

2020–2021 ANNUAL ACTIVITY REPORT OF THE HC SO



CSALÁDBARÁT MUNKAHELY

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WORKERS



HUNGARIAN
CENTRAL
STATISTICAL
OFFICE

2020
AGRÁRCENZUS

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MESSAGE FROM THE PRESIDENT



Dr. Gabriella Vukovich
President of the HCSO

The Covid-19 pandemic brought hardships, tensions and losses. However, the past two years have also brought a uniquely inspiring and innovative period of development to the Hungarian Central Statistical Office (HCSO) in its role as one of the largest national data stewards.

Although the pandemic generated an immense burden to all, as statisticians we immediately recognized that meeting the sudden and extraordinarily amplified data needs, supporting decision-makers and informing the population with new, faster and more granulated data was both our duty and an opportunity. Official statistics successfully stood their ground in the battle line by accelerating the modernization processes and securing new achievements.

In view of the crisis, the HCSO was expected to provide new data showing economic and social changes on a daily basis. At the same time, it was necessary to adapt to the fact that data collection in its traditional forms, such as questionnaires and the possibility of personal interactions became limited, and for some periods, simply impossible due to pandemic response measures.

In order to satisfy users' increasing need for information, we were able to introduce new data

sources, new data collection methods and new data processing techniques, through which, in addition to the traditional data production and estimation procedures, we used completely new approaches and new methodologies.

Administrative sources have also taken on an increasingly prominent role. For example, in addition to the already traditional data sources from official databases, we also generate statistical data from public education and higher education information systems, registers related to social benefits and family support and health insurance data files. We also aimed to find and make the most of other alternative data sources during this exceptional period. For example, "webscraping" techniques, when information is collected from different websites with the help of software automatism. For instance, these can be used very effectively to create the consumer price index.

Among the important principles of the operation of the HCSO, in addition to the dissemination of statistical data, is the protection of individual information collected for statistical purposes against disclosure: the individual data provided to us by data-providing companies, institutions, and individuals is not passed on to anyone in an identifiable manner.

We believe that this is the statistics of the future: by analysing large data sets, correlations that we were not aware of may emerge and become suitable for analysis.

In addition to the data collection problems that arose due to the pandemic, we successfully conducted the Agricultural Census in 2020. The purpose of the comprehensive agricultural census, a tradition dating back to the 19th century, is to provide detailed data on the current situation of Hungarian agriculture, to monitor the subsequent changes in the structure of the sector and to provide accurate and reliable data for national economic governance, the EU and farmers, promoting, among other things, the foundation of decisions affecting the sector. By using the data received, the HCSO also fulfils its obligation to provide data to the European Union. Although personal interviews had to be postponed to autumn instead of spring of 2020 due to the pandemic, the census was completed successfully and the publication of the data has begun in the meantime.

Perhaps the most significant task ahead of us in 2022, from a social perspective, will be carrying out the census which was postponed from 2021 due to the pandemic. Its multi-year preparatory work is currently underway.

During the census, we will complete the use of administrative data sources already tested during the crisis: this will be the first census in which the HCSO also connects the data with state databases. Next year's census will also be a milestone from another standpoint: it will be the first paperless, green census, conducted entirely on electronic devices. The public will have the opportunity to answer the questions online, and those unable to do so will be visited by interviewers and the data will be recorded on a tablet, from which they will be immediately entered into the secure database of the HCSO. Our responses to the challenges caused by the Covid-19 pandemic, the discovery of new data sources, the transformation of the data production processes, methodological innovations and the adjustment of the Office's information practice showed that the HCSO fulfilled its public duties swiftly and innovatively. Of course, none of this would be possible without the support of our partners and data providers, the continuous feedback of our users, as well as the enthusiastic commitment of our colleagues, for which I would like to thank each of them!

A handwritten signature in blue ink, reading "Gabriella Vukovich".

THE WORLD OF STATISTICS AND STATISTICS OF THE WORLD: WHERE ARE THEY HEADED?



Stefan Schweinfest, Director of the United Nations Statistics Division, greetes our readers

I have often heard the comment that 'statistics and data' are a quiet (but important) area where the United Nations function really well. The UN convenes and facilitates the meetings of the global statistical community, who agree on common standards and support each other by exchanging practical experiences. This global community can only function if national statistical offices connect and engage.

PROFESSIONAL SOLIDARITY

HOW THE GLOBAL STATISTICAL COMMUNITY CAME TOGETHER IN A MOMENT OF CRISIS

The Hungarian Central Statistical Office has a long tradition of doing just that, serving repeatedly as the Director of the United Nations Statistics Division and engaging in many technical working groups. Most recently Dr. Gabriella Vukovich led the Programme Committee of our UN World Data Forum 2021. All this global support is most gratefully acknowledged.

I am particularly proud that this sense of global professional solidarity was again on full display during the Covid-19 pandemic: the global statistical community came together. It communicated, connected and engaged: my office, the UN Statistics Division, together with the World Bank, the UN Regional Commissions and Paris-21 launched a series of global online surveys in May 2020 in order to assess the challenges faced by National Statistical Offices (NSOs) around the world due to the pandemic. The response was overwhelming: more than **100 NSOs responded**¹.



> ¹Survey reports and accompanying data can be accessed:



The surveys highlighted the adverse impact of the pandemic on statistical operations, including censuses and household surveys, specifically in low- and lower-middle-income countries. The need for better coordination and technical assistance and funding to support statistical operations were also highlighted. However, the surveys also showed the resilience of national statistical systems and their capacity to adapt and innovate. In responding to the challenges of the pandemic, the statistical community has accelerated the data revolution. For instance, web- and phone-based modes of data collection for surveys have increasingly been adopted by countries, including those with little previous experience with them; and data from social media and other new sources, as well as administrative records, are now used extensively for the monitoring of different aspects of the pandemic. Unfortunately, the pandemic has also highlighted data gaps and exacerbated inequalities among NSOs: more than one year after the Covid-19 crisis started, connectivity issues and inadequate remote data processing capabilities are still among the most common challenges faced by NSOs, with stark differences in ICT readiness across countries with different income levels.

ENCOURAGING DIALOGUE AND COLLABORATION AMONG THE DATA AND STATISTICS COMMUNITY

The global statistical community literally came together during the Covid-19 pandemic by innovating the format of its events. As our planned third World Data Forum in Bern, Switzerland had to be postponed from October 2020 to October 2021, we still organized a **virtual Forum²** in October 2020. More than 10,000 users and producers of data and statistics connected across global time-zones! During this virtual event, experts shared experiences on the use of earth observations, mobile data, and citizen generated data and other innovative approaches. The Forum concluded with **the launch of the data community's response to COVID-19³**, emphasizing the increased demand for relevant, timely and trusted data and statistics as a critical part of building back a more equitable, sustainable and resilient future.

In October 2021, finally, a part of the global statistical community could meet again in person: the postponed **third Forum⁴** went ahead in a more flexible

hybrid format where more than 700 in-person attended in Bern and over 7,000 participants connected to the programme online and engaged with the proceedings. For the first time since the start of the pandemic, this event brought together representatives from governments, civil society, the private sector, donor and philanthropic bodies, international and regional agencies, the geo-spatial community, the media, academia and professional bodies to spur data innovation, mobilize high-level political and financial support for data – sustainable data for sustainable development. The Forum concluded with the launch of the **Bern Data Compact for the Decade of Action on the Sustainable Development Goals⁵**, a global commitment to invest in data capacities and data partnerships to leave no one behind, build trust and fill data gaps to achieve the 2030 Agenda for Sustainable Development. The Forum also announced two innovative and complementary solutions for smarter financing for development data, **Clearinghouse for Financing Development Data⁶** and the **Global Data Facility⁷**. Equipped with these tools and a renewed sense of professional solidarity, the global statistical community is well placed to face future challenges. ■



DIRECTIONS AND OBJECTIVES

GLOBAL DEVELOPMENT FOCAL POINTS

The pandemic has demonstrated the significance of data during a crisis in order to respond to it effectively. Within the national and international data ecosystems, data assets produced by statistical offices play a key role. The global

statistical community works collaboratively to produce high quality, timely, open and reliable data, often integrating a variety of innovative data sources.

The third UN World Data Forum brought together representatives of data production and development, users and researchers from all over the world, serving as a good example of the cooperation between different public administrations, private sector players and civil society organisations for the best possible data production and use. The creation of a suitable data ecosystem is an essential requisite for progress, and can only be realized through joint work.

WORLD DATA FORUM

The World Data Forum is a global event under the auspices of the United Nations. It serves as an excellent platform for monitoring the targets of the UN 2030 Agenda for Sustainable Development, bringing together producers and users of statistical data, as well as eminent experts on measuring change from statistical offices, and from the private, academic and civil society sectors.



²<https://unstats.un.org/unsd/undataforum/virtual-2020/>

³<https://unstats.un.org/sdgs/hlg/Global-data-communitys-response-to-COVID-19/>

⁴<https://unstats.un.org/unsd/undataforum/>

⁵<https://unstats.un.org/sdgs/hlg/Bern-Data-Compact/>

⁶<https://smartdatafinance.org/>

⁷<https://www.worldbank.org/en/research/brief/global-data-facility>

ARTIFICIAL INTELLIGENCE

In addition to traditional data collection, new alternative data sources have already demonstrated many advantages, including enabling faster and timelier dissemination of information, reducing the response burden on households and businesses, in many cases improving the quality of the data and also reducing costs. It is now hard to imagine the widest possible utilization of these new opportunities without the use of machine learning methods. Machine learning can be applied effectively in the field of data correction and imputation, coding of text fields according to some classification, data analysis or even modelling. Language recognition algorithms can effectively provide support for data providers and users.



AN IMPORTANT ELEMENT OF THE DATA ECOSYSTEM – PRIVATELY HELD DATA

The channelling of privately held data into the data ecosystem, from the status that was previously only outlined at the level of recognition and formulated as a goal, reached the implementation phase in several cases during and partly as a result of the pandemic. France's statistical office, for example, used the data of mobile service providers to map the movement of the population during lockdowns. The development in Hungary started before the pandemic, but it can provide useful lessons for similar developments in the future.

In order to improve statistical systems and the national data ecosystem, it is vital to have the widest possible access to private sector data, which can be used to produce more accurate, faster and more detailed information while reducing the burden on data providers. It is important to highlight that, as part of the data ecosystem, private sector data, together with public administration data and statistics, provide significant new opportunities for the analysis of social and economic processes.

The geospatial community is a key player in this partnership. An important element for the usability of data is to make information as widely available as possible, even for the smallest territorial units. This goes a long way in ensuring that information about the smallest communities and groups is robust.

DATA AS A STRATEGICALLY VALUABLE TOOL



The operating environment of national statistical offices has undergone a significant transformation in the recent period, which was further accelerated by the pandemic. Data has become a tool of strategic value

among private sector actors as well; the importance of public data has increased with the appearance of new technologies and tools that can be used for utilization. National statistical offices do not perform their activities in isolation,

but in emerging and existing data spaces within the expanding data market. All this entails new roles, opportunities and risks in terms of operations. Data governance is a system of norms in which fixed roles and responsibilities ensure

the accessibility, usefulness, quality, integrity and security of data. Most countries have started developing data governance models in relation to public sector data, either as part of the country's digitisation strategy or independently.

Citizen science is playing an increasingly important role in the production and collection of data. Active public participation in providing accurate and reliable data, in voluntary data collections, provides solutions for data that are difficult to gather or that are missing, be it on environmental or social themes, which greatly supports data completeness.

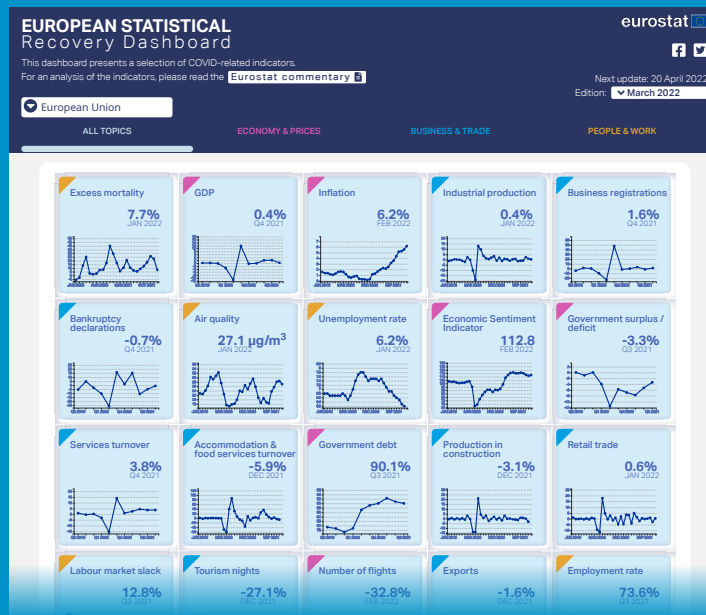
The expert support and active involvement of the scientific and research communities is indispensable, both in the fields of correlations and gaps discovered during the use of data, and in the development of new technological solutions. The scientific recommendations resulting from such a dialogue-based cooperation are a successful contribution to the development of methodologies.

For this joint work to be effective, the international community and national governments are investing in national data ecosystems, enabling the production of high-quality, timely, open, reliable and disaggregated data for evidence-based decision making. With the help of this data, we will be able to respond quickly in times of uncertainty, when timely data is needed the most.

DIRECTIONS OF DEVELOPMENT WITH EUROSTAT AND OECD

In response to the pandemic, Eurostat began to map in the fall of 2020 the most serious problems noted by the statistical offices of Member States and the ways in which they were solved. Unsurprisingly, the most serious issues perceived by statisticians were that some data collections were jeopardized or simply impossible to perform; data accuracy and timeliness suffered, and the indication and explanation of the possible deterioration in data quality, data interpretation and the change in the expected magnitude of the revisions required different methods of communication than usual.

The production of comparable and robust statistics, as well as their dissemination and communication therefore became a key issue. The efforts of international organisations, in particular the United Nations and Eurostat, were important in lending practical and quickly applicable support to official statistics, by providing methodological guidelines and sharing experiences covering the entire data production process. ■



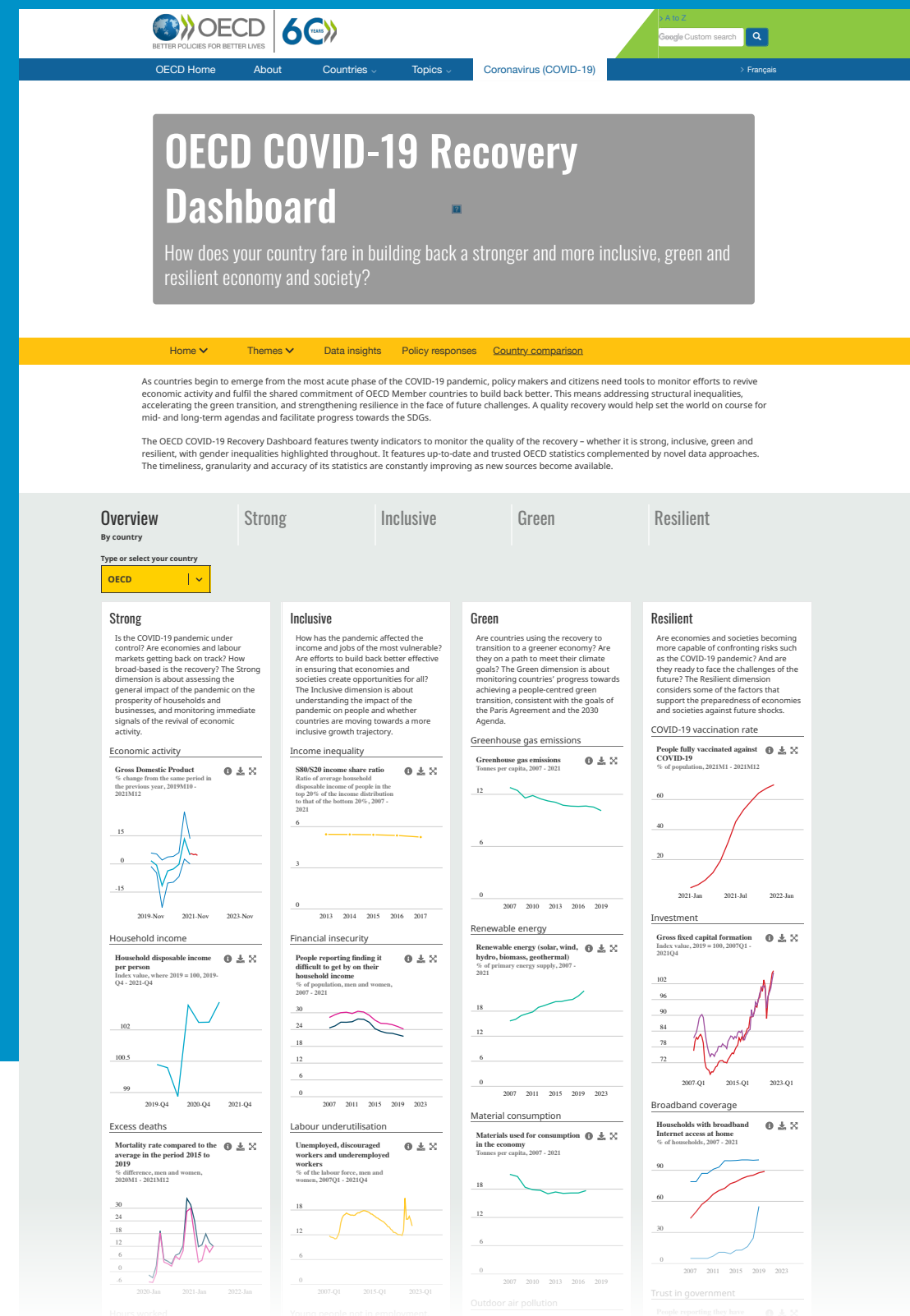
An important change from the users' point of view was the introduction of dashboard-like products. This was the direction taken not only by NSIs, but also by Eurostat then the OECD, with their dashboards presenting post-Covid recovery indicators. Although demand for this data placed another burden on NSIs producing the data, the value added of such products is very significant for quite a wide group of users. The compilation of dashboards was preceded by a discussion on topics and methodology on the indicators to be involved, a process in which HCSO was also involved.

Eurostat's dashboard comprises 27 indicators, while the OECD's covers 20. Both indicator sets include experimental statistics, for example, weekly change of GDP in OECD's set, an indicator based on machine learning and Google Trends Data, while Eurostat's dashboard includes monthly average NO2 concentration in European capital cities.

> Eurostat dashboard



> OECD dashboard



COOPERATION AND EFFICIENCY



*An interview with Eszter Németh,
Deputy President of the Data
Collection Directorate*

COOPERATION WITH DATA PROVIDERS

The pandemic fundamentally affected all areas of life. To what extent were the HCSO's data collection activities also affected?

Our statistical data collections are exceptionally heterogeneous, and our contacted data providers cannot be considered a homogeneous group either, so the impact of the pandemic manifested itself in different ways. The full digitisation of data collection activity helped ensure on the one hand that the data production process run smoothly and

that the fulfilment of the ever-increasing data demands does not slip, on the other. The pandemic brought closures during the first wave, the economy went into actual hibernation, which is why we had to temporarily suspend the implementation of some data collection activities. Due to the closure of the borders, there was no border traffic, which is the basis of three of our data collections, and with the drop in tourist demand, it was briefly not prudent to assess the travel habits of the population, either.

During population surveys, the respondents' fear of infection was palpable, despite hand sanitizer and masks becoming a part of the field interviewers' basic equipment, and despite the fact that in order to maintain the necessary distance, personal interviews were avoided as much as possible.

As for businesses, the main challenges were periodic shutdowns and human resource issues. We tried to demonstrate flexibility in the fulfilment of their data reporting obligations in these cases.

What solutions were put in place to deal with data collection difficulties?

In terms of population data collection, we almost fully provided the possibility of online self-completion, and where the respondent provided their telephone information, it was also possible to interview them by telephone. The preparation of the interviewers was carried out online, video materials were prepared for this and we also provided an online exam option.

"In terms of population data collection, we almost fully provided the possibility of online self-completion."

In the case of regular agricultural censuses, the training of 250 enumerators could thus be completed in just 3 days. Instead of writing down consumer prices at stores – in order not to burden the limited opening hours and capacity – online price collection technologies came to the fore even more. In addition, since it is a matter of mandatory data collection, we also provided the sales points with the possibility of sending data by e-mail.

As for the difficulties that companies experienced in sending data, it was important to explore the operational characteristics of the companies (e.g. discontinued, temporarily suspending their activities or temporarily completely stopped), classifying them into appropriate categories and imputing them in order to ensure the accuracy of the processing and thus the appropriate quality of the published data. The extraordinary solutions generated by the extraordinary situation could be listed on and on. Our goal is to embed these solutions into our everyday operations, along with adequate quality assurance.

What was the biggest challenge for data collection?

The full-scale agricultural census, the decennial Agricultural Census (previously known as the General Agricultural Census), happened to fall during the period of the pandemic. In the spring of 2020, we had to postpone the visit to some data providers until autumn due to the pandemic. The 10-year periodicity task involved many innovations anyway and was the subject of multiple redesigns due to the pandemic. In addition to data collection, the entire process – from the recruitment of enumerators to the completion certificate – was digitised, which ensured the possibility of remote implementation. We were able to provide half of the 760,000 farmers with the possibility of online self-completion, as in their case we had their contact information for e-mail notifications. In the end, more than a fifth of them took the opportunity.

To enumerate the remaining 678,000 addresses, more than 4,000 enumerators were needed and their recruitment and supervision of the field work were carried out by 225 organizers. In parallel with the fieldwork, we also offered the possibility of providing data by telephone. Due to the pandemic, the

enumerators' turnover was higher than expected, there were also setbacks and illnesses. The next huge challenge awaiting in 2022 is the Population Census, which had to be postponed from the spring of 2021 to the autumn of 2022 following the pandemic.

How does the HCSO help data providers?

We believe that data collection can only be carried out properly in cooperation with data providers. For this, our colleagues provide continuous support, including through the call centre. They receive more than 70,000 calls every year, not only from companies, but also from the general public. In the case of sampled economic statistical surveys, we introduced sample coordination in order to reduce the burden on data providers. The Office continuously measures the data provision burden of companies and when selecting the sample, it gives priority to those who had lesser burdens in the past, as far as possible. We have renewed the content related to data services in the ELEKTRA data collection system on the HCSO website, with a new search engine supporting navigation between statistical surveys.

"We believe that data collection can only be carried out properly in cooperation with data providers."

28
colleagues with
doctorate
degrees

2
colleagues with
Doctor of
Science
degrees

1
university
professor
colleague

2
honorary
university
professor
colleagues

39
scientific
publications
from our colleagues
this year



Doctoral degrees by discipline:



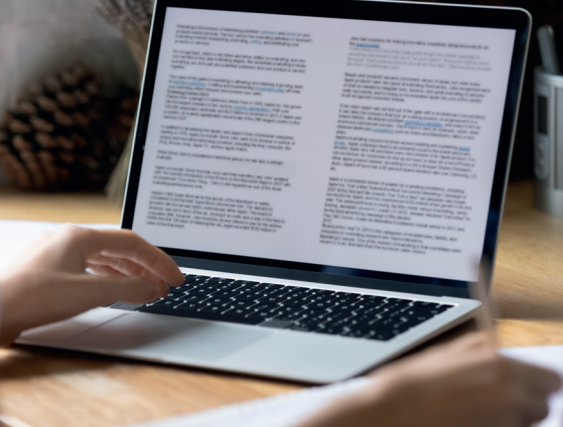
SCIENTIFIC RELATIONSHIPS

ACADEMIC DEGREES, TITLES, AWARDS AND PUBLICATIONS

In both 2020 and 2021, two of our colleagues earned a doctorate (PhD) degree. Thus, a total of 28 colleagues with doctoral degrees work in the Office at present.

Our staff authored 56 publications in 2020 and 39 in 2021. Among the journals that published these scientific articles were some that are highly regarded for their impact factor, including Statistical Mechanics and its Applications and the Journal of Official Statistics.

In 2020, Zsolt Spéder, Director of the HCSO Population Research Institute, became a doctor of the Hungarian Academy of Sciences, and in 2021 he was awarded the Officer's Cross of the Hungarian Order of Merit, an honour established to appreciate and recognize outstanding achievements.



COOPERATION WITH HIGHER EDUCATION INSTITUTIONS

11 of our colleagues work as permanent lecturers on a weekly or monthly basis at Corvinus University of Budapest, the University of Miskolc, Károli Gáspár University of the Reformed Church in Hungary and Central European University. 31 guest lectures were held in 2020 and 88 in 2021, including at the University of Debrecen, the Hungarian Academy of Sciences, the National University of Public Service and the Budapest Metropolitan University. In the fall of 2021, the Faculty of Political Science and International Studies of the National Public Service University organized a one-semester course entitled *"Efficiency of public administration and public services: data and impact analyses"*, whose programme was delivered by HCSO staff.

In 2021, HCSO staff held a series of courses for Eötvös Loránd University Survey Statistics students, entirely online. In 2020-2021, 39 university or college students prepared their theses under the tutelage of our colleagues, who also examined and opposed works made for the National Scientific Students' Associations Conference and doctoral defences, and also participated in scientific activities such as topic announcement for the National Scientific Students' Associations Conference or the organization of the City Marketing Award application.

NATIONAL SCIENTIFIC CONFERENCES AND EVENTS

Our colleagues gave presentations at the closing conference organized as part of the Hungarian Science Festival series, at the XVII International Science Days Conference in Gyöngyös and at the conference entitled „Statistics Intertwining Life - How our lives change” organized by the University of Óbuda. “In the shadow of the pandemic – measurable socio-economic effects and future prospects” at the Hungarian Academy of Sciences conference, at the medical devices section program of the 59th Itinerant Conference of Economists, at the HealthPros program for international healthcare professionals, as well as at the Budapest Business School program day on the topics of quantitative methods and data mining, lectures for more than 200 registered

students have been held. We participated as speakers in the STEP - National Accounts online course organized for young statisticians. On October 20, 2021, the Hungarian Statistical Association and the Hungarian Central Statistical Office held a joint online conference on the occasion of the European Statistics Day entitled “Official statistics - create value”. The event was opened by Dr. Gabriella Vukovich, President of the HCSO, and Dávid Rózsa, President of the Hungarian Statistical Association. Mariana Kotzeva, Director General of Eurostat, also sent a video message of welcome. After the greetings, János Gerendás - Director of the Hungarian National Bank (MNB) - spoke about the statistical work carried out at the MNB, while Marcell Kovács, Head of Department of the HCSO, explained the tasks ahead of the 2022 Census. Károly Kocsis, Director of the Institute of Geography, presented the newly

published volume entitled The National Atlas of Hungary. Zsolt Kővári, Head of Section of the HCSO, explained the possibilities of using administrative data sources in official statistics, after which Péter Quittner, Head of Section of the HCSO, outlined the problems of inflation and the consumer price index. Dr. Tímea Cseh, Head of Section of the HCSO, then introduced the audience to the workshop secrets of macroeconomic statistics. László Gulácsi, Vice Chancellor of the University of Óbuda, delivered his lecture entitled Health and Statistics; Gáborné Székely, Head of Section of the HCSO, gave a lecture on the use of housing market information in macroeconomic and spatial statistics.

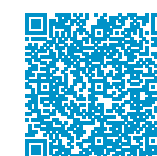
“The main goal was to provide decision-makers with reliable information covering the entire country”

H-UNCOVER – SURVEY OF THE SPREAD OF THE PANDEMIC

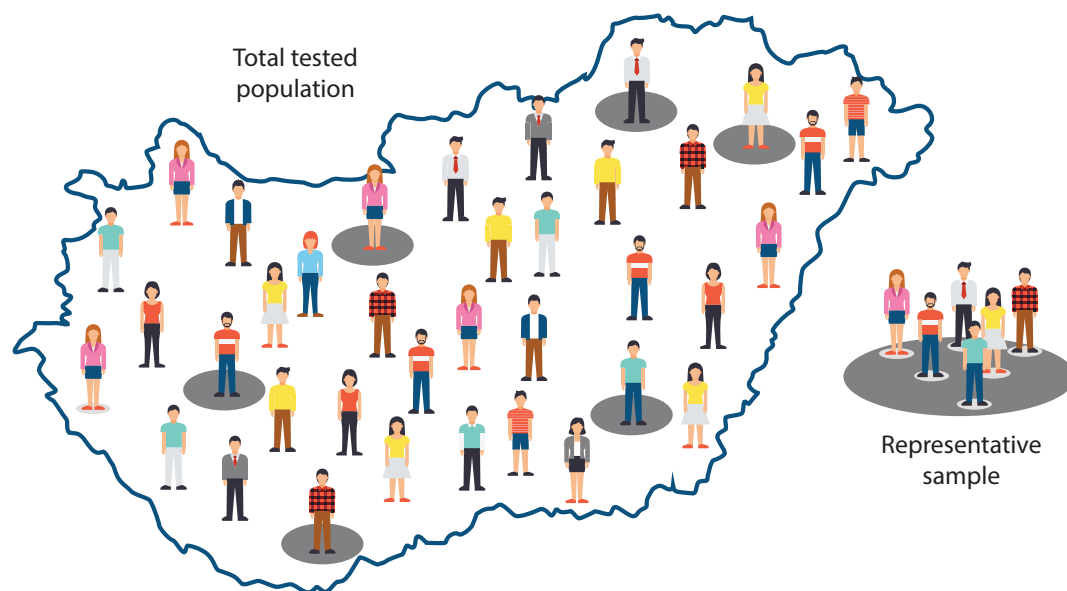
A national survey called H-UNCOVER, which was accompanied by extraordinary interest in connection with the Covid-19 pandemic, was conducted between May 1 and May 16, 2020, led by Semmelweis University, with the participation of the University of Debrecen, the University of Szeged and the University of Pécs, with the cooperation of the Hungarian Central Statistical Office and with the support of the Ministry of Innovation and Technology. The goal was to obtain an objective picture of the extent of the pandemic and to show the real number of people infected with the new type of coronavirus at the time of the survey and the number of those who had been infected with the disease at a previous point through a representative national clinical epidemiological survey. During the survey, HCSO also took a role in the planning process, sampling, organization and data evaluation. During the planning and compilation of the sample, it was essential to have data not only nationally, but also in a more detailed breakdown by region and age group. In the first step, the settlements were selected in



Photos: Attila Kovács – Semmelweis University



> QR code for
H-UNCOVER
press conference



a stratified manner, then the invited persons were randomly selected in a systematic manner, so that each person included in the sample represented a predetermined part of the population.

Almost 18,000 people aged 14 and older living in private households from 489 settlements in the country were invited to participate in the survey. 68% of those invited, about 10,600 people, actually participated in the survey. The highest participation of over 75% was in the counties of Veszprém, Nógrád and Pest, and 77% of those invited showed up in the best-performing county centre, Salgótarján. The participants were tested and a questionnaire survey was also conducted. The PCR test and the sampling were carried out by the staff of the four medical universities. In addition to the tests, the HCSO also used questionnaires to find

out about the symptoms of the infected, their possible chronic diseases, commuting to work and contacts with infected individuals. Based on the results, in May 2020, the number of infected persons in the population aged 14 and older living in private households was 2.9 per 10,000 inhabitants, and the number of infected persons (that is, the prevalence) was 68. The highest rate of prevalence was in Budapest (90/10,000 people), and the lowest in the northern Hungarian region (45/10,000 people). Based on the results of the survey, there was a trend-like correlation between a positive result and frequent work trips, contact with a quarantined or known infected person, and international travel after March 1.



> QR code for
H-UNCOVER
results

HCSO AND THE OFFICIAL STATISTICAL SERVICE (OSS)

The 2016 Statistics Act confirmed the coordination role of the HCSO in the Official Statistical Service. Based on the law, the president of HCSO was authorized to decide in the framework of the accreditation procedure which organization can carry out official statistical activities as a member of the OSS. This is important because official statistics must meet strict quality standards, and for the user, official statistics carry different types of guarantees than data outside this scope. The purpose of the accreditation examinations is to map the statistical activities of the members of the OSS, to examine the data production processes, to collect good practices and to delineate possible deficiencies. The Public Procurement Authority, which has been operating since 1995, prepares numerous statistical reports and analyses regarding domestic public procurement. In 2020, this organization initiated its admission as a member of the OSS. The accreditation procedure was successfully completed on September 23, 2020, so the Official Statistical Service currently operates with 14 members. HCSO continues to cooperate closely with all members of the Official Statistical Service for the further

development of official statistics. One of the main bases of the cooperation is the annual joint review of the National Statistical Survey Programme, which is coordinated by the HCSO. The organization representing OSS members, the National Statistical Coordination Board (NSKT), also provides an opportunity to discuss issues related to official statistics. In the past two years, the board has met twice a year with its full membership, and in addition to these, informal meetings were held in cases with a smaller number of members that did not affect all members, mostly online. One of the important tasks of NSKT and HCSO is monitoring the implementation of the development measures established by individual statistical organizations, which took place in 2020 and 2021 following the accreditation procedures carried out in accordance with the Statistics Act. Another platform for cooperation is the National Statistical Council (OST), which is an advisory and review board of the President of the HCSO, consisting of representatives of data providers and data users.

In addition to the bodies belonging to the Official Statistical Service, the institutions that manage administrative records, interest representation bodies, chambers, municipalities and representatives of scientific life take part in the Council. Permanent guests of the meetings are the members of the National Statistical Coordination Board and the president of the National Data Protection and Freedom of Information Authority.

The tasks of the OST are in particular:

- Monitoring the implementation of the principles contained in the European Statistics Code of Practice and the National Statistics Code of Practice,
- Reviewing the content of the National Statistics Code of Practice,
- Assessing the National Statistical Survey Programme in terms of user needs and data provider burdens,
- Evaluating the annual dissemination programme of the Official Statistical Service,
- Commenting on the conditions for access to statistical data for scientific purposes.

In the past two years, the 28-member board met five times, where, in addition to the opinion on and approval of the National Statistical Survey Programme, statistical presentations and briefings were held for the users, for example on the results and experiences of the implementation of the Agricultural Census 2020, or tasks related to the Population Census.

COOPERATION WITH THE PRIVATE SECTOR

The demand for information in the area of the housing market is enormous, and almost no one in the rental housing market has such a large, complex information base that is based on authentic and good data. That is why the HCSO and Hungary's leading real estate advertising portal have entered into cooperation so that the datasets of ingatlan.com can be properly utilized. In doing so, we combined the data available on the portal with the methodological knowledge and experience of the HCSO.

What prompted the collaboration?

"On our part, the need for cooperation was based on the 2018 HCSO housing rent survey, which we conducted among residents of private rental apartments – using traditional statistical tools. In the research, we collected important information to learn about the rental market, for example, how long the respondents have lived in the given place, how much they rent it for, and why they need to rent an apartment. This would be necessary information, since this is a "hidden area", says Gáborné Székely, Head of the Housing Statistics Section of the Census and Population Statistics Department of the HCSO. However, this form of research was not the most suitable for examining the market, because e.g. many people rent out their apartments unofficially, the rental period of apartments has become quite short, longitudinal studies on this topic are difficult to imagine. The research revealed that, in addition



ingatlan.com

to intermediaries, internet interfaces, where these transactions can take place, play a very important role in finding each other between the renting party and the renter party. Furthermore, the coverage of these real estate portals in different areas of the country was clearly visible. Primarily in big cities, but also in smaller settlements, these surfaces have a very strong view of the market, and we at HCSO considered this realization, the biggest yield of the research, to be the beginning of the cooperation.

The result of the cooperation: rent index

The KSH-ingatlan.com rent index, which is a new product in the HCSO portfolio, was created as a result of the data of ingatlan.com and the additional real estate market information, methodological routine, and procedural knowledge of HCSO. Within the framework of the agreement, ingatlan.com provides individual but non-identifiable data to HCSO, from which we perform statistical calculations. This jointly created dataset creates analysis opportunities that would not be possible for either HCSO or ingatlan.com in separate data systems. From our side, we believe

that this is a kind of recognition and confirmation for ingatlan.com that their data is suitable for use in such a research procedure, with the quality guarantees of the official statistical data production process, and that we at HCSO accept that based on external, privately-held data, we will create a new indicator that we will present to the public.

"We are very happy that this historic agreement has been reached, as there has never been an example of such an innovative cooperation between HCSO and the business sector. We hope that with the apartment rental statistics, which are new in many ways, we can help the population's decisions," said László Balogh, the leading economic expert of ingatlan.com.

The KSH-ingatlan.com rent index is a fast and flexible indicator, as the property market responds more slowly to effects of the surroundings, in László Balogh's view. ingatlan.com has a large database, 100,000 private individuals place advertisements (both for sale and rent properties) annually, providing a large national coverage. On a daily basis, nearly 9,000 real estate agents use this site as their work surface, and the dataset of ingatlan.com consists of a total of 250,000 real estate advertisements. "The first and most important result is, on the one hand, that the population can look at a segment of the real estate market that was not known until now, and the professional and background of the HCSO can produce systematic statistics on this, which we hope will be useful to all actors of the economy and it can also be guiding information for the general public," added László Balogh about the cooperation.



> QR code for rent index results



COOPERATION WITH THE MEDIA

Our primary users are political and economic decision-makers and, of course, representatives of the press, who then inform the general public about various economic and social processes. The media plays a particularly important role in making statistical data as widely known as possible, which is why the HCSO conducts active press communication in relation to key population data collections and major publications. The almost 200 news releases and 300 other publications published annually reach an increasingly wide range of users through the press staff. The HCSO published almost 60 press releases in 2020 and 2021, which generate regular press coverage, thereby increasing the Office's familiarity and

professional recognition among users. HCSO considers it an important task to provide a competent spokesperson in the event of press inquiries for the purpose of interpreting data and promoting publications, in which the spokesperson can play a key role. Nearly 100 radio interviews were conducted with HCSO employees in 2021, and we provided interviewees for nearly 50 television programs or additional data and written answers for press employees in the context of individual data requests. During the year, the Office received slightly more than 400 inquiries from journalists, and an average of almost 2,600 articles and other press publications per month dealt with the data collected by the HCSO, as well as the publications prepared on the basis of them.

COOPERATION WITH THE INTERNATIONAL STATISTICAL COMMUNITY

Cultivating international relations and professional cooperation with international statistical organizations and institutions is a priority for the Hungarian Central Statistical Office. The President of our office, Dr. Gabriella Vukovich, represents our country in several international organizations as an elected member. She was elected Vice President of the International Statistical Institute for the period 2019-2023, in 2020-21 she was a member of the advisory board of the European Statistical System (Partnership Group), and from 2021 she holds the position of Vice President of the UN Statistical Commission.

One of the most important elements of the international activities of national statistical offices is participation in the working groups of organizations with an international statistical profile. HCSO experts regularly participate in the activities of Eurostat, OECD, and UN working groups, where countries exchange experiences on methodological issues, agree on development directions and discuss current challenges. From January 2021, Hungary will lead the Supporting Standards Group, which plays an important role in the UN's statistical modernization program.

This group is responsible for the creation, development and support of process, information and architectural models and statistical standards used in official statistics worldwide. In the framework of the group, new models and standards important for the future of official statistics are being developed, in which Hungary actively participates beyond the role of group leader. Due to its role as group leader, Hungary is also a permanent guest of the UN High-Level Group on Modernization of Official Statistics (Executive Board), where strategic development directions and priorities for official statistics are determined. Due to the position of permanent invitee, we can directly contribute to and influence the modernization trends of official statistics at the UN level.

Our experts also actively contribute to the IAEG-SDG (Interagency and Expert Group on SDG Indicators) group, which supports the implementation of the 2030 Agenda, in order to develop and implement the global indicator framework related to its goals and objectives, as well as provide the necessary support for its implementation. The international recognition of Hungarian statisticians and of the HCSO was highlighted in 2021

by the election of President Gabriella Vukovich to the Scientific Committee and of Deputy President Mag Kornélia to the Programme Committee of the Q2022 Conference, to be held in June 2022. The purpose of the Q Conferences – European conferences on the quality of official statistics – is to bring together statisticians, university lecturers and other actors of official statistics to support sharing the latest knowledge and research on the quality of official statistics and to strengthen the cooperation between official statistics and the scientific community.

HCSO employees participate in 104 international working groups at expert and management level; their operation was continuous even in the pandemic situation. Among these, for example, two working groups dealing with data in the hands of market participants worked intensively – from several aspects – under the auspices of Eurostat, since in addition to the new data demands that arose due to the pandemic, some of the traditional data sources became inaccessible, outdated or inadequate in terms of accuracy.

With the increasing value of data in everyday life, the years of internal discussions within the statistical community about how to instil and maintain trust in statistics, how to fight against disinformation, how to communicate well about official statistics and their value, in general, have become even timelier. Discussions on how the value of statistics and the values of statistical offices can be interpreted and how they are connected remain ongoing.



Our employees actively contribute to the materials and proposals created in these working groups, which serve as the basis for further development. Even during the pandemic, the debate regarding the implementation of the Open Data Directive regarding the high-value datasets, on the basis of which it will be decided, for which it will be mandatory to ensure, for example, the availability of free data or machine readability, did not stop.

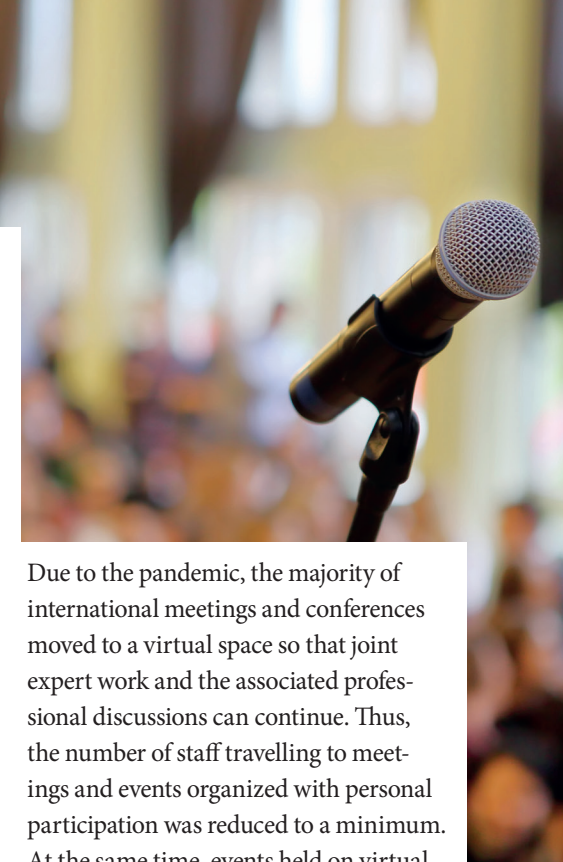
The modernization of agricultural statistics, the transformation of the methodology of the labour survey at the EU level and the management of the resulting breaks in the time series were also on the agenda during this period. In addition, the practice of regular data transfers continued: our country provides data to Eurostat, the OECD, the UN and their specialized bodies several times a year. Moreover, in ad-

dition to mandatory data transfers, we also provide voluntary data transfers. During the pandemic, the distribution of capacities made it difficult to provide data at an international level, but despite this, we fulfilled our voluntary data transfers in about 250 cases a year, which accounted for 16–17% of all EU data transfers in these two years as well. Such was the case, for example, with the delivery of weekly data on deaths.

INTERNATIONAL EVENTS

International statistical events are an important element of the international activity of the Hungarian Central Statistical Office, to the success of which our colleagues have also contributed with their presentations. In the midst of the uncertainties of the pandemic, two important events of the global statistical community took place with thousands of participants: the UN World Data Forum and the biennial World Statistics Congress of the International Statistical Institute. The NTTS (New Techniques and Technologies) conference series, organized by Eurostat, whose main goal is the presentation of research and innovation projects involving official statistics was also celebrated.

Dr. Gabriella Vukovich led the preparation of the UN World Data Forum as President of the Programme Committee, and our staff contributed to the successful organization of the other two mentioned events by chairing sessions and giving lectures.



Due to the pandemic, the majority of international meetings and conferences moved to a virtual space so that joint expert work and the associated professional discussions can continue. Thus, the number of staff travelling to meetings and events organized with personal participation was reduced to a minimum. At the same time, events held on virtual platforms enabled significantly more frequent meetings than the events held with personal participation associated with travel, so the pandemic actually made international collaborations more intense than before. In addition to the above events, an important event in European statistical life is the Conference of the Directors General of the National Statistical Institutes, DGINS, which most recently dealt with issues related to the use of land observation for statistical purposes, and at which one of our colleagues presented a lecture entitled „Sentinel data fusion for official agriculture statistics in Hungary”. The HCSO also participated in the 18th conference of the International Migration Research Network, as well as at the “*Effective ways of using population data / Directions of population census data for sustainable development goals*” conference, where the participants could also listen to presentations prepared by HCSO staff.



Number of colleagues participating at international in-person events

Indicators	2019	2020	2021
Number of international events	328	26	2
HCSO experts in attendance	169	29	4

International expert activity

For years, our Office has participated actively in international development cooperation programmes to help countries outside the European Union build the statistical capacity needed to produce high-quality official statistics. This transfer of knowledge typically takes place in the framework of some EU-funded project in cooperation with other countries of the European Statistical System. Although the Covid-19 outbreak at the beginning of 2020 paralysed many areas of our work, we managed to implement some of the expert assistance programs virtually. These expert relations primarily cover the Western Balkans and the countries of the Eastern Partnership. One such prominent statistical development cooperation financed by the EU is the

IPA 2017 (Instrument for Pre-accession Assistance), within the framework of which we held professional training for the Western Balkan countries in relation to involvement in gender-based violence, as well as the management of administrative data and its inclusion in official statistics. Our largest project, „Statistics through Eastern Partnership (STEP)”, launched in January 2019, is also an EU-funded regional statistical cooperation programme that is implemented in six countries of the Eastern Partnership: Azerbaijan, Armenia, Belarus, Georgia, Moldova and Ukraine. In 2020 and 2021, our experts participated in a total of six online events on topics of great interest, such as areas of national accounts, statistical coordination and business demography, thus supporting the exchange of experiences and sharing of knowledge.

We consider it important that during the expert work, our colleagues may gain insight into the current processes of other offices and get to know the objectives of their future developments, from which they can even draw new ideas. The preparedness of our experts is reflected in the numerous requests our Office receives for similar expert activities. The HCSO regularly receives interns from candidate and potential candidate countries. In 2020, this was not possible due to the pandemic, but in the fall of 2021, a statistician colleague from the Statistical Office of the Republic of Serbia joined us for two months in the field of economic statistics.

International grants and programmes

Out of the 28 calls for tenders published by the European Commission (Eurostat) in 2020, the HCSO submitted tender material for 13 either independently or in the form of a consortium, and out of the 25 calls for tenders with statistical subjects published in 2021, we tendered in 9 topics.

During the implementation of these tenders, the HCSO carries out annual surveys and developments in accordance with the requirements of the European Statistical System, as well as the national transfer and implementation of new methodology.

In 2020, the national implementation of the international research of the Programme for the International Assessment of Adult Competencies (PIAAC) continued, which had to be partially rescheduled at the international level due to the pandemic. PIAAC provides valuable data on the current skills and experiences of the adult population of Hungary. Based on its results, it becomes possible to design evidence-based policies for education, vocational and adult training, and employment.

USERS AT THE CENTRE

In our fast-paced world, users have grown an enormous appetite for information. The data revolution and rapidly changing conditions, as was the case of the pandemic, have increased the value of statistical dissemination and are pressing for its constant renewal, where the active, conscious recognition of user needs and their changes, as well as quick response to them, are key.



USER DATA IN THE MIRROR OF COVID INFORMATION HUNGER

HUNGER FOR INFORMATION

Consumption habits are constantly evolving, but it is clear that our users want to quickly access data and information, which they sometimes process, publish and pass on themselves. Such users are typically looking for data, which is why downloading data in tabular form or directly from a database (in formats suitable for further use) is popular among them.

MORE DATA, MORE USERS

The data orientation of our users can be traced through the visitation and download data of our website: the interest in data far exceeds the demand for

publications and is growing at a faster rate than that of publications.

SPEED, TIMELINESS

For users, priorities have shifted: timeliness has come to the fore, sometimes even at the (small) expense of accuracy. Timeliness is also supported by the provision of programmed access methods for our technically prepared users.

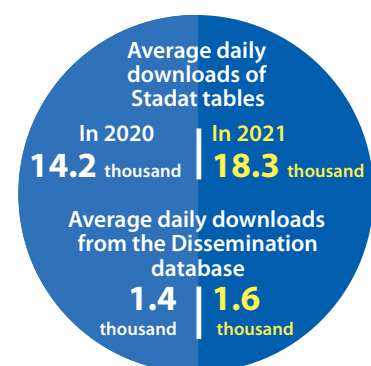
MORE COMPLEX, LARGER VOLUME DATA REQUIREMENTS

During the peak of the Covid-19 pandemic, the number of data and information requests we received via the "Contact us!" feature on the website did not increase significantly; however, the proportion of more complex and larger

volume data requests increased. Among the requested topics, mortality clearly appeared more prominently. While in 2019 mortality was in the 12th place in the order of topics, in 2020 it was already the 6th, and in quarters 1-3 of 2021, it was the 3rd.

DATA ORIENTATION OF OUR USERS

The high level of increased demand for data is shown by the fact that most of the website visitors used one of the STADAT tables. The total number of downloads of STADAT was 3.8 million in 2019 and 4.8 million in 2020, which also indicates the data orientation of our users.

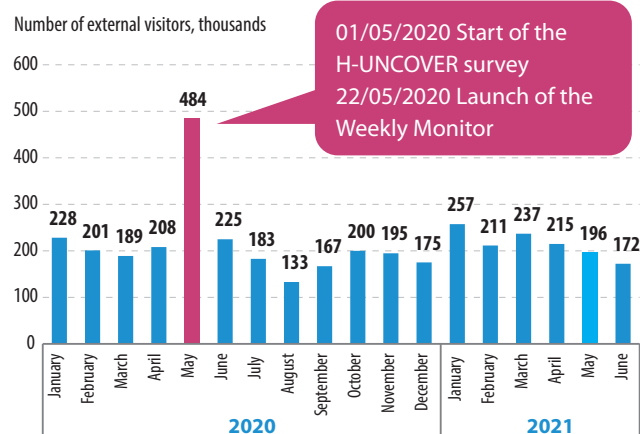


The Dissemination Database was used by fewer people than this, but the growth here is also significant (in 2020, 57% more than the previous year, 527,000 people). The most popular topic on the website in both years was population and vital events.

COVID-19 – INCREASING DATA HUNGER

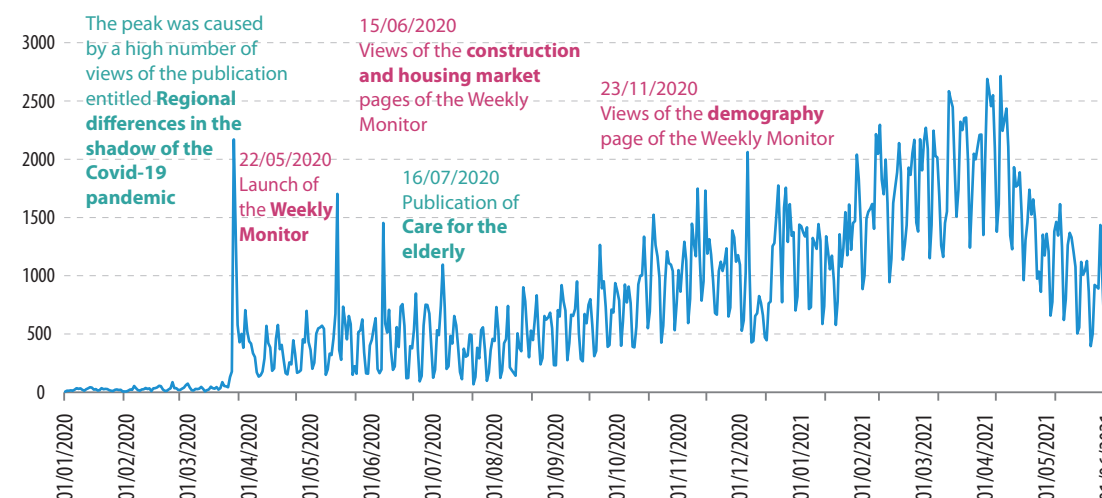
During the peak period of the pandemic, the data demand of users on the World Wide Web significantly increased. Immediately after the outbreak of the pandemic, between March 20 and June 20, 2020, we registered 2.2 million page views, a 42% increase compared to the same period in 2019. During this period, the number of our new users increased by 2.5 times, to 586 thousand. Looking at the longer term, the number of visitors to the HCSO website increased in 2020 compared to 2019 (from 1.9 to 2.6 million). The special content published on the effects of the pandemic, as well as the interest in vital events data, and the H-UNCOVER survey launched at the beginning of May 2020 (both the background information and the registration interface for which were on the HCSO website) contributed to this.

The number of visitors to the HCSO website



Source: Google Analytics, external visitors.

Page view analysis 1/1/2020 – 30/06/2021



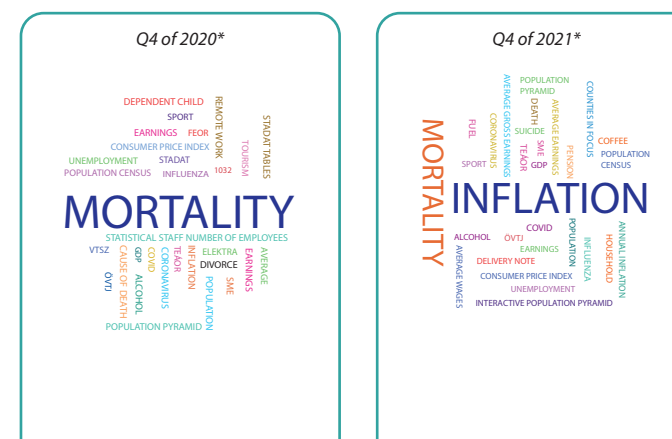
Source: Google Analytics, all users.

Content related to Covid-19 attracted a great number of users to the HCSO website. For example, on the second day of the H-UNCOVER survey, 81,000 people visited the HCSO website in one day, which is ten times the average daily visits, but the views were also exceptional at the launch of the Coronavirus Dossier and the Weekly Monitor.

Launched on May 22, 2020, due to increased interest in data showing the effects of the pandemic, the Weekly Monitor data was clicked on more than 168,000 times from its launch until the end of 2021, making it one of our most popular products. The most popular topics on the Weekly Monitor are prices and demography.

The composition of the devices used to access the data has also changed dynamically in the past period: although most people still visit the HCSO website from a desktop, the number of sessions started from mobile phones has increased significantly. In the fourth quarter of 2021, the proportion of visitors to the website from mobile phones increased to 23% from 16% in the previous year. The use of mobile devices is also supported by the responsive display of the website's content to fit the screen of the user's device.

During the third and fourth quarters of 2021 (as in the years prior to the pandemic), the interest of users of official statistics largely refocused on inflation, which was the most searched term on the HCSO website. Prior to this – as a result of the pandemic – mortality was entered in the search box the most frequently for 5 consecutive quarters.



* ÖVTJ, TEÁOR, FEOR refer to classifications, ELEKTRA is the electronic data collection system of HCSO. 1032 is an identification number of a data collection, VTSZ means customs tariff number.



OPINIONS AND FEEDBACK

Measuring user satisfaction is important feedback on the Office's work and an integral tool to establish the basis for improvements. A number of channels are currently operating on the website of the HCSO through which users can express their opinions – relatively quickly and easily – linked to specific content and cases, or make comments and suggestions, and can directly deliver them to the relevant colleagues in the Office. We are constantly expanding the range of these tools to facilitate immediate user feedback for as many of our products/services as possible.



Contact us!

Please help our work by sharing your opinion with us!



4.8

The average of a total of **506 evaluations** in 2020 and 2021, given in relation to information requests in the "Contact us" system.

→ Requests for data and information – evaluation

The "Contact us!" system, accessible on our website, provides an opportunity for users who turn to the Office with various matters, such as requests for data and information, to evaluate the quality of the service they use; they can also feedback their experiences and suggestions in text form. Users can make the evaluation directly associated with the cases they have initiated.

What did users value in 2020 and 2021?

- ✓ The helpfulness of the staff,
- ✓ The speed of response,
- ✓ The accuracy of the answer.

What typical requests did users send in 2020 and 2021?

- ✓ They want more up-to-date, fresh data.

→ Products – opinion box

An evaluation module has been operating on the HCSO website since August 2019, with the help of which users have the opportunity to directly and anonymously form an opinion on the usefulness and interpretability of the data, publications and analyses they have viewed, and can make comments and formulate suggestions in relation to them. In March 2021, html-based publications and, from April, the new STADAT tables can also be qualified with the module. We aggregate the feedback on a weekly basis, and we incorporate the suggestions and needs into our products to the best of our ability.

Average usefulness of contents:

4.5

Based on **2807 reviews** received from external users in 2020/2021

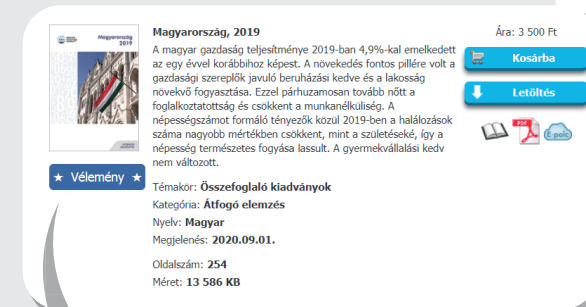
Average interpretability of contents:

4.5

Subject matter evaluated for the most times:

number of deaths

So far, more than 1,500 feedback and about 400 text comments have been received via the opinion box, most of which are related to a STADAT table. This is especially important and attention-grabbing, because the satisfaction meter was only published on the STADAT tables in March this year, while on the Publications Repertory much earlier, in August 2019. The large amount of feedback also shows that STADAT tables are one of the most sought-after and most visited product ranges on our website. Attendance and the number of opinions were further increased by the renewal of STADAT in April 2021.



Vélemény

Kérjük, értékelje a megtekintett tartalom...

...hasznosságát: ★★★★★

...értelmezhetőségét: ★★★★★

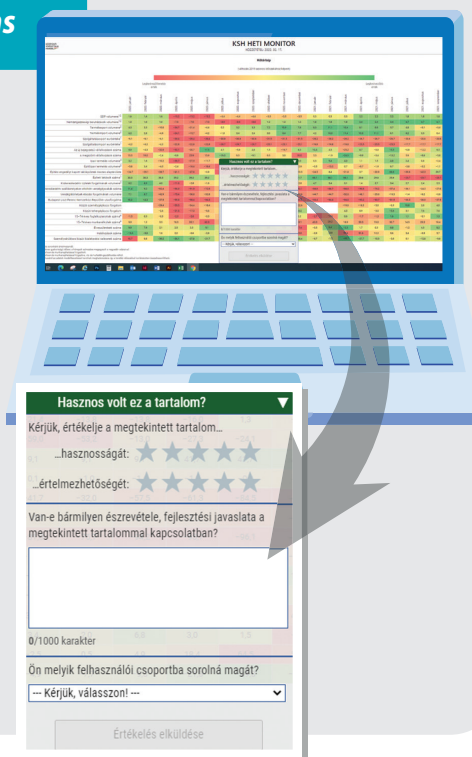
Van-e bármilyen észrevétele, fejlesztési javaslata a megtekintett tartalommal kapcsolatban?

0/1000 karakter

Ön melyik felhasználói csoportba sorolná magát?

--- Kérjük, válasszon! ---

Értékelés elküldése



WHAT FEEDBACK HAVE WE RECEIVED ABOUT THE RE-NEWED TABLE SYSTEM?

User satisfaction was reflected in the comments that noted the better navigation and the easier filtering of the tables. We reviewed the proposals for further development in each case and examined their feasibility; most of the time these were unique and not general improvements, in many cases they were not aimed at the interface, but at the timeliness of the data, or, for example, at various further breakdowns and details; the indications of technical errors have been corrected in every case out of sequence. After the development, the

conclusion can be drawn that although the renewal itself was preceded by consultation with the users, it was also important to filter out errors after the first version and to know further development ideas, to immediately learn the impulses received from the users during “live” use and utilization.

„Much clearer! I used to not be able to navigate the site well, I was constantly lost, I couldn't find the infra-annual and time series data. Now it is much easier to select the period and location from the drop-down menu. Super!” (Cumulative data of the floor area of non-residential buildings that received a STADAT building permit from the beginning of the year by county and region)

“The direction is good, keep going!” (PUBLICATION Rent index developed by HCSO and ingatlan.com)

“I am glad to have found this extremely interesting data set. I can very well use the data series that are interesting to me for an analytical work task.” (STADAT-Average annual consumer price of certain products and services)

What were the typical requests from users in 2020 and 2021?

- ✓ Publications are most useful in PDF format
- ✓ Expand individual tables with additional data
- ✓ The structure of the tables should be clearer



MACHINE ACCESS FROM THE USER'S POINT OF VIEW

On the occasion of the 2021 renewal of the STADAT table set, the habits and needs of a group with very special needs – users who prefer programmed data access methods – were mapped, about whom we previously had very little knowledge. During the research, we first learned about the data usage habits, goals and needs of these users, and on the other hand, we obtained information about the machine query method they currently use for HCSO data, and what difficulties they face in doing so. With the help of all of this, we found out how much this group would need to access HCSO data in a programmed way and what aspects should be taken into account during the developments supporting machine use and their communication.

International practice and changes in the European and national legal environment affecting

the data market also show that this area is becoming more and more important.

Well-known companies with high professional prestige applied for our online interview call, and in many cases their top and middle managers took part in the interview. From this, we can conclude that it would mean a significant competitive advantage and resource savings for actors interested in the data market if machine access were made possible by HCSO. Several users have indicated that they would prefer to use our data with machine access. The development of the possibility of machine querying in line with open data can expand the range of HCSO users, since more people would choose data from official sources thanks to easier access to data.

“I usually look for data in STADAT tables by clicking, like... looking at them, but the description you sent about the JSON format, that's more than promising, because based on that I think we will really be able to find the information that we need and access it, download it from the website with a relatively easy query.” (Data scientist, Start-up)

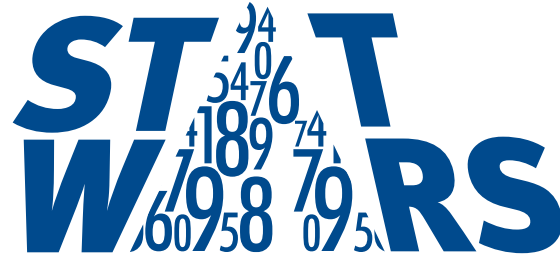
„It's very good [...] to know that HCSO is thinking about this and that there is this goal and they are working on it. So actually, thank you very much for this work, because I think it's really cool!” (Data analyst, international accommodation brokerage portal)

In addition to mapping the general needs and goals related to programmed data access, part of the interview was also the review of the sample page of the summary (STADAT) tables the renewal of which was ongoing at that time.

According to user feedback, the web API (Application Programming Interface) already prepared and tested for STADAT is a perfect starting point. In order to use this and to develop any tool that supports machine downloads, it is necessary to prepare a documentation that supports the use, as well as the creation and planning of the exact IT (infrastructural) conditions, making the legal conditions of data use clear and easily accessible, and the development of the notification system for the structural, methodological and other changes and updates.

The feedback showed that the new XLSX and CSV files of the renewed STADAT tables, which do not contain cell merges, are, if limited, suitable for machine processing. The environment required for everyday application (description, additional files optimized for further processing, data usage conditions) is currently being developed.

DEVELOPMENT OF STATISTICAL COMPETENCE AND CULTURE



STAT WARS: DEVELOPING AND PROMOTING STATISTICAL LITERACY AND CULTURE AT MIDDLE AND SENIOR EDUCATION

HCSO organized its national statistical competitions in the 2020-2021 year as well: Stat Wars for high school students and Stat Wars Uni for students in higher education. The purpose of the contests is to promote statistical literacy, to expand the statistical skills and knowledge of the younger generations and to demonstrate the everyday usefulness of statistics.

Following its years-long tradition, the Hungarian Central Statistical Office announced the statistical team competition for high school students, STAT WARS, for the seventh time in 2020 and for the eighth time in 2021. With the three-round contest taking place in two age-groups, the Office aims to develop students' statistical thinking and proficiency, and – through playful competition tasks – to promote statistical literacy. Based on the combined results of the first two online rounds, teams of 4 can reach the finals. The ten teams from grade 9–10 and six teams from grade 11 and above will make it to the finals. In addition to the podium winners of the age groups receiving valuable prizes, the first two places in

the categories can also compete in the European round of the statistics competition announced by EUROSTAT.

In 2020, STAT WARS VII about 90 teams of four entered the competition. Unlike previous years, the final took place online rather than at the usual venue, the HCSO headquarters, due to the pandemic. The two winning teams of the two age-groups competed with student teams from 15 other European countries at the European Statistics Competition. 30 teams between 9–10 grades and 31 teams between 11 and higher grades compared their skills.

A record number of nearly 180 entries were received for the STAT WARS VIII competition announced in the autumn of 2021. The theme of the competition was: "Hungary in numbers: get to know our country through statistics!", focusing on the diversity of territorial statistics. The final took place in February 2022.

The Stat Wars Uni statistics competition, introduced in 2018 and aimed at improving the statistical skills of college and university students, was held for the fourth time in 2021. 29 teams of master's students entered the competition, and they could compare their statistical skills in three online rounds and then in the final. During the online rounds, 30 test tasks had to be solved in time and two case studies had to be developed; one on the topic of urbanization, the other on earnings.

In the final, the teams had to prepare background material and a presentation regarding digital commerce. In organizing the competition, the HCSO was assisted by lecturers from the Corvinus University of Budapest, the University of Szeged, Széchenyi István University, the University of Miskolc and College of Kecskemét. In 2021, the contests were accompanied by active communication campaigns. Their goal was to popularize the competitions among high school age-groups and their teachers, as well as students in higher education. The campaigns played a significant role in promoting statistical literacy and in drawing people's attention to the importance of statistics in everyday life.

The competitions are accompanied by growing media interest: many articles and interviews were made on various television channels, radios, and in the printed and online press. An interview with one of the former contestants, who is now an employee of the HCSO, was made for the HCSO podcast channel, which brought an exceptionally large number of hits. During the campaigns, in line with the marketing and communication trends of recent years, there was cooperation with influencers. In addition, regular and active communication on social media related to the competitions took place. Thanks to the campaigns, interest in the competitions increased and a record number of applications were received in 2021.



INNOVATION, MODERNIZATION, QUALITY



A conversation with Mónika Freid, Deputy President of the Dissemination Directorate

"In addition to the data collection processes, the challenges that arose in connection with the pandemic also appeared prominently in the dissemination activity. On the bright side, we were able to respond to these challenges quickly and flexibly, while maintaining the quality of our products," said Mónika Freid. The Deputy President of the Dissemination Directorate presented the changes that occurred in the communication practices of the Office in connection with the challenges caused by the pandemic.

NEW PRACTICES IN THE OFFICE'S DISSEMINATION

What challenges have arisen in dissemination activities in connection with the pandemic?

On the one hand, there was an increased demand for data from both decision-makers and the general public. On the other, not only more people wanted more data, but also in the shortest possible time, which required new solutions and innovation in the dissemination process, but also during the entire data production process.

The usual definitions in „peacetime” may not have applied during the pandemic, or not in the usual way. This was already recognized by the international statistical community at the beginning of the pandemic. This was particularly noticeable on the labour market, where the line between the unemployed and the inactive was blurred or moved elsewhere. This also meant that, in addition to our traditional

indicators and categories, such as the well-known unemployment and employment rates, it was worthwhile to fill-in the picture with the data of the so-called labour flows, which showed the volume in which the respondents moved from one category to another.

Which topics have piqued the interest of the users?

The demand for demographic data is high, in addition to the number of births and marriages. This can of course also be tracked on the data of deaths, for example from the download data of our STADAT tables. But the demand for labour market data has naturally also increased. In the field of the economy, data on the operation of enterprises was needed with a much higher frequency, and within this also new categories, such as the number of companies suspending their activities. We also started to work on new topics; for example, we measured the willingness to take a Covid-19 vaccine, which was the most sought-after topic in the Weekly Monitor during the data release period.

What innovations, new publications and products would you highlight?

One of the most significant changes is that we have accelerated the publication of monthly vital statistics - live births, deaths and marriages.

Another significant innovation is that starting in 2020, the data of the "Territorial Statistics" data circle for settlements and districts of Budapest will be updated three times per year instead of annually in the Dissemination database. This was made possible by improving the data verification process.

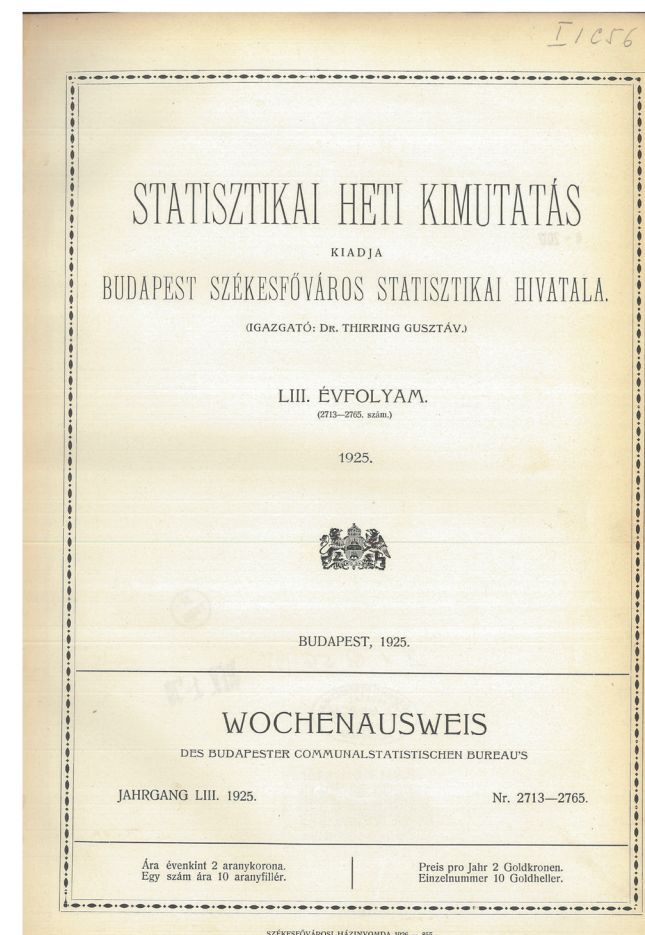
When the pandemic hit our country, we thought about how to make it easier for users to swiftly find information related to this topic and we had to think about what new information was needed. Of course, this need was not constant over time, flexible means had to be assigned to it. That's why we created the Coronavirus Dossier, where we grouped the information that was specifically related to the pandemic, such as the H-UNCOVER survey, or the products that specifically showed the impact of the pandemic in the form of analyses and data visualizations. However, the key element of the Dossier and one of the main products of the Office is the Weekly Monitor. We launched it in May 2020; at the beginning it contained data on 13 topics, currently 15. With the name, we tried to emphasize the change in attitude, that we can move from monthly data communication, which was customary in the statistical world until then, to

weekly data for certain key indicators. It is important that these weekly or monthly updated data are published on interactive charts; the data can be downloaded in a number of formats and in some cases they rely on completely new data sources that had not been previously used by HCSO. As a result of the developments, they can be obtained with greater frequency and in a special level of granularity that meets the new data requirements, thanks to modified production methods that are faster than before.

Were there any national or international experiences or good practices that could be used in the dissemination?

Yes, there were examples before us. We can even think of the renowned statistician József Kőrösy, who was the first director of the Metropolitan Statistical Office, and thanks to whom the Weekly Statistical Reports was published weekly from 1883. This was published on Thursdays with 450 printed copies and included data for the previous week. In addition to population and patient traffic data, it also presented trade and stock market data.

Weekly frequency was, and still is, unusual for statistical data releases, where usually the month is the most frequent data release period. However, the pandemic generated a situation whereby decision-makers needed data with a much shorter periodicity, so the international statistical community also changed certain indicators;



Were there any publications that could not be produced due to the pandemic?

Our publications were typically published on time and by the usual high-quality standards. Our first releases, infra-annual analyses, yearbooks, and annual reports containing key economic indicators were completed in 2020 and 2021. We continue to publish our first releases according to the calendar specified in advance for a year, on a daily basis. In preparation of the publication and the publication of the data, the reported exception, where the data collection itself was impossible, affected the commercial accommodation and international tourism data. The data were generated afterwards by model estimation. Our news release containing commercial accommodation data was temporarily able to appear with a narrower data content. The pandemic also affected the publication of data on farmers' market prices, as data collection had to be suspended for it as well.

What results could be highlighted from this period?

In my view, the most significant result was our ability to adapt to the situation. In addition to adhering to the previously planned publication schedule with minor restrictions, we were in fact able to increase the frequency of data dissemination in the case of topics of particular interest and we were able to make the latest data available to users much sooner than before.

EU Member States, for instance, have been sharing their weekly mortality data with Eurostat since May 2020 on a voluntary basis.

Several Member States have created dashboards that display weekly and monthly data, which is key in grasping the pandemic in an easily accessible and understandable form. These are tailored to each country's own needs. HCSO's Weekly Monitor had no direct foreshadowing, but it inspired us to make this information available in a similar, easy-to-understand way.

The Weekly Monitor compilation published on the website was one of our fastest responses to the pandemic situation, which immediately gained enormous popularity.

We also consider it positive that the changes and innovations introduced due to the pandemic situation have been integrated into our daily practice, and at the same time, their success is an incentive for further innovation.

How can the experiences gained in the field of dissemination during the pandemic be summarized?

A situation born out of necessity brought forward the developments for which we already had plans. For instance, the acceleration of data releases. It became apparent that it is not only necessary, but also that we can work with technology that better meets the needs of users. I was pleased that the colleagues adapted to the new challenges extremely flexibly and quickly, and we found the best solutions to the problems that arose by thinking together.



MAPPING THE NATION

In 2020, in addition to the usual publications, an exclusive map album was produced on the occasion of the centenary of the signing of the Treaty of Trianon, which is special in both its content and appearance. The volume covers eight decades of Hungarian history, looks back at the period before and after Trianon with the help of statistical data and analyses and presents the changes that took place in the social and economic life of the country.

The volume contains maps a significant part of which can be seen by the general public for the first time. In today's digitised world, it is curious that these are contemporary maps and have not been edited afterwards. The amount of data and information provided is well illustrated by the fact that the publication containing 238 maps is 400 pages long and weighs 2.5 kg.

22.1.2.1. Resident population by sex, county and region, 1 January*

Name	Level	2001	2002	2003	2004	2005	2006	2007	2008	2009
Males										
Budapest	capital, region ^a	803,889	794,669	784,610	776,834	773,120	774,581	773,384	776,470	773,384
Pest	county, region ^b	515,452	523,895	531,208	540,393	549,604	556,636	565,792	575,037	575,037
Central Hungary	large region ^c	1,319,341	1,318,564	1,315,818	1,317,227	1,322,724	1,331,217	1,339,176	1,351,507	1,351,507
Fejér	county	207,955	208,358	207,769	207,738	207,660	207,433	207,436	207,490	207,490
Komárom-Esztergom	county	152,913	152,919	152,139	152,146	151,902	151,568	152,151	152,072	152,072
Veszprém	county	182,382	181,821	179,279	178,440	177,450	176,727	176,202	175,193	175,193
Central Transdanubia	region	543,250	543,098	539,187	538,324	537,012	535,728	535,789	534,755	534,755
Győr-Ménfőcsanak	county	210,750	211,027	212,745	212,931	212,688	213,688	213,948	214,828	214,828
Vas	county	129,768	129,370	128,787	128,144	127,566	127,106	126,547	125,752	125,752
Zala	county	143,581	142,725	141,981	141,431	140,703	140,232	139,856	138,959	138,959
Western Transdanubia	region	484,099	483,122	483,513	482,506	480,957	481,026	480,351	479,539	479,539
Baranya	county	194,254	193,234	192,293	191,055	190,012	188,936	188,912	188,194	188,194
Somogy	county	161,140	160,669	159,982	159,166	157,937	156,796	156,480	154,682	154,682
Tolna	county	120,534	119,860	119,255	118,459	117,442	116,232	115,251	114,045	114,045
Southern Transdanubia	region	475,928	473,763	471,530	468,680	465,391	461,964	460,643	456,921	456,921
Transdanubia	large region	1,503,277	1,499,983	1,494,230	1,489,510	1,483,360	1,478,718	1,476,783	1,471,215	1,471,215
Borsod-Abaúj-Zemplén	county	359,596	357,355	354,803	351,646	348,437	345,622	342,246	337,781	337,781
Heves	county	154,539	153,957	153,023	152,415	151,975	150,983	150,249	149,270	149,270
Nógrád	county	105,764	105,265	104,639	104,017	103,309	102,596	101,729	100,353	100,353
Northern Hungary	region	619,899	616,577	612,465	608,078	603,721	599,201	594,224	587,404	587,404
Hajdú-Bihar	county	265,518	265,077	264,483	263,767	263,098	262,203	261,132	260,143	260,143
Jász-Nagykun-Szolnok	county	202,042	200,973	199,897	198,521	197,329	195,663	194,021	191,898	191,898
Szabolcs-Szatmár-Bereg	county	283,552	282,247	281,159	279,986	278,724	277,127	275,883	273,260	273,260
Northern Great Plain	region	751,112	748,297	745,539	742,274	739,151	734,993	731,036	725,301	725,301
Bács-Kiskun	county	260,661	259,509	258,525	257,286	256,669	255,457	254,757	253,544	253,544
Békés	county	192,611	191,159	189,872	188,376	186,697	184,736	182,903	180,246	180,246
Csongrád-Csanád	county	204,111	202,891	202,007	201,362	200,793	200,257	200,199	200,345	200,345
Southern Great Plain	region	657,383	653,559	650,404	647,024	644,159	640,450	637,859	634,135	634,135
Great Plain and North	large region	2,028,394	2,018,433	2,008,408	1,997,376	1,987,031	1,974,644	1,963,119	1,946,840	1,946,840

ENHANCING USER EXPERIENCE

REQUEST FOR RENEWAL OF THE STADAT TABLE SYSTEM

The innovations in the HCSO's dissemination activities, the need to adapt to the users' expectations and the technical challenges that have arisen all justified the comprehensive review of the content, structure and functionality of the Office's summary table collection (STADAT) and the subsequent renewal.

From opinion surveys carried out in recent years, we learnt what problems users face when using tabular products, and what their needs are regarding their usability and content. In addition to all of this, it became necessary to expand the content, as in order to make it easier to access, in recent years the HCSO has begun to integrate the tabular annexes of the publications and the data of the thematic yearbooks into STADAT and the Information

We are confident that the new STADAT will be well received by users. We continue to count on your valuable opinions and suggestions, a box for which can be found on the page of the selected tables, and at the bottom under "Was this content useful?" you can share it with us by clicking the button.

database. We planned the technical renewal of the process of preparation for publication taking into account the fact that we would also prepare for database-based information and automated product production.

THE RENEWED STADAT HAS BEEN AVAILABLE SINCE APRIL 2021

As a result of the development, since April 6, 2021, users can access the most important statistical data and indicators (STADAT) tables with more content, a changed structure and new functions at the www.ksh.hu/stadat_eng link.

WHAT HAS CHANGED?

- The table system was also optimised for mobile devices and made accessible for persons with disabilities as well. (The new system supports reading software and other accessibility features.)
- We have expanded the interface with a number of convenience services, such that, for example, large tables can be studied by scrolling without turning pages: this specifically follows the needs of users.
- The files can also be downloaded in xlsx and CSV formats. We also tried to facilitate the further use and analysis of the data by simplifying the structure of the individual tables.
- With three new topics – geographical data and settlement structure; time use and sports – the collection has been expanded.
- The organization of the tables has changed: unlike before, visitors to the site can filter by topic, period (annual and infra-annual), and territorial level at the same time. We have also made it possible to search by table serial number.
- We clearly indicate which tables are linked to news releases.
- The table of contents shows the date of the last update and possible error correction, so anyone interested can find out when the data tables were updated.
- Instead of the previous icons, which according to users were difficult to notice, a common menu contains methodological information, footnotes, legend, and other publications related to the topic that help to interpret the data.



DEVELOPMENTS, INNOVATIVE SOLUTIONS IN THE FIELD OF STATISTICS

The presentation of the constantly changing processes of the economy and society requires the continuous renewal of the statistical data production process and statistical methods. In order to meet the changed needs due to the pandemic, we used new methods and accelerated our ongoing developments.

FASTER AND MORE FREQUENT DATA IN VITAL STATISTICS

One of the most important developments of the years 2020-2021 was the transformation of the statistics. In the first step, it was possible to speed up data communication through the production of data from the Electronic Registry System, which was a significant help for users in monitoring the impact of the coronavirus pandemic. From June 2020, we will publish our news release on population statistics one month earlier, so the latest data on deaths, births and marriages will be available on the HCSO website at the end of the month following the

month in question. In response to new requests, we will also publish death data by age, gender and region on a weekly basis from the spring of 2020. All of this also contributes to international comparability, because Eurostat also displays our data in its database.

In 2021, as part of a project led by the Ministry of the Interior aimed at simplifying the administration of births, marriages and deaths, the electronicization of the statistical sheets related to these events and the creation of new workflows for data reception and data processing were implemented. The result of the development of previously paper-based data collections is the acceleration of statistical data production and the further improvement of data quality.

As part of further development, we developed the necessary methodology for calculating avoidable (treatable and preventable) deaths based on the procedure used by Eurostat, so in the future it will be possible to publish these indicators regularly.

MORE EFFICIENT ELECTRONIC DATA COLLECTION SYSTEMS

For data providers, we create interfaces that enable the fulfilment of the obligation to provide data electronically, with the least possible burden. Therefore, in 2021, we switched to the proven iFORM technology in electronic administration in the ELEKTRA system and improved the MAJA data collection interface used

for the first time in the implementation of the Agricultural Census.

WEBSCRAPING IN THE COLLECTION OF PRICE DATA

Within the framework of the consumer price survey, we collect the consumer prices of approx. 78,000 products and services of the domestic shops and service points included in the monitoring. The prices collected on a monthly basis are the basis for the calculation of one of the most important economic indicators, the consumer price index.

In previous years, the price survey was basically based on on-site, personal observation, although for some products and services we also collected data from the Internet. The crisis that developed in March 2020, as well as the official measures that came into effect as a result, required the modification of our previous method. In order to ensure the accuracy of the indicator and the credibility of data provision and dissemination, the consumer price of the observed products and services had to be therefore re-recorded using alternative methods – e.g. webscraping technique.

We continue to use these methods after the lifting of restrictive measures. As a result, the consumer prices of more than 10,000 products or services are currently written on the internet interface of shops and service providers, which represents at least 13% of the total stock.

WE ARE PREPARING FOR THE 2022 POPULATION CENSUS

During the preparation of the population census, a priority objective was to ensure that the collection of data was as little burden as possible for the population. In October-November 2022, we will conduct the census for the first time without paper questionnaires, completely electronically. The questionnaire can be filled out independently online, and in the case of an interview, the enumerators will record the answers on a tablet. The data collection system was developed in accordance with the strictest requirements for data protection and data security, taking sustainability aspects into account and using resources responsibly.

COMPUTING THE EFFECTS OF THE PANDEMIC

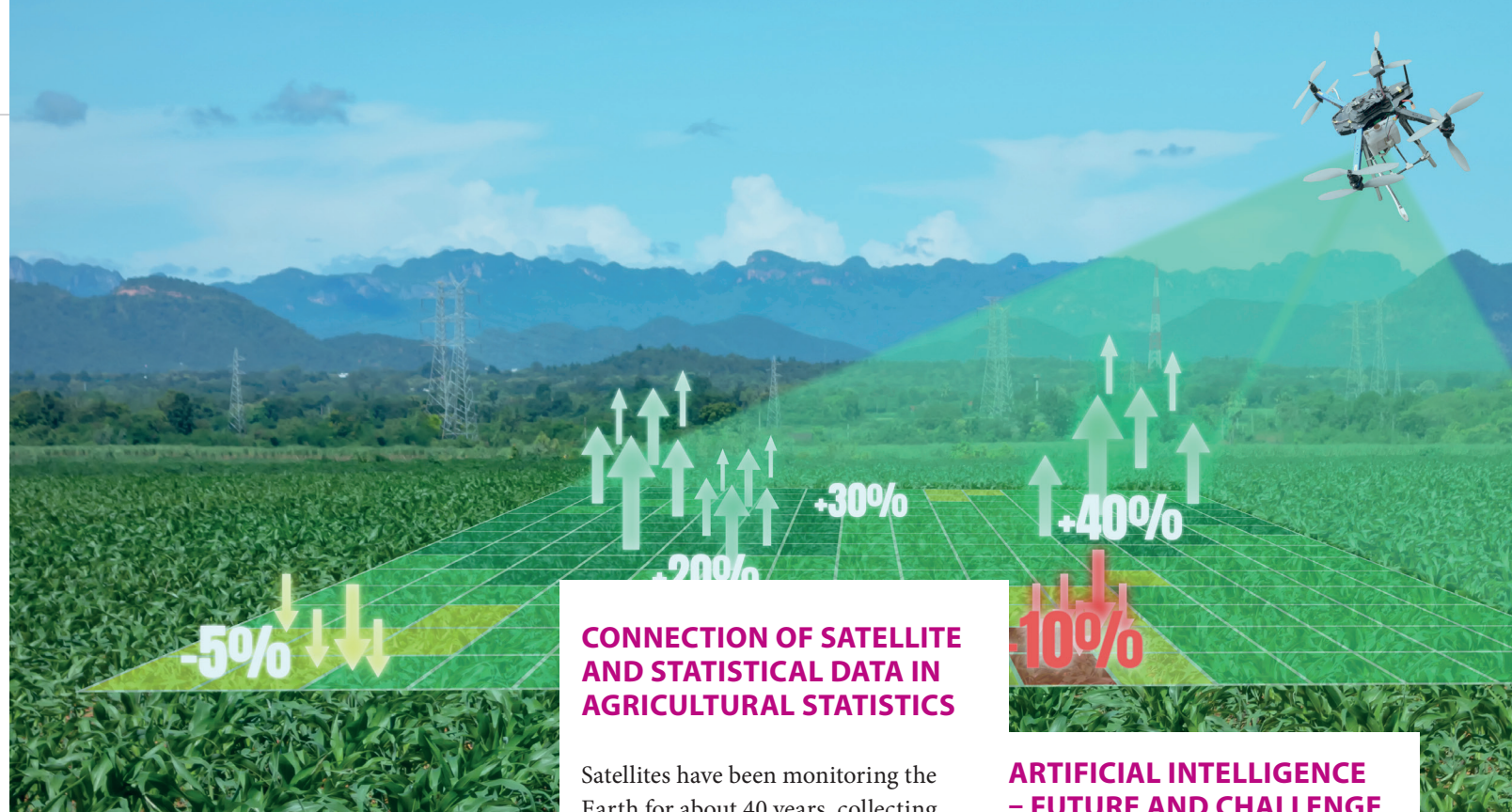
In order to measure the effects of the pandemic, we developed an estimation method that can be used uniformly for all data series suitable for seasonal adjustment. We presented the method itself in the Statistical Scientific Subcommittee of the Statistics and Future Research Scientific Committee of the Hungarian Academy of Sciences and applied it to the analysis of business cycle data. In our publication entitled Hungary, presenting annual figures, we also discussed this information in relevant areas.

WE HAVE TAKEN OVER A PRIVATE DATABASE FOR THE FIRST TIME – RENT INDEX

We apply filters on the database that forms the basis of the rent index created in cooperation with Ingatlan.com, and during the outlier filters and the new model estimation created in connection with the data in the database, we calculate the information available each month based on about 300,000 observations.

ESTIMATING THE IMPACT OF COVID-19

In the process of seasonal adjustment, we detect and manage outliers. If the outlier effect is removed from the time series, we get a so-called „outlier-treated” time series. This can also be interpreted as an estimate of what would have happened without the outlier. Since the Coronavirus pandemic caused a very significant outlier effect for many time series, the difference between the outlier-treated and the original time series is actually a kind of estimate of the effect of the pandemic. This estimate can be easily and quickly calculated for any time series for which seasonal adjustment is applied. The results were also published in our publications, e.g. in the Retail trade news release, we separately included the amount of turnover change attributable to the effect of the pandemic.



CONNECTION OF SATELLITE AND STATISTICAL DATA IN AGRICULTURAL STATISTICS

Satellites have been monitoring the Earth for about 40 years, collecting environmental and agricultural information. The data that can be extracted in this way are already directly used, for example, in agriculture in precision farming.

Additional possibilities are that this information can be combined with other data sources, or even initiate data collections if these data prove to be of sufficient quality. In this way, the burden on the data providers can be reduced, especially if we can show the amount of crops or natural damage, plant condition, and environmental aspects with it. In order to examine the possibilities, it was worthwhile to compare the results of the two types of data sources, and we jointly undertook this with the University of Pécs. We examined the extent to which the data of Earth observation Sentinel satellites differ from the results of HCSO data collections. The project was financed by the European Space Agency (ESA).

ARTIFICIAL INTELLIGENCE – FUTURE AND CHALLENGE

New methodologies and digital techniques have always played a significant role in increasing the quality and efficiency of official statistics. In accordance with the provisions laid down in Hungary's Artificial Intelligence Strategy, the HCSO is also committed to putting the potential inherent in artificial intelligence at the service of its practical operations as much as possible. In recent years, the HCSO has been working on the widest possible use of online cash register, e-invoice and retail scanner data for statistical purposes. The aim of the research carried out in the office is to use machine learning to use the data currently available as textual information during the estimations. Our goal is that in the future, as a result of the experiments, machine algorithms will form the basis of the office's unified coding system.

AGRICULTURAL CENSUS 2020

Amidst the challenges of the pandemic, a serious task fell on the HCSO in 2020: the implementation of the largest agricultural survey, the Agricultural Census, which is due every 10 years. After the population census, this data collection is the second largest project of the Office, involving the second most people. The holding of the agricultural census was mandatory everywhere in the EU countries, and – in a broader international perspective – this series of events also joined the FAO world census.

Why is agriculture and its assessment important?

- nowadays, the enforcement of environmental protection and food safety aspects is increasingly important,
- a significant part of subsidies and policy decisions are based on these,
- it provides an opportunity to learn about the job opportunities and living conditions of the rural population,
- it reveals in detail the development and characteristics of management methods and other factors (e.g. digitalisation).



In addition to professional requirements, the preparation took place keeping in mind cost-effectiveness and the reduction of burdens on data providers. The HCSO clarified its own address portfolio by integrating numerous administrative data sources from other professional organisations, thus reducing the size of the address portfolio to be reached during the census from 2.1 million 10 years ago to 766,000.

INNOVATIVE SOLUTIONS OF THE AGRICULTURAL CENSUS

Several years of preparation paved the way for the Agricultural Census carried out in 2020 using a new methodology. By using the available state registers, we were able to improve the data quality and reduce the burden on data providers. With the help of the administrative databases taken over by the HCSO, accurate and up-to-date information is already available on who can carry out agricultural activities, and these data are also of great help in improving data quality.

In order to keep up-to-date records of farmers, the HCSO has developed an Agricultural Register application, where data from various professional registers are received and linked, thus enabling a more accurate and smaller sample selection and a growing number of data requests will be met by using these data sources. During the census, the data were geocoded, so they can be displayed on detailed maps.

In the online phase, a quarter of the data providers used the online self-filling option, more than ever before. Due to the pandemic, the period of the census had to be modified, but its implementation was nevertheless successful.



On the occasion of the Agricultural Census 2020, the circle of data providers consisted of household data providers engaged in agricultural activities in addition to economic organizations.



> QR code for the results of the Agricultural Census 2020

The Agricultural Census 2020 was entirely paper-free. The online part of the survey was followed by enumerator fieldwork, using tablets. The rise of the pandemic was a particular challenge in this, causing difficulties even during the preparation of the enumerators.

The second stage of the census was changed several times due to the pandemic. In the meantime, it was also necessary to replace almost one-fifth of the enumerators, because many withdrew in view of the situation. During the individual address visits, the census could only be carried out wearing a mask and in open spaces. We also tried to improve security by subsequently enabling phone interviews.

Despite these difficulties, we successfully completed the data collection of the Agricultural Census 2020. As a continuation of the Agricultural Census 2020, the data of approximately 230,000 data providers is being mass validated and corrected, data is being received from various institutions and organisations in topics not covered by the census and the publication of aggregated information has begun.

In the future, it is expected that the final data files – for some indicators even detailed for settlements – will be published. Thematic analyses will be prepared and EU-level comparative data series will be made available and research room microdata files will be available for representatives of the scientific life.



> The preliminary data are available on the HCSO website on the agricultural census sub-page, at the following link: https://www.ksh.hu/docs/hun/xftp/ac2020/elozetes_adatok/index.html#/cover

STAFF TRAINING

In 2020, our colleagues completed a total of 1,725 public service, competence development, and leadership training courses from the programme offered by the National University of Public Service. In 2021, they completed a total of 2,206 public service training courses based on their individual annual further training plan. Colleagues typically fulfilled the obligation with 2-3 training courses, but there were some who chose 6-8 training courses. Of the 2,206 completions of 101 different training courses, 1,774 were of the professional and competence development type, 264 were of the general public administration type, and 218 were management training.

Our internal training system is the HCSO School, which has been operating since 2006, within the framework of which we teach functional background knowledge and statistical know-

ledge, typically with the help of our own colleagues. In 2020, the pandemic situation also adversely affected the field of educational organization, despite this, almost 400 people took part in our 30 courses. In 2021, we closed the year with more than 40 courses.

The biggest change in 2020 was the change in methodology, which meant that almost all of our courses had to be transferred to an online or hybrid form of education. As of 2021, an online lecture series promoting statistical culture has been added to the system as a new element, and our career orientation program for new entrants has been supplemented with an online course element. In 2021, an (information security) course for all employees was implemented for the first time on the Office's e-learning portal. In view of the success of the Spatial Statistics Knowledge Sharing held for the first time in the fall of 2020, our colleagues expanded their knowledge at a



The certificate of recognition was received by Kornélia Mag, Deputy President of the Architectural Services Directorate, at the 5th plenary meeting of the Artificial Intelligence Coalition.

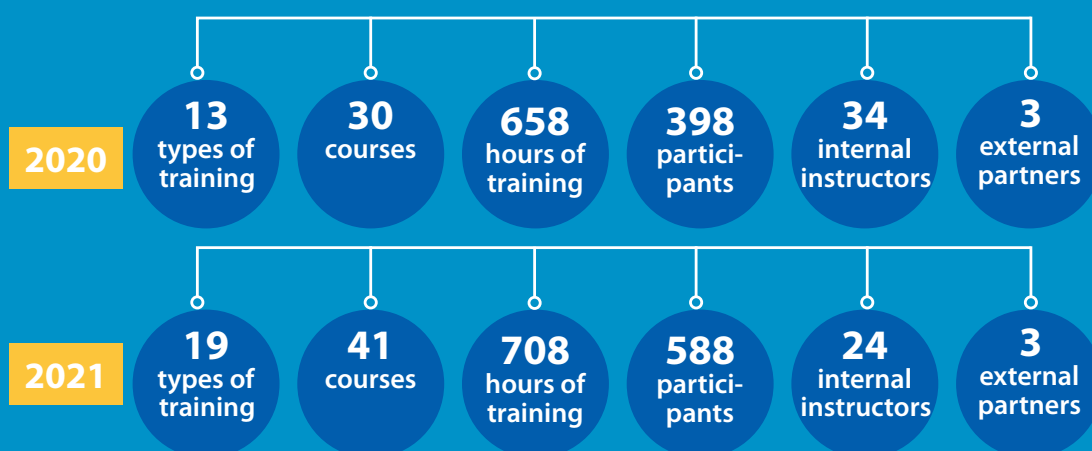
presentation on economic statistics and population statistics in the framework of the web conference series in 2021.

Due to the pandemic, most of the courses of the European Statistical Training Programme (ESTP), which aims at the professional development of statisticians working in the member states of the European Union, were moved to the virtual space, but many courses were still cancelled. In 2020, a total of 19 employees acquired new knowledge in 12 courses - half as many as in 2019, and in 2021, 58 employees acquired new knowledge in 36 courses. Courses on various topics are regularly connected to international conferences and enjoy great popularity. The impact of the two-year-long COVID-19 pandemic was also felt here, as, for example, in addition to the data communication and statistical application of machine learning, the effects of the pandemic's experiences on healthcare statistics were also presented. Our experts also regularly expand their knowledge on these courses.

In terms of selection, the pandemic did not change the main trends of recruitment: the Office continuously searched for and hired new employees during the pandemic waves; where possible, the interviews took place in person during the selection procedures, but during some periods we switched to online interviews.

A high proportion of HCSO employees participated in the e-learning course organised by the Artificial Intelligence Coalition. HCSO was therefore recognized for its outstanding performance in the Derby Enterprise category of the MI challenge.

HCSO SCHOOL IN NUMBERS



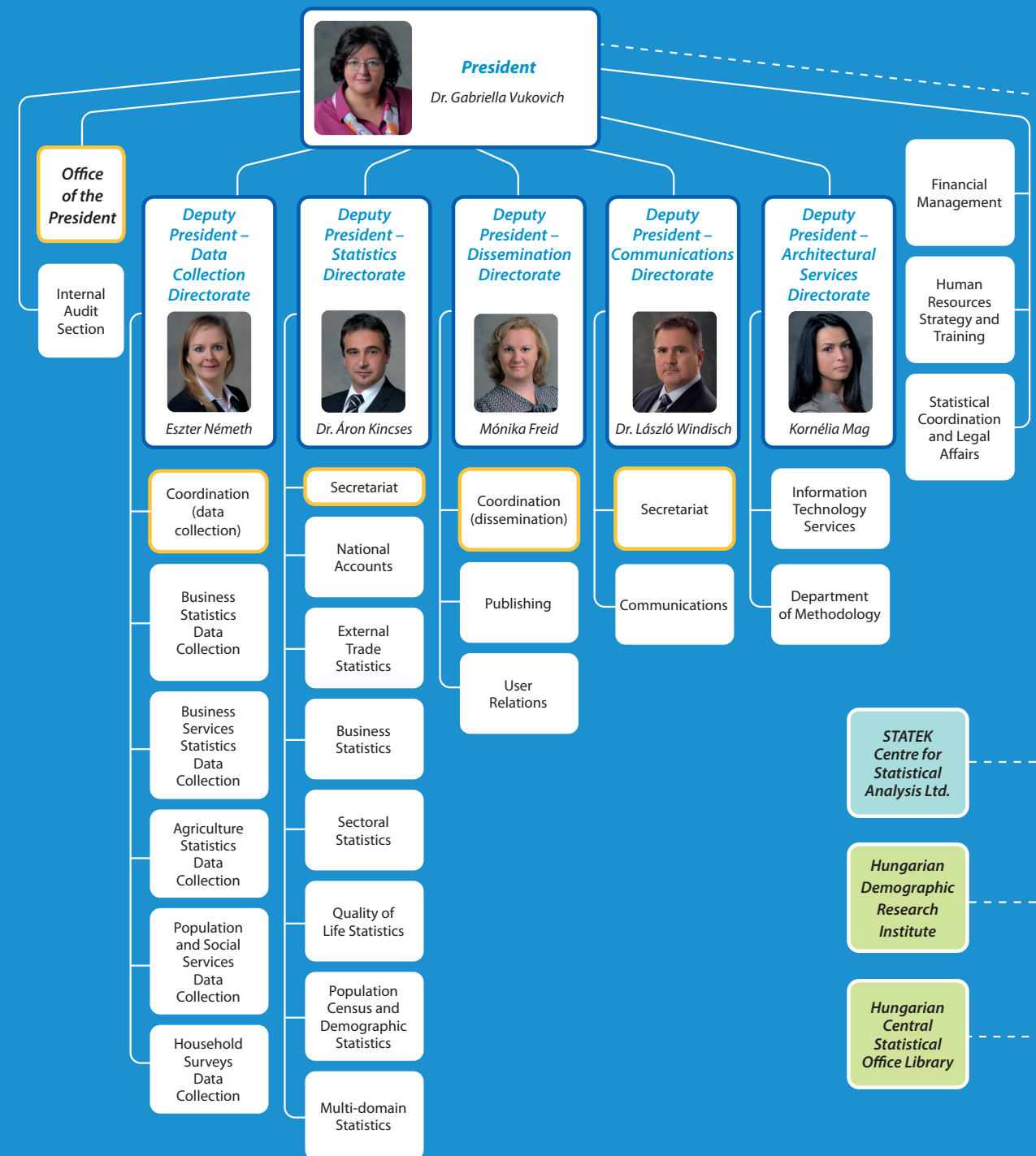
- Our colleagues are currently studying in subsidized training programmes at **7** universities
- Interviews with **113** staff members to examine workplace integration
- Management training through special university courses and internal training (for **8** managers in 2020 and **11** in 2021)
- **19** colleagues took part in ESTP courses in 2020 and **58** in 2021

OUR OPERATION

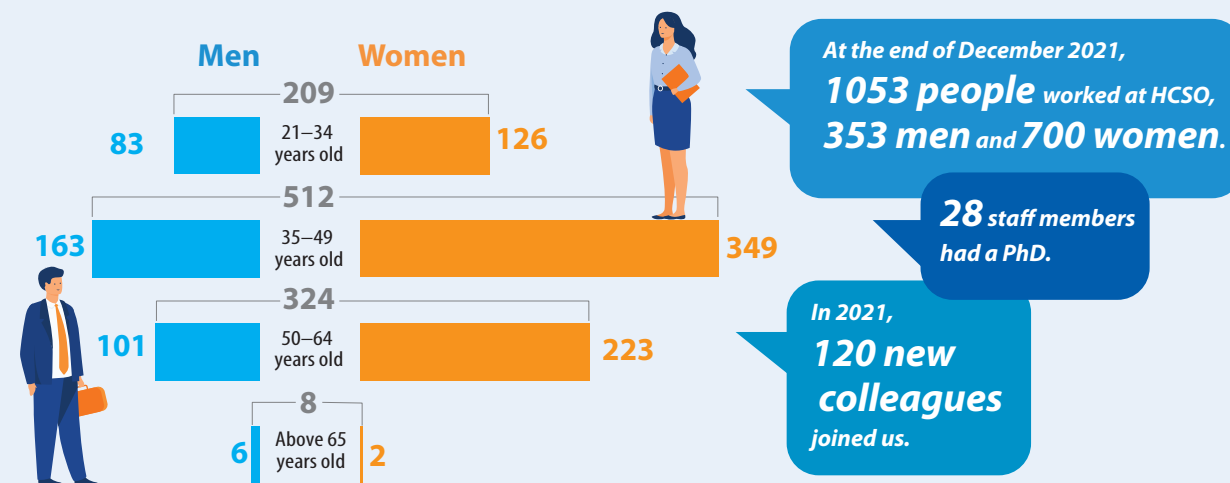


> The HCSO has offices in 10 cities

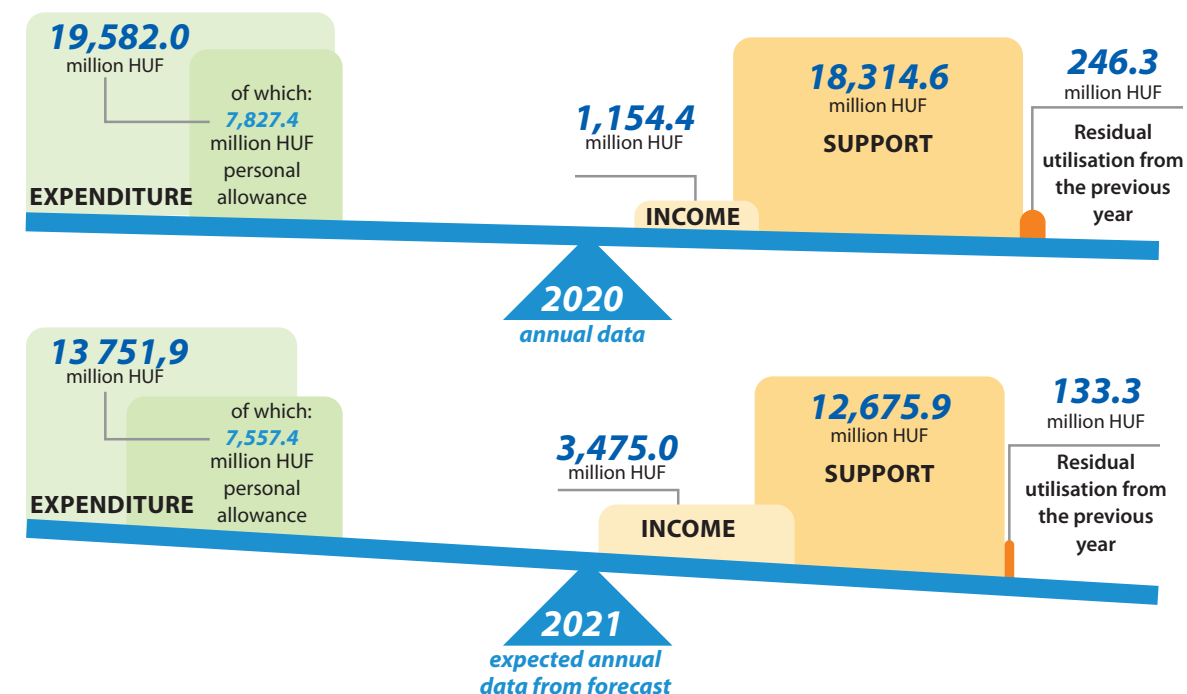
ORGANISATION CHART



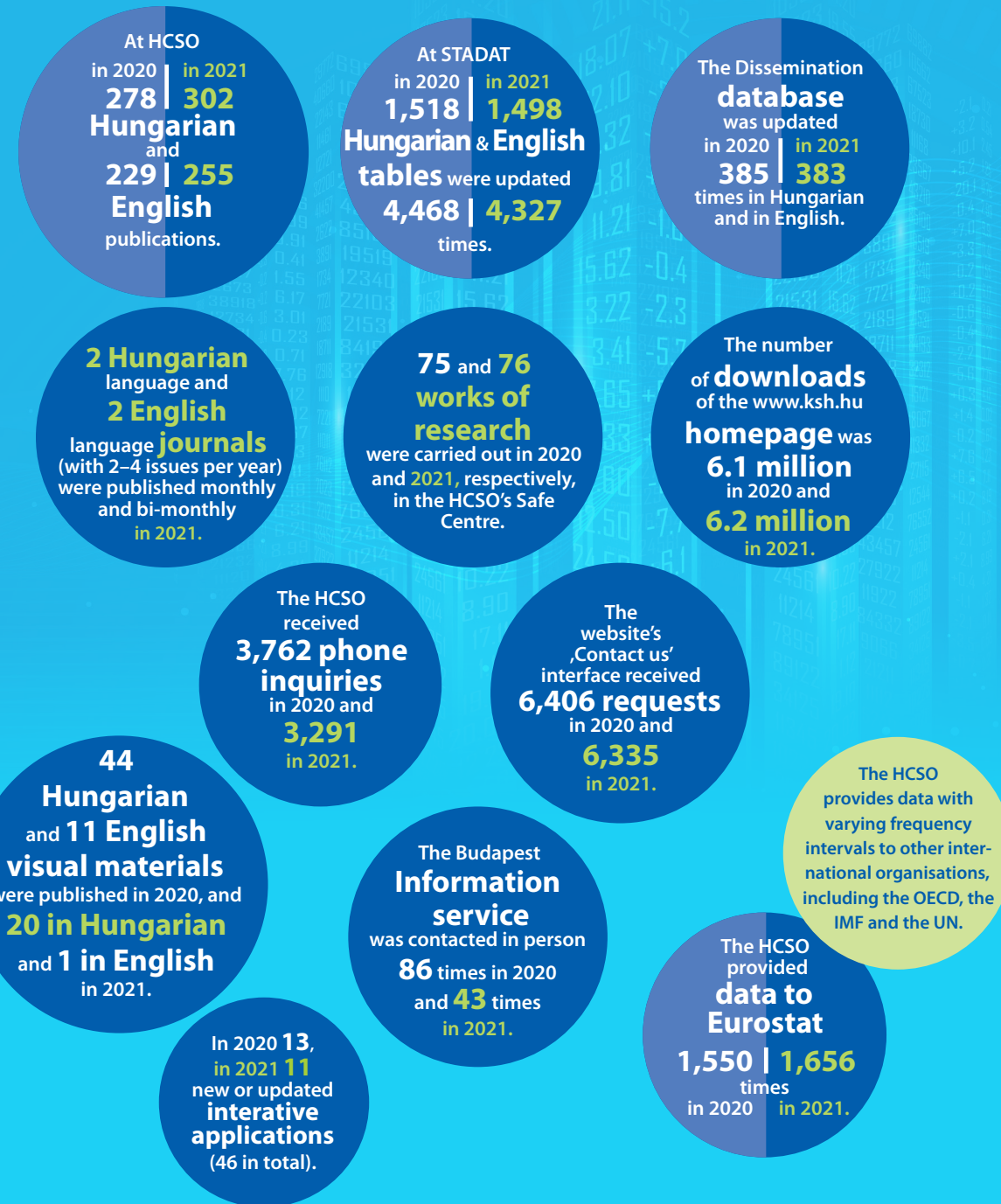
OUR COLLEAGUES (by number and composition)



FINANCIAL AFFAIRS (income, expenditure, balance)



DISSEMINATION ACTIVITIES



STATISTICS ON STATISTICS

511
thousand
questionnaires
recording population
events



278 thousand
inhabitants were
asked to complete
a questionnaire
voluntarily

279 thousand
businesses were
invited to provide
data

778
thousand
reports were
received from
them



14
thousand reports
received from
newly registered
organisations

836
thousand prices
were recorded in
the consumer
price survey



2020

555
Statistical surveys in
the Hungarian
statistical system

422
Within which:
statistical surveys
of HCSO

157
Within which:
data collections
of HCSO

265
Administrative
registers used for
statistical purposes

2.23
million
Questionnaires
and data sheets

764
thousand
questionnaires
were received and
processed during
the Agricultural
Census

554

423



156

267

1.20
million

2021

534
thousand
questionnaires
recording population
events



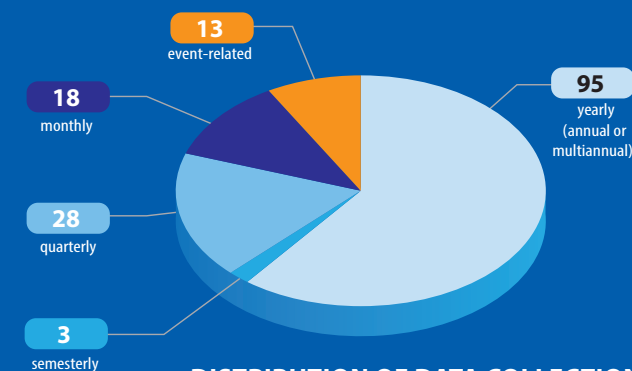
236 thousand
inhabitants were
asked to complete
a questionnaire
voluntarily

253 thousand
businesses were
invited to provide
data

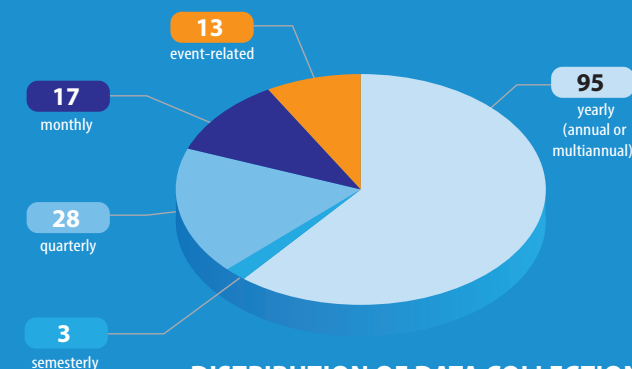
800
thousand
reports were
received from
them

15
thousand reports
received from
newly registered
organisations

947
thousand prices
were recorded in
the consumer
price survey



**DISTRIBUTION OF DATA COLLECTIONS
BY FREQUENCY, 2020**



**DISTRIBUTION OF DATA COLLECTIONS
BY FREQUENCY, 2021**



FAMILY-FRIENDLY WORKPLACE, CORPORATE SOCIAL RESPONSIBILITY

CULTURAL TRADITIONS

→ Our choir has a nearly 90-year tradition within the walls of the HCSO. In its current form, the HCSO Choir has given musical renditions since 2015. Although the restrictions brought by the pandemic made it difficult for the choir to perform, it was able to present in concert again in 2021 at the Ars Sacra Festival and at the HCSO's official family and sports day, Grafikon Day, organized in the autumn. The choir currently consists of 22 members.

→ Since 2013, the cultural life of the office has been enriched by the HCSO Adatközlők Folk Dance Ensemble. The dance traditions of the Carpathian Basin were recalled for the employees on the occasion of various holidays – Easter, Christmas and the Carnival – but guests attending our international conferences could also get a taste. The pandemic has hindered personal contacts, including the cultivation of dance.



DEEPENING RELATIONS BETWEEN OUR COLLEAGUES AND THEIR FAMILIES

→ In 2020 the official family and sports days, the Grafikon days could only be organized in a virtual format, but in the autumn of 2021, we were able to re-organize the event started 30 years ago in-person again, with a total of 770 participants. The employees of the Office and their families competed in various sports, such as football, table tennis, tennis, beach volleyball and running races as well as in professional and logical contests. Cultural and children's programs were also held.



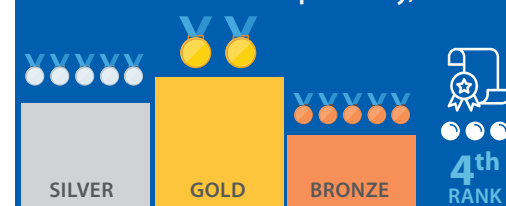
RECEPTION OF INTERNS AND VOLUNTEERS

→ In 2020, we welcomed 12, and in 2021, 15 people for internships across Budapest, Szeged and Veszprém.

→ In 2020, we took on only 1 high school student, and in 2021, 17 high school students as part of their community service duties.



Number of medals and ranks at the Public Administration Sports Day, 2021



SPORTS

→ In 2020, the HCSO running team once again took part in the Ultrabalaton running race. The mixed team ran non-stop around Lake Balaton in 22 hours and 59 minutes.

→ The HCSO team also took part in the XIV Bowling Cup competition organised by the Angyalföldi Nature and Fitness Association for state administrative bodies, offices, and municipalities, where they reached the finals out of 30 starting teams and achieved 13th place.

→ At the Second Soccer Cup men's small-field soccer competition organised by the Angyalföld Nature and Fitness Association, which was organised for state administrative bodies, offices, and municipalities, the team made up of HCSO and HCSO Library employees took 5th place.

→ The 2020 Tolle UHT Marathon Relay race was also successfully completed by the Office's 3 relay teams, while in 2021, 2 relay teams and 1 relay pair completed the marathon distance in the same competition.

→ In 2021, the HCSO football team achieved 9th place in the 54-team IXth Soccer Cup and Family Day of Public Administration Institutions, organized on September 11, 2021.

→ At the Public Administration Sports Day organised after a two-year break, the HCSO's 25-person team won 12 medals in five sports (table tennis, volleyball, chess, tennis and badminton). As per HCSO tradition, the table tennis players were the most successful again, but we won medals in all five sports.

FAMILY-FRIENDLY WORKPLACE, CORPORATE SOCIAL RESPONSIBILITY

FAMILY-FRIENDLY WORKPLACE

→ The Office won the title of „Family-friendly workplace“ for the third time in the competition for the creation and development of family-friendly workplaces announced in 2020.

→ During these two years in Budapest and in our county centres, we provided an average of 25-30 children with meaningful and varied activities during the summer holidays. In addition to daily childcare, we have also enriched the service with thematic programs. For example, in 2020, we organised English language lessons, creativity sessions, sports sessions, experimentation, baking and cooking, and magicians’ education. In 2021, in addition to English and magicians’ education, there was also modern dance, folk dance, yoga and karate. We also organized a library program every week.



BLOOD DRIVES

→ Blood donation is a decades-long tradition among HCSO employees. In 2020, we organised three blood drives at the Office; on average 40-60 of our colleagues supported the noble cause. In 2021, we organised 4 blood drives in Budapest and 2 in Miskolc, so a total of more than 200 people donated blood.

A BOX FULL OF LOVE

→ In the spirit of corporate social responsibility, our traditional Christmas gifts drive continued to take place during both recent years. In 2020, due to the measures in response to the pandemic, we could not surprise in person the children and the elderly living in Csokaly, now part of Romania, in the hometown of the famous 19th century statistician, Elek Fényes, with packages made by our colleagues but by purchased gifts and food packages. In 2021, we again organised the donation for more than 100 children in the form of a “shoe box drive”.



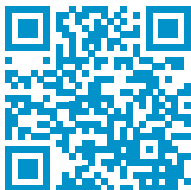
> *HCSO guidelines, policies, strategies and reports*



> *Publication Repertory of HCSO*




> *Summary tables (STADAT)*



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