



MAKEDONSKI TELEKOM AD – SKOPJE

Address: Kej 13 Noemvri 6, 1000 Skopje, R. Macedonia

**ANNUAL REPORT
on the operations of Makedonski Telekom AD - Skopje in 2017**

On 13 February 2006, Magyar Telekom Plc., the controlling owner of the Company, (via Stonebridge Communications AD - Skopje, majority shareholder of the Company), announced that it was investigating certain contracts entered into by another subsidiary of Magyar Telekom Plc. to determine whether the contracts were entered into in violation of Magyar Telekom Plc. policy or applicable law or regulation. Magyar Telekom's Audit Committee retained White & Case as its independent legal counsel to conduct the internal investigation. Subsequent to this, on 19 February 2007, the Board of Directors of the Company, based on the recommendation of the Audit Committee of the Company and the Audit Committee of Magyar Telekom Plc., adopted a resolution to conduct an independent internal investigation regarding certain contracts in Macedonia.

Based on publicly available information, as well as information obtained from Magyar Telekom and as previously disclosed, Magyar Telekom's Audit Committee conducted an internal investigation regarding certain contracts relating to the activities of Magyar Telekom and/or its affiliates in Montenegro and Macedonia that totalled more than EUR 31 million. In particular, the internal investigation examined whether Magyar Telekom and/or its Montenegrin and Macedonian affiliates had made payments prohibited by U.S. laws or regulations, including the U.S. Foreign Corrupt Practices Act (the "FCPA"). The Company has previously disclosed the results of the internal investigation.

Magyar Telekom's Audit Committee informed the U.S. Department of Justice (the "DOJ") and the U.S. Securities and Exchange Commission (the "SEC") of the internal investigation. The DOJ and the SEC commenced investigations into the activities that were the subject of the internal investigation. On 29 December 2011, Magyar Telekom announced that it had entered into final settlements with the DOJ and the SEC to resolve the DOJ's and the SEC's investigations relating to Magyar Telekom. The settlements concluded the DOJ's and the SEC's investigations. Magyar Telekom disclosed the key terms of the settlements with the DOJ and the SEC on 29 December 2011. In particular, Magyar Telekom disclosed that it had entered into a two-year deferred prosecution agreement (the "DPA") with the DOJ.

The DPA expired on 5 January 2014, and further to the DOJ's request filed in accordance with the DPA, the U.S. District Court for the Eastern District of Virginia dismissed the charges against Magyar Telekom on 5 February 2014.

In relation to the local investigation by the state authorities in Macedonia and further to the previously disclosed information in the Financial Statements of the Company for the preceding years, the criminal procedure at the basic court is on-going.

We have not become aware of any information as a result of a request from any regulators or other external parties, other than the previously disclosed, from which we have concluded that the financial statements may be misstated, including from the effects of a possible illegal act.

This Annual Report on Operation refers to Makedonski Telekom AD - Skopje (hereinafter referred to as: "MKT").

In 2017, the mobile voice revenues contributed with 33.7% to the total revenues, while 14.8% of the total revenues of MKT were generated from fixed line voice services. The fixed line Internet and data services revenues contributed with 14.1%, while the mobile non-voice services revenues contributed with 16.1% to the total revenues. The revenues from IPTV contributed with 6.5% to the total revenues.

The fixed line voice revenues still show a downward trend, mainly due to the decreased number of fixed-line customers and the decrease of the outgoing traffic. On other side the mobile voice revenues has been stabilized. The revenues from mobile non-voice services shown significant increase in 2017, supported by the IPTV revenues growth trend mainly due to the growing IPTV subscriber base.

At the end of 2017, MKT had 210,905 voice access fixed lines compared to 217,576 at the end of 2016. The number of total BB accesses is stable with 193,958 at the end of 2017, compared to 194,172 at the end of 2016. The number of IPTV customers at the end of 2017 reached 117,481 customers (including Magenta1, 3 Play and other TV services), marking 9,1% increase from the end of 2016. The number of Fibre to the Home (FTTH) customers reached 42,265 at the end of 2017, marking 14,2% increase from the end of 2016.

MKT had 1,203,228 mobile subscribers at the end of 2017, compared to 1,257,887 at the end of 2016. The mobile market penetration in Macedonia is 106.8%, which shows continual trend of individuals owning multiple SIM cards. As a result of the market saturation, MKT especially focuses on retaining the customers in order to protect the market share.

The Macedonian mobile market was characterized by highly competitive campaigns and offers in 2017. Due to the increased competitiveness and in order to prevent the churn and encourage the usage, MKT launched various campaigns, price plans and additional services specially designed to meet the subscribers' needs, with a focus on value instead of price. These offers are targeting different customer segments. The MAGENTA products which had been developed, as a DT strategy, were redesigned in 2016 and highlighted the year as a year of a holistic household approach offering integrated products and services to maximize the household base, secure the revenue and bring profitability.

MKT is continuously working on creating a market demand for mobile Internet and stimulating mobile data usage via device/data price plans.

The Macedonian mobile market, influenced by the global trends, is moving to a much broader and more interactive communications market, encompassing voice, mobile Internet and 3G/4G streaming services. Further roll-out of mobile broadband technology, improvement of customer management and billing processes and investment in value added services are planned in order to ensure market competitiveness.

Below are presented the available remuneration data for the BoD members of MKT with active mandates on 31 December 2017*, related to the applicable period of 2017.

- a) Data about the remunerations in MKT and in other companies if the respective member is also a member of the management bodies of other companies (salary, salary remunerations, remunerations for membership, bonus, insurances and other rights)

Name and surname (applicable period)	Company where the member is a member of the managing body	Salary	Salary remuneration	Remunerations for membership	Bonus	Insurances	Other rights
Nazim Bushi	Makedonski Telekom AD Skopje (President of Board of Directors)	0	0	MKD 124,000 (monthly net)	0	0	None
Sasho Veleski	Makedonski Telekom AD Skopje (Deputy President of Board of directors)	0	0	MKD 93,000 (monthly net)	0	0	None

Andreas Maierhofer	T-Mobile Polska S.A	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Peter Zsom	Stonebridge Communications AD Skopje	This may not be disclosed due to applicable requirement	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Andrea Sághy		This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Karoly Schweininger	Vidanet Zrt.	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
István György Dévényi	Vidanet Zrt.	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
	Bánhidai Szent Erzsébet Katolikus Óvoda Alapítvány	0	0	0	0	0	None
Aneta Simeska Dimoska	Makedonski Telekom AD Skopje (member of Board of Directors)	0	0	MKD 62,000 (monthly net)	0	0	None
Pavel Hadrbolec	Aufsichtsrat TMA (Holding GmbH & GmbH); Prüfungsausschuss TMA (Holding GmbH & GmbH);	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Klaus M. Steinmaurer	Makedonski Telekom AD Skopje (member of Board of Directors)	0	0	0	0	0	0
Zamir Mehmed	Makedonski Telekom AD Skopje (member of Board of Directors)	0	0	MKD 62,000 (monthly net)	0	0	0
Divna Jovkowska Eftimoska	Makedonski Telekom AD Skopje (member of Board of Directors)	0	0	MKD 62,000 (monthly net)	0	0	0

b) Data about the employment if the member has established a labour relation with other employers (name of employer, activity, salary amount, salary remunerations, bonus, insurances and other rights).

Name and surname (applicable period)	Name of employer	Activity of employer	Salary amount	Salary remunerations	Bonus	Insurances	Other rights
Nazim Bushi	Cair municipality		MKD 24,000 (monthly net)	None	None	None	None
Sasho Veleski	Mikron Tech doo Prilep	Production on industrial and universal small electronic motors	MKD 12,000 (monthly net)	None	None	None	None
Andreas Maierhofer			None	None	None	None	None

Peter Zsom	Deutsche Telekom AG	Telecommunications	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Andrea Sághy	Magyar Telekom Plc.	Telecommunications	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Karoly Schweininger	Magyar Telekom Nyrt.	Telecommunications	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
István György Dévényi	Magyar Telekom Nyrt.	Telecommunications	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Aneta Simeska Dimoska	State Market Inspectorate	State authority	MKD 28,625 (monthly net)	None	None	None	None
	Assembly of the Republic of Macedonia	State authority	MKD 69,650 (monthly net)	None	None	None	None
Pavel Hadrbolec	Deutsche Telekom AG, Europe	Performance Management Europe	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Klaus M.Steinmaurer	Deutsche Telekom AG	Telecommunications	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements	This may not be disclosed due to applicable requirements
Zamir Mehmed			None	None	None	None	None
Divna Jovkovska Eftimoska			None	None	None	None	None

* These data are presented in scope, layout and content as given by the respective member of BoD and MKT has not made any verification of the accuracy and completeness of the data.

In addition, the compensation of the key management of the Company, including taxation charges and contributions, is presented below:

In thousands of denars	2017
Short-term employee benefits (including taxation)	78,588
Termination benefits	47,024
State contributions on short-term employee benefits	10,292
Long-term incentive programs	10,965
Other payments	5,510
Total	152,379

Further details on MKT's financial performance, the operating and accounting policies, as well as other relevant disclosures, are given in the MKT financial statements for the year ended 31 December 2017.

Transaction with an interested party

Below are the details of the transactions concluded with an interested party:

- a) MKT has effected a transaction with an interested party, Macedonian Tennis Federation, whose President and authorized person was an Executive Member of the Board of Directors and Chief Operating Officer of MKT, at the time when transaction was effected. The transaction has been effected based on the concluded Sponsorship Contract in the amount of MKD 615,000 + VAT between MKT (as a Sponsor) and the Macedonian Tennis Federation (as a Sponsorship Beneficiary), for sponsoring the activities of the Tennis Federation in 2017, based on the Resolution of the Board of Directors of MKT on the approval of the conclusion of this Contract, as a transaction with an interested party, dated 22 March 2017. This sponsorship is a traditional activity of MKT for supporting the development of the sport in the Republic of Macedonia that will also contribute to the promotion of MKT at all events organized by the Macedonian Tennis Federation. On 12 April 2017, under this Sponsorship Contract, the transaction was effected in the sponsorship amount for the benefit of the Macedonian Tennis Federation.

- b) The Agreement concluded on 04 November 2016 with the Joint Stock Company for Construction and Management of Residential and Commercial Properties of Importance for the Republic of Macedonia, responsible for management of the National Arena, on naming and branding the National Arena "Filip II", as a transaction with an interested party, ceased to be valid as of 1 September 2017. The information on this transaction with an interested party was published on 4 November 2016 in accordance with the Law on Trade Companies and the Listing Rules.
MKT, as a company which is committed to the corporate governance and the social responsibility towards the wider community, started this cooperation in order to raise the quality of the "Telekom Arena" to the level of the globally renowned stadiums. At the "Telekom Arena", national sports competitions, as well as important international events were held, whereby the stadium, the City of Skopje and the Republic of Macedonia were promoted more widely.

- c) On 9 February 2017 MKT concluded a Contract for Surveying and Mapping of Underground Telecommunication Lines with Crnogorski Telekom a.d., as a transaction with an interested party, in view of the fact that two members of the Board of Directors of the Company are also members of the Board of Directors of Crnogorski Telekom a.d., which is a contracting party in the transaction. The conclusion of the Contract for Surveying and Mapping of Underground Telecommunication Lines with Crnogorski Telekom a.d. was approved with a Resolution of the Board of Directors of MKT adopted at the extraordinary meeting held on 9 September 2016, as a transaction with an interested party. The contract shall be concluded for a time period until the full completion of the project. The value of the Contract shall range between 1.2 and 1.5 million EUR, depending on the final mileage which will be covered on site, and its implementation and the respective payments by Crnogorski Telekom a.d. shall be performed in phases, in accordance with the Contract.

Regulation and Pricing

The Macedonian law concerning the electronic communications (Law on Electronic Communications - "LEC") was enacted on 5 March 2005. Thus, by means of certain transitional provisions, the country's telecommunications regulations were harmonized with the European Union (EU) regulatory framework. For the purposes of aligning with the EU Framework Directives 2009, the new draft LEC was enacted in March 2014 as primary legislation, as well as rulebooks as secondary legislation.

On 19 December 2014, amendments of the LEC were enacted. One of the most important changes is implemented in Article 75-a, which regulates the prices of international roaming.

According to this article, the Agency for Electronic Communications (“the Agency”) has the right, with a Decision, to determine the maximum prices for the services which are offered to roaming users from countries with which the Republic of Macedonia has concluded agreements on the reduction of the prices of roaming services in public mobile communications networks (Bosnia and Herzegovina, Montenegro and Serbia) on a reciprocal basis, which cannot be higher than the prices of the same services in the EU. In a period of 3 years, starting from 2015, the prices will be reduced to the maximum determined.

On 6 November 2015, in the Official Gazette of RM No. 193, amendments of LEC were enacted, wherein the respective changes affect the misdemeanour provisions.

On 27 December 2016, MKT was once again designated as a Universal Service (US) provider for the next period of 5 years, for fixed telephony services and Internet of 2 Mbit/s, public payphones and equivalent access for disabled end-users for a five-year period starting from 1 January 2016.

Regulation of Fixed Line Business

MKT is a significant market power (SMP) operator on the wholesale markets of fixed telephony networks and services, including the market of access to the networks for data transmission and leased lines. MKT, as a SMP operator, has the obligation to enable its subscribers to access publicly available telephone services of any interconnected operator with an officially signed interconnection contract.

In 2017, both relevant retail markets for fixed telephony: 1. Access to the public telephone network at a fixed location and 2. Publicly available telephone services at a fixed location were deregulated. Based on it, MKT is not SMP anymore and has no ex-ante regulations for the retail fixed services.

According to the bylaws, MKT has an obligation to publish reference offers for the wholesale products for interconnection, Unbundling Local Loop (ULL), Local Bit-stream Access (BSA), Reference Access Offer for access to ducts and dark fibre (RAO) and wholesale terminating segments of leased lines. An initial Fibre to the “x” (FTTx) regulation was introduced in the second quarter of 2011 with the obligation for Reference Access Offer (RAO) for ducts and dark fibre imposed on MKT by the Agency. As of 1 April 2015, MKT introduced the VULA service and the optic bit-stream access services as part of its referent wholesale offer.

The Number Portability (NP) procedures are an obligation that arises from the LEC and the NP Rulebook for all operators in Macedonia. The deadlines for porting are two days in a fixed network and one day in a mobile network. The all call query method is an obligation due to the IP migration of all operators on the domestic market.

On 15 July 2014, the Agency introduced an obligation for all operators with cable network infrastructure (including MKT) to build their network underground and to place their existing aerial networks underground by the end of 2020 in the cities with more than 15,000 citizens. Additionally, all fixed and mobile operators are obliged in terms of digital agenda targets to provide broadband services with a minimum speed of 30 Mb/s for 100% of the households’ network coverage and 100 Mb/s for 50% of the households’ network coverage by the end of 2020.

The Rulebook on the emergency number E 112 was enacted on 27 October 2015 (Official Gazette No. 184/2015). Even though the obligations for the operators are defined in the rulebook, the date for starting the service is not set.

Regulated Wholesale Prices

In May 2017, the Agency adopted a Decision for the designation of MKT as a SMP operator on wholesale markets, local and central access on a fixed location, relevant markets, 3a and 3b. With the same market analysis, ONE.Vip was designated as a SMP operator for the first time, with same regulatory obligations as MKT. ONE.Vip is obliged to offer wholesale broadband services on DOCSIS technology.

The third analysis of Markets 9 and 10 – Transmission and termination segments of Leased Lines (LL) and Market 7 – Physical access to network infrastructure, was finished in November 2014. As a result of the analysis, on Markets 9 and 10 the transmission segments of the LL were deregulated and on Market 7 the regulations of fibre-based products of MKT were included. On 30 December 2014, the Agency adopted a Decision for the designation of MKT as a SMP operator on Market 9 – Terminating segments of leased lines in the geographical area of the Republic of Macedonia.

Regulation of the Mobile Business

In July 2015, the Competition Authority approved the merger of the business of VIP and ONE in Macedonia, consisted of mobile, fixed Internet and transmission of audiovisual content services, in the new entity ONE.Vip. After the merger between MKT and T-Mobile Macedonia (TMMK), all radiofrequency licenses awarded and used by TMMK were transferred to MKT. MKT has radiofrequency usage rights for the following radiofrequencies for public mobile communications systems:

- 2 x 12.5 MHz in the 900 MHz band, validity period: 8 September 2008 – 8 September 2018 (10 years)
- 2 x 10 MHz in the 1800 MHz band, validity period: 9 June 2009 – 9 June 2019 (10 years)
- 2 x 15 MHz 2100 MHz band, validity period: 17 December 2008 – 17 December 2018 (10 years)
- 2 x 10 MHz in the 800 MHz band, validity period: 1 December 2013 – 30 November 2033 (20 years)
- 2 x 15 MHz in the 1800 MHz band, validity period: 1 December 2013 – 30 November 2033 (20 years)

The competitor ONE.Vip has frequency usage rights for the following radiofrequencies for public mobile communications systems:

- 2 x 12.5 MHz in the 900 MHz band
- 2 x 10 MHz in the 2100 MHz band
- 2 x 10 MHz in the 800 MHz band
- 2 x 15 MHz in the 1800 MHz band
- 2 x 10 MHz in the 800 MHz band
- 2 x 15 MHz in the 1800 MHz band

Licence duration of two licences previously owned by ONE.Vip was until 2017, 10 MHz from 900 MHz band and 10 MHz from 1800 MHz band expired on 23 March 2017, positioned in the lower parts of the bands. Based on a request from one.VIP for licence prolongation, the Agency adopted Resolution No. 0804-974 dated 2 November 2016 not to prolong these two licences. Their resolution was based on efficient and effective spectrum usage and necessity for realising radiofrequencies for entrance of third mobile operator on the market in order to foster competition. At the moment, these radiofrequencies are not allocated and are not available for sale to the existing operators.

The retail services provided by the mobile network operators in Macedonia are currently not subject to price regulation.

MKT has SMP on the wholesale market for voice call termination services in mobile communications networks, whereby several obligations are imposed: interconnection and access, non-discrimination in interconnection and access, accounting separation and price control and cost accounting.

MTRs were additionally decreased to 0.63 MKD/min starting from 1 December 2016, based on a new Agency Decision adopted in November 2016.

Also, the new wholesale prices for SMS termination were introduced starting from 1 December 2016, based on a new Agency Decision adopted in November 2016, on the level of 0.3 MKD/SMS.

At the beginning of the year 2016, the Agency conducted new market analyses on the relevant market for mobile origination and adopted a new Decision for SMP designation in April 2016. The regulatory remedies imposed by

Agency are as follows: joint dominance of One.VIP and MKT, the same remedies for both operators, mobile access obligation for all MVNO hybrid types (including Reseller), a cost based price for Full MVNO and retail minus (-35%) for the Reseller, an obligation for access to MMS services and mobile data based on technology neutrality (including 4G access). The new wholesale prices for mobile originating calls, originating SMS/MMS and wholesale mobile data services are effective from 1 July 2016.

An auction procedure concluded in August 2013 awarded the whole 790 – 862 MHz band together with the unassigned spectrum in the 1740 – 1880 MHz band for Long Term Evolution (LTE) technology in a public tender. Each of the 3 Macedonian mobile operators acquired an LTE radiofrequency license of 2x10 MHz (in the 790 – 862 MHz band) and 2x15 MHz (in the 1740 – 1880 MHz band). Each license was acquired for a one-off fee of EUR 10.3 million (MKD 634,011 thousand). TMMK will retain the license for 20 years, until 30 November 2033, with an extension option for up to 20 years in accordance with the LEC.

Audiovisual and Media Regulation

In May 2013, the Macedonian Parliament adopted a Law on Film Production, amended in January 2014, imposing obligations for the payment of an annual fee by all cable operators (retransmission) and operators that provide Internet services. The fees are defined as follows:

- 1% of the revenue of cable operators which are operating with TV broadcasting program services
- 1% of the revenue of the entities that provide Internet services
- 2% of the revenue of the legal entities which are operating in the distribution, rental and sale of movies

The above-mentioned fees are applicable as of 2014, calculated on the level of the related revenues from the previous year.

The Law on Audio and Audiovisual Media Services entered into force on 3 January 2014. The Agency for Audio and Audiovisual Media Services, the legal successor of the Broadcasting Council, has the right and obligation to conduct program supervision of the program packages that are retransmitted by the operators of public electronic communications networks.

MKT, as a provider of audio or audiovisual media services on demand, has an editorial responsibility regarding the selection or the content of the service. It is obliged to keep the audiovisual media service on demand unchanged for at least 30 days after its being made available to the users.

Additional obligations imposed by the law and affecting MKT are:

- If a program is subtitled in a language different from the language used originally when the program was produced, it has to be subtitled in Macedonian or in the language of the community that is not a majority, but is spoken by at least 20% of the population in the Republic of Macedonia, except for teleshopping and advertising programs.
- The annual fee for the surveillance carried out by the Agency for Audio and Audiovisual Media, in the amount of 0.5% of the total revenues earned by the retransmission and 0.5% of the total revenues earned for on-demand activity, has to be paid to the Agency for Audio and Audiovisual Media.
- Local program services can be transmitted within their service area and public broadcasting services funded by the broadcasting fee have to be transmitted and free of charge.
- In its subscription agreements, MKT has to specify the list of program services which are currently being retransmitted in its program package.
- The internal television channel output, i.e. the signal of that channel, has to be recorded fully and without any interruption and the recording has to be available at least 30 days after broadcasting.
- MKT is obliged to keep the catalogue and the content of the audiovisual media service on demand for at least 30 days after its being made available to the users.
- Obligation for the promotion of European audiovisual works.
- MKT is obliged to deliver the output signal continuously to the location for collecting signals for monitoring purposes.

Competition

The competition in the telecommunications business is well-developed in all segments. Two main integrated players that offer full portfolio of fix and mobile services shape the telecommunications market in Macedonia.

Vip Operator, a subsidiary of the Telekom Austria Group, was merged with Telekom Slovenije's subsidiary ONE. The merger was consolidated as of 1 October 2015. In November 2017, Telekom Austria became full owner of the company, after purchasing the remaining 45% share from Telekom Slovenije, as agreed with the merger.

The MVNO Lyca-mobile entered the market in July 2016, on the network of ONE.Vip, and reached low market share by year end 2017 (around 2% according to an internal estimation). They are limited to prepaid offers only, and focus on international calls and data packages.

The Balkan lower roaming fees agreed by the regulators of Macedonia, Serbia, Montenegro and Bosnia and Hercegovina in 2015 were further decreased as of July 2017.

ONE.Vip, as an integrated operator, was offering various services - mobile and fixed voice, mobile and fixed broadband Internet and TV. The main focus was put on mobile post-paid, as well as on bundled FMC offers. In the mobile segment ONE.Vip continued to increase the contract ratio, which reached 58% in Q3 2017, but total base declined by 2.2% YoY, as customers move from multiple prepaid to single contract subscriptions (source: Telekom Austria Q3 2017 report).

In the fixed segment, ONE.Vip offers triple play bundles (fixed voice/Internet/TV) and FMC products. They introduced interactive TV feature in all TV products in February 2017, and later, in May, broadband internet for home use over 4G routers.

The cable operators also have a significant role in the telecommunications market and, as providers of cable television as their main service; they are well-established on the Macedonian market. Most of them offer Internet broadband services and fixed voice services on top of the TV service. Telekabel is the biggest cable provider among over 50 active cable operators. By the time this Report is finalized, Telekabel announced its intention to enter in the mobile business during 2018.

The product portfolio of all operators is driven by bundle products. The cable operators are bundling their TV offer with Internet and fixed voice services. The fixed voice service of the cable operators is usually perceived as a value added service. As the overall market is price sensitive, the price perception plays a major role in the customers' choice and thus the cable operators' offers are seen as more competitive than MKT's.

The trend of number portability continued to increase in 2017, for both mobile and fixed numbers. By the end of Q2 2017, there were almost 216 thousands mobile and 174 thousands fixed ported numbers in total (source: Report for electronic communications development Q2 2017, the Agency).

As at 31 December 2017, MKT has an estimated retail fixed voice market share of 60%, retail fixed broadband Internet market share of 41% and TV market share of 28% (source: internal best estimates). In the mobile market, the market share of MKT was estimated to 49% (source: internal best estimates and internal reports for active customers).

Marketing and Sales

Operating in a highly competitive environment in all telecommunications segments, MKT was focused on the retention of the existing customers and the up-sales to bundled converged services, as well as on the acquiring of new customers on the fixed and mobile market, for both the residential and the business segment.

MKT successfully continued the growth of Magenta 1 product which reached 9% of the households in the country. Magenta 1, as a complete household approach, continues offering integrated services for all family members.

The Smart portfolio that was introduced in 2016 offered a novelty on the market, the roll-over concept - non-used bundled data from the current month to be used in the following month, and continues to be very well perceived by the customers and increased their satisfaction during 2017.

Smart portfolio introduced in 2016 by offered novelty on the market, the roll-over concept - non-used bundled data from this month to be used in the next month, continues to be very well perceived by the customers and increased their satisfaction during 2017.

In 2017, MKT introduced a new product on the market – Telekom SafeNet, offering a network security service for mobile customers. Mobile network security service protects web/http mobile traffic from malicious software (malware) like viruses, worms, spyware, hacking, phishing, etc. Telekom SafeNet is the enabler of a worry free digital life.

MKT continues to offer the fixed portfolio introduced in the last quarter of 2016 with a simple and flexible approach, offering stable Internet on the best fixed network with a combination of IPTV with an exclusive content, to contribute in sustaining the customer base, as well as to attract new households.

In the prepaid segment, the active base was stimulated by activities with tailor made offers for different segments. Different communication activities were executed, mainly driven by direct SMS instead of big ATL campaigns. Excellent results in the summer period were achieved by attracting visitors to MKT's offer. Price repositioning of weekly and monthly tariff options introduced end of 2016 and proper targeted BTL activities results positively both on the customer satisfaction aspect as well as on the financial side.

Customer retention and satisfaction as a main strategic direction continued also in 2017. Marketing activities based on the customer needs and habits are performed in order to build strong customer relations and provide the best customer experience. Focus on value based approach continues delivering an excellent customer experience for the most valuable customers as well as by creating value through transformation on customer journeys.

In the Business segment, MKT's focus product during 2017 was Magenta 1 Business and the new broadband portfolio aligned top premium business solutions created for dynamic market trends. The new repositioned broadband portfolio includes aligned fixed services with Magenta 1 Business and easy upsell path toward bundled Magenta 1 Business which now includes: upgraded speeds for all packages, more included Internet traffic per month, unlimited calls to all national networks, increased international minutes, LTE in all mobile options, broadband connectivity, superior Cloud services and a possibility to buy the Max TV service as a soft bundle option. The product firmly confirms its customers' unique possibility to procure integrated services and to build up an individual offer according to their needs.

The business portfolio for mobile only services consists of five tariff options that are suitable for all levels of the company's employees, from starting positions to executives. All options have LTE access with higher data volumes accompanied with smart phones at attractive prices.

Managed and cyber security continued to be one of the main development focuses for the Business Customers. Following the key trends, MKT was positioned as an active player on this market not only as a custom solution provider, but also when robust coverage on the topic is needed.

FTTH roll-out continued in 2017 with 29% homes passed with fiber technology giving the opportunity to the customers to have super fast Internet within the new repositioned portfolios. Fiber connections are app. 30% of total BB lines and 65% of optic customers pay additional fee for optic speed. Intensive proactive sales will be continued in 2018 to increase optic network monetization.

Possibilities for increased speeds through copper network introduced with VDSL technology are utilized for speed add-ons for Magenta 1 Business and repositioned broadband S and M packages. First wave of VDSL migration in 2017 that targeted SOHO customers with VDSL-ready router. Second phase planned for 2018 will continue with proactive migration of existing customers' base toward new repositioned portfolios.

During 2017, our communication efforts were generally focused around strengthening our image as the best

network operator in the country. Product-wise, we continued to build the Magenta 1 product offer as the best integrated offer on the market, further occupying the sports, and especially the handball and football category, utilizing several major events throughout the year, starting with the European Handball Championship, the Champions League finals, and the Super Cup in Skopje.

For the post-paid segment, the Smart post-paid portfolio was still the hero in all our communication, this year focusing on several new features, such as the Duo card, which came with discounted monthly subscription, the increased internet roaming packages for the summer, and the internet security option with the exclusive SafeNet product. All of these changes to the standard portfolio were heavily covered with major ATL campaigns, generating awareness and engagement by customers.

In the business sector, the communication focus was placed on strengthening the image of Telekom MK as an innovative operator offering integrated communication services, with an emphasis on the Magenta 1 Business portfolio, combining communication and innovative services in one package and a reliable partner for building a long-term partnership.

The ICT segment was fully covered with a brand new web page, and with several strictly targeted digital campaigns, in which Telekom, as an innovative company and the main provider of smart ICT solutions on the market, was promoted.

Finally, within the Tetris media initiative created by DT, which resulted in a media pitch in 2017, we laid the foundation for improved media budget utilization, especially in digital advertising. The full effects of this should start to be visible in 2018, mostly in the offered possibilities for more targeted, better focused and highly relevant digital communication.

MKT has developed different sales channels in order to serve the customers from different segments. The direct sales channels comprise: own retail network, telesales, on-line sales channel, technicians, direct sales agents, account managers (for Institutional and Large Accounts) and a multichannel logic in the sales and service of the SME (Small & medium Enterprises) SOHO (Small-Office-Home-Office) segment. The development and sale of ICT solutions is performed for different types of business customers. The indirect sales channel is based on indirect master dealers with their own network of shops, partner shops and kiosks. An external company engaged in 2014 continues with telesales activities (proactive retention and loyalty activities were also introduced). New external company was additionally engaged for telesales activities in November, 2017 in order to increase sales effect (cross sale: selling fix product to mobile customers and mobile products to fix customers). First external company is engaging people for D2D sales channel established in 2016. The same external company is engaging people for newly established D2D sales channel.

The main sales channels are MKT's shops. There are 35 shops and one kiosk as at 31 December 2017. All shops are offering the complete mobile and fixed product portfolio under the same conditions and with the same customer service level. In addition to the sales, the employees in the shops were also focused on service excellence. By using the boost tools, they achieved the sales targets for 2017, with the main focus on Magenta 1 and post-paid packages. The biggest portion of the Magenta 1 sales transactions were done over shops.

The partners' presentation in the own shops continues in 2017 with the implementation of a new content on m-Walls and Window Digits. The partners' stages in the refurbished shops were used for the same purpose.

New setup of D2D channel (in June, 2016) is developing further with roll out on the territory of whole country. The staff in this channel was engaged through an external company with the main focus on FTTH sale. In order to achieve a high level of service excellence, trainings with DT support were organized.

Sales activities that include home delivery via telesales were used in 2017 for upsell and retention of fixed and mobile subscribers. Striving for every call to be converted into a sales activity, the Contact Center has launched an action S2S (service2sales), for consumer and the business customers.

In 2017, MKT launched a brand new version of the self-service mobile app for all prepaid and post-paid consumer customers – Telekom MK. It significantly improved the customer experience and reached more than 100,000

downloads by end of 2017. The on-line sales experience was significantly improved by launching a complexly redesigned web shop with all new features (such as contract signing for new customers, 3D models of devices, colour management, faster and more responsive web shop). The user experience of desktop and mobile version of www.telekom.mk was improved according to the highest standards. Several online sales campaigns were launched to promote and increase the online sales.

Another channel of the distribution network of MKT is the dealers' cooperation. As at 31 December 2017, the network consisted of 6 master dealers with 60 shops as MKT partners. The majority of the MKT master dealers' shops are offering the full MKT portfolio. In all master dealer's shops bill payment was fully implemented in 2016. In addition, prepaid vouchers are also available in 3,500 kiosks via MKT own processing center. Additionally, two new Master Dealers which were introduced in the network at end of 2016 are fully operating with all the determined activities.

A part of the MKT product portfolio (e.g. telephone sets, TV sets, computers, printers, network equipment and home appliances) is available to the customers using payment by instalments through their telephone bill.

Research and Development

The competitive pressure, in conjunction with saturated Telco market, complexity of business environment with multiple and more sophisticated customer segments, multiple vendors and complex service offerings, fast changes in the technology with new technology paradigm targeting for one universal IP network and cloud-based service delivery platform, as well as changes in the regulations, are only part of the challenges that MKT will face in the next few years.

In order to keep sustainable business and major revenue streams in a very complex telecommunication environment, as well as proactively influence to market trends with new business opportunities, MKT is aiming to keep the technology leadership position and ensure growth through service improvement and innovation by continuously developing of its infrastructure.

Development of infrastructure and investment in Technology should encompass the following objectives/trends: broadband performance, integrated service delivery platforms, efficiency and quality leadership, self-service enablers, cloud concept and "virtual" infrastructure, cost-efficiency, flexibility and responsiveness – reduced time-to-market, as well as competence development.

During 2017, we have made significant steps towards the achievement of our goals with development of the telecommunications network, the service platforms and the supporting systems.

In order to ensure high quality Broad Band (BB) performance, BB market and technology leadership, MKT is continuously investing in fix and mobile access development. At the end of 2017, more than 161,000 homes passed installed capacity or 29% MKT network households' coverage with FTTH was reached. Regarding VDSL rollout, more than 96K VDSL CO and 5.9K VDSL FTTC homes passed were implemented. Significant improvement was also done in LTE rollout, reaching 98.5% territory coverage and 99.5% population coverage. During 2017, LTE 2CA (800+1800) were implemented on all urban and suburban macro sites which mean that 55% of all total sites were upgraded with LTE Advanced 2CA in order to gain better LTE DL throughputs.

Alongside extensive mobile BB access rollout, during 2017, high focus was set on the network quality and performance, which is confirmed by the P3 "Best in Test" certificate in December 2017 which represents an internationally recognized acknowledgement for quality of mobile network, as well as by the National Report for Network Quality Parameters prepared by the Agency. MKT is the best in class for voice and data services and leads the overall ranking with 901 points.

The growth of BB access and the continuous traffic increase are supported with further development of IP Core and transport network as cornerstone of all services. During 2017, "IP Core & Transport Network Modernization" project which includes modernization, reorganization and extension of all IP Core Network elements, Transport and Aggregation systems was successfully completed. MKT managed to install full DWDM network and finalized IP Core

implementation and integration, as well as IP Core services migration.

In Mobile area, MSS, GGSN & SGSN, as well as PCRF were performed during 2017 in order to extend the support of MSS and EPC. In this time frame, the CUDB project for upgrade of HLR/FNR and HSS-EPC on joint CUDB platform was successfully completed and all mobile subscribers were migrated to the new cUDB platform.

Also, a project has started for improvement of the transport network redundancy based on building redundancy of all major cities based on 3-sided physical and logical path protection, creation of smaller protection rings by implementing new fiber optic routes between major sites and introduction of 2-sided network redundancy on all other IP Core sites. The increased mobile Internet traffic is also supported with the modernization of the backhaul solutions for mobile base stations through fibre connections or radio links. At the end of 2017, only 2% of BTSs were connected via copper, which leads to complete fiber migration and copperless BTS backhaul at the beginning of 2018.

In terms of Service Platforms, during 2017, IPTV server platform was upgraded in order to extend the support till 2020. Replacement and capacity upgrade of old Storage at the remote site in Strumica was done as well. Geo-redundancy project for Live TV channels was started. OTT TV platform was future developed in order to be available for PC, Android and iOS. For providing better customer TV experience new features like Live, Vod, Timeshift, CUTV, Advertising, DRM, Reminders, Geo-location, etc were implemented.

Modernization of M-Payment platform in order to enable new mobile payment opportunities in a flexible and user friendly way for the end users was managed, which brings better synchronization, consolidation of databases, optimization of resources and clear work procedures. The commercial start for the mWallet application started in Q4 2017, which provided the users with a possibility to pay EVN and Telco taxes using Telekom specified application via their mobile phones.

Hybrid Access Solution was further developed, which aggregates the bandwidth of both DSL and LTE transmission links and creates a single, powerful broadband pipe between the network service node and customer's Broadband CPE.

The first LTE roaming partner was implemented during 2017, after the introduction of DRA in order to support LTE roaming.

In order to provide higher efficiency, better flexibility and fast response in the provisioning, fault clearance and other processes in technology domain, implementation of New Generation OSS, Broad Band Service Assurance (BBSA), and Trouble Ticketing (TT) extension were developed. New services/functionalities were implemented during 2017 like supporting new vDSL technologies, mass upload for OSP data (ODF import, OSP conduit import, Fiber OSP cable import, OSP containers xls import), Device Library extension - IPTV/MPLS/DWDM, etc.

MKT continues with its determination and its work to be innovation and technology leader on the market. Among the main focuses, as a continuation to the previous years, are the projects in the area of the Smart City. Further to our successful Smart Bus Transport Project implemented for the City of Skopje in 2015 and 2016 and the Smart Light project put in demo operation in 2016, during this year we have also put into demo operation solutions for a Smart Waste, Smart Parking, Smart Bench and Electrical Vehicle Charging, with an aim to demonstrate the advantages from the implementation of such smart systems and our competences in this area.

Apart of the Smart City business area, we drive full force exploring other business possibilities for growth and development, in the field of finance, health, education, etc., especially considering their business prospects and potentials in terms of top line growth of our ICT and B2B business in general.

MKT, as a firm supporter of the new era of smart, connected way of life and work, in 2017 continued its pilot project in the area of Smart school - Hybrid Classroom that is about implementation of ICT-assisted solution for interactive learning in classes and at distance, in two secondary schools in the City of Skopje. The implementation of this project aims at creating a positive change in terms of the way of education, providing advanced, self-driven, collaborative and interactive classroom experience for youngsters; its aim is also to demonstrate the manner in which the use of technology could support the quality and efficiency of the education, thus impacting the long-term development of the educational system, as well as the society and economy.

Also, utilizing the potential coming out from the EU-funded projects in the smart Internet of Things (IoT) solutions, e-government, etc., was under a close loop as well.

In addition to the business development activities given above, in 2017 we put focus on the development of the projects and products for digitalization and smart working for the business segment, which we believe are growing market potentials in the forthcoming years, expected to be driven by the advantages of the efficiency of ICT in the daily workflow systems and networks, as well as by the transparency and accountability of such solutions.

Under the motto - INNOVATION SYNERGIES – WIN WITH PARTNERS, we continue our strategic technology partnerships - Cisco Gold, EMC Cloud solution provider and Microsoft Silver Data Center. Furthermore, in 2017 we got recertification of our Oracle Platinum and HP Business partnership and we started the process of getting a status of Microsoft Cloud Solution provider. These partnerships are confirmations of MKT's competences in the areas of enterprise networks, cloud, collaborations, network securities, and Data Center technologies. Such competences are deemed to be crucial assets on which we can leverage further in our ICT business development activities.

Information technology

The project for billing consolidation was successfully finished on 1 July 2017. The project achieved:

- Consolidation of Fix and Mobile billing in one system BSCS iX R2
- Consolidation of systems for barring and disconnection
- OPEX reduction due to retirement of the fix billing system Geneva
- Operational efficiency –utilizing one billing and barring system used for Mobile and Fix customers
- Possibility for creation of one bill for Fix and Mobile subscribers

Following the zero NTP (“no technical possibility”) company strategy, the following projects have been implemented:

- Implementation of provisioning of VDSL technology providing possibility for higher data speed and customer coverage
- Implementation of Cube product providing fix data services over 4G network for subscribers where there is no technical possibility for obtaining services over fix access

The project for upgrade of mobile provisioning system to the latest version was successfully executed in November 2017. The upgrade was solely executed by internal resources resulting with significant cost savings.

The new system is enriched with new features/improved functionalities, better performances and new integrated tool for development activities.

The SafeNet service was launched in October 2017 providing Mobile Network Security Service to mobile customers. The service protects the mobile web/http mobile traffic from malicious software (malware) like viruses, worms, spyware, hacking and phishing. The introduction of the service has a strategic importance since network security as a service is becoming more and more important and it is one of the fields in which growth is expected.

In the CRM systems the project for implementation of VDSL technology was implemented. With this project, we introduced new VDSL technology support in our systems. Additionally, the technical possibilities of our systems were improved in order to support offer and sales of products that from a sales point of view are agnostic of the technology behind them. The processes for technical feasibility check, eligibility and order creation were also modified to support this kind of functionalities.

The upgrade of the web shop application was finished in 2017. The new web shop platform is more visually appealing to the customers, follows the new DT guidelines and is optimized for best user experience without delay in processing the orders.

A new functionality for acquisition of new post-paid customers through the online (web) is introduced.

The project for implementation of Mediation Zone in Hrvatski Telekom started in 2017. The project is divided in two phases (Mobile and FIX) and is planned to be finished by the end of 2018. It is realized through the Shared Service Center for Mediation.

The Intermediate solution as part of the DWH consolidation project of MKT's Data Warehouse systems was delivered in July 2017. The solution supports the consolidation of the billing systems. The DWH consolidation project in its original scope continues to be executed and is planned to be finished until Q1 2019.

The SAS campaign management upgrade to the latest SAS Customer Intelligence Studio 6.5 based on SAS Software version 9.4 was performed in December 2017. The project includes new server environment setting, application installation and configuration for both business contexts, also CDM data migration activities.

The project for the replacement of the existing Enterprise Storage System with new All Flash Enterprise Storage system was successfully completed and finished in the period June - August 2017. The centralized Enterprise Storage infrastructure provides storage-based services for the most important applications in all segments in our company (Billing system, CRM, NetCracker, MS SQL & Oracle DB, Mediation, ICARM, eRecharge, Appian, Interconnect, Mobi+, SAP system). The new Storage platform enables more efficient and reliable IT infrastructure and it will provide more benefits for our internal services/employees and external services/customers:

- Storage Capacity and performance upgrade
- Improve the Disaster Recovery services for the whole application (with consolidation of applications on the same storage system)
- Advanced technologies such as Storage Virtualization, Storage Partitioning, Tiering, etc.

Andreas Elsner

Chief Executive Officer
Makedonski Telekom AD – Skopje

Goran Trajanovski

Chief Operating Officer
Makedonski Telekom AD – Skopje