



EUROPEAN  
STATISTICAL  
SYSTEM

# PEER REVIEW REPORT

ON COMPLIANCE WITH THE EUROPEAN STATISTICS CODE OF  
PRACTICE AND FURTHER IMPROVEMENT AND DEVELOPMENT OF THE  
NATIONAL STATISTICAL SYSTEM

## CROATIA

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# 1. EXECUTIVE SUMMARY

The Croatian Statistical System is relatively centralised, comprising six producers of official statistics – the Croatian Bureau of Statistics and the Croatian National Bank (which are specified in the Official Statistics Act (Official Gazette No. 25/20)), and four other national authorities – the Croatian Institute of Public Health, the Ministry of Agriculture, the Ministry of Economy and Sustainable Development and the Ministry of Finance – whose status is established by the seven-year Programme of Statistical Activities (itself a statutory requirement).

The Croatian Bureau of Statistics is a state administration organisation, as set out in *The Act on the Organisation and Scope of the State Administration Bodies* (Official Gazette No. 85/20), that independently performs the tasks within its competence under the Official Statistics Act. This Act is modern and effective and is rooted explicitly in the European statistics Code of Practice (ES CoP), which helps to ensure compliance with the ES CoP. The new Official Statistics Act strengthens the institutional environment within which Croatian official statistics are produced, by defining the conditions for the appointment and dismissal of the Director General of the Croatian Bureau of Statistics, regulating the organisation and coordination of the Croatian Statistical System, supporting access to administrative data and allowing the Croatian Bureau of Statistics to be involved in designing, developing and discontinuing administrative data sources, specifying the competence and management of the Croatian Bureau of Statistics, and establishing the very elaborate planning system for the official statistics activities of the Republic of Croatia.

The key elements of this planning system are a 10-year Development Strategy covering the period 2021-2030 and setting out the priorities for the development of the Croatian Statistical System; a 7-year Programme of Statistical Activities covering the period 2021-2027 which is aligned with European plans and developments; and Annual Implementation Plans of Statistical Activities. In addition, the Croatian Bureau of Statistics has a 4-year Implementation Programme, the latest covering the period 2021-2024, which is a requirement of non-statistical legislation and applies across the public sector in Croatia. Reports on the Execution of the Annual Implementation Plan and annual reports on the implementation of the Development Strategy are also produced.

To strengthen its coordination activity, the Croatian Bureau of Statistics established the Committee for the Official Statistics System of the Republic of Croatia in 2021. The mandate of the Committee is to increase the efficiency of statistical production, ensure the quality of statistical products and set dissemination standards for official statistics. It comprises representatives of the producers of official statistics.

Complementing this producer body, the Statistical Council of the Republic of Croatia acts as an expert advisory body, dealing with strategic issues of official statistics and ensuring users' influence on official statistics activities. Thirteen members represent the institutional users, the scientific community, business, civil society and the media.

The Croatian Bureau of Statistics has developed a sophisticated quality management system based on the principles of Total Quality Management. It is used for quality assessment, quality documentation and quality reporting for the surveys conducted by the Croatian Bureau of Statistics.

The Croatian Bureau of Statistics appears to have the resources it requires to perform its core statistical production activities, though it is less well placed to invest in innovative activity, as a quarter of the posts it has are vacant. For example, if properly resourced, the Croatian Bureau of Statistics could be more involved in Croatia's digital strategy, build on its experiences of using new data sources and prioritise work to develop population and dwelling registers.

In April 2022, the Croatian Bureau of Statistics launched a revamped website, considerably improving the visual and graphical presentation of official statistics. The new website has a modern look and feel, and represents a major step in improving the accessibility to the data published by the Croatian Bureau of Statistics. The Croatian Bureau of Statistics provides access to confidential data for the scientific community and research entities based on special conditions and rules.

Overall, there is a high level of compliance with the ES CoP throughout the Croatian Statistical System. However, the peer review team identified four compliance-relevant and twenty-two improvement-related recommendations under five headings, listed below with their related explanations.

## **RECOMMENDATIONS**

### **I. Stimulating innovation, efficiency and effectiveness**

The groups of stakeholders that the peer review team met talked positively about the professionalism of the staff of the Croatian Bureau of Statistics, its professional independence and impartiality. The Croatian Bureau of Statistics has also taken steps to explore the statistical potential of some new sources of data, such as scanner data to supplement traditional price collection. These steps are consistent with the reference to ‘innovative statistics’ in the Croatian Bureau of Statistics’ vision.

Nevertheless, the peer review team formed an overall view that the Croatian Bureau of Statistics is only the sum of its parts and could do more to align its corporate mindset with the need to be more innovative in its statistical work, and that there is scope for a stronger horizontal approach towards implementing its vision. For example, when there are technical or methodological developments or innovations, the management of the Croatian Bureau of Statistics could celebrate these with all its staff as demonstrations of the implementation of its vision, and as a means to encourage others to innovate – with the idea that ‘success breeds success’ and to reinforce morale.

To improve beyond compliance with the ES CoP, the peer review team recommends:

***1. The Croatian Bureau of Statistics should develop a more proactive culture, emphasising innovation, and presenting and celebrating success. (Improvement-related: ES CoP, Indicators 3.1, 10.3 and 7.1)***

The (four) regional offices and (24) sub-units of the Croatian Bureau of Statistics are responsible for data collection in their local areas, including interviewing, price collection and assisting with the census. While this is a traditional structure, it feels somewhat old-fashioned in an era in which data collection and initial processing are increasingly digital and do not require a local connection.

Furthermore, the Croatian Bureau of Statistics has invested in a sophisticated quality management system, based on Total Quality Management, called POMI. However, while the peer review team agrees that POMI is useful for capturing information about quality indicators and, in the future, about costs, it was not convinced that POMI is well positioned as a driver of quality improvements or efficiency savings.

To improve beyond compliance with the ES CoP, the peer review team recommends:

***2. The Croatian Bureau of Statistics should review and optimise its organisational structure to streamline the collection, production and dissemination of official statistics, as part of the initiatives to increase its cost effectiveness (reallocating any resource savings), and to ensure that tangible improvements to statistics and efficiency savings are derived from the quality management system. (Improvement-related: ES CoP, Indicators 10.4 and 4.1)***

The Croatian Statistical System has an elaborate system of programming and planning, comprising a 10-year Development Strategy, a 7-year Programme of Statistical Activities and Annual Implementation Plans of Statistical Activities; progress against the latter is detailed in Reports on the Execution of the Annual Implementation Plan. In addition, the Croatian Bureau of Statistics has a 4-year Implementation Programme specified in non-statistical legislation, which applies across the public sector and covers the Government's 2020-2024 Programme.

The peer review team commends the overall approach of medium- and short-term planning and recognises that the different plans ostensibly have different purposes, but considers that the current approach could be simplified to provide clarity, reduce overlap and reduce the resources involved in planning activities.

To improve beyond compliance with the ES CoP, the peer review team recommends:

***3. The Croatian Bureau of Statistics should streamline its programming and planning arrangements to enhance cost effectiveness. (Improvement-related: ES CoP, Indicators 1.5 and 11.2)***

Many stakeholders commented that the Croatian Bureau of Statistics had insufficient resources to fulfil its potential, that salary levels are low and that it is hard to recruit and retain IT experts who can earn significantly more in the private sector. The peer review team notes that the Croatian Bureau of Statistics has a substantial proportion (25%) of vacant posts. At the same time, the peer review team understands that the Croatian Bureau of Statistics is successful in delivering against its short-term plans – noting that this reflects many staff members having heavy workloads – but feels that, were the Croatian Bureau of Statistics to be fully resourced, it could focus more on longer-term development and innovation.

The peer review team considers that an emphasis on the overall reward of working for the Croatian Bureau of Statistics, rather than focusing primarily on pay, would present an opportunity to strengthen morale. Practical improvements such as enabling hybrid working would help. The long-term value of the staff of the Croatian Bureau of Statistics would be enhanced by actively supporting staff in moving between different roles and different sectors to gain experience, and by a systematic approach to training, in a range of hard and soft skills, and in quality management.

To improve beyond compliance with the ES CoP, the peer review team recommends:

***4. The Croatian Bureau of Statistics should develop and implement an active human resources/rewards (motivation) strategy/policy that includes the effective use of existing resources to enable competitiveness in the IT labour market, hybrid working, staff mobility and an active internal training plan that covers quality management and methods. (Improvement-related: ES CoP, Indicators 3.1 and 3.2)***

The staff of the Croatian Bureau of Statistics uses a variety of software applications, including SAS, R and Python. The envisaged move to using the government cloud for data storage carries risks (such as confidentiality protection), as well as opportunities; these risks need to be managed coherently. Moreover, the peer review team felt that the Croatian Bureau of Statistics is not actively engaged in developments in data science or machine learning.

To improve beyond compliance with the ES CoP, the peer review team recommends:

***5. The Croatian Bureau of Statistics should develop an IT strategy that incorporates appropriate hardware and the use of the government cloud to support modern analytical methods and***

**techniques including data science and machine learning. (Improvement-related: ES CoP, Indicator 10.2)**

Using European Social Fund funding, the Croatian Bureau of Statistics is developing a 'system for estimating the cost of statistical processes and products'. This project aims to justify the needs for resources by processes and products and to help use available funds as effectively as possible. The peer review team supports this activity and notes that being able to demonstrate a systematic approach to financial management will help the Croatian Bureau of Statistics to make the case for additional resources. The peer review team also notes the Croatian Bureau of Statistics' intention to complete the project by December 2023.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**6. The Croatian Bureau of Statistics should implement the system for estimating the costs of statistical processes and products that it has been developing and use it to justify the resources needed. (Improvement-related: ES CoP, Indicators 3.3 and 10.1)**

## **II. Making the most of available data**

The Croatian Bureau of Statistics is determined to use administrative data as much as possible. Currently, the Central State Office for the Development of the Digital Society is developing a digital strategy that comprises the implementation of a data lake. This project could lead to a crucial improvement, not only in the access to administrative data but also in increasing the possibilities for data linkage. The national data ecosystem could benefit from the cooperation of both institutions and from the competency of the Croatian Bureau of Statistics but, as a prerequisite, the roles regarding the reuse of data and quality assurance of the Croatian Bureau of Statistics and the Central State Office for the Development of the Digital Society have to be defined.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**7. The Croatian Bureau of Statistics should cooperate more closely with the Central State Office for the Development of the Digital Society in developing and implementing Croatia's digital strategy; this includes creating a common understanding about the respective roles of the Croatian Bureau of Statistics and the Central State Office for the Development of the Digital Society in quality assurance, encouraging the reuse of data from administrative sources and proactively engaging and collaborating closely with the Central State Office for the Development of the Digital Society in the development of a data lake. (Improvement-related: ES CoP, Indicators 8.7, 2.2 and 9.6)**

The Croatian Bureau of Statistics, in cooperation with relevant authorities, has developed a solid legal basis that allows access to a wide variety of administrative databases. The Official Statistics Act even states that the Croatian Bureau of Statistics should have access to all available data sources. Although the share of administrative data used in statistics is high, there is still some room for further expansion. In this regard, a clarification of the statement 'all available sources' seems to be needed. Furthermore, an increased harmonisation of concepts, definitions and classifications across the landscape of administrative data could increase the efficient use of such data for statistical purposes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**8. The Croatian Bureau of Statistics should continue to ensure the harmonisation of concepts, definitions and classifications, and consistency across sources to make them more suitable for statistical purposes. (Improvement-related: ES CoP, Indicators 8.1 and 2.1)**

The use of administrative data is increasing significantly. Nevertheless, the agreements for such use are not published, which means that the Croatian Bureau of Statistics risks being challenged about its use of other bodies' administrative data.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**9. The Croatian Bureau of Statistics should formalise and publish all agreements with administrative data providers to enhance transparency. (Improvement-related: ES CoP, Indicators 8.6 and 15.6)**

The peer review team learnt that the Croatian Bureau of Statistics is currently making an effort to use new data sources. This primarily relates to price statistics, where scanner data testing is underway. Additionally, the use of web scraping techniques resulting from the effective cooperation between subject matter statisticians and the IT department enhances the data collection process. However, some other sources are already used by other countries. A generic strategic approach that considers a broader set of new data sources seems to be lacking.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**10. The Croatian Bureau of Statistics should develop a strategic approach to identify and exploit the statistical potential of new data sources. (Improvement-related: ES CoP, Indicators 10.3, 2.1 and 4.2)**

### III. Improving data quality

In the case of unplanned revisions that may become necessary due to an error, for instance, the Croatian Bureau of Statistics corrects disseminated figures very promptly in all relevant publications and notifies key users about the extent of the revision. However, the peer review team sees a need to encourage follow-up discussions on errors that have occurred, aiming to prevent similar errors in the future. This could be included in guidelines regarding the treatment of errors. Regarding sampling errors, the current practice of the Croatian Bureau of Statistics is to report them only for key indicators, which means that users are not informed about confidence limits for indicators at more granular level.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**11. The Croatian Bureau of Statistics should develop and implement guidelines for the treatment of errors in published statistics and review its dissemination practice for sampling errors. (Improvement-related: ES CoP, Indicators 6.3, 12.2 and 12.3)**

The Croatian Bureau of Statistics has developed comprehensive competencies in building and maintaining statistical registers. In domains relevant to population and social statistics, the fact that there are still no population and dwelling registers creates a situation in which the quality of relevant processes such as sampling, editing or data completion is not as high as it could be.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**12. The relevant authorities, in cooperation with the Croatian Bureau of Statistics, should establish population and dwelling registers to create appropriate preconditions to significantly improve the quality of population and social statistics. (Improvement-related: ES CoP, Indicators 7.3, 2.2 and 4.2).**

As already stated, the Croatian Bureau of Statistics has developed a very comprehensive quality management system based on the Total Quality Management model. Quality reports are available for a certain number of statistical products. The peer review team is of the opinion that by publishing quality reports for all statistical domains, not only would an important milestone in enhancing the

information service for users be reached, but there would also be a solid basis for designing and implementing regular quality reviews. In addition, quality reviews including external expertise have been completely lacking up to now.

To comply with the ES CoP, the peer review team recommends:

**13. The Croatian Bureau of Statistics should draw up quality reports covering all statistical domains and use these as inputs for the planning and implementation of a programme of quality reviews that includes external experts. (Compliance-relevant: ES CoP, Indicators 4.3 and 4.4)**

The organisation of the Croatian Bureau of Statistics comprises a department for Sampling, Statistical Methods and Analyses, which has high competency in methodological areas relevant for official statistics. Besides sampling, these include seasonal adjustment, statistical confidentiality and imputation. Within subject matter departments, methodological experts are in place to support the statistical production process. However, the peer review team was informed that subject matter statisticians are allowed to decide for themselves whether to consult methodological experts for tasks where specialised expertise could be needed.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**14. The Croatian Bureau of Statistics should formulate guidelines to help subject matter statisticians to know when to engage with methodologists. (Improvement-related: ES CoP, Indicators 7.2, 7.1 and 8.3)**

#### **IV. Strengthening user engagement**

Not all other national authorities developing, producing and disseminating European statistics have published a release calendar on their websites. However, they are obliged to respect the deadlines for dissemination specified in the Annual Implementation Plan of Statistical Activities.

The clarity and accessibility of the Annual Implementation Plan of Statistical Activities are not fully ensured. To increase the accessibility of statistics and transparency in dissemination, the release calendar of the other national authorities should be accessible in a more appropriate way for users, e.g., by introducing a system of email alerts for users of statistical series and making it possible to import release dates into users' calendars, etc.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**15. The Croatian Bureau of Statistics should enhance the content and the technical capability of its release calendar. The release dates of statistics produced by other national authorities developing, producing and disseminating European statistics should be visible and easily accessible to users, and the technical functionality of the release calendar should be enhanced by modern features. (Improvement-related: ES CoP, Indicators 6.5 and 13.2)**

The Statistical Council of the Republic of Croatia is a well-established and functioning entity, in which main users are well represented. However, the meetings of the Statistical Council are currently used mainly for scrutinising the Annual Implementation Plan of Statistical Activities and other planning documents. It would be beneficial for the Croatian Bureau of Statistics to tap into the Statistical Council members' potential to support the Croatian Bureau of Statistics in shaping modern approaches to the development, production and dissemination of official statistics as well as improving its engagement for new directions of official statistics.



To improve beyond compliance with the ES CoP, the peer review team recommends:

**16. The Croatian Bureau of Statistics should raise the profile and strategic focus of the Statistical Council to support bids for resources and adopt a more strategic approach to support the Croatian Bureau of Statistics in developing and implementing more innovative approaches to statistics. (Improvement-related: ES CoP, Indicators 1bis.3 and 3.4)**

To maintain the Croatian Bureau of Statistics' position as a relevant data provider that is able to satisfy user needs, further develop the offer of statistics and directly inform users about recent changes in statistics and other developments in the official statistics sphere, the Croatian Bureau of Statistics should be more active towards all categories of user.

The Croatian Bureau of Statistics already has good coverage of user groups, but it could re-activate its functions and consider establishing new groups where needed. Information and Communications Technologies could be used for modern cooperation modes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**17. The Croatian Bureau of Statistics should develop and implement a strategy to engage with potential users of the statistics produced by the Croatian Bureau of Statistics and actively exploit structures that support user engagement. (Improvement-related: ES CoP, Indicators 11.1 and 15.2)**

In addition to improving statistical literacy, engaging users via diverse types of training and providing other educational material has proved to be an effective way of promoting statistics and the Croatian Bureau of Statistics for purposes beyond the correct use of data, such as attracting competent applicants to vacant positions and justifying resource needs.

Despite the Croatian Bureau of Statistics having taken part in several European and national initiatives to improve statistical literacy, there is a demand among users to obtain a better understanding of statistics. The Croatian Bureau of Statistics could increase its offer on statistics literacy enhancement and use its own opportunities to promote the ES CoP.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**18. The Croatian Bureau of Statistics should intensify activities to increase the general statistical literacy of users, particularly for general statistical issues and quality aspects relevant for official statistics. (Improvement-related: ES CoP, Indicators 6.4 and 15.6)**

To fully exploit the use of the data held by the Croatian Bureau of Statistics and maximise valuable research for developing statistics, the use of microdata should be promoted and made as smooth as possible by, for example, streamlining its bureaucracy and providing additional safe rooms.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**19. The Croatian Bureau of Statistics should improve the range of means of accessing microdata, and the user-friendliness of associated processes. (Improvement-related: ES CoP, Indicator 15.4)**

The more contacts and cooperation the Croatian Bureau of Statistics has with the scientific community, the greater the possibilities it would have for getting input for the development of statistics, finding new talent and raising awareness of the strengths and limitations of statistics and the Croatian Bureau of Statistics.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**20. The Croatian Bureau of Statistics should engage more actively with the scientific community to draw on their expertise. (Improvement-related: ES CoP, Indicators 7.7 and 4.4)**

#### **V. Enhancing the compliance of the Other National Authorities developing, producing and disseminating official statistics with the ES CoP**

The Croatian Bureau of Statistics is the main producer, disseminator and coordinator of official statistics and represents the Croatian Statistical System before competent European and international bodies. Regarding the coordination role of the Croatian Bureau of Statistics, all the other national authorities involved in the peer review reported a good climate of cooperation. The peer review team noted a lack of clarity for one of the Other National Authorities involved in the peer review as to whether to count it as a data provider or data producer. The Croatian Bureau of Statistics should, therefore, regularly review the pros and cons of each statistical producer of European statistics to be considered as an other national authority developing, producing and disseminating official statistics.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**21. The Croatian Bureau of Statistics should review and clarify the status of the other national authorities developing, producing and disseminating European statistics. (Improvement-related: ES CoP, Indicator 1bis.1)**

The Croatian Bureau of Statistics is the coordinating body of statistical activities within the Croatian Statistical System. It is responsible for monitoring the implementation of ES CoP principles, drafting national guidelines for the development, production and dissemination of official statistics, and performing other organisational and supervision functions as defined in the Official Statistics Act. The Committee for the Official Statistics System was established as a coordinating body to reinforce the coordination role of the Croatian Bureau of Statistics as regards the other national authorities developing, producing and disseminating official statistics.

However, national guidelines to ensure quality in developing, producing and disseminating European statistics for the Croatian Statistical System have not yet been developed, and the coordination process has not been fully ensured.

To comply with the ES CoP, the peer review team recommends:

**22. The Croatian Bureau of Statistics, in collaboration with the Committee for the Official Statistics System, should formulate and publish national guidelines to ensure quality in the development, production and dissemination of European statistics, applicable to all other national authorities. The implementation of the national guidelines should be monitored and reviewed. (Compliance-relevant: ES CoP, Indicator 1bis.2)**

Implementing national quality guidelines and ensuring systemic monitoring should be formalised by signing agreements between the Croatian Bureau of Statistics and the other national authorities developing, producing and disseminating European statistics. The relevance of such guidelines was also expressed by the other national authorities reviewed that produce a significant part of the European statistics.

To comply with the ES CoP, the peer review team recommends:

**23. The Croatian Bureau of Statistics should formalise agreements with all the other national authorities developing, producing and disseminating European statistics. The agreements should include a commitment to the ES CoP, the implementation and periodic review of national quality guidelines, methodological support and consultations, training and dissemination. (Compliance-relevant: ES CoP, Indicator 1bis.2)**

The Director of the Public Health Division of the Croatian Institute of Public Health has the lead responsibility for ES CoP compliance, supported by other Heads of the Division and a Director for Quality Assurance who chairs the Institute's Quality Committee. The Croatian Institute of Public Health does not yet publish a statistical release calendar. Moreover, there is no user group to engage with Ministries (including Health, Education and Social Welfare), health specialists and non-governmental organisations, and the results of all the bespoke analyses it conducts, in response to the data requests it receives, are not yet published. Implementing these initiatives would support the transparency and relevance of the statistics produced by the Croatian Institute of Public Health.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**24. The Croatian Institute of Public Health should engage with the Croatian Bureau of Statistics to strengthen compliance with the ES CoP, especially relating to aspects of communication with users, such as the release calendar, user groups and publishing customised user requests. (Improvement-related: ES CoP, Indicators 6.5, 11.1 and 15.3)**

Despite having limited resources, the Institute for Environment and Nature successfully developed a sound production system for waste statistics. It enjoys extensive collaboration with the Croatian Bureau of Statistics. Nevertheless, the quality of waste statistics would benefit from giving users a stronger voice regarding their demands. There is currently no specific forum for users to suggest improvements.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**25. The Ministry of Economy and Sustainable Development should develop and implement an approach to user engagement to enhance the relevance and completeness of waste statistics. (Improvement-related: ES CoP, Indicator 11.1)**

The quality of the statistical data in the Ministry of Agriculture is assured through a well-developed data validation system. Data collection, especially in the domain of fishery statistics, makes use of modern tools such as authorised mobile applications for data providers.

However, the peer review team was told that there is currently no quality management system comprising a quality policy and other tools necessary for the completion of quality tasks relevant for the statistical production process. The Ministry could draw on the experience and knowhow of the Croatian Bureau of Statistics, where a comprehensive quality management system is in place.

To comply with the ES CoP, the peer review team recommends:

**26. The Ministry of Agriculture, in cooperation with the Croatian Bureau of Statistics, should establish a quality policy and a quality management system and ensure sufficient resources for statistics-related activities. (Compliance-relevant: ES CoP, Indicators 4.1 and 3.1)**

In the spirit of continuous improvement integral to the European Statistical System (ESS), the NSI will interpret the recommendations, formulated in this report, into improvement actions for implementation within the national statistical system (NSS).

## 2. INTRODUCTION

It is recognised that quality is one of the European Statistical System's (ESS) comparative advantages in a world experiencing a growing trend of instant information and new challenges, driven by exceptional circumstances or the continuous need for faster but quality-assured data. The European Statistics Code of Practice (ES CoP) is the cornerstone of the ESS common quality framework, and the ESS statistical authorities have committed themselves to adhere to it.

In this context, it is crucial for the ESS to be equipped with a review mechanism, the peer reviews, supporting with credible evidence this self-commitment to adhere to the ES CoP. The objective of this review mechanism is to enhance the integrity, professional independence and accountability of the ESS statistical authorities. The first round of peer reviews was carried out in 2006-2008, followed by a second round in 2013-2015.

In 2017, the ES CoP was reviewed and extended and now encompasses 16 principles. This revised version of the ES CoP triggered a third round of peer reviews, being carried out in the Member States of the European Union and of the European Free Trade Association, and Eurostat from 2021 to mid-2023. This round of peer reviews aims at improving the quality and trust in European statistics by assessing the compliance of the ESS with the principles of the revised ES CoP. The peer reviews cover the ESS statistical authorities (Eurostat, the National Statistical Institutes (NSIs) and selected other national statistical authorities (ONAs) developing, producing and disseminating European statistics. The peer reviews will be followed by a period of annual monitoring of the implementation of the improvement actions developed by the NSIs to address the recommendations laid down in the peer review reports.

The third round of peer reviews has the following two objectives:

- To review the compliance/alignment of the ESS with the ES CoP, to demonstrate to the ESS and to external stakeholders that the ESS is a system based on the principles of the ES CoP;
- To help NSIs, ONAs and Eurostat in their further improvement and development by indicating future-oriented recommendations; at the same time, they should stimulate government authorities to support the implementation of these recommendations.

Each peer review is conducted by a team of four statistical experts (both from inside and outside the ESS). The peer review has four phases: completion of the Self-Assessment Questionnaires (SAQs) by a country; analysis of these SAQs by the peer review team; a country visit by the peer review team; and the preparation of the final report and ensuing recommendations by the peer review team. These recommendations are of two types:

- Compliance-relevant (ensuring compliance/alignment with the ES CoP);
- Improvement-related (less critical/technical supporting improvements).

A combination of an audit-like and a peer review approach is used when assessing the NSS in the countries to benefit from the positive aspects of both approaches. The audit-like approach requires the provision of documents as evidence, the ownership of the recommendations by the peer review team, and the right for the NSIs to express diverging views on the recommendations and to formulate the corresponding improvement actions. Whereas the peer review approach allows for common agreement within the ESS on the methodology, the objectives, scope and implementation arrangements, the focus on improvements and a peer learning process.

Although all principles of the ES CoP will be reviewed for all countries through the SAQ, the peer review experts are free to customise the country visit to concentrate on those principles where more clarification/explanation is needed. However, certain principles, such as those concerning professional independence and coordination and cooperation, as well as principles including elements of modernisation, will be assessed during the peer review visit for every member of the ESS.

In addition to the common principles to be followed for each ESS member, the peer review team also put emphasise on the principles of Adequacy of Resources, Impartiality and Objectivity, Cost Effectiveness, Relevance, and Accuracy and Reliability.

The adequacy of funding and the availability of human resources were additional focus areas, considering the opinion expressed by the reviewed statistical bodies in the SAQs concerning the competitiveness of the Croatian Bureau of Statistics and the other national authorities in the labour market when recruiting competent staff, especially IT specialists. The team also clarified the issue of cost estimation and justification of the financial resources needed for new statistics. (ES CoP principle 3, Adequacy of Resources).

In association with resource adequacy, the aspects of freeing up and redistributing resources, simplifying the programming and planning procedures, statistical processes and products, and cost estimation were relevant to the peer review team. The perspectives of resource use monitoring were also clarified. (EU CoP principle 10, cost efficiency).

Furthermore, the peer review team paid particular attention to the accessibility and transparency of the statistics produced by the other national authorities and to improving the statistical literacy of users, as the team felt that user groups could be better trained to understand statistics, including quality aspects. (ES CoP principles 6, Impartiality and Objectivity, and 15, Accessibility and Clarity).

The peer review team also found it essential to discuss the issue of engaging potential statistics user groups and exploiting modern information and communications technology to support this activity, considering the importance of increasing the relevance and usability of official statistics. (ES CoP principle 11, Relevance).

Considering the Croatian Bureau of Statistics' current practice, methodological aspects related to accuracy such as error treatment management and dissemination of sampling errors, as well as the general organisation of methodological work, were treated by the peer review team as significant for review. The team found a need to encourage follow-up discussions on errors, considering users are not sufficiently informed about them. (ES CoP principle 12, Accuracy and Reliability).

In addition, although the reports should not be used to compare one country to another, much effort has been made to ensure the harmonisation of the reports and the ensuing recommendations across the countries so that all countries are treated equitably.

The peer review of Eurostat was conducted by the European Statistical Governance Advisory Board.

### 3. BRIEF DESCRIPTION OF THE NATIONAL STATISTICAL SYSTEM

#### Legislation

Official statistics in the Republic of Croatia are produced by the Croatian Bureau of Statistics (CBS), and other bodies (producers of official statistics – other national authorities developing, producing and disseminating official statistics) authorised to carry out statistical activities pursuant to the [Official Statistics Act](#) (OSA) (Official Gazette No. 25/20) and the 7-year Programme of Statistical Activities of the Republic of Croatia (7-year Programme). To optimise and facilitate the management of the Croatian Statistical System, the Official Statistics Act defines the CBS as the main producer, disseminator and coordinator of the Croatian Statistical System and as the main representative for the European and international statistical authorities.

The OSA defines the conditions for the appointment and dismissal of the Director General, regulates the organisation and coordination of the Croatian Statistical System, the competence and management of the CBS, the development and planning of the implementation of the official statistics activities of the Republic of Croatia, and other matters relevant to official statistics. The OSA applies to the whole Croatian Statistical System and specifies that statistical principles apply equally to all producers of official statistics. Each of them has to ensure the quality of the statistics they produce following national, European and international standards.

*The Act on the Organisation and Scope of the State Administration Bodies* (Official Gazette No. 85/20) establishes ministries and state administration bodies and determines their scope, and the CBS as a state administration organisation.

*The Act on the State Administration System* (Official Gazette No. 66/19) regulates the system of the state administration of the Republic of Croatia (state administration jobs and organisation, cooperation, the funds for the work of the state administration bodies, the issuing of implementing regulations, the officers in the state administration bodies and the appointment of the Heads of the bodies). As a state administration organisation, the CBS is part of the state administration; it independently performs tasks within its competence under the OSA.

#### Organisation

The Croatian Statistical System is a relatively centralised system comprising six official statistics producers. The OSA partly defines the membership of the [CBS](#) and the [Croatian National Bank \(CNB\)](#) in the Croatian Statistical System. The 7-year Programme designates four additional members of the Croatian Statistical System: the Croatian Institute of Public Health, the Ministry of Agriculture, the Ministry of Economy and Sustainable Development and the Ministry of Finance.

The central office of the CBS, with thirteen directorates and departments and the Director General's office, is located in Zagreb. In addition, the CBS has four regional offices and twenty-four sub-units in 27 locations. The regional offices and sub-units are responsible for data collection activities (implementation of surveys, price collection and participation in censuses).

The CNB is responsible for the development, production and dissemination of monetary and financial statistics, international trade in services, Balance of Payments and foreign affiliates statistics as specified in the 7-year Programme. The CNB and the CBS cooperate in developing, producing and disseminating official statistics following the provision of Article 5, paragraph 1 of the Regulation on European Statistics (No 223/2009, as amended). Regarding the area of macroeconomic statistics, the

CBS has written agreements with the Ministry of Finance, the CNB and the former Ministry of Economy, Entrepreneurship and Crafts (today's Ministry of Economy and Sustainable Development).

The [Statistical Council](#) of the Republic of Croatia acts as an expert advisory body. This expert body deals with strategic issues of official statistics and ensures users' influence on official statistics activities. Thirteen members represent the institutional users, the scientific community, business, civil society and media.

### **Appointment procedures for the head of the NSI**

There is a solid legal basis underpinning the professional independence of the CBS in matters relating to the development, production and dissemination of official statistics, and laying down transparent procedures and conditions for the appointment and dismissal of the CBS Director General based on professional criteria. The CBS Director General's appointment and dismissal is regulated by the OSA and the Act on the State Administration System. The Director General of the CBS is a managing civil servant appointed for five years by the Government of the Republic of Croatia upon a proposal by the Prime Minister, based on a public tender. The status of 'managing civil servant' reflects the fact that the appointment and dismissal procedures of the Director General are subject to the Regulation on European Statistics (No 223/2009, as amended). The conditions for the appointment of the Director General are specified in Article 15 of the OSA. These conditions include having completed graduate university studies in the relevant fields, five years' professional experience in a relevant position and profession, professional competencies and prominent results in managing and governing activities in the area relevant to the work of a government body.

Article 17 of the OSA clearly states that the Director General is professionally independent in the performance of his/her tasks and has the right to make public statements on statistical issues.

The decision on the appointment of the current Director General of the CBS is published in Croatian Official Gazette No 5/21.

As for the reasons for the dismissal of the Director General, the conditions for dismissal are regulated in Article 16 of the OSA.

### **Statistical programmes**

The starting point for preparing the statistical programmes and plans is the 10-year Strategy for the Development of Official Statistics (the current Strategy covers the period 2021 – 2030) (Paragraph 2 of Article 30 of the OSA).

The CBS has developed the following work programmes and plans:

- The Programme of Statistical Activities of the Republic of Croatia 2021 – 2027 (7-year Programme) is a medium-term act on strategic planning prepared following the OSA, which determines the statistical activities for a multi-annual period under the obligations arising from the Republic of Croatia's membership in the European Union and from national needs. The specific nature of this 7-year Programme is that it is aligned with the planning cycle of the ESS, which is why it was adopted for the same period determined in the European Statistical Programme. The 7-year Programme is important for defining the other producers of official statistics constituting the Croatian Statistical System together with those defined in the OSA, namely the CBS and the CNB. To prepare the draft proposal of the 7-year Programme, the other producers of official statistics submit their proposals for statistical activities within their scope of work.



- According to the OSA, the Annual Implementation Plan of Statistical Activities is a short-term planning act set up for each year. It provides a more detailed overview of all activities planned for the coming year. The Annual Implementation Plan of Statistical Activities defines the name of the official statistics, activities, responsible producers of official statistics, reporting units, periodicity of surveys, deadlines for the transmission or collection of data, indicative deadlines for the publication of results, the level of publication of results, relevant standards and, where appropriate, other characteristics of official statistics activities.

The 7-year Programme, the Annual Implementation Plan of Statistical Activities and the Report on the implementation of the latter have to be adopted by the Croatian Parliament and published.

- In addition, the CBS has also adopted the CBS Implementation Programme for the period 2021-2024, in accordance with the Strategic Planning and Development Management System of the Republic of Croatia Act (Official Gazette, No 123/17). The Implementing Programme is a strategic planning act based on hierarchically higher strategic planning acts (the Strategy) and the Programme of the Government of the Republic of Croatia and is valid for the duration of the Government's mandate.

## Resources

The total funds of the CBS financial plan for 2022 were EUR 15.551 million, of which:

- expenditure financed by revenues from the State budget consisted of EUR 14.844 million (95.5%),
- costs financed by EU funds such as EU aid, the European Social Fund and other refunds, EUR 0.688 million (4.4%), and
- expenditures financed from own revenues, EUR 0.019 million (0.1%).

A significant increase in the total funds of the financial plan implemented by the CBS was achieved in 2021, amounting to EUR 20.782 million, 14.1% more than expenditure in 2020. This increase was due to the implementation of the 2021 Census of Population, Households and Dwellings in the Republic of Croatia. The budget projection for 2023 is EUR 16.019 million, and EUR 15.462 million for 2024.

As of 1 March 2023, the CBS employed 495 members of staff, while the number of posts was 669. Most employees are hired on a full-time basis. The average employee age is 48 years and 74% are women. 74% of staff have a high level of education. Additionally, the CBS hires employees on a contract basis for field interviews (currently, 116 interviewers are contracted for data collection in households and price collection, and a further approx. 190 interviewers for data collection in business statistics).

The CBS and the reviewed ONAs face a particular challenge to employ highly skilled staff, especially IT staff, due to the lower competitiveness of the statistical bodies in the labour market.

## Coordination of the National Statistical System

According to the OSA, the CBS is the coordinator of the Croatian Statistical System. The CBS coordinates the preparation of draft proposals of the 10-year Strategy for the Development of Official Statistics, the 7-year Programme of Statistical Activities, the Annual Implementation Plans of Statistical Activities and the Report on its Implementation.

To strengthen coordination and ensure the efficiency, quality of production and dissemination of official statistics, in 2021 the CBS established the Committee for the Official Statistics System of the Republic of Croatia (the Committee). The Director General of the CBS chairs the Committee, which



consists of representatives of all the members of the Croatian Statistical System. The committee plays an important role in encouraging and monitoring the implementation of the ES CoP by the ONAs. The Committee was also involved in the discussion and decision on the selection of the ONAs participating in the peer review.

### **ONAs participating in the peer review**

**The Croatian Institute of Public Health (CIPH)**, as an official statistical authority, has a clear legal mandate to collect data for European statistical purposes. The CIPH is the legally responsible producer of official statistics on health and safety, mainly developing, producing and disseminating health resources and expenditure statistics, safety at work statistics and statistics on deaths. The CIPH does not have a central statistical unit, so statistical activities are carried out in several divisions, with the Division of Public Health, by a decision of the Directorate CIPH, as the coordinator for implementing these statistics. In 2022, the number of employees at CIPH dedicated to research and statistics reached a total of 119. The CIPH collects a large part of the data electronically, and statistical releases, such as the Health Statistical Yearbook and several other publications, are published regularly, once a year. The CIPH proved to be a reliable partner in data management during the COVID-19 crisis.

**The Ministry of Agriculture** is responsible for providing fisheries statistics and statistics on aquaculture. Two directorates are responsible for performing statistical activities: the Directorate of Fisheries (MADF), and the Directorate for Agricultural Policy, EU and International Cooperation, which includes the Department of Farm Accountancy Data Network (FADN) responsible for farm accountancy data. In 2021, 10 employees performed statistical functions. The collection of statistical data in the MADF is determined by legal acts (the OSA, Law on Marine Fisheries, Law on Aquaculture and Law on Freshwater Fisheries) and the 7-year Programme of Statistical Activities of the Republic of Croatia. For fisheries, the MADF has introduced electronic data collection, which now covers more than 90% of the total catch. The FADN data are submitted within the stipulated deadlines to the European Commission as defined in the EU regulations. The dates for the publication of statistical information on fisheries are planned through the Annual Implementation Plan of Statistical Activities. Press releases and publications of data submitted to the European Commission on fisheries and aquaculture are available on the CBS website.

**The Ministry of Economy and Sustainable Development (MESD)** is responsible for statistics on waste. The responsibilities for preparing and submitting the data according to the waste statistics regulation were transferred from the CBS to the MESD in 2012 by an agreement between the two institutions, and they operate in accordance with the OSA and the requirements of EU waste legislation and under the coordination of CBS. The MESD has no separate statistical division and operates under very limited resources. Two employees are responsible for waste statistics, with an annual budget of EUR 42.100 in 2022.

### **Data access**

According to the OSA, holders of administrative data and data collected from businesses and households using the observation and monitoring method, regardless of their legal and organisational form, should make the data available free of charge upon a request by the producers of official statistics. The producers of official statistics have the right to collect and merge data, including spatial, from all available sources when performing official statistics activities, according to the OSA. The OSA defines the rights of producers of official statistics to access administrative data, and adjust and estimate data for official statistics purposes. The holders of administrative data are also obliged to inform the CBS and the other national authorities before introducing, modifying or terminating any administrative data source, and to submit metadata, as set out in the Annual Implementation Plan of Statistical Activities.

Nevertheless, the greater use of administrative data is hindered by insufficient interoperability and inconsistency of administrative data regarding concepts, definitions and classifications, as well as the lack of an administrative register of buildings and dwellings and, to date, a population register.

Access to other sources is currently being set up, and the CBS may have access to privately held data on a voluntary basis by contracting an agreement with the private data holders.

### **Relations with users / dissemination of statistical products and services**

According to the CBS Dissemination Policy, the main CBS communication channel is the CBS website ([Dissemination](#)), facilitating access to all data releases and offering possibilities for downloading statistical visualisations using modern technologies. This webpage is aligned with other state administration bodies in terms of access. The main dissemination channels are media publishing statistics, email, social networks, telephone contact and the CBS library.

When publishing statistical data through these communication channels, it is clearly indicated that they are official statistics prepared, collected, produced and disseminated by the CBS. The CBS has a distinctive visual identity, the mandatory use of which is clearly defined in the Book of Graphic Standards.

Statistical data made available to users for the first time are published in accordance with the Annual Implementation Plan of Statistical Activities and the plan specified in the Calendar of Statistical Data Issues (Calendar). The data are available on the CBS website at 11 a.m. sharp on a certain day. Statistical data must be available to all users in the same way and at the same time. Users do not have the right to access statistical data before they are officially published.

On the CBS website, a catalogue of statistical data publishing media for the entire year is available in advance. At the written request of the users, the CBS may provide services of statistical data processing using available data. Costs are charged for such services, and the price list is publicly available. For simple inquiries, data are prepared and delivered free of charge.

The CBS provides access to confidential data for the scientific community and researchers based on special conditions and rules in accordance with the provisions of the Ordinance on Conditions and Terms of Access and Use of Confidential Statistical Data of the CBS for Scientific Purposes. A contract must be signed between the CBS and the research entity only. Access to confidential data may be granted in the 'safe room', on removable media or remotely.

Relevant concepts, definitions, legislation and methodologies are set out in quality reports, which are available on the CBS website ([Quality reports by statistical domains](#)).

## **4. PROGRESS/ADVANCEMENT IN THE LAST FIVE YEARS**

### **Strengthened institutional environment**

The most important achievement for the Croatian Statistical System in recent years has been the strengthening of the institutional environment with the new Official Statistics Act (OSA), which entered into force in March 2020. It is a modern statistical law, on a par with the laws in other member countries of the European Statistical System. It contains provisions to improve the implementation of statistical principles on the institutional environment. Its provisions ensure the professional independence of the CBS, with particular regard to the appointment and dismissal, as well as the rights and obligations, of the Director General of the CBS. The OSA provides for improvements in the coordination and cooperation role of the CBS within the Croatian Statistical System and regarding access to administrative data. The OSA strengthens the CBS' Commitment on Quality by emphasising that the statistical principles and quality criteria laid down in the Regulation on European Statistics (No 223/2009, as amended) apply to the development, production and dissemination of official statistics in Croatia.

The CBS has invested in a well-developed quality policy. Following the recommendations and improvement actions implemented after the peer review in 2015, the CBS has created a centralised 'Quality Management and Methods' unit. The creation of such a unit has allowed the CBS to establish a strong quality policy, based on Total Quality Management and the Generic Statistical Business Process Model. To support its work on statistical quality, the CBS has developed its own quality management tool called POMI. The POMI database and application provide an exhaustive list of quality information and it is the key tool for quality assessment, quality documentation and quality reporting of the CBS' surveys. It utilises ESS standards for reference metadata and quality reports (ESMS, ESQRS and SIMS). The functionalities of the POMI quality database are actively used to improve and monitor the quality of statistical surveys. A further benefit of the system is that it collects documentation of all statistical processes in a centralised database. The CBS plans to utilise the system further to estimate the costs of statistical processes and products.

The CBS has an up-to-date IT infrastructure and has developed adequate physical and software data protection measures following the Information Security Policy and the business needs of the CBS. To protect and preserve the privacy of personal information, the CBS has put in place security controls, which are implemented as part of the information security management system. The CBS provides standard statistical programmes for statistical production: SAS, STATA, R and SPSS.

### **Committed to burden reduction and improving statistical processes**

Over the last 5 years, the CBS has made considerable progress in the use of administrative data to reduce respondent burden and data collection costs. The CBS has actively moved away from paper questionnaires, conducting computer-assisted surveys and developing web questionnaires instead. Moreover, the CBS has integrated the management and development system for web questionnaires and their testing into their POMI tool.

### **Improved access to statistical output**

As a result of the CBS' website project, the visual and graphical presentation of official statistics has improved considerably. In April 2022, the CBS launched its fully revamped website, which has a modern look and feel, and has been a major step in improving the accessibility of CBS data. The website enables simple and quick access to statistical data. The implementation of new and modernised drafting and publishing procedures were established with this project, and the data commentaries in the first releases were reviewed and made more user-friendly. The CBS has, furthermore, enriched its website

with digital publications, databases, quality reports and methodological information, as well as important policy documents on matters such as quality, revisions and confidentiality. The CBS also provides secure access to microdata for research entities following well-established procedures and conditions that can be found on the CBS website.

## **5. COMPLIANCE WITH THE CODE OF PRACTICE AND FUTURE ORIENTATION**

### **5.1 STRENGTHS OF THE NSI AND THE PARTICIPATING ONAs IN RELATION TO THEIR COMPLIANCE WITH THE CODE OF PRACTICE**

#### **A modern statistical law referring to principles of the European statistics Code of Practice**

The Republic of Croatia has established a modern and solid statistical law that takes into account the principles of the ES CoP. This can be seen as a model for other statistical systems when revising or developing a new statistical law intended to reflect the principles of the ES CoP. By emphasising the ES CoP, the Official Statistics Act enables the CBS to strengthen its commitment to the principles internally and to support the coordination function within the Croatian Statistical System. Further positive features of the OSA are clear provisions for the appointment and dismissal of the Director General of the CBS and a strong mandate to access administrative data. (ES CoP principles 1 and 2)

#### **A Committee for the Official Statistics System**

The CBS strives for continuous improvement of the coordination of the Croatian Statistical System and realised the need of intensifying the cooperation with the other national authorities developing, producing and disseminating official statistics. Consequently, a Committee for the Official Statistics System was established. The Committee's mandate includes important issues for the Croatian Statistical System such as increasing the efficiency of statistical production, ensuring the quality of statistical products and setting dissemination standards for official statistics. The ES CoP was a fundamental, guiding reference in the decision to establish the Committee and the fact that it is chaired by the Director General of the CBS underlines the high level character of the Committee. (ES CoP principle 1bis)

#### **A 10-year Development Strategy for Official Statistics of the Republic of Croatia covering 2021-2030**

The CBS has developed a long-term strategy containing a wide variety of elements and topics relevant to innovation and progress in the Croatian Statistical System. These include specific strategic goals that can be monitored in accordance with clearly defined indicators. The main objectives relate to the strengthening of the Croatian Statistical System, cooperation with the ESS, process innovation and quality. Each objective is underlined by several concrete operational measures augmented by well-defined target-oriented indicators. Annual reports are drawn up on the progress of the strategy, which is partly embedded in an interlinked system of strategies, programmes and plans. (ES CoP indicator 1.5)

#### **Reactivity and resilience in crisis situations**

The Croatian Statistical System has proved to be a reliable partner for providing statistical information in crisis situations. During the COVID-19 pandemic, the CBS introduced a separate COVID-19 section on its website to show the impact of the pandemic on socio-economic indicators in the Republic of Croatia, as well as the consequences of the crisis on the entire economy. This section does not only provide figures but also interactive visual elements. The resilience to crisis situations was also proven with the continued production of statistics even under difficult conditions after the earthquake that hit Croatia in 2020. (ES CoP principle 11)

### **Modernisation of data collection**

Over the past few years, the CBS and the ONAs have continuously modernised their data collection processes. The introduction of a web-based data collection platform significantly reduced the administrative burden of respondents. The transmission of survey data using mobile devices is another measure that underlines the drive to avoid traditional data collection as much as possible. The CBS departments are continuously working on quality improvements with the holders of administrative data to facilitate their use for various statistical purposes and reduce the costs of producing statistics. (ES CoP indicator 9.3)

### **A comprehensive quality management system**

The CBS has established a strong and well-functioning quality management system. It is based on Total Quality Management and all its elements are mapped in adequate measures and procedures. A powerful database and application tool (POMI) was developed, which holds information for the quality assessment, quality documentation and quality reporting of the CBS surveys defined by the Annual Implementation Plan of Statistical Activities. The reporting is based on ESS standards such as ESMS, ESQRS and SIMS. Quality management is well known in the organisation and the approach to quality is very effective in achieving high quality for statistical processes and products. This leads to user satisfaction with statistical data, reduction of the response burden, effective statistical processes and vocational guidance of staff. (ES CoP principle 4)

### **Strong cohesion of quality management and methods**

Quality Management and the Methods unit have a regular and continuous exchange and jointly develop elements for the quality management system. Through this intense collaboration, the common view on issues not only leads to the mutual enrichment of both units but also to significant impacts for the organisation as a whole. (ES CoP principles 4, 7 and 8)

### **A modern and user-friendly website**

The CBS has launched a new web page facilitating access to all data releases and offering possibilities to download statistical visualisations. This webpage now has a very modern look and feel and is aligned with other state administration bodies in terms of access and organisation of content, which is located on the Central State Portal. A special subsection of the webpage (Statistics in-line) allows tables and graphics to be downloaded in a very user-friendly manner. (ES CoP principle 15)

### **High awareness of the European statistics Code of Practices by other national statistical authorities**

From the material prepared and from the experience during the visit the peer review team was able to deduce that the other national authorities developing, producing and disseminating European statistics are well aware of the principles of the ES CoP. The importance of full compliance with the ES CoP is well understood, many of the ONAs' measures and activities are guided by the coordination of the CBS and there is a strong drive to bring any shortcomings in line with the ES CoP. (ES CoP principle 1bis.1)

### **The Croatian Institute of Public Health as a highly reliable data provider**

The Croatian Institute of Public Health proved to be a provider of highly reliable statistics during the COVID-19 pandemic. By accelerating a monthly reporting system to daily frequency, it successfully provided adequate reactions to emerging data demands. In collaboration with the CBS, the Croatian

Institute of Public Health was able to establish efficient data management to guarantee consistent and timely statistics during the pandemic. (ES CoP principle 13.5)

### **An efficient automated data management system in the Ministry for Economy and Sustainable Development**

The Ministry for Economy and Sustainable Development set up a system to check the accuracy of the data input from companies on the waste they produce. This input is used for further processing and allows the relevant statistics in the waste sector to be produced in an automated and effective way. Although the MESD has limited resources, it produces high-quality statistical products. (ES CoP principle 10)

### **A modern data collection system for fishery statistics in the Ministry of Agriculture**

The Ministry of Agriculture has successfully moved data collection in the fishery statistics sector from traditional data collection to electronic formats, encompassing almost 95% of the total catch, and an electronic system is planned for all fleet segments except small coastal fisheries, comprising 3,500 small vessels. The respondent burden has consequently been reduced and the speed of the data production process has been increased. There are also plans to extend the modernisation to all reporting units relevant to agricultural statistics. In addition, the Ministry of Agriculture has a high-level technical infrastructure. (ES CoP principles 9 and 10)

### **Innovative practices**

**No privileged data access.** The CBS underlines its commitment to equal access, anchored in ES CoP indicator 6.7, by not granting privileged access to any institution or organisation in Croatia. Even institutions that have a cooperation agreement do not receive statistical results before the official release date.

**Agreement between the CBS and the Faculty of Economics and Business in Rijeka.** The Director General of the CBS and the Dean of the Faculty of Economics and Business in Rijeka signed an Agreement on Scientific and Development Cooperation on 8 November 2022. This agreement represents a significant step forward in the cooperation between state administration bodies and educational institutions, which will further contribute to the quality implementation of scientific and research projects.

**Database application POMI.** By developing a central platform holding direct information on quality indicators and reference metadata on quality, the CBS has created a tool that will allow, among other things, the production of quality reports based on European Standards. One of the application's major assets is that information taken once can be used for multiple purposes.

**Media monitoring.** The CBS has implemented continuous media monitoring to observe the public appearance of data releases. This also helps detect the possible misuse of data and allows a rapid reaction to public criticism.

**Modernised publishing and drafting procedures.** There are well-defined processes to ensure the quality of the statistical information released on the webpage. Those processes make use of a modern content management system which enables statistical departments to enter texts and data for tables and graphs directly.



## 5.2 ISSUES AND RECOMMENDATIONS

### 5.2.1 Stimulating innovation, efficiency and effectiveness

The groups of stakeholders that the peer review team met talked positively about the professionalism of the staff of the Croatian Bureau of Statistics (CBS), its professional independence and impartiality. In addition, CBS staff have taken steps to explore the statistical potential of some new sources of data, such as scanner data to supplement traditional price collection, and are working increasingly closely with the Central State Office for the Development of the Digital Society on the statistical aspects of the development of a 'data lake', as part of the "Digital Croatia" initiative. Staff are also using an EU grant to web scrape real estate rental price data.

These initiatives are consistent with the CBS vision of producing 'relevant, modern and innovative statistics that credibly show the state of social and economic phenomena'.

Nevertheless, the peer review team felt that the CBS' ambitions are carefully controlled and somewhat limited. By way of example, the CBS is trying to improve business registers before exploring the statistical potential of satellite data, and is awaiting legal developments in European statistics before investing time in wholeheartedly exploring the potential of privately held data sources. One argument for this 'controlled ambition' is that resources are limited, and although this is inevitably the case, the peer review team considers that some exploration of innovative statistical developments could be relatively light in terms of resources and might actually help to make the case for additional resources; the peer review team was surprised that 'data science' was not mentioned during the visit.

The peer review team formed an overall view that the CBS is only the sum of its parts and could do more to align its corporate mindset with the need to be innovative in its statistical work, and that there is scope for a stronger horizontal approach towards implementing its vision. For example, when there are technical or methodological developments or innovations, the CBS management could celebrate these with all its staff as demonstrations of the implementation of its vision, and as a means to encourage others to innovate - with the idea that 'success breeds success' and to reinforce morale.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R1. The Croatian Bureau of Statistics should develop a more proactive culture, emphasising innovation, and presenting and celebrating success. (Improvement-related: ES CoP, Indicators 3.1, 10.3 and 7.1)**

The CBS' (four) regional offices and (24) sub-units are responsible for data collection in their local areas – interviewing, price collection, and assisting with the census - and for submitting the data to the headquarters for processing; they do not have administrative functions. While this is a traditional structure, it feels somewhat old-fashioned in an era in which data collection and initial processing are increasingly digital and do not require a local connection. The peer review team considers the taking up the responsibility for official statistics activities from the administrative body of the City of Zagreb, which was previously authorised to undertake official statistics activities, as a good example of streamlining and making efficiency savings.

The CBS has invested in a sophisticated quality management system - referred to as POMI - based on the principles of Total Quality Management. This is under the auspices of a 'Project System for Quality Management and Documentation of Quality of Statistical Surveys', funded by a European Structural Funds grant. POMI is used for quality assessment, quality documentation and quality reporting of CBS surveys and, as such, brings together information about quality indicators and a range of other information about the CBS' surveys. The peer review team understands that the new Cost



Management System - also financed by European Structural Funds - being developed by the CBS, which will provide the costs for each statistical product and process to help the CBS allocate resources and improve managerial decision-making, will be incorporated into POMI.

However, while the peer review team agrees that POMI is a useful system for capturing information - about quality indicators and, in the future, about costs - and hence to enable central monitoring, it was not convinced that POMI is well positioned as a driver of quality improvements or efficiency savings.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R2. The Croatian Bureau of Statistics should review and optimise its organisational structure to streamline the collection, production, and dissemination of official statistics, as part of the initiatives to increase its cost effectiveness (reallocating any resource savings), and to ensure that tangible improvements to statistics and efficiency savings are derived from the quality management system. (Improvement-related: ES CoP, Indicators 10.4 and 4.1)**

The Croatian Statistical System has an elaborate system of programming and planning with the following key elements:

- A 10-year Development Strategy. The current Development Strategy covers the period 2021-2030. Article 29 of the Official Statistics Act states that the Strategy should be 'based on the relevant regulations of the Republic of Croatia and the European Union, as well as [relevant] international regulations. The Strategy sets out the priorities for the development of the Croatian Statistical System, indicating the direction in which official statistics should be developed. It recognises the development needs and potential of the Croatian Statistical System, establishes performance indicators and targets, and aligns resources with goals.
- A 7-year Programme of Statistical Activities. The current Programme covers the period 2021-2027 and is aligned with European plans and developments. Article 30 of the Official Statistics Act states that the Draft Proposal for the Programme should be prepared by the CBS in collaboration with other producers of official statistics - timescales are set out in Article 32 - and the opinion of the Council should be sought; Article 31 says that it should be adopted by Parliament. Article 33 requires the Programme to contain 'priority areas and activities that the official statistics system should cover ... an overview of the development goals of official statistics by areas, the names of responsible producers of official statistics, as well as the basic purpose and the main users of statistical data'.
- Annual Implementation Plans of Statistical Activities. These are based on Article 34 of the Official Statistics Act. The Draft Proposal for the Annual Implementation Plan for each year is prepared by the CBS in cooperation with other statistics producers, submitted to the Council for its opinion and then submitted to government prior to adoption by Parliament. Article 35 sets out the schedule for each of these stages in the process, while Article 36 stipulates the content of the Annual Implementation Plans. Contributions to the Plan are made via an app to which all involved in planning have access, so once all the information has been put into the app, the CBS can readily extract the document.
- Reports on the Execution of the Annual Implementation Plan. These set out progress against each year's Annual Implementation Plan. Other producers of official statistics report on the implementation of their statistical activity in the previous year to the CBS by 28 February (Article 38); the CBS then produces a draft proposal of the Report on the Execution of the Annual Implementation Plan (Article 37), seeks the Council's opinion and then submits it to Parliament for adoption.

- Annual reports on the implementation of the 2021-2030 Development Strategy – these have been introduced recently.

In addition, the CBS has a 4-year Implementation Programme, the latest covering the period 2021-2024. This is a requirement of non-statistical legislation, namely the Strategic Planning and Development Management System of the Republic of Croatia Act (Official Gazette No 123/17) and applies across the public sector in Croatia. It is based on the government's 2020-2024 Programme and is valid for the duration of the government's mandate.

The peer review team commends the overall commitment to long-, medium- and short-term planning and recognises that the different plans ostensibly have different purposes and that there is a legal basis for this programming and planning regime. However, the team considers that the current approach to programming and planning gives the impression that the CBS is unnecessarily bureaucratic. The peer review team also thinks that the current approach could be simplified to provide clarity, reduce overlap and reduce the resources involved in planning activities, particularly because most statistics produced by the CBS are in line with EU requirements, and so there is relatively little statistical activity for national purposes alone and relatively minor changes between years.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R3. The Croatian Bureau of Statistics should streamline its programming and planning arrangements to enhance cost-effectiveness. (Improvement-related: ES CoP, Indicators 1.5 and 11.2)**

Many stakeholders commented that the CBS had insufficient resources to fulfil its potential - it has a substantial proportion (approximately 25%) of vacant posts - that salary levels are low and that it is hard to recruit and retain IT experts who can earn significantly more in the private sector. A proposed new law relating to civil servants' salaries may address this issue.

The peer review team notes that for each recruitment the CBS has to ask for approval from the Ministry of Justice and Public Administration before it can issue a tender.

At the same time, the peer review team understands that the CBS is successful in delivering against its short-term plans, noting that this reflects many staff having heavy workloads but feels that, were the CBS to be fully resourced, it could focus more on longer-term development and innovation.

The peer review team considers that an emphasis on the overall reward of working for the CBS, rather than focusing primarily on pay, might help allay concerns about issues such as heavy workloads and support the development of the CBS' capacity and capability. Practical improvements that seem relevant include enabling hybrid working. Introduced during the lockdowns as a response to the COVID-19 pandemic, CBS staff worked remotely whereas they are now expected to work in the office. Hybrid working – a balance of remote and office working, to meet the needs of business areas – would likely prove popular with staff as it provides flexibility. Another practical improvement could consist of actively supporting staff in moving between different roles and different sectors to gain experience as this would enhance the long-term value of the staff. Currently job mobility appears to be relatively low. Finally, a systematic approach to training, in a range of hard and soft skills, and in quality management could be another improvement. Training has been in abeyance over the last few years because of the COVID-19 pandemic and workloads, but the peer review team would encourage investment in the development and delivery of an ambitious, well-rounded training programme.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R4. The Croatian Bureau of Statistics should develop and implement an active human resources/rewards (motivation) strategy/policy that includes the effective use of existing resources**

**to enable competitiveness in the IT labour market, hybrid working, staff mobility and an active internal training plan that covers quality management and methods. (Improvement-related: ES CoP, Indicators 3.1 and 3.2)**

The CBS staff uses a variety of software applications, including SAS (which is being replaced by SQL), R and Python, and bespoke software for most of its surveys produced using the Integrated Statistical Information System. All members of staff needing a laptop have one at their disposal and portable notebooks are used for fieldwork. However, the peer review team felt that the CBS is not actively engaged in developments in data science or machine learning.

The CBS has a range of physical and virtual servers. The envisaged move towards using the government cloud - as part of the Digital Croatia initiative – presents opportunities (such as mitigating the need to invest in an IT infrastructure – hardware, computing resources and applications – and hence reducing costs), but also involves risks (such as confidentiality protection); these risks need to be managed coherently. This activity should be aligned with the CBS' ambition to introduce an integrated IT system to cover all data collection and processing requirements.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R5. The Croatian Bureau of Statistics should develop an IT strategy that incorporates appropriate hardware and the use of the government cloud to support modern analytical methods and techniques including data science and machine learning. (Improvement-related: ES CoP, Indicator 10.2)**

Strategic goal 2.1 of the 10-year Development Strategy for the period 2021-2030 is about the 'modernisation and improvement' of statistical processes; for the CBS this includes 'establishing systematic monitoring of resource use within the [statistical] system'. Using European Social Fund financing, the CBS is developing a 'system for estimating the cost of statistical processes and products'. This project aims to justify the needs for resources by processes and products and to use available funds as effectively as possible. The new Cost Management System will also improve managerial decision-making; this will be incorporated into the quality management system and will then have the potential to drive quality improvements and identify the scope for efficiency savings.

The peer review team supports this activity, and notes that being able to demonstrate a systematic approach to financial management will help the CBS to make the case for additional resources. The peer review team also notes the CBS' intention to complete the project by December 2023.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R6. The Croatian Bureau of Statistics should implement the system for estimating the costs of statistical processes and products that it has been developing and use it to justify the resources needed. (Improvement-related: ES CoP, Indicators 3.3 and 10.1)**

## **5.2.2 Making the most of available data**

The CBS is determined to use administrative data as much as possible. This is well supported by a solid legal basis. The Central State Office for the Development of the Digital Society (CSOD) is responsible for the development and implementation of a digital strategy that comprises the implementation of a data lake. This project could lead to a crucial improvement, not only in the access to administrative data but also in increasing the possibilities for data linkage. The national data ecosystem could benefit from the cooperation of both institutions and from the competency of the CBS but, as a prerequisite,

the roles regarding the reuse of data and quality assurance of the CBS and the CSOD have to be clarified.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R7. The Croatian Bureau of Statistics should cooperate more closely with the Central State Office for the Development of the Digital Society in developing and implementing Croatia's digital strategy; this includes creating a common understanding about the respective roles of the Croatian Bureau of Statistics and the Central State Office for the Development of the Digital Society in quality assurance, encouraging the reuse of data from administrative sources and proactively engaging and collaborating closely with the Central State Office for the Development of the Digital Society in the development of a data lake. (Improvement-related: ES CoP, Indicators 8.7, 2.2 and 9.6)**

The CBS, in cooperation with relevant authorities, has developed a solid legal basis that allows access to a wide variety of administrative databases. The OSA even states that the CBS should have access to all available data sources. Although the share of administrative data in producing statistics is high, there is still some room for further expansion. The peer review team learnt that the Croatian administrative data infrastructure lacks comprehensiveness and interconnectivity, which is a prerequisite for its optimal and holistic utilisation for the purpose of producing official statistics. An increased harmonisation of concepts, definitions and classifications across the landscape of administrative data could contribute to a more efficient use of such data for statistical purposes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R8. The Croatian Bureau of Statistics should continue to ensure the harmonisation of concepts, definitions and classifications, and consistency across sources to make them more suitable for statistical purposes. (Improvement-related: ES CoP, Indicators 8.1 and 2.1)**

The OSA enables the CBS to access a great deal of administrative data and the peer review team was impressed to see that the collaboration, which is based on formal agreements, was considered excellent by the administrative data providers. The agreements contain useful meta information, such as a catalogue of variables included in data delivery, yet they are not published. By publishing the agreements, the CBS would provide transparent information about the statistical purposes and the modalities – including aspects on data confidentiality – for users and the interested public. The fact that this information is not available carries a risk that the CBS might be challenged about its use of other bodies' administrative data.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R9. The Croatian Bureau of Statistics should formalise and publish all agreements with administrative data providers to enhance transparency. (Improvement-related: ES CoP, Indicators 8.6 and 15.6)**

The peer review team learnt that the CBS is currently making an effort to use new data sources. This relates particularly to price statistics, where scanner data testing is currently underway. Additionally, the data collection process is enhanced using web scraping techniques, reflecting the effective cooperation between subject matter statisticians and experts in the IT department. However, as various examples from other National Statistical Institutes show, there are many sources where experiments could lead to promising results for official statistics (for instance, mobile phone data or earth observation data). Given this high potential currently not used by the Croatian Statistical System, the peer review team feels that it would be useful for the CBS to have a strategic approach in place that would take into account a broader set of new data sources.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R10. The Croatian Bureau of Statistics should develop a strategic approach to identify and exploit the statistical potential of new data sources. (Improvement-related: ES CoP, Indicators 10.3, 2.1 and 4.2)**

### 5.2.3 Improving data quality

In the case of unplanned revisions that may become necessary due to an error, the CBS corrects disseminated figures very promptly in all relevant publications and notifies key users about the extent of the revision. However, the peer review team sees a need to encourage follow-up discussions on errors that have occurred, aiming to prevent similar errors in the future. This could be included in guidelines regarding the treatment of errors. Regarding sampling errors, the current practice of the CBS is to report them only for key indicators, which means that users are not informed about confidence limits for indicators at more granular level.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R11. The Croatian Bureau of Statistics should develop and implement guidelines for the treatment of errors in published statistics and review its dissemination practice for sampling errors. (Improvement-related: ES CoP, Indicators 6.3, 12.2 and 12.3)**

The CBS has developed comprehensive competencies in building and maintaining statistical registers and the OSA allows access to registers that are maintained by other institutions. Nevertheless, the peer review team was informed that there are significant gaps in the national data ecosystem in domains relevant to population and social statistics. The fact that there are still no population and dwelling registers creates a situation in which the quality of relevant processes such as sampling, editing or data completion is not as high as it could be.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R12. The relevant authorities, in cooperation with the Croatian Bureau of Statistics, should establish population and dwelling registers to create appropriate preconditions to significantly improve the quality of population and social statistics. (Improvement-related: ES CoP, Indicators 7.3, 2.2 and 4.2)**

The CBS has developed a very comprehensive quality management system based on the Total Quality Management model. Quality reports are available for a certain number of statistical products. The peer review team is of the opinion that by publishing quality reports for all statistical domains, not only would an important milestone in enhancing the information service for users be reached, but a solid basis for designing and implementing regular quality reviews would also be created. Such reviews, which should include external expertise, have been completely lacking up to now. Regular quality reviews where external experts are involved are an essential tool to get a broader and unbiased picture of possible gaps and deficiencies for statistical products. The peer review team was informed that there is currently no concrete plan for such reviews.

To comply with the ES CoP, the peer review team recommends:

**R13. The Croatian Bureau of Statistics should draw up quality reports covering all statistical domains and use these as inputs for the planning and implementation of a programme of quality reviews that includes external experts. (Compliance-relevant: ES CoP, Indicators 4.3 and 4.4)**

The organisation of the CBS comprises a department for Sampling, Statistical Methods and Analyses, which has high competency in methodological areas relevant for official statistics. Besides sampling,

these include seasonal adjustment, statistical confidentiality and imputation. Within subject matter departments, methodological experts are in place to support the statistical production process. The peer review team considers that tasks related to methodology need special expertise and should be dealt with and approved by a dedicated methods unit. During the visit, the peer review team was informed that subject matter statisticians are allowed to decide for themselves whether to consult methodological experts for tasks where specialised expertise could be needed.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R14. The Croatian Bureau of Statistics should formulate guidelines to help subject matter statisticians to know when to engage with methodologists. (Improvement-related: ES CoP, Indicators 7.2, 7.1 and 8.3)**

#### 5.2.4 Strengthening user engagement

The CBS has implemented a release calendar, but not all ONAs have published a release calendar on their websites. Nevertheless, ONAs are obliged to respect the deadlines for dissemination specified in the Annual Implementation Plan of Statistical Activities. The current situation makes it difficult for users to get a full picture of all statistical publications produced by the Croatian Statistical System. The CBS should therefore enable access to the ONAs' statistical release calendars since the ONAs' statistical releases are not currently included in the CBS' calendar. Furthermore, to increase the value of the release calendar, the functionality could be enhanced by certain features allowing users to be informed automatically or to import release dates into their calendars.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R15. The Croatian Bureau of Statistics should enhance the content and the technical capability of its release calendar. The release dates of statistics produced by other national authorities developing, producing and disseminating European statistics should be visible and easily accessible to users, and the technical functionality of the release calendar should be enhanced by modern features. (Improvement-related: ES CoP, Indicators 6.5 and 13.2)**

The Statistical Council of the Republic of Croatia is a well-established and functioning entity, in which main users are well represented. However, the meetings of the Statistical Council are currently used mainly for scrutinising and providing opinions on the Annual Implementation Plan of Statistical Activities and other planning documents. Article 20 of the OSA states that the Statistical Council is an advisory and expert body for strategic issues of official statistics, which was set up to ensure that users, the scientific community and the general public have an impact on official statistics activities. It is thus within its competence to provide longer-term strategic orientations to the CBS.

It would be beneficial for the CBS to tap into the potential of the Statistical Council members' diverse expertise to support the CBS from a more strategic perspective in shaping modern approaches to the development, production and dissemination of official statistics as well as improving its dedication to move towards new directions in producing official statistics. The Statistical Council's more strategic orientation could allow the CBS to raise awareness about the longer-term challenges and opportunities the CBS is facing that are arising from the digitalisation of society and the increased demand for timely statistics by policymakers. Getting the Statistical Council involved in such important discussions could increase its acceptance of, and willingness to actively support and participate in, the development of statistics that are fit for the future. It could also enable the CBS to continue to best fulfil its mission of satisfying the new and evolving information needs of all stakeholders, and potentially support the CBS' pledge for adequate resources in relevant fora.



To improve beyond compliance with the ES CoP, the peer review team recommends:

**R16. The Croatian Bureau of Statistics should raise the profile and strategic focus of the Statistical Council to support bids for resources and adopt a more strategic approach to support the Croatian Bureau of Statistics in developing and implementing more innovative approaches to statistics. (Improvement-related: ES CoP, Indicators 1bis.3 and 3.4)**

User engagement should be intrinsic to all producers of statistics. In the EU context it is embedded into the ES CoP, the Quality Assurance Framework of the ESS as well as the general quality management principles. ES CoP principle 11 urges the NSIs to have procedures in place to consult users and to monitor the relevance and value of existing statistics in meeting their needs, putting the users of statistics at the centre of statistical production; their needs should be understood, their views sought and acted on, and their use of statistics supported.

Proper engagement with users and potential users of statistics helps shape new and existing statistical products and services, gather and share feedback and expertise, ensure responsiveness to emerging and urgent needs, and identify and fill gaps in knowledge and evidence. As a result, new and refined statistics will be relevant and fit for purpose, and will instil confidence and deliver maximum value to the user as well as empowering better evidence-based decision-making.

To maintain its position as a relevant data provider that is able to satisfy user needs, further develop the offer of statistics and directly inform users about recent changes in statistics and other developments in the official statistics sphere, the CBS should be more active towards all user categories.

The CBS already has good coverage of user groups, but it could re-activate its functions and consider establishing new groups where needed. Information and Communications Technologies could be used for modern cooperation modes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R17. The Croatian Bureau of Statistics should develop and implement a strategy to engage with potential users of the statistics produced by the Croatian Bureau of Statistics and actively exploit structures that support user engagement. (Improvement-related: ES CoP, Indicators 11.1 and 15.2)**

In addition to improving statistical literacy, engaging users via diverse types of training and providing other educational material has proved to be an effective way of promoting statistics and the CBS for purposes beyond the correct use of data, such as attracting competent applicants to vacant positions and justifying resource needs.

Despite the CBS having taken part in several European and national initiatives to improve statistical literacy, there is a demand among users to obtain a better understanding of statistics and to be able to evaluate their quality.

The CBS should continue to invest in statistical literacy products on general statistical issues for various age groups, targeting students and the general public. Such products could be offered through multiple entry points, ranging from educational brochures on statistics to visits to educational establishments, as well as competitions or gamification approaches and videos. In addition to basic or intermediate-level statistical literacy enhancement, the CBS could also produce material and offer services to address advanced statistical literacy needs to improve decisionmakers' and businesses' understanding of more sophisticated statistical concepts and quality aspects inherent in official statistics. This would enable them to make valid statistical inferences and critically assess claims that are made with the

support of the data. Generally, the CBS could increase its offer on statistics literacy enhancement and use its own opportunities to promote the ES CoP.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R18. The Croatian Bureau of Statistics should intensify activities to increase the general statistical literacy of users, particularly for general statistical issues and quality aspects relevant for official statistics. (Improvement-related: ES CoP, Indicators 6.4 and 15.6)**

The CBS is committed to data confidentiality, which is underpinned by a strong legal basis. It has clear procedures and defined guidelines related to security and data protection, as well as a high level of security in the process of handling microdata, including microdata access. Clear conditions for granting research entities access to microdata for scientific purposes are stated in the OSA and the Ordinance on Conditions and Terms of Access and Use of Confidential Statistical Data of the Croatian Bureau of Statistics for Scientific Purposes (Official Gazette, No 5/23. Article 68 of the OSA states that access to confidential statistical data that enable only indirect identification of a statistical unit may be granted exceptionally, based on a written request, for conducting statistical analyses solely for scientific purposes. All relevant information and documents regarding the access to confidential data for scientific purposes are publicly available on the CBS website. In addition, the CBS maintains an internal guidance document describing the procedure for handling such data.

The requests for access to confidential data for scientific purposes are considered by the Statistical Confidentiality Committee. A special contract is signed between the CBS and the research entity after the request has been approved. The access to microdata may be granted in a safe room, on removable media or remotely.

The peer review team commended the strong system of the CBS for providing data for scientific purposes. However, microdata should be promoted and made accessible as smoothly as possible to fully exploit the use of the data held by the CBS and maximise valuable input research for developing statistics and increasing the value of the data collected. The CBS is encouraged to further develop solutions enabling access to microdata for scientific purposes. To make the access to microdata smoother, the CBS could streamline its bureaucracy, provide additional safe rooms in convenient locations (for researchers) and implement different modes of accessing microdata. In addition, collaboration with the scientific community could be strengthened to make the access more suited to their needs, while taking into account all necessary statistical data protection and security measures.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R19. The Croatian Bureau of Statistics should improve the range of means of accessing microdata, and the user-friendliness of associated processes. (Improvement-related: ES CoP, Indicator 15.4)**

Developing, producing and disseminating official statistics is a multidisciplinary operation, which requires high-level knowledge from personnel, which is commonly acquired from the scientific community. This fact is assimilated by the CBS, which encourages the improvement of the professional knowledge and skills of its employees through general and specialist training programmes (ESTP, programmes for civil servants carried out by the State School for the Civil Service) as well as through university education programmes in accordance with the CBS' needs and available financial resources. Procedures for the training and university education of CBS staff are stipulated in internal acts, such as the Ordinance on University Education of CBS staff and the Ordinance on Professional Training of CBS staff.

Representatives of the scientific community participate in the work of the Statistical Council of the Republic of Croatia, which, among other things, discusses improvements in methodologies, the



efficiency of applied methods, data revisions, innovative solutions and development activities. Another important interface with the scientific community stems from the CBS' role as a producer of statistics and provider of microdata access for research purposes.

Moreover, the CBS cooperates with the scientific community in some statistical domains, e.g., agriculture statistics (University of Zagreb – Faculty of Agriculture), tourism statistics and national accounts (Institute for Tourism), business statistics (University of Zagreb – Faculty of Economics & Business). The latest development in such cooperation is the Agreement on Scientific and Development Cooperation that the Director General of the CBS and the Dean of the Faculty of Economics and Business in Rijeka signed on 8 November 2022. The agreement was a significant step forward in the cooperation between state administration bodies and educational institutions, which will further contribute to the implementation of scientific and research projects.

The peer review team encourages the CBS to continue its efforts to strengthen cooperation with the scientific community. In particular, the CBS could make further agreements with other faculties, opening up the potential to develop strategic partnerships between universities and the CBS, which would help develop skills, create career pathways in the form of student and staff work placements and provide graduate opportunities, with mutual benefits for both organisations. The skills and resources in the scientific community could support the CBS in developing activities in data science, statistics and data innovation.

The more contacts and cooperation the CBS has with the scientific community, the greater the possibilities it would have for getting input for the development of statistics, finding new talent and raising awareness of the strengths and limitations of statistics and the CBS.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R20. The Croatian Bureau of Statistics should engage more actively with the scientific community to draw on their expertise. (Improvement-related: ES CoP, Indicators 7.7 and 4.4)**

### **5.2.5 Enhancing the compliance of the other national authorities developing, producing and disseminating official statistics with the ES CoP**

The CBS is the main producer, disseminator and coordinator of official statistics and represents the Croatian Statistical System before competent European and international bodies. Regarding the coordination role of the CBS, all the ONAs involved in the peer review reported a good climate of cooperation. To understand the functioning of the Croatian Statistical System, a clear distinction between ONAs and other actors in the system is necessary. The peer review team noted, however, a lack of clarity about whether one of the ONAs involved in the peer review should be counted as a data provider or data producer. The CBS should, therefore, regularly review the pros and cons of each statistical producer of European statistics to be considered as an ONA.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R21. The Croatian Bureau of Statistics should review and clarify the status of the other national authorities developing, producing and disseminating European statistics. (Improvement-related: ES CoP, Indicator 1bis.1)**

The CBS is a coordinating body of statistical activities within the Croatian Statistical System. It is responsible for monitoring the implementation of ES CoP principles, drafting national guidelines for the development, production and dissemination of official statistics, and performing other organisational and supervision functions as defined in the OSA. The Committee for the Official Statistics

System was established as a coordinating body to reinforce the CBS' coordination role as regards the ONAs, for the purpose of ensuring the efficiency, quality of production and dissemination of official statistics, and to support the determination of methodological bases for the implementation of statistical research.

However, national guidelines to ensure quality in developing, producing and disseminating European statistics – as required by the ES CoP – have not yet been developed for the Croatian Statistical System. Given the tasks of the Committee mentioned above, the fact that such guidelines are drafted by the CBS in close collaboration with the Committee seems a step in the right direction.

To comply with the ES CoP, the peer review team recommends:

**R22. The Croatian Bureau of Statistics, in collaboration with the Committee for the Official Statistics System, should formulate and publish national guidelines to ensure quality in the development, production and dissemination of European statistics, applicable to all other national authorities. The implementation of the national guidelines should be monitored and reviewed. (Compliance-relevant: ES CoP, Indicator 1bis.2)**

Although the cooperation between the CBS and the ONAs is good, the peer review team detected a gap when it comes to formalising coordination issues through concrete agreements. Such agreements can contribute to a stable and efficient coordination function of the Croatian Statistical System. Besides being the expression of an explicit commitment to the ES CoP, important aspects such as the implementation and monitoring of guidelines, methodological support and common training activities should be covered by formal agreements.

To comply with the ES CoP, the peer review team recommends:

**R23. The Croatian Bureau of Statistics should formalise agreements with all the other national authorities developing, producing and disseminating European statistics. The agreements should include a commitment to the ES CoP, the implementation and periodic review of national quality guidelines, methodological support and consultations, training and dissemination. (Compliance-relevant: ES CoP, Indicator 1bis.2)**

The Director of the Public Health Division of the Croatian Institute of Public Health has the lead responsibility for compliance with the ES CoP and is supported by other Heads of Divisions and a Director for Quality Assurance who chairs a Quality Committee within the Institute. The Croatian Institute of Public Health does not yet publish a statistical release calendar. Moreover, there is no user group to engage with Ministries (including Health, Education and Social Welfare), health specialists and non-governmental organisations, and the results of all the bespoke analyses it conducts in response to the data requests it receives are not yet published. Currently, there are also statistical projects that do not automatically lead to the publication of the results. Because the CBS has high experience and competence in all the aspects listed above, there would be advantages in building stronger cooperation with the CBS in activities to improve its user engagement.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R24. The Croatian Institute of Public Health should engage with the Croatian Bureau of Statistics to strengthen compliance with the ES CoP, especially relating to aspects of communication with users, such as the release calendar, user groups and publishing customised user requests. (Improvement-related: ES CoP, Indicators 6.5, 11.1 and 15.3)**

Despite having limited resources, the Institute for Environment and Nature successfully developed a sound production system for waste statistics. Data are checked by making use of automated systems

and all actors - regional entities and central units in The Ministry of Economy and Sustainable Development - have clearly assigned roles. An extensive collaboration with the CBS is continuously maintained. Nevertheless, the relevance of waste statistics would benefit from giving users a stronger voice regarding their demands. There is currently no specific forum for users to suggest improvements.

To improve beyond compliance with the ES CoP, the peer review team recommends:

**R25. The Ministry of Economy and Sustainable Development should develop and implement an approach to user engagement to enhance the relevance and completeness of waste statistics. (Improvement-related: ES CoP, Indicator 11.1)**

The quality of the statistical data in the Ministry of Agriculture is assured through a well-developed data validation system. Data collection – especially in the domain of fishery statistics - makes use of modern tools such as authorised mobile applications for data providers.

However, the peer review team was told that there is currently no quality management system comprising a quality policy and other tools necessary for the completion of quality tasks relevant for the statistical production process. While developing the system based on its own competences, the Ministry could draw on the experience and expertise of the CBS, where a comprehensive quality management system is in place.

To comply with the ES CoP, the peer review team recommends:

**R26. The Ministry of Agriculture, in cooperation with the Croatian Bureau of Statistics, should establish a quality policy and a quality management system and ensure sufficient resources for statistics-related activities. (Compliance-relevant: ES CoP, Indicators 4.1 and 3.1)**

### **5.3 VIEWS OF THE NSI, AS THE NATIONAL COORDINATOR OF THE NSS AND THE PEER REVIEW, ON THOSE RECOMMENDATIONS WHERE THEY DIVERGE FROM PEER REVIEW EXPERTS' ASSESSMENT**

#### **R3. The Croatian Bureau of Statistics should streamline its programming and planning arrangements to enhance cost-effectiveness. (Improvement-related: ES CoP, indicators 1.5 and 11.2)**

Croatia has a diverging view.

Planning documents and reports are drawn up in accordance with ES CoP indicators 1.5 and 11.2, as well as with the existing national legislative framework.

The Croatian Statistical System operates within the Official Statistics Act, which prescribes long-, medium- and short-term planning, with the aim of ensuring the regular production of official statistics for European and national needs, the further development of official statistics and ensuring efficiency in their realisation. In particular, it has a long-term Strategy, a medium-term Programme and a short-term Annual Implementation Plan. Each of the above has its own clear purpose and they do not overlap, but rather complement each other. In a way that a plan relating to a shorter period of time ensures and describes the manner of implementation and achievement of the objectives set out in the plan set for a longer period of time. Therefore, the level of information in each plan is different; from general information in the long-term Development Strategy, to detailed levels of data in the short-term Annual Implementation Plans. The coordination of these activities is managed by the Croatian Bureau of Statistics.

Furthermore, the Croatian Bureau of Statistics is established as a state administration body. Therefore, it necessarily functions within the framework of the law relating to the functioning of the system of state administration bodies in the Republic of Croatia, and is obliged to prepare planning documents relating to this system, especially for the purpose of the financial planning of the funds required for the performance of all entrusted tasks.

For this reason, the Croatian Bureau of Statistics, as well as the other producers of official statistics that are in the system of state administration bodies and are financed from the state budget, are obliged to prepare planning documents for the tasks for which they are responsible.

## ANNEX A – AGENDA OF THE VISIT

Timing	Topic	Participants
<b>Day 1 - 13 March 2023</b>		
09:00-09:30	<b>Preparatory meeting with the national coordination desk</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department Expert Assistant, Strategic Development of Statistical System Department</p>
09:30-9:45	<b>Welcome and programme introduction, adopting the agenda and organisational matters</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Senior management board: Director General Deputy Director General Director of Statistical Methodologies, Quality and Customer Relations Directorate Director of Data Collection and Processing Directorate Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate</p>

Timing	Topic	Participants
		<p>Director of Demographic and Social Statistics Directorate  Director of the Macroeconomic Statistics Directorate  Director of the Information Technologies Directorate  Director of the Financial and Procurement Directorate  Director of Human Resources, Legal and General Affairs Directorate</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department  National Peer Review Coordinator and Head of International Relations Department  National Communication Officer and Senior Advisor - Specialist at Director General's Office  Deputy Director General  Head of the Director General's Office  Senior Advisor - Specialist at Director General's Office  Expert Assistant, International Relations Department  Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Other national statistical authorities participating in the peer review:</b></p> <p><b>Croatian Institute of Public Health:</b>  Head of the Department of Public Health  Head of Department for Specialist and Hospital Healthcare  Head of Department for Primary Healthcare</p> <p><b>Ministry of Economy and Sustainable Development:</b>  Head of Waste and Sectoral Pressures Service, Institute for Environment and Nature  Head of the Department for Monitoring Waste Prevention, Municipal Waste Management and Landfilling of Waste, Institute for Environment and Nature</p>

Timing	Topic	Participants
		<p><b>Ministry of Agriculture:</b></p> <p>Directorate of Fisheries:</p> <p>Head of Sector for Market, Information System in Fisheries and Aquaculture Management  Head of Service for Market Organization and Statistics in Fisheries / Sector for Market, Information System in Fisheries and Aquaculture Management</p> <p>Directorate for Agricultural Policy, EU and International Cooperation:</p> <p>Head of the Department of FADN within the Service for Agricultural Information Systems / Sector for Agricultural Policy  Senior Advisor in the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy</p>
9:45-11:00	<b>Presentation of the National Statistical System (NSS)</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b>  Senior management board:  Director General  Deputy Director General  Head of the International Relations Department and national peer review coordinator  Director of Statistical Methodologies, Quality and Customer Relations Directorate  Director of Data Collection and Processing Directorate  Director of the Business Statistics Directorate  Director of the Spatial Statistics Directorate  Director of Demographic and Social Statistics Directorate  Director of the Macroeconomic Statistics Directorate  Director of the Information Technologies Directorate  Director of the Financial and Procurement Directorate</p>



Timing	Topic	Participants
		<p>Director of Human Resources, Legal and General Affairs Directorate  Head of Quality, Statistical Standards and Geoinformation System Development Department</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department  National Peer Review Coordinator and Head of International Relations Department  National Communication Officer and Senior Advisor - Specialist at Director General's Office  Deputy Director General  Head of the Director General's Office  Senior Advisor - Specialist at Director General's Office  Expert Assistant, International Relations Department  Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Other national statistical authorities participating in the peer review:</b></p> <p><b>Croatian Institute of Public Health:</b>  Head of the Department of Public Health  Head of Department for Specialist and Hospital Healthcare  Head of Department for Primary Healthcare</p> <p><b>Ministry of Economy and Sustainable Development:</b>  Head of Waste and Sectoral Pressures Service, Institute for Environment and Nature  Head of the Department for Monitoring Waste Prevention, Municipal Waste Management and Landfilling of Waste, Institute for Environment and Nature</p> <p><b>Ministry of Agriculture:</b>  Directorate of Fisheries:  Head of Sector for Market, Information System in Fisheries and Aquaculture Management</p>

Timing	Topic	Participants
		<p>Head of Service for Market Organization and Statistics in Fisheries / Sector for Market, Information System in Fisheries and Aquaculture Management            Directorate for Agricultural Policy, EU and International Cooperation:            Head of the Department of FADN within the Service for Agricultural Information Systems / Sector for Agricultural Policy            Senior Advisor in the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy</p>
11:00-11:15	Coffee break	
11:15-12:45	<p><b>Professional independence and the Law on Official Statistics and related legislation</b></p>	<p><b>The Peer Review Expert Team:</b>            All</p> <p><b>CBS:</b>            Director General            Director of Human Resources, Legal and General Affairs            Director of Statistical Methodologies, Quality and Customer Relations Directorate            Head of the Publishing Department            Head of Quality, Statistical Standards and Geoinformation System Development Department</p> <p>NPR coordination team:            National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department            National Peer Review Coordinator and Head of International Relations Department            National Communication Officer and Senior Advisor - Specialist at Director General's Office            Deputy Director General            Head of the Director General's Office            Senior Advisor - Specialist at Director General's Office            Expert Assistant, International Relations Department            Expert Assistant, Strategic Development of Statistical System Department</p>

Timing	Topic	Participants
12:45-13:45	Lunch	
13:45-15:15	<b>Coordination and cooperation</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Head of Quality, Statistical Standards and Geoinformation System Development Department Head of the International Relations Department and national peer review coordinator Head of the Project Implementation Department Director of Human Resources, Legal and General Affairs Directorate Director of Statistical Methodologies, Quality and Customer Relations Directorate Senior Advisor - Specialist at Director General's Office Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate Director of Demographic and Social Statistics Directorate Director of the Macroeconomic Statistics Directorate Director of the Information Technologies Directorate Head of Foreign Trade in Goods Statistics Department Head of the Statistical Business Register Department</p> <p>NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office</p>

Timing	Topic	Participants
		Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department
15:15-15:30	Coffee break	
15:30-17:00	<b>Programming, planning and resources</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> Director of the Financial and Procurement Directorate Director of Human Resources, Legal and General Affairs Directorate Director of the Information Technologies Directorate Senior Advisor - Specialist at Director General's Office and Project Leader for "Introduction of a Cost Estimation System for Statistical Processes and Products" Director of Statistical Methodologies, Quality and Customer Relations Directorate Head of Sampling, Statistical Methods and Analyses Department Head of Quality, Statistical Standards and Geoinformation System Development Department Director of the Business Statistics Directorate Director of the Demographic and Social Statistics Directorate Director of the Spatial Statistics Directorate Head of the Statistical Business Register Department Head of Foreign Trade in Goods Statistics Department Head of the Tourism Statistics Department Senior Advisor, Transport Statistics Department Senior Advisor - Specialist at Director General's Office Senior Advisor Specialist in Labour Market Statistics Department  NPR coordination team:

Timing	Topic	Participants
		National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department
17:00-18:00	Peer review team discussion	

Timing	Topic	Participants
<b>Day 2 - 14 March 2023</b>		
09:00-10:00	<b>Meeting with the Statistical Council</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> Director General of the CBS and Member of the Statistical Council Senior Advisor - Specialist at Director General's Office and Secretary to the Statistical Council of the Republic of Croatia  <b>NPR coordination team:</b> National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office

Timing	Topic	Participants
		Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department <b>Statistical Council:</b> President
10:00-11:30	<b>Quality (organisational structure, tools, monitoring)</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> Director of Statistical Methodologies, Quality and Customer Relations Directorate Head of Quality, Statistical Standards and Geoinformation System Development Department Head of Sampling, Statistical Methods and Analyses Department Head of the Publishing Department Head of Customer Relations and Data Protection Department Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate Director of Demographic and Social Statistics Directorate Director of the Macroeconomic Statistics Directorate Director of the Information Technologies Directorate Director of the Financial and Procurement Directorate Director of Human Resources, Legal and General Affairs Directorate Head of Foreign Trade in Goods Statistics Department Head of the Statistical Business Register Department  NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General

Timing	Topic	Participants
		Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department
11:30-11:45	Coffee break	
11:45-13:00	<b>Dissemination and Confidentiality</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b>            Director of Statistical Methodologies, Quality and Customer Relations Directorate            Director of the Information Technologies Directorate            Director of Human Resources, Legal and General Affairs Directorate            Head of Quality, Statistical Standards and Geoinformation System Development Department            Head of Sampling, Statistical Methods and Analyses Department            Head of the Publishing Department            Head of Customer Relations and Data Protection Department            Senior Advisor - Specialist at Publishing Department            Head of Programme Support for Data Processing and Dissemination Department            Data Protection Officer</p> <p><b>NPR coordination team:</b>            National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department            National Peer Review Coordinator and Head of International Relations Department            National Communication Officer and Senior Advisor - Specialist at Director General's Office            Deputy Director General            Head of the Director General's Office            Senior Advisor - Specialist at Director General's Office            Expert Assistant, International Relations Department</p>



Timing	Topic	Participants
		Expert Assistant, Strategic Development of Statistical System Department
13:00-14:00	Lunch	
14:00-15:45	<b>Methodology, data collection, data processing and administrative data</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Head of Crime Administration System and Social Protection Statistics Department and national peer review coordinator Director of Human Resources, Legal and General Affairs Directorate Director of Statistical Methodologies, Quality and Customer Relations Directorate Director of Data Collection and Processing Directorate Director of the Information Technologies Directorate Head of Quality, Statistical Standards and Geoinformation System Development Department Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate Director of Demographic and Social Statistics Directorate Director of the Macroeconomic Statistics Directorate Head of Sampling, Statistical Methods and Analyses Department Head of Customers Relations and Data Protection Department Senior Advisor Specialist, Population Census Unit Senior Advisor Specialist in Labour Market Statistics Department Head of the Statistical Business Register Department Head of Service Statistics Department Head of Input- Output Tables Department Head of the Tourism Statistics Department Senior Advisor Specialist, Human Resources Management and Development Department</p> <p>NPR coordination team:</p>

Timing	Topic	Participants
		<p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department  National Peer Review Coordinator and Head of International Relations Department  National Communication Officer and Senior Advisor - Specialist at Director General's Office  Deputy Director General  Head of the Director General's Office  Senior Advisor - Specialist at Director General's Office  Expert Assistant, International Relations Department  Expert Assistant, Strategic Development of Statistical System Department</p>
15:45-16:00	Coffee break	
16:00-17:00	<b>Progress and plans for the future</b>	<p><b>The Peer Review Expert Team:</b>  All</p> <p><b>CBS:</b>  Senior Advisor - Specialist at Director General's Office  Head of Crime Administration System and Social Protection Statistics Department and national peer review coordinator  Deputy Director General  Director of Human Resources, Legal and General Affairs Directorate  Director of the Information Technologies Directorate  Director of the Financial and Procurement Directorate  Director of Statistical Methodologies, Quality and Customer Relations Directorate  Director of Data Collection and Processing Directorate  Director of the Business Statistics Directorate  Director of the Spatial Statistics Directorate  Director of Demographic and Social Statistics Directorate  Director of Macroeconomic Statistics Directorate</p> <p>NPR coordination team:</p>

Timing	Topic	Participants
		National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department
17:00-18:00	Peer review team discussion	

Timing	Topic	Participants
<b>Day 3 - 15 March 2023</b>		
09:00-10:10	<b>Meeting with the ONA - Croatian Institute of Public Health (CIPH)</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia Director of Demographic and Social Statistics Directorate Head of the Population Statistics Department  <b>NPR coordination team:</b> National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office

Timing	Topic	Participants
		<p>Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Croatian Institute of Public Health:</b> Deputy Director Head of Department for Specialist and Hospital Healthcare Head of Department for Primary Healthcare</p>
10:10-10:25	Coffee break	
10:25-11:25	<b>Meeting with the ONA - Ministry of Economy and Sustainable Development</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia Director of the Spatial Statistics Directorate</p> <p>NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Ministry of Economy and Sustainable Development:</b> Head of Waste and Sectoral Pressures Service, Institute for Environment and Nature Head of the Department for Monitoring Waste Prevention, Municipal Waste Management and Landfilling of Waste, Institute for Environment and Nature</p>

Timing	Topic	Participants
11:25-12:30	<b>Meeting with the ONA - Ministry of Agriculture</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia Director of the Spatial Statistics Directorate</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Ministry of Agriculture:</b> Directorate of Fisheries: Head of Sector for Market, Information System in Fisheries and Aquaculture Management Head of Service for Market Organization and Statistics in Fisheries / Sector for Market, Information System in Fisheries and Aquaculture Management Directorate for Agricultural Policy, EU and International Cooperation: Head of the Department of FADN within the Service for Agricultural Information Systems / Sector for Agricultural Policy Senior Advisor in the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy</p>
12:30-13:30	Lunch	

Timing	Topic	Participants
13:30-14:45	<b>Meeting with junior staff</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Head of Operation Systems Maintenance and Security Unit Senior Advisor, International Relations Department Advisor, Geoinformation System Development Unit Senior Advisor, Animal Production, Forestry and Fisheries Statistics Unit Senior IT Advisor in Information Systems Design and Development Unit Senior Advisor, Education, Culture and Information Society Statistics Department</p>
14:45-15:00	Coffee break	
15:00-16:30	<b>Meeting with main users – Scientific community</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Director of Statistical Methodologies, Quality and Customer Relations Directorate Head of the Customer Relations and Data Protection Department Director of Human Resources, Legal and General Affairs Directorate Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department</p>

Timing	Topic	Participants
		<p>Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Faculty of Economics and Business, University of Zagreb:</b> Assistant Professor at the Department of Demography</p> <p><b>Faculty of Economics and Business, University of Rijeka:</b> Dean Vice Dean for Cooperation with Business Community and Affairs Vice Dean for Internationalization and Sustainable Development</p> <p><b>The Institute of Economics, Zagreb:</b> Director</p> <p><b>Institute of Public Finance:</b> Senior Research Associate</p> <p><b>Institute of Social Sciences Ivo Pilar:</b> Senior Research Associate</p>
16:30-17:30	Peer review team discussion	

Timing	Topic	Participants
<b>Day 4 - 16 March 2023</b>		
09:00-9:45	<b>General closing session with the ONAs</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Director General</p> <p>NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office</p>



Timing	Topic	Participants
		<p>Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Croatian Institute of Public Health:</b> Head of the Department of Public Health Head of Department for Specialist and Hospital Healthcare Head of Department for Primary Healthcare</p> <p><b>Ministry of Economy and Sustainable Development:</b> Head of Waste and Sectoral Pressures Service, Institute for Environment and Nature Head of the Department for Monitoring Waste Prevention, Municipal Waste Management and Landfilling of Waste, Institute for Environment and Nature</p> <p><b>Ministry of Agriculture:</b> Directorate of Fisheries: Head of Service for Market Organization and Statistics in Fisheries / Sector for Market, Information System in Fisheries and Aquaculture Management</p> <p>Directorate for Agricultural Policy, EU and International Cooperation: Head of the Department of FADN within the Service for Agricultural Information Systems / Sector for Agricultural Policy Senior Advisor in the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy</p>
9:45-11:15	<b>Meeting with main data providers</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Head of Crime Administration System and Social Protection Statistics Department and national peer review coordinator Director of Human Resources, Legal and General Affairs Directorate Director of the Information Technologies Directorate Head of Sampling, Statistical Methods and Analyses Department</p>

Timing	Topic	Participants
		<p>Director of the Business Statistics Directorate  Head of Foreign Trade in Goods Statistics Department  Director of Spatial Statistics Directorate  Head of the Tourism Statistics Department  Senior Advisor in Transport Statistics Department  Head of the Statistical Business Register Department</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department  National Peer Review Coordinator and Head of International Relations Department  National Communication Officer and Senior Advisor - Specialist at Director General's Office  Deputy Director General  Head of the Director General's Office  Senior Advisor - Specialist at Director General's Office  Expert Assistant, International Relations Department  Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Croatian National Tourist Board:</b>  Head of eVisitor and Application Solutions Department  Head of Market Research and Strategic Planning Department</p> <p><b>Ministry of Finance – Tax Administration:</b>  Head of Tax Statistics and Reporting Department  Senior Administrative Advisor, Tax Statistics and Reporting Department</p> <p><b>Ministry of Finance – Customs Administration:</b>  Head of the Intrastat Department  Head of Data Collection and Customer Support  Senior Advisor, Intrastat Department</p> <p><b>Ministry of the Sea, Transport, and Infrastructure:</b>  Representative of the Maritime safety directorate</p>

Timing	Topic	Participants
		<p>Representative of the Maritime safety directorate</p> <p><b>State Geodetic Administration:</b> Director of EU funds, international cooperation and special registers Directorate Head of Special Registers Department</p> <p><b>Central State Office for the Development of the Digital Society:</b> Head of State IT Infrastructure and Development Department Senior advisor – Specialist for legal matters</p>
11.15-11.30	Coffee break	
11:30-12:30	<b>CBS modernisation developments related to “other sources”</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Director General Deputy Director-General Director of Statistical Methodologies, Quality and Customer Relations Directorate Director of Data Collection and Processing Directorate Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate Director of Demographic and Social Statistics Directorate Director of the Macroeconomic Statistics Directorate Director of the Information Technologies Directorate Director of the Financial and Procurement Directorate Director of Human Resources, Legal and General Affairs Directorate Head of Price Statistics and European Comparison Programme Department Head of the Information Systems Integration Unit Senior Advisor – Specialist, Population Census Unit ICT statistics Project Leader in Education, Culture and Information Society Statistics Department</p> <p>NPR coordination team:</p>

Timing	Topic	Participants
		<p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department</p> <p>National Peer Review Coordinator and Head of International Relations Department</p> <p>National Communication Officer and Senior Advisor - Specialist at Director General's Office</p> <p>Deputy Director General</p> <p>Head of the Director General's Office</p> <p>Senior Advisor - Specialist at Director General's Office</p> <p>Expert Assistant, International Relations Department</p> <p>Expert Assistant, Strategic Development of Statistical System Department</p>
12:30-13:30	<b>Meeting with main users – Media</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Director of Statistical Methodologies, Quality and Customer Relations Directorate Head of the Customer Relations and Data Protection Department Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia</p> <p>NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Media:</b> T Portal</p>
13:30-14:30	Lunch	

Timing	Topic	Participants
14:30-15:45	<p><b>Meeting with main users – Ministries and other public/private institutions (including Croatian National Bank as a user)</b></p>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b> Director of Statistical Methodologies, Quality and Customer Relations Directorate Head of the Customer Relations and Data Protection Department Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia Director of the Macroeconomic Statistics Directorate Director of the Business Statistics Directorate Head of Foreign Trade in Goods Statistics Department</p> <p>NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Croatian National Bank:</b> Executive Director, Statistics Area Senior Advisor, Directorate for Economic Analysis of the Research Area</p> <p><b>Ministry of Agriculture:</b> Head of Department, Sector for Agricultural Policy Service for Agricultural Policies and Agro – Economic Analyses</p> <p><b>Ministry of Economy and Sustainable Development:</b> Director of Institute for Environment and Nature Head of Directorate for Environment within Institute for Environment and Nature</p>

Timing	Topic	Participants
		Head of Waste and Sectoral Pressures Service within Institute for Environment and Nature Head of Air Protection and Climate Activities Service within Institute for Environment and Nature
15:45-16:00	Coffee break	
16:00-17:15	<b>Meeting with main users – business associations and federations and trade unions</b>	<p><b>The Peer Review Expert Team:</b> All</p> <p><b>CBS:</b>            Director of Statistical Methodologies, Quality and Customer Relations Directorate            Head of the Customer Relations and Data Protection Department            Senior Advisor - Specialist at the Director General's Office and Secretary to the Statistical Council of the Republic of Croatia</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department            National Peer Review Coordinator and Head of International Relations Department            National Communication Officer and Senior Advisor - Specialist at Director General's Office            Deputy Director General            Head of the Director General's Office            Senior Advisor - Specialist at Director General's Office            Expert Assistant, International Relations Department            Expert Assistant, Strategic Development of Statistical System Department</p> <p><b>Croatian Chamber of Economy:</b>            Chief Economist            Senior Advisor, Department for Financial Institutions and Macroeconomic Analysis            Department for Financial Institutions and Macroeconomic Analysis</p> <p><b>Independent Trade Unions of Croatia:</b>            Director            Economic Advisor</p> <p><b>Croatian Chamber of Trades and Crafts:</b>            Advisor</p> <p><b>Croatian Employers' Association:</b></p>

Timing	Topic	Participants
		Chief Economist <b>Croatian Exporters:</b> President
17:15-18:15	Peer review team discussion	

Timing	Topic	Participants
<b>Day 5 - 17 March 2023</b>		
09:00-10:30	Peer review team discussion	<b>The Peer Review Expert Team:</b> All
10:30-10:45	Coffee break	
10:45-11:45	<b>Clarifications, remaining or additional issues and focus areas</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> NPR coordination team: National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department National Peer Review Coordinator and Head of International Relations Department National Communication Officer and Senior Advisor - Specialist at Director General's Office Deputy Director General Head of the Director General's Office Senior Advisor - Specialist at Director General's Office Expert Assistant, International Relations Department Expert Assistant, Strategic Development of Statistical System Department
12:00-13:30	<b>Meeting with the senior management of the CBS: conclusions and recommendations</b>	<b>The Peer Review Expert Team:</b> All  <b>CBS:</b> Senior management board: Director General Deputy Director General Director of Statistical Methodologies, Quality and Customer Relations Directorate Director of Data Collection and Processing Directorate Director of the Business Statistics Directorate Director of the Spatial Statistics Directorate



Timing	Topic	Participants
		<p>Director of Demographic and Social Statistics Directorate  Director of the Macroeconomic Statistics Directorate  Director of the Information Technologies Directorate  Director of the Financial and Procurement Directorate  Director of Human Resources, Legal and General Affairs Directorate</p> <p>NPR coordination team:</p> <p>National Peer Review Coordinator and Head of Crime Administration System and Social Protection Statistics Department  National Peer Review Coordinator and Head of International Relations Department  National Communication Officer and Senior Advisor - Specialist at Director General's Office  Deputy Director General  Head of the Director General's Office  Senior Advisor - Specialist at Director General's Office  Expert Assistant, International Relations Department  Expert Assistant, Strategic Development of Statistical System Department</p>
13:30-14:30	Lunch	
14:30-15:00	Peer review team discussion	

## **ANNEX B – LIST OF PARTICIPANTS**

### **Croatian Bureau of Statistics:**

Director General  
Deputy Director General  
Director of Statistical Methodologies, Quality and Customer Relations Directorate  
Director of Data Collection and Processing Directorate  
Director of the Business Statistics Directorate  
Director of the Spatial Statistics Directorate  
Director of Demographic and Social Statistics Directorate  
Director of the Macroeconomic Statistics Directorate  
Director of the Information Technologies Directorate  
Director of the Financial and Procurement Directorate  
Director of Human Resources, Legal and General Affairs Directorate  
Head of Crime Administration System and Social Protection Statistics Department and national peer review coordinator  
Head of Quality, Statistical Standards and Geoinformation System Development Department  
Head of the International Relations Department and national peer review coordinator  
Head of Foreign Trade in Goods Statistics Department  
Head of the Statistical Business Register Department  
Head of Sampling, Statistical Methods and Analyses Department  
Head of Customer Relations and Data Protection Department  
Head of Programme Support for Data Processing and Dissemination Department  
Head of Service Statistics Department  
Head of Input- Output Tables Department  
Head of the Tourism Statistics Department  
Head of the Publishing Department  
Head of the Population Statistics Department  
Head of the Project Implementation Department  
Head of Price Statistics and European Comparison Programme Department  
Head of the Information Systems Integration Unit  
Data Protection Officer  
Senior Advisor - Specialist at Director General's Office  
Senior Advisor - Specialist at Director General's Office and Project Leader for the "Introduction of a Cost Estimation System for Statistical Processes and Products"  
Senior Advisor, Transport Statistics Department  
Senior Advisor Specialist in Labour Market Statistics Department  
Senior Advisor - Specialist at Publishing Department  
Senior Advisor Specialist, Population Census Unit  
Senior Advisor Specialist, Human Resources Management and Development Department  
ICT statistics Project Leader in Education, Culture and Information Society Statistics Department

Head of Operation Systems Maintenance and Security Unit  
Senior Advisor, International Relations Department  
Advisor, Geoinformation System Development Unit

Senior Advisor, Animal Production, Forestry and Fisheries Statistics Unit  
Senior IT Advisor in Information Systems Design and Development Unit  
Senior Advisor, Education, Culture and Information Society Statistics Department

**Other National Authorities:**

**Croatian Institute of Public Health:**

Head of the Department of Public Health  
Deputy Director  
Head of Department for Specialist and Hospital Healthcare  
Head of Department for Primary Healthcare

**Ministry of Economy and Sustainable Development:**

Head of Waste and Sectoral Pressures Service, Institute for Environment and Nature  
Head of the Department for Monitoring Waste Prevention, Municipal Waste Management and Landfilling of Waste, Institute for Environment and Nature  
Director of Institute for Environment and Nature  
Head of Directorate for Environment within Institute for Environment and Nature  
Head of Air Protection and Climate Activities Service within Institute for Environment and Nature

**Ministry of Agriculture:**

*Directorate of Fisheries*

Head of Sector for Market, Information System in Fisheries and Aquaculture Management,  
Head of Service for Market Organization and Statistics in Fisheries / Sector for Market, Information System in Fisheries and Aquaculture Management

*Directorate for Agricultural Policy, EU and International Cooperation*

Head of the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy  
Senior Advisor in the Department of FADN within the Service for Agricultural Information Systems, Sector for Agricultural Policy  
Head of Department, Sector for Agricultural Policy Service for Agricultural Policies and Agro – Economic Analyses

**Statistical Council:**

President

**Main data providers:**

**Croatian National Tourist Board:**

Head of eVisitor and Application Solutions Department  
Head of Market Research and Strategic Planning Department

**Ministry of Finance – Customs Administration:**

Head of the Intrastat Department  
Head of Data Collection and Customer Support  
Senior Advisor, Intrastat Department

**Ministry of Finance, Tax Administration:**

Head of Tax Statistics and Reporting Department  
Senior Administrative Advisor, Tax Statistics and Reporting Department

**Ministry of the Sea, Transport, and Infrastructure:**

Representative of the Maritime safety directorate  
Representative of the Maritime safety directorate

**State Geodetic Administration:**

Director of EU funds, international cooperation and special registers Directorate  
Head of Special Registers Department

**Central State Office for the Development of the Digital Society:**

Head of State IT Infrastructure and Development Department  
Senior Advisor – Specialist for legal matters

**Main data users:**

**Croatian National Bank:**

Executive Director, Statistics Area  
Senior Advisor, Directorate for Economic Analysis of the Research Area

**Croatian Chamber of Economy:**

Chief Economist  
Senior Advisor, Department for Financial Institutions and Macroeconomic Analysis  
Department for Financial Institutions and Macroeconomic Analysis

**Independent Trade Unions of Croatia:**

Director  
Economic Advisor

**Croatian Chamber of Trades and Crafts:**

Advisor

**Croatian Employers' Association:**

Chief Economist

**Croatian Exporters:**

President

**Media:**T portal

**Scientific community:**

**Faculty of Economics and Business, University of Zagreb:**

Assistant Professor at the Department of Demography

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