



ANNUAL REPORT 2019

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FOREWORD FROM THE CEO



The day-to-day operation of BKV Zrt. was peaceful and predictable in 2019. In addition to the funds, a morally reliable and foreseeable background is also necessary to fulfil our duties. I am proud to say that in the labour market employees consider us more and more as an attractive partner. Owing to the continuous, active and effective recruitment, and to the conditions ensuring security to our employees, we were able to slow down the labour migration, even despite the shortage of professionals experienced in the industry. We can declare it as a significant success that driver staff shortage, which had caused constant problems in the previous years, decreased significantly, and it stabilised reassuringly owing to the efforts made. It should be noted here that by the end of 2018 and early 2019, the number of bus driver applicants increased to such an extent that it was necessary to release more training buses into circulation. Our recruitment campaign worthy of the 21st century was a great success, and through this campaign we hope to find qualified professionals - or interested applicants who would learn special trades like ours happily - for multiple areas where a shortage of professionals is experienced.

Despite the difficulties, our achievements are constantly improving, mainly due to the committed employees of BKV. As usual, my colleagues tried to make the most out of the circumstances given in all areas. Here are some examples:

Our tenders announced for the new solo and new articulated buses were completed successfully, as a result of which the orders for the delivery of 20 solo and 20 articulated buses have already been placed, the new Mercedes-Benz Conecto Next Generation buses are going to arrive to Budapest and start their work on the roads of the capital in early 2020.

A number of investments, which have commenced earlier, also continued, such as the extension of tram line 1. As a result of the project, the line reached Kelenföld Railway Station at Etele Square, therefore traffic could start there on 9th July 2019.

Due to the larger load on the tram tracks on the Grand Boulevard (Nagykörút), the tracks wear out sooner, and during the 2019 reconstruction the track system with reinforced concrete plate foundation, resilient support and continuous track bed was replaced by a tram track with a more modern superstructure.

The complete technology of one of the special structures, i.e., the Villányi transformer - which is one of the most important and largest transformers of the Buda tram service - was renewed. Owing to this year's preparations and with government support, the vehicle fleets of two of our vehicle types, which are special, but the time has come to replace them, i.e. the Millennium underground railway and the cog-wheel railway will be renewed as well, prototypes of unique design and manufacture will arrive to both lines. The planning and asset purchase procedures will bring results in 2020.

Similarly to last year, this year's largest task was the reconstruction of the M3 line. At the end of March, traffic started on the renewed northern section, and after a one-week transitional period, renovations works commenced on the southern section as well. Owing to the thorough preparations, the replacement buses necessary due to the renovation were introduced and continued throughout the year smoothly, in spite of the new challenges, which occurred from time to time.

It is a joyful achievement that in the Energy-efficiency Excellence Tender - which was launched in 2014 by the Virtual Power Plant Programme (in Hungarian: Virtuális Erőmű Program; VEP) - our Company was awarded the title of "Energy-conscious Enterprise" in 2019, and its subsidiary, BKV Vasúti Járműjavító Kft. was also awarded this honourable accolade.

It is evident that smooth day-to-day work is performed at our Company, in addition to the larger projects, which last several years. I believe that the future arrival of the new buses will be only one of the examples of the revival to be expected and anticipated in the future, and it will be followed by numerous similar purchases. Namely, in addition to stability and smooth work, renewal is also an essential condition of satisfying the continuously changing needs.

In 2019, our company performed well not only as an employer but - just as importantly - as a service provider, too. Although we are not the only one, to this day we are one of the largest participants of the community transport of Budapest, which brings along that we also have a key role in that the popularity and the reputation of community transport is improving in the capital. Bearing this in mind, I wish my colleagues good health and a lot of pleasure, both in their private lives and their work!

Tibor Bolla
CEO

PUBLIC SERVICE CONTRACT

The Company performs the scheduled public passenger transport services based on the Public Service Contract concluded on 28th April 2012 and amended multiple times since then by BKV Zrt. and BKK Zrt.

In the framework of the Public Service Contract, BKK Zrt. orders the scheduled transport services specified per sections, stating the quality and quantity requirements as well as the detailed rules related with the public service, including the rules of providing consideration for the costs of the public service.

The Parties amended the Public Service Contract most recently in December 2019, in which only the term of the contract was changed to 31st December 2020. Namely, this is the only way the contents of the Public Service Contract expiring on 30th April 2020 can be revised responsibly, in line with the renewed expectations and ensuring long-term cooperation. Thus, as of 1st January 2021, the new Public Service Contract will already become an agreement between BKV Zrt. and BKK Zrt, which reflects the modern community transport requirements.

The customer expectations related to the year concerned and the related financing criteria are included in the Annual Agreement, which constitutes a part of the Public Service Contract. The provision of satisfactory quality service level is encouraged by the quality requirements specified by BKK Zrt. and the application of incentives/sanctioning instruments related thereto. These include the Bonus/Malus penalties applicable in the SLA system (SLA = Service Level Agreement, quality level measurements system, and service level agreement), as well as the penalties which may be imposed on specific legal grounds and in case of non-compliant performance.

In 2019, new items were added to the customer requirements. In addition to the line cancellation indicator and the traffic safety (accident) indicator - which had already been used in previous years, - the SLA system was amended by a line punctuality and schedule compliance indicator, the indicator related to vehicle and station technical, aesthetic, passenger comfort compliance, as well as the passenger information compliance indicator. The penalty system was

completed with the sanctioning of non-compliant reading of passenger count data, and BKK Zrt. controlled the circulation of vehicles unsuitable for passenger counting stricter than before, while BKK Zrt. doubled the amount of the related penalty rates. Compared to last year - in respect of the payment obligations of BKV Zrt. - an improvement of 87.5% of the SLA indicators and a deterioration of 22.7% in the penalty system could be observed.

In spite of the increasingly stricter expectations, compared to 2018 BKV Zrt. decreased its payment obligations arising from non-compliant performance by 73.0% in total, which means the improvement of the quality of the community transport service provided by BKV Zrt.

Our Company fulfilled its reporting obligation in accordance with the Public Service Contract. Through the preparation of the monthly, quarterly and annual public service reports, and the quarterly and annual Service Reports, as well as by answering the regular Client questions, BKV Zrt. accounted for the provision of the public service ordered and the economic aspect thereof.



INVESTMENTS, DEVELOPMENTS

Vehicle purchase, renovation and modernisation

Purchase of new buses

Our tenders announced for the new solo and new articulated buses were completed successfully, we signed the related contracts and ordered the base quantity (the delivery of 20 solo and 20 articulated buses). The new vehicles are going to arrive in the first quarter of 2020.

The purchase and homologation of used buses

In 2018, we bought 12 Van Hool New AG300 buses, of which we bought the thirteenth one as well in early 2019. The homologation of the vehicles was carried out by VJSZ Kft. in 2019. In addition to the image setup and aesthetic repairs which have become customary in recent years, these buses were given the majority of those frame element replacements around the pivoting joint which were completed on similar types as well. Large opening windows were installed in the buses. The refurbishment of the air-conditioning devices, the necessary repairs of the machinery, as well as preparations for the roadworthiness test took place. The entry of the vehicles into service made it possible to scrap a few more than thirty-year-old articulated buses and some low-floor buses which were in worse technical condition.

In 2019, a project that was delayed for several years could also be closed after we were able to reach an agreement with Volvo Hungária Kft. regarding also legal and financial issues. By the end of the year, the situation of the 40 hybrid solo buses bought in 2017 was resolved, and finally the youngest and most environmentally friendly 7900 type buses were released into the traffic. While the legal disputes lasted, the electronic charging network and the provision of the electric power necessary for it were established for the 40 buses on the premises of the Cinkota Division.

In the 1st and the 4th quarter of 2019, we entered a used Mercedes Sprinter minivan with Vehixel Cytios superstructure into service, and thereby the number of vehicles in the fleet increased to five. The two newly released vehicles made it possible to launch line 269, which

had been planned for years in District XVII, and a spare vehicle in working order could also be established from this type. The homologation of both minivans was carried out by VJSZ Kft.

We had been leasing 6 and then 1 more articulated Mercedes Citaro buses since 2016. Upon the expiry of the leases the buses became the property of our Company. The smaller aesthetic and machinery refurbishments, which became necessary in the meantime, were performed by VJSZ Kft.

Tram vehicle modernisation

- In the framework of the Tátra modernisation program launched in 2014, additional 35 tram cars were renovated by VJSZ Kft. Together with overhaul “J”, VJSZ Kft. completed the modernisation of the drive system, which included aesthetic measures as well. On a trial basis, passenger compartment camera systems were installed in four trams. The heating system of the vehicles was also modernised. The number of modernised Tátra trams increased to 185.
- The drive modernisation program of the KCsV-7 type trams equipped with Italian switching-coils also continued. In 2019, 4 more trams were renewed.
- The refurbishment of 5 TW6000 type trams was completed by the end of the year.
- We performed the overhaul of 1 cog-railway engine car and 1 cog-railway tow-car in our own workshop.
- Two T5C5 type tram vehicles were renewed as “preserved in the original condition” (no modernisation took place).
- We signed a contract with VJSZ Kft. for the refurbishment of a TW6100 tram (which was bought several years ago) on a trial basis. The construction will take place in 2020, however, the preparatory works and the related purchases were started already in 2019. In the framework of the project the passenger area of the vehicle will be given the image already established for the Tátra and the KCsV-7 trams. Air-conditioning devices will be installed in the passenger area and driver compartment of the vehicle, as well as the drop-down steps will be replaced by fixed steps. Additional experimental systems are also expected to be installed in the prototype, such as passenger area camera systems or the camera and screen-based rear-view possibility, which would replace the rear-view mirrors and which is already used on the CAF trams. The objective of the project is to examine whether the articulated Ganz vehicles, which ride on section with narrow structure gauges can be replaced.

Metro modernisation

- In the metro service, the Alstom vehicles are reaching the 500,000 km mileage gradually, therefore 20 cars (4 trains) of the M2 line and 36 cars (9 trains) of the M4 line were placed under the 500K overhaul repair in 2019.
- Five MFAV vehicles were also given overhaul repairs, in our own workshop, too.
- The total (technical and aesthetic) refurbishment of 2 MFAV trains was completed, therefore e.g. the passengers can enjoy a new passenger area design, as well as the modernised multi-language passenger information system.

Other vehicle acquisition

Owing to the successful campaign carried out in the previous years and the favourable workplace environment, by the end of 2018 and early 2019, the number of bus driver applicants increased to such extent that it was necessary to release more training buses into circulation. On this instance, we altered modern vehicles purchased specifically for this task, instead of the old busses removed from public traffic. In the Óbuda Division a Mercedes Citaro bus of Swiss origin, while in the Kelenföld Division a Volvo 7700 - also of Swiss origin - was rebuilt as training vehicle.

Track renovations

Superstructure replacement on the Grand Boulevard

Due to the heavier load of the Grand Boulevard tram system, the tracks get worn out sooner, therefore significant speed limits had to be introduced at multiple places during the year. In order to eliminate these issues, we renovated the tracks at multiple places during the summer school holiday period. During the reconstruction, the track system with reinforced concrete plate foundation, resilient support and continuous track bed (RAFS) was replaced by a more modern tram track, with grouted rail superstructure.

- Until 1st September, 1 600 tm of tram tracks were renovated on Margit Road, between Széna Square and Margit Street. Here the pavement was made with on-site concreting. The reconstruction did not affect the section used also by the Buda merging tramway system.
- Between 15th June and 1st September approximately 2000 tm of tram tracks were reconstructed between Práter Street and Goldmann György Square. The rails were built in prefabricated concrete slabs along the tram tracks.

- In addition to the reconstruction of the tracks, the replacement of 3 group railroad switches and the installation of 12 pairs of dilation devices were on Petőfi Bridge were also part of the works.

Extension of tram line I

The extension of tram line I continued. As a result of the project, the line reached the Kelenföld Railway Station at Etele Square. The objective of the project, on the one hand, is to connect Etele Square transport node with Kelenföld District, on the other hand, with South Pest efficiently. This enables the people arriving from the agglomeration to reach these city parts faster, and also the residents of this neighbourhood to have fast access to the metro and tram lines heading the city centre. Traffic started on 9th July 2019.

Modernisation of the tram lines and track renovation on Orczy Square

The modernisation and track renovation of tram lines 24/28/37 on Orczy Square affected the sections between Népszínház Street – Fiumei Road – Magdolna Street - Salgótarjáni Road. Afterwards, the route of line 37 changed, to the route along Népszínház Street – Fiumei Road – Salgótarjáni Road. The former route (Népszínház Street – Dobozi Street – Magdolna Street – Salgótarjáni Road) remained as a service route in order to ensure the connection to Baross Vehicle Depot. In the framework of the project, the connection of the turning track of the Baross Vehicle Depot as side track on tram line 24/28 was also realised. The following replacements were realised in course of the project:

- the installation of 16 group railroad switches with rubber cover bedding and
- the installation of 2 group railroad switches without rubber cover bedding,
- the replacement of the switch heating at 15 group railroad switches
- replacement of 11 group junctions,
- replacement of 51 overhead cable supporting columns, with re-installation,
- installation of 2184 m of work cables,
- renovation of 1810 m of tram tracks.

On the sections concerned the spurs and the junctions were renovated, which also resulted in the modernisation of the vehicle depot exiting and entering route of the Combino-type vehicles. Traffic safety increased, the slow zones were eliminated and the travelling comfort improved as well. After the construction of the new exiting track, vehicle release became safer and more flexible.

The partial track renovation of the Bosnyák Square, Zugló tram depot

The service movement of the trams which go to and enter the circulation from the Zugló tram depot takes place in the Bosnyák Square junction; due to the current unfavourable design of the track system, this service movement causes significant hindrance in the movement of the trams in traffic and the road traffic. Due to the increasing traffic demands and the poor condition of the tram depot railroad switches it became necessary to reconstruct the traffic track of Bosnyák Square and the courtyard tracks of the Zugló tram depot. The construction works were carried out in 2 phases: In 2019, the courtyard track system was reconstructed, while the traffic tracks will be reconstructed in 2020. In the course of the project 20 group railroad switches, 2 group junctions, 920 tm of tracks and nearly 1700 rm of service cable will be reconstructed, together with the related power supply, signal device, water line replacement and other works. As a result of these works the tram depot exiting and entering opportunity will become more optimal than before, since the movement of the trains will not require the complete shutdown of the road traffic of the intersection.

Maintenance works

- Repair of the steel structure of the viaduct of tram line 2
- The repair of the railroad switches and junctions in tram network and the replacement of spare parts.
- Track repair works to decrease the traffic and operation safety risks on the Cog-wheel-railway line in the course of which the rack-bars were replaced, as well as the replacement of the track rails and the switches and the regulation of the track on another section were completed.
- Repair works of the Soroksári Road tram bridge.
- Repair of the 0.4 kV distributor at the Vörösvári Road terminal and the repair of the automation of the switch heating.
- The repair and corrosion protection of the overhead cable supporting columns.
- Repair of the control boxes and the joint boxes.
- Maintenance of the grass-covered tracks.
- Noise and vibration measuring on multiple locations.

Power supply tasks

Extension of the EDI-protected workplace to metro line M2

The 10 kV and 0.8 kV protection equipment of metro line M2 allows to – with the help of the interface – back up or modify the parameters, event logs and release curves stored therein, however, this was possible directly at the given station only, therefore in case of any breakdown the necessary information can only be accessed in a lengthy procedure. Through the interface extension of the protective equipment of metro line M2, at the Fehér Road vehicle depot and in the dispatcher centre on Szabó Ervin Square, as well as through the partial modification of the communication network, which ensures the accesses, and through the direction to the protected workplace, the time required for collecting and analysing the data necessary to eliminate malfunctions has decreased significantly, allowing for faster intervention.

Renovation of the Villányi transformer.

The Villányi transformer - which is one of the most important and largest transformers of the Buda tram service - was last renovated in 1971. The transformer supplies 600V towing energy to tram lines 61 and 59, as well as the majority of the lines riding along Bartók Béla Road. Most of its devices are 30 to 40 years old, and the part supply has ceased. Due its strategic role in the Buda tramways, the transformer and the devices thereof were in need of substantial renovation.

In course of the renovation the entire technology was renewed: the row of 10 kV cells, the row of positive and negative 600 V cells, the supplementary service and towing transformers, the supplementary service distributors, rectifiers, the cable section disconnectors and the protections, as well as the remote control were replaced.

Service cable replacement on the overhead cable network of the M1 line

On several sections of the Millennium Underground Railway (hereinafter referred to by its Hungarian abbreviation: MILLFAV) line, the wear of the service cable increased significantly, therefore the very worn service cable had to be replaced in the right and the left tracks of the complete tunnel line section, as well as in the overhead cable network of the Mexikó Road vehicle depot. In course of the project, which ended in September 2019, approximately 3800 meters of the overhead cable network was renewed, and the worn vehicle depot insulators and column section disconnectors were also replaced. Owing to this, the operational safety

increased substantially, ensuring the uninterrupted movement of the vehicles and the proper service provision to the passengers without speed limits and traffic restrictions.

Relocation on the Arany János Street trolley bus terminal.

Due to the reconstruction of Podmaniczky Square, this terminal was terminated. In order to ensure the sustainability of the trolley bus traffic, we established a trolley bus turnaround overhead cable loop at Bank Street, therefore trolley bus lines 72 and 73 did not have to be terminated or replaced by buses.

Investments concerning other infrastructure

Reinforcement of the embankment next to the Ady Endre Road tram tracks

Along tram line 41, on the section between the Pék Street and the Kelenvölgy-Péterhegy stations, the Hosszúrési brook is very close to the railway substructure of the tracks. Due to frequent high water levels, substantial damages occurred in the ramps of the railway embankment, thereby jeopardising the safety of traffic of the tramway. The rehabilitation of the standard water drainage ditch, the settlement of the embankment crowning, the reconstruction of the culvert with prefabricated elements, the renovation of the pipe culvert, the restoration and profiling of the ramp, the filling of the sections washed away, as well as the construction of a net-structured stone stack protection were completed between 4th March and 31st July 2019. After the investment, the two-track traffic resumed.

Escalator purchase

On metro lines 2 and 3, parts for the escalators with low lifting height can be purchased with difficulty and only at a high cost and with a long purchasing time, which causes significant losses of service. The operation can be made more economical through the purchase and installation of new cost-efficient escalators, which comply with the current standards. The replacement of 4 escalator balancers in the northern syphon tunnels at the Árpád Bridge station of metro line M3 was realised in the framework of the 2019 plan.

Autostop renovation on metro line M3 (25 pcs.)

This year, 25 of the autostop train stopping devices, which operate on metro line M3 were renewed. The devices removed from the Újpest-Központ and Nagyvárad Square areas and then

renovated were reinstalled until November 2019, and after a successful trial runs, the devices are operating in working order again.

Planning and preparation of the projects

Using the funds provided for the planning and preparation of the plans and documentations necessary for projects to be launched later, the following were completed:

- The review of the plans made for the reconstruction of the Bosnyák Square track network
- The planning of the superstructure replacement of the Hűvösvölgy arches
- The study plan of the complete reconstruction of the Asztalos Sándor Road bridges and connecting platforms
- Planning of the heating reconstruction of the Baross tram depot.
- Planning of the track renovation on Hűvösvölgyi Road, between the Budagyöngye shopping centre and Kelemen László Street, and the track renovation between Széll Kálmán Square and Hűvösvölgy.
- The planning of the renovation of the Budafok junction complex
- Establishing the operational conditions of the TW6000 type trams in the Baross tram depot (design of a storage room for acid batteries)
- Planning of the renovation of the workers' hostel located on the premises of the Hungária tram depot
- The planning of the building of the Soroksár-Csepel ferry and the surroundings thereof.

The planning tasks started in 2019

- Planning of the road trams tracks on Ady Endre Road (District XXII) and along the Hosszúrét brook
- The construction work of the partial renovation on line 56 had been prepared, in order to allow the new CAF trams to ride on the line.

Heating reconstruction of the sites

The primary objective of the heating reconstruction is to improve energy-efficiency, and thereby to reduce energy costs. At the Cinkota bus facility one of the gas boilers was renovated and solar collectors were installed, owing to which hot water can be produced with significant gas savings. At the Zách Street trolley bus facility we modernised the heating system, as well as

those doors and windows which were improper in terms of thermos-processing, and those facade doors, windows and industrial gates which border the heat areas within the building were replaced with doors and windows with enhanced insulation. Modern doors and windows were built in the Szépileona tram depot as well. Significant energy savings can be achieved through these investments, the return period is typically 8 to 10 years.

Purchase of machinery, technological devices

The replacement of the machines and technological devices necessary for the operation, maintenance and repair of the vehicles and the infrastructure must be ensured constantly.

The purchase of the following machines and equipment was realised in 2019:

- Establishing the operational conditions of the TW6000 type trams in the Baross tram depot (liquid refillers)
- At the M4 vehicle depot a U-shaped noise barrier frame structure was constructed in order to reduce the noise burden imposed on the surrounding residential buildings.
- Installation of a heavy-duty fixed washing appliance and the construction of the parts and rotating frame washing spot at the MILLFAV vehicle depot.
- 1 electronic forklift for the Escalator Service.
- Extension of the power supply in the Cinkota facility.
- Purchase of a mobile extractor appliance for vehicle polishing at the Hungária tram depot.

Interim investments necessary for operation

Using the funds provided for maintaining the technical condition of the buildings, structures and technological devices necessary for the operation, maintenance and repair of vehicles, as well as for the purchase of other devices, the following investments and purchases were realized during the year:

- Purchase of EDR devices
- The entry system of the terminals (ATÜI, VÜI)
- Construction of a waiting room at the Svábhegy station of the cog-wheel railway
- Purchase of a dry ice cleaning device
- Reinforcement of the walls of the stairwells of the Traffic building of the Zugló tram depot.

Renovations of buildings and structures

- We replaced the doors and windows of the vehicle maintenance building at the N-S Metro Vehicle Depot.
- We replaced the doors and windows of the Traffic building of the Zugló tram depot, we renovated the fence.
- The renovation of building No. 8 of the Zugló Vehicle Maintenance Facility of the Towing Service and the construction of the gas detector of the gas receipt room thereof and the construction of the fire alarm system of the paint storage room were completed.
- 197-199 Üllői Road: we replaced the doors and windows of the Traffic service.
- We replaced the rainwater draining pipe system of the workshop hall of the escalator building at the M3 facility.
- In the Kőér Street facility:
 - We replaced the rainwater pipe system of storage No. 270 and we renovated the rainwater draining of the Storage Hall.
 - We replaced 106 railroad switch sleepers, and the installation program of air-conditioners has started. The fire alarm systems received a new power supply here too, together with the camera systems.
 - FŐTÁV Zrt. has started the heating modernisation of the vehicle depot. In order to do so, all heating thermal centres in the facilities of the vehicle depot will be reconstructed and will be operated by them.
 - In order to ensure safe supply to the increased energy demand, we replaced 2 supplementary service transformers in the Storage Hall.

Environmental protection investments

By December 2019, the modernisation, design, permit and construction works of the wastewater treatment equipment of the bus washer located on the premises of the Kelenföld Division. The three-month trial run has started.

Efforts to use renewable energy sources

- **Solar panel:** in December 2017, a 50kW small power plant consisting of 193 panels in total was installed on the roof of the Headquarters; the small power plant generated 53.7 Mwh electric power per annum. Based on the experience gained there, a solar panel system with the output of 200 kW is being installed in the Kelenföld bus

garage. In the framework of the project, in addition to the utilisation of solar energy a storage facility is also being built, which provides protection to the heritage buses parking under it. The expected output of the planned solar panel system is 220 Mwh per annum. Three similar project are being prepared (Baross tram depot: 36 kW, Kelenföld bus garage: 200 kW and the Balatonfenyves vacation facility: 34 kW).

- **Solar thermal collector:** the solar thermal collector system reduces the natural gas costs of the facility concerned by replacing the natural gas necessary to produce household hot water. Until now, the following systems have been installed: a 128 m² system on the roof of the Zugló tram depot in 2014; a 18 m² system on the roof of the boiler room of the Száva tram depot in December 2017, a 28 m² system on the roof of the Szépileta tram depot hall; and 104 m² system on the roof of the South Pest bus garage office building in the Summer of 2019. In addition to the above, the installation of a 140 m² solar thermal collector system on the roof of the Trolley bus garage office building and an 84 m² solar thermal collector system on the roof of the hall of the Cinkota bus garage has been started.
- **Complex solution:** in course of the heating reconstruction of the Galyatető recreational facility, the heating and the hot water supply were renewed. In order to increase efficiency, window-opening sensors were put on the windows of the building, thereby avoiding heating while the windows are open. The environmental protection aspects were important criteria in course of the modernisation. One of the main objectives was to reduce the emission of pollutants to the very minimum allowed by the circumstances. According to preliminary calculations, as a result of the modernisation, the primary energy consumption decreased by 124 023 MJ, by nearly 60%, while the annual CO₂ emission decreased by 2.93 tonnes, and so did the energy cost: by nearly 600 thousand HUF at the current price level.

Information technology tasks:

The tasks realised from among the investments planned for 2019:

- Purchase and installation of the devices necessary to expand the Lync infrastructure.
- Improvement of the SAP operation (purchase of supplementary licence).
- Expansion of the SBC capacity.
- Expansion of the cable-based sound infrastructure service.

Priority projects

We started the preparations for the replacement of the vehicle fleet of two of our vehicle types, which are special, but the time has come to replace them, i.e. the Millennium underground railway and the cog-wheel railway. Owing to the governmental support, prototypes of unique design and manufacture will arrive to both lines. The planning and asset purchase procedures will bring results in 2020.

As an employer, we try to provide attractive conditions for the acquisition and keeping of the workforce, therefore we intend to ensure high comfort level accommodation opportunity to the employees who live in the countryside. In 2019, we submitted a successful tender for the renovation of the workers' hostel located on the premises of the Hungária tram depot, the construction works may start in 2020, using the government grant won.

Danube cruiser boat service

In April 2019, boat management was separated from the Tourism Division and it continues its work as the separate Naval Office, within the frameworks of the Technical and Development Department.

After 7 years, the management contracts of the ships have come to their ends, and the preparations necessary for the new contract were completed, while the contracts are expected to be concluded in 2020.

The Sziget boat service operated between Jászai Mari Square and the Óbuda Island during the Sziget Festival was concluded with success in 2019 as well.

The revenue from the lease of the naval tangible assets (premises, workshops, tools, ships and docks) amounted to 39.6 m HUF.

Boat renovation and modernisation

The axis system repair of the 3011-type water buses "Lágymányos" and "Budavár" was completed.

The entire drive, propulsion system - from the main engine to the screw-propeller - of the boat named "Pest-Buda" was renewed, and thereby her controllability and manoeuvring ability improved significantly.

The preparations for the plans related to the modernisation of the boats “Révfülöp” and “Szent Kristóf” and putting them into operation have started.

The drive renovations of the BKV-100 type boats have commenced. In case of the boats “Hungária”, “Lánchíd” and “Tabán”, this renovation includes the renovation of the axis system as well, and the replacement of the main engine in case of the boat “Várhegy”.

The technical inadequacies discovered in the docks were remedied within the contractual frameworks available. In addition, in preparation of the 2020 season, the renovation of the dock and the riverbank infrastructure has commenced, especially the repainting of the rails, bicycle holders and street furniture (flower-boxes, benches, etc.), as well as the repair of the defects of the paving elements.

Investment Support Project

The monitoring system for the support and control of investment preparations (hereinafter referred to by its Hungarian abbreviation: BERTA) was finished. It was realised based on the 2017 decision of the management. We tested the system established jointly with the colleagues of the operational and investment areas concerned, and as a result of the project, BKV Zrt. became the owner of a useful software which is capable of supporting the decision-making. The objective of the online programme for the management and control of the investment processes is - among others - to manage the investment needs more transparently and faster, in a documented and traceable manner. This is realised through e.g. the automated separation of responsibilities, the dedicated display of the currently due things to do, even along with the sending of an e-mail notification, as well as through that the current statuses can be queried in several breakdowns, through the statistical module, which allows flexible settings, thereby causing the expediting of the widespread preparatory process which ends upon the launch of the purchase.

The finished system was built in the day-to-day work processes, therefore the management of all investments needs is carried out exclusively in the BERTA system.

Works on the tram lines

Other measures

Upon the initiative and with the cooperation of the section, the WiFi service available at the terminals and the CCTV monitoring of certain locations were extended, and we developed an IT portal for vehicle drivers. With the help of this portal vehicle drivers can access their work schedule on their own mobile devices and can keep track of the instructions and notices related to their work.

In the field of signalling devices, based on the TTP (Science-based Further-operation Protocol; in Hungarian: Tudományos alapú Tovább-üzemeltetési Protokoll) survey the parts replacements and the device overhauls have commenced, and in course or thee repairs new technical solutions are used in order to achieve better efficiency and to reduce the number of malfunctions. The section carried out switch heating repair in case of 124 railroad switches.

The authority approved the new release of the track construction and maintenance technical data and regulations applicable to the track-based service. The Track-based service infrastructure planning guidelines, as well as volume I and II of Technical instruction No. P.1 on track-based service track construction and maintenance are effective as of 2019, while Track-based service track supervision and track maintenance instruction No. P.2. is effective as an additional booklet as of 2020.

Works on the metro lines

Track maintenance works were performed on the metro lines, in order to ensure safe traffic, to avoid the introduction of slow zones and to improve passenger comfort.

The strategic objective of the infrastructure reconstruction of metro line M3 is to improve the competitiveness of the track-based traffic of the capital - and especially that of the M3 (north-south) metro - compared to individual transport. The objective is also to support and facilitate the cooperation and relationship of the functional areas within the city at a high level. The renovation on the Northern line (between Újpest Centre and Lehel Square) was completed in March. After the stations had been handed over, the scheduled renovation of the southern section (between Kőbánya-Kispest and Nagyvárad Square) commenced in April.

Investments, developments, modernisations

- In the M1 line tunnel the section completed the replacement of 3600 km of service cables in total.
- We diagnosed the 220V DC battery groups of all the metro stations and replaced the defective batteries.
- The repair of the shutdown station/tunnel insulation of the middle section of metro line M3 continued.
- In the Northern Section of metro line M3 the external removal and then the re-installation of the automatic train control system (hereinafter referred to as AVR) were completed. After the renovations and alterations, the interlocking devices and the AVR were put into operation after documented inspection and static and dynamic tests, and then the certification of these devices and the obtaining of the final use permit commenced.
- In order to provide service on the northern and the middle section, which remained operational, the movement of the exiting and entering trains had to be ensured in accordance with the construction phases. The interlocking device alterations of the temporary conditions were also completed in our own competence. After the shutdown of the southern section, we removed the exterior of the AVR in our own competence.
- For the M3 KUD (Central Traffic Control Dispatcher; in Hungarian: Központi Utasforgalomirányító Diszpécser) workplace to be built in course of the M3 reconstruction we freed up the necessary area, and the control room of M2 moved to the 2nd floor of the Kálvin Dispatcher House. In the course of the move, hardware and software modifications were also carried out in the control interface of the Central Traffic Control Management of the interlocking device.
- At the Bikás Park station of metro line M4, the groundwater, which flew through the rooflight and onto the platform was closed off, and the watertight insulation of the wall dilation of the station was repaired.
- The PPE (Passenger protection system) test lab at Fővám Square on metro line M4 was completed, which allows the examination of the elements of the system, which guarantees passenger safety.

Kelenföld Vehicle Depot

- The covering of the framework tunnel of the Kelenföld Vehicle Depot was completed.
- A large gallery, which enabled the controlling of the trains was constructed at the vehicle depot, thereby ensuring that the trains to be controlled can be accessed safely through doors on both sides.

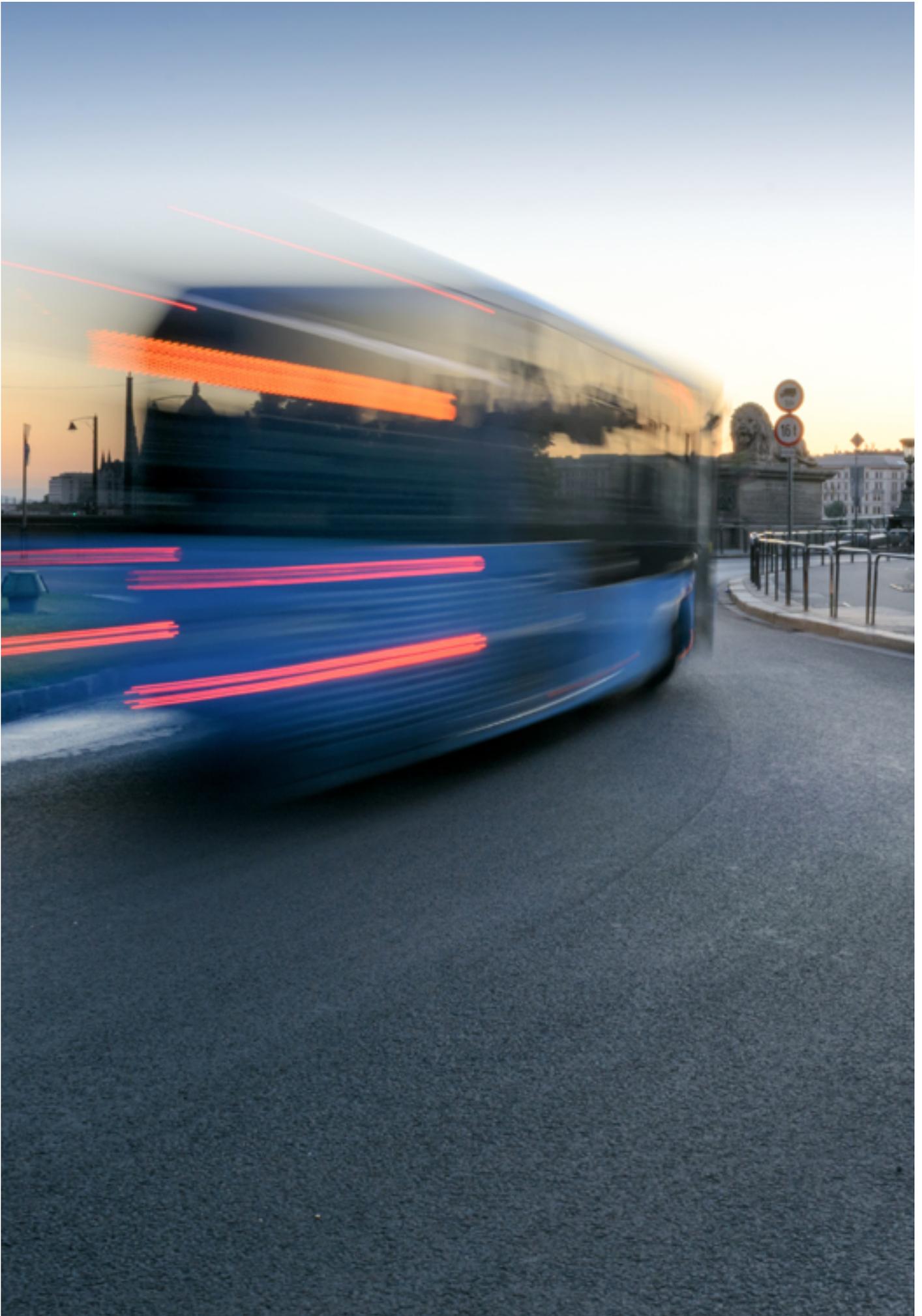
Larger maintenance works

- We performed railroad switch repair, bed replacement, insulation, water draining and injection works, lighting modernisation in multiple facilities, as well as we replaced 13 switch power units jointly with the co-departments.
- On Deak Ferenc Square we replaced the supply cable of the V3 distributor.
- We completed the high-level maintenance of 3 escalators in total with high lifting height along metro line M2.
- The diagnosis of the battery groups of all the metro stations was completed, and the defected battery groups were replaced at Deák Ferenc Square station and in the Dispatcher House on Szabó Ervin Square.
- We completed the high-level maintenance of 3 escalators with high lifting height and 2 escalators with short lifting height along metro line M3, as well as the fire protection maintenance of 15 escalators with high lifting height at the deep stations of the metro line.
- On metro line M3, between stations Újpest-Központ and Dózsa György Road, simultaneously with the infrastructural renovation of the line, a substantial portion of the line network of the emergency water supply water pipe system was renewed along with the completed repair - or if necessary, the replacement - of the related station pressure booster systems. The same works have begun on the southern section as well.
- In order to ensure compliance with the Disaster Management Act, the transfer stations of the line designated for civilian protection - and built in originally - had to be repaired as well. The transfer stations are automated and have ultrasound level sensors and soft launching/shutdown with frequency changer.
- In the framework of the maintenance works we completed the machine-aided track grinding of the track network of the entire M4 line, and thereby the profiling of both tracks.

- Jointly with the co-department, the switch drive was replaced at railroad switch No. 8 of Kelenföld.

Other measures

- On metro lines M1 and M2 - and as part of the renovation of metro line M3 - we established a new digital radio system with EDR (Uniform Digital Radio Transmitter System; in Hungarian: Egységes Digitális Rádiótávközlő Rendszer) Tetra technology and equipped with TEA2 encryption.
- Remote-access, real-temperature monitoring and recording systems were installed in the interlocking device signal relay rooms of metro line M2. With the help of this system the actual temperature of the rooms can be monitored constantly and - owing to the log-keeping - the data can also be searched. If the temperature exceeds the figure prescribed and pre-set for the devices, then the system sends an automatic alarm, and thereby the necessary malfunction detection and elimination can be started immediately.



BUS AND TROLLEY BUS OPERATION

Refurbishment of vehicles

The Bus and Trolley Bus Operation Directorate ordered the refurbishment of 34 buses and trolley buses, with the involvement of 7 external partners. The works were performed with the following technical content:

- frame repair as necessary in 9 cases
- repair in specialist workshops in 2 cases
- preventive bodywork repair in 3 cases
- vehicle modernisation in 1 case
- making the vehicle fit for traffic in 1 case
- the maintenance of bodywork and other elements in 18 cases

The services ordered were performed on low-floor buses and trolley buses in 31 cases.

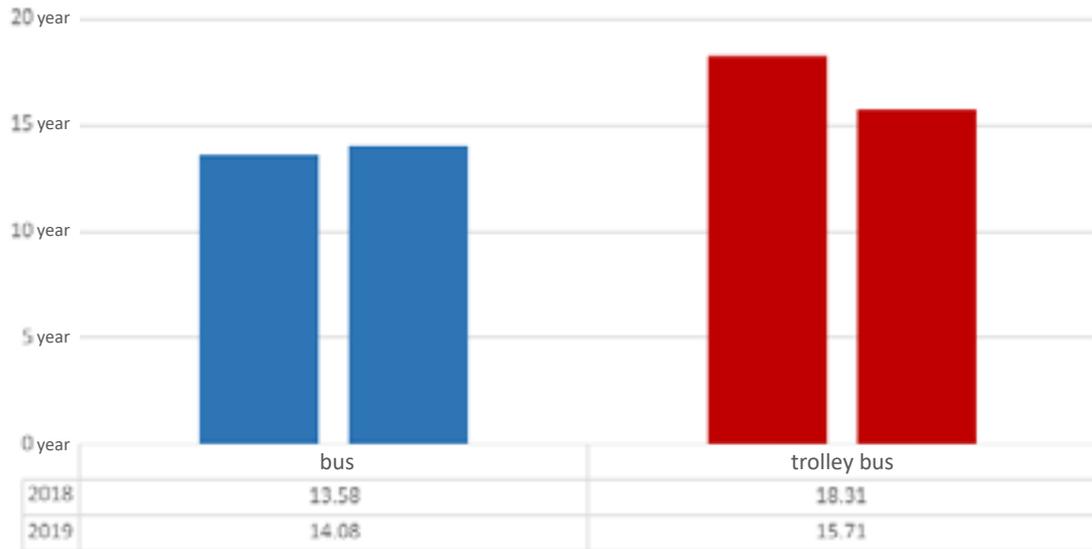
Changes in the vehicle fleet

The average age of the bus fleet increased by half a year due to the lack of purchasing of newly manufactured vehicles. In case of the trolley buses, we had a decrease by 2.6 years due to the entry into traffic of 21 new vehicles purchased by BKK Zrt.

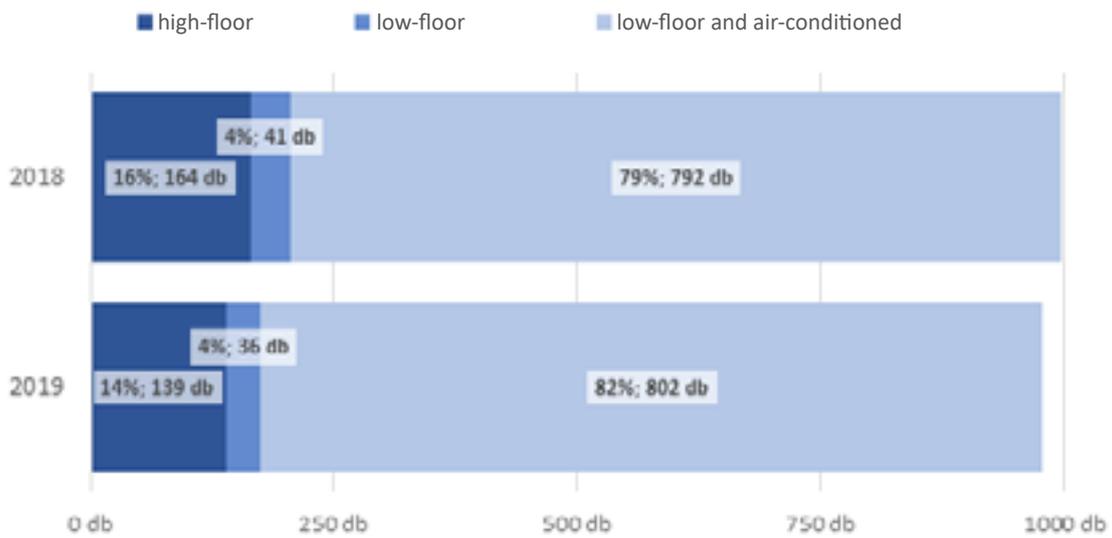
The ratio of low-floor buses among buses increased from 84% to 86%, while the ratio of air-conditioned vehicles increased from 79% to 82%. In addition to the entry into circulation of some used buses, the reason behind this is that the scraping procedures affected the vehicles in the worst condition, therefore the indicators improved overall.

With respect to the trolley buses, due to the arrival of the new vehicles the ratio of low-floor vehicles increased from 46% to 57%, while the ratio of air-conditioned vehicles changed from 28% to 41%.

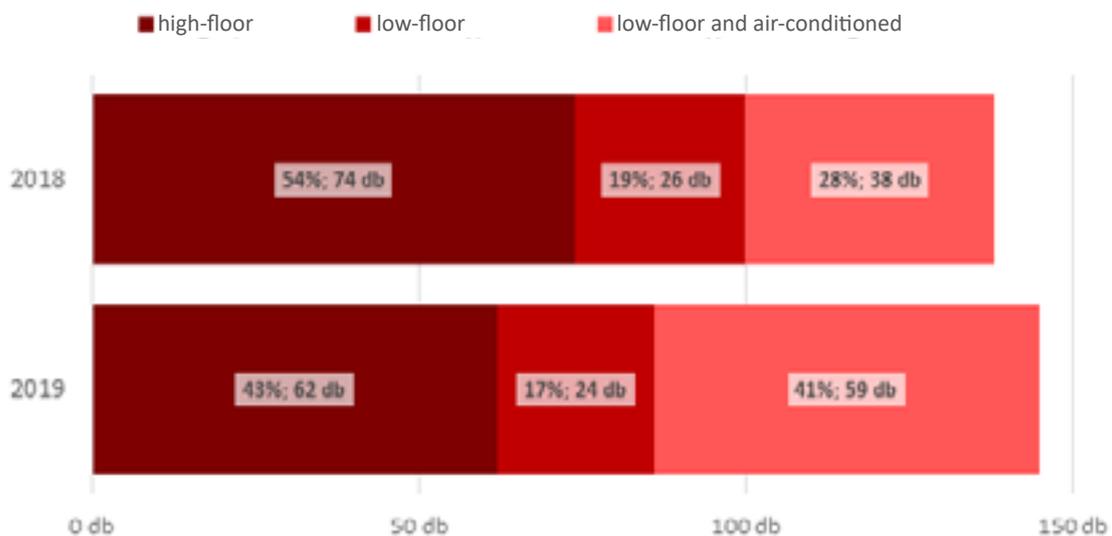
The average age of the bus and trolley bus fleets



Distribution of buses according to passenger comfort



Distribution of trolley buses according to passenger comfort



Metro replacement

As the continuation of the reconstruction of metro line M3, the bus section was given substantial extra tasks in 2019 as well. Until the end of March, on working days and during the day the metro replacement buses operated between Lehel Square and Újpest-Központ, while the replacement buses rode on the entire line at nights and on the weekends.

The northern section of metro line M3 was completed by 30th March 2019, with which the bus replacement of the section was finished. The southern section of metro line M3 renovation commenced between Kőbánya-Kispest and Nagyvárud Square on 6th April. Between 6th April and 26th April 2019 M3 metro replacement buses rode from Kőbánya-Kispest to Nagyvárud Square. From 27th April 2019, the separate weekend phase commenced, in course of which metro replacement took place between Kőbánya-Kispest and Lehel Square. During the rush hours passengers were transported with the express line marked M3E between Határ Road and Nagyvárud Square.

Upon the commencement of the southern phase of the metro replacement, numerous alternative lines were launched in order to allow the public transport passengers to get from the Havana Housing Complex, the Gloriett Complex, Pestszentimre and Gyál, as well as from Liszt Ferenc International Airport to the Nagyvárud Square metro station easier, and to allow passengers to travel from the Szentlőrinci Road Housing Complex and from Pesterzsébet to Boráros Square. These new lines involved buses 194M, 223M and 254M. In order to maintain the direct metro connection of the Liszt Ferenc International Airport, Gyömrői Road and the surroundings thereof, bus line 200E stretches to Nagyvárud Square. A new line marked 161E was launched from Rákoskeresztúr and Rákoscsaba and in the direction of Örs vezér Square. In connection with the metro replacement we strengthened several bus lines in the region, such as lines 85, 85E, 99, 217E, 23, 23E.

The southern phase of the M3 metro replacement was uninterrupted from April until November. However, for three weekends of November buses operated on the entire line (instead of the usual trip between metro stations Lehel Square and Kőbánya-Kispest) due to the repair under warranty of those defects which occurred in the northern section of the metro. The M3 metro replacement buses transported passengers between metro stations Kőbánya-Kispest and Újpest-központ, while the M3A buses served as a supplementary line between metro stations Kőbánya-Kispest and Árpád Bridge.

Staff

The fulfilment of the tasks relating to services increased due to the metro replacement made the supply of the necessary vehicle driver and maintenance/service staff a continuous task for the Bus and Trolley Bus Operation Directorate. Owing to the efforts and successful measures of 2019, our vehicle driver status remained steady, and - considering all of our performances ordered - we had sufficient capacity to execute our fundamental duties and the M3 replacement.

With regard to our human resources management, we had to manage several interacting factors in order to be able to fulfil our duties in the changed labour market environment as well. We had to face the following fundamental challenges in 2019:

- increasing employment demand, shortage of labour on a national level,
- system-level increased vehicle driver demand (replacement with buses due to the metro renovation),
- transforming vehicle fleet, changes skill and knowledge level,
- the population pyramid distortion which affected the workforce of BKV

Due to the combined impact of the above factors, we carried out active recruitment in 2019 as well, regardless of whether the focus of this inevitably changed. In contrast to the previous years - when the recruitment targeted almost entirely vehicle drivers only - this year our vehicle maintenance worker recruitment also emerged actively.

Owing to our continuous efforts between 2017 and 2019, we were able to normalise our vehicle driver situation.

Ensuring the necessary staff requires a series of workforce hiring and keeping measures. While the measures taken in the interest of hiring the workforce bring results fast, keeping the staff requires a forward-thinking process planned in advance for several years.

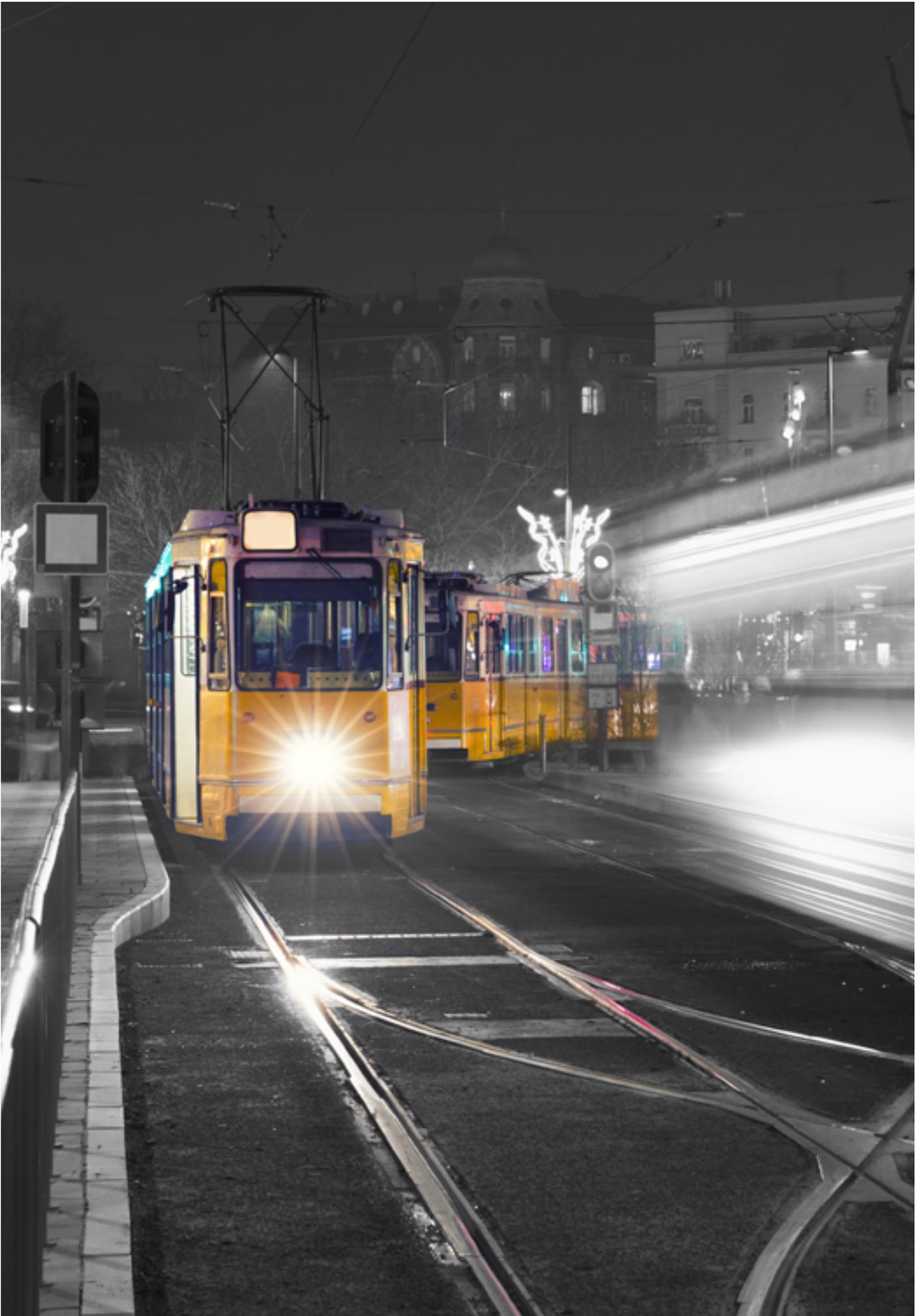
Our main measures related to the workforce hiring include our category D and TR trainings, joining the program of the National Employment Fund, the recruitment techniques used on various platforms, the internal recommendation system, participation in job fairs, and last but not least - the wage increase carried out in 2019.

In addition to the new recruitments of the periods of skill shortage, another key task of 2019 was keeping and possibly the further education of qualified and committed “quality” employees. To this end, it was necessary to take certain work environment improving measures.

Special service, heritage service

The heritage buses and trolley buses of the business line gave unforgettable experiences to transport fans in 2019 as well. Opportunities for these were provided in the framework of the heritage season between May and September, which was announced by BKK, and when the BKV vehicles took part in various events.

Such a special event was the open house of VJSZ Kft. held on 11th May, on Transport Culture Day, and the temporary exhibition organised jointly by the Transport Museum and the King St. Stephen Museum of Székesfehérvár with the title “Ikarus, the bus”, for the opening day of which a convoy of Ikarus buses set off from Heroes’ Square to the city of kings, thereby giving a worthy background for the opening ceremony. It is also worth to mention the Férihegy Ikarus meeting, which was held for the first time on the first weekend of July in the joint organisation of the Cultural Centre for Aviation and our Company. The venue of the event was the Aeropark, where numerous Ikarus make and model vehicles of the section brought the event to a new level, in addition to the MALÉV image buses, which belong to the special fleet of the Bus and Trolley Bus Operation Directorate.



RAILWAY OPERATION

The Railway Operation Directorate is responsible for the operation of the trams, the cog-wheel railway, the metro and the MFAV. According to the Public Service Contract, we carry out the maintenance and repair of the vehicles and the items of infrastructure ensuring the operation, and, if it is necessary, then we contribute on the operator level to the preparation of investments projects concerning public transport, too. In addition to the contractual obligations, in the course of the use of railway buildings and vehicles, the owner must ensure – among others – the establishment and uninterrupted enforcement of proper rules of operation, the establishment of the conditions of safety of life, property and operation, the maintenance of the railway buildings and vehicles, keeping them in a condition fit for secure operation, and ensuring their technical supervision.

Operational performance

According to the 2019 data, **the railway passenger transport division** (tram, cog-wheel railway, metro and MFAV vehicles) **achieved 64.6% of the performance ordered**. The division failed to achieve the normal, nearly 70% performance due to the lower performance resulting from the M3 reconstruction. We ensured this with nearly **8 568 useful capacity-kilometres (cap. km) through more than 3.4 million rounds performed**.

The transport demand at the tram section is continuously increasing, therefore - despite the fact that the number of trams is decreasing (due to the removal of the oldest vehicles) - we achieved efficiency improvement. In line with the service order of BKK Zrt., the service quality increased substantially even when the low-floor trams - which represent 15% of the fleet - ran with a higher than average mileage (usually 90 to 100 thousand km/year), and thereby nearly 40% of the useful capacity-kilometre performance was provided by the Combino and CAF trams.

In addition to the public service activity, the heritage trams provided nearly 1000 hours of performance (usually on weekends), with the average monthly distribution of 80 to 90 hours, furthermore, more than 40 special service ordered were fulfilled.

The line distribution indicator examines the ratio of the lines cancelled for reasons attributable to the activity of the service provider compared to the line numbers specified in the schedule. The ratio of line disruptions for technical reasons is continuously improving at the tram section, and according to the evaluation of BKK Zrt. - the party ordering the service - the tram section achieved the “bonus” category in 2019, along with the metro section.

The development of the railway vehicle fleet

The **tram section** of our Company provides services on 31 tram lines with the total of **584 tram vehicles** of 9 different types, while the passenger transport of the cog-wheel railways is performed with **14 cog-wheel vehicles (7 engines, 7 tow-cars)**. The vehicle fleet of the tram section is rather versatile.

We improved the technical condition of the railway vehicle fleet and improved the service quality.

The entry into circulation of the new CAF vehicle fleet - which is operated by our Company - improved the technical quality level of the repaired tram fleet slightly. The average age of the trams is 35.7 years, which figure still exceeds the planned lifespan by 5.7 years. Considering that the CAF vehicles are owned by BKK Zrt., this vehicle replacement caused no significant change in the asset system of BKV Zrt. If the positive effect of the CAF trams is disregarded, then the average age of those trams, which belong to the asset system of BKV Zrt. is 38 years, which exceeds the useful life by 8 years.

The average age of the metro passenger transport vehicles is 4 years. The average age of the MFAV vehicles is 45 years.

Of the in total 418 cars of the metro vehicle fleet:

- 23 custom-made articulated vehicles are running on the MFAV line,
- in total 22 ALSTOM metro trains (consisting of 3 different types of engines, with 5 cars in total) are in service on metro line M2,
- on metro line M3 – as result of the completed refurbishment combined with drive modernisation – 37 modernised Russian metro trains originating from the 81 family (consisting of 2 different type of engine car, in total 6-car trains) are in service.

- 3 EV-type trains remained in the fleet, which may subsequently fulfil heritage services therefore the original build of the vehicles and the restoration of the design, as well as the execution of the overhauls due have commenced.
- In addition, on the M4 metro line, passenger transport is carried out by 15 (consisting of 2 different type of engine car, in total 4-car) ALSTOM metro trains.

After the successful elimination of the minor part serial defects, which occurred in the vehicle fleet of metro line M4, and through the re-organisation of the maintenance schedule, it became possible to put 13 of the 15 trains in circulation simultaneously.

The vehicle fleet of the railway sections is rather complex. The vehicles in service include the COMBINO and CAF tram and the ALSTOM metro vehicles - which comply with the requirements of their age completely, provide high passenger comfort, can be walked in their entire length and have air-conditioning - and the older tram, cog-wheel railway and MFAV vehicles, which provide less comfort than expected, but which represent a completely appropriate transport safety level.

The passenger comfort of the vehicle fleet has improved significantly in recent years. By 2019 the **ratio of low-floor vehicles** (in terms of number of items) **reached 51%, while the ratio of air-conditioned vehicles reached 25%.**

The track-based vehicle fleet decreased by 8 TW6000-type passenger transport vehicles in total in 2019.

Development of the infrastructure instruments

Part of the elements of the **infrastructure instruments** had been renewed significantly in recent years. In order to increase passenger comfort and to reduce the noise effect, in total 94 203 track meters were grinded in the tram track system.

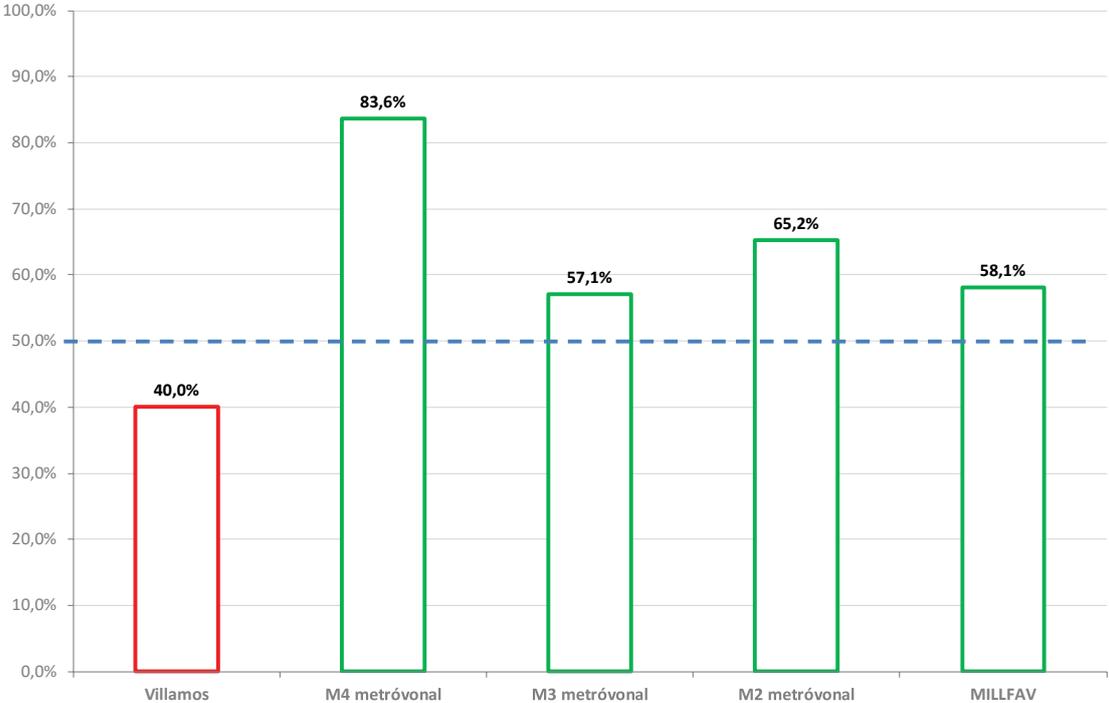
Part of the infrastructural equipment, assets are in such condition that restrictions had to be implemented due to the malfunctions that occurred. Exception to this are metro line M2 (where the reconstruction was completed just recently), metro line M4, as well as the tram lines developed using European Union funds.

The aggregated technical condition of the infrastructural equipment and assets was improved compared to the previous years by the renovation works performed on tram lines 1 and 3, the establishment of the “Buda feed-in” tramways, the developments and the invest-

ments affecting the tram network in case of the tram business line. As a result of these, **the aggregated technical condition of the infrastructural equipment and assets is currently 40% in case of the tram section.**

According to 31st December 2019, daily tram traffic is carried out on a course that is 355.3 km long in total, and the power supply ensuring the movement of the vehicles is helped by 39 inverters. The vehicles receive energy through a 630 thousand rm-long (trolley bus: 270 thousand rm, tram: 360 thousand rm) overhead cable network and a 940 thousand rm-long towing cable network.

The results of the infrastructural investments in progress in metro line **M3** are included in the chart below for the northern section; this chart shows it well that the renovation completed has a favourable effect on the aggregated technical conditions. As a result of the continuation of the reconstruction, **the technical condition is expected to improve significantly even further during the next years.**



THE AVERAGE TECHNICAL CONDITION OF INFRASTRUCTURAL EQUIPMENT, ASSETS *

* condition as of 31st December 2019

The infrastructure elements, which belong to the railway business line constitute a rather wide range of assets in terms the type, number and condition of the elements. Their role is special,

since these pieces of equipment make the railway traffic possible. In 2019, numerous activities were carried out which facilitate the improvement of the technical condition of the assets, maintaining and slightly increasing the level of quality thereof.

Tram business line

The tram driver trainings continued. Until the end of the year, 92 vehicle drivers and 1 vehicle technician employee passed successful exams. In addition, the railway traffic safety trainings of the track-based service and cog-wheel railway traffic vehicle drivers, vehicle technician professionals, as well as infrastructure professionals continued.

We reviewed the vehicle driver basic training, and by the spring of 2019 a new national curriculum was prepared, which rationalised the study material in compliance with the technical and operational requirements of the era. The change in the training order in early 2019 imposed a dual task on our Company:

- on the one hand, the task of approving the type and line study training programs was transferred to the competence of our Company (therefore the review of the training programs had to be started),
- and, on the other hand, the examination powers of these trainings modules were transferred to the competence of our Company (therefore the personnel and material conditions necessary for this had to be established).

The training programmes of the track-based vehicle types operated in the line network of BKV, as well as the training programmes of the line sections were completed. In the framework of this the required class number decreased compared to previous years.

Based on the simulator expanded last year, we extended the use of the simulator significantly: in the training of the CAF Urbos and the Tatra T5C5K types, as well as in the practical teaching of line knowledge. We use the simulator also for teaching the driving practice module of students, as well as to illustrate the theoretical material taught in the infrastructure and category modules.

We created a computer examination room, which adjusts well to the changed legislative environment. The examination room is suitable for the simultaneous computer-based testing of 16 persons in case of corporate or even central official exams and for any of the exam methodologies currently used. It is a multifunctional room which is completely suitable for educational activities as well, and the pieces of equipment (board, projector, teacher's computer) are also available.

The trainings and examination tasks connected to the network infrastructure developments also continued. In addition, based on the employment demands, the type and line knowledge trainings were continuously ensured through the organisation of the basic exams concluding these trainings, as well as the periodic trainings and the organisation of periodic exams were also ensured.

An additional complex cog-wheel railway driver training was also started, and our Company participated in the organisation of the road-railway amphibious vehicle driver training, which was launched by the operational division.

Basic trainings in line with the divisional needs were provided for non-driver job functions, as well as the periodic trainings of such employees, and the periodic exams of the employees were organised.

Metro business line

Until the end of the year, 99 vehicle drivers (including the different type trainings) and 6 engine drivers in total passed successful exams.

Within the framework specified by Minister of National Development decree No. 19/2011 and the Appendix of the Exam Regulations of the Institute for Transport Sciences (in Hungarian: KTI), we revised almost every training programme in 2019.

- As a result of this, the vehicle driver courses involve more practical training than ever before compared to the category knowledge topics.
- Use of modern, simulator-based training in case of the Metro engine car driver basic course, in the Infrastructure module and in the Type knowledge module.

By the end of March 2019, the difference trainings and exams related to the new M4 and MFAV instructions started in 2018 were completed by the entire active staff.

The corporate-level trainings and basic exams for type knowledge and line knowledge have started as of May 2019. (Several BKV/KTI examiners have participated in this as of the last quarter of the year.)

All employees working in traffic control participated in the stress management trainings, and they have been using the knowledge gained successfully in their work.

In 2019, we introduced the ForTe system-based work scheduling and performance accounting of those employees of the Metro Traffic Engineering department who do not work in travel traffic job functions.

Virtual Power Plant Programme

Our Company has been contributing to the realization of the objectives set by the Virtual Power Plant Programme, i.e. to contribute to the “building” of the virtual power plant as much savings as possible. In the Energy-efficiency Excellence Tender - which was launched by the Virtual Power Plant Programme (in Hungarian: Virtuális Erőmű Program; VEP) in 2014 - our Company was awarded the title of “Energy-conscious Enterprise” in 2019, and its subsidiary, BKV Vasúti Járműjavító Kft. was also awarded this accolade.

Sustainability Thematic Week

The Ministry of Human Resources - with president of the republic János Áder as the main patron - announced the Sustainability Thematic Week for the fourth time in 2019. The purpose of the programme is to spread the message of Earth Day and sustainability widely within the school framework. The series of events took place between the 18th and 22nd March 2019 with the support of the Ministry of Human Resources and organised by PontVelem Nonprofit Kft. One of the key topics of the events was sustainable community transport, and for the first time in 2019, our Company joined the event as well, with the participation of 10 volunteer lecturers. During the Thematic Week, as part of the school programmes and classes, professionals (volunteers) committed to sustainability - led by the lecturer and according to the lesson plan - presented the efforts of our Company, and reinforced the message of the Thematic week to the children with their own examples and thoughts.

Measures taken to reduce energy costs

Energy purchases, power management: in addition to the quantity of energy used, the unit price is also a very important factor in the development of the energy cost, therefore good and careful energy purchasing activity and the proper fulfilment of the power management and scheduling tasks are especially important.

The primary purpose of the power management and the electric power scheduling activity is to reduce the energy costs.

Operation of an EMS in compliance with ISO 50001: Act LVII of 2015 on Energy-efficiency

obliges large enterprises to have an energy audit carried out by an external party every four years, or to implement an energy management system (EMS) compliant with the ISO 50001 standard and certified by an external accredited company.

BKV Zrt. decided to implement the EMS, since through the implementation and operation of EMS BKV Zrt. it can monitor its own energy-efficiency development continuously through a framework system in which all employees and energy consuming systems are involved to varying extents. The EMS system has been operating as a certified system as of 10th November 2016, the audit was renewed at the end of 2019.

Performance of the energy audits: considering that energy audits have a special role in the identification of energy-efficiency measures, our Company agreed to carry out complex energy audits (through the audit of 1 specific facility every six months), with the participation of two employees who have the required qualification and experience.

Expansion of the existing energy monitoring system: in 2018 an energy monitoring pilot project was realised on Blaha Lujza Square and at the Fehér Road metro vehicle depot, in the framework of which 7 electric power meters, 2 natural gas meters, 2 heat quantity meters and 2 water meters suitable for remote meter reading were installed. In the system data can be accessed through a web-based interface, and the data can be analysed within the system in order to improve energy-efficiency. The monitoring system in itself does not generate savings, however, it strengthens the efficiency of the energy management of our Company to a great extent, and it makes it easier to identify any energy-saving opportunity, and last but not least, it makes it easier to quantify the results of the savings achieved. The pilot project ended successfully, and the preparation of the expansion of the system is in progress based on the results of the project.

Building modernisations: during the last year, the ground floor and first floor doors and windows of the Escalator hall were replaced. At the Száva and Szépilona facilities the doors and windows were also replaced, after the modernisation of the heating system.



METRO LINE M4

The internal construction of the stations

Pursuant to the additional deadlines specified in the settlement agreement and until the defects still included in the list of defects are remedied we will not issue the Certificate of Performance, and until then the Contractor provided a reduced bank guarantee, with the amount agreed by the Parties. The Contractor is fulfilling its duties and repairing the still existing defects in compliance with the agreed schedule.

Related surface investments, arrangements on the surface in Baross Square

The Defect Notification Period of the contract concerned expired on 21st March 2019. The Operators, the Engineer and the Principal held a site visit jointly with the Contractor, and they recorded those still existing defects, which do not prevent operational functioning. The Contractor is performing the repair of the defects, the planned deadline of which is the end of June 2020.

Systems, powers supply - Co-09

The tasks prescribed in occupancy permit UVH/VF/3429/50/2015 about “Main line tunnel and vehicle depot safety device and automatic train control system of section I of metro line M4 of Budapest” were realised.

Purchase of metro trains - Co-10

The performance bank guarantees related to metro lines M2 and M4 were extended until 30th November 2020.

Government Funding and Budapest-Capital Funding - the costs claimed, the budget of the project

Amendment No. 6 of the Single Grant Contract - according to which the government funding period was extended until 31st December 2022 - was approved by the Government in its decision No. 1463/2019. (VII.30.), and the contract amendment entered into force as of 10th September 2019. The budget of the project and the amount of the state budget requirement remain unchanged.

The maintenance period of the KÖZOP projects

The 5-year maintenance period of the major KÖZOP project commenced as of 12th April 2017. The 5-year maintenance period of the phased KÖZOP project commenced as of 25th November 2016.

The maintenance period of the IKOP projects

According to the Grant provider's notification dated 9th October 2018, it had closed the two IKOP projects in 2017. The 5-year maintenance period of the M1-M7 IKOP project commenced as of 19th October 2017, while the maintenance period of the P+R project commenced as of 18th November 2017.

Capitalisation

The breakdown of equipment and the determination of value prepared by DBR was accepted by MÁV. The handover to the Hungarian State and MÁV Zrt. is in progress. The capitalisation of the equipment to be handed over to and to be owned by the Capital had been completed, and it was accepted by the General Assembly of the Capital.



BUSINESS MANAGEMENT

In 2019 BKV Zrt. achieved 155 955 million HUF of operating income (net sales revenues, other income), as well as it realized 844 million HUF of own performance capitalized, which in total exceed the 2018 figure by 17 173 million HUF.

As of 1st May 2012, BKV Zrt. pursued its activity in the framework of the Public Service Contract concluded with BKK Zrt. According to the contract BKV Zrt. provides public transport services as the internal service provider of BKK Zrt., for which services BKV Zrt. is entitled to public service fee up to its justified costs not covered by the revenues. BKV Zrt. has no other direct public service-related revenues; the ticket revenues, the price supplement, the agglomeration and district public transport revenues, the revenues of the contracted lines specified in the parameter book, as well as the capital and governmental subsidies granted for the operation constitute the revenues of BKK Zrt. The contract valid between BKK Zrt. and BKV Zrt. specifies the methodology which constitutes the basis of the monthly public service fee payable, as well as the contract includes the traffic performance ordered, the terms and conditions of performance, the planning and reporting requirements, the bonus/malus system, and the items subject to penalty.

Based on the above, BKV Zrt. received 132 284 million HUF as **public service fee**, which is 10.4% more than last year's amount.

The **revenue of contractual and other services** exceeds the figure of the previous year by 116 million HUF. The growth originates from the 56 million HUF surplus of the Funicular, the 40 million HUF surplus of the special services and the 20 million HUF surplus of the Chairlift. Overall, the tourism revenues were affected positively by the favourable weather, as well as Budapest continues to be a popular destination among tourists. The revenues related to the HÉV replacement also contributed to the growth of the special service revenues.

The **revenue of other activities** ended up over the base by 359 million HUF. The Company shows in this line – among others – the fees earned from the loaning and leasing of tangible assets, the rental fee of the corporate residential properties and workers' hostel, the rental fee of the advertisement surfaces, as well as the revenue of intermediated services. The fees earned from the lending and leasing of tangible assets showed 40 million HUF of losses compared to the base figure, however, the rental fee of the advertisement surfaces exceeded the

base figure by 70 million HUF. Compared to the base revenue a surplus revenue of 1 078 million HUF occurred in the sale of stocks and goods, owing to the revenue gained from the sale of the Stadionok office building. In case of intermediated services, the decrease compared to the base was caused by the one-time items of the previous year did not occur in 2019.

Overall, the sum of **other revenues** exceeds the base figure by 4 109 million HUF in total. The reason behind the significant difference is the higher value of the deferred release of revenues (due to the capitalisations of higher value related to the M3 reconstruction), the higher amounts of the penalties received, as well as the release provisions after the conclusion of a lawsuit, which provisions had been set up for this specific purpose (953 million HUF). Slightly less revenues was gained from the sale of tangible assets compared to the previous year.

The **operating expenses** increased by 11 681 million HUF compared to the previous year. With respect to the sums of the material and staff expenses which represented more than 80% of the operating expenses, we achieved savings of nearly 2 703 million HUF compared to the planned budget.

The **material costs** increased by 15.6% (4 105 million HUF) compared to the base figure. Although the cost of gas and diesel oil increased only by 3.2% compared to the base, there was a larger, over 30% increase on the towing energy and other energy lines. The reason behind this is that the unit price of towing power increased by 39% compared to the base, and the price of other electric power and natural gas increased significantly as well. In case of material cost without energy, the increase was 12.9% compared to the bases and an extra 9.7% compared to the budget. Compared to the 2018 consumption, the costs of main vehicles, vehicle parts and escalator parts increased significantly. The reason behind this is that in 2019, there was a higher rate of repair and maintenance works performed in the Company's own competence (Combino overhaul, MFAV main repair) compared to the base year, and for this reason a rearrangement is noticeable among the material costs and the services used.

The use of **the services used** exceeds the base figure only by 0.4%, the deficit compared to the budget is 3.3% (869 million HUF). The sum of 8 312 million HUF was used for the repair of tangible assets, which was less than the figure of the reference period by 326 million HUF. The decrease is owed mostly to the fact that the ratio of construction with high service demand was lower among the vehicle maintenance works, and the Company performed a higher ratio of such construction work itself. In case of the property security activity, extra costs in the amount of 206 million HUF occurred compared the base, the reason behind which is the carryover effect of the hourly fee increase which took place in April 2018, as well as the change in the hourly fee which has been valid since July 2019. The Company spent in total 2 320 million

HUF on the rental fee of vehicles, which is equal to the figure of the reference period. There is an overall increase of 180 million HUF in the costs of the operation of the IT system and the software compared to the base. The amount paid for attorney's fees and litigations costs decreased by 132 million HUF compared to the base, which resulted partly from the recharging related to the previous period.

Overall, the **staff costs** exceeded the base figure by 8%. The corporate wage increase ceiling for 2019 was 8%, in addition to the base wage increase, a wage amount of 487 million HUF was distributed for the incentive of the qualified workers, engineers and other key person to be specified by the specific divisions, for wage catch-up, as well as for the updating of the Annexes of the Collective Agreement of the directorates. The labour market position of the Company improved through the wage increase, the competitive salary helps in achieving the employment policy objectives.

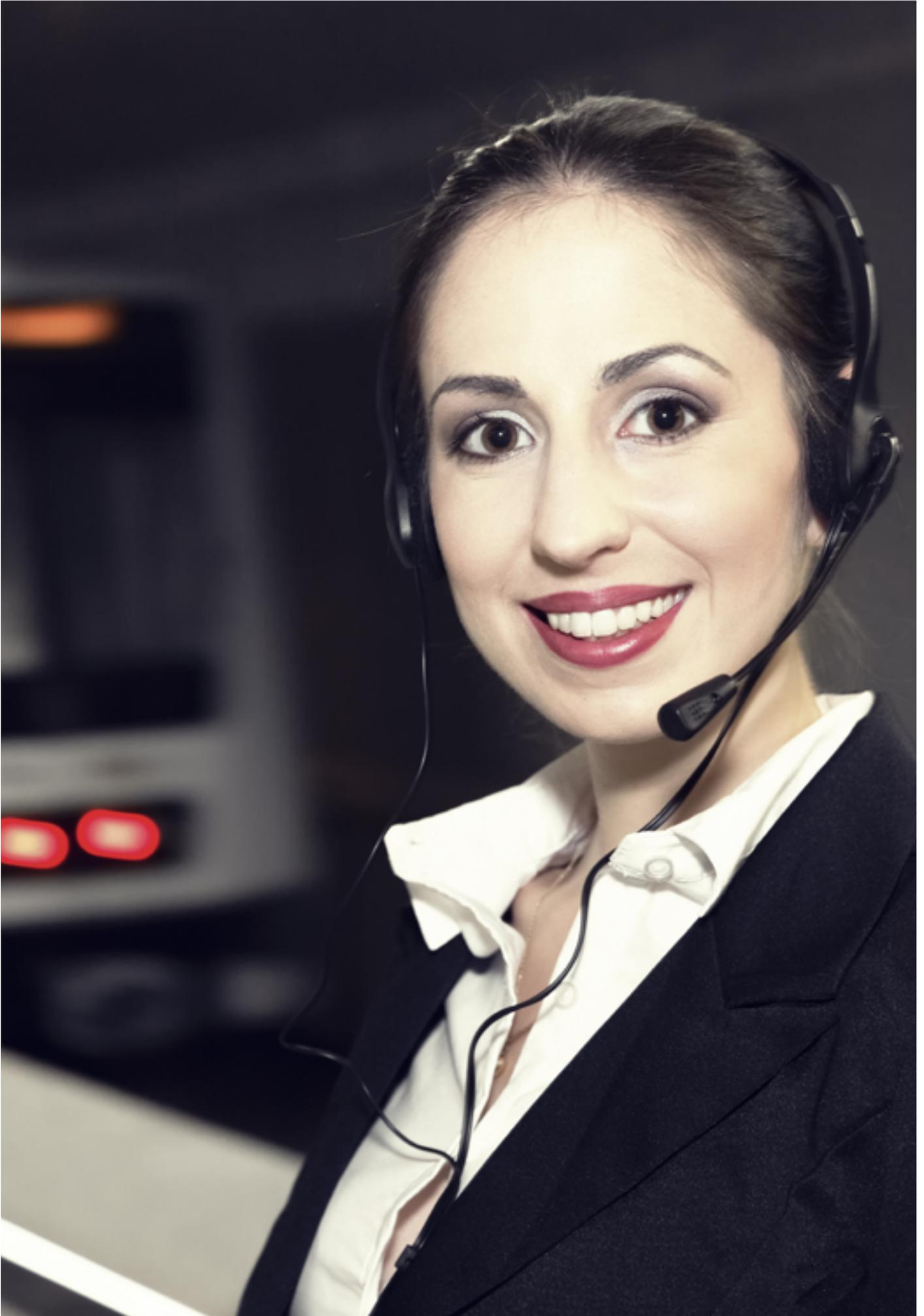
The **depreciation write-off** increased by 4.4% compared to the previous year due to the tangible asset capitalisations.

The **other expenses** increased by 1 480 million HUF compared to the base, which was caused mainly by the establishment of provisions and the increase in the fines aid, however, at the same time the aid granted also decreased.

The **income from operations** of the Company was 3 830 million HUF loss in 2019.

The **balance of financial transactions** closed positively with 36 million HUF, owing to the income from interest.

The **profit before tax** of the BKV Zrt. was 3 794 million HUF loss in 2019, which reflects an improvement by 11 603 million HUF compared to the planned budget, primarily as a result of the partial offsetting of the underfinancing established, the favourable revenue developments and the savings of 2019.



HUMAN RESOURCES STRATEGY

In Budapest and in the Budapest urban agglomeration unemployment stands permanently around 3%. In 2019, our Company had to perform in a labour market where the competition for workforce was even stronger than the national competition. After the 15 % wage increase in 2017 and the 12 % wage increase in 2018, we were able to achieve an 8% wage improvement in 2019.

Achievements:

- As part of the Wage Scale System we managed to raise the wages of employees with low wages, catching up with the rest of the staff.
- We continuously developed our labour market image, through the publication of new leaflets, stickers and banners and by making Facebook, Instagram and Google contents and recruitment short films.
- On our renewed recruitment portal - karrier.bkv.hu - we are constantly awaiting interested parties with our job offers.
- We expanded the internal recommendation (reward-based) system of the corporate recruitment to jobs functions, which cannot be filled even after longer recruitment.
- We increased our presence at the job fairs organised by the districts of the Budapest-Capital Government Office, and we also attended the HVG job fair and the Edukáció exhibition.
- Our work committee for the improvement of employment conditions continued the improvement of the technical and comfort conditions of staff rooms, terminals and staff waiting areas.

Owing to the competitive remuneration, our staff numbers stabilised, and we are able to continuously fill the positions left vacant by employees leaving the company with new hires. Owing to our successful efforts, we continue to be able to maintain the commitment and the motivation of our employees, thereby facilitating the quality and safe provision of the community transport service.

Social expenses:

- Based on the Collective Agreement, our Company provided financial aid to the employees and the pensioners of the Company on equitable grounds (giving birth, long illness, hospital stay, funeral) in the amount of 22.1 million HUF.
- In 2019, during the off-season period, the Balatonfenyves training and leisure centre served as venue for training events again, while in the summer period it was used for vacation, which caused 22.3 million of expenses in total to the Company. This includes the costs of trainings in the amount of 20.7 million HUF (these trainings were funded from the education budget), while the large family aid caused expenses in the amount of 0.3 million HUF and the provision of the social vacation shift caused expenses in the amount of 1.3 million HUF.
- In 2019, the maintenance of workers' hostels required cost in the amount of 114.5 million HUF (including rented accommodation in the amount of 13.9 million HUF), and the revenue was 17.5 million HUF.
- The management cost of the vacation facility located in Galyatető was 7.4 million HUF, including 2 million HUF of energy cost and 3 million HUF cost of the termination of the underground tank in accordance with official regulations. The revenue of the vacation facility was 5.5 million HUF, and 896 persons spent a total of 2,070 guest nights in the vacation facility.
- The Day-Care Home of the Elderly took care of 6,000 BKV pensioners, provided club-like programmes, and it also served as the venue of a couple of corporate-level events (training of drivers, jubilee celebrations). In 2019, the management cost amounted to 3.1 million HUF (including 2.2 million HUF of energy cost).
- During 2019, 5 persons were given employer's loans, the sum allocated amounted to 13.5 million HUF in total. There was no demand for the discounted early repayment opportunity.

Education Department

External trainings

We organised the following courses providing professional qualification* (trainings included in the National Qualification Registry (in Hungarian: Országos Képzési Jegyzék; OKJ) and other special and IT trainings) (in total: 1 139 persons):

- OKJ trainings **291 participants**
- including shortage professions:
 - electrician **12 participants**
 - lifting machine operator **55 participants**
 - forklift driver **53 participants**
 - cutting machine operator **1 participant**
 - welder **29 participants**
- special trainings **105 participants**
- information technology trainings **54 participants**
- the further training of workers practicing the professions (periodic trainings required by law):
 - fire protection exam **480 participants**
 - the further trainings of supervisors **62 participants**
 - other official trainings and exams **125 participants**
- secondary formal education trainings (with mandatory student legal relationship): school-leaving examination prep training, technician training, adult education providing qualification (OKJ courses) **16 participants**
- specialised further training (postgraduate courses with student relationship) **6 persons,**

* In case of the professional trainings, 50% of the amount spent on the trainings our own employees (course and exam fee, textbook cost) can be claimed retroactively for the year concerned and to the debit of the vocational training contribution, to the extent of the actual realised training courses. According to Minister of National Economy Decree No. 21/2013. (VI. 18.), in order to be able to claim this amount, service contracts for each training, study contracts with the participants, as well as a financial statements must be prepared; the latter shall be prepared for the National Vocational Training and Adult Education Office. For 2019, the cost refund is expected to be possible for **226 persons**.

Language training

Language training	
Name of the training	Number of participants
foreign language training for managers (English, German)	19
foreign language training for employees (English)	9
foreign language training for employees (Italian)	1
Total:	29

Trainings

- Organisation of specialised teacher further training, conflict and stress management trainings for the dispatchers working at the metro traffic technical engineering department, psychological trainings for vehicle drivers, behaviour adjustment trainings for vehicle drivers, as well as various team-building trainings (communication, cooperation improvement, etc.), with the participation of 525 persons in total.
- In addition to the above, we paid special attention to the driver supply and the training of the reigning managers.
- Manager’s coaching of 1 person, as well as the coaching of 5 managers by an internal coach are currently in progress.
- In 2019, the total of 37 persons participated in the manager succession workshop training.
- The managers’ workshops were attended by 120 of our executive employees on 8 occasions.

Higher-education formal education trainings

Enrolment of those workers in bachelor, masters and specialised programs who are completing various studies in institutes of higher education (technical, traffic, economic, etc.).

Engineering students	
Name of the training	Number of participants
traffic engineer	3
traffic engineer Msc	1
business informatics	2
business informatics Msc	1
informatics engineer	0
informatics engineer Msc	0
mechatronics engineer	2
electric engineer	1
electric engineer Msc	2
vehicle engineer	1
vehicle mechanical engineer	2
mechanical engineer	2
mechanical engineer Msc	0
Total:	17

Dual programmes

The dual training continues, the objective of which is to ensure that we can employ graduate workers who already have experience as well. Simultaneously with their higher education studies, the contracted students participate in a practical training in the railway operation department, therefore such students may be employed as fully-fledged employees immediately after they had finished their studies.

Currently we have agreements with the University of Dunaújváros, multiple faculties of Óbuda University, as well as with the Széchenyi István University. The 16 students spent their

practice period in 11 different divisions; 3 of the students study electric engineering, 4 students study mechanical engineering, 8 of them study informatics engineering, while 1 studies at the traffic engineering specialisation.

Trainings organized internally

Our Company operates a driving school. The trainings are carried out in accordance with the training programmes approved by the authority and are concluded with an official exam. In 2019, we trained 813 bus and trolley bus drivers.

- Special driving courses in category D for new hires **120 persons**
 - Trolley bus driver category **35 persons**
 - Special training for obtaining Motor Vehicle Driver Certificate **685 persons**
- Qualifying exam for bus and trolley bus drivers **1100 persons**
Training and examination of internal service vehicle drivers **97 persons**

151 drivers who do not work in compliance with the corporate requirements, or who are more sensitive to accidents participated in the corrective training for the adjustment of traffic behaviour.

Railway-specific trainings and exams

It is a big change that the approval of the type and line knowledge training programmes and the organisation of the exams were transferred to the competence of our Company. The coordination of these changes and the establishment of the corporate regulation environment thereof constituted continuous tasks.

The number of basic courses announced and started in 2019: **222**

Number of the **exam centre official exam** of the persons filling job functions related to the safety of railway traffic (basic exam and periodic exams) in 2019:

Statistics of the exam centre official exams of the persons filling job functions related to the safety of railway traffic in 2019:

	participants /person/
vehicle driver basic exams	702
non-vehicle driver (other) basic exams	213
railway profession teacher basic exam	20
vehicle driver periodic exams	443
non-vehicle driver (other) periodic exams	224
extraordinary vehicle driver exams	77
basic and periodic improvement exams	173
basic and periodic repeat exams	55
total:	1907

The railway vehicle driver basic exams announced and organised by the company for 2019 developed as follows:

Statistics of the official exams announced by the company (vehicle drivers) (01.04 - 31.12.2019):

Name of the exam	number of participants
basic exam	999
first improvement exam	25
second improvement exam	2
repeat exam	14
Total (persons):	1040
Total number of exam activities (line and type knowledge, pcs.):	2834

Vocational training

Our Company is currently in contact with 22 vocational training schools, we employ 314 school students on average with student contracts, and we provide our students with the opportunity to practise 26 professions in our trainings workshops and in the repair workshops of our specific divisions.

Through cooperation agreements 123 vocational school students spent their continuous summer practical training here.

Currently we have several ongoing projects:

- scholarship programme for our graduating students,
- increasing and then maintaining the number of students in the framework of a training workshop development aid,
- the renovation of a 263 Ikarus bus jointly with the students and the training workshops. (2 to 3-year program)



CORPORATE RELATIONS

For 2019, we set employer branding as the main communication goal, thereby helping recruitment for hard-to-fill vacancies. By presenting the “it is good to be a BKV employee” feeling we drew attention on why it is actually good to work for BKV. Our objective is to attract interest in our Company as a workplace and to keep the good workforce.

The complete recruitment activity was embedded in the employer branding scheme, based on which we drew attention not only to certain professions but also to the employer role of BKV. Partially through objective, factual data, and partially through emotion-based communication we showed what kind of enterprise BKV actually is, which key employer characteristics it had, what it can give to its employees, i.e. the community experiences and professional “privileges” in which we, the BKV employees can participate. The communication and recruitment related to the specific professions were realised in the close cooperation of the human resources department and the specific divisions concerned, through consistent and harmonised internal and external communication.

- Our recruitment campaign had great success, it became quite popular, and through this we managed to achieve that possible employees take us into consideration and we achieved public awareness.
- As of the second half of 2019, all specific divisions are advertising through Facebook, and our advertisements are successful there as well.
- Naturally, in addition to the paid advertisements, we maintained active communication also on our own renewed career site.

In 2019, throughout the year we welcomed those who are interested in community transport beyond the everyday trips with our usual programs and events. Our open houses continued as well, at which we had the opportunity to show the beauty of community transport to our passengers in person, as well as to bring it closer to them. At the open house organised for the 70th anniversary of the opening of the Kelenföld bus garage, the participants could learn about the past and present of the facility, which is considered as an industrial national monument. Taking a walk under the elliptic paraboloid shaped shell sections supported by reinforced concrete arches was a truly special experience for all visitors. The 120 years old Budafok Tram Depot has an even longer history; the tram depot was completely renewed by 2018, in order to hold the

majority of the newest and longest trams of the capital, the VAF trains. The BKV Railway Vehicle Repair facility was showed at an open house as well. The event was organised on the occasion of the Transport Culture Day and by the Hungarian Transport Association (in Hungarian: Magyar Közlekedési Szövetség, MKSZ), with the participation of the Hungarian Automobile Club (in Hungarian: Magyar Autóklub) and as the guest of BKV Vasúti Járműjavító Kft. (VJSZ). The Óbuda bus garage opened its doors to visitor in children's day. The facility hosts several thousand curious and enthusiastic visitors every year, in order to bring community transport and the bus transport feeling closer to the fans. The series of open houses continued in the Kőbánya trolley bus garage, where our passengers could explore the Zách Street garage of BKV: The visitors could learn more about not only those buses and trolley buses, which they use every day on the roads of Budapest, but about our heritage and special vehicles as well. Moreover, the accident scene investigators of BKV Zrt. were also introduced with the title "A day in the life of accident scene investigators".

In 2019 we were very happy to remember that women have been driving buses at BKV for 40 years now. In the mid-20th century women were still prohibited by law to get behind the wheels of buses. After the abolition of this regulation, women could prove themselves as bus drivers too. We organised a podium discussion with the title "Women can drive buses for 40 years already" in the Egri room of the headquarters. The event - which gained great media interest - was broadcast live on our Facebook page.

In 2019, Budapest became the European Capital of Sport. Joining the programmes of the capital, we organised a family Sport Day, where our employees and their family members could try numerous sports on the BKV Előre SC sports facility.

In the public Facebook group BKV - I love doing it! - set up this year the members could - and can ever since - get to know the employees of BKV. Our objective was to create a platform where our employees themselves can show and tell why they like being BKV employees and what they enjoy in their work. There might be no source more authentic than own experience and honest statements to show: it is good to be a BKV employee. The group - which has more than 2500 members - is growing dynamically, and it is popular among not only our employees but our passengers as well.

The BKV Vlog on our YouTube channels was also launched in 2019 in order to present the life and values of BKV, with 28 films in which be show and share interesting things, secrets and useful information with our viewers from the world of the Budapest community transport. In our videos, with the guidance of our Company's professionals the viewers can learn about our

special vehicles, may get an insight into the locations unknown to the passengers, and may get a glimpse of the secrets of the vehicle driver profession.

BKV Zrt. had an active role in the international platforms of community transport in 2019 as well. We are a member of the UITP (International Association of Public Transport), which has more than 1800 member companies from 100 countries of the world. We contributed to the activity of the organisation in the expert groups of the Transport Management Committee, the Marketing and Product Development Committee, the Trolley Bus Committee and the Water Transport Platform. The newly constituted management of the Marketing and Product Development Committee asked one of our employees to fill the vice president position, and he has been fulfilling the two-year mandate since the autumn of 2019. Our Company is also an active participant in several forums and events of the UITP. For example, at the community transport world summit held in Stockholm in 2019, in the field of marketing our Company was represented with a comprehensive communication campaign in the global discussion of the topics of the industry.

Similarly to previous years, our tram drivers performed well in the 8th European Tram Driver Championship. In spring, the competition of tramway drivers was held with a never before seen colourful group of competitors, since competitors arrived from 21 countries to Brussels, where the event was hosted. Our colleague got 7th place in the women's race, while our team got 14th place in the all-around event.

One of the objectives of our museum activity is to plant the seeds of love for community transport and the interest in engineering and traffic organiser tasks and technical work in the future generation, as well as the feeling of responsibility, which is essential for the children to become adults who protect our common values. To this end, we have organised the transport history competition for schoolchildren every year, which competition tests their knowledge about community transport bases on a topic each year. The event is more and more popular every year. This year the topic of the competition is the community transport of the capital, and the activity and history of the traffic staff of the BKV and the legal predecessor companies. This also connects to the development of the employer branding.

In line with the traditions, we participated in numerous national museum and cultural programmes and events in 2019: the International Tourist Guide Day, the May Day Celebration of Museums held in the Hungarian National Museum, the Cultural Heritage days. Similarly to previous years we participated in the Night of the Museums event in 2019 as well, where usually a huge crowd is interested in the past of BKV. Every year we prepare a temporary exhibition for this occasion: we awaited visitors with the material titled "The Faces of BKV". The exhibition

- which is illustrated richly with objects and pictures - shows the history and the curiosities of the driver profession, the ticket inspector work and the conductor profession; the latter disappeared from community transport in the 1960s.

Not only the museums but the chairlift has its own night as well. One of our most special vehicle could not be left out from the celebrations. The Zugliget Chairlift awaited guests with longer opening hours extended into the night.

BKV is happy to provide an opportunity for culture and arts to appear in community transport areas. We think it is important to convey these values, and the metro concerts are a truly unique way to contribute to that. The versatile audience the artists can reach at these places is rarely available otherwise. This was not the first time the artists of the Hungarian State Opera were guests on the premises of BKV Zrt. On this occasion, Bach's Coffee Cantata was performed on the platform of the Pope John Paul II station, which has an integral relationship with the Erkel Theatre.



TOURISM AND SALES

BKV Zrt. operates the Buda Castle Funicular and the Zugliget Chairlift not as a public service but mainly for tourism purposes. This includes the special service activity as well, and as of 1st April 2019, the non-public service portfolio of the division is extended by the sale of souvenirs and commercial sale of fuel.

It had a positive effect on the Tourism and Sales Division that Budapest won a significant international tourism award (with the titled European best destination 2019), and owing to this as well, an increasing number of tourists arrived to the capital.

Zugliget Chairlift

At the Zugliget Chairlift, we have been selling the tickets with ticket vending machines since the autumn of 2015. In the interest of faster passenger exchange, from March until November, on weekends and holidays passengers are helped by student workers in buying tickets. The information technology background system applied provides accurate passenger traffic data and it also contributes to the future realization of electronic ticket sale. The photos taken by the photo machines, as well as other souvenirs can be bought at both stations. This service is constantly generating extra revenues to BKV, and approximately 20% of the passengers buy their photos.

According to the agreement concluded with Budapest Festival and Tourism Centre (in Hungarian. Budapesti Fesztivál és Turisztikai Központ; BFTK) – as the issuer of the Budapest-Card – as of 1st June 2018 we accept the BudapestCard, and ever since our revenue arising from this agreement has been increasing from season to season. As of 2019, we accept the BudapestCard Plus at the Chairlift. BFTK reimburses the tickets by paying 80% of the return ticket used, even if the passenger is requesting a one-way ticket only. The number of passengers using the card increased consistently in 2019, and by the end of the year more than 4000 tickets had been used at the Zugliget Chairlift, therefore we continue to maintain this cooperation.

We organised so-called Night Chairlift Rides 3 times in 2019, constituting a new point of interest in our service. The event proved to be favourable in terms of both marketing and our

revenues. One of the 3 events was the Night of Chairlifts, which was organised for the third time nationally.

Buda Castle Funicular

The location of the Funicular – which operates as part of the World Heritage – is still well in demand commercial and other promotional filming, which increases the multipurpose use of the Funicular. As of 1st November 2019, the price of the adult ticket increased by 200 HUF, however, in spite of this the number of tickets sold increased, which shows that the Funicular is a very popular tourist destination. Due to the great traffic we expanded the entry gates, thereby it became possible to let pre-paid ticket holders in separately. On heatwave days, mist spray gates are operated at the lower station of the Buda Castle Funicular.

More and more passengers arrive with the BudapestCard plus card, with which the trip is free of charge for them, however, BFTK pays the price equal to 80% of the return ticket to our Company. This definitely contributed the increase of the number of funicular tickets sold, and is also lessens the workload of the pay-desks and decreases the passenger draining effect of the electronic minivans operated on Clark Ádám Square.

Key data:

Buda Castle Funicular	2019	2018
Revenue (net):	957.7 million HUF	901.1 million HUF
Tickets sold	865.7 thousand pcs.	830.1 thousand pcs.
Profit before tax:	713.3 million HUF	681.9 million HUF
Zugliget Chairlift	2019	2018
Revenue (net):	248.7 million HUF	226.9 million HUF
Tickets sold	249.4 thousand pcs.	263.1 thousand pcs.
Profit before tax:	53.0 million HUF	62.2 million HUF

Sales

The sales procedure of the other tangible assets of the Company no longer needed is taking place in accordance with the procedure accepted and prescribed by the Board of Directors, which means public tender. Meanwhile, in accordance with the owner's decision, in case of tangible assets with the value exceeding 500 000 HUF, we carry out the sale in open auctions. In addition, our Company sells diesel oil, as well as various souvenirs purchased for sales purposes at ad hoc and at permanent locations, and also through an online shop. The retail diesel oil sale is carried out with the margin between the prevailing retail sales price and the contracted purchase price of the Company (10 HUF/litre on average). Our diesel oil retail sales prices follows the price changes announced by MOL.

In case of souvenirs, the margin between the sales price and the purchase price varies (between 15 and 70%), but it is always at least 15%, therefore no price risk occurs here.

Special services

The special service fleet is made up of 4 VOLVO type special service tourist bus and the IL 630 cabriolet heritage bus, which are operated by us. The main task is transporting the employees of BKV Zrt. to the Balatonfenyves Training Centre regularly, as well as the sale of the free transport capacities. In case of the latter, owing to the favourable pricing we managed to hold our ground and maintain the service.

Similarly to previous years, we fulfilled special service orders with the traffic vehicles throughout the year. Two major demand groups can be distinguished. One group includes the train and HÉV replacement, while the other includes trips with the specific type of vehicles for customers, as well as the contracted lines ordered by enterprises and serviced throughout the year. From among the traffic lines it was the bus that ensured the most substantial item in terms of both performance and revenues, which may be traced back to its crucial role in replacements. In case of the tram and the metro section, the orders include participating in film shoots, which provides a revenue ensuring relatively high result.

The demand for the cabriolet bus continued to increase: we fulfilled more orders in Budapest and in the countryside than in the previous year.

The chart below shows the 2018-2019 special service performance and revenue actual data for each section:

	Special service performance	2018	Special service performance	2019
	km	net revenue (HUF)	km	net revenue (HUF)
With transport vehicles in service				
Bus	62 683	34 187 895	65 826	69 615 856
Trolley bus	29	134 000	94	792 877
Tram	860	5 675 994	684	4 592 060
Metro	109	4 875 00	54	8 419 500
Total	63681	44 872 889	66 658	83 420 293
With heritage vehicles				
Bus	2 742	1 841 316	3 127	3 686 702
Trolley bus	-	-	-	-
Tram	615	5 973 492	458	5 664 000
Cog-wheel railway	8	105 113	-	-
Millennium underground	83	273 193	98	286 100
Total	3 178	8 193 114	3 683	9 636 802
Overall total	66 859	53 066 003	70 941	93 057 095

Heritage service

Similar to previous years, the heritage vehicles were operated according to an annual plan, which we developed jointly with BKK Zrt. Mainly trams and buses were involved in the provision of the service. In addition to the travelling opportunities, we also provided photo opportunities for the interested parties on the route and with the type announced in advance. In addition to the traditional routes, heritage vehicles appeared in new places as well, therefore this aspect cannot be disregarded either for the future.

Most of the heritage vehicles belong to the tram business line. Bus and trolley bus heritage vehicles are available in limited numbers, therefore the variation possibility is also lesser compared to trams in course of determining the performance.



SAFETY

The Safety Directorate contributed efficiently to the uninterrupted operation of the Company, to the achievement of its business policy objectives, to property security, as well as to the high-quality fulfilment of its work safety, fire and civil protection duties in 2019 as well.

In order to ensure the efficient realisation of the safety concept, we carried out risk analyses and corporate security-related company background checks in approximately 240 cases, and we established risk factors in 14 instances.

The Property Protection Control Division performed efficient professional supervision regarding those contractual partners of the Company, which provide the manpowered security services and provide security technology services. We continued to pay special attention to the prevention of cable thefts, therefore no cable theft happened in 2019.

The number of work accidents increased slightly compared to the previous year, while the number of fires remained unchanged. In the course of official inspections, no work safety fines or fire protection fines were imposed.



BALANCE SHEET

“A” ASSETS

(M HUF)

Seq. No.	Description of item	31.12.2018	31.12.2019
A.	Fixed assets	653 236	660 081
I.	Intangible assets	122	623
1.	Rights and titles	98	600
2.	Intellectual property	24	23
II.	Tangible assets	651 727	658 095
1.	Land and buildings and related valuable rights	340 038	358 607
2.	Plants, machineries, vehicles	246 636	252 037
3.	Other equipment, tools, fixtures and fittings, vehicles	1 994	3 053
4.	Investments, renovations	37 025	15 662
5.	Advances on investments	26 034	28 736
III.	Financial investments	1 387	1 363
1.	Long-term participations in affiliated companies	1 267	1 267
2.	Other long-term participation	19	19
3.	Other long-term loans	101	77

B.	Current assets	28 086	27 763
I.	Stocks	9 506	10 508
1.	Raw materials and consumables	9 197	10 350
2.	Work in progress and semi-finished products	22	19
3.	Goods	287	139
II.	Receivables	4 718	5 122
1.	Trade debtors	480	493
2.	Receivables from affiliated companies	290	411
3.	Receivables from other companies linked by virtue of substantial participating interests	2	3
4.	Receivables from other companies linked by virtue of other participating interests	1	0
5.	Other receivables	3 945	4 215
III.	Securities	2 001	0
1.	Debt securities held for trading	2 001	0
IV.	Liquid assets	11 861	12 133
1.	Cash in hand, checks	93	91
2.	Bank deposits	11 768	12 042
C.	Accrued and deferred assets	6 020	8 736
1.	Accrued income	5 880	8 399
2.	Deferred costs, expenses	140	337
TOTAL ASSETS		687 342	696 580

BALANCE SHEET

“A” LIABILITIES

(M HUF)

Seq. No.	Description of item	31.12.2018	31.12.2019
D.	Equity capital	236 082	232 340
I.	Subscribed capital	116 000	116 000
	including: ownership shares repurchased at face value	0	0
II.	Subscribed capital unpaid (-)	0	0
III.	Capital reserve	79 856	79 908
IV.	Retained earnings	49 442	40 153
V.	Tied-up reserve	73	73
VI.	Revaluation reserve	0	0
VII.	Profit after tax	-9 289	-3 794
E.	Provisions	1 819	2 298
1.	Provisions for forward liabilities	1 819	2 298
F.	Liabilities	94 986	80 195
I.	Subordinated liabilities	0	0
II.	Long-term liabilities	0	0

III.	Short-term liabilities	94 986	80 195
1.	Advances from customers	0	24
2.	Trade creditors	47 897	36 662
3.	Short-term liabilities to affiliated companies	1 710	1 094
4.	Short-term liabilities to other companies linked by virtue of participating interests	432	393
5.	Other short-term liabilities	44 947	42 022
G.	Accrued and deferred liabilities	354 455	381 747
1.	Deferred income	954	864
2.	Deferred costs, expenses	1 318	1 536
3.	Accrued income	352 183	379 347
TOTAL LIABILITIES		687 342	696 580

PROFIT AND LOSS REPORT (WITH FUNCTION OF EXPENSE METHOD)

(M HUF)

Seq. No.	Description of item	31.12.2018	31.12.2019
1.	Net domestic sales	125 135	138 515
2.	Net export sales	467	4
I.	Net sales revenues (1+2)	125 602	138 519
3.	Variation in stocks of finished goods and in work in progress	-12	-3
4.	Work performed by the undertaking for its own purposes and capitalized	709	847
II.	Capitalised works performed by the undertaking (3+4)	697	844
III.	Other revenues	13 327	17 436
	including: impairment loss reversed	53	30
5.	Material costs	26 239	30 344
6.	Value of services used	25 702	25 811
7.	Value of other services	1 077	1 173
8.	Purchase value of the goods sold	470	720
9.	Value of resold (mediated) services	1 796	1 019

IV.	Material expenses (5+6+7+8+9)	55 284	59 067
10.	Wages and salaries	49 725	54 278
11.	Other staff payments	4 080	4 111
12.	Contributions on wages and salaries	10 901	11 508
V.	Staff costs (10+11+12)	64 706	69 897
VI.	Depreciation	27 750	28 977
VII.	Other operating charges	1 208	2 688
	including: impairment loss	86	26
A.	INCOME FROM OPERATIONS (I+II+III-IV-V-VI-VII)	-9 322	-3 830
13.	Dividends and profit-sharing (received or due)	12	10
	including: from affiliated companies	0	0
14.	Other interest and similar income (received or due)	9	25
	including: from affiliated companies	1	0
15.	Other income from financial transactions	160	10
VIII.	Income from financial transactions (13+14+15)	181	45
16.	Other expenses on financial transactions	148	9
IX.	Expenses on financial transactions (16)	148	9
B.	PROFIT OR LOSS FROM FINANCIAL TRANSACTIONS (VIII-IX)	33	36
C.	PROFIT BEFORE TAX (A+B)	-9 289	-3 794
X.	Tax payable	0	0
D.	PROFIT AFTER TAX (C-X)	-9 289	-3 794

Budapest, 11th May 2020

