure to find a souvenir for the people back home (see also page 23).

Berovo: Wellness and recreation

Anyone who wants to really relax while on vacation is in the right place in the area around Berovo and Pehčevo on the Bulgarian border. The Malesevo Mountains with tranquil lakes and large forests offer peace and quiet, while the little town of Berovo with its 7,000 inhabitants boasts the air with the highest oxygen content in the Balkans. “It’s no wonder, that in recent years the region has developed into a popular site for wellness hotels,” Ms Koteska adds. “And those who find that too boring, can undertake extensive hiking and mountainbike tours, go all out for water sports or opt for skiing and snowboarding in ▶



Old and new:
Skopje's city center after it was restored in 2014



Landmarks:
The medieval fortress Kale, high above Skopje

ON THE GO: GOOD TO KNOW

ON THE GO

Macedonia has two international airports in Skopje and Ohrid. Travel from there is possible by rental car or train. The rail network is relatively well developed, with information regarding timetables and connections available on the Macedonia railways' website mzi.mk. Taking the bus is an alternative for getting around the country more quickly than by rail. Connections and schedules can be found at balkanviator.com. Rental cars are available right at the airports, but also online, such as at rentalcars.com. While driving on the roads, some of which are very well developed, you should not forget about the speed limits: in some cases, top speeds of 50 km/hour are permitted. Violations can result in heavy fines. Highways are toll roads, whereas parking is generally free.

COSTS

Macedonia is considered to be one of the most affordable travel destinations in Europe. The official currency is the Denar with one Denar equivalent to EUR 0.016 (as of September 2018). Dinner for two in an upscale restaurant costs about EUR 20 to 25 and add EUR 1.50 for half a liter of beer. Depending on the guesthouse or hotel, accommodations start at approximately EUR 20 a night.

GOOD TO KNOW

The official language is Macedonian. English and German are generally spoken in cities. EU citizens need only a passport to enter the country. Visitors from other countries may require a visa (see also: bit.ly/2LD6aD2).



01



02



03

01 Kameni Most:

The stone bridge dating back to the 15th century is part of the municipal coat of arms

02 Galley on the Vardar:

There's a restaurant in the ship's hold

03 Matka Canyon:

The popular local recreation area offers boat tours that provide glimpses into breathtaking natural wonders

winter." History enthusiasts can visit Roman and Iron Age ruins. And Berovo's delicate wood carvings and traditional cheese varieties are well known around the country.

Skopje: Rebuilt capital city

The capital of Macedonia can look back on a rich history of over 2,000 years. What the visitor first notices, however, is the large number of neoclassical buildings and monuments that were erected as part of the extensive redesign of public squares and government buildings in 2014. Furthermore, all over the city, visitors can view attractions from the ancient world and from the eras of Ottoman and Byzantine occupation that provide insights into the history of Skopje. "Most of them can be found in the area around the old Turkish Bazaar, the Čaršija," Ms Koteska says. "Here is where shopping fans also get their money's worth. And myriad restaurants and cafés invite them to recover from their shopping sprees and to regenerate."

Once darkness falls, the city of 540,000 inhabitants is still a worthwhile destination. In terms of its nightlife, studded with cozy bars and cool clubs it no longer has to avoid comparison with other big cities in Europe. ■



More information at:
www.lonelyplanet.com/macedonia

SKOPJE FOR EXPLORERS



Vivacious city: Architectural highlights everywhere you go in Skopje

A PEARL IN THE BALKANS

With one-half million inhabitants, a turbulent history, ethnic diversity, the Macedonian capital is an exciting little piece of land that invites tours of discovery. It is definitely not overrun, so tourists easily find accommodations and restaurants. The young population provides entertaining nightlife.

exploringmacedonia.com/skopje.nsp



TURKISH BAZAAR

The Turkish bazaar dominates the old quarter, which is still marked today by the Ottoman influence in mosques, hammams and myriad small shops.

bit.ly/2L8laLy



SAVORING HEARTY FARE

Macedonian cuisine is reminiscent of its Greek and Turkish relatives. Maja Koteska recommends the National Restoran Makedonska Kuka as one way to get to know it.

makedonskakuka.com



VARDAR RIVERBANK

The Vardar River is a lifeline of the city. Its banks are ideal for sight-seeing, pleasant walks and relaxation. Boat rides are also available here.

bit.ly/2LwUaTf



COFFEE AND LITERATURE

Coffee, cake and culture are offered at the Metanoja Literary Cafe in the western part of the city center. A wonderful place to relax or just simply sit and read.

bit.ly/2JFs0nq

HOTSPOTS

GREAT FOOD

Macedonian specialties along with burgers and salads are on the menu at the Restaurant Skopski Merak in Skopje. Recommended by TripAdvisor and very popular with the locals.

skopskimerak.mk

LUSH NIGHTLIFE

Skopje has a wide variety of cool bars and clubs. To get a first impression take a guided tour. The Skopje bar crawl involves the pleasant company of a group of people heading to three different bars where Macedonian beer and local wine are served.

Skopjebarcrawl.mk

GREEN SKOPJE

During this half-day tour, travelers can become acquainted with the green environs of the city by bus and cable car up Vodno Mountain, where the Millennium Cross erected in 2000 and a fantastic view of Skopje are sure to impress. The return trip leads through the enchanted gorges of the Matka Canyon.

bit.ly/2JtB0fq

PAMPERING PROGRAM

The 5-star Aurora Resort & Spa is one of the country's most beautiful spa hotels. Only five kilometers from Berovo, it is perched on a mountainside with a spectacular view over the valley and the lake. The hotel was built from local materials in accordance with ecological considerations and blends in well with the landscape.

bit.ly/2msERA4

TIKVEŠ: A VINTAGE EXPERIENCE

The Tikves Wine Cellars in Kavadarci is one of the most important viticulture enterprises. Visitors can take a tour of the wine production facilities and follow up by enjoying the good drop to accompany a hearty Macedonian meal in the affiliated restaurant.

bit.ly/2uyUJpr

Is success
a question of
cash flow?

Or a question
of ideas?



We believe that a successful company needs both:

a cool head for calculating and a passion for the matter at hand. This belief flows through to our work for your company. You can find out more about our services at

www.eos-solutions.com

EOS. FOR A DEBT-FREE WORLD.

