SUSTAINABILITY REPORT
2020

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ICT FOR SUSTAINABILITY

One of the key priorities of the sustainability strategy of Magyar Telekom is to increase the revenue from sustainable products.

In line with this objective, we incorporated the product sustainability assessment into the regulation of the sustainability coordination process; defined the process players as well as their tasks and their layers; then the sustainability assessment of our handset portfolio was also made part of the regulations so that this information is accessible to our customers. The process players were identified again in the new organisation structure, building daily contacts with them for the implementation of the objectives.

Our revenue from sustainable products and services increased year by year. By 2020, the revenue from these products has reached a 35.6% ratio.

The most important products and service groups with a sustainability impact in 2020:

- Climate-friendly and cost-effective business
- Sustainable digital solutions
- Equal chances in a digital world
- Sustainable products

The purpose of the sustainability assessment is to identify the sustainability impacts of our products and services and determine whether the given product or service has favourable environmental and social impacts, or whether it contributes to long-term economic growth.

The sustainability impact of products/services is measured in 3 dimensions, in 15 topics and through 42 questions. According to related regulation sustainability assessment covers all products and services of the company.

For years we have been using the same methodology for the sustainability assessment of our products and services, based on three pillars of sustainability:
- Social pillar: assessment of the contribution of the product/service to health, access to information, equal opportunities and personal growth.
- Economic pillar: assessment of the contribution of the product/service to sustainable consumption, competitiveness and actual needs (fair prices, regional responsibility).
- Environmental pillar: assessment of the contribution of the product/service to the preservation of resources, reduction of the environmental footprint and climate protection (environmentally compatible products and proceedings).

ExtraNet Green 1 GB data extension option

In 2020, we also offered the choice to our customers who consider it as important as we do to fight against climate change to pick a service that serves the purpose of protecting the climate. That is why we came up with the unique ExtraNet Green 1 GB option. By choosing the ExtraNet Green 1 GB data extension option, we guarantee that we generate the same amount of energy as the one required to transmit 1GB data using our solar power plants. Since its launch, our customers have opted for the green solution more than 90 000 times.

During the implementation of the 5-year strategy, the paper consumption of the shops decreased by 84% due to digitisation and our focused efforts!

We can achieve the beneficial impact of ICT on the environment, if our customers are our partners in it, too. For that very reason, our 5-year strategy also contains initiatives aimed at motivating our customers to use our electronic services.

As a result, in 2020, 41.3% of our retail customers used E-Bill, 42.53% used E-Sales and 41.94% chose E-Care.

For T-Systems Hungary's customers, the percentage of E-Bill users was 33%, 55.27% of customers opted for E-Sales and 84% opted for E-Care options in 2020.

INNOVATION FOR SUSTAINABILITY

Innovation project T-Systems & KiBu 2020

In 2020, 93.8% of the innovation spending had a positive social or sustainability impact.

Canary (EHS smart watch)

This smart watch application was developed to create a safe environment for employees in warehouses. The solution reacts to the increasing shortage of labour that is a huge problem nowadays. The solution supports the integration of a new segment, employees with reduced capacity of work. Employees with hearing disabilities need to wear these smart watches during their work. In case of any emergency such as fire alarm, the watch notifies them with constant vibration. Only the employee can stop the notification via the smart watch. After this the application sends an automatic message to a central email address with the employee's ID so that it is constantly trackable.

Forklift proximity detection

Combining the benefits of Canary, an indoor tracker with real-time tracking based on indoor location and an alarm monitoring smartwatch application, Canary, a system for forklift detection has been developed. Vehicles can be tagged to determine their route and speed. To prevent unwanted collisions, workers are notified of an upcoming vehicle. As soon as the truck is within a dangerous distance, the clock on the worker's hand gives a vibrating and visual signal, helping the worker to react in time and get out of the way of the approaching truck. It has been pilot tested at several of our customers.

Pack Track – Packlogistics solution

Pack Track is a smart indoor package tracking solution that enables state-of-the-art automation of digital devices in current, manually operated package logistics processes. It is a high-precision, real-time tracking system, supporting common cloud-based web applications and handheld devices. The solution has been tested on a large package logistics partner and is currently operational.

5G SMART EU competition

T-Systems is part of the 16 European enterprise compression consortia that demonstrate the potential of the 5G SMART project in a real manufacturing environment with 5G values and possible uses. The experiments will test integrated manufacturing applications such as industrial robotics or machine vision-based telecommuting and develop features such as time synchronisation or positioning of manufacturing situations.

The 5G SMART project work will run until November 30, 2021. T-Systems aims to study the 5G-SMART project in 2021, which will allow for potential uses, MNO options, their need, and related KPIs, and to evaluate different network design options, considering technical use cases and business-related KPIs. The knowledge created as a result of the project (eg: analyses, studies, proposals) can be used by T-Systems to improve and further develop relevant, self-developed solutions.

RTLS

High-precision indoor positioning enables us to track the position of any entity within the area covered by the system with sufficient accuracy, thus providing accurate information about the time spent in each area and, where appropriate, the route of movements.

The solution can be used in several areas, some of which are:

- Tracking of raw materials, semi-finished, finished products, materials and other objects in industrial facilities and logistics areas
- Shorten the search time by knowing the exact position
- Tracking of vehicles, forklifts, people, route optimisation by analysing the collected data, fleet operating time analysis
- Protection of high value assets and goods
- In the field of retail for customer analytics systems e.g. Tracking shopping carts
- Measurement of distance requirements e.g. Covid 19

Artificial Intelligence in customer care

Vanda is an artificial intelligence-based solution that is able to interact with customers through pre-designed processes and manage administrative processes independently, without human intervention. Depending on the business processes we teach, it can be applied in a myriad of areas and situations. Vanda can also be in person at customer service points in the form of a friendly humanoid robot. This is because the robot is optimised for interaction with humans, so it can recognise faces, make eye contact and follow the faces of those who talk to it, in order to maintain smooth communication. You can also communicate orally and through your touch screen in writing.

Supporting the constraints caused by the pandemic situation, we developed a thermal camera access control system concept. The aim was to develop an access control system and checkpoint that facilitates secure access to large numbers of facilities (office buildings, healthcare facilities, etc.). An important element of the process is to increase customer satisfaction and minimise frustrations and fears in entrants. Pepper robot is an essential element in making the entry and control process an experience.

Agricultural digitalisation

The aim is to develop and implement use cases, concept and project possibilities that make large-scale cultivation of arable crops more efficient and sustainable, building on the advantages of the most modern network technologies (5G, NBIoT). By automatization and data-based transformation of certain operational processes, some operations that currently have a high environmental impact can be digitized and optimized.

The irrigation monitoring system ensures the continuous failure monitoring of the irrigation equipment, the water flow monitoring system of the irrigation network, and the minimisation of water loss, thus supporting more efficient management of water as a scarce natural resource.

Thanks to the nitrogen management system, soil testing can become a continuous and automatic process. The device installed at the soil test points performs measurements at specified intervals; the results of the measurements are available in a map view, in a user interface, which allows a more precise planning of the application plan for nutrients and plant protection products.

In addition, 5G-based drone technology can open up completely new perspectives for agriculture.

Campus Network

The aim of the project is to test a CEIT AGV (automated guided vehicle) vehicle on the Campus Network established by Magyar Telekom. We expect the following results from the pilot project:
- To test the reliability of AGV communication under real industrial conditions on the Campus Network established at BorgWarner's site in Oroszlány.
- Gaining experience in operating AGV systems and developing a use case for Campus Network
- The tested AGV tool can be used in additional customer pilots in the future, thus further supporting the sales activity
- According to our plans, in addition to the sale of the equipment, TSM also performs the support tasks of the service at level 1 and level 2, for which we charge a monthly support fee.

Dronify

Dronify is an automated inventory solution that can create a perfect inventory record overnight without human intervention. The inventory activity is performed by an autonomously moving drone using machine vision and machine learning. The data read by the smart camera is recorded in a database that can be integrated into the company's existing ERP system. In addition to inventory, the indoor autonomous drone solution is also suitable for other tasks that make the everyday life of industrial facilities easier.

KITCHEN BUDAPEST:
INNOVATION, INCUBATION AND EDUCATION WITH MAGYAR TELEKOM'S SUPPORT

Kitchen Budapest (KiBu) is an experimental innovation and incubation laboratory that was established in 2007 with the support of Magyar Telekom. As one of the first media labs in Hungary, KiBu found its primary mission in investigating digital literacy and DIY techniques on the local scene. Ever since, KiBu has been actively present as an internationally-recognised innovation lab with a team of young researchers and developers. Between 2017-2020, KiBu has been transformed into T-Systems Hungary Open Innovation centre. Through the activation and involvement of external innovation capacities its tasks included the support of the growth of the industry which was used to respond to T–Systems' business and technological challenges. KiBu incorporated two functions including research and development (prototyping, testing, service design, UX/UI design) and industry collaboration.

KiBu is a place where ideas come alive. Material instantiations of great ideas are the first steps in the making: via 24-hour hackathons, pressure cooking sessions we try and test methodologies, concepts, objects, services. KiBu has a well-equipped workshop area to enable wide-ranging projects to be manufactured, programmed or constructed, with equipment ranging from 3D printers to strong server parks to run high fidelity renders and machinery for AR/VR developments.

KiBu looks at its Startup Program launched in 2012 as an important milestone; it gives teams with budding ideas the opportunity to make their dreams come true. It is part of our mission to help ideas come to life. Since the launch of the Startup Program we experienced that there is high demand among young Hungarians for a program that supports idea-development from a very early stage. As response, the Talent Program was established in 2013 until the end of 2018, and the Lift Program in 2016, in which young people were given the opportunity to develop their ideas into prototypes in addition to professional mentoring at KiBu.
The objective here was to elaborate product and service ideas that have a valid business potential or cultural vision that could successfully enter the Startup Program later on. A key quality of a good idea is that it provides a solid base for a business case or an innovative development.

These investments and business opportunities could help Magyar Telekom Group to develop innovative products and establish partnerships, while the ideas elaborated in the laboratory can inspire colleagues working at the business development area, who can gain a better understanding of the environment our products target.

The partnerships have resulted in successful developments such as the Tracker app for indoor location and vehicle tracking, Dronify, Pack Track or the alarm monitoring smartwatch app.

From 1 January 2021, KiBu continue its activities under new ownership.

VOLUNTEERING
What does corporate volunteering mean for us?

In its Sustainability Strategy 2016-2020, the Group set the target of further increasing its contribution to society by putting in a total of 50 thousand volunteer work hours by the end of 2020.

In 2020, Magyar Telekom's 222 volunteers put in a total of 3270 hours. The programs generated the equivalent of HUF 9.96 million for the benefit of society.

Due to the pandemic, it was not possible to pursue the same volunteer activities in 2020 as in previous years, thus the number of volunteer work hours dropped in 2020. During the total period covered by the strategy, Telekom employees did a total of 46 470 ✔ hours of volunteer work by the end of 2020, which is equivalent to HUF 140 million of value generated for the benefit of society.

MAJOR PROJECTS PROMOTING DIGITAL SUSTAINABILITY IMPLEMENTED IN 2016-2020:

Program	Brief description	Results
hello holnap! fleet	We recognised the fact that access to and use of telecom services make the lives of people living with handicaps easier, as they can adopt electronic solutions in their every-day lives, which makes their envi-ronment more liveable and accessi-ble. That is why Magyar Telekom in 2014 – being the first to do so – started to provide complex services designed for the handicapped living in Hungary. For one to access the hello holnap! fleet tariff packages, he or she only needs hold the membership card of the relevant organisations (MEOSZ, MVGYOSZ, ÉFOÉSZ, AOSZ). The services priced competitively at even lower rates than our own tariffs are available in monthly subscription or top-up card	1,600 customers per year
hello holnap! mobile application	The purpose of the hello holnap! mobile app is to motivate people to engage in sustainable activities, as well as to increase their awareness through useful tips, which not only yield the value generated by the specific activity, but also enable the participants to collect points from Telekom that they can later covert into money and donate the amount to the NGOs of their choice.	HUF 10,000,000 in donations 22 NGOs supported
Volunteer work	It is Magyar Telekom's strategic objective that its employees put in 50 000 hours of volunteer work by 2020, be that traditional volunteer work of some educational activity or blood donation.	Due to the pandemic, it was not possible to pursue the same volunteer activities in 2020 as in previous years, thus the number of volunteer work hours dropped in 2020 During the total period covered by the strategy, Telekom employees did a total of 46 202 hours of volunteer work by the end of 2020, which is equivalent to HUF 140 million of value generated for the benefit of society.
Ratio of sustainable	It is Magyar Telekom's strategic objective that the ratio of revenue from sustainable products and ser-vices should reach 50% (21% in 2015).	In 2020, 35.6% of the revenues came from sustainable products and services.
Increase number of customers using electronic services	We can achieve the beneficial im-pact of ICT on the environment, if our customers are our partners in this too. For that very reason, our 5-year strategy also contains initia-tives aimed at motivating our cus-tomers to use our electronic ser-vices.	Residential customers: E-Bill: 41.3% E-Sale: 42.53% E-Care: 41.94% T-Systems Hungary's clients: E-Bill: 33% E-Sales: 55.27% E-Care: 84%
Smart city and smart agriculture solutions	Magyar Telekom and T-Systems Hungary continuously work on exploiting ICT's benefits and digitising our everyday lives.	smart city: 42 companies/cities smart agriculture: 19 solutions
Sustainable innovation management	In its sustainability strategy, Magyar Telekom set the goal of improving the ratio of sustainable R&D.	In 2020, 93.8% of the innovation spending was beneficial from sustainability aspects.